INTERNATIONAL HARVESTER
FARM OPERATING
EQUIPMENT
Sectional Index

To save time in referring to any particular section of this catalog, such as plows, tractors, etc., hold the book in the left hand and bend the book backward with your right hand. You then will see that the first right-hand page of each section has a heavy black guide mark located directly opposite the name of the section printed on the right-hand margin of this page. If the thumb of the right hand is placed on the guide mark opposite the classification desired, the book can be opened directly to that section.

A complete index will be found on pages 510 to 512 at the back of the book.

To Insert New Pages:

FIRST — Push bottom slide at left of page toward bottom of page. Push upper slide toward top of page. To release binder, throw back red stub onto which slides are attached.

SECOND — Lift out pages preceding page to be inserted. While doing this, be sure to leave metal bar along left edge of this red page in position — it is attached to cylindrical sleeves that extend through the book, holding pages in position even though they are removed from book.

THIRD — Insert new page and replace pages preceding new page.

FOURTH — Replace red stub over posts and push the slides in position.

NOTE: Posts are expanding. Turn screws to allow for increase or decrease of capacity.
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Feb. 1935
Branch Houses

INTERNATIONAL HARVESTER COMPANY

OF AMERICA
(Incorporated)

Aberdeen, S. D.
Albany, N. Y.
Amarillo, Tex.
Atlanta, Ga.
Auburn, N. Y.
Aurora, Ill.
Baltimore, Md.
Billings, Mont.
Birmingham, Ala.
Bismarck, N. D.
Boston, Mass.
Buffalo, N. Y.
Charlotte, N. C.
Cheyenne, Wyo.
Chicago, Ill.
Cincinnati, Ohio
Cleveland, Ohio
Columbus, Ohio
Council Bluffs, Ia.
Dallas, Tex.
Davenport, Ia.
Denver, Colo.
Des Moines, Ia.
Dubuque, Ia.
Eau Claire, Wis.
Elmira, N. Y.
Evansville, Ind.
Fargo, N. D.
Fort Dodge, Ia.

Fort Wayne, Ind.
Grand Forks, N. D.
Grand Island, Neb.
Grand Rapids, Mich.
Great Falls, Mont.
Green Bay, Wis.
Harrisburg, Pa.
Houston, Tex.
Hutchinson, Kan.
Indianapolis, Ind.
Jackson, Mich.
Jacksonville, Fla.
Kankakee, Ill.
Kansas City, Mo.
Lincoln, Neb.
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Louisville, Ky.
Madison, Wis.
Mankato, Minn.
Mason City, Ia.
Memphis, Tenn.
Milwaukee, Wis.
Minneapolis, Minn.
Minot, N. D.
Nashville, Tenn.
New Orleans, La.
New York, N. Y.
Oklahoma City, Okla.

Omaha, Neb.
Parkersburg, W. Va.
Peoria, Ill.
Pittsburgh, Pa.
Portland, Ore.
Quincy, Ill.
Richmond, Va.
Saginaw, Mich.
St. Cloud, Minn.
St. Joseph, Mo.
St. Louis, Mo.
Salina, Kan.
Salt Lake City, Utah
San Antonio, Tex.
San Francisco, Cal.
Shreveport, La.
Sioux City, Ia.
Sioux Falls, S. D.
Spokane, Wash.
Springfield, Ill.
Springfield, Mo.
Sweetwater, Tex.
Terre Haute, Ind.
Toledo, Ohio
Topeka, Kan.
Watertown, S. D.
Wichita, Kan.

Feb. 1935
A Reference Book
for
McCormick - Deering Dealers
and Salesmen

Many new McCormick-Deering machines have been added to the line and numerous improvements in old machines have been introduced lately. McCormick - Deering dealers should exert every effort to become as thoroughly familiar with these new developments as they are with the many older McCormick-Deering machines which they have sold and serviced in the past.

This catalog is designed to provide our dealers, in convenient form, the latest, most accurate information on McCormick-Deering farm operating equipment. Specifications on each machine are included, as well as lists of regular and extra equipment. The book has been made loose-leaf so that when pages become obsolete, new ones can be inserted to take their place. If dealers will take care to insert new pages when received, they will have at all times, a valuable up-to-date text book for reference when answering questions about the machines they sell.

Pages 9 to 21 outline time-tried sales and advertising practices which are recommended to McCormick-Deering dealers.
A Century-Old Tradition
of Service

International Harvester policy is founded on the belief that the purchase of a machine is the beginning, not the end of the transaction. Consequently our obligation to the owners of McCormick-Deering machines does not end so long as their implements are in use. McCormick-Deering after-sale service has been carried to the utmost practical extent. No machine or implement is marketed under the name "McCormick-Deering" until International Harvester engineers are thoroughly satisfied through extensive field trials that the machine will do what it was designed to do and do it well enough and long enough to pay the purchaser a profit on the investment.

After making the machine as nearly perfect as possible, the Company then fortifies the user with adequate repair service that is close by and thoroughly efficient. It is the aim of the Company to keep every unit working constantly and accurately. Delays are costly and must be avoided if the unit is to become a paying investment. The best machine will wear out and parts occasionally break. These accidents are unavoidable, but when they happen the customer expects immediate attention. It is here that the dealer can cooperate by maintaining an adequate stock of repair parts and giving quick and efficient help in case of need.

This is the only kind of service worthy of the name because it keeps every machine in action and avoids the financial loss due to idle equipment or partial crop loss. The Harvester Company does its share by placing complete stocks of parts at strategic points in all sections of the country. The dealer must do his share locally by stocking all the common parts. He is then in a position to provide them promptly whenever requested to do so.

The repair trade can be built up locally to become a profitable part of the dealer’s business. Given the attention it should have, it not only will pay the dealer a profit but will earn for him a reputation for efficiency that can be translated into actual machine sales.
Repair Service

A Superior Sales Asset

Every McCormick-Deering dealer should take full advantage of the opportunity to build goodwill and profit through the sale of IHC repair parts. The repair business in the average dealer’s territory can be made to net a profitable sum, but better than that, it becomes the determining factor in many future machine sales.

Farmers have become educated to the vital necessity for prompt and efficient repair service. They realize that delays during seeding, haying, and harvest are likely to prove costly. Therefore, they safeguard their own interests by insisting on McCormick-Deering machines, which have the backing of the local dealer and the International Harvester branch house organization.

Good Service Is Appreciated

The dealer can do much to augment his prestige, and thereby increase his machine sales, if he will always maintain a complete and well arranged stock of genuine IHC parts for the machines sold most frequently in his territory. If he gets a deserved reputation for being prompt and accurate in the supplying of extra parts, buyers will naturally come to him. His repair business will be profitable and

Orderly, convenient storage of parts saves time for both the dealer and his customer. Besides dealers’ repair stocks, extensive stocks are maintained in each International Harvester branch house—a valuable assurance of prompt supply of parts for all McCormick-Deering machines, new models as well as old. Note the orderly arrangement of parts shown here—each bin properly labeled.
his machine business will increase because of his efficient repair service.

The dealer's repair part stock always should be housed in neat, clean bins, plainly numbered so that they can be found. A counter or partition, either solid or mesh, should protect the stock from careless hands. Customers should be waited on promptly but should not be permitted access to the bins by themselves.

**Genuine IHC Repairs**

Never handle anything but genuine IHC repair parts. You do yourself and the customer no good by supplying parts which may not fit and do not wear as long as the original. Substitute parts made by specialty manufacturers have often been the cause of unjust condemnation of the machine. The sale of "will-fit" and "made-for" replacement parts may cause you to lose friends and future machine business. One hundred per cent McCormick-Deering dealers never take such chances.

**Promote Your Service**

Advertise your repair business. When you take space in your local paper, mention your repair service. Your Harvester Company branch will supply you with a quantity of folders which can be stamped with your name. Enclose these with your monthly statements or any other mail going to farmers. Ask for repair posters and hang these in prominent places in your showroom. Talk repair service and use it as a definite sales appeal. It will often make the sale.

**Plowshares, Canvases, and Package Goods**

There are several items in your repair stock that should receive special emphasis. Plowshare sales run into a lot of money every year and can be made a profitable item if you will push them as they deserve. Display plowshares prominently in season. Have them out in sight where farmers can see and examine them. There is quality in McCormick-Deering plowshares, but your customers will never know it so long as the shares remain under the counter and out of sight.

McCormick-Deering cultivator shovels, like plowshares, have extra quality and will last longer than low-grade "will-fit" varieties. Binder and combine canvases also constitute a profitable source of income if pushed at the right season.

**A Profitable Business**

Package goods, such as bolts, rivets, cotter pins, washers, and nuts, can be sold to nearly every man who comes to your store. They should be out in plain sight where they will help to sell themselves. The common parts, such as sections, guards, and ledger plates are the ones most frequently offered for sale by the maker of "will-fit" repairs. These are also the very parts which will pay the McCormick-Deering dealer a substantial profit if he will merchandise them properly.

The repair business in the average territory can be built up to a point where it at least will pay the salary of a good man.
Coordinated Sales and Advertising

Since Cyrus Hall McCormick first advertised the reaper, Harvester Company machines have been advertised consistently. Carefully planned advertising campaigns inform farmers about McCormick-Deering machines and keep the name of the Harvester organization uppermost in the minds of prospective purchasers. International trucks and McCormick-Deering industrial tractors are advertised in metropolitan newspapers throughout the country, as well as in a long list of trade papers and magazines of general circulation, reaching a total of more than eight million readers. This advertising not only helps sell these products but also advertises International Harvester to an extent that makes all the Company's products easier to sell.

Every farm home receiving a farm journal receives International Harvester advertisements month after month throughout the year. In addition, the Harvester Company has been a prominent exhibitor at all the principal world's fairs as well as at many state and sectional fairs. The Company's exhibit at the recent Century of Progress Expositions in Chicago attracted an attendance of nearly eight million. No other general line farm machine manufacturer exhibited at A Century of Progress.

The result is that the International Harvester Company, by all standards of comparison, is the best-known farm machine manufacturer. That fact means much to a McCormick-Deering dealer... in sales, prestige and profits... providing the dealer prominently identifies himself throughout his community as a McCormick-Deering dealer.

It is especially necessary today for a dealer to carry on a consistent campaign of local advertising if he expects to get his share of business. Good roads permit farmers in most communities to do their buying in any of several different towns. The only way for a dealer to bring the bulk of farmers in the community to his store is to keep his store and his products prominently advertised locally. The chances are that the dealer who does not advertise will begin very soon to lose business to someone who is more aware of modern conditions.

Aside from the competitive standpoint, the very nature of the products he sells calls for local advertising. In almost every community local soil and crop conditions make necessary local sales messages which it is impossible for the Company to incorporate in its national advertising. Judicious use of the local newspaper and of direct-mail advertising multiplies the dealer's contacts with customers many-fold.

Carefully budgeted local advertising is not an expense, it is an investment. It is a salesman whose expense per prospect interviewed is only a small fraction of the cost of a personal call. It is a salesman who consistently tells the sales story as it should be told. It is a salesman whose story has a better chance of being considered by the buyer when the buyer wishes to consider it—in other words, when the buyer is in a buying mood. Above all, local advertising is a form of insurance to the dealer. So long as he sells good products and maintains prompt and reliable service, the dealer can be assured that well-directed local advertising always will bring to his store a good share of the people of his community who are in need of farm machines and repairs.
International Harvester Exhibit at A Century of Progress Exposition

Probably no exhibit of farm machines ever has attracted wider interest than the Company’s display pictured above which occupied all of Farm Machinery Hall at A Century of Progress Exposition in 1933 and 1934. The space at the left contains a replica of the 1831 McCormick reaper as well as models of the epochal machines that succeeded it and six dioramas (three-dimensional pictures) of the evolution in agriculture. Today’s mighty monarch of the harvest fields, the harvester-thresher, was the center of the exhibit. The north half of the exhibit space was occupied by International trucks. Besides this exhibit, the Company also displayed, in the Dome of Honor of the Travel and Transport building, the contrast between the old and the new in truck transportation and tractor development. A radio-controlled McCormick-Deering tractor was demonstrated daily just west of Farm Machinery Hall.

A Century of Progress Exposition is over, but its influence continues. The millions of people who saw and studied the International Harvester exhibits have a new appreciation of agriculture’s progress... of the inherent quality of International Harvester products... and of the value of International Harvester service.
INTERNATIONAL TRUCKS WERE DISPLAYED AT THE NORTH END OF THE EXHIBIT. ONE OF THE LARGEST WORLD MAPS EVER BUILT TOLD THE STORY OF THE COMPANY'S WORLD-WIDE SERVICE ACTIVITIES.

VISITORS WERE QUICK TO IDENTIFY THIS DEMONSTRATION OF BINDER TWINE SPINNING AND BALLING AS BEING TYPICAL OF MCCORMICK-DEERING QUALITY.

ONE OF THE MOST TALKED-ABOUT FEATURES OF THE ENTIRE WORLD’S FAIR WAS THE INTERNATIONAL HARVESTER MECHANICAL COW.

RUFUS C. DAWES, PRESIDENT, A CENTURY OF PROGRESS, AND A. E. MCKINSTRY, PRESIDENT, INTERNATIONAL HARVESTER COMPANY, EXAMINING RADIO-CONTROLLED TRACTOR. ONE OF THE INTERNATIONAL HARVESTER DISPLAYS IN THE TRAVEL AND TRANSPORT BUILDING. THE AUTO WAGON OF 1907 IN COMPARISON WITH A MODERN HIGHWAY TRANSPORT UNIT.
Ask the Blockman
How You Can
Take Advantage
of This Advertising
IHC Extension
Booklets Help
Increase Farmer
Purchasing Power

IHC EXHIBITS AT NATIONAL, STATE AND COUNTY FAIRS HELP KEEP CUSTOMERS INFORMED ABOUT IHC MACHINES
IHC NATIONAL ADVERTISING

- Constantly reminds the public of "McCormick-Deering" and International Harvester
- Gives the public brief facts about important new machines
- Suggests that "complete details are available from McCormick-Deering dealers"

NATIONAL ADVERTISING'S MAIN FUNCTION IS TO PAVE THE WAY FOR THE DEALER AND THE DEALER'S SALESMAN

DEALERS WHO PROFIT MOST FROM IHC NATIONAL ADVERTISING DO THESE THINGS—

- Display machines that are advertised
- Constantly remind their customers that their store is McCormick-Deering Headquarters
- Keep informed about their customers' needs by calling on them regularly
- Continually demonstrate and advertise

Consider These Facts When Planning Your Year's Business
Keep a Complete
File of These
Farm Management
Bulletins and
Use Them When
Talking to Your
Prospects

Constantly at the Service of IHC Dealers Is the IHC Advertising Department in Chicago—One of the Largest Advertising Organizations in the Country—Containing Specialists in

Farm Engineering
Farm Management
Exhibits
Window Displays
Publicity
Newspaper and Magazine Advertising
Direct Mail Advertising
Outdoor Advertising
Photography
Motion Pictures
Catalogs, Booklets and Folders
Advertising Art Work
TIME IS WORTH MONEY – PLANNING SALES MEN'S TIME SAVES MONEY

DEALERS’ PROSPECT ANALYSIS SYSTEM

1. Indicate on a county map with a red or different colored ink the place that have been called on, the place that should be called on next.
2. Call by the name at the time shown in the column on the left according to the route and the number of the route which the salesman should take in making the call.
3. Address the names of prospects as follows: 1. In the box below and written in the same box, put the blank or other blank. Then write the analysis to that direct mail advertisement can be sent to the prospect.

Let the Blockman Help You Install a Real Prospect Analysis System Like This
A Common-Sense Plan for Selling

Very few implement dealers know trade conditions on their territories as they should. A competent study of the needs of the farmers surrounding your town will pay profitable dividends through the medium of increased sales.

Consumers have a wide variety of buying habits. Some farmers buy from one dealer, others from his competitor. If they are satisfied they do not change readily. Others put off buying new equipment long after their old machines have passed the period of usefulness. Other farmers live midway between towns and go one way as readily as the other.

The only way to become posted on these conditions is to contact the farmers themselves at frequent intervals. You get your business from men whom you see personally either in the store or on the farm.

The prospect analysis system is simple and concise. There are only three mechanical devices employed. The rest is all in the dealer’s head. The necessary work to keep the plan up to date does not take more than ten minutes a day.

1. The first thing needed is a county map divided into townships, with individual farms marked, and a box of colored, headed tacks. Mount it on heavy cardboard and hang it on the wall where it cannot be overlooked. The purpose of the map is to show which farms have been visited during the year.

When you start putting tacks into the farms you have visited during twelve months, you may be surprised at the large areas on your territory where no call has been made for years. In the meantime, you have no assurance that the other fellow is not getting in on the ground floor. One dealer who believed he could call every farmer by his first name found upon careful analysis that 30 per cent of his farmers were entirely unknown to him. The purpose of this sales plan is to get the business from the neglected 30 per cent.

2. Individual inventory cards are provided, with a metal box and index to hold them. One of these cards is made up for each farmer on your territory and, when finished, constitutes a complete inventory of the man’s present equipment, its condition, and his future requirements. Listing the farmer’s equipment and future needs on these cards is not the job it might seem. Most of the work is done right out in the country, in your own car, just after you have visited the farm.

It is not to be expected that your entire territory can be covered in one season. Building up a complete file of these inventory cards is a long task, but once done and then kept up to date, you will find that your canvassing and selling efforts are no longer operating on a hit-and-miss program but are directed along an efficient channel with no lost motion and no wasted gasoline.

3. The third item in the sales plan is the Sales Call Record. It is simply a copy of your complete mailing list, with the names listed alphabetically, and provides you with an opportunity to jot down each day the calls you have made and the results. A glance at this Call Record will show you or the blockman what progress has been made in visiting prospective purchasers and also will indicate what further work is required.

The entire plan can be put into effect and kept up to date with very little work. It is not a complicated system and will not constitute a burden even for the man who runs his business alone. The intelligent use of the plan will cut out lost motion, will simplify your canvassing efforts, and certainly will increase your business.
Map Out Your Newspaper Campaign in Advance . . .
Then Stick to it Throughout the Season . . .
Regularity Pays

The Blockman Can Help You Plan a Campaign . . . Talk to Him About It
THE STORE FRONT IS THE DEALER'S MOST VALUABLE ADVERTISING SPACE
THESE SIGNS USE THE SPACE PROFITABLY!

INTERNATIONAL HARVESTER

McCORMICK-DEERING

FARM MACHINES

FIELD AND FENCE SIGNS ARE LOW IN COST AND ARE A CONSTANT REMINDER OF THE DEALER'S NAME AND LOCATION

For Complete Details about These Signs as well as Posters, Calendars, Dealers' Stationery, and IHC Motion Pictures, Ask the Blockman
GOODS SELL BEST
WHEN EFFECTIVELY DISPLAYED

CUSTOMERS PREFER TO SEE NEW MACHINES BEFORE BUYING – THAT'S WHY A WELL ARRANGED DISPLAY ROOM PAYS

PLENTY OF SPACE SHOULD BE LEFT TO WALK AROUND MACHINES

DISPLAYING POPULAR MACHINES NEAR REPAIRS DEPARTMENT WHERE CUSTOMERS GATHER IS GOOD PRACTICE

MACHINES ADVERTISED REGULARLY SHOULD BE DISPLAYED REGULARLY

W.M.C. PENNANTS HELP 'DRESS UP' A DISPLAY ROOM

AN INTERESTING REPAIRS WINDOW DISPLAY

CREAM SEPARATORS AND MILKERS MAKE GOOD WINDOW DISPLAYS

Display the Machines that are Advertised . . .

Keep Your Displays Seasonal and the Room Neat . . .

Ask the Blockman for Suggestions
If You Are Not Doing So Now, Start Using These Cards... They Are Free... Ask the Branch

These Novelties Are Available to McCormick-Deering Dealers at Actual Cost
McCormick Works, Chicago, world's largest farm machine factory, produces grain binders, mowers, rakes, corn binders and shredders, manure spreaders, ensilage cutters, feed grinders, hammer mills, binder twine.

Tractor Works, Chicago, where farm and industrial tractors, including TracTracTors and the Farmall 12 are built.

Farmall Works, Rock Island, Illinois, another exclusive tractor factory.
MILWAUKEE (WISCONSIN) WORKS PRODUCES FARM AND INDUSTRIAL TRACTORS, GASOLINE ENGINES, CREAM SEPARATORS AND MILKERS.

WEST PULLMAN WORKS, CHICAGO, PROVIDES MAGNETOS, ROLLER BEARINGS, CARBURETORS AND GEARS.

EAST MOLINE (ILLINOIS) WORKS, A NEW, MODERN FACTORY CONTAINING MORE THAN 27 ACRES OF FLOOR SPACE, BUILDS HARVESTER-THRESHERS, THRESHERS AND CORN PICKERS.
Fort Wayne (Indiana) Motor Truck Plant.

Springfield (Ohio) Motor Truck Plant.

Chattanooga (Tennessee) Works builds plows, cane mills and fertilizer distributors.

AUBURN (NEW YORK) Works. Tillage implements, hay presses, cultivators, potato machines.

ROCK FALLS (ILLINOIS) Works. Shellers, harrows, hay tools.

RICHMOND (INDIANA) Works. Seeding machines, planters.
McCormick-Deering Line

Grain Harvesting Machines
Binders
Tractor Binders
Push-Binders
Headers
Harvester-Threshers
Windrow-Harvesters
Pick-up Attachments
Reapers
Threshers
Rice Binders
Rice Threshers

Haying Machines
Mowers
Rakes
Tedders
Side Rakes and Tedders
Loaders, all types
Sweep Rakes
Stackers
Baling Presses
Alfalfa Threshers
Clover Threshers

Corn Machines
Planters
Listers
Drills
Cultivators
Lister Cultivators-Binders
Ensilage Cutters
Ensilage Harvesters
Ensilage Blowers
Pickers
Huskers and Shredders
Shellers

Planting and Seeding Machines
Corn Planters and Drills
Cotton Planters
Potato Planters
Grain Drills
Broadcast Seeders
Alfalfa and Grass Drills

Dairy Equipment
Cream Separators, hand
Cream Separators, belted
Cream Separators, electric
Milkers
Engines and Power Units
Motor Trucks

Tillage Implements
Tractor Plows
Riding Plows
Walking Plows
Disk Harrows
Tractor Harrows
Orchard Harrows
Harrow-Plows
Spring-Tooth Harrows
Peg-Tooth Harrows
Field Cultivators
Rod Weeder
Rotary Hoes
Cultivators, row-crop
Soil Pulverizers
Land Packers
Plow Packers
Cotton Choppers

Power Machines
Engines
Power Units
Farm Tractors
Farmall Tractors
Farmall Equipment
TracTractors
Industrial Tractors
Motor Trucks

Belt Machines
Ensilage Cutters
Ensilage Blowers
Huskers and Shredders
Corn Shellers
Cane Mills
Feed Grinders
Roughage Mills
Threshers
Hay Presses

Beet Tools
Seeders
Cultivators
Pullers

Other Farm Equipment
Potato Diggers
Feed Grinders
Hammer Mills
Cane Mills
Farm Wagons & Trucks
Manure Spreaders
Lime Spreaders
Fertilizer Distributors
Crop Dusters
Stalk Cutters
Knife Grinders
Tractor Hitches
Binder Twine

For complete index, see last pages in this Catalog
McCormick-Deering
Little Genius Tractor Plows—No. 8

2, 3 and 4-Furrow

The Ace of Tractor Plows

The No. 8 Little Genius tractor plows combine the rugged construction and easy, efficient operation which have always characterized Little Genius plows with several new and decidedly advantageous features which make them most satisfactory plows to sell. Simple design, great strength and rigidity of parts, and a wide range of possible equipment adapt the No. 8 Little Genius to a wider territory than probably any other plow that was ever built.

No. 8 Little Genius plows are easy to set up and easy to adjust to varying plowing conditions. They can be equipped with any standard type of bottom—all McCormick-Deering tractor plow bottoms being interchangeable on the Little Genius beams.

Great Beam and Bottom Clearance

One of the outstanding features of Little Genius construction is the unusual amount of clearance under the beams and between the bottoms. It is 22 inches between the underside of a Little Genius beam and the point of the share, and the fore-and-aft spacing of the bottoms is 21 inches. This generous allowance for clearance enables the Little Genius to do good work in the trashiest ground.

Regular Equipment

Any bottom shown in table below. Quick-detachable shares. PORC-107 combination coulters and jointers (PORC-110 on rice plows). Spring-trip hitch. Wheels as shown in table on following page. Rear bottom equipped with long landside and inserted chilled heel. Long levers on plows to be pulled by Farmall tractors. Specify for which Farmall.

Extra Equipment

Plain or combination rolling coulters with plain or notched blades, 15 and 18-inch, see "Rolling Coulters." Plain steel or chilled jointers, see "Jointers." Hanging Cutters, see "Hanging Cutters." Weed hooks. Broom-corn springs (2-furrow takes 1 No. 4 and 1 No. 5; 3-furrow takes 1 No. 4 and 2 No. 5). Special wheel equipment as shown on a following page. Adjustable drawbar hitches: POTH-108 for 10-20 and 15-30 tractors, POTH-56 for Farmall 20, POTH-112 for F-30, POTH-125 for Farmall 12, and POTH-113 for narrow-tread Farmall 20 and F-30. Gauge wheel attachment for rice plows. Tractor-stop hitches. Rigid hitches for plows to be used with tractor-stop hitches. When plows are to be used with TracTracTors, orders should so state.

Specifications

GA =Stubble; HA =General Purpose; KA =General Purpose with extension mold; MS =Slat; MB9 =Stubble, chilled; MBB2 =narrow waisted Stubble, steel; MA =Blck Land; OA =Rice; N =Breaker.

<table>
<thead>
<tr>
<th>BOTTOM</th>
<th>SHARE NO.</th>
<th>2-Furrow</th>
<th>3-Furrow</th>
<th>4-Furrow</th>
</tr>
</thead>
<tbody>
<tr>
<td>GA1</td>
<td>O-554</td>
<td>O-560</td>
<td>O-562</td>
<td>823 lb</td>
</tr>
<tr>
<td>OA1</td>
<td>O-550</td>
<td>O-552</td>
<td>O-554</td>
<td>829 lb</td>
</tr>
<tr>
<td>KA1</td>
<td>O-552</td>
<td>O-555</td>
<td>O-556</td>
<td>837 lb</td>
</tr>
<tr>
<td>GA1</td>
<td>O-574</td>
<td>O-576</td>
<td>O-578</td>
<td>851 lb</td>
</tr>
<tr>
<td>MS1</td>
<td>#264</td>
<td>#266</td>
<td>O-562</td>
<td>835 lb</td>
</tr>
<tr>
<td>MB9</td>
<td>6174-DS</td>
<td>6174-DS</td>
<td>6174-DS</td>
<td>920 lb</td>
</tr>
<tr>
<td>MB12</td>
<td>15349-DS</td>
<td>15350-DS</td>
<td>15350-DS</td>
<td>1090 lb</td>
</tr>
<tr>
<td>MA2</td>
<td>O-532</td>
<td>O-534</td>
<td>O-536</td>
<td>841 lb</td>
</tr>
<tr>
<td>OA5</td>
<td>PO-9503</td>
<td>500</td>
<td>852 lb</td>
<td>865 lb</td>
</tr>
<tr>
<td>N2M</td>
<td>SA-3298</td>
<td>SA-3044</td>
<td>861 lb</td>
<td>877 lb</td>
</tr>
</tbody>
</table>

*Starred bottoms have bolted shares. Each Black-Land, Rice, and MB9 bottom supplied with one extra share.

Note: The Black-Land bottom is adapted only to certain soils of gumbo type. It is not adapted to loam soils. See pages on "Bottoms" and "Shares", for bottom and share numbers.

Feb. 1935
Improved Power Lift

One pull of the trip rope causes the bottoms to be raised or lowered. Only a half revolution of the land wheel is required to raise or lower the bottoms. This short distance of travel means well plowed headlands.

Spring Release Hitch

Easy to Recouple

All Little Genius plows are equipped with a spring release hitch which automatically uncouples the plow from the tractor when the plow encounters a stone, root, or other obstacle which would otherwise damage the plow. Some users have said that this feature beats an insurance policy.

The hitch is provided with a handle, as shown in Illust. 2-A, so that when the plow has been released from the tractor, it is easy to back the tractor to the plow, raise the hitch, and recouple. The plow can then either be raised to pass over the obstacle or backed far enough for the operator to remove the obstruction and proceed with the plowing without leaving a skip.

Wheels for No. 8 Little Genius Plows—Regular and Special

<table>
<thead>
<tr>
<th>Wheels</th>
<th>Diameter</th>
<th>Regular</th>
<th>Special Ice</th>
<th>Special Loose Land</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No.</td>
<td>Tire</td>
<td>No.</td>
</tr>
<tr>
<td>2 and 3-furrow plows</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front furrow, 10, 12, and 14-in.</td>
<td>24-in.</td>
<td>POW-377</td>
<td>3-in.</td>
<td>POW-367</td>
</tr>
<tr>
<td>Front furrow, 16 and 18-in.</td>
<td>24-in.</td>
<td>POW-371</td>
<td>4-in.</td>
<td>POW-367</td>
</tr>
<tr>
<td>1 and 2-furrow</td>
<td>30-in.</td>
<td>POW-434†</td>
<td>3-in.</td>
<td>POW-444*</td>
</tr>
<tr>
<td>Land wheel, 10, 12, and 14-in.</td>
<td>30-in.</td>
<td>POW-438†</td>
<td>4-in.</td>
<td>POW-444*</td>
</tr>
<tr>
<td>Land wheel, 16 and 18-in.</td>
<td>30-in.</td>
<td>POW-438†</td>
<td>4-in.</td>
<td>POW-444*</td>
</tr>
<tr>
<td>1 and 2-furrow</td>
<td>30-in.</td>
<td>POW-438†</td>
<td>4-in.</td>
<td>POW-444*</td>
</tr>
<tr>
<td>4-furrow plows</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front furrow wheel</td>
<td>25-in.</td>
<td>POW-219</td>
<td>4-in.</td>
<td>POW-247</td>
</tr>
<tr>
<td>Land wheel</td>
<td>30-in.</td>
<td>POW-420†</td>
<td>4-in.</td>
<td>POW-422†</td>
</tr>
<tr>
<td>Rear wheel</td>
<td>19-in.</td>
<td>POW-378</td>
<td>3-in.</td>
<td>POW-366</td>
</tr>
</tbody>
</table>

*Equipped with angle lugs PO-11895.
†Punched for land wheel lugs PO-13196.

All wheels equipped with Alemite oilers.
McCormick-Deering
Little Genius Tractor Plows
No. 8

Illust. 3—The two-furrow No. 8 Little Genius equipped with chilled bottoms. The equipment includes the hitch handle shown in Illust. 2A.

Quick-Detachable Shares
All the bottoms available for Little Genius tractor plows except the MS in 12 and 14-inch are equipped with quick-detachable shares. These shares are so designed as to be quickly removable yet rigidly held in place when the lock nut is tightened. McCormick-Deering quick-detachable shares always fit.

Rigid Construction
The beams are of heavy 1-beam steel. The between-beam bracing is exceptionally heavy and rigid, and on the 3 and 4-furrow plows there is a heavy tie bar across the rear ends of the beams which binds them into a rigid unit. The between-beam braces extend well down around the throats of the beams, adding strength to the points subject to the heaviest plowing strains. Beams and axles are heat treated to provide strength against all emergencies.

Special Rice Land Plow
The Little Genius can be specially equipped for plowing rice land. The equipment includes wheels shown on a preceding page, with lugs on the land-wheel to prevent slippage, plain coulters with special large-throated yokes. Rice equipment also includes the OA bottoms shown in table on a preceding page.

Illust. 3A—Jointer which can be supplied on special order for Little Genius tractor plow. See page on jointers.

Illust. 4—The three-furrow No. 8 Little Genius as specially equipped for rice land plowing. Note the wide-rimmed wheels and the special gauge wheel on the third beam. The equipment includes the hitch handle shown in Illust. 2A.

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McCormick-Deering
Little Genius Tractor Plows

No. 8

Illustr. 5—The No. 8 Little Genius Tractor Plow, three-furrow, with 16-inch bottoms and 18-inch coulters. The 18-inch couler is priced extra. The equipment includes the hitch handle shown in Illustr. 2-A.

Simple Adjustments

What dealer has not had his plows condemned when only minor adjustments were required to make them work properly? The simplicity of Little Genius adjustments, the fact that they are so easy to see and make, reduces to a minimum the troubles arising from faulty adjustment. Little Genius hitches are assembled to hitch to the center of the tractor drawbar, or very close to the center, the right tractor wheel running in the furrow. It is easy to adjust the hitch one way or the other to make the plow run true. Ample vertical adjustment is provided. Simple adjustments are provided for raising or lowering the heel of the plow and for setting the rear wheel. Wherever there is need for adjustment you will find the need provided for in a simple manner on Little Genius plows.

Combination Coulter and Jointer

The McCormick-Deering combination coulter and jointer is a most valuable aid to clean plowing. The coulter bearing is equipped with conical hubs which permit taking up any lost motion due to wear. It is easy to adjust the coulter to position to do its best work. The McCormick-Deering jointer blade has a long, slanting cut, and an easy turn. Jointers can be removed when not needed.

Illustr. 7—The No. 8 Little Genius four-furrow Tractor Plow with 14-inch bottoms and plain coulters. The regular equipment includes combination coulters and jointers, and the hitch handle shown in Illustr. 2-A.

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McCormick-Deering
Little Genius Tractor Plows—No. 8

Illustr. 10—A top view of the No. 8 four-furrow Little Genius Tractor Plow. Notice the heavy tie bar across the rear end of the beams. The three-furrow plow also has this tie bar. Now equipped with spring-release hitch with hitch handle (see Illustr. 2-A).

Trash Springs

The trash spring shown in Illustr. 13 is effective in trashy ground, and is especially desirable when there are heavy corn, broom-corn or other heavy stalks to be turned under. One of these springs ahead of each coulter holds the trash down in front of the coulter and permits the coulter to do a thorough job of cutting. The springs are supplied under two numbers. The 18-inch single furrow Little Genius takes one No. 6. The two-furrow plows, all sizes, take one No. 5 and one No. 6. The three-furrow plows take one No. 5 and two No. 6.

Illustr. 11—The broom-corn spring presses the stalks down in front of the coulter and holds them so that the coulter can cut them more effectively.

Illustr. 12—No. 8 Little Genius three-furrow tractor Plow with 14-inch MH-1 general purpose bottoms. This view shows well the great amount of beam and bottom clearance.
McCormick-Deering
Little Genius Tractor Plow No. 8—18 inch

For Deeper Plowing and an Extra Good Job of Trash Covering

Illustr. 13—The 18-inch No. 8 Little Genius single-bottom Plow. This plow turns a deep, wide furrow and is especially popular in territories where corn borer control necessitates deep, clean plowing. The equipment includes the hitch handle in Illustr. 2-A.

A Good Plow For Corn Borer Control

While any Little Genius or Little Wonder tractor plow will do a good, clean job when properly adjusted, or with special equipment which can be supplied, the 18-inch bottom is the one to use where 100 per cent clean plowing is desired.

In plowing for corn borer control it has been found that the larger bottoms cover more efficiently, which has resulted in a demand for the Little Genius with 18-inch bottoms. These plows will work as deep as 10 inches and do a splendid job. Ample clearance wherever clearance is needed prevents the plow from clogging.

This plow is also especially adapted to plowing broom-corn stalks, sweet-clover stubble and to other difficult conditions where exceptionally good coverage and unusual clearance are demanded.

Regular Equipment


Extra Equipment


Illustr. 14—The No. 8 Little Genius 18-inch gang Plow. The equipment includes the hitch-handle in Illustr. 2-A.

Specifications

<table>
<thead>
<tr>
<th>BOTTOM</th>
<th>SHARE NO.</th>
<th>WEIGHT 1-FURROW</th>
<th>WEIGHT 2-FURROW</th>
</tr>
</thead>
<tbody>
<tr>
<td>GA1, stubble</td>
<td>O-634</td>
<td>712 lb.</td>
<td>935 lb.</td>
</tr>
<tr>
<td>GA7, stubble</td>
<td>O-636</td>
<td>707 lb.</td>
<td>933 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering
Little Genius Tractor Plows—No. 10

Built for Extra Hard Work

The No. 10 Little Genius is an extra heavy and stocky plow built especially for use in heavy land, and particularly for the rolling and hilly lands of the Northwest. It is of the same general design as the No. 8 Little Genius, but is equipped with cranks and screws in place of the regulation land and furrow levers. This puts everything down close to the beams and makes a very compact plow. These plows are built with three long beams, and the land and front furrow axles are above the beams, giving the greatest possible clearance under the beams. The axles, wheels, and bearings are designed for extra hard work. Tandem hitches are available for pulling two plows behind track-type tractors. The plows may be two 3-furrow, two 4-furrow, or a 3- and a 4-furrow. For plowing very hilly land the rear bottom can be equipped with a rudder to steady the plow. The suffix letters for these special rear bottoms are MS instead of the usual MN.

Regular Equipment

Any of the standard McCormick-Deering bottoms, the usual equipment being one of the types shown in the table of specifications. The UAA1 bottom is especially intended for deep plowing, it having an extra high and long moldboard. Land and furrow wheels with 4-in. tires. One PORC-137, 18-in. rolling coulter for rear beam. POTH-118 spring-release hitch.

Extra Equipment

POW-479 land wheel, POW-480 furrow wheel, with 7-in. rims. Rolling coulters, 2 or 3, for first, second and third beams, as follows: PORC-106, plain 15-in.; PORC-107, 15-in. combination; PORC-112, plain 18-in., or PORC-113 heavy-duty 18-in. combination. Tandem hitch. When ordering plows for use with tandem hitch, order them less POTH-118.

Specifications

<table>
<thead>
<tr>
<th>Bottom</th>
<th>Share No.</th>
<th>14-in.</th>
<th>16-in.</th>
<th>3-Furrow 14-in.</th>
<th>16-in.</th>
<th>4-Furrow 14-in.</th>
<th>16-in.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GA1</td>
<td>O-560</td>
<td>O-562</td>
<td>1388 lb.</td>
<td>1415 lb.</td>
<td>1655 lb.</td>
<td>1680 lb.</td>
<td></td>
</tr>
<tr>
<td>GAA1</td>
<td>O-674</td>
<td>O-676</td>
<td>1403 lb.</td>
<td>1430 lb.</td>
<td>1675 lb.</td>
<td>1700 lb.</td>
<td></td>
</tr>
<tr>
<td>UA1</td>
<td>O-674</td>
<td></td>
<td>1415 lb.</td>
<td></td>
<td></td>
<td>1691 lb.</td>
<td></td>
</tr>
</tbody>
</table>

See pages on "Bottoms and Shares" for bottom and share numbers.

Illust. 15—The No. 10 Little Genius, 3-furrow, with 14-in. GA-1 bottoms.

Illust. 15-A—A landside view of the same plow as above.

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McCormick-Deering Little Genius Tractor Plows
Nos. 4 and 7

Illustr. 16—No. 4 Little Genius, orchard and vineyard type.
Equipment includes spring-release hitch.

For Orchard and Vineyard Plowing
This is the McCormick-Deering Little Genius specially adapted to orchard and vineyard plowing, where it is necessary to work close to the trees and vines, and where the overhanging branches would hinder or make impossible the use of an ordinary plow. On this plow the power for raising the bottoms is taken from the furrow wheel. In orchard work this is desirable because the path of the land wheel is often so close to the trees that it would be unable to deliver power efficiently.

Low Levers
To avoid contact with overhanging branches or vines, the levers are made short, and when the plow is at work they lie down close to the plow out of the way. Provision is made for setting both the land and furrow wheels up to permit opening lands full depth.

Narrow Wheel Base
In the top view of the plow notice that the land wheel travels directly in front of the rear bottom and that the rear bottom can be worked as close to trees or vines as it is desired to go. In other words, the wheels are contained within the path of the plows.

To prevent the wheels from sinking into soft soil, the wheels are equipped with extra wide tires. The wheels are equipped with removable dust-proof boxings, dust-proof sand bands and hard oil dust-proof screw caps.

Regular Equipment

Extra Equipment

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Size</th>
<th>Type of Bottom</th>
<th>Average Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>10-Inch</td>
</tr>
<tr>
<td>4</td>
<td>2-furrow</td>
<td>HA, general purpose</td>
<td>854 lb.</td>
</tr>
<tr>
<td>4</td>
<td>3-furrow</td>
<td>HA, general purpose</td>
<td>1041 lb.</td>
</tr>
<tr>
<td>7</td>
<td>4-furrow</td>
<td>HA, general purpose</td>
<td>1349 lb.</td>
</tr>
</tbody>
</table>

Order extra shares by number stamped on under side.

Illustr. 17—No. 7 Little Genius, top view. Now furnished with same type of spring release hitch as shown on Little Wonder plows.
McCormick-Deering
Little Wonder Tractor Plow
No. 2

For Small Tractors

The Little Wonder combines the features essential to good plowing under all average conditions with a refinement and simplification of design which provides ample strength with comparatively light weight. In fact, the Little Wonder is as light in weight as it is possible to build a good plow.

Rigid-Flexible Hitch

The Little Wonder hitch is flexible with respect to up-and-down motion when the plows are in the ground. This means that the up-and-down motion of the tractor cannot interfere with the good work of the plow. When the bottoms are raised the rear end of the plow is held off the ground by a link connection in the hitch; in other words, the Little Wonder hitch is an ideal combination of the rigid and flexible type of hitch. This feature is mighty important on a two-wheeled tractor plow.

The wheels are equipped with removable dust-proof boxes with dust-proof screw caps and sand bands. The boxes are equipped with Alemite oils. Collars and linchpins inside the screw caps take end thrust off the bearings.

Regular Equipment

Any bottom shown in table below. Quick-detachable shares. PORC-85 combination coulters and jointers. Spring-trip hitch, POTH-104. Wheels as shown in table on following page. Long levers instead of regular levers for plows sold for use with Farmall tractors. Rear bottom equipped with long landside and inserted cast heel.

Extra Equipment

Plain coulters, PORC-34, 15-inch, PORC-78, 18-inch. Wide yoke, 16-inch coulter, PORC-95, for rice land. Plain steel or chilled jointers, as shown under "Jointers." Knife cutters as shown under "Knife Cutters." Special wheels as shown in table on next page. Special axle for shallow plowing (part of special equipment for rice land). Rear wheel attachment. Weed hooks. No. 4 broom corn springs. POTH-108 adjustable drawbar hitch for 10-20 tractor, POTH-56 for Farmall 20 tractor, POTH-112 for Farmall 30, and POTH-113 for narrow-tread Farmall 20 and Farmall 30.

Notched coulters, PORC-120 plain 15-in., PORC-124 plain 18-in., or PORC-121 combination, 15-in.

Specifications

<table>
<thead>
<tr>
<th>Bottom</th>
<th>Share No.</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12-In.</td>
<td>14-In.</td>
</tr>
<tr>
<td>GA 1, stubble</td>
<td>O-558</td>
<td>O-560</td>
</tr>
<tr>
<td>HA 1, general purpose</td>
<td>O-552</td>
<td>O-554</td>
</tr>
<tr>
<td>KA 1, general purpose with ext. mold</td>
<td>O-552</td>
<td>O-554</td>
</tr>
<tr>
<td>MB 9, stubble, chilled</td>
<td>6174-DS</td>
<td>6175-DS</td>
</tr>
<tr>
<td>MBB2, stubble, steel</td>
<td>15349-DS</td>
<td>15350-DS</td>
</tr>
<tr>
<td>MS 1, slat</td>
<td>264</td>
<td><strong>266</strong></td>
</tr>
<tr>
<td>MA 2, black land</td>
<td>O-534</td>
<td>O-536</td>
</tr>
<tr>
<td>QA 5, rice</td>
<td>SA-220</td>
<td>SA-190</td>
</tr>
<tr>
<td>N 2, breaker</td>
<td>SA-3928</td>
<td>SA-3844</td>
</tr>
</tbody>
</table>

*Cannot be used when rear wheel attachment is used.
*Starred shares are bolted type. Each MB, MBB, MA and OA bottom includes one extra share.
See pages on "Bottoms" and "Shares" for bottom and regular and special share numbers.
Note: The Black-Land bottom is adapted only to certain soils of the gumbo type. It is not adapted to loamy soils.

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McCormick-Deering
Little Wonder Tractor Plow—No. 2

Power-Lift Device
An improved power-lift device enables the operator to control the plow from the seat of the tractor. The lift device is controlled by a rod, the handle of which is within easy reach. The working members of the clutch are all enclosed against dust. A half revolution of the land wheel puts the bottoms into or takes them out of the ground. The land wheel is 30 inches in diameter and provides ample power to operate the lift.

Strong and Well Balanced
Heat treatment of the beams gives ample strength without excessive weight. The beams are longer than on similar plows, which places the hitch where it belongs and insures a steady running plow. Strong springs counterbalance the bottoms, making them easy to raise.

The wheels are so located as to balance the plow correctly both when plowing and when the bottoms are raised. The whole weight of the Little Wonder, including the wheels, is effective in securing penetration.

Little Wonder Wheels—Regular and Special

<table>
<thead>
<tr>
<th>Wheels</th>
<th>Diam.</th>
<th>Regular</th>
<th>No.</th>
<th>Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td>30-in.</td>
<td>POW-359</td>
<td>2-1/2-in.</td>
<td></td>
</tr>
<tr>
<td>Furrow</td>
<td>25-in.</td>
<td>POW-309</td>
<td>2-1/2-in.</td>
<td></td>
</tr>
<tr>
<td>Rear</td>
<td>14-in.</td>
<td>PO-11206</td>
<td>(Special)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Heavy</th>
<th>No.</th>
<th>Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>POW-341†</td>
<td>3-in.</td>
<td>POW-360Δ</td>
<td>6-in.</td>
</tr>
<tr>
<td>POW-370†</td>
<td>4-in.</td>
<td>POW-361†</td>
<td>6-in.</td>
</tr>
<tr>
<td>POW-391*</td>
<td>4-in.</td>
<td>POW-392*</td>
<td>4-in.</td>
</tr>
<tr>
<td>POW-261</td>
<td>3-in.</td>
<td>POW-319</td>
<td>6-in.</td>
</tr>
<tr>
<td>POW-281</td>
<td>4-in.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rice</th>
<th>No.</th>
<th>Tire</th>
</tr>
</thead>
<tbody>
<tr>
<td>POW-360Δ</td>
<td>6-in.</td>
<td></td>
</tr>
<tr>
<td>POW-361†</td>
<td>6-in.</td>
<td></td>
</tr>
<tr>
<td>POW-392*</td>
<td>4-in.</td>
<td></td>
</tr>
<tr>
<td>POW-319</td>
<td>6-in.</td>
<td></td>
</tr>
</tbody>
</table>

* Equipped with land wheel lugs, PO-13196
† Equipped with angle lugs, PO-11895.
* Punched for land wheel lugs, PO-13196.
Δ Punched for angle lugs, PO-11895.
McCormick-Deering
Little Wonder Tractor Plow—No. 2

Good Trash Clearance

There is an extra large amount of clearance between the bottoms and under the beams. The result is that this plow does exceptionally good work in trashy ground and will not clog under any reasonable plowing condition. The trash-covering ability of the Little Wonder is remarkable.

Other Features

The combination coulters and jointers assure clean work in trashy ground. The wheels have removable, dust-proof boxes with dust-proof screw caps and sand bands. Allemite oilers on inner ends of bearings. Collars and linch pins inside the screw caps take end thrust off the bearings. Spokes are hot-riveted into the rims, staggered at the hubs and cast right into the hubs.

The between-beam braces are hot-riveted to the beams. The spring-trip hitch beats an accident-insurance policy in protecting plow and tractor against damage from hidden roots or stones.

Illustr. 23—No. 2 Little Wonder with the wide tire wheels, black-land bottoms, and plain coulters which constitute the rice equipment which can be supplied on special order. Wheels with 3, 4 or 6-inch tires can be supplied.
Built Low and Narrow

The McCormick-Deering No. 23 orchard tractor plow embodies the latest principles of orchard plow construction. It is the product of several years' effort to produce plows to meet the conditions encountered in the orchards and vineyards on the Pacific Coast. It is built low and narrow.

In illustration 21 notice the wide range of off-side hitch adjustment. Two ranks of holes give a very fine lateral adjustment. Vertical adjustment is also provided.

Easy working screws, with the cranks extending to the front of the plow where they are easy to reach, adjust the depth and level the plow at the desired depth. The screws are enclosed in dust-proof cases, and are packed in grease.

The furrow wheel is equipped with a steel flange which digs into the furrow bottom and holds the plow straight regardless of the amount of off-side hitch.

These are power-lift plows. The power-lift device is operated by the land wheel and supplies plenty of power to raise the bottoms under all conditions. No wheel lugs are required, which relieves the plow of the vibration occasioned by wheel lugs when transporting a plow over hard roads.

Being a two-wheel plow, this plow can be turned extremely short. Twenty-two inches of clearance under the beam and 19 inches fore-and-aft spacing (actually 22-inch clearance between 12-in. bottoms) gives more than ample beam and bottom clearance to prevent clogging.

Regular Equipment

Built in 3-furrow, with 10 or 12-in. bottoms. Bottoms are HA, general purpose type. Quick-detachable shares. Rear bottom has long landside with inserted cast heel. Spring-trip hitch. PORC-34, plain 15-in. rolling coulter.

Extra Equipment

GA stubble bottom in 12-in. can be supplied in place of HA bottoms. PORC-78, 18-in. rolling coulter. Notched coulters (see Coulters and Jointers). POTH-113 adjustable drawbar hitch. Rear wheel attachment (see wheel attachment for Little Wonder, on preceding page).

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>DESCRIPTION</th>
<th>SHARE No.</th>
<th>Weight Lbs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>3-furrow, 10 inch, orchard tractor plow</td>
<td>O-550</td>
<td>862</td>
</tr>
<tr>
<td>23</td>
<td>3-furrow, 12-inch, orchard tractor plow</td>
<td>O-552</td>
<td>903</td>
</tr>
</tbody>
</table>
McCormick-Deering
Two-Way Tractor Plow—No. 37

The Right Way to Plow
Irrigated Land

It is good to look at a field plowed with a two-way plow—not a dead furrow in sight—just uniform furrows from one side of the field to the other.

Here is a tractor two-way plow, with a 16-inch bottom, that will plow as deep or as shallow as conditions require—it will do a splendid job of crowning alfalfa.

The No. 37 is adapted to the McCormick-Deering 10-20 tractor, or tractors of similar width of tread.

Power Lift

The power lift is quick and positive in action. Each bottom has its own lifting device, controlled by a latch rod which is easy to reach from the tractor seat. The bottoms go into the ground quickly and come out quickly, which means a good job at the ends and small turning radius.

Flexible Hitch

The hitch is the same type as is used on the Little Wonder plow—it is flexible up and down when the plow is at work, so that the plow is not affected by the tractor as it passes over rough ground.

Easy Adjustments

Each bottom has its own depth lever, also its own leveling adjustment, as shown in Illust. 26.

The plow pulls from the center of the tractor. The bottoms are raised and lowered on an angle which puts each bottom in the correct line of draft as it takes its depth—there is no shifting of the hitch.

Specifications

<table>
<thead>
<tr>
<th>Bottom</th>
<th>Description</th>
<th>Share No.</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>GA-1, stubble, 16-inch</td>
<td>No. 37 Two-Way tractor plow</td>
<td>O-362</td>
<td>842 lb.</td>
</tr>
<tr>
<td>HA-1, general purpose, 16-inch</td>
<td>No. 37 Two-Way tractor plow</td>
<td>O-356</td>
<td>852 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
The McCormick-Deering No. 1 tractor disk plow has been a favorite for years in many sections where moldboard plows do not scour readily. It is a power-lift plow, the disks being raised or lowered at will by means of a single trip rope.

Two main levers regulate the depth and level the plow. These levers are convenient to the tractor operator when the disks are in the ground. They swing back out of the way when the disks are raised.

The hitch is equipped with a break pin.

The disks can be set to cut from 7 to 9 inches wide and they will plow from 5 to 10 inches deep.

**Plenty of Weight**

These plows have the right amount of weight, correctly distributed for average conditions. Additional weights can be supplied for weighting the wheels to hold the plow to its work in extremely hard or tough plowing.

**Regular Equipment**


**Extra Equipment**

Twenty-six or 28-in. disks; 24 or 26-in. deep suck disks. All disks heat-treated. Flanged wheels with 3-in. rims instead of regular wheels without additional charge, when specified: POW-213 front and rear furrow, POW-246 land wheel. Sand rims. 5-in. (fit V or flanged rims) wheel weights: No. PO-275, 100 lb.; No. 9434, 150 lb.; these weights can be used only on V-rim wheels.

Oscillating scrapers instead of moldboard, or as additional equipment. POTH-108, adjustable drawbar hitch. POTH-43, spring-release hitch. POTH-56 Farmall adjustable drawbar hitch. (POTH-125 for Farmall-12.)

**Specifications**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2-furrow power lift disk plow...</td>
<td>1370 lb.</td>
</tr>
<tr>
<td>1</td>
<td>3-furrow power lift disk plow...</td>
<td>1596 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Tractor Disk Plow—No. 33
3 to 7 Disks

Illustr. 36—No. 33 four-furrow Tractor Disk Plow. This plow is built to meet the very hardest plowing conditions. It is built in three, four and five-disk sizes.

Strength and Weight for Any Plowing Job

The outstanding features of the No. 33 tractor disk plow are weight, which is essential in a disk plow, and strength, which is also essential in a plow that is to withstand the strains of the hardest kind of plowing. This plow is built to meet such conditions as are found, for instance, in the Imperial Valley of California, and the Salt River Valley of Arizona.

Weight intelligently placed, a correctly designed hitch, the location of the wheels and the design of the wheels, all combine in the No. 33 to make a plow that will hold to its work and maintain uniform depth under all plowing conditions.

The overhead-beam allows ample clearance for the heaviest cover crops or weeds.

The rear-axle bracket is extremely heavy, its weight accounting in large measure for the complete elimination of side swing. The location of the land wheel well toward the rear is also a factor in holding the plow in line.

Illustr. 37—Detail of No. 33 tractor disk plow scraper. Loosening one set screw, A, and tightening the other changes the set of the scraper. Further scraper adjustment is provided in the slot hole, B, and the slots at C, D is the flange on the stub-beam, which projects over the main beam and causes the strain of plowing to be thrown on the beam and not on the bolts.

Illustr. 38—View of the rear wheel showing the set screw adjustment, which sets the rear wheel to right or left as required by hard or soft plowing conditions.

Regular Equipment

26 x 1 1/2 in. disks bevelled on inside. Moldboard scrapers. Set of 3 weights for rear wheel. Timken roller disk bearings. Flanged wheels.

Extra Equipment


Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>DESCRIPTION</th>
<th>WIDTH FURROWS</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>33-3</td>
<td>3-Furrow tractor disk plow</td>
<td>7, 8 and 9 in.</td>
<td>2374 lb.</td>
</tr>
<tr>
<td>33-43</td>
<td>4-Furrow tractor disk plow</td>
<td>7, 8 and 9 in.</td>
<td>2525 lb.</td>
</tr>
<tr>
<td>33-53</td>
<td>5-Furrow tractor disk plow</td>
<td>7 in.</td>
<td>2677 lb.</td>
</tr>
<tr>
<td>33-5</td>
<td>5-Furrow</td>
<td>9 in.</td>
<td>2726 lb.</td>
</tr>
<tr>
<td>33-65</td>
<td>6-Furrow</td>
<td>7 and 8 in.</td>
<td>2878 lb.</td>
</tr>
<tr>
<td>33-75</td>
<td>7-Furrow</td>
<td>7 in.</td>
<td>3030 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering
Tractor Disk Plow—No. 33

Tapered Roller Disk Bearing
The disks revolve on tapered roller bearings. The spindle portion of the disk bearing is a heavy, steel drop forging. The outer portion of the disk bearing, which is integral with the disk arm, is an extra heavy casting. Heavy, durable spindles and large bearing races assure maximum service. The bearings are completely enclosed against dust. Alemite oilers and felt washers assure efficient lubrication.

Two positive pitch settings are provided—the heaviest plowing strains cannot change the pitch of the disks.

Other Features
The land wheel supplies the power for the raising device and its large diameter and heavy lugs assure sufficient power under all conditions.

The hitch is of an improved design which distributes the plowing strains over the entire plow and not entirely on the front end as in the ordinary hitch.

The wheels are held on the axles by a retaining rim in the center of the bearing. There is no end wear on the sand bands. The wheel bearings are dust-proof, and Alemite-oiled.

It Sticks to Its Work
The big problem in disk plow design was how to hold the plow in line so that the disks would cut their full width and depth. This problem has been most satisfactorily solved in the No. 33 plows. They stick to their work under the most severe plowing conditions.

Changes In Size
No. 33 disk plows are built on two lengths of beams, one for the 3, 4 and 7-inch-cut 5-furrow, and one for the 9-inch-cut 5-furrow and the 6 and 7-furrow. Referring to the numbers in the table on the preceding page, the No. 33-3 can be increased to a 4 or a 5-furrow, No. 33-43 can be reduced to a 3 or increased to a 5. No. 33-53 can be reduced to a 4 or a 3. No. 33-65 can be increased to a 6 or a 7-furrow. No. 33-65 can be reduced to a 5 (33-53) or increased to a 7. No. 33-75 can be reduced to a 6 or a 5. When increasing to greater number of disks it is, of course, necessary to order one or two extra disk attachments.
McCormick-Deering No. 34 Tractor Disk Plows

McCormick-Deering No. 34 tractor disk plows are almost identical in design with the No. 33 described on the two preceding pages. The fact is that No. 33 was built to meet extremely hard plowing conditions and performed so well that Harvester engineers were asked to develop a plow for the general trade, lighter in weight than No. 33 but embodying the same working principles. No. 34 was designed to meet that demand.

The Nos. 33 and 34 disk plows have set a new standard for disk plow performance. They have a number of distinctly McCormick-Deering features of design which enable them to hold to their work under all reasonable plowing conditions.

These plows are made in four lengths of beam. The 2-furrow can be converted to a 3. The three-furrow can be supplied either as a three-furrow reducible to a two or as a three-furrow convertible to four by adding a fourth disk attachment. The four can be supplied as a four-furrow reducible to three or as a four-furrow convertible to five. The five can be supplied as a five-furrow reducible to four or as a five-furrow convertible to six. The six-furrow can be reduced to a five-furrow.

Regular Equipment

26 by \( \frac{1}{4} \)-in. disks beveled on the backs. Roller disk bearings. Set of three weights for rear wheel Moldboard scrapers.

Extra Equipment

Heavy wheels, POW-429 and POW-472, for 34-2, 34-32, 34-3, and 34-43 plows in place of regular. Extra wheel weights for front and rear furrow wheels, set of three (99 lb.) Extra wheel weights for land wheel, set of three (159 lb.) Oscillating, or 13-in. rotary, scrapers. Extra disk attachment. 24 or 28-in. disks in place of 26-in. \( \frac{1}{4} \)-in. disks. 4-in. sand rims. Spring-release hitch. POTH-128 hitch for TracTractors. Disks beveled on inside.

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Width Furrows</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>34-2</td>
<td>2-Furrow tractor disk plow</td>
<td>8 and 9 in.</td>
<td>1590 lb</td>
</tr>
<tr>
<td>34-32</td>
<td>3-Furrow tractor disk plow</td>
<td>7, 8, and 9 in</td>
<td>1720 lb</td>
</tr>
<tr>
<td>34-3</td>
<td>3-Furrow tractor disk plow</td>
<td>7, 8, and 9 in</td>
<td>1758 lb</td>
</tr>
<tr>
<td>34-43</td>
<td>4-Furrow tractor disk plow</td>
<td>8 and 9 in.</td>
<td>1890 lb</td>
</tr>
<tr>
<td>34-4</td>
<td>4-Furrow tractor disk plow</td>
<td>7, 8, and 9 in</td>
<td>2410 lb</td>
</tr>
<tr>
<td>34-54</td>
<td>5-Furrow tractor disk plow</td>
<td>7, 8 and 9 in.</td>
<td>2540 lb</td>
</tr>
<tr>
<td>34-65</td>
<td>6-Furrow tractor disk plow</td>
<td>8 and 9 in.</td>
<td>2545 lb</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7, 7(\frac{1}{2}), 8 and 9 in</td>
<td>2675 lb</td>
</tr>
</tbody>
</table>

Specifications

Illust. 42—The No. 34-3 Tractor Disk Plow. This plow can be increased to a 4-furrow by sliding the rear wheel back and adding another disk.

Illust. 43—The No. 34-54 Tractor Disk Plow. This plow can be reduced one disk when desired.

This plow can also be furnished in 6-furrow, reducible to 5.
McCormick-Deering Ditching Plow

For Digging Irrigation Laterals and Ditches

The Only Plow Like It

This is a very large, massive plow built exclusively for the purpose of digging lateral ditches or trenches. It has been in successful use for years in irrigated sections. It is free from all delicate parts or complications and, if necessary, 6 or 8 horses or a tractor can be used without danger of damage to the plow.

Beam

The beam is very heavy, made of one piece of well-seasoned oak, and is reinforced by a steel strap which runs along the under side from the hitch to the standard.

Bottom

The bottom is built like a middlebreaker bottom, that is, with two molds and a double share. A long steel bar, securely bolted to the frog and to the heavy steel standard, forms the rudder. An extra, double brace extending from the beam, just in front of the handle spreader, to the rear end of the rudder, completes a bottom construction that is equal to the hardest kind of work.

Wings

The plow is equipped with detachable wings having an extreme width of 6 feet. These wings are necessary whenever deep plowing is contemplated, as they throw the dirt away from the banks, leaving a clear space for the soil thrown out by the second plowing. The wings are adjustable laterally for different widths. When plowing the second time, to make a deeper trench, it is necessary to remove the wings and forecarriage, in order to let the plow down in the ditch.

Forecarriage and Transport Wheel

The forecarriage is heavy, and built nearly altogether of steel. A long and powerful lever gauges the depth of the furrow. The caster rear wheel holds the plow off the ground in turning and transporting. The plow can be operated with horses or a tractor.

Regular Equipment

Single shin, hard steel molds and heavy solid steel share. Furnished with No. 4 truck.

Extra Equipment

Tractor hitch chain (30 links) with drag hook, link and ring.

<table>
<thead>
<tr>
<th>Size</th>
<th>Share No.</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-inch</td>
<td>346</td>
<td>534 lb.</td>
</tr>
<tr>
<td>Extra wings</td>
<td>per pair</td>
<td>39 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Tractor Brush Breakers

No. 459, 20-inch
No. 461, 16-inch

These brush breakers are built for plowing such underbrush as hazel, blackberry, cranberry, etc. The large one has even been used for turning under small trees or saplings. Both plows are well adapted to turning heavy virgin soil.

The beams are made of high-quality steel, heat treated to give reserve strength for resisting the unusual strains to which plows of this type are subjected. The axles are heavy and strong.

No. 459 is a 20-in.; No. 461 is a 16-in.

Duck-Bill Cutter

The duck-bill cutter cuts heavy roots and clears the way for the plow. The point of the share fits into a hole in the heel of the cutter, and a tie rod from the beam to the cutter prevents the cutter from pulling away from the share when backing the plow out of a stump.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Share No.</th>
<th>Weight</th>
</tr>
</thead>
</table>
| 461 | 16-in. Tractor Brush Breaker, duck-bill cutter | SA-5227   | 950 lb.

Large Coulter

The No. 459 can be supplied with a 33-in. coulter for use in clearing palmetto land, on which job it has been used with great success.

Regular Equipment


Extra Equipment

McCormick-Deering Harrow-Plow—No. 2

Combines Features of the Disk Harrow and Disk Plow

The McCormick-Deering harrow-plow, as its name implies, combines features of the disk harrow and of the disk plow. Like a disk harrow, it has a series of disks on an arbor bolt, spaced by heavy spreader spools, but, as on a disk plow, the disks throw the soil in one direction only and are held to their work by canted front and rear furrow wheels.

For Fallow Ground

The harrow-plow cuts all surface growth clean, and is a splendid implement for fallow ground. It keeps the surface well mulched. From the standpoint of its work the harrow-plow is really a shallow-working, narrow-furrow, multiple-disk plow, although the close spacing of the disks and their broader angle combine to produce a deeper, finer seed bed than can be made with either a disk plow or a disk harrow in a single operation.

Adjustable Angle

The angle of the disks can be changed from 36 to 45 degrees, or vice versa. The adjustment is very simple, and adds greatly to the ability of the harrow-plow to meet varying conditions. Easy means are provided for regulating the depth, leveling the plow, and adjusting the rear end.

Regular Equipment

No. 9 gauge disks. Three rear wheel weights. Trash bars. Sand rim for land wheel. Disks spaced 8 inches apart.

Extra Equipment

Land wheel weights (3 pairs, or 6 PO-1041), total weight 150 lb. Furrow-wheel weights (3 pairs, or 6 PO-10380), total weight 153 lb. Scraper attachment—specify size of harrow-plow for which wanted. No. 7 gauge disks. Sand rim for furrow wheel. 22-in. disks. Alloy steel disks. Hitch extension for TracTracTor.

Specifications

<table>
<thead>
<tr>
<th>Size</th>
<th>Disks</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 ft.</td>
<td>7-20 in.</td>
<td>No. 2 Harrow-Plow</td>
<td>1890 lb.</td>
</tr>
<tr>
<td>5 ft.</td>
<td>8-20 in.</td>
<td>No. 2 Harrow-Plow</td>
<td>1975 lb.</td>
</tr>
<tr>
<td>6 ft.</td>
<td>10-20 in.</td>
<td>No. 2 Harrow-Plow</td>
<td>2032 lb.</td>
</tr>
<tr>
<td>8 ft.</td>
<td>12-20 in.</td>
<td>No. 2 Harrow-Plow</td>
<td>2243 lb.</td>
</tr>
<tr>
<td>9 ft.</td>
<td>14-20 in.</td>
<td>No. 2 Harrow-Plow</td>
<td>2300 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Harrow-Plow—No. 2

Leaves No Uncut Ridges

The harrow-plow leaves no uncut ridges. It throws the soil all in the same direction. Under usual conditions it will work as deep as 5 inches. It does work comparable to that which was formerly done in two operations with Wheatland listers and the ridge buster. A 9-ft. harrow-plow will work 30 acres in a 10-hour day. A 6-ft. will work 20 acres, and the other sizes in proportion.

Helps to Prevent Soil Blowing

In wheat ground the harrow-plow leaves the stubble well mixed with the soil, yet projecting from the soil. The stubble, thus securely anchored, offers splendid resistance to the wind, and thus greatly retards blowing. It also helps to hold the snows that come later, conserving moisture which gives the wheat a good start in the spring.

Still another advantage of the harrow-plow is that it leaves the fields comparatively level, making it easier to operate the binder or the harvester-thresher. It has also been found that the work of the harrow-plow helps to discourage the propagation of the Hessian fly.

It Sticks to Its Work

The backbone of the harrow-plow is a heavy-square, steel beam above the disks. This overhead construction gives maximum clearance over the disks. Ample weight, ideal location of the wheels, and the design of the hitch, all contribute to the ability of the harrow-plow to stick to its work under all reasonable conditions.

The land wheel is extra large and rolls easily over loose, rough ground. In turning, the front furrow wheel is automatically castered in the natural line of travel—it is impossible to drag it sidewise.

Double-Radius Disks

The disks are the double-radius type. The sharper concavity of the rims gives the advantages of a regular plow disk as to cutting and covering, while the flatter center provides greater clearance. The result is cleaner cutting, more thorough working of the soil, and less side thrust.

Power Lift

The power lift operates on all three wheels, giving a high level lift. A dust-proof housing protects the clutch. A trip rope gives the operator full control. The power is taken from the land wheel, which is specially designed to give ample traction.

Feb. 1935
McCormick-Deering Tractor Stop Hitches

Throws out the tractor clutch when the plow hits an obstruction

The tractor stop hitch is designed especially for plowing but can be used for other drawbar work where tractor or implement may be subjected to sudden shocks due to striking hidden obstacles. It is a real time saver in sections where there are many buried stones or heavy roots, since the implement is recoupled merely by backing the tractor.

The hitch is provided with a sliding drawbar arrangement. Whenever the pull on the drawbar reaches the safety limit the hitch is tripped, unlatching a heavy tension spring and automatically throwing out the clutch and stopping the tractor.

The sliding drawbar allows the tractor to travel far enough to use up its momentum, without uncoupling the plow. All that is necessary to resume operation is to reset the clutch throw-out mechanism and back the tractor. The sliding drawbar automatically recouples. It is necessary, of course, either to remove the obstruction or raise the plow or other implement to clear.

When McCormick-Deering Little Genius plows are to be used with tractor stop hitches they should be ordered with plain hitches (less spring-trip feature, which is not needed), as follows: POTH-129 for 2- and 3-furrow No. 8 Little Genius. POTH-130 for 4-furrow 10- and 12-in., and 5 furrow 12-in. Little Genius. POTH-131 for 4-furrow 14 and 16-in. and 5-furrow 12-in. Little Genius.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Tractor</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>POTH-120</td>
<td>Tractor Stop Hitch</td>
<td>10-20</td>
<td>123 lb.</td>
</tr>
<tr>
<td>POTH-121</td>
<td>Tractor Stop Hitch</td>
<td>15-30</td>
<td>126 lb.</td>
</tr>
<tr>
<td>POTH-122</td>
<td>Tractor Stop Hitch</td>
<td>Reg., F-20 and F-30 Farmalls</td>
<td>122 lb.</td>
</tr>
<tr>
<td>POTH-138</td>
<td>Tractor Stop Hitch</td>
<td>W-30</td>
<td>125 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering
Diamond Sulky and Gang Plows—No. 2

Foot Lift—Double Bail

The Diamond is the McCormick-Deering high-lift, double-bail, foot-lift riding plow. It is quality from the clevis pin to the tip of the rear wheel scraper—quality bottoms, quality beams, coulters and wheels. It looks quality on the floor, and in the field it proves its quality in its good work, convenience of handling, lightness of draft, and length of service. It is a man’s plow that a boy can use if he can drive a team.

Features you should note particularly are: the quick-detachable shares, the ample beam clearance, the wheel construction, the convenient lever location, the easy lift, the spring cushioned land wheel, and the nicety of rear wheel control.

Regular Equipment

No. 2 Diamond sulky furnished in 12, 14 and 16-in., right hand only. No. 2 Diamond gang furnished in 20, 24 and 28-in. right hand only. Front and rear bottoms are the same on these plows.

Specifications

<table>
<thead>
<tr>
<th>Bottoms</th>
<th>Share Number</th>
<th>10-1-In.</th>
<th>12-In. Sulky Only</th>
<th>14-In. Sulky and Gang</th>
<th>16-In. Sulky Only</th>
<th>12-In.</th>
<th>14-In.</th>
<th>16-In.</th>
<th>10-In.</th>
<th>12-In.</th>
<th>14-In.</th>
<th>16-In.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GA 1, stubble</td>
<td></td>
<td>O-558</td>
<td>O-560</td>
<td>O-562</td>
<td>584 lb</td>
<td>593 lb</td>
<td>602 lb</td>
<td>788 lb</td>
<td>806 lb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HA 1, general purpose</td>
<td></td>
<td>O-552</td>
<td>O-554</td>
<td>O-556</td>
<td>586 lb</td>
<td>595 lb</td>
<td>603 lb</td>
<td>782 lb</td>
<td>810 lb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HA 4, general purpose, rice</td>
<td></td>
<td>O-552</td>
<td>O-554</td>
<td>O-556</td>
<td>585 lb</td>
<td>592 lb</td>
<td>790 lb</td>
<td>804 lb</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KA 1, general pur. ext. mold</td>
<td></td>
<td>O-552</td>
<td>O-554</td>
<td>O-556</td>
<td>587 lb</td>
<td>595 lb</td>
<td>794 lb</td>
<td>810 lb</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MA 2, black land (see note)</td>
<td>O-532</td>
<td>O-534</td>
<td>O-536</td>
<td>O-538</td>
<td>592 lb</td>
<td>597 lb</td>
<td>794 lb</td>
<td>804 lb</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*MS1, slat</td>
<td></td>
<td>*264</td>
<td>*266</td>
<td>*266</td>
<td>587 lb</td>
<td>596 lb</td>
<td>794 lb</td>
<td>812 lb</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N2, breaker</td>
<td></td>
<td>SA-3928</td>
<td>SA-3844</td>
<td>SA-3929</td>
<td>586 lb</td>
<td>595 lb</td>
<td>597 lb</td>
<td>792 lb</td>
<td>810 lb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P2, rod breaker</td>
<td></td>
<td>SA-3928</td>
<td>SA-3844</td>
<td></td>
<td>589 lb</td>
<td>598 lb</td>
<td>796 lb</td>
<td>816 lb</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Bolted shares.

See pages on “Bottoms” and “Shares” for additional information on bottoms and shares.

Note: The Black-Land bottom is adapted only to certain soils of the gumbo type. It is not adapted to loamy soils.

Feb. 1935
McCormick-Deering
Diamond Sulky and Gang Plows—No. 2

Automatic Control

This is an original Diamond feature. No device was ever more widely copied. The rear wheel follows rigidly as the plow pursues a straight course, but is automatically released and allowed to caster freely when a turn is being made. On resuming a straight course, the rear wheel again becomes rigid. The ordinary weaving of the team does not affect it.

Beams

Made of heavy, high quality I-beam steel and trued to perfect alignment. The beam brace on the gang extends around the curves of both beams, not only effectively bracing the beams, but adding strength at points subject to greatest strain.

Frame

The frame is short, narrow, and compact. The steel is the same weight as that used in larger frames and is, therefore, stronger in proportion.

Wheels

Wheels have removable dust-proof boxes with dust-proof sand bands, hard oil screw caps, and lock nuts. Linch pins through the axles take end thrust off the wheel bearings. Spokes staggered cast into the hubs, and hot-riveted into the tires.

Bottoms

GA, HA, and KA bottoms: Double shin, hard steel mold and hard steel quick-detachable shares. KA bottoms furnished with mold extensions. Slat bottoms have bolted shares.

Black-land MA Series: Double shin, hard steel mold, and solid steel quick-detachable share and extra share.

Breaker Series: Single shin, solid steel mold and bolted share.

All bottoms equipped with detachable landsides.

Feb. 1935
McCormick-Deering
Diamond Sulky and Gang Plows—No. 2

Levers

The land axle, which extends across the frame to the furrow side, makes it possible to put the land lever on the furrow side of the plow, placing both levers convenient to the right hand of the operator and also leaving easy access to the seat from the left side. Heavy counterbalancing springs assist in the operation of the levers. Cushion springs on the land lever assure a smooth furrow bottom and absorb the jolt occasioned by rough ground. Furrow lever can be swiveled to suit the operator.

Foot Lift

The new and improved foot lift constitutes one of the best features of the plow. Every part subject to hard usage is made of steel. The bottoms are raised high for transportation, so that in every sense of the word this is a high lift plow. Better yet, it is an easy lift plow. Any boy competent to drive a team can operate it.

Bails

Double bail construction assures bottom rigidity in the hardest ground. Stops prevent the bottoms from going too deep.

Improved bearing cap places bolt at right angle to bail, holding the bail in place, with but little of the weight on the bolt and none on the threads. Can be tightened to take up wear.

Axles

The land axle construction effectively eliminates twisting strain on the frame and prevents the land wheels from spreading under hard work. All bearings are extra long. The furrow axle has a simple adjustment for changing width of cut, and the rear wheel has easy lateral adjustment for relieving landside pressure.
The No. 12 Success sulky is built on the same general principle as the old and very popular Success sulky plows. It has, however, several distinctly new features which we believe entitle it to first place in the class of frameless plows to which it belongs. It is characterized by the manner in which all the features essential to good plowing under all conditions have been embodied in a plow of extremely simple design.

Hand Control
The No. 12 is equipped with an improved hand control lever which enables the plowman quickly to guide the plow to maintain a straight furrow. When desired, the latch on this lever can be set to hold the spring bolt out of the ratchet and permit the lever to "float." This feature is an advantage when building beds.

Built for Hard Work
The construction throughout is extremely strong and rigid. The plow is built almost entirely of steel and will stand up under any reasonable plowing condition.

Regular Equipment
Any bottom shown in table. GA, HA and KA bottoms have soft-center steel molds and soft-center steel, quick-detachable shares. KA bottoms equipped with mold extensions. MA bottoms have soft-center steel molds, solid steel share and extra share. PORC-116 rolling coulter. ST-1096 three-horse evener, POW-326 land wheel, POW-197 furrow wheel, SA-3888 rear wheel.

Extra Equipment
POJT-34 jointer to convert regular coulter to combination coulter and jointer. Weed hooks. Wheels for rice land (POW-250 furrow wheel, POW-403 land wheel, POW-266 rear wheel). Any of the equipment shown regular or special for No. 12-A Success.

Specifications

<table>
<thead>
<tr>
<th>Bottom</th>
<th>Share No.</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12-in.</td>
<td>14-in.</td>
</tr>
<tr>
<td>GA1, stubble</td>
<td>O-558</td>
<td>O-560</td>
</tr>
<tr>
<td>HA1, general purpose</td>
<td>O-552</td>
<td>O-554</td>
</tr>
<tr>
<td>HA3, general purpose</td>
<td>O-552</td>
<td>O-554</td>
</tr>
<tr>
<td>KA1 general purpose, ext. mold</td>
<td>O-552</td>
<td>O-554</td>
</tr>
<tr>
<td>MA black land*</td>
<td>O-534</td>
<td>O-536</td>
</tr>
</tbody>
</table>

*The Black-Land bottom is adapted only to certain types of gumbo soils. It is not adapted to loamy soils. See pages on "Bottoms" and "Shares" for additional information on bottom and shares.

Feb. 1935
McCormick-Deering  Success Sulky Plow  No. 12-A

Illustr. 58—No. 12-A Success Sulky Plow with middle-breaker bottom.

To meet the requirements of the Texas trade, the No. 12 Success is supplied with a special long axle which permits setting the front furrow wheel out to give a 72 to 80-inch tread, which makes it possible, when using a middle-breaker bottom, to run the front furrow wheel in the last furrow made. When equipped with this long axle the plow becomes No. 12-A. It can be equipped either with regular bottom or with middle-breaker, or the middle-breaker bottom can be supplied as an extra.

The black land bottom, with its extremely low front and easy-turning moldboard, is especially adapted to sticky, black gumbo soil. While only the black land bottom is listed on this page, the bottoms shown on the previous page can be supplied.

Illustr. 59—The hand-control lever. This lever enables the plowman to change the lead of the front furrow wheel to make the plow take more or less land, or to maintain a straight furrow when working on sloping land. By setting the hand latch to the opposite side of the lever, the spring bolt is held out of the ratchet, permitting the lever to "float," so that the wheel will follow the old furrows when building beds.

Rear Wheel Latch

The latch on the rear wheel axle prevents this wheel from casting when moving straight ahead. In turning, the operator has merely to press on the conveniently located foot lever to unlatch the rear wheel lock to permit the wheel to caster.

Regular Equipment

Long cross axle. Black-land bottom with soft-center steel mold and solid steel share and extra share, or No. 5-B middle-breaker bottom with soft-center steel molds and solid steel share. PORC-116 rolling coulter. ST-1096 three-horse evener. POW-326 land wheel, POW-325 front furrow wheel, and POW-270 rear wheel (note that front and rear furrow wheels are cast wheels with V-rims).

Extra Equipment

No. 5 sweep attachment. Twenty-two, 24 and 26-in. bedding sweeps. Wings for bedding sweeps (the sweeps have the necessary holes for attaching the wings). POJT-34 jointer to convert regular coulter to combination coulter and jointer. Same wheel and axle equipment shown regular on No. 12 Success; also special rice wheels. Middle-breaker bottoms with solid steel molds. Bottoms shown for No. 12 Success. Weed hooks.

Specifications

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MA 2, black land</td>
<td>O-534</td>
<td>O-536</td>
<td>O-538</td>
<td>544 lb.</td>
<td>552 lb.</td>
<td>556 lb.</td>
</tr>
<tr>
<td>5B, middle breaker</td>
<td>236</td>
<td>238</td>
<td>240</td>
<td>530 lb.</td>
<td>338 lb.</td>
<td>542 lb.</td>
</tr>
</tbody>
</table>

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McCormick-Deering Success Sulky Plow—No. 12

Easy to Handle
The land and furrow levers which govern the depth and leveling of the plow are equipped with counterbalancing springs, which makes it easy for the plowman to handle the levers. The levers are so located as to be easily accessible from the seat.

Ample Clearance
The beam is high at the arch and full-throated, giving ample clearance for the passage of trash. There is also ample clearance between the bottom and front furrow wheel.

Cushion Spring
The cushion spring between the land axle and land-wheel lever absorbs vibration occasioned by the land wheel passing over rough ground, thereby adding greatly to the comfort of the operator.

Ample Clearance
The beam is high at the arch and full-throated, giving ample clearance for the passage of trash. There is also ample clearance between the bottom and front furrow wheel.

Rolling Coulter
The rolling coulter is equipped with conical bearings which permit taking up any looseness due to continuous wear. Coulter yoke is recessed and provided with holes which permit attaching the No. 34 jointer to convert the coulter into a combination coulter and jointer.

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McCormick-Deering Little Chief Sulky Plow

The Square-Turn Plow

Built in Right and Left Hand

The Little Chief sulky is a simple, frameless, plow, so designed, especially with reference to the location of the wheels, that it lends itself particularly well to the practice of plowing inside the land; that is, making "in turns." It is furnished in both right and left hand and can be equipped with any of the standard McCormick-Deering bottoms.

The hand-control lever works with an up-and-down motion which is much easier for the plowman and has the additional advantage that the lever does not interfere with the plowman's knees.

Regular Equipment
Rolling coulter, PORC-56, R.H.; PORC-58, L.H.; ST-1096, 3-horse steel evener. Any bottom shown in table. One extra share furnished with each chilled share bottom. Built in 10, 12, 14 and 16-in. right hand; 12 and 14-in. left hand.

Extra Equipment
POJT-34, right hand jointer, or POJT-33, left hand jointer, to convert regular coulter to combination coulter and jointer. Steel or cast jointers in place of rolling coulters, or as extras. See "Jointers." POHC-50, right hand. POHC-49, left hand.

Specifications

<table>
<thead>
<tr>
<th>Bottoms</th>
<th>Share Number</th>
<th>Weight</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>10-in.</td>
<td>12-in.</td>
</tr>
<tr>
<td></td>
<td>10-in.</td>
<td>12-in.</td>
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<tr>
<td>RIGHT HAND</td>
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</tr>
<tr>
<td>F1E, large general purpose</td>
<td>SA-3652</td>
<td>SA-3653</td>
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<tr>
<td>F7E, large general purpose</td>
<td>SA-3832</td>
<td>SA-3833</td>
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<tr>
<td>F9E, large general purpose</td>
<td>SA-1045</td>
<td>SA-1043</td>
</tr>
<tr>
<td>M6E, slat</td>
<td>*264</td>
<td>*266</td>
</tr>
<tr>
<td>M9E, black land</td>
<td>O-532</td>
<td>O-534</td>
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<tr>
<td>M9E, stubble, chilled</td>
<td>6174-DS</td>
<td>6175-DS</td>
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<td>6174-DS</td>
<td>6175-DS</td>
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LEFT HAND

<table>
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<td>10-in.</td>
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</tr>
<tr>
<td></td>
<td>10-in.</td>
<td>12-in.</td>
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<td>487 lb.</td>
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<td>M9E, stubble, chilled</td>
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<td>A-6028</td>
</tr>
<tr>
<td>MBB9E, stubble comb</td>
<td>A-6027</td>
<td>A-6028</td>
</tr>
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</table>

MB9 and MBB9 bottoms—one deep suck extra share furnished.

*Bolted shares.

For other bottoms and shares available for Little Chief sulky, see pages on "Bottoms" and "Shares".

Note: The Black-Land bottom is adapted only to certain soils of the gumbo type. It is not adapted to loamy soils.

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McCormick-Deering Little Chief Sulky Plow

Easy to Make Square Turns

The rear wheel, which acts also as a rolling landside, is located close up behind the bottom, and by steering the front wheel, by means of the hand-control lever, a square turn can be made either to right or left, the bottom pivoting on the point and plowing full depth at the corners. This assures a nice, level job of plowing when making "in turns."

Illustration 64—The Little Chief Sulky Plow with "B Series" chilled bottom. Note that this bottom has a separate cutter or shin.

Good Clearance Under Beam

The beam is high-arched over the bottom, giving plenty of room for the passage of weeds and trash so that the throat will not clog. The beam is really the backbone of the plow, all the other parts being built onto it. It is, therefore, made of heavy, high-quality I-beam steel and strong enough to withstand the strain of the heaviest plowing. The heavy standard fits into the chime of the beam, forming a most rigid connection and preventing wear on the beam bolts.

Illustration 65—The Little Chief Sulky as seen from the landside. Notice that the rear wheel is located close in behind the bottom, where it acts also as a rolling landside.

A Good Plow for Any Field

The Little Chief has every feature essential to first-class work. The simplicity of its construction makes it possible to produce a plow comparatively light in weight yet more than strong enough to stand the hardest plowing. The small space required for turning adapts it particularly to small fields. The variety of bottoms with which the plow can be equipped makes it possible to adapt it to any section.

Illustration 66—The right-hand Little Chief Sulky with the front furrow wheel in position for making a turn to right or left.
No. 3 Success gang is similar to the Success sulky described in the preceding pages, but being a two-bottom plow is built correspondingly heavier. It can be furnished with either hand or automatic control. On the automatic control plow the tongue controls the action of the rear wheel. On the hand-control plow the operator is able to guide the plow by means of the hand-control lever.

The beams are of heavy, I-beam steel, rigidly braced together to form the frame of the plow. Heavy balancing springs assist in the operation of the depth and leveling levers. The automatic-control plow is supplied with a tongue. No tongue is necessary on the hand-control plow.

**Regular Equipment**

Hand or automatic control. Made in 2-furrow only, and furnished with 10, 12, or 14-in. bottoms as shown in following table. PORC-116, 15-in. rolling coulter. ST-1088, 4-horse abreast evener and neckyoke. All bottoms equipped with quick-detachable shares. Made right hand only.

**Extra Equipment**

POJT-34 jointer, to convert regular coulter to a combined rolling coulter and jointer. Weed hooks. POSE-125A 3-horse combination evener, or POSE-141A 4-horse tandem evener, or POSE-140A 6-horse tandem evener. The No. 3 can be furnished with large wheels and wide tires for rice territory. POW-117, 34-in. land wheel, POW-118, 24-in. furrow wheel.

**Specifications**

<table>
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<th>Bottoms</th>
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<tr>
<td>GA1, stubble</td>
<td>O-558</td>
<td>O-560</td>
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<tr>
<td>HA1, general purpose</td>
<td>O-550</td>
<td>O-552</td>
</tr>
<tr>
<td>MA2, black land</td>
<td>O-532</td>
<td>O-534</td>
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<tr>
<td>Automatic Control</td>
<td></td>
<td></td>
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<td>GA1, stubble</td>
<td>O-558</td>
<td>O-560</td>
</tr>
<tr>
<td>HA1, general purpose</td>
<td>O-550</td>
<td>O-552</td>
</tr>
<tr>
<td>MA2, black land</td>
<td>O-532</td>
<td>O-534</td>
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</tbody>
</table>

See pages on “Bottoms” and “Shares” for bottom and share numbers.

Note: The Black-Land bottom is adapted only to certain soils of the gumbo type. It is not adapted to loamy soils.

Feb. 1935

57
McCormick-Deering Two-Way Success Sulky Plow—No. 1

Illustr. 74—The No. 1 Two-Way Success Sulky with regular hitch and coulter equipment. The equipment includes a combination two- and three-horse evener.

It Leaves No Ditches

The Two-Way turns all the furrows in the same direction—it leaves no dead furrows. It is, therefore, the ideal plow for irrigated fields and for sloping or hilly land where dead furrows mean undesirable ditches.

There is no laying out lands—you simply start at one corner of a field and plow back and forth, using the right hand bottom going one way, the left hand bottom coming back. It is very simple—the horses even do most of the work of raising the bottoms.

The Horse-Lift Feature

Each bottom and beam is mounted on its own axle. The axle is in the form of a crank. There is a ratchet on each wheel and a dog in each axle assembly. To raise a bottom it is merely necessary for the plowman, by means of a hand grip, to cause the dog to engage the ratchet—the traction of the wheel does the rest.

Regular Equipment


Extra Equipment

Jointers in place of rolling coulters, see “Jointers.” Knife and Quincy cutters in place of rolling coulters, see POHC-39, 45, 46 and 47, under “Knife Cutters.” Fin cutters. (When Quincy or fin cutters are to be used, it is necessary to so specify in order for plows or extra shares.) POWE-59, or POSE-141A evener. (See “Eveners.”) Weed hooks.

Specifications

<table>
<thead>
<tr>
<th>Bottoms</th>
<th>Share Pattern</th>
<th>Share Number</th>
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<tbody>
<tr>
<td></td>
<td>Right</td>
<td>Left</td>
<td>Right</td>
</tr>
<tr>
<td>GA1, stubble</td>
<td>Reg.</td>
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<td>O-559</td>
</tr>
<tr>
<td>MB9, stub chilled</td>
<td>Reg.</td>
<td>CP-6000</td>
<td>CP-6007</td>
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</table>

Blanks indicate not available. See pages on “Bottoms” and “Shares” for bottom and special share numbers. MB-9 and MBB-9 bottoms: one deep suck chilled extra share with each bottom.
McCormick-Deering
Two-Way Success Sulky Plow—No. 1

Illust. 75—A top view of the No. 1 Two-Way Success Sulky. Notice that the tongue is set to the side for using three horses.

Right or Left Hand Hitch-Up
The pole can be set in the center of the frame for two or four horses, or to either side of the frame for three horses for right or left-hand hitch-up. Other features are: the auxiliary hand latches which enable the operator to trip the plow when walking behind; removable wheel boxes with hard oil screw caps; wheels held on by linch pins and adjustable collars inside the screw caps; bottoms have extra long, high landsides equipped with replaceable heel castings; wide choice of bottom equipment; tongue lever for shifting tongue—assists in maintaining straight furrows.

Hitch Shifts Automatically
As can be seen from the illustration above, the hitch is by means of a double clevis, equipped with a roller which can work to right or to left on the round hitch bar. After a bottom is raised and the other lowered, the angle of the hitch bar is altered, due to the fact that the hitch of the bottom that is doing the work is farther forward. This causes the draft on the roller-equipped clevis to pull the clevis to a position in front of the bottom doing the work.

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McCormick-Deering Sulky Plow—No. 9

A Plow for Rough or Stony Ground

The No. 9 sulky is very similar in general construction to the Two-Way, but is equipped only with a right hand bottom. Like the Two-Way, it is a 2-wheel plow and therefore can be turned in a very short space. It has become a mighty popular plow in sections where there is an unusual amount of stones or roots and where the fields are rough, uneven, or rolling.

Two levers make it easy to adjust the depth and level the plow. There is, in addition, a lever which enables the operator to shift the tongue so that it will not interfere with the horses, regardless of the width of the furrow. It is also of assistance in keeping the furrows straight, although the width of the furrow should be regulated in the hitch the same as on a walking plow.

An auxiliary latch on the depth lever enables the plowman to control the plow from behind in case he desires to walk. A cushion spring between the land axle and its lever absorbs the shock occasioned by the land wheel passing over rough ground.

Compact Frame

The frame construction is very simple, consisting of a heavy I-beam arch upon which the seat is mounted, and a frame rail which extends forward and to which the tongue is attached. The tongue can be set on the side of the frame for three horses or in the center for two or four.

The beam is of heavy, plow beam steel, with a large throat which gives good clearance in trashy ground. It is mounted on an adjustable bracket which assures correct alignment.

Regular Equipment

Quick-detachable shares. PORC-15, 13-in. rolling coulter. ST-1096, 2 and 3-horse steel evener.

Extra Equipment

Jointer in place of rolling coulter. POHC-45 hanging or POHC-46 Quincy cutter in place of coulter, or as extra. POSE-141A, 4-horse tandem evener. Weed hooks.

Specifications

<table>
<thead>
<tr>
<th>Bottom</th>
<th>12-In.</th>
<th>14-In.</th>
<th>16-In.</th>
<th>12-In.</th>
<th>14-In.</th>
<th>16-In.</th>
</tr>
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<tbody>
<tr>
<td>HA-1, general purpose</td>
<td>O-558</td>
<td>O-560</td>
<td>O-562</td>
<td>524 lb</td>
<td>533 lb</td>
<td>542 lb</td>
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<tr>
<td>KA-1, general purpose, ext. mold</td>
<td>O-552</td>
<td>O-554</td>
<td>O-556</td>
<td>527 lb</td>
<td>535 lb</td>
<td>542 lb</td>
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</tbody>
</table>

See pages on "Bottoms" and "Shares" for bottom and special share numbers.

Feb. 1935
McCormick-Deering Plow Bottoms

For McCormick-Deering Tractor, Riding and Wheeled Walking Plows

GA (Stubble) Series

Best adapted to use in wheat, rye or oat stubble or any small grain stubble. In black, sticky soil the abruptness of the mold assists materially in making the mold scour. The mold being short and having more roll, the soil is pulverized more thoroughly than with the general-purpose model. GAA is same bottom with 5/8-in. share.

SA (Slat Mold)

Similar in shape to the stubble bottom, but with slat moldboard, concentrating the friction of the furrow slice on a much smaller area, and, therefore, scouring better, with less draft, in sticky soil.

HA (General Purpose)

This is a general-purpose model for clover, timothy or alfalfa sod, and stubble land under average conditions. The mold is rather long, with a gradual turn, and pulverizes nicely in stubble land, and in sod, turns the furrow slice over, covering trash and weeds.

KA (General Purpose)

This is also a general-purpose bottom but particularly adapted to obstinate clay soil in sod or stubble. Equipped with extension mold which causes the furrow slice to be laid over, similarly to that turned by the breaker bottom.

MA (Black Land) Series

This shape is designed especially for the most obstinate so-called "black land" which may be black, red, or of a chocolate color. The shape of the mold and the suction of the share are such that the bottom will penetrate and stay in the ground whether the parts scour or not. This bottom is adapted to soil of the gumbo type, and not to black loam.

N (Breaker) Series

For blue grass sod, or virgin soil. Lays the furrow slice completely over. The long, easy turn makes this plow draw very lightly. Furnished with mold extension. This bottom is also available with rod mold, as "P Series."

"MB Series" (Chilled) (MBB Steel Mold)

This is a chilled bottom with a somewhat bluff general-purpose moldboard adapted to stubble and tame hay sod plowing. It can be supplied in full chilled or in combination steel and chilled. BBA is same type of bottom in 16-in., with steel frog.

Deep Tillage (See No. 8 Little Genius Plows).

"F Series" (Large Mold)

The "F Series" is a general-purpose bottom with an extra large moldboard. It has splendid scouring and pulverizing qualities, and is adapted to general-purpose plowing in practically any soil.
## Bottoms for McCormick-Deering Wheeled Plows

The X's in this list show the various types of McCormick-Deering bottoms with regular pattern and special pattern shares, available as complete bottom equipment for the plows indicated. For complete list of bottom numbers see "Product Information Book" or, if ordering from this list, specify plow for which bottom is wanted and whether right or left hand, front or rear.

| Bottom | Share | Pattern | Share Number | Share Material | Share Left Hand | L.E. 
|--------|-------|---------|--------------|----------------|-----------------|-------
| GA1    | 12-in. Stubble | Regular | O-558 | Hard | O-559 |
| GA3    | 12-in. Stubble | Alfalfa | O-680 | Solid | O-651 |
| GA4    | 12-in. Stubble | Rice | O-576 | Hard | O-577 |
| GA3    | 14-in. Stubble | Alfalfa | O-584 | Solid | O-581 |
| GA4    | 14-in. Stubble | Rice | O-576 | Hard | O-577 |
| GA3    | 16-in. Stubble | Alfalfa | O-586 | Solid | O-583 |
| GA4    | 16-in. Stubble | Rice | O-624 | Hard | O-625 |
| GA1    | 18-in. Stubble | Cob. Stone | O-636 | Solid | |

| Bottom | Share | Pattern | Share Number | Share Material | Share Left Hand | L.E. 
|--------|-------|---------|--------------|----------------|-----------------|-------
| GAA1   | 14-in. Stubble (1/4" share) | Regular | O-674 | Hard | x |
| GAA1   | 16-in. Stubble (1/4" share) | Regular | O-676 | Hard | x |
| HA1    | 10-in. General Purpose | Regular | O-550 | Hard | x |
| HA4    | 10-in. General Purpose | Rice | O-602 | Hard | x |
| HA1    | 12-in. General Purpose | Regular | O-552 | Hard | O-553 |
| HA3    | 12-in. General Purpose | Rice | O-572 | Hard | O-573 |
| HA3    | 12-in. General Purpose | Alfalfa | O-580 | Solid | O-581 |
| HA4    | 14-in. General Purpose | Rice | O-574 | Hard | O-575 |
| HA3    | 14-in. General Purpose | Alfalfa | O-582 | Solid | O-583 |
| HA4    | 16-in. General Purpose | Rice | O-622 | Hard | O-623 |

| Bottom | Share | Pattern | Share Number | Share Material | Share Left Hand | L.E. 
|--------|-------|---------|--------------|----------------|-----------------|-------
| KA1    | 12-in. G.P. Extension Mold | Regular | O-552 | Hard | O-553 |
| KA3    | 12-in. G.P. Extension Mold | Alfalfa | O-598 | Solid | O-599 |
| KA4    | 12-in. G.P. Extension Mold | Rice | O-572 | Hard | O-573 |
| KA4    | 14-in. G.P. Extension Mold | Regular | O-554 | Hard | O-555 |
| KA4    | 14-in. G.P. Extension Mold | Rice | O-572 | Solid | O-571 |
| KA4    | 16-in. G.P. Extension Mold | Regular | O-556 | Hard | O-557 |
| KA5    | 16-in. G.P. Extension Mold | Rice | O-622 | Hard | O-623 |
| MA2    | 10-in. Black land | Regular | O-532 | Solid | |
| MA2    | 10-in. Black land | Rice | O-540 | Solid | |
| MA2    | 10-in. Black land | Rice | O-544 | Solid | |
| MA2    | 14-in. Black land | Regular | O-534 | Solid | |
| MA2    | 14-in. Black land | Rice | O-544 | Solid | |
| MA2    | 16-in. Black land | Regular | O-538 | Solid | |
| MA5    | 16-in. Black land | Rice | O-630 | Solid | |
| N2     | 12-in. Breaker | Regular | SA-3928 | Solid | x |
| N2     | 12-in. Breaker | Regular | SA-3844 | Solid | x |
| MN2    | 16-in. Breaker | Regular | 336 | Solid | |
| MB9    | 12-in. Stubble, Chilled | Regular | 6174-D5 | Chilled | CPA-6027 |
| MB9    | 14-in. Stubble, Chilled | Regular | 6175-D5 | Chilled | CPA-6028 |
| MB9    | 12-in. "B" shape, steel | Regular | 15349-D5 | Solid | 15352-D5 |
| MB9    | 14-in. "B" shape, steel | Regular | 15350-D5 | Solid | 15353-D5 |
| BB1    | 16-in. "B" shape, Steel | O-692 | Solid | |
| MC9    | 14-in. Spec'1 Gen'l Purpose | Regular | CPA-6167-DS | Chilled | x |
| MC9    | 16-in. Spec'1 Gen'l Purpose | Regular | CPA-6168-DS | Chilled | x |
| OA5    | 12-in. Rice—Oversize Share | Rice | O-628 | Solid | |
| OA5    | 12-in. Rice—Oversize Share | Rice | O-630 | Solid | |
| P2     | 12-in. Rod Breaker | Regular | SA-3928 | Solid | |
| P2     | 12-in. Rod Breaker | Regular | 3844 | Solid | |
| P2     | 12-in. Rod Breaker | Regular | SA-3929 | Solid | |
| MS1    | 12-in. Slat | Regular | 264 | Hard | |
| MS1    | 14-in. Slat | Regular | 266 | Hard | |
| SA1    | 16-in. Slat | Regular | O-562 | Hard | |
| F1     | 12-in. Large Gen'l Pur. | Regular | SA-3652 | Hard | x |
| F1     | 12-in. Large Gen'l Pur. | Cob. Stone | SA-3832 | Solid | x |
| F9     | 12-in. Large Gen'l Pur. | Regular | SA-1042 | Chilled | x |
| F1     | 14-in. Large Gen'l Pur. | Regular | 3652 | Hard | |
| F7     | 14-in. Large Gen'l Pur. | Cob. Stone | 3832 | Solid | |
| F1     | 14-in. Large Gen'l Pur. | Cob. Stone | 3833 | Solid | |
| F9     | 14-in. Large Gen'l Pur. | Regular | 1043 | Chilled | |

*Bolted Shares. See No. 10 Little Genius for UAA bottoms.*

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Shares for McCormick-Deering Plows

**Illustration 85—"Regular" share for stubble and general purpose.**
This is the type furnished regularly on stubble and general-purpose bottoms including XX and slat, designated in bottom numbers as "1" (hard steel), or "2" (solid steel), or as "9" (chilled).

**Illustration 86—Alfalfa share.**
The alfalfa share has a wider blade than the "regular" share. It is furnished only in solid steel, and is designated in bottom numbers as "3." This is a good share where the roots are thick and heavy.

**Illustration 87—Stony, or Cobblestone.**
The stony share is similar to the "regular" pattern share, but has no "wing." It is a very popular share in soils abounding in stones. It is indicated by "6" (hard steel), or "7" (solid), or by "8" (chilled).

**Illustration 88—Rice, or blackroot share for stubble and general purpose bottoms.**
This share resembles the "regular" share, but has a much greater cutting angle, adapting it to very rooty soils. In the bottom numbers it is designated as "4" (hard steel) or by "5" (solid steel).

**Illustration 91—Regular breaker.**
The "regular share" for breaker and rod breaker bottoms, indicated by "2" in the bottom numbers. Breaker shares are bolted type, and are furnished in solid steel only.

**Illustration 92—Rice pattern breaker.**
The rice pattern breaker share, owing to its greater cutting angle, is the share for tough, heavy sods. It is furnished only as extra equipment, and is not included in any bottom numbers.

The illustrations on this page show the various types of shares that can be furnished for McCormick-Deering plows. The tables under the various plows indicate the regular share equipment. The following tables show both regular and special shares.

All shares are quick-detachable except those indicated by stars, thus, *264.

When shares are ordered for Two-Way plows where there is no quick-detachable share in the left hand, be sure to give the bolted share number for right hand shares.

### Regular Pattern Shares for GA, GAA, HA, KA, SA, and MS Bottoms

| Size       | GA Hard or Solid | GA Solid or Chilled | HA Hard or Solid | HA Solid or Chilled | KA Hard, Solid or Chilled | KA Solid or Chilled | SA Hard, Solid or Chilled | SA Solid or Chilled | MS Hard or Solid | MS Solid | GAA Hard or Solid | GAA Solid or Chilled | HA and KA Deep Suck Chilled |
|------------|----------------||--------------------|----------------||----------------||--------------------------|----------------||--------------------------|----------------||----------------|-----------|----------------||----------------||----------------------|
| 10-in., right-hand | O-550 |                |                 |                |                |                          |                |                          |                |                 |           |                    |                          |                      |
| left-hand    | O-559 | O-553           | O-554           | O-555           | O-556           | O-557                   | O-558           | O-559                   | O-560           | O-561           | O-674     | O-562                   | O-676                   |                      |
| left-hand    | O-564 | O-558           | O-557           | O-558           | O-558           | O-559                   | O-560           | O-560                   | O-561           | O-562           | O-674     | O-564                   | O-677                   |                      |
| 18-in., right-hand | O-634 |                |                 |                |                |                          |                |                          |                |                 |           |                    |                          |                      |

### Alfalfa Shares for GA, HA, KA, SA, and MS Bottoms

<table>
<thead>
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<th>Size</th>
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<th>SA Solid</th>
<th>MS Solid</th>
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<td>12-in., right-hand</td>
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<tr>
<td>left-hand</td>
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</tr>
<tr>
<td>14-in., right-hand</td>
<td>O-584</td>
<td>O-580</td>
<td>O-580</td>
<td>O-580</td>
<td>O-584</td>
</tr>
<tr>
<td>left-hand</td>
<td>O-585</td>
<td>O-581</td>
<td>O-581</td>
<td>O-581</td>
<td>O-585</td>
</tr>
<tr>
<td>16-in., right-hand</td>
<td>O-586</td>
<td>O-582</td>
<td>O-582</td>
<td>O-582</td>
<td>O-586</td>
</tr>
<tr>
<td>left-hand</td>
<td>O-587</td>
<td>O-583</td>
<td>O-583</td>
<td>O-583</td>
<td>O-587</td>
</tr>
</tbody>
</table>

Feb. 1935
### Stony Shares for GA, GAA, HA, KA, and SA Bottoms

These can be hard, solid, or chilled.

<table>
<thead>
<tr>
<th>SIZE</th>
<th>GA</th>
<th>HA</th>
<th>KA</th>
<th>SA</th>
<th>GAA (3/4-in.)</th>
<th>HA and KA</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-in.,</td>
<td>O-596</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>left-hand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-in.,</td>
<td>O-568</td>
<td>O-564</td>
<td>O-564</td>
<td>O-662</td>
<td>O-678</td>
<td>Deep Suck</td>
</tr>
<tr>
<td>right-hand</td>
<td>O-569</td>
<td>O-565</td>
<td>O-565</td>
<td></td>
<td></td>
<td>Chilled</td>
</tr>
<tr>
<td>left-hand</td>
<td>O-570</td>
<td>O-566</td>
<td>O-566</td>
<td>O-663</td>
<td>O-680</td>
<td></td>
</tr>
<tr>
<td>14-in.,</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>right-hand</td>
<td>O-571</td>
<td>O-567</td>
<td>O-567</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>left-hand</td>
<td>O-662</td>
<td>O-664</td>
<td>O-664</td>
<td>O-662</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16-in.,</td>
<td>O-663</td>
<td>O-665</td>
<td>O-665</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>right-hand</td>
<td>O-636</td>
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### Muck, Rice, or Blackroot Shares for GA, HA, KA, and SA Bottoms

Hard or Solid Steel

<table>
<thead>
<tr>
<th>SIZE</th>
<th>GA</th>
<th>HA</th>
<th>KA</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-in.,</td>
<td></td>
<td>O-602</td>
<td></td>
<td></td>
</tr>
<tr>
<td>right-hand</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-in.,</td>
<td>O-576</td>
<td>O-572</td>
<td>O-572</td>
<td></td>
</tr>
<tr>
<td>left-hand</td>
<td>O-577</td>
<td>O-573</td>
<td>O-573</td>
<td></td>
</tr>
<tr>
<td>14-in.,</td>
<td>O-578</td>
<td>O-574</td>
<td>O-574</td>
<td></td>
</tr>
<tr>
<td>right-hand</td>
<td>O-579</td>
<td>O-575</td>
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</tr>
<tr>
<td>left-hand</td>
<td>O-624</td>
<td>O-622</td>
<td>O-622</td>
<td>O-624</td>
</tr>
<tr>
<td>16-in.,</td>
<td>O-625</td>
<td>O-623</td>
<td>O-623</td>
<td>O-625</td>
</tr>
<tr>
<td>right-hand</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>left-hand</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</table>

### Shares for MA, OA, and N Bottoms

**Size (Right-hand Only)**

<table>
<thead>
<tr>
<th>SIZE</th>
<th>MA REGULAR PATTERN, SOLID ONLY</th>
<th>MA MUCK, RICE, OR BLACKROOT, OVERSIZE, HARD OR SOLID</th>
<th>MA RICE OR BLACKROOT, OVERSIZE, HARD OR SOLID</th>
<th>O A REGULAR PATTERN, SOLID ONLY</th>
<th>OA RICE OR BLACKROOT, OVERSIZE, SOLID ONLY</th>
<th>N REGULAR PATTERN, SOLID ONLY</th>
<th>N MUCK, RICE, OR BLACKROOT, OVERSIZE, SOLID ONLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-in.</td>
<td>O-532</td>
<td>O-540</td>
<td>O-626</td>
<td></td>
<td>O-628</td>
<td>O-542</td>
<td>O-544</td>
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<tr>
<td>16-in.</td>
<td>O-538</td>
<td>O-630</td>
<td></td>
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### Shares for F Bottoms

**Size**

<table>
<thead>
<tr>
<th>SIZE</th>
<th>REGULAR PATTERN</th>
<th>COBBLESTONE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HARD OR SOLID</td>
<td>CHILLED</td>
</tr>
<tr>
<td></td>
<td>HARD OR SOLID</td>
<td>CHILLED</td>
</tr>
<tr>
<td>12-in., right-hand</td>
<td>SA-3652</td>
<td>SA-1042</td>
</tr>
<tr>
<td>left-hand</td>
<td>SA-3983</td>
<td>SA-1185</td>
</tr>
<tr>
<td>14-in., right-hand</td>
<td>SA-3984</td>
<td>SA-1186</td>
</tr>
<tr>
<td>left-hand</td>
<td>SA-3984</td>
<td>SA-1186</td>
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</table>

### Shares for MB, MBB and BBA Bottoms (BBA, 16-in. only)

**Size**

<table>
<thead>
<tr>
<th>SIZE</th>
<th>REGULAR PATTERN</th>
<th>SLIP-NOSE CUTTER CHILLED</th>
<th>FIN CUTTER CHILLED</th>
<th>DEEP SUCK</th>
<th>FULL CUT</th>
<th>STONY CHILLED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>STEEL</td>
<td>CHILLED</td>
<td>CHILLED</td>
<td></td>
<td>STEEL</td>
<td>CHILLED</td>
</tr>
<tr>
<td>12-in., R.H.</td>
<td>CP-15349-DS</td>
<td>CP-6174-DS</td>
<td>CP-6126</td>
<td>CP-6159</td>
<td>CP-6161</td>
<td></td>
</tr>
<tr>
<td>L.H.</td>
<td>CP-15352-DS</td>
<td>CP-6027</td>
<td>CP-6128</td>
<td>CP-6160</td>
<td>CP-6162</td>
<td></td>
</tr>
<tr>
<td>11-in. cut, 12-in., R.H.</td>
<td>CP-6122</td>
<td>CP-6122</td>
<td>CP-6122</td>
<td>CP-6122</td>
<td>CP-6160</td>
<td></td>
</tr>
<tr>
<td>11-in. cut, 12-in., L.H.</td>
<td>CP-6124</td>
<td>CP-6124</td>
<td>CP-6124</td>
<td>CP-6124</td>
<td>CP-6162</td>
<td></td>
</tr>
<tr>
<td>L.H.</td>
<td>CP-15353-DS</td>
<td>CP-6028</td>
<td>CP-6129</td>
<td>CP-6123</td>
<td>CP-6125</td>
<td>CP-6194-DS</td>
</tr>
<tr>
<td>12-in. cut for 14-in., L.H.</td>
<td>CP-6125</td>
<td>CP-6195-DS</td>
<td>CP-6129</td>
<td>CP-6123</td>
<td>CP-6125</td>
<td>CP-6194-DS</td>
</tr>
<tr>
<td>14-in. cut for 16-in., R.H.</td>
<td>O-692</td>
<td>O-692</td>
<td>O-692</td>
<td>O-692</td>
<td>O-692</td>
<td>O-694</td>
</tr>
<tr>
<td>14-in. cut for 16-in., L.H.</td>
<td>O-693</td>
<td>O-693</td>
<td>O-693</td>
<td>O-693</td>
<td>O-695</td>
<td></td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering Disk Plows—Nos. 4 and 4½

One, two and three-disk

Illustr. 94—McCormick-Deering No. 4½ Disk Gang Plow.

A Simple Disk Gang Plow

The No. 4 and No. 4½ disk plows are built along simple lines. They are sturdy, efficient, and durable, and as light in draft as any other plows having the same capacity.

Levers

The levers are arranged to enable the plowman easily to change the depth and level the plow from the seat. The raising lever is assisted by a powerful spring which makes it easy to raise the disks. A hand control lever connected with an arm on the front furrow axle enables the plowman to guide the plow to or from the land. The wheel can be set to lead to the land as much as desired.

3-furrow, 7-in. They can be set to cut 7, 8 or 9 in., and on the 2-furrow, 10 or 11 in.

The bearings are adjustable to change the angle of the disks to meet varying conditions. An extra adjustment is provided to give ample clearance when working in trashy ground.

Disks Reinforced

The disks are of the best quality of disk steel and are carefully ground and polished. The disk bearings have very wide flanges which reinforce the disks, enabling them to withstand the hardest kind of work.

Beams

The beams are made of high quality I-beam steel and are effectively braced to withstand any strain.

Regular Equipment

Twenty-four-in. disks. Sulky furnished with POSE-113 3-horse steel evener. Two-furrow gang furnished with POWE-42, 4-horse chain evener. Three-furrow gang furnished with POSE-140, 6-horse tandem evener. V-tire wheels, moldboard scrapers, and, on 2 and 3-furrow, one 68-pound rear wheel weight.

Extra Equipment

Twenty-six-in. disks; 28 x ¾-in. disks. Flanged wheels. Sand wheels with 3-in. face. Extra 68, 100 or 150-lb. wheel weights. Oscillating (Texas) scrapers instead of moldboard, or as extras. Third disk attachment for 2-furrow.

Chilled Disk Bearings

The disks revolve on chilled bearings with hard oil lubrication. Disks are set to cut: 2-furrow, 9-in.; 3-furrow, 7-in. They can be set to cut 7, 8 or 9 in., and on the 2-furrow, 10 or 11 in.

The bearings are adjustable to change the angle of the disks to meet varying conditions. An extra adjustment is provided to give ample clearance when working in trashy ground.

Disks Reinforced

The disks are of the best quality of disk steel and are carefully ground and polished. The disk bearings have very wide flanges which reinforce the disks, enabling them to withstand the hardest kind of work.

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Extra Equipment

Twenty-six-in. disks; 28 x ¾-in. disks. Flanged wheels. Sand wheels with 3-in. face. Extra 68, 100 or 150-lb. wheel weights. Oscillating (Texas) scrapers instead of moldboard, or as extras. Third disk attachment for 2-furrow.

Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 4 disk sulky, hand control</td>
<td>708 lb.</td>
</tr>
<tr>
<td>No. 4½ two-furrow disk gang</td>
<td>923 lb.</td>
</tr>
<tr>
<td>No. 4½ three-furrow disk gang</td>
<td>1108 lb.</td>
</tr>
<tr>
<td>Third disk attachment for No. 4½ two-furrow</td>
<td>202 lb.</td>
</tr>
</tbody>
</table>
Wheels
Equipped with fluted or V-shaped tires as ordered. Fluted tires are furnished when orders fail to specify. Wheels are equipped with removable dust-proof boxings, sand bands, and hard oil screw caps. Collars and linch pins inside the screw caps hold the wheels on the axles and take end thrust off the wheel bearings.

The rear wheel follows rigidly as plow pursues a straight course, but is automatically released and allowed to caster when making a turn.

Weight
Weight is needed for the successful performance of a disk plow. The McCormick-Deering No. 4½ disk gang has the correct amount of weight for good work under average conditions. Extra wheel weights can be furnished for extreme conditions.

Hitch
The hitch plate is a wide plate of spring steel and is provided with ample lateral adjustment. It is adapted to tandem or abreast eveners and also to oxen.

Scrapers
The scrapers are very broad and not only clean the disks effectively, but assist materially in turning and pulverizing the soil. They are fitted with ball and socket joint and set screw adjustment, which makes it possible to set them exactly to conform to the faces of the disks.
McCormick-Deering Pony Disk Plows

A Two-Horse Disk Plow

The Pony disk plow is built to meet the demand for a two-horse disk plow. It is a strictly high-grade plow in every respect. The sulky can be pulled by two horses under all plowing conditions and the gang easily by three horses.

Levers

The levers are conveniently placed and enable the plowman to regulate the depth and level the plow from the seat. Hand control lever provided for guiding the front furrow wheel to or from the bank. A cushion spring on the land lever absorbs shock.

A lever is also provided on the rear axle to give greater clearance in trashy ground, and when transporting the plow.

Disks

The disks are 20 inches in diameter, with chilled bearings with hard oil lubrication. Dust-proof sand bands keep dust and sand away from the disk bearings. The disks can be set to cut 8, 9 or 10 inches.

Hitch

The spring board type hitch adjusts itself to the height of the horses and the depth of the plow.

Wheels

The wheels have V-shaped tires. They are equipped with removable boxes with dust-proof hard oil screw caps and sand bands. The rear wheel is provided with an automatic lock which holds this wheel steady while pursuing a straight course but allows it to caster freely in turning to the left on the corner. It can be thrown out by hand to permit a right-hand turn if desired.

Regular Equipment


Extra Equipment

Second Disk Attachment to convert Sulky to Gang. 50-pound weight for rear wheel.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>DESCRIPTION</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pony disk sulky</td>
<td>383 lb.</td>
</tr>
<tr>
<td>1</td>
<td>Pony disk gang</td>
<td>497 lb.</td>
</tr>
<tr>
<td>1</td>
<td>Second disk attachment</td>
<td>99 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Reversible Disk Sulky Plow

The Original Reversible Disk Plow
For hillside terrace and headland plowing, plows which will turn a right-hand furrow going one way and a left-hand furrow returning, are desirable, as this method of plowing makes it unnecessary to go around the land, and leaves no water furrows. On hillsides all furrows are thrown downhill, which means less draft and better turning of the soil.

The McCormick-Deering is the original reversible disk plow. The same disk plows both right and left-hand furrows. On reaching the end of the furrow the team is turned, swinging the beam and operator in the direction the plow is to go. With the swinging of the beam the disk and scraper are shifted to the opposite positions and at the same time the furrow wheels are automatically given the proper lead as front and rear furrow wheels. The team does the work of shifting. In turning, the horses turn on the unplowed ground.

Lever
Each wheel is provided with a lever which enables the plowman to adjust the depth or to raise and lower the disk. Strong counterbalancing springs assist in the operation of the levers. A hand control lever is provided for changing the angle of the furrow wheel. The beam is heavy and of high quality I-beam steel. In swinging from one position to the other, the weight is carried on a turntable.

Wheels
Equipped with dust-proof wheel boxes, sand bands and grease caps, with collars and linch pins inside the screw caps. The furrow wheels are front and rear alternately as the plow is reversed.

Where the ground is trashy or the soil hard, plows with 24 or 26-in. disks are recommended, as these plows have larger wheels, giving more clearance under the frame.

Regular Equipment
20, 24 or 26-in. disk. Evener as shown in table.

Extra Equipment
100-lb. wheel weight for plows with 24 and 26-in. disks. 24-in. disks with inside bevel.

<table>
<thead>
<tr>
<th>Description</th>
<th>Evener No.</th>
<th>Size</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-horse reversible</td>
<td>ST-1070</td>
<td>20-in.</td>
<td>470 lb.</td>
</tr>
<tr>
<td>3-horse reversible</td>
<td>ST-1096</td>
<td>24-in.</td>
<td>665 lb.</td>
</tr>
<tr>
<td>3-horse reversible</td>
<td>ST-1096</td>
<td>26-in.</td>
<td>670 lb.</td>
</tr>
</tbody>
</table>

Illust. 100—McCormick-Deering Reversible Disk Sulky Plow.

Illust. 101—McCormick-Deering Reversible, top view with seat removed.
McCormick-Deering Walking Plows

WG, Stubble
WH, General Purpose
WHS 2, Blue Jay

Illust. 1—The WH-1 General Purpose Walking Plow.

McCormick-Deering walking plows are the product of plow-building experience that began in 1842. They combine excellent design and workmanship with the best plow steels obtainable. The WG plows have stubble bottoms that give a splendid degree of pulverization in wheat, rye, oats, or other small grain stubbles. The WH plows are the general-purpose pattern, adapted to plowing clover, timothy, or alfalfa sod, as well as stubble.

Construction

The high-carbon, spring-quality-steel beams are high in the throat over the plow bottom, to give plenty of clearance in trashy ground, and the front end is dropped to the correct hitch position. The bottoms are built on strong steel frogs and have quick-detachable shares. Quick-detachable shares are comparatively new in walking plow construction and are a decided advantage when it comes to changing shares, especially after shares have been resharpened and perhaps slightly warped. Punches for drawing bolt holes in line are no longer necessary.

The handles are well-seasoned oak, solidly braced and adjusted to suit the plowman.

The hard steel used in these plows is the finest three-ply, soft-center steel, tempered, which provides a soil surface of finest scouring quality. The solid steel is also a high-carbon, naturally hard steel that will give long wear in any soil.

Regular Equipment

Right hand only. Steel beam. Moldboard and share as shown in table. Quick-detachable share. Inserted cast heel. WHS-2 has a filling plate above the landside. WG-2, WH-2, and WHS-2 each supplied with one extra share. Solid steel landside. 14-in. plows are beamed for two or three horses as ordered.

Extra Equipment

Gauge wheels. Steel or chilled jointers. Hanging cutters. Rolling coulters. Fin cutters, etc. (See pages on these attachments.) Deep suck shares for 12-in., R.H., WH plows.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Size</th>
<th>Mold</th>
<th>Share</th>
<th>Share No.</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>WG-1</td>
<td>Stubble</td>
<td>12 in.</td>
<td>Hard</td>
<td>Hard</td>
<td>O-648</td>
<td>95 lb.</td>
</tr>
<tr>
<td>WG-1</td>
<td>Stubble</td>
<td>14 in.</td>
<td>Hard</td>
<td>Hard</td>
<td>O-650</td>
<td>113 lb.</td>
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<tr>
<td>WG-1</td>
<td>Stubble</td>
<td>16 in.</td>
<td>Hard</td>
<td>Hard</td>
<td>O-652</td>
<td>122 lb.</td>
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<tr>
<td>WH-1</td>
<td>General Purpose</td>
<td>10 in.</td>
<td>Solid</td>
<td>O-646</td>
<td>125 lb.</td>
<td></td>
</tr>
<tr>
<td>WH-1</td>
<td>General Purpose</td>
<td>12 in.</td>
<td>Hard</td>
<td>Hard</td>
<td>O-648</td>
<td>95 lb.</td>
</tr>
<tr>
<td>WH-1</td>
<td>General Purpose</td>
<td>16 in.</td>
<td>Hard</td>
<td>Hard</td>
<td>O-652</td>
<td>126 lb.</td>
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<tr>
<td>WH-2</td>
<td>General Purpose</td>
<td>8 in.</td>
<td>Solid</td>
<td>O-606</td>
<td>98 lb.</td>
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<tr>
<td>WH-2</td>
<td>General Purpose</td>
<td>9 in.</td>
<td>Solid</td>
<td>O-608</td>
<td>100 lb.</td>
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</tr>
<tr>
<td>WH-2</td>
<td>General Purpose</td>
<td>10 in.</td>
<td>Solid</td>
<td>O-646</td>
<td>105 lb.</td>
<td></td>
</tr>
<tr>
<td>WHS-2</td>
<td>&quot;Blue Jay&quot;</td>
<td>7 in.</td>
<td>Solid</td>
<td>O-604</td>
<td>95 lb.</td>
<td></td>
</tr>
<tr>
<td>WHS-2</td>
<td>&quot;Blue Jay&quot;</td>
<td>8 in.</td>
<td>Solid</td>
<td>O-606</td>
<td>97 lb.</td>
<td></td>
</tr>
<tr>
<td>WHS-2</td>
<td>&quot;Blue Jay&quot;</td>
<td>9 in.</td>
<td>Solid</td>
<td>O-608</td>
<td>97 lb.</td>
<td></td>
</tr>
<tr>
<td>WHS-2</td>
<td>&quot;Blue Jay&quot;</td>
<td>10 in.</td>
<td>Solid</td>
<td>O-646</td>
<td>104 lb.</td>
<td></td>
</tr>
<tr>
<td>WHS-2</td>
<td>&quot;Blue Jay&quot;</td>
<td>12 in.</td>
<td>Solid</td>
<td>O-648</td>
<td>111 lb.</td>
<td></td>
</tr>
</tbody>
</table>

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The WE plows are high-grade walking plows equipped with general-purpose bottoms suitable for either turf or stubble plowing. They pulverize stubble soils nicely, and in sod effectively bury trash and weeds. The moldboard is of the highest grade soft-center steel. The share and landside may be either solid steel or chilled as shown below. A strong steel frog forms a substantial foundation for the bottom. What is said on the preceding page with reference to quick-detachable shares, soft-center steel, and the spring-steel quality of the beams applies to the WE plows also.

Regular Equipment

Hard steel moldboard. WE-1 is equipped with soft-center steel, quick-detachable share, and solid steel landside with cast sole. WE-9 is equipped with quick-detachable chilled share and extra share, and chilled landside. The 10-in. plow is made in right hand only, the other sizes right and left hand. 14-in. plows are beamed for two or three horses as ordered.

Extra Equipment


Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Size</th>
<th>Share No.</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>WE-1</td>
<td>General Purpose</td>
<td>10 in.</td>
<td>O-638</td>
<td>99 lb.</td>
</tr>
<tr>
<td>WE-9</td>
<td>General Purpose</td>
<td>10 in.</td>
<td>O-638, O-640-R</td>
<td>107 lb.</td>
</tr>
<tr>
<td>WE-9</td>
<td>General Purpose</td>
<td>14 in.</td>
<td>O-643-L</td>
<td>127 lb.</td>
</tr>
</tbody>
</table>

Illust. 3—Landside view of WE-1 Walking Plow showing the high landside with inserted heel casting. The gauge wheel costs extra.
McCormick-Deering Black-Land Plow

M Series

The Black-Land plow is especially designed for tight, waxy, sticky soil, such as Texas gumbo. The shape of the moldboard is such as to turn the soil with the least resistance possible, so that the plow draws lightly even in soils that are extremely hard to shed.

Quick-Detachable Share

The shares are quick-detachable, making it easy to remove a share for re-sharpening or to put on a new share. The share is held securely in place, the point of the steel frog being wedged between the share and a pin in the gunnel so that the share only wedges tighter in hard plowing.

Steel Frog

The Black-Land bottom is built on a strong, forged, steel frog, which provides a splendid support for share, moldboard, and landside. The frog extends well up on the beam, giving a good distance between the bolts that hold the bottoms to the beam and assuring a bottom that is rigid under all conditions. The moldboard is solidly braced against the landside.

Adjustable Cast Heel

The landside is of good length, made of solid steel, and equipped with an adjustable heel casting which makes it possible to maintain proper penetration regardless of the wear on the heel of the landside. Furthermore, this adjustable heel casting can be replaced at very small cost when worn out, thus saving the price of a whole new landside which would be necessary on a plow not having this feature.

Full-Throated Beam

The beam is made of heavy, plow-beam steel and is high at the throat, giving ample clearance for heavy stubble or trash. The clevis and cross clevis provide plenty of depth and landing adjustment.

Handles

The handles are made of well seasoned oak, securely attached to the bottom by steel extensions. They can be adjusted to suit the height of the plowman, while ample space between the handles gives the plowman plenty of room in which to handle the plow comfortably.

Regular Equipment


Extra Equipment

POGW-31 gauge wheel for 7, 8, 9 and 10-in. plows, POGW-6 for 12-in. plows. Steel or chilled jointer; see "Jointers." POHC-53 knife cutter. FORC-59 rolling coulter.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Size</th>
<th>Share No.</th>
<th>Approximate Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-7</td>
<td>7 in.</td>
<td>0-656</td>
<td>87 lb.</td>
</tr>
<tr>
<td>M-8</td>
<td>8 in.</td>
<td>0-658</td>
<td>94 lb.</td>
</tr>
<tr>
<td>MX-8</td>
<td>8 in.</td>
<td>0-658</td>
<td>95 lb.</td>
</tr>
<tr>
<td>M-9</td>
<td>9 in.</td>
<td>0-524</td>
<td>96 lb.</td>
</tr>
<tr>
<td>M-10</td>
<td>10 in.</td>
<td>0-526</td>
<td>99 lb.</td>
</tr>
<tr>
<td>M-12</td>
<td>12 in.</td>
<td>390</td>
<td>112 lb.</td>
</tr>
</tbody>
</table>

Order extra share by number stamped on bottom. * Bolted share.
McCormick-Deering
“JA-7 Series” Plows

The JA-7 Series of walking plows meets the demand for low-priced plows where scouring conditions are not too difficult and where plows built of the finer plow steels are not required. They are very simple in construction and will do excellent work under the conditions for which they are intended.

The moldboard is of the general purpose pattern, adapting the plow to either stubble or tame sod plowing. The landside is equipped with an adjustable heel.

**Regular Equipment**
Solid steel mold, share and extra share. Steel beam. Right hand only.

**Extra Equipment**
POGW-24 gauge wheel for JA-7-G and JA-7-I.
POGW-29 gauge wheel for JA-7-C and JA-7-E.

**Specifications**

<table>
<thead>
<tr>
<th>No.</th>
<th>Trade Size</th>
<th>Share No.</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>JA-7-C</td>
<td>6-in.</td>
<td>11646</td>
<td>54 lb.</td>
</tr>
<tr>
<td>JA-7-E</td>
<td>8-in.</td>
<td>11647</td>
<td>56 lb.</td>
</tr>
<tr>
<td>JA-7-F</td>
<td>9-in.</td>
<td>11833</td>
<td>63 lb.</td>
</tr>
<tr>
<td>JA-7-G</td>
<td>10-in.</td>
<td>11833</td>
<td>70 lb.</td>
</tr>
<tr>
<td>JA-7-I</td>
<td>12-in.</td>
<td>11834</td>
<td>75 lb.</td>
</tr>
</tbody>
</table>

McCormick-Deering Sugar Land Plows

The sugar land plow is similar to the black land shown above, differing principally in the hitch, as shown in the illustration. A hanging cutter is regular equipment on this plow. The sugar land plow is especially suited to work under unusually trying conditions of plowing land for sugar cane.

**Regular Equipment**
Single shin, with hard steel mold, solid steel share and extra share and solid steel medium high landside.
Furnished with POHC No. 27 hanging cutter.
Made right hand and steel beam only.
Order extra shares by number stamped on bottom.

**Extra Equipment**
POGW-6 gauge wheel.
PORC-36 rolling coulter.

**Specifications**

<table>
<thead>
<tr>
<th>Size</th>
<th>Share No.</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-in.</td>
<td>352</td>
<td>102 lb.</td>
</tr>
<tr>
<td>10-in.</td>
<td>354</td>
<td>108 lb.</td>
</tr>
<tr>
<td></td>
<td>Deduct for cutter</td>
<td>13 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Middlebuster "D Series"

Handle Difficult Soil

The shape of the McCormick-Deering middlebuster bottom adapts it to work in tight, hard, or black soils as well as loose, sandy or gravelly soils. The molds have a long, easy slope, and turn and pulverize the soil nicely.

The middlebuster is used in preparation of ridges for cotton and other crops planted in bedded rows, and also in those sections where it is desired to leave the soil in ridges in order to hold moisture and prevent soil blowing.

Sturdily Built

Usually the middlebuster is used at a time when the soil is very hard, and the plow must be sturdily built to stand up to the hard work demanded. McCormick-Deering middlebusters are solidly and sturdily built, and give long and efficient service.

Adjustable Rudder

As shown in Illustration 17, the rudder, or drag iron, can be adjusted to regulate the penetration of the point. This is a feature which users of the McCormick-Deering middlebusters are quick to appreciate. Notice that the drag iron is equipped with a steel plate, or root cutter, which cuts into the furrow bottom and acts as a rudder, to hold the plow steady. Notice the steel frog which forms a solid backing for the share and moldboards. Notice also that the beam and handle connections are unusually rigid.

The clevis and side plates give an ample range of adjustment up or down, and sidewise. The beam is high over the bottom, giving plenty of clearance for trash.

This buster is of a design which always creates a favorable first impression. It is a splendid plow, whether on the sample floor or in the field.

Regular Equipment

Solid steel molds and share. Wide point share. Steel beam only.

Extra Equipment

Hard steel molds. Narrow point shares. Non-castering 14-in. rolling coulter (PORC-84). 14-in. can be equipped with extra-heavy beam.

<table>
<thead>
<tr>
<th>Size</th>
<th>Share No.</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-inch</td>
<td>O-610</td>
<td>98 lb.</td>
</tr>
<tr>
<td>12-inch</td>
<td>O-611</td>
<td>101 lb.</td>
</tr>
<tr>
<td>14-inch</td>
<td>O-518</td>
<td>103 lb.</td>
</tr>
<tr>
<td>16-inch</td>
<td>O-519</td>
<td>106 lb.</td>
</tr>
</tbody>
</table>

Illust. 16—The D Series Middlebuster, 14-inch.
McCormick-Deering
Combination Rolling Coulter and Jointer

When a combination coulter and jointer is used, the jointer turns a little furrow off the edge of the furrow slice, throwing it into the middle. When the furrow has been turned, all trash or fertilizing matter is completely covered under the furrow slice, where conditions are just right for its rapid decomposition and conversion into fertile soil.

The coulter shank clamp is made to fit the regular 1\(\frac{1}{2}\)-in. or 1\(\frac{3}{4}\)-in. coulter shank as shown in table below. This clamp is provided with a take-up adjustment which assures its castering perfectly, and without lost motion.

The coulter shank is the regular straddle type, with an equal bearing on both sides of the coulter blade. The bearing is the popular McCormick-Deering conical bearing, which permits taking up lost motion due to wear.

The jointer can be quickly removed should it be desired to use the coulter only. The coulter blade is made of fine quality tempered steel.

The jointer is made of hard steel, tempered and correctly designed to cut out the dirt and pitch it to the proper place to assure covering of sod and trash.

Adjustment for jointer depth is provided, and also for setting jointer to or from coulter. The latter adjustment permits setting the jointer close enough to the coulter to keep it cleaning properly without binding.

Notched Coulters

Notched rolling coulters with 15 or 18-inch blades are available for McCormick-Deering plows. These coulters are especially desirable in plowing cornstalks for corn borer control, broom-corn stalks, sweet clover stubble, etc. The notches get a better grip on the trash than a smooth-edged coulter, and avoid pushing the trash ahead of the blade. The result is an efficient job of cutting and, consequently, a better job of plowing. These coulters are supplied either as plain coulters or in combination with jointers.

Specifications

<table>
<thead>
<tr>
<th>Number</th>
<th>Diam.</th>
<th>Used On</th>
<th>Wt.</th>
<th>Used On</th>
</tr>
</thead>
<tbody>
<tr>
<td>PORC- 85</td>
<td>15 in.</td>
<td>Regular on Little Wonder and No. 90 tractor plows; special for all riding plows with 1(\frac{1}{2})-in. coulter shanks.</td>
<td>29 Ib.</td>
<td>PORC-119</td>
</tr>
<tr>
<td>PORC- 90</td>
<td>14 in.</td>
<td>Special for Little Chief sulky, right-hand.</td>
<td>34 lb.</td>
<td>PORC-121</td>
</tr>
<tr>
<td>PORC- 91</td>
<td>14 in.</td>
<td>Special for Little Chief sulky, left-hand.</td>
<td>34 lb.</td>
<td>PORC-123</td>
</tr>
<tr>
<td>PORC-107</td>
<td>15 in.</td>
<td>Regular on Nos. 4, 7, and 8 Little Genius, special for Nos. 88 right-hand, and for No. 10 Little Genius except rear beam.</td>
<td>32 lb.</td>
<td>PORC-126</td>
</tr>
<tr>
<td>PORC-113</td>
<td>18 in.</td>
<td>Special for Nos. 4, 7, 8, and 10 Little Genius plows, except rear beam No. 10.</td>
<td>38 lb.</td>
<td>PORC-128</td>
</tr>
</tbody>
</table>

Notched coulter, special for Little Chief sulky, left-hand.
Rolling Coulters and Fin Cutters for McCormick-Deering Plows

Illustr. 25—McCormick-Deering rolling coulter. Notice that the yoke is adapted to receive the shank of a jointer, to convert the coulter to a combined coulter and jointer. This coulter has conical bearings which permit taking up any looseness caused by wear. The bearing sleeve which covers the hub does not revolve with the coulter, which prevents trash from winding about the hub.

Illustr. 26—Cross section through coulter bearing. A is the conical hub; B, the stationary hub sleeve, held from turning by lug D, bearing against a stop on the yoke. Loose­ness, due to long wear, can be taken up by tightening nut, C.

Illustr. 27—Jointer.
The Nos. in the following table (except No. 34) cover this type of jointer, with the necessary shanks and clamps to attach to plows as listed.

Rolling Coulters—Specifications

<table>
<thead>
<tr>
<th>Number</th>
<th>Diam. Coulter</th>
<th>Dia. Shank</th>
<th>Weight</th>
<th>Used On</th>
</tr>
</thead>
<tbody>
<tr>
<td>PORC-15</td>
<td>13 in.</td>
<td>1 3/8 in.</td>
<td>11 lb.</td>
<td>Regular on No. 9 and 2-way horse plows and all wheeled listers except Wheatland; special on Wheatland.</td>
</tr>
<tr>
<td>PORC-34*</td>
<td>15 in.</td>
<td>1 3/8 in.</td>
<td>19 lb.</td>
<td>Special for No. 90 plow.</td>
</tr>
<tr>
<td>PORC-54</td>
<td>13 in.</td>
<td>1 3/4 in.</td>
<td>21 lb.</td>
<td>Special for No. 5 Wheatland and No. 7 listers.</td>
</tr>
<tr>
<td>PORC-56*</td>
<td>14 in.</td>
<td>1 3/4 in.</td>
<td>24 lb.</td>
<td>Regular on Little Chief, right-hand.</td>
</tr>
<tr>
<td>PORC-58*</td>
<td>14 in.</td>
<td>1 3/4 in.</td>
<td>24 lb.</td>
<td>Regular on Little Chief, left-hand.</td>
</tr>
<tr>
<td>PORC-59</td>
<td>13 in.</td>
<td>1 3/8 in.</td>
<td>21 lb.</td>
<td>Special for steel beam walking plows, right- and left-hand, Canton and Chattanooga.</td>
</tr>
<tr>
<td>PORC-78</td>
<td>16 in.</td>
<td>1 3/4 in.</td>
<td>23 lb.</td>
<td>Special for Little Wonder and No. 90 plows and No. 23 orchard plow.</td>
</tr>
<tr>
<td>PORC-95</td>
<td>16 in.</td>
<td>1 3/4 in.</td>
<td>24 lb.</td>
<td>Special for No. 2 Little Wonder for rice land.</td>
</tr>
<tr>
<td>PORC-98</td>
<td>16 in.</td>
<td>1 3/4 in.</td>
<td>27 lb.</td>
<td>Special for No. 3 Farmall and walking middle buster.</td>
</tr>
<tr>
<td>PORC-99</td>
<td>15 in.</td>
<td>1 3/4 in.</td>
<td>17 lb.</td>
<td>Regular on No. 37 2-way left-hand beam.</td>
</tr>
<tr>
<td>PORC-100</td>
<td>15 in.</td>
<td>1 3/4 in.</td>
<td>17 lb.</td>
<td>Regular on No. 37 2-way right-hand beam.</td>
</tr>
<tr>
<td>PORC-105</td>
<td>33 in.</td>
<td>4 in.</td>
<td>139 lb.</td>
<td>Special for No. 459 brush breaker.</td>
</tr>
<tr>
<td>PORC-106*</td>
<td>15 in.</td>
<td>1 3/4 in.</td>
<td>21 lb.</td>
<td>Regular on No. 8 Little Genius, except rear beam.</td>
</tr>
<tr>
<td>PORC-110</td>
<td>18 in.</td>
<td>1 3/4 in.</td>
<td>28 lb.</td>
<td>Special on Nos. 4, 7, 8, and 10 Little Genius plows (except rear beam No. 10) and No. 2 Diamond gang 14 and 16 in.</td>
</tr>
<tr>
<td>PORC-112†</td>
<td>18 in.</td>
<td>1 3/4 in.</td>
<td>28 lb.</td>
<td>Regular on No. 2 Diamond and Nos. 12 and 12-A Success sulkies, right-hand, and No. 3 Success gang.</td>
</tr>
<tr>
<td>PORC-116*</td>
<td>15 in.</td>
<td>1 3/4 in.</td>
<td>19 lb.</td>
<td>Special on Nos. 4 and 7 Little Genius.</td>
</tr>
<tr>
<td>PORC-117*</td>
<td>15 in.</td>
<td>1 3/4 in.</td>
<td>21 lb.</td>
<td>Special on heavy-beam Diamond gang and No. 2 Success gang; special on Nos. 4, 7, and 8 Little Genius.</td>
</tr>
<tr>
<td>PORC-120*</td>
<td>15 in.</td>
<td>1 3/4 in.</td>
<td>20 lb.</td>
<td>Notched coulter, special for Little Wonder and No. 23 tractor orchard plows.</td>
</tr>
<tr>
<td>PORC-122*</td>
<td>15 in.</td>
<td>1 3/4 in.</td>
<td>20 lb.</td>
<td>Notched coulter, special for No. 8 Little Genius.</td>
</tr>
<tr>
<td>PORC-125†</td>
<td>18 in.</td>
<td>1 3/4 in.</td>
<td>24 lb.</td>
<td>Notched coulter, special for Nos. 8 and 10 Little Genius (not rear beam No. 10).</td>
</tr>
<tr>
<td>PORC-127</td>
<td>15 in.</td>
<td>1 3/4 in.</td>
<td>21 lb.</td>
<td>Regular for left-hand beam No. 88 Farmall plow.</td>
</tr>
<tr>
<td>PORC-132</td>
<td>14 in.</td>
<td>1 3/4 in.</td>
<td>24 lb.</td>
<td>Special for No. 5 middle buster.</td>
</tr>
<tr>
<td>PORC-140</td>
<td>16 in.</td>
<td>1 3/4 in.</td>
<td>59 lb.</td>
<td>Regular on rear beam No. 10 Little Genius.</td>
</tr>
</tbody>
</table>

* POJT-34 converts these coulters to combination coulters and jointers. POJT-33 converts 58 to 91.
† POJT-41 converts 112 to 113 and 125 to 126.

Fin Cutters

<table>
<thead>
<tr>
<th>No.</th>
<th>Weight</th>
<th>Plovs On Which Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>POF-29</td>
<td>3 1/2 lb.</td>
<td>Wheeled plow bottoms, right-hand. Shares must be drilled on order.</td>
</tr>
<tr>
<td>POF-30</td>
<td>3 1/2 lb.</td>
<td>Wheeled plow bottoms, left-hand. Shares must be drilled on order.</td>
</tr>
<tr>
<td>POF-33</td>
<td>3 lb.</td>
<td>WE-1 and WE-9, left-hand.</td>
</tr>
<tr>
<td>POF-34</td>
<td>3 lb.</td>
<td>WE, WG, WH and WHS walking plows, 10-inch and over.</td>
</tr>
<tr>
<td>POF-35</td>
<td>3 lb.</td>
<td>WH and WHS walking plows, 8 and 9-inch.</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering Jointers and Knife Cutters

Jointers

<table>
<thead>
<tr>
<th>No. Steel</th>
<th>No. Chilled</th>
<th>Weight</th>
<th>Used On</th>
</tr>
</thead>
<tbody>
<tr>
<td>POJT-9</td>
<td>POJT-209</td>
<td>18 lb</td>
<td>First beam Nos. 4 and 7 Little Genius 12 and 14-in. Rear beam Diamond gang, 2-furrow.</td>
</tr>
<tr>
<td>POJT-17</td>
<td>POJT-217</td>
<td>19 lb</td>
<td>Second, third, and fourth beams on Nos. 4 and 7 Little Genius tractor plows. 12 and 14-in.</td>
</tr>
<tr>
<td>POJT-18</td>
<td>POJT-218</td>
<td>17 lb</td>
<td>Right-hand walking plows. No. 9 sulky and right beam on Two-Way Success.</td>
</tr>
<tr>
<td>POJT-118</td>
<td>POJT-318</td>
<td>17 lb</td>
<td>Left-hand walking plows, and left-hand beam on Two-Way Success.</td>
</tr>
<tr>
<td>POJT-24</td>
<td>POJT-224</td>
<td>19 lb</td>
<td>Nos. 4 and 7 Little Genius, 10-in. front beam, and Little Chief.</td>
</tr>
<tr>
<td>POJT-23</td>
<td>POJT-223</td>
<td>17 lb</td>
<td>Nos. 4 and 7 Little Genius, 10-in. 2nd, 3rd, and 4th beams.</td>
</tr>
<tr>
<td>POJT-26</td>
<td>POJT-226</td>
<td>17 lb</td>
<td>Little Wonder tractor plow, front beam.</td>
</tr>
<tr>
<td>POJT-27</td>
<td>POJT-227</td>
<td>19 lb</td>
<td>Little Wonder tractor plow, rear beam.</td>
</tr>
<tr>
<td>POJT-31</td>
<td>POJT-231</td>
<td>20 lb</td>
<td>No. 2 Little Wonder, rear beam.</td>
</tr>
<tr>
<td>POJT-33</td>
<td></td>
<td>10 lb</td>
<td>Converts PORC-58 to PORC-91.</td>
</tr>
<tr>
<td>POJT-34</td>
<td></td>
<td>10 lb</td>
<td>Converts PORC-56 to PORC-90, PORC-106 to PORC-107, PORC-116 to PORC-118, PORC-117 to PORC-119, PORC-120 to PORC-121 or PORC-122 to PORC-123.</td>
</tr>
<tr>
<td>POJT-35</td>
<td>POJT-235</td>
<td>17 lb</td>
<td>No. 8 Little Genius, all beams.</td>
</tr>
<tr>
<td>POJT-38</td>
<td>POJT-238</td>
<td>17 lb</td>
<td>Front beam, No. 2 Diamond gang.</td>
</tr>
<tr>
<td>POJT-39</td>
<td>POJT-239</td>
<td>19 lb</td>
<td>Diamond sulky.</td>
</tr>
<tr>
<td>POJT-41</td>
<td>POJT-241</td>
<td>17 lb</td>
<td>Diamond, 2-furrow rear beam.</td>
</tr>
<tr>
<td>POJT-40</td>
<td>POJT-240</td>
<td>19 lb</td>
<td>No. 2 Little Wonder, front beam.</td>
</tr>
<tr>
<td>POJT-41</td>
<td>POJT-241</td>
<td>17 lb</td>
<td>Converts PORC-112 to PORC-113 and PORC-125 to PORC-128.</td>
</tr>
<tr>
<td>POJT-42</td>
<td>POJT-242</td>
<td>17 lb</td>
<td>Walking plows, WE, WG, WH, right-hand.</td>
</tr>
<tr>
<td>POJT-43</td>
<td>POJT-243</td>
<td>17 lb</td>
<td>Walking plows, WE, WG, WH, left-hand.</td>
</tr>
<tr>
<td>POJT-44</td>
<td>POJT-244</td>
<td>17 lb</td>
<td>No. 8 Little Genius, stationary, for use with plain coulters.</td>
</tr>
<tr>
<td>POJT-45</td>
<td>POJT-245</td>
<td>20 lb</td>
<td>No. 32 Two-Way, right-hand.</td>
</tr>
<tr>
<td>POJT-46</td>
<td>POJT-246</td>
<td>20 lb</td>
<td>No. 37 Two-Way, right-hand.</td>
</tr>
<tr>
<td>POJT-47</td>
<td>POJT-247</td>
<td>20 lb</td>
<td>No. 90 Plow.</td>
</tr>
<tr>
<td>POJT-48</td>
<td>POJT-248</td>
<td>22 lb</td>
<td>No. 88 Two-Way, right-hand.</td>
</tr>
<tr>
<td>POJT-49</td>
<td>POJT-249</td>
<td>20 lb</td>
<td>No. 88 Two-Way, left-hand.</td>
</tr>
<tr>
<td>POJT-50</td>
<td>POJT-250</td>
<td>18 lb</td>
<td>Little Chief, right-hand.</td>
</tr>
<tr>
<td>POJT-51</td>
<td>POJT-251</td>
<td>18 lb</td>
<td>Little Chief, left-hand.</td>
</tr>
</tbody>
</table>

Knife Cutters

There are three types of knife cutters furnished for the McCormick-Deering plows shown in this catalog, either as regular or special equipment. They are: hanging, Quincy and duck-bill. The hanging cutter is the type commonly used on walking plows, and is attached to the plow beam by means of a clamp, which is covered by the number of the cutter. The Quincy cutter not only attaches to the plow beam, but is bolted to the side of the share. The duck-bill cutter attaches to the beam, and has a hole in the heel into which fits the nose of the special type of share used on plows that take this type of cutter.

Specifications

<table>
<thead>
<tr>
<th>No. Steel</th>
<th>No. Chilled</th>
<th>Weight</th>
<th>Used On</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAHC-16</td>
<td>45 lb</td>
<td>Duckbill</td>
<td>Regular on No. 461 Brush Breaker.</td>
</tr>
<tr>
<td>SAHC-17</td>
<td>55 lb</td>
<td>Duckbill</td>
<td>Regular on No. 459 Brush Breaker.</td>
</tr>
<tr>
<td>POHC-33</td>
<td>17 lb</td>
<td>Hanging</td>
<td>2nd, 3rd and 4th beams, Nos. 4, 7 and 6 Little Genius.</td>
</tr>
<tr>
<td>POHC-38</td>
<td>18 lb</td>
<td>Hanging</td>
<td>1st beam on Nos. 4 and 7 Little Genius, 1, 2, 3, 4th beams on No. 3.</td>
</tr>
<tr>
<td>POHC-39</td>
<td>18 lb</td>
<td>Hanging</td>
<td>2-Way Success, L.H. (POHC-39 is L.H.)</td>
</tr>
<tr>
<td>POHC-41</td>
<td>9 lb</td>
<td>Quincy</td>
<td>R.H., for WE, WG, WH, WHS, 14-in. and smaller sizes.</td>
</tr>
<tr>
<td>POHC-42</td>
<td>7 lb</td>
<td>Quincy</td>
<td>R.H., for WE, WG, WH, WHS, 14-in. 3-horse and 16-in.</td>
</tr>
<tr>
<td>POHC-44</td>
<td>10 lb</td>
<td>Quincy</td>
<td>L.H., for WE, 14-in. 2-horse and smaller sizes.</td>
</tr>
<tr>
<td>POHC-45</td>
<td>10 lb</td>
<td>Quincy</td>
<td>L.H., for WE, 14-in. 3-horse.</td>
</tr>
<tr>
<td>POHC-47</td>
<td>10 lb</td>
<td>Quincy</td>
<td>2-Way Success, R.H., and No 9 Sulky. (POHC-39 is L.H.)</td>
</tr>
<tr>
<td>POHC-49</td>
<td>10 lb</td>
<td>Quincy</td>
<td>2-Way Success, R.H. and No. 9 Sulky.</td>
</tr>
<tr>
<td>POHC-50</td>
<td>10 lb</td>
<td>Quincy</td>
<td>2-Way Success, L.H.</td>
</tr>
<tr>
<td>POHC-53</td>
<td>15 lb</td>
<td>Hanging</td>
<td>Little Chief, Sulky, L.H.</td>
</tr>
<tr>
<td>POHC-55</td>
<td>17 lb</td>
<td>Hanging</td>
<td>Little Chief Sulky, R.H.</td>
</tr>
<tr>
<td>POHC-61</td>
<td>15 lb</td>
<td>Hanging</td>
<td>1st beam, No. 2 Little Wonder.</td>
</tr>
<tr>
<td>POHC-62</td>
<td>Knee</td>
<td></td>
<td>Rear beam, No. 2 Little Wonder.</td>
</tr>
<tr>
<td>POHC-63</td>
<td></td>
<td>Hanging</td>
<td>R.H., WE, WH and WHS, 10-in. and over.</td>
</tr>
<tr>
<td>POHC-64</td>
<td></td>
<td>Hanging</td>
<td>R.H., WH, WHS, 7, 8 and 9-in.</td>
</tr>
<tr>
<td>POHC-65</td>
<td></td>
<td></td>
<td>WE-1 and WE-9, 10, 12, 14 and 16-in. WH-1, WH-2, 10, 12, 14 and 16-in. WHJ-1 and WHJ-2, 10, 12 and 14-in. WHJS-1, 12 and 14-in., and WHJS-2, 10, 12 and 14-in., R.H. only.</td>
</tr>
<tr>
<td>POHC-66</td>
<td></td>
<td></td>
<td>WE-1 and WE-9, 10, 12, 14 and 16-in. WH-1, WH-2, 10, 12, 14 and 16-in. WHJ-1 and WHJ-2, 10, 12 and 14-in. WHJS-1, 12 and 14-in., and WHJS-2, 10, 12 and 14-in., R.H. only.</td>
</tr>
</tbody>
</table>

Illust. 28—Knife Cutter

Quincy Cutter

Duck-bill Cutter

Feb. 1935
McCormick-Deering Gauge Wheels
(Steel Plow Line)

While a properly built plow will run smoothly and handle easily in average soils without the use of a gauge wheel, there are conditions under which a gauge wheel will not only greatly improve the quality of the work, but will make the plow much easier to handle. McCormick-Deering gauge wheels have the clamps necessary for attaching them to McCormick-Deering plows as listed below.

Specifications

<table>
<thead>
<tr>
<th>Number</th>
<th>Weight</th>
<th>For Use On</th>
</tr>
</thead>
<tbody>
<tr>
<td>POGW-6</td>
<td>9 lb.</td>
<td>12, 14, and 16-in. Black Land walking plows.</td>
</tr>
<tr>
<td>POGW-31</td>
<td>8 lb.</td>
<td>7, 8, 9, and 10-in. Black Land walking plows.</td>
</tr>
<tr>
<td>POGW-32</td>
<td>8 lb.</td>
<td>&quot;J&quot; Series walking plows, all sizes.</td>
</tr>
<tr>
<td>POGW-35</td>
<td>9 lb.</td>
<td>WH and WHS walking plows, 7, 8, and 9-in.</td>
</tr>
<tr>
<td>POGW-36</td>
<td>10 lb.</td>
<td>WE, WG, WH and WHS walking plows, 10-in and over.</td>
</tr>
<tr>
<td>POGW-37</td>
<td>10 lb.</td>
<td>WE walking plows, left hand, 12 and 14 in.</td>
</tr>
</tbody>
</table>

McCormick-Deering Eveners for Plows, Listers, Lister Cultivators and Beet Tools

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWE-7</td>
<td>4-horse, special for Diamond sulky</td>
<td>52 lb.</td>
</tr>
<tr>
<td>POWE-15</td>
<td>2-horse, regular on Nos. 5 and 6 Tip-Top planters, special for wheel ridge busters</td>
<td>12 lb.</td>
</tr>
<tr>
<td>POWE-42</td>
<td>4-horse, chain evener, regular on No. 4J 2-furrow disk plows</td>
<td>61 lb.</td>
</tr>
<tr>
<td>POWE-45</td>
<td>2-horse, regular on Nos. 3-A, 3-B, and 6 beet cultivators, and cotton chopper</td>
<td>16 lb.</td>
</tr>
<tr>
<td>POWE-50</td>
<td>4-horse, regular on Nos. 111, 411, 482, 423, and 464, and Widetread listers</td>
<td>55 lb.</td>
</tr>
<tr>
<td>POWE-53</td>
<td>3-horse, regular on No. 3 riding beet puller</td>
<td>32 lb.</td>
</tr>
<tr>
<td>POWE-55</td>
<td>4-horse, regular on 2-row Tip-Top planter</td>
<td>89 lb.</td>
</tr>
<tr>
<td>POWE-56</td>
<td>6-horse (No. 58 with extensions), special for No. 5 Wheatland lister, Nos. 7 and 7-P listers, and Nos. 151, 152, and 153 when sold with horse hitch</td>
<td>180 lb.</td>
</tr>
<tr>
<td>POWE-57</td>
<td>4-horse, special for No. 3 riding beet puller</td>
<td>62 lb.</td>
</tr>
<tr>
<td>POWE-58</td>
<td>6-horse abreast, regular on Nos. 151, 152, and 153 listers with horse hitch, and No. 30 lister cultivator; special for No. 5 Wheatland and Nos. 7 and 7-P listers</td>
<td>130 lb.</td>
</tr>
<tr>
<td>POWE-59</td>
<td>2-horse, special heavy evener for 2-way and No. 9 sulky plows</td>
<td>15 lb.</td>
</tr>
<tr>
<td>POSE-125-A</td>
<td>5-horse tandem evener, special for No. 2 Diamond sulky and gang, and No. 3 Success gang</td>
<td>109 lb.</td>
</tr>
<tr>
<td>POSE-140-A</td>
<td>6-horse tandem, regular on No. 4J disk plow, 3-furrow, special for No. 2 Diamond and No. 3 Success gang plows</td>
<td>122 lb.</td>
</tr>
<tr>
<td>POSE-141-A</td>
<td>4-horse tandem, special for No. 2 Diamond and No. 3 Success plows and 2-way and No. 9 sulkies</td>
<td>71 lb.</td>
</tr>
<tr>
<td>POSE-155-A</td>
<td>5-horse, special for wheeled ridge buster</td>
<td>138 lb.</td>
</tr>
<tr>
<td>POSE-156-A</td>
<td>5 and 6-horse combination, special for No. 4J disk plow</td>
<td>150 lb.</td>
</tr>
<tr>
<td>POSE-158-A</td>
<td>5-horse abreast, special for No. 2 Diamond gang</td>
<td>109 lb.</td>
</tr>
<tr>
<td>POSE-161-A</td>
<td>2-horse, regular on No. 20 lister cultivator</td>
<td>13 lb.</td>
</tr>
<tr>
<td>ST-1070</td>
<td>2-horse, regular on Pony Disk sulky and 20-in. Reversible disk plow</td>
<td>60 lb.</td>
</tr>
<tr>
<td>ST-1088</td>
<td>4-horse, regular on No. 2 Diamond and No. 3 Success gang plows</td>
<td>21 lb.</td>
</tr>
<tr>
<td>ST-1095</td>
<td>2-horse, special for Little Chief sulky and Nos. 5 and 6 Tip-Top planters</td>
<td>43 lb.</td>
</tr>
<tr>
<td>STA-1096</td>
<td>3-horse, regular on Diamond, Nos. 12 and 12-A Success, Two-way, No. 9 Sulky Little Chief, No. 4 disk, Pony Disk, sulkies, and Reversible disk sulky with 24 or 26-in. disks</td>
<td>21 lb.</td>
</tr>
<tr>
<td>ST-1129</td>
<td>2-horse, regular on 2-row lister cultivator</td>
<td>23 lb.</td>
</tr>
<tr>
<td>ST-1135</td>
<td>2-horse, special for walking plows (31-in. singletrees)</td>
<td>23 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Eveners for Plows, Listers, Lister Cultivators and Beet Tools

Illustr. 2—POWE-15, Two-Horse Evener. No. 59 is same evener with special heavy long bar.

Illustr. 3—POWE-42, Four-Horse Abreast Evener, with chain hitch.

Illustr. 4—POWE-45, Two-Horse Evener.

Illustr. 6—POWE-50, Four-Horse Abreast Wood Evener.

Illustr. 7—POWE-53, Three-Horse Abreast Wood Evener.

Illustr. 8—POWE-55, Four-Horse Wood Evener.

Illustr. 9—POWE-57, Four-Horse Evener.

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Illustr. 10—POWE-58, Six-Horse Abreast Wood Evener. POWE-56 is same evener with extensions to permit horses to walk in old furrows when bursting out middles.

Illustr. 11—POSE-125A Three, Four or Five-Horse Combination Evener.

Illustr. 12—POSE-140A Six-Horse Combination Evener.

Illustr. 13—POSE-141A Four-Horse Tandem Evener.

Illustr. 14—POSE-155A Five-Horse Evener.

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Illust. 15—POSE-156-A Six-Horse Evener.

Illust. 16—POSE-158-A Five-Horse Evener.

Illust. 17—POSE-161-A Two-Horse Evener.

Illust. 18—ST-1070 Two-Horse Evener.

Illust. 19—ST-1088 Four-Horse Abreast Evener.

Illust. 20—ST-1095 Two-Horse Evener.

Illust. 21—ST-1129 Two-Horse Evener.

Illust. 22—ST-1096 Three-Horse Abreast Evener.
Here are three of the most popular one-horse chilled plows sold in the South. Nos. 61 and 70 are cutter share plows, No. 62 a plain share plow. All three plows are equipped with a strong, full-throated steel beam and with clevises which give full range of landing and depth adjustment.

Handles are of well seasoned oak fastened to the plow with steel extensions and beam braces and equipped with a strong oak round and tie rod.

No. 61 is especially popular in cotton and peanut sections. It is adapted to almost any soil condition and gives good wear in sandy, gravelly soil.

No. 62 is a general purpose plow with a large, easy-turning moldboard, high frog, sloping landside with flange on inside.

No. 70 is popular in the cotton sections on account of its very light draft and its special adaptability to sandy, gravelly soil.

Extra Equipment

No. 61: Deep and double-deep-suck cutter shares; slip-nose cutter share; cast or solid steel cutter shares. No. 62: Solid steel share; deep-suck and slip-nose chilled shares; CPGW-21 gauge wheel; double-deep-suck chilled share or peanut chilled cutter share. No. 70: Deep or double-deep-suck chilled cutter share; chilled steel share; 9-in. chilled or solid steel cutter share. CPGW-21 gauge wheel. CP+IC-2 hanging cutter.

Self-sharpning shares for Nos. 61, 62 and 70.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>CAPACITY</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Depth</td>
<td>Width</td>
</tr>
<tr>
<td>61</td>
<td>Regular one-horse</td>
<td>5-in.</td>
<td>8-in.</td>
</tr>
<tr>
<td>62</td>
<td>Regular one-horse</td>
<td>5-in.</td>
<td>9-in.</td>
</tr>
<tr>
<td>62-B</td>
<td>No. 62 with large mold</td>
<td>5-in.</td>
<td>10-in.</td>
</tr>
<tr>
<td>70</td>
<td>Regular one-horse</td>
<td>5-in.</td>
<td>7-in.</td>
</tr>
<tr>
<td>70-B</td>
<td>No. 70 with short beam</td>
<td>5-in.</td>
<td>7-in.</td>
</tr>
</tbody>
</table>

Regular Equipment

Steel beam, chilled moldboard, share and extra share; Nos. 61 and 70 are equipped with malleable standard. Wrench.
McCormick-Deering
One and Two-Horse Chilled Plows

Illustr. 7—No. 72 One-Horse Walking Plow.

The No. 72 plow is very similar to the No. 62 shown on the preceding page, but meets the demand for this type of plow with a cutter share. It plows a deep narrow furrow in hard clay and dry land and does it without putting the bottom soil on top. It is very solidly built and is amply strong for any one horse.

No. 72 is similar to No. 72, but of somewhat larger capacity and suited to use with one good size horse or two small horses. It is popular in the cotton sections, though it is equally well adapted to corn ground. Like the No. 72 it cuts a deep narrow furrow.

No. 72½B is the same plow as No. 72½ except that it is equipped with a larger moldboard and a larger share.

Illustr. 8—No. 72½ Steel Beam Walking Plow.

These plows are equipped with a high-throated beam which gives good clearance in trashy ground. The clevis has an ample range of depth and landing adjustment. The handles are of well seasoned oak. They are attached to the bottom by means of steel extensions. The handles attach to the frog, taking all handle strains off the moldboards. Landside is of good length, with flange on inside.

Extra Equipment
Deep or double-deep-suction or slip-nose chilled cutter share. Solid steel cutter share. For Nos. 72 and 72½-B supplementary moldboard; CPGW-21 gauge wheel. CPHC-2 hanging cutter. CPRC-2 rolling coulter for No. 72½ and 72½-B. Self-sharpening shares for No. 72½-B.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Capacity</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>72</td>
<td>Regular one-horse</td>
<td>5-in.</td>
<td>75 lb.</td>
</tr>
<tr>
<td>72½</td>
<td>One-horse, heavy</td>
<td>6-in.</td>
<td>85 lb.</td>
</tr>
<tr>
<td>72½</td>
<td>Light two-horse</td>
<td>6-in. 9¾-in.</td>
<td>95 lb.</td>
</tr>
</tbody>
</table>

Regular Equipment
Chilled moldboard and chilled common suction cutter share and extra share. Steel beam. Wrench.

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McCormick-Deering Chilled Plows—“40 Series”

The “40 Series” plows are high-front plows with cutter shares. The cutter has a thin, sharp cutting edge which assists materially in cutting off the furrow slice. The moldboard is of good length, correctly shaped to give a splendid degree of pulverization with remarkably light draft.

The handles are long, made of well seasoned oak and attached to the frog by steel extensions. The height of the handles is adjustable. These plows are built with a very large frog, giving a good backing for moldboard and share. The frog fits snugly into the chime of the beam, preventing wear on the beam bolts and holding the bottom rigidly in place.

The sloping landside leaves a clean, open furrow. The wearing surface of the landside is chilled. The beam is long and full throated.

Extra Equipment
Hard steel mold. Plain hard steel share and shin. Cast shin. Plain chilled share. Deep and double deep-suck chilled cutter shares. Plain, common or deep-suck chilled shares. Self-sharpening cutter share for No. 43. Peanut share for No. 43 only. Supplementary moldboards for Nos. 43 and 44. Slipnose chilled cutter shares. Gauge wheel, jointer, hanging cutter or rolling coulter.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Capacity</th>
<th>Weight, Lb.</th>
</tr>
</thead>
<tbody>
<tr>
<td>43</td>
<td>Light 2-horse</td>
<td>8 x 10-in.</td>
<td>102</td>
</tr>
<tr>
<td>44</td>
<td>Medium 2-horse</td>
<td>9 x 11-in.</td>
<td>128</td>
</tr>
<tr>
<td>45-A</td>
<td>Regular 2-horse</td>
<td>10 x 12-in.</td>
<td>144</td>
</tr>
<tr>
<td>46</td>
<td>Three-horse</td>
<td>12 x 14-in.</td>
<td>176</td>
</tr>
</tbody>
</table>

Regular Equipment
Chilled moldboard. Chilled common suction share and extra share. Long, sloping landside. Nos. 45A and 46 made in right and left-hand, others right-hand only. Equipment includes wrench.
McCormick-Deering Chilled Plows—“60 Series”

The “60 Series” plows are low-front plows built on the lines of the general-purpose steel plows. The moldboard has a long, easy turn, the share has an easy cutting angle, and the breast of the plow is low. This assures light draft under usual conditions, and adapts the plows of this series to work in hard ground and in stubborn clay soils.

High Landside

The landside is extra high and slopes in at the bottom. It has a wide flange on the bottom edge which gives long wear and assures a steady running plow.

The handles are attached directly to the frog instead of to the moldboard as on some plows, so that none of the handle strains are thrown on the moldboard. The handles are made of well seasoned oak, with two heavy rounds. They can be adjusted to suit the plowman.

Regular Equipment

Chilled moldboard, and chilled cutter common suction share, and extra share. High, sloping chilled landside, flange on inside. Steel beam, with clevis and shackle. Adjustable oak handles, with steel extensions. Right or left hand. Wrench.

Extra Equipment

Solid steel moldboard. Deep or double-deep suction cutter share. Slipnose chilled cutter share. Sod cutter shares for all sizes. Stony share for Nos. 64, 65 and 66. Deep suck sod cutter chilled share for Nos. 64, 65 and 66. Peanut share for No. 63 plow. Supplementary moldboard. Gauge wheel jointer, knife cutter, or rolling coulter; see page on these attachments. Self-sharpening shares for Nos. 64 and 65; right-hand also available on special order.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Capacity</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>63</td>
<td>Light 2-horse</td>
<td>8 x 10 in.</td>
<td>110 lb.</td>
</tr>
<tr>
<td>64</td>
<td>Medium 2-horse</td>
<td>9 x 11 in.</td>
<td>136 lb.</td>
</tr>
<tr>
<td>65</td>
<td>Regular 2-horse</td>
<td>10 x 12 in.</td>
<td>140 lb.</td>
</tr>
<tr>
<td>66</td>
<td>Three-horse</td>
<td>12 x 14 in.</td>
<td>160 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering Plows—"90 Series"

Slat and Solid Mold

The "90 Series" plows are made in two types, one with the general purpose chilled moldboards, and the other with slat moldboards. The slat moldboard type is growing in popularity by leaps and bounds in those sections where the soil is sticky and hard to scour. The slats are made of the finest quality of soft-center steel, the soil surfaces being tempered to an extreme degree of hardness. The reason slat moldboards scour where other types of moldboards will not is that the thrust or push of the furrow slice is concentrated on a smaller area.

Regular Equipment

Slat mold plows furnished with hard steel slats, solid mold plows with chilled molds. Plain chilled deep suction share and extra share. Separate cutter.

Nos. 91, 92 and 93 furnished in right-hand only. Nos. 94, 95 and 96 slat plows furnished in both right and left-hand. Steel beam only. Equipment includes wrench.

Extra Equipment


Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Capacity</th>
<th>Weight Solid</th>
<th>Weight Slat</th>
</tr>
</thead>
<tbody>
<tr>
<td>91</td>
<td>1-horse, regular</td>
<td>5 x 9 in.</td>
<td>77 lb.</td>
<td>74 lb.</td>
</tr>
<tr>
<td>92-B</td>
<td>2-horse, light</td>
<td>5 x 9 in.</td>
<td>112 lb.</td>
<td>105 lb.</td>
</tr>
<tr>
<td>93-B</td>
<td>2-horse, light</td>
<td>5½ x 10 in.</td>
<td>123 lb.</td>
<td>123 lb.</td>
</tr>
<tr>
<td>94-B</td>
<td>2-horse, med</td>
<td>6 x 11 in.</td>
<td>122 lb.</td>
<td>125 lb.</td>
</tr>
<tr>
<td>95-B</td>
<td>2-horse, regular</td>
<td>7 x 12 in.</td>
<td>147 lb.</td>
<td>144 lb.</td>
</tr>
<tr>
<td>96-B</td>
<td>3-horse, light</td>
<td>8 x 13 in.</td>
<td>166 lb.</td>
<td>161 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935

Illust. 20—No. 91
One-Horse Chilled Plow.

Illust. 21—No. 95-B
Two and Three-Horse Chilled Plow.
Prevents Soil Washing

A hillside or reversible plow will plow hillside land quicker and with less draft than a level land plow. By throwing all the furrows the same way no dead furrows are left to form ditches. This helps to retard the washing of the soil.

Regular Equipment

No. 51 is equipped with a hard steel mold; the other sizes with chilled mold. These plows are equipped with chilled share and extra share, malleable standard with steel nose piece, except No. 56 which is equipped with a cast frog with steel nose piece. Reversible clevis shackles. Wrench.

Extra Equipment

There is no special equipment for No. 51. CPGW-21 gauge wheel for Nos. 53, 55 and 56. Hard steel mold and solid steel share for Nos. 53 and 55

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>DESCRIPTION</th>
<th>CAPACITY</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>DEPTH</td>
<td>WIDTH</td>
</tr>
<tr>
<td>51</td>
<td>One-horse</td>
<td>4-in.</td>
<td>59 lb.</td>
</tr>
<tr>
<td>53</td>
<td>Two-horse, light</td>
<td>5-in.</td>
<td>88 lb.</td>
</tr>
<tr>
<td>55</td>
<td>Regular two-horse</td>
<td>7-in.</td>
<td>131 lb</td>
</tr>
<tr>
<td>56</td>
<td>Two and three-horse, truss beam</td>
<td>7-in.</td>
<td>161 lb</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering Hillside Plows “200 Series”

Illustr. 25—No. 210 Hillside Plow, regular equipment.

The “200 Series” hillside plows are truss beam plows built in a full range of sizes and variously equipped to meet the requirements of different sections.

The reversing feature in the bottoms is of an improved construction which makes them easy to unlatch and reverse in turning, but which holds the bottoms rigidly while plowing so that they cannot come unlatched accidentally.

The beam is made of two flat steel bars trussed together in such manner as to form a beam that is both light and strong. Beam and handles are long, giving good leverage, both while plowing and when reversing the bottom.

Regular Equipment
All sizes are regularly equipped with chilled share and extra share and wrench. Other regular equipment is shown in the accompanying table.

Extra Equipment
Plain jointer for Nos. 210 and 210A; shifting jointer for Nos. 209 and 209A. No. 14 gauge wheel can be supplied for No. 209. No. 210 can be equipped with solid steel mold. No. 20 hanging cutter, shifting hitch. No. 14 gauge wheel (when this plow is furnished with plain hitch). Seven-inch gauge wheels can also be supplied. A chilled jointer can be supplied for No. 210A.

Illustr. 26—No. 208 Hillside Plow.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Size</th>
<th>Capacity</th>
<th>Moldboard</th>
<th>Gauge Wheel</th>
<th>Jointer</th>
<th>Hitch</th>
<th>Weight Lbs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>207</td>
<td>One-horse</td>
<td>6 to 8 in.</td>
<td>Solid steel</td>
<td>No. 20</td>
<td>Plain shifting</td>
<td></td>
<td>65</td>
</tr>
<tr>
<td>208</td>
<td>One-horse, heavy</td>
<td>8 to 10 in.</td>
<td>Solid steel</td>
<td>No. 20</td>
<td>Plain shifting</td>
<td></td>
<td>75</td>
</tr>
<tr>
<td>208A</td>
<td>One-horse, heavy</td>
<td>8 to 10 in.</td>
<td>Solid steel</td>
<td>No. 20</td>
<td>Standard straight</td>
<td></td>
<td>84</td>
</tr>
<tr>
<td>209</td>
<td>Two-horse, regular</td>
<td>10 to 12 in.</td>
<td>Solid steel</td>
<td>No. 20</td>
<td>Plain Lever shifting</td>
<td></td>
<td>130</td>
</tr>
<tr>
<td>209A</td>
<td>Two-horse, regular</td>
<td>10 to 12 in.</td>
<td>Solid steel</td>
<td>No. 14</td>
<td>Plain</td>
<td>Lever shifting</td>
<td>91</td>
</tr>
<tr>
<td>210</td>
<td>Two-horse, heavy</td>
<td>12 to 14 in.</td>
<td>Hard steel</td>
<td>No. 20</td>
<td>Shifting</td>
<td>Lever shifting</td>
<td>157</td>
</tr>
<tr>
<td>210A</td>
<td>Two-horse, heavy</td>
<td>12 to 14 in.</td>
<td>Hard steel</td>
<td>No. 20</td>
<td>Shifting</td>
<td>Standard straight</td>
<td>157</td>
</tr>
<tr>
<td>210</td>
<td>Two-horse, heavy</td>
<td>12 to 14 in.</td>
<td>Solid steel</td>
<td>No. 20</td>
<td>Shifting</td>
<td>Lever shifting</td>
<td>157</td>
</tr>
<tr>
<td>210A</td>
<td>Two-horse, heavy</td>
<td>12 to 14 in.</td>
<td>Solid steel</td>
<td>No. 20</td>
<td>Shifting</td>
<td>Standard straight</td>
<td>157</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering Hillside Plows
"200 Series"

Illust. 27—This rear view of a No. 210 Hillside Plow shows the reversing feature, and the long, wide-bottomed landside.

On the No. 210 hillside plow the jointer or knife cutter, whichever is used, reverses automatically with the bottom. The hitch is equipped with a long handle which enables the operator to change the position of the hitch as desired. These same features can be supplied in the No. 209 plow on special order.

Illust. 28—Landside view of the No. 210 Hillside Plow equipped with knife cutter. Notice the length of the landside. This means a steady-running plow.

The "200 Series" bottom is easy to reverse. On reaching the end of the furrow the plowman merely tips the plow on its side, unlatches the bottom by means of the foot latch, and swings the bottom over to the other side. By the time the team is turned, the bottom is in position for the return furrow. This kind of plowing leaves no dead furrows, and therefore prevents the formation of ditches or washes.

Illust. 29—The No. 209 Hillside Plow with straight clevis.
McCormick-Deering Subsoil Plow

Illustr. 30—No. 17-B Subsoil Plow, and, at the right, the potato digger bottom.

While sold principally as a subsoil plow the No. 17 can be variously equipped, as shown in the table of specifications. As a subsoil plow, its thin standard gives good penetration with the lightest possible draft, and ample strength.

Extra Equipment
Steel root cutter. Subsoil points, or potato digger equipment as shown in table.

Specifications
<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>17-B</td>
<td>Subsoil plow, 4-in. point</td>
<td>92 lb.</td>
</tr>
<tr>
<td>17-PD</td>
<td>Potato digger</td>
<td>122 lb.</td>
</tr>
</tbody>
</table>

McCormick-Deering One-Horse Middle Breaker No. 15

The No. 15 is a popular one-horse middle breaker for bursting out middles for cotton ridges and for plowing furrows for corn. It is also used for "running around" the cotton to finish the season's cultivation.

Extra Equipment
Hard steel moldboards and solid steel share CPGW-21 or CPGW-58 gauge wheel.

Specifications
<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>WIDTH</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>One-horse, regular</td>
<td>8-in.</td>
<td>14-in.</td>
</tr>
</tbody>
</table>
Nos. 19, 20 and 21 middle breakers are built for hard work. The beam is heavy and strong, and the bottoms are designed to open the furrows with as little draft as possible. The beam is full throated, giving plenty of clearance for trash.

The adjustable steel rudder keeps the plow on an even course and also helps to loosen the subsoil, thereby discouraging the formation of hardpan.

The handles are of well seasoned oak, rigidly attached to the frog by means of steel extensions. This construction takes all handle strains off the moldboard. The wings of the moldboards are rigidly braced to prevent breakage.

**Regular Equipment**
- Chilled molds and solid steel share. One extra share. Malleable frog with adjustable rudder.
- Oak handles with steel extensions. Steel beam with clevis and shackle.

**Extra Equipment**
- CPGW-21, 6-in. gauge wheel. CPGW-58, 7-in. gauge wheel. Steel handles. Steel moldboards. Chilled shares, 16-in. steel shares.

---

**Specifications**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Width Share</th>
<th>Width Mold</th>
<th>Wt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>Two-horse, light</td>
<td>10 in.</td>
<td>17 in.</td>
<td>85 lb.</td>
</tr>
<tr>
<td>20</td>
<td>Two-horse, regular</td>
<td>12 in.</td>
<td>19 in.</td>
<td>88 lb.</td>
</tr>
<tr>
<td>21</td>
<td>Two-horse, heavy</td>
<td>14 in.</td>
<td>21½ in.</td>
<td>90 lb.</td>
</tr>
</tbody>
</table>

---

The No. 18 middle breaker is equal to the hardest kind of work. The beam is extra heavy. The handles are of well seasoned oak and rigidly braced. The moldboards have an easy slope which assures good work with a minimum amount of draft.
McCormick-Deering “100 Series” Plows

For Stubble or Sod

The McCormick-Deering “100 Series” can be furnished in full chilled or combination steel mold and chilled share. The moldboard is a general purpose shape adapted to stubble or sod plowing. It is somewhat more abrupt than the ordinary general purpose moldboard, and particularly adapted to plowing in stubble ground. Its excellent turning qualities adapt it to hilly land, especially where it is necessary to throw the furrow up hill.

Long, High Landside

The landside is extra long with the heel cut away—it is easy to get the plow up over a stump or rock. It is also high and provided with a flange on the outside which works under the bank of the furrow and holds the plow steady.

Good Beam Clearance

The beam is very high in the throat, giving plenty of clearance for trash. Handles are well seasoned oak attached to the bottom by means of steel extension.

The gauge wheel is adjustable up and down and regulates the direction of travel when the beam is set for two or three horses. It is easy to change the beam for two or three horses as is shown in Illust. 35.

Regular Equipment

Quick-detachable share. Steel beam, wood handles. Separate share and cutter. Mold and share equipment as covered by numbers in table. Made in right and left-hand, but orders for left-hand plows must specify left-hand.

Extra Equipment


Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Capacity</th>
<th>Bottom Equipment</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>115</td>
<td>7 x 14-in.</td>
<td>Hard moldboard, solid steel share</td>
<td>146 lb.</td>
</tr>
<tr>
<td>116</td>
<td>8 x 16-in.</td>
<td>Hard moldboard, solid steel share</td>
<td>153 lb.</td>
</tr>
<tr>
<td>125</td>
<td>7 x 14-in.</td>
<td>Hard moldboard, plain chilled share</td>
<td>145 lb.</td>
</tr>
<tr>
<td>126</td>
<td>8 x 16-in.</td>
<td>Hard moldboard, plain chilled share</td>
<td>152 lb.</td>
</tr>
<tr>
<td>145</td>
<td>7 x 14-in.</td>
<td>Chilled moldboard, plain chilled share</td>
<td>155 lb.</td>
</tr>
<tr>
<td>146</td>
<td>6 x 16-in.</td>
<td>Chilled moldboard, plain chilled share</td>
<td>164 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering
"500 Series" Plows

An Economical Plow for Stony Ground

The big feature on these plows is the reversibility of the point and share. In stony or otherwise foul ground, where frequent replacement of shares is to be expected, this feature means a great saving. In the first place these parts are so designed as to withstand a great deal of abuse without breakage, and, the point and share being separate, either can be replaced at small cost when necessary. When the point or the edge of the share become worn they can be turned over, not only doubling the life of these parts, but restoring the original penetration and suction of the bottom, so that the plows of this series always run steady and true.

Easy to Change Beaming

This is an important feature. If conditions are such that only two horses are required, the beam can be set in the correct line of draft for two. Or if three horses are necessary, only a moment is required to make the change. This is done by loosening the beam bolts (C, in Illust. 38) and shifting the wedge block. See also illustration of this feature on "100 Series."

Well Built Throughout

These are sturdily built plows. The beam is of high-quality I-beam steel, with a full, high curve that gives good clearance in trash. Handles are of well seasoned oak, with two heavy rounds and a steel sway brace, and securely braced to the beam. They are attached to the bottom with steel extensions. They are also of good length, making it easy to handle the plow.

General Purpose Bottom

The shape of the bottom is that best adapted to general purpose plowing in stony, sandy soils. The mold is rather long, with a high breast, and medium turn, that in stubble pulverizes the soil nicely, yet adapted to doing good work in timothy, alfalfa and other common sods.

The bottom may be full chilled, or combination, with hard steel mold and chilled share and point.

Regular Equipment

Hard steel mold. Plain, reversible chilled share and point. Reversible heel. Steel beam. Right hand only. Extra share and point.

Extra Equipment


<table>
<thead>
<tr>
<th>No.</th>
<th>BOTTOM EQUIPMENT</th>
<th>CAPACITY</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>525</td>
<td>Hard mold, chilled share</td>
<td>7 x 13 in.</td>
<td>138 lb.</td>
</tr>
<tr>
<td>526</td>
<td>Hard mold, chilled share</td>
<td>9 x 16 in.</td>
<td>150 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Road Plows

No. 81 Cast Beam Rooter

The cast-beam rooter is built for tearing up hard pan, macadam, gravel, etc., in street, road, and excavation work. It has a heavy cast beam which is practically unbreakable and equal to the draft required for work under the above mentioned condition. It can be used with from two to six horses, or a tractor. The handles are exceptionally well braced, with guards to protect them when dragging the plow on its side.

The points are high-quality steel, held securely to the standard by removable side plates, and are reversible.

Regular Equipment
Long cast-iron beam, steel point, CPGW-7 gauge wheel, steel handles, two wrenches.

Extra Equipment
CPS-14 chilled gauge shoe.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>81</td>
<td>Cast-beam rooter</td>
<td>387 lb</td>
</tr>
</tbody>
</table>

No. 84 Steel Beam Grader

The McCormick-Deering No. 84 grader is a heavy, sturdily built plow which will stand up to extremely hard usage and not only answers the purpose of a turning plow in ordinary soil but can be used in very hard ground, such as old roads or streets that have been filled up with stone, brick, cinders, etc. It is a popular plow with highway and railroad builders, contractors and others whose work demands plows of exceptional strength.

The beam is extra heavy and made of high quality plow beam steel. Handles are of heavy flat bar steel, rigidly braced to the beam and cross-braced to each other. Steel loops or guards protect the handles when dragging the plow.

Regular Equipment
Solid steel mold and share with one chilled extra share. CPGW-57 gauge wheel, steel handles, two wrenches. Malleable frog.

Extra Equipment
CPS-15 chilled gauge shoe.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Width Cut</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>84</td>
<td>Steel-beam grader</td>
<td>8-in.</td>
<td>268 lb</td>
</tr>
</tbody>
</table>
# McCormick-Deering Chilled Plows

## Extra Equipment

![Rolling Coulter](Image)

**Illustration 42—PORC-59**

**Illust. 43—CPGW-14 Gauge Wheel.**

**Illustration 44—CPGW-21, 22 23, 24, Gauge Wheel.**

**Illustration 45—CPHC-1 Knife Cutter.**

**Illustration 46—CPHC-2 Knife LH, CPJT-1, RH, LH, CJPT-3, RH, Jointer.**

**Illustration 47—CPJT-2, Illust. 48—CPJT-4, Illust. 49—CPJT-5 Jointer.**

**Illustration 50—CPHC-30 Knife Cutter.**

**Illustration 51—CPHC-20 Knife Cutter.**

**Illustration 52—CPJT-7 Jointer.**

## Knife Cutters

<table>
<thead>
<tr>
<th>No.</th>
<th>Wt.</th>
<th>Used On</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPHC-2</td>
<td>7 lb.</td>
<td>40, 60, 70 and 90 Series.</td>
</tr>
<tr>
<td>CPHC-20</td>
<td>7 lb.</td>
<td>No. 210 hillside.</td>
</tr>
<tr>
<td>CPHC-27</td>
<td>6 lb.</td>
<td>Nos. 207 and 208 plows.</td>
</tr>
<tr>
<td>CPHC-30</td>
<td>14 lb.</td>
<td>No. 209 hillside.</td>
</tr>
<tr>
<td>POHC-31</td>
<td>21 lb.</td>
<td>100 and 300 Series, R. H. plows.</td>
</tr>
<tr>
<td>POHC-48</td>
<td>21 lb.</td>
<td>100 and 500 Series, L. H. plows.</td>
</tr>
</tbody>
</table>

## Rolling Coulters

<table>
<thead>
<tr>
<th>No.</th>
<th>Size</th>
<th>Wt.</th>
<th>Used On</th>
</tr>
</thead>
<tbody>
<tr>
<td>PORC-59</td>
<td>13 in.</td>
<td>21 lb.</td>
<td>Steel beam plows and middle breakers.</td>
</tr>
</tbody>
</table>

## Jointers

<table>
<thead>
<tr>
<th>No.</th>
<th>Wt.</th>
<th>Used On</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPJT-1</td>
<td>20 lb.</td>
<td>Nos. 43, 44, 45, 63, 64, 65, 66, 94, 95 and 96 walking plows, right hand, steel beam.</td>
</tr>
<tr>
<td>CPJT-2</td>
<td>20 lb.</td>
<td>Nos. 45, 63, 64, 65, 66, 94, 95 and 96 walking plows, left hand, steel beam.</td>
</tr>
<tr>
<td>CPJT-5</td>
<td>16 lb.</td>
<td>No. 210 hillside plows.</td>
</tr>
<tr>
<td>CPJT-7</td>
<td>19 lb.</td>
<td>No. 209 hillside plows.</td>
</tr>
</tbody>
</table>

## Gauge Wheels

<table>
<thead>
<tr>
<th>No.</th>
<th>Wt.</th>
<th>Used On</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPGW-7</td>
<td>37 lb.</td>
<td>No. 81 cast beam rooter plows.</td>
</tr>
<tr>
<td>CPGW-20</td>
<td>9½ lb.</td>
<td>Middle breakers, Nos. 15, 18, 19, 20, and 21.</td>
</tr>
<tr>
<td>CPGW-21</td>
<td>10½ lb.</td>
<td>Right hand steel beam walking plows, Nos. 40, 60, 70 and 90 Series.</td>
</tr>
<tr>
<td>CPGW-22</td>
<td>10½ lb.</td>
<td>Left hand steel beam plows of the 40, 60 and 90 Series.</td>
</tr>
<tr>
<td>CPGW-57</td>
<td>19 lb.</td>
<td>Nos. 84 and 85 grading plows.</td>
</tr>
<tr>
<td>CPGW-58</td>
<td>11 lb.</td>
<td>7-in., for right hand, steel beam plows.</td>
</tr>
<tr>
<td>CPGW-59</td>
<td>11 lb.</td>
<td>7-in., for left hand, steel beam plows.</td>
</tr>
<tr>
<td>CPGW-64</td>
<td>10 lb.</td>
<td>7-in., for Nos. 209A, 210A.</td>
</tr>
<tr>
<td>CPGW-90</td>
<td>10 lb.</td>
<td>For No. 36 hillside.</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering Tractor Disk Harrow

No. 9 Series

Illust. 1—McCormick-Deering No. 9-A, 8-foot Tractor Disk Harrow.

Here is a disk harrow that will stand up under the most severe conditions of tractor operation—take the strains resulting from rough fields and gullies—and go right on working for many years to come. It is unusually easy to operate. The disks of both the front and rear sections automatically assume the desired cutting angle with the first forward movement of the harrow—and they straighten just as quickly when the tractor is reversed. In addition, the rear disks split the ridges formed by the front gangs with unusual accuracy.

Two Widths of Spacing

The No. 9 is supplied with either of two widths of spacing between the disks—the No. 9-A with 6|-in. spacing and the No. 9-B with 9-in. spacing. Because there are fewer disks in harrows with the 9-in. spacing, there is greater penetration of the disks in the soil. The wide spacing also leaves more room between the disks for turning the soil.

The 9-B disk harrow, therefore, is preferable for use in the mud and gumbo of bottom land, or where cornstalks are to be cut, or where a harvester-thresher has left a high grain stubble. Heavily-manured lands, trash, weeds, cotton land, and cover crops also usually respond better to disking when the disks are far apart.

The 9-BA is a combination of the wide and narrow spacing between the disks. The front section has 9-in. spacing and the rear section 6|-in. spacing.

Regular Equipment


Extra Equipment


Specifications

| Disk Type | 6|-in. Spacing | 9-in. Spacing | 16-in. Disks | 18-in. Disks |
|-----------|---------------|---------------|--------------|--------------|
| No. 9-A   |               |               |              |              |
| 5-ft.     | 20            | 836 lb.       | 886 lb.      |
| 6-ft.     | 24            | 905 lb.       | 945 lb.      |
| 7-ft.     | 28            | 1025 lb.      | 1075 lb.     |
| 8-ft.     | 32            | 1125 lb.      | 1180 lb.     |
| 9-ft.     | 36            | 1274 lb.      | 1365 lb.     |
| 10-ft.    | 40            | 1417 lb.      | 1520 lb.     |
| No. 9-B   |               |               |              |              |
| 5½-ft.   | 16            | 825 lb.       | 865 lb.      |
| 7-ft.     | 20            | 970 lb.       | 1005 lb.     |
| 8½-ft.   | 24            | 1085 lb.      | 1135 lb.     |
| 10-ft.   | 28            | 1245 lb.      | 1321 lb.     |
| No. 9-BA  |               |               |              |              |
| 5½-ft.   | 18            | 826 lb.       | 875 lb.      |
| 7-ft.     | 24            | 994 lb.       | 1037 lb.     |
| 8½-ft.   | 28            | 1103 lb.      | 1155 lb.     |
| 10-ft.   | 32            | 1214 lb.      | 1287 lb.     |

Feb. 1935
McCormick-Deering Tractor Disk Harrow

Illust. 19—In sandy soil, two or more depth gauges, each 12½ in. in diameter, may be used on each gang of any disk harrow equipped with 16 or 18-in. Auburn type (saucer-shaped) disks. These gauges, supplied on special order, prevent the disks from penetrating too deep.

Illust. 20—Rigid type full blade scrapers are available on special order for No. 9 type disk harrows for use under conditions where the regular scrapers are not adequate, as in clay and wet soils. These scrapers are adjustable and keep the entire inside of each disk clean without any attention from the operator.

Quick Angling

The quick angling is due to a new type of automatic angling device that pushes back the inside ends of the front gangs and the outside ends of the rear gangs with the first forward movement of the tractor, permitting each gang to assume the desired angle by moving in line with the arc of the disks, rather than by being dragged against the outer faces of the disks. Besides saving time for the operator, this eliminates strain on the harrow. Six different cutting angles can be secured by setting the angling device, located conveniently behind the tractor operator.

New Accuracy of Trailing

Trailing of the rear gangs is controlled by means of separate connections with each of the front gangs. Each rear gang, therefore, follows in a direct line with each front gang, the disks splitting the ridges accurately, even on turns. Adjustments are provided for setting the rear gangs at a different angle from that of the front gangs, and for moving each rear gang left or right to assure accurate trailing.

Strong Construction

The weight-box cross braces serve the double purpose of keeping the bearings and bearings standards in line. Scrapers are heat-treated, permitting four times the deflection of ordinary scrapers. They are held against the disks by heavy springs that have three different adjustments. The scrapers can be locked in a desired setting or, when difficult soil conditions are encountered, may be operated manually from the tractor by means of separate rope connections to each gang to scrape the entire surface of the disks. When light soil is encountered and the scrapers are not needed, they may be drawn away from the disks.

Bearings and spools are of new, improved, dirt-proof design and are made of hard, white iron. The spacing spools are of gray iron. All the other parts are of steel—no castings. All cross members are of angle steel, and all points of strain are reinforced with heavy riveted gusset plates, hot-riveted where the strain is greatest.

Illust. 21—This quick-acting manual angling device is for use when operating conditions in a field vary. A few easy turns of the crank enable you to change the cutting angle of the disks without reversing the tractor. The spring on this attachment makes it just as easy to straighten the disks as to angle them. The drawbar may be adjusted to three different lengths (each 3 in. apart) to conform to the location of the tractor drawbar. Furnished in place of regular angling device if desired.

Illust. 22—A roller bearing transport truck is available on special order for all McCormick-Deering tractor disk harrows except the 5-ft. No. 7-B harrow. A transport truck is very desirable for moving a harrow from one field to another, especially over hard roads.

Illustration 23—It is a simple matter to attach a center tooth to the rear frame of a McCormick-Deering tractor disk harrow. Furnished as special equipment.

Feb. 1935
McCormick-Deering Tractor Disk Harrow
No. 10-A

A Harrow for Average Conditions
The No. 10-A McCormick-Deering tractor disk harrow is of the same general design as the No. 9 type, except that it is lighter in weight and sells at a lower price. It has McCormick-Deering heavy-gauged, crimped-center disks, crossed draft connections, lateral rear gang adjustments and the quick-angling, accurate trailing and flexibility features of the No. 9 type. The angle-steel, gusset-plated frame construction is considerably stronger than that found in many harrows selling for more money. When used under average soil conditions this harrow should last for many years. Its light weight adapts it well for use with small-size tractors. The width between disks is 6½ inches.

It is regularly equipped with a manual angling device, but an automatic, tractor-operated gang-angling device, similar to that regularly supplied with the No. 9 type harrow may be obtained on special order.

Regular Equipment

Extra Equipment

Specifications

<table>
<thead>
<tr>
<th>Size</th>
<th>Weight</th>
<th>Deduct for Scrapers Not Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 16-inch disks, 5 ft</td>
<td>674 lb.</td>
<td>39 lb.</td>
</tr>
<tr>
<td>20 18-inch disks, 5 ft</td>
<td>739 lb.</td>
<td>39 lb.</td>
</tr>
<tr>
<td>24 16-inch disks, 6 ft</td>
<td>732 lb.</td>
<td>46 lb.</td>
</tr>
<tr>
<td>24 18-inch disks, 6 ft</td>
<td>802 lb.</td>
<td>46 lb.</td>
</tr>
<tr>
<td>28 16-inch disks, 7 ft</td>
<td>792 lb.</td>
<td>52 lb.</td>
</tr>
<tr>
<td>28 18-inch disks, 7 ft</td>
<td>873 lb.</td>
<td>52 lb.</td>
</tr>
<tr>
<td>32 16-inch disks, 8 ft</td>
<td>874 lb.</td>
<td>59 lb.</td>
</tr>
<tr>
<td>32 18-inch disks, 8 ft</td>
<td>964 lb.</td>
<td>59 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Tractor Disk Harrow—No. 7

Built Close to the Ground
As can be seen particularly well from the illustration at the bottom of this page, the No. 7 harrow is built with the frame entirely below the tops of the disks to adapt it to work in orchards. This is an extremely well-built harrow, especially suitable for disking under cover crops, such as burr clover, vetch, horse beans, peas, etc. It can be used in all kinds of soil, and in addition to its special adaptability it is the equal of any harrow in the open field.

Easy Turns
The No. 7 harrow is so designed that in turning, all the disks in both gangs follow in a natural line of travel—they are not dragged sidewise. This not only means longer life to the harrow, but a lighter load on the tractor.

The scrapers are of an improved design, covering practically the whole face of the disk and assuring efficient cleaning under all conditions.

The bearings are made of special hard, white iron and are of McCormick-Deering double-ring thrust type. Alemite oilers assure dirt-free, efficient lubrication.

The gangs are angled or straightened by the draft of the tractor. The gangs take their angle instantly when the tractor is started, and it isn't even necessary to release the draft latch when straightening the gangs—just back the tractor.

Regular Equipment

Extra Equipment
Manual angling device. Roller-bearing transport truck, for all sizes except 5-ft., 7-B. Center tooth. 18-in. Auburn-type (saucer-shaped) disks, extra-length arbor bolts and depth gauges for use in light soil. These harrows can be supplied less scrapers on special order.

Specifications

<table>
<thead>
<tr>
<th>No. 7-A 6¼-in. Spacing</th>
<th>Weight</th>
<th>Deduct for Scrapers Not Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-in. Disks</td>
<td>20-in. Disks</td>
<td></td>
</tr>
<tr>
<td>5 ft., 16 disks</td>
<td>810 lb.</td>
<td>870 lb.</td>
</tr>
<tr>
<td>6 ft., 20 disks</td>
<td>945 lb.</td>
<td>1010 lb.</td>
</tr>
<tr>
<td>7 ft., 24 disks</td>
<td>1035 lb.</td>
<td>1110 lb.</td>
</tr>
<tr>
<td>8 ft., 28 disks</td>
<td>1155 lb.</td>
<td>1240 lb.</td>
</tr>
<tr>
<td>9 ft., 32 disks</td>
<td>1236 lb.</td>
<td>1340 lb.</td>
</tr>
<tr>
<td>10 ft., 36 disks</td>
<td>1400 lb.</td>
<td>1525 lb.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No. 7-B 9-in. Spacing</th>
<th>Weight</th>
<th>Deduct for Scrapers Not Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-in. Disks</td>
<td>22-in. Disks</td>
<td></td>
</tr>
<tr>
<td>5 ft., 12 disks</td>
<td>815 lb.</td>
<td>890 lb.</td>
</tr>
<tr>
<td>6½ ft., 16 disks</td>
<td>975 lb.</td>
<td>1075 lb.</td>
</tr>
<tr>
<td>8 ft., 20 disks</td>
<td>1095 lb.</td>
<td>1215 lb.</td>
</tr>
<tr>
<td>9½ ft., 24 disks</td>
<td>1245 lb.</td>
<td>1395 lb.</td>
</tr>
<tr>
<td>11 ft., 28 disks</td>
<td>1440 lb.</td>
<td>1630 lb.</td>
</tr>
</tbody>
</table>

Illust. 26—A rear view of the McCormick-Deering No. 7-A Tractor Disk Harrow.

Illust. 27—Side view of the No. 7-A. This illustration shows well the low-down construction of the frame and weight boxes.

Feb. 1935
McCormick-Deering Offset Tractor Disk Harrow

Illustr. 28—Side view of the McCormick-Deering No. 8-B, 5¼-ft. Offset Tractor Disk Harrow.

Offset Hitch

The McCormick-Deering No. 8-B offset tractor disk harrow is well adapted to orchard use, as it can be worked right up under the trees, as close as it is desired to go, with the tractor running out in the open. The harrow will turn under the heaviest cover crop, kill weeds and mulch the soil, leaving it in an ideal condition. The front gang throws the soil to the right and the rear gang to the left, the rear disks accurately splitting the ridges formed by the front disks. The frame, weight boxes, and all connecting parts are below the top edges of the disks. There is nothing above the disks to damage overhanging branches.

The frame is so designed that the rear gang cannot skid to the side. There are flexible connections between the hitch and the front gang (indicated by arrows "C" in Illust. 29), thus making possible a good job of disk ing even when encountering furrows, subsoil obstructions and trashy land.

Right or Left Turn

The offset harrow is built for left-hand turns, but a right-hand turn is made easily, simply by pulling a rope that disengages the latch indicated by "A" in Illust. 29. This permits the pipe "B" to telescope on the angling rod, allowing the front gang to swing back until the gangs are less than parallel. When the right-hand turn is completed and a forward working position is about to be resumed, the locking latch "A" reengages automatically, holding the gangs at the proper working angle.

Equipment

Rigid type full blade scrapers. Weight boxes. 1½-in. arbor bolts. 9-in. spacing. On special order, the harrow is supplied without scrapers.

Specifications

<table>
<thead>
<tr>
<th>Size</th>
<th>Weight 20-IN. Disks</th>
<th>Weight 22-IN. Disks</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 disks, 5 ft. 3 in.</td>
<td>1170 lb.</td>
<td>1245 lb.</td>
</tr>
<tr>
<td>16 disks, 6 ft.</td>
<td>1336 lb.</td>
<td>1442 lb.</td>
</tr>
<tr>
<td>18 disks, 6 ft. 9 in.</td>
<td>1363 lb.</td>
<td>1479 lb.</td>
</tr>
<tr>
<td>20 disks, 7 ft. 6 in.</td>
<td>1547 lb.</td>
<td>1669 lb.</td>
</tr>
<tr>
<td>26 disks, 9 ft. 9 in.</td>
<td>2394 lb.</td>
<td>2602 lb.</td>
</tr>
<tr>
<td>28 disks, 10 ft. 6 in.</td>
<td>2498 lb.</td>
<td>2702 lb.</td>
</tr>
</tbody>
</table>

Illustr. 29—Top view of the McCormick-Deering No. 8-B, 5-ft. 3-in. Offset Tractor Disk Harrow.
McCormick-Deering Wide-Type Disk Harrows

12, 14 and 21 Foot

The McCormick-Deering wide-type disk harrows meet the requirements of those sections where large acreages must be covered and where it is imperative to realize the fullest efficiency of the men who carry on the operations. The center section of these harrows resembles the regular bumper disk harrow equipped with third lever, the only difference being that the frame has been strengthened to stand the added strains which the wider machine must sustain. The construction is well shown in Illust 2.

While the wide-type disk harrows can be equipped for horses or tractors, their full efficiency is obtained when drawn by tractors, as to the greater width is added the greater speed of the tractors, making it possible to cover extremely large acreages in a day.

The 21-foot size is especially suited for use with tractor power, being a normal load for a 15-30 tractor. Where it is desired to double-disk, many users of the wide-type harrow do it by lapping over one-half the width each time.

Regular Equipment
Scrapers. Third levers, 16-inch disks only. Horse or tractor hitch. Heat-treated, crimped-center disks.

Extra Equipment
Center tooth attachment. Set of gangs to convert 14-foot to 21-foot harrow. Set of irons to narrow 21-foot harrow to about 14 feet for transporting purposes. Hitch for trailing grain drill behind harrow.

Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-ft., 24—16-in. disks, with 6-horse hitch and forecarriage</td>
<td>1102 lb.</td>
</tr>
<tr>
<td>12-ft., 24—16-in. disks, with tractor hitch</td>
<td>958 lb.</td>
</tr>
<tr>
<td>14-ft., 28—16-in. disks, with 6-horse hitch and forecarriage</td>
<td>1212 lb.</td>
</tr>
<tr>
<td>14-ft., 28—16-in. disks, with tractor hitch</td>
<td>1060 lb.</td>
</tr>
<tr>
<td>21-ft., 42—16-in. disks, with 8-horse hitch and forecarriage</td>
<td>1923 lb.</td>
</tr>
<tr>
<td>21-ft., 42—16-in. disks, with tractor hitch</td>
<td>1734 lb.</td>
</tr>
<tr>
<td>*Set of extension gangs to convert 14-ft. to 21-ft., including tractor hitch</td>
<td>674 lb.</td>
</tr>
</tbody>
</table>

*Note: This attachment is regularly packed with tractor hitch, and if ordered for 14-ft. harrow equipped with tractor hitch the tractor hitch will be duplicated.
McCormick-Deering Bumper Disk Harrow

Seven Sizes for Horses or Tractors

The New Heat-Treated Crimped-Center Disks

Illustr. 1—McCormick-Deering 8-foot Bumper Disk Harrow.

McCormick-Deering harrow disks are heat-treated. You can hurl one of them to the floor without damaging its edge. You can bend it clear out of shape in a vise and it will spring back to normal shape. You can hit it with a sledge and be surprised at how hard it is to dent. A disk that stands such treatment requires fewer sharpenings, lasts longer, and does better work.

In addition, McCormick-Deering disks—and only McCormick-Deering disks—have crimped centers. The crimp serves as a strong reinforcement for the disk at the center, where—as in a wheel—there is the greatest strain. In addition, being flat, the crimp makes it possible to use spacing spools (between the disks) that have flat ends that are carefully ground. This makes an extremely close fit between the spacing spools and disks, preventing the looseness and consequent breakage so often encountered in ordinary disk harrows after a few seasons of use.

Steel Standards

The steel standards are placed edgewise to the direction of travel, giving the maximum amount of clearance between the standards and the disks. The oil pipes are directly in front of the standards, adding no interference to trash.

Strength and Rigidity

The angle steel stub tongue acts as the backbone to give additional strength and rigidity to the frame. It is so constructed that either a wood tongue or a forecarriage can be used.

Effective Scrapers

The scrapers can be adjusted to or from the disks, or they can be set to clear the disks when not needed. A handy foot lever enables the operator to keep the disks clean.

Regular Equipment

Scrapers are considered regular or special according to territory requirements. Steel stub tongue. 16 or 18-in. disks. Hitches as shown in table of specifications. Tongue. Built-in weight boxes.

Extra Equipment


Specifications

<table>
<thead>
<tr>
<th>Size</th>
<th>Hitch</th>
<th>16-In. Disks</th>
<th>18-In. Disks</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 disk, 4 ft.</td>
<td>2-horse</td>
<td>360 lb.</td>
<td>380 lb.</td>
</tr>
<tr>
<td>10 disk, 5 ft.</td>
<td>2-horse</td>
<td>400 lb.</td>
<td>435 lb.</td>
</tr>
<tr>
<td>12 disk, 6 ft.</td>
<td>3-horse</td>
<td>455 lb.</td>
<td>495 lb.</td>
</tr>
<tr>
<td>14 disk, 7 ft.</td>
<td>4-horse</td>
<td>540 lb.</td>
<td>576 lb.</td>
</tr>
<tr>
<td>16 disk, 8 ft.</td>
<td>4-horse</td>
<td>588 lb.</td>
<td>631 lb.</td>
</tr>
<tr>
<td>18 disk, 9 ft.</td>
<td>4-horse</td>
<td>617 lb.</td>
<td>682 lb.</td>
</tr>
<tr>
<td>20 disk, 10 ft.</td>
<td>4-horse</td>
<td>655 lb.</td>
<td>700 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering Bumper Disk Harrows

Illust. 2—The McCormick-Deering Bumper Disk Harrow.

Simplicity is the Keynote

There are no unnecessary parts on the McCormick-Deering disk harrow. The line of draft is right where it belongs—straight through the traces to the centers of the gangs. The frame is strongly braced with gusset plates. Angle steel weight boxes are built in and cost nothing extra.

Center Depth Regulator

There are times when the driver wishes to put a little extra pressure on the inner ends of the disk gangs in order to secure thorough pulverization on hard or lumpy ground. Sometimes, too, there are dead furrows or ditches which he cannot disk thoroughly with the gangs set level. By means of the center depth regulator which can be attached to all McCormick-Deering disk harrows, he can set the disk gangs to conform to any inequality of the surface.

Not a Spring Compression Lever

This depth regulator consists of a third lever with a yoke which bolts in place of the regular snubbing block. The yoke pushes down on the set lever bars as the third lever is brought backward, forcing the inner ends of the disk gangs downward. For disking out a dead furrow, gangs should be set in this way. To hold the harrow closely over a ridge, the center lever should be thrown forward to drop the outer ends of the gangs so they will hug the ridge.

Heat-Treated Crimped-Center Disks Require Fewer Sharpenings—Last Longer

Illust. 3—The McCormick-Deering Bumper Disk Harrow with third lever attachment and tongue truck.

Feb. 1935
McCormick-Deering Bumper Disk Harrows

Illust. 4—Two-horse hitch and pole. All bumper disk harrows are furnished with pole unless otherwise ordered.

Illust. 7—This tractor hitch can be supplied on special orders, also. It bolts to the steel angles in place of the regular tongue or forecarriage.

Illust. 5—Showing the crimped center of the McCormick-Deering disk. This feature adds from 50 to 100 per cent to the strength of the disks, eliminating the breakage which frequently occurs with disks not having this feature. The section at the right shows the crimp, which has the same strengthening effect as the crimp in an ordinary pail, with which we are all familiar.

Illust. 8—Snubbing block which is supplied regularly on all McCormick-Deering bumper disk harrows.

McCormick-Deering disk harrows are equipped regularly with the snubbing block shown in Illust. 8. Where the fields are uniformly flat or even in surface, this gives all the adjustment necessary. Where the fields are not so regular, the third-lever attachment enables the operator to conform the harrow to the surface and thus do a much better job of pulverizing.

The McCormick-Deering tongue truck has a high-arched axle which gives plenty of clearance for trash. A wide range of tilt gives flexibility in uneven ground. The vertical clevis is designed to receive set-over irons when it is desired to use three horses.

Each bearing is fitted with hardwood bushings which completely encircle the bearing spool, and which are reversible to give extra long wear.

Illust. 6—Third lever depth regulator supplied as an attachment. It replaces snubbing block shown at the right.

Illust. 9—A is the hard, oil-soaked, reversible wood bushing. B the hard oiler which puts grease in from under side. C is the steel standard, set edgewise to give maximum clearance between disks.

Feb. 1935
McCormick-Deering Double Disk Harrows
Rigid While Working—Flexible While Turning

Illust. 10—McCormick-Deering 6-foot Disk Harrow equipped with center tooth and tandem attachments.

Rigid Tandem Attachment
Any McCormick-Deering disk harrow can be equipped with tandem attachment of the same width as shown in the illustration above. The blades are set for in-throw instead of out-throw, which gives the soil a double pulverization. It is like plowing and re-plowing the ground at the same time.

Illust. 10-A—Tandem attachment supplied in all widths.

Strong Rigid Construction
Unlike the front harrow, the end thrust on the tandem attachment is all toward the outside. Thus it is impossible to neutralize this end thrust by means of bumpers, so a heavy steel arch is provided reinforced by braces and this arch holds the gangs tightly together, resisting the heavy pressure of the soil outward. The front frame of the tandem attachment is made of one piece of angle steel, cross-braced for strength and rigidity. Weight box is not regular because in many cases it is not needed. It is supplied only as an attachment at a slight extra cost.

Better Than Twice Over
The use of a tandem disk harrow is better for the soil than covering the same field twice with a single disk harrow. Many farmers are finding this out and it is coming to a point where there are very few harrows sold except with the tandem attachment. The double action of the in-throw and out-throw reduces the surface to a finely pulverized mulch, and it conserves a greater amount of moisture and therefore increases the crop production.

See Illust. 10-A for detail view of tandem attachment showing the unique method of hitching to the front harrow, which prevents the rear section from swaying sidewise.

Specifications
Weights do not include scrapers. Scrapers are considered regular or special according to territory requirements.

<table>
<thead>
<tr>
<th>Size</th>
<th>Weight 16-In. Disks</th>
<th>Weight 18-In. Disks</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 disks, 4 ft.</td>
<td>308 lb.</td>
<td>333 lb.</td>
</tr>
<tr>
<td>10 disks, 5 ft.</td>
<td>336 lb.</td>
<td>366 lb.</td>
</tr>
<tr>
<td>12 disks, 6 ft.</td>
<td>380 lb.</td>
<td>414 lb.</td>
</tr>
<tr>
<td>14 disks, 7 ft.</td>
<td>408 lb.</td>
<td>447 lb.</td>
</tr>
<tr>
<td>16 disks, 8 ft.</td>
<td>500 lb.</td>
<td>545 lb.</td>
</tr>
<tr>
<td>18 disks, 9 ft.</td>
<td>531 lb.</td>
<td>581 lb.</td>
</tr>
<tr>
<td>20 disks, 10 ft.</td>
<td>566 lb.</td>
<td>621 lb.</td>
</tr>
</tbody>
</table>

Attachments for all sizes: Weight box—transports.

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McCormick-Deering Orchard Disk Harrow

Heat-Treated
Crimped-Center
—They hold their edge

Illustr. 13—McCormick-Deering Orchard Disk Harrow.

Reversible and Adjustable
Gangs on this orchard disk harrow can be set to throw the soil toward or away from the trees or for hilling up crops planted in rows. They can also be placed close together for regular 4 or 5-ft. disking. The construction of the orchard disk harrow is low enough so that it can be used under low-hanging branches without injuring the foliage. Broad sheet steel shields cover the disk gangs to keep branches and leaves away from the sharp disk blades.

Extension Frame Can Be Supplied
When specified, a wide extension frame can be supplied, at slight additional cost, that gives the gangs a maximum spread as shown in table. This is used frequently for cultivating under low bushes or wherever the branches and fruit hang close to the ground. Extra long shields also can be supplied for use with this extension frame.

Quickly and Easily Adjusted
The gangs on the orchard disk harrow have a wide degree of adjustment. They can be set for out-throw or in-throw and they can be adjusted to cut deep or shallow next to the trees. All of these changes can be made very quickly and easily. Levers are placed within convenient reach of the driver whether the frame is extended or not.

Regular Equipment

Extra Equipment
Pole instead of forecarriage or as an extra. Extension frame and extension frame shields.

Specifications

<table>
<thead>
<tr>
<th>Size</th>
<th>Extreme Width, Ganges Set Out</th>
<th>Weight (With Regular Frame)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>8-disk, 4-ft.</td>
<td>In-throw</td>
<td>Out-throw</td>
</tr>
<tr>
<td>10-disk, 5-ft.</td>
<td>5 ft. 5 in.</td>
<td>5 ft. 10 in.</td>
</tr>
</tbody>
</table>

*Add 98 pounds for extension frame, and 38 pounds for extension frame shields.
McCormick-Deering Reversible Disk Harrow

Heat-Treated
Crimped-Center
Disks Stay Sharp Longer

Quickly and Easily Adjusted
McCormick-Deering reversible disk harrow can be used for in-throw or out-throw, for hilling the plants or throwing the dirt away. These operations are accomplished by adjusting the disk gangs or turning them end for end.

Light Draft—Strong Construction
McCormick-Deering reversible disk harrow is built exceptionally strong for the work it has to do. The front and both sides consist of one continuous piece of angle steel bolted rigidly to the back frame, which is formed by two steel angles. The back angle bars are slightly separated, leaving a slot along which the gangs can slide to give the required disking width.

Attachments
The reversible disk harrow is not regularly supplied with forecarriage nor scrapers. These can be supplied on special order. The thill attachment which can be supplied comprises two tongues and other parts, making it possible to use the attachment either as a pair of thills for one horse or as a pole for two horses.

Regular Equipment

Extra Equipment

Specifications

<table>
<thead>
<tr>
<th>Size</th>
<th>Extreme Width</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In-throw</td>
<td>Out-throw</td>
</tr>
<tr>
<td>6 disks, 3-ft</td>
<td>68 in.</td>
<td>55 in.</td>
</tr>
<tr>
<td>8 disks, 4-ft</td>
<td>68 in.</td>
<td>68 in.</td>
</tr>
<tr>
<td>10 disks, 5-ft</td>
<td>81 in.</td>
<td>68 in.</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering Spring-Tooth Harrows

The McCormick-Deering spring-tooth harrows can be furnished either with channel or round pipe bars. The spring teeth are securely attached to the tooth bars and will not work loose. The variety of teeth which can be supplied permits the selection of equipment suited to every requirement. In addition to its utility as a soil pulverizer, it is, when equipped with the special quack grass teeth which can be supplied, a splendid implement for tearing out and eradicating quack grass.

Notice also that alfalfa teeth can be supplied. These teeth are especially adapted to renovating alfalfa fields.

The penetration of the teeth is regulated by levers, there being one of these levers to each section of the harrow.

Regular Equipment

Pipe-bar frame. Drawbars for all sizes except center section. Single pointed teeth.

Extra Equipment


Specifications

<table>
<thead>
<tr>
<th>No. Teeth</th>
<th>No. Sections</th>
<th>Cultivating Width</th>
<th>Approx. Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>1</td>
<td>2 ft. 10 in.</td>
<td>118 lb.</td>
</tr>
<tr>
<td>15</td>
<td>2</td>
<td>5 ft. 1 in.</td>
<td>232 lb.</td>
</tr>
<tr>
<td>17</td>
<td>2</td>
<td>5 ft. 8 in.</td>
<td>244 lb.</td>
</tr>
<tr>
<td>23</td>
<td>2</td>
<td>7 ft. 6 in.</td>
<td>309 lb.</td>
</tr>
<tr>
<td>23</td>
<td>3</td>
<td>7 ft. 8 in.</td>
<td>306 lb.</td>
</tr>
<tr>
<td>25</td>
<td>3</td>
<td>8 ft. 4 in.</td>
<td>372 lb.</td>
</tr>
<tr>
<td>35</td>
<td>3</td>
<td>11 ft. 6 in.</td>
<td>488 lb.</td>
</tr>
<tr>
<td>31</td>
<td>4</td>
<td>10 ft. 4 in.</td>
<td>488 lb.</td>
</tr>
<tr>
<td>33</td>
<td>4</td>
<td>11 ft. 0 in.</td>
<td>500 lb.</td>
</tr>
<tr>
<td>47</td>
<td>4</td>
<td>15 ft. 6 in.</td>
<td>669 lb.</td>
</tr>
</tbody>
</table>

8-tooth Center section—No drawbar
12-tooth Center section—No drawbar

| Single Point Channel Bar | Single Point Pipe Bar | Reversible Point | Alfalfa Tooth | Single Point Quack Grass |

Illust. 2—Types of spring teeth. Tooth at left is for channel bar, others for pipe bars. All teeth can be furnished for either pipe or channel bar, and orders must specify which are wanted.

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Illust. 5—The McCormick-Deering four-section 33-tooth spring-tooth harrow. This size is especially adapted to use behind a tractor.

**Replaceable Runner Shoes**

The runners on McCormick-Deering spring-tooth harrows are shod with removable shoes which can be replaced at small cost when worn through.

The levers on these harrows can be set at the front or back when using the harrow with tractors or horses.

**Sulky Attachment**

The sulky can be supplied for 15, 17 and 23-tooth section spring-tooth harrows. When equipping one of these harrows with a sulky, the set levers are moved forward to the center tooth bar where they can be reached from the seat. As the weight is all carried on the runner frames, the riding sulky adds very little to the draft of the harrow and a great deal to the comfort of the user.

Illust. 6—McCormick-Deering two-section spring-tooth harrow with sulky attachment which can be supplied on special order.

Illust. 7—Nine-tooth spring-tooth harrow with handles which can be supplied on special order.
McCormick-Deering Tractor Harrows

Illust. 8—McCormick-Deering No. 2, 19-tooth tractor spring-tooth harrow. The frame bar between the two sections is a single bar instead of two bars. This helps reduce the obstruction of trash, clods, etc.

Tractor Spring-Tooth Harrows

Nos. 1 and 2 McCormick-Deering tractor spring-tooth harrows are of heavy, durable construction to withstand the strains of tractor operation and are so designed that they readily clear themselves of trash. The tooth bars are connected to the side drag bars by pivots which provide an oscillating action. In addition, extra clearance is provided under the tooth bars and between them. The teeth are special quack-grass teeth and are spaced wide apart and have an extra large coil.

On the No. 2 harrow the position of the teeth is controlled by a locking latch lever operated by a rope from the tractor seat. The teeth are placed in working position by backing the tractor until the proper depth is obtained, at which point the locking latch automatically locks the harrow. Pulling the latch rope raises the teeth for transportation or clearing trash. The harrow then can be backed to the point where trash has been dumped, leaving no uncultivated ground.

Specifications

<table>
<thead>
<tr>
<th>No. Teeth</th>
<th>No. Sections</th>
<th>Cultivating Width No. 1</th>
<th>Cultivating Width No. 2</th>
<th>App. Weight (lb.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>4 ft. 6 in.</td>
<td>8 ft. 3 in.</td>
<td>No. 1</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>*</td>
<td>*</td>
<td>199</td>
</tr>
<tr>
<td>13</td>
<td>1</td>
<td>*</td>
<td>*</td>
<td>252</td>
</tr>
<tr>
<td>19</td>
<td>2</td>
<td>7 ft. 9 in.</td>
<td>8 ft. 3 in.</td>
<td>394</td>
</tr>
<tr>
<td>25</td>
<td>2</td>
<td>10 ft. 2 in.</td>
<td>10 ft. 9 in.</td>
<td>508</td>
</tr>
<tr>
<td>28</td>
<td>3</td>
<td>11 ft. 10 in.</td>
<td>12 ft.</td>
<td>672</td>
</tr>
<tr>
<td>37</td>
<td>3</td>
<td>16 ft. 3 in.</td>
<td>15 ft. 9 in.</td>
<td>833</td>
</tr>
</tbody>
</table>

*Not furnished in these sizes.

Illust. 9—McCormick-Deering No. 1 tractor spring-tooth harrow.

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McCormick-Deering Tractor Harrows

Illustr. 10—McCormick-Deering No. 2, 28-tooth tractor spring-tooth harrow. Cutting width is 11 ft. 10 in.

Illustr. 11—McCormick-Deering No. 2, 37-tooth tractor spring-tooth harrow. Cutting width is 16 ft. 3 in.

McCormick-Deering Combination Harrows

The combination harrow has the full equipment of spring teeth, and in addition a row of trailing teeth which assist materially in crushing the lumps which the spring teeth rake to the surface. Where an exceptionally good job of pulverization is desired without packing, the combination harrow is an ideal tool.

Illustr. 12—McCormick-Deering 16-tooth, two-section combination harrow.

Regular Equipment
Channel steel tooth bars. Single point teeth. Drawbars with two, three and four-section harrows.

Extra Equipment
Double-point reversible, alfalfa and quack-grass teeth. Riding sulky.

Specifications

<table>
<thead>
<tr>
<th>No. Teeth</th>
<th>No. Sections</th>
<th>Width</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>1</td>
<td>2 ft. 6 in.</td>
<td>120 lb.</td>
</tr>
<tr>
<td>16</td>
<td>2</td>
<td>5 ft. 6 in.</td>
<td>257 lb.</td>
</tr>
<tr>
<td>24</td>
<td>3</td>
<td>8 ft. 5 in.</td>
<td>395 lb.</td>
</tr>
<tr>
<td>32</td>
<td>4</td>
<td>11 ft.</td>
<td>537 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering open and closed-end harrows have tooth bars made of heavy U-bar steel. The open-end harrows have three strengthening bars to each section which so distribute the strain of work that when a single tooth strikes a stone the tooth bar will not bend nor break because the strain is thrown on the entire harrow. This makes the harrow very rigid and increases its effectiveness.

The closed-end harrow is similar to the open-end but the outside cross bars are at the end of the tooth bars and serve as guards to prevent the ends of the tooth bars from damaging trees when working in orchards.

The corner teeth on these harrows have runner extensions which carry the harrow off the ground when transporting.

Each section has a lever which regulates the angle of the teeth with relation to the ground.

Regular Equipment
Diamond teeth, ¾ x ¾ in. Drawbars for all harrows two-section and over. Channel tooth bars.

Extra Equipment
Harrow cart. Orchard guards for open-end harrows.

Specifications

<table>
<thead>
<tr>
<th>No. Sections</th>
<th>Open End</th>
<th>Closed End</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Width</td>
<td>Weight</td>
</tr>
<tr>
<td>1</td>
<td>4 ft. 1 in.</td>
<td>86 lb.</td>
</tr>
<tr>
<td>1</td>
<td>4 ft. 1 in.</td>
<td>97 lb.</td>
</tr>
<tr>
<td>1</td>
<td>5 ft. 10 in.</td>
<td>109 lb.</td>
</tr>
<tr>
<td>1</td>
<td>5 ft. 0 in.</td>
<td>105 lb.</td>
</tr>
<tr>
<td>2</td>
<td>8 ft. 3 in.</td>
<td>192 lb.</td>
</tr>
<tr>
<td>2</td>
<td>9 ft. 11 in.</td>
<td>218 lb.</td>
</tr>
<tr>
<td>2</td>
<td>11 ft. 9 in.</td>
<td>244 lb.</td>
</tr>
<tr>
<td>2</td>
<td>10 ft. 1 in.</td>
<td>237 lb.</td>
</tr>
<tr>
<td>3</td>
<td>12 ft. 6 in.</td>
<td>301 lb.</td>
</tr>
<tr>
<td>3</td>
<td>15 ft. 0 in.</td>
<td>347 lb.</td>
</tr>
<tr>
<td>3</td>
<td>17 ft. 10 in.</td>
<td>392 lb.</td>
</tr>
<tr>
<td>3</td>
<td>15 ft. 2 in.</td>
<td>370 lb.</td>
</tr>
<tr>
<td>4</td>
<td>16 ft. 8 in.</td>
<td>407 lb.</td>
</tr>
<tr>
<td>4</td>
<td>20 ft. 3 in.</td>
<td>467 lb.</td>
</tr>
<tr>
<td>4</td>
<td>23 ft. 9 in.</td>
<td>525 lb.</td>
</tr>
<tr>
<td>4</td>
<td>20 ft. 5 in.</td>
<td>514 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Peg-Tooth Harrows

Illustr. 4—McCormick-Deering Flexible Peg-Tooth Harrow.

Flexible Pipe-Bar Harrows
The flexible pipe-bar harrow is especially suited to stony ground, where its flexibility permits it to ride over stones without damage. This is also a splendid harrow for ground that is littered with cornstalks or other trash. Each section is made up with heavy round tooth bars, flexibly linked together. When desired, the drawbar of this harrow can be hitched to the rear. This puts the teeth in a very nearly perpendicular working position that often is a big help in doing good work in hard soil.

Equipment
Regular equipment includes diamond teeth, 9/16 x 3/8 in. and drawbars with harrows, two-section and over. A harrow cart can be obtained on special order.

Specifications

<table>
<thead>
<tr>
<th>No. Sections</th>
<th>No. Teeth</th>
<th>Width</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>40</td>
<td>4 ft. 11 in.</td>
<td>75 lb.</td>
</tr>
<tr>
<td>2</td>
<td>80</td>
<td>9 ft. 11 in.</td>
<td>173 lb.</td>
</tr>
<tr>
<td>3</td>
<td>120</td>
<td>14 ft. 10 in.</td>
<td>274 lb.</td>
</tr>
<tr>
<td>4</td>
<td>160</td>
<td>19 ft. 11 in.</td>
<td>380 lb.</td>
</tr>
<tr>
<td>5</td>
<td>200</td>
<td>24 ft. 11 in.</td>
<td>483 lb.</td>
</tr>
<tr>
<td>6</td>
<td>240</td>
<td>29 ft. 11 in.</td>
<td>575 lb.</td>
</tr>
</tbody>
</table>

New Southern Harrows
The New Southern harrow is similar to the closed-end harrow shown on the preceding page but somewhat lighter. For a low priced yet serviceable and efficient harrow, the New Southern will meet all requirements.

Regular Equipment
Diamond teeth, 9/16 x 3/8 in. Drawbars with harrows, two-section and over.

Extra Equipment
Harrow cart.

Specifications

<table>
<thead>
<tr>
<th>No. Sections</th>
<th>No. Teeth</th>
<th>Width</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>25</td>
<td>3 ft. 4 in.</td>
<td>83 lb.</td>
</tr>
<tr>
<td>2</td>
<td>30</td>
<td>4 ft. 4 in.</td>
<td>91 lb.</td>
</tr>
<tr>
<td>1</td>
<td>50</td>
<td>6 ft. 9 in.</td>
<td>189 lb.</td>
</tr>
<tr>
<td>2</td>
<td>60</td>
<td>9 ft. 4 in.</td>
<td>208 lb.</td>
</tr>
<tr>
<td>3</td>
<td>75</td>
<td>10 ft. 1 in.</td>
<td>299 lb.</td>
</tr>
<tr>
<td>3</td>
<td>90</td>
<td>13 ft. 5 in.</td>
<td>326 lb.</td>
</tr>
</tbody>
</table>

Illustr. 5—New Southern Peg-Tooth Harrow.

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McCormick-Deering Peg-Tooth Harrows

Illustr. 6—The McCormick-Deering two-section Wood-Bar Lever Harrow.

Wood-Bar Harrow
The McCormick-Deering wood-bar harrow is popular wherever a high degree of pulverization is desired, and where weight is one of the requirements to secure pulverization. The tooth bars are of heavy, square, well-seasoned lumber. The teeth are \( \frac{7}{8} \) in. square, 9 in. long and set in the tooth bars \( 7\frac{3}{2} \) in. apart. This is \( 2\frac{3}{4} \) in. closer than the teeth are spaced on the average lever harrow. A rivet through the tooth bar at every tooth prevents the bars from splitting. The tooth bars are bound into a rigid whole by steel bars at the ends. Each section has a lever for adjusting the slant of the teeth.

Regular Equipment
Square teeth, \( \frac{7}{8} \) in. Drawbars furnished with harrows of two or more sections.

Extra Equipment
Harrow cart.

Specifications
<table>
<thead>
<tr>
<th>No. Sections</th>
<th>No. Teeth</th>
<th>Width</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>41</td>
<td>4 ft. 9 in.</td>
<td>105 lb.</td>
</tr>
<tr>
<td>2</td>
<td>82</td>
<td>10 ft. 1 in.</td>
<td>237 lb.</td>
</tr>
<tr>
<td>3</td>
<td>123</td>
<td>15 ft. 5 in.</td>
<td>371 lb.</td>
</tr>
<tr>
<td>4</td>
<td>164</td>
<td>20 ft. 11 in.</td>
<td>515 lb.</td>
</tr>
</tbody>
</table>

McCormick-Deering Harrow Cart

Illustr. 7—This McCormick-Deering harrow cart takes the drudgery out of harrowing.

No man who has tramped all day back and forth across a plowed field behind a peg-tooth harrow can fail to appreciate the McCormick-Deering harrow cart. It is light in construction and its high wheels add very little to the draft of the harrow. It can be hitched to any harrow with a wood drawbar. It is so balanced that practically no additional weight is thrown on the harrow drawbar.

Specifications
<table>
<thead>
<tr>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>McCormick-Deering Harrow Cart</td>
<td>122 lb.</td>
</tr>
</tbody>
</table>
The field cultivator has made a remarkable place for itself as a summer-fallow cultivator and weed killer. For the eradication of quack- and Johnson-grass, it is probably without an equal. In summer-fallow it keeps the weeds down, keeps the soil open so it will hold the rainfall, and maintains a surface mulch which prevents evaporation. The usual equipment for summer-fallow cultivation is with stiff-tooth gangs. The equipment for killing quack-grass is with spring-tooth gangs and special quack-grass teeth. The cultivator as equipped for quack-grass has also gained wide use for the cultivation and renovation of alfalfa. Alfalfa growers who have used it say it is unsurpassed—that increased yields always follow its use. Such weeds as ragweed, smart-weed, mustard, wild oats, crab grass, wild lettuce, wild carrots, bull weeds, bull nettle, milkweed, thistle, etc., are easily controllable with the field cultivator.

**Regular Equipment**

Stiff or spring teeth. 10-in. sweeps on stiff-tooth cultivators. 2½-in. reversible points on spring-tooth cultivators. Power lift on 12-ft. cultivators.

**Extra Equipment**

Power lift and tractor hitch attachments for 6-, 7½-, and 9-foot cultivators. 3-, 4-, and 6-horse eveners, also 4- and 6-horse pulley hitches. Forecarriage for all horse-drawn sizes. Spring-tooth attachments for stiff-tooth cultivators, or stiff for spring tooth. Tongue and set-over irons. Depth regulator for all sizes.

**Specifications**

<table>
<thead>
<tr>
<th>Size</th>
<th>Description</th>
<th>No. Teeth</th>
<th>Diam. Wheels</th>
<th>Hitch</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 ft.</td>
<td>Stiff tooth field cultivator</td>
<td>9</td>
<td>50 in.</td>
<td>3-horse</td>
<td>762 lb.</td>
</tr>
<tr>
<td>7½ ft.</td>
<td>Stiff tooth field cultivator</td>
<td>11</td>
<td>50 in.</td>
<td>4-horse</td>
<td>924 lb.</td>
</tr>
<tr>
<td>9 ft.</td>
<td>Stiff tooth field cultivator</td>
<td>13</td>
<td>48 in.</td>
<td>6-horse</td>
<td>1189 lb.</td>
</tr>
<tr>
<td>12 ft.</td>
<td>Stiff tooth field cultivator</td>
<td>17</td>
<td>48 in.</td>
<td>Tractor</td>
<td>1465 lb.</td>
</tr>
<tr>
<td>6 ft.</td>
<td>Spring-tooth field cultivator</td>
<td>12</td>
<td>50 in.</td>
<td>3-horse</td>
<td>689 lb.</td>
</tr>
<tr>
<td>7½ ft.</td>
<td>Spring-tooth field cultivator</td>
<td>15</td>
<td>50 in.</td>
<td>4-horse</td>
<td>810 lb.</td>
</tr>
<tr>
<td>9 ft.</td>
<td>Spring-tooth field cultivator</td>
<td>18</td>
<td>48 in.</td>
<td>6-horse</td>
<td>1075 lb.</td>
</tr>
<tr>
<td>12 ft.</td>
<td>Spring-tooth field cultivator</td>
<td>24</td>
<td>48 in.</td>
<td>Tractor</td>
<td>1328 lb.</td>
</tr>
</tbody>
</table>

Illust. 1—The McCormick-Deering 9-ft. Field Cultivator with eleven stiff teeth. Thirteen teeth are regularly furnished on this size.

Illust. 2—Special quack-grass point.
Stiff-tooth gangs are equipped with springs which permit them to trip and prevent breakage if immovable obstacles are encountered. The spring teeth are of course their own protection.

Shovels and Points

The points shown below are available for McCormick-Deering field cultivators. F-14156 is a 1 3/4-inch reversible point for general tillage and weed eradication, recommended for exceptionally hard soil. FA-14157 is a 3/4-inch point, recommended for pulling quack-grass. F-14280 is used for general tillage. F-14154 is popular for preparing seed beds on fall-plowed land. F-14155 is a general tillage point. F-14281 is used extensively in summer-fallowing and similar work in soft ground. F-14159 is a thistle point.

F-11056 is a general tillage point—a good weed killer where a wider point offers too much resistance. F-11068 is used for general tillage and weed killing where the soil is not too hard. F-12730, 12731, and 12529 are 10, 12, and 14-inch sweeps or duck feet, great weed killers for summer-fallowland, sometimes used in combination with narrower points. F-15561 and F-16280 are special quack-grass points. F-16280 is a new point especially popular for quack-grass eradication. It has a long curved face similar to 15561, but the point is rounded similarly to the point of FA-14157. This point tears the roots out without cutting them, leaving them on top where they can be raked and burned.
McCormick-Deering Rod Weeder

The rod weeder was developed in Western Canada where it has acquired a wide reputation as a weeder. There is quite a demand for this implement on the large farms in the Northwest and even farther south where summer-fallowing is practiced and where large acreages are to be covered. Its width makes it a great cost reducer.

The weeding element is a long rod which passes through five subsoil points which penetrate the ground and drag the rod just a little way under the surface. The rod catches the weeds and pulls them out by the roots. By means of power supplied by one of the wheels, the weeder rod is caused to revolve slowly (about 1½ revolutions for each revolution of the wheel). This prevents the weeds from gathering on the rod.

It is not claimed that the rod weeder will supersede the cultivator or disk harrow or that it will work satisfactorily in hard ground, but for summer-fallow it is a valuable supplement to the other tools used.

Regular Equipment

As shown in table. Wheels, 25-in. diameter, 3-in. rim.

Extra Equipment

Wheels, 32-in. diameter, 4-in. rim, instead of regular wheels, at slight additional cost. These wheels will take 10-20 tractor spade lugs.

Specifications

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-ft. rod weeder, round rod, screw depth regulator, forecarriage and seat</td>
<td>862 lb.</td>
</tr>
<tr>
<td>9-ft. rod weeder, round rod, screw depth regulator and tractor hitch</td>
<td>772 lb.</td>
</tr>
<tr>
<td>12-ft. rod weeder, round rod, depth regulator, forecarriage and seat</td>
<td>1013 lb.</td>
</tr>
<tr>
<td>12-ft. rod weeder, round rod, depth regulator and tractor hitch</td>
<td>903 lb.</td>
</tr>
<tr>
<td>12-ft. rod weeder, square rod, draft board and clevises</td>
<td>770 lb.</td>
</tr>
<tr>
<td>18-ft. duplex rod weeder, round rod, depth regulator and tractor hitch</td>
<td>1814 lb.</td>
</tr>
<tr>
<td>Forecarriage and seat as an extra</td>
<td>145 lb.</td>
</tr>
<tr>
<td>Tractor hitch as an extra</td>
<td>24 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Double-Gang Soil Pulverizers

More Than a Land Roller

The double-gang soil pulverizer is much more than a mere clod crusher. It packs loose soil, flattens out air spaces, reduces soil blowing, prevents winter killing, and cultivates wheat, alfalfa, or other crops. It can be used for many different tasks and is a machine that is becoming popular with farmers everywhere. It repays its cost in the seed it will save if used immediately after the grain drill or seeder.

For Row-Crop Cultivation

For straddling corn and other row crops the quick-detachable end brackets permit the outside wheels to be removed and the remaining wheels spread and held apart by axle clamps supplied on special order for that purpose, to leave a center gap for the rows.

Reversible Wood Bushings

Like McCormick-Deering disk harrows, the bushings of the soil pulverizer can be reversed as they wear. They are made of hard wood and will last a long time. The four bearings are so made that they are as near oil-tight and dust-proof as it is possible to secure. Hard oilers are provided on each bearing.

Distribution of Weight

The gangs are yoked closely together and attached to the end brackets by pivoted connections. In its normal location, two-thirds of the weight of the entire machine, and of any weight added on top of the frame, is carried by the front wheels and one-third by the rear wheels. This is the weight the wheels should carry in proportion to their diameters for the best work under average conditions. Adjustment is provided for shifting weight more to the front if conditions require it.

Regular Equipment

Steel stub pole. Equipped with forecarriage or with tractor hitch, or with long pole, as ordered. Seat supplied with horse hitch when specified.

Extra Equipment

Tractor hitch. Forecarriage. Pole. No. 201 extension gang. Orchard attachment comprising two pairs of additional wheels with parts for attaching a pair to each end. Spacer collars for use when center wheels are removed for straddling row crops.

Specifications

<table>
<thead>
<tr>
<th>Number of Machine</th>
<th>Length Over All</th>
<th>Actual Rolling Capacity</th>
<th>Diameter of Wheels</th>
<th>Number of Wheels</th>
<th>Approximate Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>49-2-5</td>
<td>64 in.</td>
<td>51 in.</td>
<td>15 in. 12 in.</td>
<td>25</td>
<td>678 lb.</td>
</tr>
<tr>
<td>49-4-5</td>
<td>75 in.</td>
<td>62 in.</td>
<td>15 in. 12 in.</td>
<td>31</td>
<td>797 lb.</td>
</tr>
<tr>
<td>50</td>
<td>86 in.</td>
<td>73 in.</td>
<td>15 in. 12 in.</td>
<td>37</td>
<td>920 lb.</td>
</tr>
<tr>
<td>52</td>
<td>98 in.</td>
<td>85 in.</td>
<td>15 in. 12 in.</td>
<td>43</td>
<td>1037 lb.</td>
</tr>
<tr>
<td>56</td>
<td>110 in.</td>
<td>97 in.</td>
<td>15 in. 12 in.</td>
<td>49</td>
<td>1160 lb.</td>
</tr>
<tr>
<td>58</td>
<td>126 in.</td>
<td>114 in.</td>
<td>15 in. 12 in.</td>
<td>56</td>
<td>1346 lb.</td>
</tr>
<tr>
<td>60</td>
<td>134 in.</td>
<td>121 in.</td>
<td>15 in. 12 in.</td>
<td>60</td>
<td>1414 lb.</td>
</tr>
<tr>
<td>201, Extension</td>
<td>128 in.</td>
<td>100 in.</td>
<td>15 in. 12 in.</td>
<td>50</td>
<td>1032 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering Soil Pulverizers

Illustr. 2—McCormick-Deering double-gang Soil Pulverizer with forecarriage, seat, and extension gang attachment No. 201. The extension gangs are sold only in pairs and have a total rolling width of 100 inches. Single, instead of double extension gangs, also sold in pairs, have the same rolling width and are style No. 101.

One-Horse Double-Gang Soil Pulverizer

The No. 49½ soil pulverizer is adapted to small farms or truck gardens where one horse is used. It is fitted with movable thills, which can be shifted to one side, or thrown together, making a pole for two horses. Front wheels are 15 inches in diameter, rear wheels 12 inches. This one-horse pulverizer is used extensively throughout the Southern states where horseflesh is at a premium.

Regular Equipment
Combined pole and shafts.

Specifications

<table>
<thead>
<tr>
<th>Number of Machine</th>
<th>Length Overall</th>
<th>Rolling Capacity</th>
<th>Diam. Wheels</th>
<th>Number of Wheels</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>49½</td>
<td>54 in.</td>
<td>39 in.</td>
<td>15 in.</td>
<td>12 in.</td>
<td>19</td>
</tr>
</tbody>
</table>

Illustr. 3—The double-gang Pulverizer in one-horse size. This is a great favorite among the Southern farmers who use one-horse tools.

Single-Gang Soil Pulverizers

Five Sizes

Single-gang pulverizers are constructed of just as high-grade material and put together in just as workmanlike way as the double gang, but we do not want to give the impression that the single-gang pulverizers are equal to the double gang in the quality of the work they will do. They are made in five sizes as listed in the specifications.

Regular Equipment
Steel stub tongue with pole or tractor hitch as ordered.

Extra Equipment
Forecarriage. No. 101 extension gangs.

Specifications

<table>
<thead>
<tr>
<th>Number of Machine</th>
<th>Length Overall</th>
<th>Actual Rolling Capacity</th>
<th>Diameter Wheels</th>
<th>Number of Wheels</th>
<th>Approximate Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>60 in.</td>
<td>48 in.</td>
<td>18 in.</td>
<td>12</td>
<td>545 lb.</td>
</tr>
<tr>
<td>26</td>
<td>84 in.</td>
<td>72 in.</td>
<td>18 in.</td>
<td>19</td>
<td>785 lb.</td>
</tr>
<tr>
<td>27</td>
<td>97 in.</td>
<td>83 in.</td>
<td>18 in.</td>
<td>22</td>
<td>895 lb.</td>
</tr>
<tr>
<td>28</td>
<td>109 in.</td>
<td>96 in.</td>
<td>18 in.</td>
<td>25</td>
<td>1000 lb.</td>
</tr>
<tr>
<td>30</td>
<td>136 in.</td>
<td>116 in.</td>
<td>18 in.</td>
<td>30</td>
<td>1180 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
The Young Crop Cultivator

The rotary hoe is probably the greatest contribution made to tillage equipment since the disk harrow. It has revolutionized the cultivation of corn, soybeans, mint, and other crops. It cultivates right in around the young and tender plants before any other type of implement can be used. As a crust breaker and for blind cultivation it has no equal. In addition to the above mentioned crops, it has been used with success in cotton, peanuts, winter wheat, oats, and for working in clover seed, lime, etc.

A Fast Worker

A boy with a 2-row rotary hoe can cover from 16 to 20 acres a day. Two hoes pulled by a Farmall tractor will cover better than 40 acres a day. Under favorable conditions the Farmall will pull three rotary hoes and cover between 60 and 70 acres a day, which is just about the limit in speedy cultivation.

Notice that on the new McCormick-Deering rotary hoe the levers are located near the center of the machine where the operator can reach them easily from the seat.

Regular Equipment

Extra long evener (POWE-46) and neckyoke to work horses with two crop rows between them. Tongue. Transport wheels.

Extra Equipment

Tongue truck. POWE9 3-horse evener and neckyoke for No. 5-A rotary hoe when equipped with tongue truck. No. 3 grass seed attachment for No. 5-A hoe with pole and 2-horse hitch. No. 4 grass seed hitch for No. 5-A with tongue truck. POTH-73 Farmall hitch for pulling two 2-row hoes. POTH-74 Farmall hitch for pulling three 2-row hoes. (See "Tractor Hitches."). A hitch can also be supplied for pulling three 2-row hoes with horses. (Takes POWE-52 5-horse evener.) Wheels with 6-inch rims.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-A</td>
<td>2-row Rotary Hoe, regular equipment</td>
<td>785 lb</td>
</tr>
<tr>
<td>5-A</td>
<td>2-row Rotary Hoe with tongue truck, 2-horse evener, and neckyoke</td>
<td>880 lb</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering Three-Row Rotary Hoe

No. 6

Cultivates Three Rows at a Time

The great merit of the rotary hoe has been so impressively demonstrated that there has resulted a wide demand for a 3-row hoe. At first it might seem that all that was necessary was to build the 2-row hoe wider, but an implement 10½ feet wide must be built on a different principle. It must be flexible so that the wheels can follow the contour of the ground. In developing the McCormick-Deering 3-row hoe, this principle was kept in mind with the result that you see in the accompanying illustrations.

Built in Three Sections

The McCormick-Deering No. 6 rotary hoe is built in three sections, the center and smaller section being set ahead, where it not only adds to the ability of the hoe to follow the surface of the ground but serves as a tongue truck. The two rear sections are hinged at the center so that each section is free to follow the surface of the ground independently of the other. Furthermore, the rear sections can be set in or out to adapt the implement to different widths of rows. All the essential features of the 2-row rotary hoe are retained in the 3-row.

Equipment

Pole, 4-horse hitch and neckyoke are regular equipment. Tractor hitch ZMA108 for use with 10-20 and 15-30 tractors can be obtained on special order.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>3-row Rotary Hoe</td>
<td>1665 lb</td>
</tr>
</tbody>
</table>

Illustr. 8—The McCormick-Deering No. 6 3-row Rotary Hoe.

Illustr. 8A—A side view of the No. 6 3-row Rotary Hoe. Note that the front section obviates the necessity of using a tongue truck.

Feb. 1935
Moisture is the grain grower's most valuable asset, and it is important that as much of it as possible be saved and retained. Freshly tilled ground loses its moisture very rapidly unless the air spaces between furrow slices are closed up. Simply to roll this land, however, often is impractical, particularly in districts where the soil is loose and likely to blow. Crushing what few lumps of soil there are in such districts simply makes a bad condition worse.

**Reduces Soil Blowing**

Just the opposite is true when McCormick-Deering land packers are used. Every projection that enters the soil is wedge-shaped. The inner rim of the wheel itself is wedge-shaped. This enables the wheel to penetrate to a sufficient depth to pack and press the subsoil without packing the surface. The subsoil is packed and pressed in all directions, and the air spaces are removed. And as the wheel leaves the soil the lugs act as spades in tossing to the surface small lumps of earth which dry in the form of little clods. When scattered throughout the field, these little clods act as a very effective barrier to the action of the wind. McCormick-Deering land packers materially reduce the danger of soil blowing.

**Light Draft**

McCormick-Deering land packers roll so easily that their draft amounts to little. The packer wheels are mounted on a long shaft of cold-rolled steel 1 3/4 inches in diameter. Each wheel can turn individually. Practically the only friction is at the ends of the shaft, and these are roller bearings, each 6 inches long and as nearly dustproof as possible.

**Regular Equipment**

Weight box. Choice of tractor hitch for all sizes except the 9-foot, or horse hitch and forecarriage. Forecarriage has wheels with channel steel rims, long hubs, and an adjustable clevis.

**Extra Equipment**

V-wheels instead of lugged wheels. V-wheels usually are preferred for use in sticky or moist soil.

**Specifications**

<table>
<thead>
<tr>
<th>Size</th>
<th>Description</th>
<th>No. of Wheels</th>
<th>Horse Hitch</th>
<th>Approximate Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>With Horse Hitch</td>
</tr>
<tr>
<td>9-ft.</td>
<td>Single section</td>
<td>18</td>
<td>2-horse</td>
<td>1538 lb.</td>
</tr>
<tr>
<td>15-ft.</td>
<td>Three section</td>
<td>30</td>
<td>4-horse</td>
<td>2312 lb.</td>
</tr>
<tr>
<td>17-ft.</td>
<td>Three section</td>
<td>34</td>
<td>4-horse</td>
<td>2550 lb.</td>
</tr>
<tr>
<td>19-ft.</td>
<td>Three section</td>
<td>38</td>
<td>6-horse</td>
<td>2835 lb.</td>
</tr>
</tbody>
</table>

* Choice of tractor hitch or horse hitch, and forecarriage.

Feb. 1935
Two Jobs in One Operation
Packing the field immediately behind the plow always has been recognized as the best way to control evaporation and retain the moisture in the soil. These two important jobs can be done at once by attaching a two, three, or four-furrow packer to the rear of the plow. So much of value is accomplished that the small investment in the packer itself is repaid many times over. The air spaces between the furrow slices are flattened out, making a solid seed bed, and the evaporation of water from the freshly-turned earth is reduced materially.

Offsets Soil Drifting
McCormick-Deering packers should not be confused with packers which crush the surface lumps. The rim and lugs of the wheel are wedge-shaped, with the sharp edge down. This permits them to penetrate the surface, compressing the soil not only downward but outward in all directions. As the lugs leave the ground they kick out on top a small lump of compressed earth which hardens and forms small clods that tend to reduce the danger of soil drifting.

Well Made—Light Draft
The packer wheels turn individually on a high-grade steel shaft. When the outfit is moving forward in a straight line, the shaft and all wheels turn together in the bearings which are lubricated by extra large hard oil cups. A built-in angle steel weight box can be loaded with extra weight if necessary. End brackets are large and strong enough to hold the wheels in alignment at all times.

Regular Equipment
Weight box. Lug wheels.

Extra Equipment
V-wheels.

Specifications

<table>
<thead>
<tr>
<th>No. of Wheels</th>
<th>Packing Width</th>
<th>Size of Plow Used Behind</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>36 in.</td>
<td>2-furrow</td>
</tr>
<tr>
<td>8</td>
<td>48 in.</td>
<td>3-furrow 14 in. or 4-furrow 10-in. or 12-in.</td>
</tr>
<tr>
<td>10</td>
<td>60 in.</td>
<td>4-furrow 14-in.</td>
</tr>
</tbody>
</table>
McCormick-Deering Stalk Cutters

McCormick-Deering
Single Row

The McCormick-Deering single-row stalk cutter is a sturdy machine that will do good work under varying cutting conditions.

The main frame and cylinder frame are separate. Strong compression springs give the knives a quick, snappy stroke that assures effective cutting. The springs also prevent the vibration of the cylinder from being transmitted to the operator.

The hitch is cushioned by a spring which prevents the vibration of the machine from annoying the horses.

The operator is protected from the knives and flying stalks by a heavy, sheet-iron shield.

The knives are made of high-grade steel, double-edged, and tempered in oil. A two-tined fork, operated by a foot lever, enables the operator to straighten the stalks so that the knives hit them squarely.

McCormick-Deering Two-Row

The McCormick-Deering two-row stalk cutter is very similar to the McCormick-Deering one-row. There is a separate cutting cylinder for each row and each cylinder has its own angle steel frame and control lever.

Regular Equipment


Specifications

<table>
<thead>
<tr>
<th>No. Knives</th>
<th>Description</th>
<th>Length Cut</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Single-row stalk cutter</td>
<td>10½ in.</td>
<td>454 lb.</td>
</tr>
<tr>
<td>9</td>
<td>Single-row stalk cutter</td>
<td>8½ in.</td>
<td>487 lb.</td>
</tr>
<tr>
<td>14</td>
<td>Two-row stalk cutter</td>
<td>10½ in.</td>
<td>867 lb.</td>
</tr>
</tbody>
</table>

Illust. 1—McCormick-Deering single-row Stalk Cutter.

Illust. 2—The McCormick-Deering two-row Stalk Cutter.
McCormick-Deering potato planters can be supplied in both one and two-row sizes, and either with or without fertilizer attachments. The two-row planter is especially suited to use behind a tractor. They possess several features new to potato planter construction which entitle them to special consideration among implements of their class. They will handle cut and small whole seed with a remarkable degree of accuracy, and have made a splendid record wherever they have gone.

**Regular Equipment**
For one-row, any two of the spacing sprockets shown under "Extra Equipment." For the two-row, any two pair of spacing sprockets. Disk coverers. Spring markers. Lever furrow opener adjusters.

**Extra Equipment**
Sprockets for 7, 9, 11, 13, 15, 17, or 20-in. spacing. Fertilizer attachments. Fertilizer agitator. Tongue truck wheel (should always be ordered when fertilizer attachment is to be used with horses on two-row planter). Single disk coulter attachment (order pair for two-row; coulter attachment cannot be used on fertilizer planters). 2-horse evener or tractor hitch for one-row planter. 3 or 4-horse hitch or tractor hitch for two-row planters. Detachable lugs for two-row. Springtooth covering device. Wheel scrapers.

---

**Specifications**

<table>
<thead>
<tr>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>McCormick-Deering one-row potato planter</td>
<td>674 lb.</td>
</tr>
<tr>
<td>McCormick-Deering one-row potato planter with fertilizer attachment and tongue truck wheel</td>
<td>916 lb.</td>
</tr>
<tr>
<td>McCormick-Deering two-row planter</td>
<td>1302 lb.</td>
</tr>
<tr>
<td>McCormick-Deering two-row potato planter with fertilizer attachment and tongue truck wheel</td>
<td>1786 lb.</td>
</tr>
<tr>
<td>Single disk coulter attachment for plain planter only, each</td>
<td>20 lb.</td>
</tr>
<tr>
<td>Three-horse hitch, 2 poles</td>
<td>161 lb.</td>
</tr>
<tr>
<td>Four-horse hitch, 1 pole</td>
<td>90 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering Potato Planters

Adjustable Width

The two-row planter is adjustable for 32, 34, 36, or 38-in. rows. On special order, parts can be obtained for planting rows 40 and 42 in. wide.

Illustr. 3—A rear view of the McCormick-Deering two-row Potato Planter. The marker is regular equipment.

Sight Feed

The seed hopper holds about three bushels. The hopper is located directly above the seed chamber and the flow of the seed from the hopper to the seed chamber is by the shortest route possible. The top of the seed chamber is open so that the operator can always see the pickers and be sure that everything is working properly. The corrugated feed wheel working automatically in relation to the level of the seed in the seed chamber assures a uniform supply of seed as needed.

The furrow opener and covering disks are both lowered or raised at once by a single lever, and the planting mechanism is started or stopped at the same time. A foot throw-out (one of the new features) enables the operator to stop the seed mechanism and leave the coverers down until the last seed is covered. Pressure springs hold the covering disks to their work.

Short-Coupled, Compact, Durable

McCormick-Deering potato planters are short-coupled, which is desirable, particularly on the horse planters, since the team is placed close to the load. The compact construction of these planters and their nice balance on the wheels assure long wear, easy handling, and satisfactory service. Alemite oils are provided on all important bearings.

Illustr. 4—The frame, with fertilizer and seed furrow openers and covering disks shown in their relation to each other and to the soil. The fertilizer disks make two furrows, leaving a ridge between, and the fertilizer is deposited in these furrows. The seed furrow opener splits the ridges between the two furrows and shoves the soil sidewise to cover the fertilizer. After the seed is deposited the covering disks throw a ridge of loose soil over the seed, as shown, and the seed is left where, as the roots start to grow, the fertilizer may be readily available. Each fertilizer hopper holds about 300 lb. From 300 to 3000 lb. can be distributed to the acre. On special order, equipment is available for distributing as little as 100 to 150 lb. to the acre, depending on row widths and the condition of the fertilizer.

Note that fertilizer does not come in contact with the seed.

Feb. 1935
McCormick-Deering Corn Planters and Drills
Nos. 102, 104, 106

Illustr. 1—No. 102 two-row Corn Planter with open tire wheels. Planter is furnished with checkrow equipment which includes side reel, eighty rods of check wire and two steel stakes. The reel can be used on either side of the planter.

The McCormick-Deering “100 Series” planters and drills have more than twenty years of actual planter building experience behind them. They combine the good features of our previous planters with new and distinctive McCormick-Deering features of construction.

You can depend upon McCormick-Deering planters to put the seed in the ground as much or as little as you want to plant, and accurately spaced whether checked or drilled.

Variable Drop, Hill or Drill
The simplicity of the variable drop device is remarkable. The driving pinion has three sets of teeth. A conveniently located foot lever enables the operator to change to two, three, or four kernels to the hill when checkrow planting, or to select either of three drilling distances when drilling. Checkrow planters can be changed instantly to drill when desired. The variable drop feature is just as desirable on drills as on checkrow planters; and this feature is the same on both drills and planters.

Tongue Truck
McCormick-Deering “100 Series” planters can be supplied as tongue truck planters, or the tongue truck can be supplied as an attachment for planters already in the field. When ordered as tongue truck planters, the regular pole and connections are omitted.

Regular Equipment
An assortment of corn plates covering all usual requirements. Flat-drop, edge-drop, or full-hill-drop plates as ordered (interchangeable). Checkrow planters are equipped with 80 rods of check wire, reel, and stakes. Automatic markers. Runner, stub-runner, single-disk or double-disk furrow openers as ordered. Open or closed wheels as ordered. Built-in power-hill-drop feature. Shipped set 3 ft. 6 in.

Extra Equipment
Plates for peas, beans, Kafir corn, milo maize, etc. Special corn plates. Twin disk markers instead of automatic. Pea and bean attachment. Fertilizer attachment with either the delayed delivery or the split-row type of discharge boot. Two-horse hitch. No. 7, 11-in. disk furrowing attachment. No. 8, 13-in. disk furrowing attachment; see page on “Two-row Corn Planter Attachments.” No. 4 gauge shoes. No. 6 blade furrowing attachments. 40 and 45-tooth drive sprockets. Runner extension attachment for use in connection with combination corn and pea hoppers. Tongue truck, Farmall and Farmall-12 hitch attachments.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>DESCRIPTION</th>
<th>ROW WIDTHS</th>
<th>DIAMETER</th>
<th>AVERAGE WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>102</td>
<td>Check row planter</td>
<td>28 to 48 in.</td>
<td>30 in.</td>
<td>547 lb.</td>
</tr>
<tr>
<td>104</td>
<td>Check row planter</td>
<td>38 to 48 in.</td>
<td>36 in.</td>
<td>601 lb.</td>
</tr>
<tr>
<td>106</td>
<td>Drill</td>
<td>28 to 48 in.</td>
<td>30 in.</td>
<td>440 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering Corn Planters and Drills
Nos. 102, 104, 106, Cont.

Seed Plate Always in Time

The feed shaft is keyed through the clutch and cannot change. The regular seed plates have sixteen cells, the ring gear has sixteen teeth, and the plate has sixteen slots for the driving pawls. This makes it impossible to get the seed cells out of time with the receiving valves in the upper ends of the boots, and assures the accumulation of the desired two, three, or four kernels for a hill before the valve opens.

Built-In Power Hill Drop

In order to use most planters for power-hill dropping or bunch-drop drilling it is necessary to order special equipment. McCormick-Deering "100 Series" planters have this feature built in, and it requires but a moment to change one of the members on the clutch so that the valves in the boots will be tripped once for each revolution of the feed shaft. This gives the McCormick-Deering planters a wider range of adjustments than is to be found on any other planter.

Automatic Check Heads

The check heads close automatically as the wire is stretched. The wire rollers are chilled and turn on machined steel studs, which greatly reduces friction and adds to the life of these parts. The check-head latch can be adjusted to take up wear. The square check-fork shaft permits attachment of parts with malleable iron clamps which can always be kept tight. A rod wire doffer is provided.

Fine Depth Adjustment

The raising lever is equipped with a special device which gives twice as fine adjustment of depth as can be obtained with the ordinary latch. The ratchet and lever are made entirely of steel.

Illust. 2—The McCormick-Deering No. 102 check-row Planter with double-disk furrow openers.

Illust. 2-A—Detail of clutch, showing the built-in automatic hill-drop feature. The dog, A, is in position to strike the roller, B, and, through the check-shaft arm and check shaft, open the valves in the boots. To change to check-row all that is necessary is to set the dog, A, in the position to miss the roller, as shown in phantom(C). When hill-drop drilling, the clutch revolves continuously.

Illust. 3—This illustration shows the twin disk markers which can be supplied for McCormick-Deering planters, in place of the regular markers, on special order.
Seven connections between the front and rear rails of the front frame give a rigidity which absolutely prevents the drive shaft, clutch and other working parts from getting out of alignment.

Improved Clutch
The clutch is simple and durable and absolutely sure in action. The bearings are extremely wide. The rollers are case-hardened and run on extra large, hard steel pins.

Flat, Edge or Hill-Drop Plates
The hoppers take either flat, edge, or full hill-drop plates—the purchaser may select the type best suited to his requirements. A wide range of plates for various seeds is available.

Easy to Reel or Unreel Checkwire
The reel is of the side-mounted type which makes it extremely easy to unreel or reel up the wire. There is nothing in the way of the wire on this type of reel. The friction of the planter wheel against the reel is utilized to reel up the wire and to hold the wire taut when unreeling.
Always a Hill in Reserve

The valve construction in the McCormick-Deering "100 Series" planters effectively prevents the mixing of hills. There is always a full hill accumulated and waiting when the upper valve opens. When the check fork is tripped the upper valve opens and the accumulated hill falls to the lower valve where it is held in waiting while another hill is accumulating at the top valve. When the lower valve opens the plunger ejects the hill, at the same time holding back the seed coming down for the next hill.

A big advantage of the plunger type valve action is that the kernels comprising a hill are planted in a compact hill—far enough apart to give each kernel room in which to grow, yet close enough together to form a hill that will be easy to cultivate.
The Fertilizer Attachment

The fertilizer mechanism is of an improved design, having a revolving bottom which carries the fertilizer against a little plow which diverts a stream of fertilizer into the discharge channel. The quantity is regulated by setting the hopper up or down. The fertilizer is deposited in the soil after the seed furrow has partially filled; that is, after the seed has been partially covered. On the drills a deflector cuts the fertilizer stream in two parts and deposits it in two continuous strips each side of the row.

Fertilizer attachments for checkrow planters may be equipped with either of two types of delivery, as ordered. One of these is the delayed valve type (see Illust. 10), which has been in use for several years and is quite satisfactory. It places the fertilizer on one side of the hill to prevent the fertilizer from coming in contact with the seed. The other is the Split-Row type.

The Split-Row Fertilizer Boot

The Split-Row fertilizer boot is the result of recent scientific research, and is designed to put the fertilizer as near to the seed as possible without coming into actual contact with it. The purpose, of course, is to secure the greatest possible benefit from the fertilizer. The Split-Row boot divides the fertilizer into two distinct streams, one on each side of the hill, and covers it. On checkrow planters the fertilizer is laid down ahead of and following the discharge of the corn. Covering blades can be supplied as attachments for use in very cloddy ground.
Seed Plates for McCormick-Deering "100 Series" Planters and Drills

The following table shows plates which can be furnished for "100 Series" planters. Any plate except "alternating" can be used for drilling. "E" denotes edge drop; "F" flat drop; and "H" full hill drop. Plates starred take no filler ring. Plates marked \( \dagger \) take 1902A filler ring. Plates marked \( \Delta \) take 3000A filler ring. All other flat drop plates take 1895A filler ring. "Alt." means alternating hills.

<table>
<thead>
<tr>
<th>KIND OF SEED</th>
<th>TYPE</th>
<th>NO.</th>
<th>Thickness Plate 16ths</th>
<th>PLATE NO. AND SIZE OF CELL IN 64ths INCH</th>
<th>KERNELS PER HILL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Small</td>
<td></td>
</tr>
<tr>
<td>Corn (1794A for Pinto and Early Red Valentine beans)</td>
<td>F</td>
<td>16</td>
<td>3</td>
<td>1794A 20 x 40</td>
<td></td>
</tr>
<tr>
<td>Blank</td>
<td>F</td>
<td>16</td>
<td>3</td>
<td>1852A 24 x 26 x 40</td>
<td></td>
</tr>
<tr>
<td>Pop corn</td>
<td>F</td>
<td>16</td>
<td>3</td>
<td>1853A 14 x 24</td>
<td>2, 3, or 4</td>
</tr>
<tr>
<td>Peas and beans (Colorado and Whippoorwill peas, small New Albany and Memphis black peas, common soybeans, navy beans)</td>
<td>F</td>
<td>16</td>
<td>3</td>
<td>1854A 18 x 24</td>
<td>2, 3, or 4</td>
</tr>
<tr>
<td>Short, flat corn</td>
<td>F</td>
<td>16</td>
<td>3</td>
<td>1855A 24 x 32</td>
<td>2, 3, or 4</td>
</tr>
<tr>
<td>Sweet corn</td>
<td>F</td>
<td>16</td>
<td>3</td>
<td>1856A 28 x 38</td>
<td>2, 3, or 4</td>
</tr>
<tr>
<td>Beans, large velvet</td>
<td>H</td>
<td>16</td>
<td>5</td>
<td>1888A 14 x 40</td>
<td>2, 3, or 4</td>
</tr>
<tr>
<td>Corn</td>
<td>H</td>
<td>8</td>
<td>3/4</td>
<td>*1891A 32 x 56</td>
<td>2, 3, or 4</td>
</tr>
<tr>
<td>Corn, special small</td>
<td>H</td>
<td>8</td>
<td>3/4</td>
<td>*1892A 38 Diam.</td>
<td>2, 3, or 4</td>
</tr>
<tr>
<td>Kafir (Small seeds, sweet corn, teosinte, broom corn, O-Too-San beans)</td>
<td>F</td>
<td>16</td>
<td>3</td>
<td>1901A 16 Diam.</td>
<td>2, 3, or 4</td>
</tr>
<tr>
<td>Melon, cucumber, San Paulo</td>
<td>F</td>
<td>16</td>
<td>3</td>
<td>1903A 10 x 32</td>
<td></td>
</tr>
<tr>
<td>Ensilage</td>
<td>E</td>
<td>29</td>
<td>5</td>
<td>1926A 18 x 40</td>
<td>2, 3, or 4</td>
</tr>
<tr>
<td>Round, flat corn (1938A for bush limas and Bird's Eye and Italian horse beans) (1928A for Spanish horse beans)</td>
<td>F</td>
<td>16</td>
<td>3</td>
<td>1938A 34 Diam.</td>
<td></td>
</tr>
<tr>
<td>Pea bean</td>
<td>F</td>
<td>32</td>
<td>3</td>
<td>1929A 20 x 26</td>
<td>2, 3, or 4</td>
</tr>
<tr>
<td>Beet seed</td>
<td>F</td>
<td>24</td>
<td>3</td>
<td>1930A 16 x 34</td>
<td>Drill only</td>
</tr>
<tr>
<td>Beans</td>
<td>F</td>
<td>24</td>
<td>3/4</td>
<td>1931A 20 x 38</td>
<td>Drill only</td>
</tr>
<tr>
<td>Corn</td>
<td>E</td>
<td>10</td>
<td>3/4</td>
<td>1970A 12 x 36</td>
<td>1 or 2</td>
</tr>
<tr>
<td>Corn, short, flat corn</td>
<td>E</td>
<td>8</td>
<td>3/4</td>
<td>1961A 12 x 36</td>
<td>1 or 2</td>
</tr>
<tr>
<td>Corn, short, flat corn</td>
<td>E</td>
<td>8</td>
<td>3</td>
<td>1962A 12 x 36</td>
<td>1 or 2</td>
</tr>
<tr>
<td>Round, flat corn</td>
<td>E</td>
<td>8</td>
<td>3/4</td>
<td>1963A 13 x 44</td>
<td>1 or 2</td>
</tr>
<tr>
<td>Sorghum, broom corn</td>
<td>F</td>
<td>16</td>
<td>3</td>
<td>1977A 12 x 34</td>
<td>1 or 2</td>
</tr>
<tr>
<td>Meadow, broom corn</td>
<td>F</td>
<td>20</td>
<td>3</td>
<td>1967A 10 Diam.</td>
<td>1 or 2</td>
</tr>
<tr>
<td>Beet seed</td>
<td>E</td>
<td>16</td>
<td>3</td>
<td>1978A 12 x 40</td>
<td>2, 3, or 4</td>
</tr>
<tr>
<td>Soy beans (2 beans)</td>
<td>F</td>
<td>8</td>
<td>3</td>
<td>1968A 30 x 38</td>
<td>1 or 2 (cells)</td>
</tr>
<tr>
<td>Mexican and large white African beans</td>
<td>F</td>
<td>12</td>
<td>3</td>
<td>1969A 20 x 48</td>
<td>2 or 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1972A 44 x 64 (ex. lge.)</td>
<td>Drill only</td>
</tr>
</tbody>
</table>
### Seed Plates for McCormick-Deering “100 Series” Planters and Drills—Continued

<table>
<thead>
<tr>
<th>KIND OF SEED</th>
<th>TYPE PLATE</th>
<th>NO. CELLS</th>
<th>THICKNESS PLATE 16ths</th>
<th>PLATE NO. AND SIZE OF CELL IN 64ths INCH</th>
<th>KERNELES PER HILL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SMALL</td>
<td>MEDIUM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No.</td>
<td>Size (64ths)</td>
</tr>
<tr>
<td>Beet and bean</td>
<td>F</td>
<td>12</td>
<td>3</td>
<td>3082A</td>
<td>18 x 24</td>
</tr>
<tr>
<td>Corn</td>
<td>E</td>
<td>12</td>
<td>5</td>
<td>3081A</td>
<td>12 x 40</td>
</tr>
<tr>
<td>Corn, special small</td>
<td>E</td>
<td>16</td>
<td>5</td>
<td>3001A</td>
<td>12 x 36</td>
</tr>
<tr>
<td>Corn, Country Gentleman</td>
<td>F</td>
<td>16</td>
<td>9/64</td>
<td>3001A</td>
<td>12 x 36</td>
</tr>
<tr>
<td>Marrow beans</td>
<td>E</td>
<td>16</td>
<td>5</td>
<td>3042A</td>
<td>24 x 32</td>
</tr>
<tr>
<td>Marrow beans, large Colorado peas</td>
<td>E</td>
<td>24</td>
<td>5</td>
<td>3043A</td>
<td>24 x 32</td>
</tr>
<tr>
<td>Kidney beans</td>
<td>E</td>
<td>24</td>
<td>5</td>
<td>3097A</td>
<td>20 x 48</td>
</tr>
<tr>
<td>Kafir corn</td>
<td>F</td>
<td>24</td>
<td>3</td>
<td>3109A</td>
<td>8 x 16</td>
</tr>
<tr>
<td>Marrow beans</td>
<td>E</td>
<td>24</td>
<td>5</td>
<td>3045A</td>
<td>20 x 42</td>
</tr>
<tr>
<td>Blank</td>
<td>E</td>
<td>16</td>
<td>3</td>
<td>3050A</td>
<td>20 x 42</td>
</tr>
<tr>
<td>Corn, horse tooth</td>
<td>E</td>
<td>16</td>
<td>5</td>
<td>3055A</td>
<td>16 x 44</td>
</tr>
<tr>
<td>Corn, extra large</td>
<td>E</td>
<td>16</td>
<td>5</td>
<td>3056A</td>
<td>13 x 48</td>
</tr>
<tr>
<td>Kidney beans</td>
<td>E</td>
<td>16</td>
<td>5</td>
<td>3057A</td>
<td>24 x 52</td>
</tr>
<tr>
<td>Kidney beans</td>
<td>E</td>
<td>16</td>
<td>5</td>
<td>3059A</td>
<td>16 x 52</td>
</tr>
</tbody>
</table>

### Approximate Drilling Distances in Inches for Various Plates

The Three Distances for Each Sprocket Combination are Made Possible by the Variable Drop Feature.

<table>
<thead>
<tr>
<th>NO. CELLS IN PLATE</th>
<th>Nos. 102 AND 104 PLANTERS, No.106 DRILL WITH 6-TOOTH DRIVEN SPROCKET</th>
<th>No. 106 DRILL WITH 8-TOOTH DRIVEN SPROCKET</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>REGULAR DRIVE SPROCKET</td>
<td>SPECIAL DRIVE SPROCKET</td>
</tr>
<tr>
<td>20 tooth</td>
<td>14, 19, 28</td>
<td>21, 29, 34</td>
</tr>
<tr>
<td>16 tooth</td>
<td>12, 19, 26</td>
<td>21, 29, 34</td>
</tr>
<tr>
<td>13 tooth</td>
<td>11, 19, 26</td>
<td>21, 29, 34</td>
</tr>
<tr>
<td>20 tooth</td>
<td>12, 19, 26</td>
<td>21, 29, 34</td>
</tr>
<tr>
<td>16 tooth</td>
<td>12, 19, 26</td>
<td>21, 29, 34</td>
</tr>
<tr>
<td>13 tooth</td>
<td>11, 19, 26</td>
<td>21, 29, 34</td>
</tr>
</tbody>
</table>

### Automatic Hill-Drop Spacing of Hills in Row with Nos. 102 and 104 Planters

- **Regular**
  - 20-tooth on Axle to 6-tooth: 28 in.
  - 16-tooth on Axle to 6-tooth: 35 in.
  - 13-tooth on Axle to 6-tooth: 43½ in.
  - 45-tooth on Axle to 6-tooth: 12½ in.

- **Special**
  - 20-tooth on Axle to 6-tooth: 28 in.
  - 16-tooth on Axle to 6-tooth: 35 in.
  - 13-tooth on Axle to 6-tooth: 43½ in.
  - 40-tooth on Axle to 6-tooth: 14 in.
Attachments for McCormick-Deering Two-Row Corn Planters

Disk Furrowing Attachments

The disk furrowing attachment serves three distinct purposes. It makes deeper furrows, which is very desirable where there is lack of moisture. When planting is late and some time has intervened between the finishing of the seedbed and the planting, so that the soil has settled and the weeds have started, it creates a new seedbed and kills the weeds, thereby greatly reducing the work of first cultivation. It assures uniform depth of covering in cloddy or uneven ground.

This attachment is easy to put on and is provided with an ample range of up and down adjustment. It can be attached to any runner planter. The bearings are of the type used on McCormick-Deering grain drills, having broad wearing surfaces—a chilled iron bearing block working against a steel bearing plate. A dust-proof housing keeps out sand and dust and a compression grease cup provides positive lubrication.

Blade Furrowing Attachment

The No. 6 blade furrowing attachment is really a combination of furrow-opener and covering shares. It is a valuable attachment for use in cloddy ground as the front blades shove aside the surface clods and permit the runner to work in new, moist soil. The covering shares or rear blades then rake new, fine soil over the planted seed. The covering shares can be adjusted to suit conditions. The attachment is very easy to install.

Gauge Shoes

McCormick-Deering No. 4 gauge shoes can be attached to any planter runner. They assure uniformity of planting depth. They attach to the runners by means of brackets, and when once clamped into position will not work loose. They can be adjusted for any desired depth of planting.

When using No. 4 gauge shoes the raising lever should be set to “float.” The shoes gauge the depth and at the same time pulverize the soil, greatly favoring early germination of the seed.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Disk furrowing attachment, 11-inch disks</td>
<td>32 lb.</td>
</tr>
<tr>
<td>6</td>
<td>Blade furrowing attachment</td>
<td>22 lb.</td>
</tr>
<tr>
<td>4</td>
<td>Gauge shoes</td>
<td>12 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering One-Row Corn Drills

McCormick-Deering 1-row fertilizer corn drill shown at the right is regularly equipped with a 10-hole seed plate for dropping single kernels 8, 11, 13, 15, 19 or 24 inches apart. Has a shoe furrow opener and is equipped here with covering wheel which is regular. Open or closed as ordered.

Illust. 23—McCormick-Deering One-Row Fertilizer Corn Drill equipped with shoe furrow opener and covering wheel.

At the left is shown plain 1-row corn drill equipped with hoe furrow opener and blade coverers. Regularly supplied with 10-hole seed plate for dropping single kernels 7, 9, 11, 12, 14, 16, 18 or 25 inches apart.

Illust. 24—McCormick-Deering One-Row Corn Drill equipped with hoe furrow opener and blade coverers.

McCormick-Deering 1-row fertilizer corn drill with double-disk furrow opener and web lead wheel. Regularly equipped with 10-hole plate for dropping single kernels 7, 9, 11, 12, 14, 16, 18 or 25 inches apart.

Special seed plates for dropping seed other distances than specified can be secured for all 1-row drills.

Illust. 25—McCormick-Deering One-Row Fertilizer Corn Drill equipped with double disk furrow opener.

Specifications

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>WEIGHT</th>
<th>ATTACHMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plain, hoe, 10-hole plate</td>
<td>104 lb.</td>
<td>Fertilizer hopper</td>
</tr>
<tr>
<td>Plain, shoe, 10-hole plate</td>
<td>94 lb.</td>
<td>Covering wheel attachment</td>
</tr>
<tr>
<td>Plain, disk, 10-hole plate</td>
<td>117 lb.</td>
<td>Covering blade attachment</td>
</tr>
<tr>
<td>Fert., hoe, 10-hole plate</td>
<td>128 lb.</td>
<td>Pea hopper</td>
</tr>
<tr>
<td>Fert., shoe, 10-hole plate</td>
<td>116 lb.</td>
<td></td>
</tr>
<tr>
<td>Fert., disk, 10-hole plate</td>
<td>141 lb.</td>
<td></td>
</tr>
</tbody>
</table>
Equipped Two Ways

Pitman drive planters are furnished under two numbers, as shown in the illustrations. The frame and center leg are the same on both planters, and the opener and covering equipment is interchangeable. The planters are listed and priced under two numbers for the convenience of the trade, there being a definite demand for both types of equipment in the various territories.

Pitman Drive

One-piece crank axle or drive shaft. One-piece crankshaft. Pitmans are located inside the frame so that there is nothing projecting to encounter stumps or other obstacles. Construction is very simple, there being no pitman heads to work loose.

Drive Wheel

Wheel 20 inches in diameter with wide T-shaped tire and ribbed on the outside with lugs on both sides of the rib to assure ample traction in loose soil.

Onion Attachment

An onion attachment can be furnished, consisting of a special small hopper with a plate having three \( \frac{3}{4} \)-inch holes. Works inside regular hopper.

Regular Equipment


Extra Equipment


Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>155-B</td>
<td>Cotton and corn planter</td>
<td>120 lb.</td>
</tr>
<tr>
<td>156-B</td>
<td>Cotton and corn planter</td>
<td>140 lb.</td>
</tr>
<tr>
<td>17</td>
<td>Fertilizer attachment</td>
<td>55 lb.</td>
</tr>
<tr>
<td></td>
<td>Open center press wheel for</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No. 155-B</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Solid press wheel for No. 155-B</td>
<td>23 lb.</td>
</tr>
<tr>
<td></td>
<td>Peanut attachment</td>
<td>15 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering
One-Horse Cotton and Corn Planters

157-B Deposits Cotton Seed in Hills

Here is a planter that actually deposits cotton seed in compact hills. The hopper mechanism is the same as on the No. 156-B, the difference being that the No. 157-B is equipped with a revolving distributor wheel in the boot. This distributor wheel divides the feed chamber into as many revolving cells as there are points or blades on the distributor wheel, that is, four or six cells with the regular equipment or three or five cells with special distributor wheels which can be supplied.

The 4-blade distributor wheel spaces the hills 14 in. apart, the 6-blade wheel, 9 in. apart. The 3-blade distributor wheel spaces the hills 19 in. apart, the 5-blade, 11 in. apart.

The distributor wheel carries the seed downward, following the circular wall of the feed chamber into the bottom of the runner, and pushes it off in a compact bunch into the furrow made by the runner. The result is an accurate job of hill drilling.

Pitman Drive

No. 157-B is equipped with a one-piece crank axle or drive shaft. The drive shaft is also of one piece. The seeding mechanism is driven by pitmans located inside the planter frame. The construction is very simple, there being no pitman heads to work loose.

Corn Planter Attachment

No. 157-B is primarily a cotton planter, but it can be converted into a corn planter by removing the distributor wheel housing and braces and the cotton agitator and substituting the ring gear and the corn plate and other parts supplied with the planter. The drilling distances for corn are 12, 15, and 18 in. apart. There is also a plate for planting Kafir corn 7 in. apart. One blank plate is also supplied with the corn equipment, and can be drilled to suit special requirements.

Drive Wheel

The drive wheel is 20 in. in diameter with a wide T-shape rim, ribbed on the outside and lugged to assure ample traction in loose soil.

Regular Equipment


Extra Equipment

Three and 5-blade distributor wheels. Shovel opener attachment. Peanut attachment.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>157-B</td>
<td>Cotton and corn planter</td>
<td>177 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering
One-Horse Cotton and Corn Planters

These new McCormick-Deering planters represent the latest and greatest improvements in one-horse planter design. Every planting requirement is provided for in a planter that is very simple and durable and, in construction, is short, compact, and easy to handle. The frame is a single piece, channel-steel loop extending from the hitch clear around the planter and back again. This frame makes a mighty rigid foundation for the planter.

Pitman Drive

The seeding mechanism is driven from the rear wheel by pitmans located inside the frame—the frame protects the pitmans from damage when working in stumps. The drive wheel has an open-center rim, but a band is supplied to close up the rim when it is desired to do so. The runner is equipped with a combination depth gauge and a leveler. The depth gauge holds the planter to a uniform planting depth, while the levelers smooth off the tops of the beds and forestall the formation of water furrows.

Regular Equipment

No. 161-A is a drill with combination reverse feed cotton and flat-drop corn hopper. No. 163-AF is the drill planter with combination reverse feed cotton and flat drop corn hopper and fertilizer attachment.

Extra Equipment


Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>161-A</td>
<td>Short frame, drill discharge</td>
<td>117 lb.</td>
</tr>
<tr>
<td>163-AF</td>
<td>Long frame, drill discharge, with fertilizer attachment</td>
<td>192 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering
One-Horse Cotton and Corn Planters

Removable Hoppers
The hoppers can be quickly removed for dumping the seed. The hopper bottom is also removable to permit changing the plate or to get at the seeding mechanism.

Duplex Hoppers
The Duplex hopper which can be supplied as an attachment for these planters can be used to plant corn, peas, beans, sorghums, and similar seeds. It will plant one kind of seed from one hopper and another kind from the other hopper, either together or separately, or it will plant the same kind of seed from both hoppers. The duplex hopper mechanism provides three speeds of seed plates and two pairs of plates, which covers a very wide range of planting.

Drilling Distances
The drilling distances for corn for both 161-A and 163-AF are 10, 12, 14, and 18 inches apart. A blank plate is supplied which can be drilled as desired.

Fertilizer Attachment
The fertilizer attachment which is supplied for the 163-AF planter sows the fertilizer deeper than the seed, since the furrow is partially filled before the seed is deposited. Therefore, the seed does not come in direct contact with the fertilizer. This is the approved method. If preferred, however, the fertilizer can be deposited at the side of the seed furrow.
McCormick-Deering Tip-Top Cotton Planters

Single Row—Nos. 5 and 6

Two Types of Cotton Seed Feed

The Tip-Top line of cotton and corn planters offers the purchaser his choice of two types of seed handling mechanism, namely, the single-seed, variable-drop type, and the well known P&O reverse feed type. Where greatest possible accuracy of planting is required the single-seed type of planter should be used. In those sections where it is the practice to sow a liberal amount of seed, later thinning the plants to the desired stand, the reverse feed planters are popular. Both planters are equipped for planting corn and Kafir and can be supplied with plates for planting the various other crops commonly grown in conjunction with cotton.

Regular Equipment

No. 5 equipped with single-seed, No. 6 with reverse feed seeding mechanism. Pin-break shovel coverers. POWER-15, 2-horse evener and neck-yoke. Concave tires. Corn cut-off and flat-drop plates, one Kafir plate and one blank plate.

Extra Equipment

Oval tire wheels. No. 23 fertilizer attachment. Bottoms, openers, sweeps and other attachments and equipment as shown on a following page. Special plates for planting Kafir corn, milo maize, broom corn, sorghum, and other seeds. Combination corn and pea hopper. Wheels 44-in. in diameter, with 2½-in. rims.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>One-row, single seed Tip-Top cotton planter</td>
<td>560 lb.</td>
</tr>
<tr>
<td>6</td>
<td>One-row, reverse feed, Tip-Top cotton planter</td>
<td>546 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering Tip-Top Cotton Planters

Two Row—Nos. 7 and 8

Illust. 8—No. 7 two-row, single-seed variable-drop Cotton and Corn Planter.

The construction of each unit of the two-row planter is identical with that of the single-row planter. The two units are mounted in a strong steel frame in which they are adjustable laterally for planting in rows 32 to 42 in. apart. The single-row planters leave the factory set for 36-in. rows, the two-row planters for 38-in. rows.

The two-row Tip-Top and a McCormick-Deering tractor make an ideal combination, more than doubling the acreage one man can plant in a day. A very simple hitch attachment is all that is necessary when the Tip-Top is to be pulled by a tractor.

Illust. 8-A—The adjustable forecarriage which can be supplied for two-row Tip-Top planters on special order.

Variable Drop

The single-seed planters (No. 5, single row, No. 7, two-row) are equipped with a variable drop device which gives the choice of three different seed spacings with the same plate and without stopping the planter. The three variations cover the requirements of any given field, while the different seed plates furnished and the three available speeds of the feed mechanism provide an extremely wide range of variation.

Regular Equipment


Extra Equipment

Special plates for Kafir corn, milo maize, broom corn, sorghum and other seeds. No. 22 fertilizer attachment. Forecarriage wheel with 3-in. flat rim. Flat-tire wheels. Wheels 44-in. in diameter, with 3-in. rims. POTH-28 two-row Farmall hitch attachment. POTH-29 four-row Farmall hitch attachment. Adjustable forecarriage. Bottoms, sweeps, and other attachments and equipment as shown on the following page. Combination corn and pea hoppers. No. 7 peanut attachment.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Two-row, single-seed Tip-Top planter</td>
<td>881 lb.</td>
</tr>
<tr>
<td>8</td>
<td>Two-row, reverse-feed Tip-Top planter</td>
<td>853 lb.</td>
</tr>
<tr>
<td>POTH-28</td>
<td>Two-row, Farmall hitch attachment</td>
<td>76 lb.</td>
</tr>
<tr>
<td>POTH-29</td>
<td>Four-row, Farmall hitch attachment</td>
<td>168 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
Removable Hoppers

Hoppers are quite large and can be instantly removed when desired. The flat-drop corn plate furnished with these planters is of special interest. The cells are round and located within the plate. This type of cell will handle ungraded seed or abnormally shaped kernels better than an oblong cell at the edge of the plate.

The ratchet drive feature in the wheels makes it impossible to drive the seed mechanism backward and it assures operation of the mechanism by one wheel or the other whenever the planter is moving forward.

Perpendicular Standard

The standard is always perpendicular whether in the raised or lowered position, so that the suction of the sweep or bottom is always the same regardless of depth. The sleeve in which the standard works is equipped with rollers which eliminate friction and make for easy operation of the raising lever. Provision is made for adjusting the suction of the bottom or sweep to suit conditions.

Improved Fertilizer Attachment

The fertilizer attachment is of an extremely efficient design and easy to keep clean. The contents of the hopper rest on a rotating bottom, which carries the fertilizer against a little feed "plow" which cuts off the quantity desired and ejects it into the fertilizer tube. The fertilizer falls just ahead of the seed furrow opening shovel, and, since it falls before the seed furrow is made, it is thoroughly mixed with the soil by the opening shovel—it does not come in actual contact with the seed. The fertilizer hopper has a capacity of approximately 4 gallons.
McCormick-Deering Tip-Top Cotton Planters

Attachments and Special Equipment

A wide choice of equipment is offered for Tip-Top planters. The planters themselves are nicely adapted to the use of any of this equipment so that every requirement of the cotton sections, for a dependable planter exactly suited to any local condition, is met.

Tip-Top Cotton and Corn Planters

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Spring shoe opener (order 2 for 2-row)</td>
<td>12 lb.</td>
</tr>
<tr>
<td></td>
<td>Spring trip shovel coverers instead of pin break (double for 2-row), add to weight of planter</td>
<td>6 lb.</td>
</tr>
<tr>
<td></td>
<td>Disk coverers instead of shovel (double for 2-row), add to weight of planter</td>
<td>7 lb.</td>
</tr>
<tr>
<td></td>
<td>Open-center press wheel (order 2 for 2-row)</td>
<td>21 lb.</td>
</tr>
<tr>
<td>16</td>
<td>Closed press wheel (order 2 for 2-row)</td>
<td>23 lb.</td>
</tr>
<tr>
<td>6051-B</td>
<td>16-in. sweep with stud, each</td>
<td>8 lb.</td>
</tr>
<tr>
<td>6052-B</td>
<td>18-in. sweep with stud, each</td>
<td>83 1/2 lb.</td>
</tr>
<tr>
<td>6053-B</td>
<td>20-in. sweep with stud, each</td>
<td>9 lb.</td>
</tr>
<tr>
<td>6057-B</td>
<td>22-in. sweep with stud, each</td>
<td>10 lb.</td>
</tr>
<tr>
<td></td>
<td>24-in. sweep attachment (order 2 for 2-row)</td>
<td>29 lb.</td>
</tr>
<tr>
<td>18</td>
<td>Fertilizer attachment, single row</td>
<td>63 lb.</td>
</tr>
<tr>
<td>19</td>
<td>Fertilizer attachment, 2-row</td>
<td>126 lb.</td>
</tr>
<tr>
<td>4-B-12</td>
<td>Middle-breaker bottom, 12 in., hard mold, solid share, each</td>
<td>23 lb.</td>
</tr>
<tr>
<td>4-B-14</td>
<td>Middle-breaker bottom, 14 in., hard mold, solid share, each</td>
<td>26 lb.</td>
</tr>
<tr>
<td>4-C-12</td>
<td>Middle-breaker bottom, 12-in., solid mold and share, each</td>
<td>23 lb.</td>
</tr>
<tr>
<td>4-C-14</td>
<td>Middle-breaker bottom, 14-in., solid mold and share, each</td>
<td>26 lb.</td>
</tr>
</tbody>
</table>

In addition to Tip-Top planter features already mentioned, the wheels are equipped with removable boxings with hubs cast around the wheel boxes, and spokes cast right into the hubs and hot-riveted into the rims.

The bearings in the axle bracket are lined with oil-soaked, hardwood bushings, a hard oiler on each bearing providing effective lubrication.

The levers have right angle hand grips.

Illustrations:
- Illustr. 12—Middle-breaker bottom.
- Illustr. 13—Bedding sweep No. 6053-B, 20-in. This type of sweep can be supplied in 16, 18 and 22-in. also, as shown in table.
- Illustr. 14—24-in. sweep attachment.
- Illustr. 15—The disk coverer which can be supplied in place of pin-break shovel coverer.
- Illustr. 16—The press wheel attachment. This attachment can be supplied with either open or closed-center wheels.
- Illustr. 17—This flat-tire truck wheel for 2-row planters can be furnished instead of the V-tired wheel which is regularly supplied.
- Illustr. 18—The No. 3 spring-shoe opener which can be supplied on special order.

Feb. 1935
McCormick-Deering Two-Row Cotton and Corn Drill

No. 20

The No. 20 cotton and corn planters and drills are built like the corn belt planters. They have a front runner frame separate from the main frame of the planter, with which it is connected by means of a cushion spring arrangement which permits the runner openers to yield sufficiently to conform to the surface of the ground and assure uniform depth of planting.

These planters and drills are adjustable to plant rows 3 ft., 3 ft. 2 in., 3 ft. 4 in., 3 ft. 6 in., or 3 ft. 8 in. apart. The planters are shipped set for 3 ft. 6 in. rows.

Drill or Checkrow

While the No. 20 is most commonly supplied as a two-row runner drill, it can also be furnished as a checkrow planter. There is a great deal to be said in favor of planting cotton in check rows. It permits cultivating the crop both ways, which in itself is good for the plants and bad for the weevils. Another feature of the checkrow planter is that it can be used to drill the cotton and to check the corn.

Reverse-Feed Hoppers

The cotton feed is the well-known reverse feed type of construction, the agitator revolving in a direction opposite that of the feed wheel, which prevents bunching and assures uniform planting. The hoppers are easy to remove to dump the seed or change the plates.

It requires but a moment to substitute the cotton cut-off and corn plates for the cotton agitator.

The fertilizer hopper holds about 50 lb. of commercial fertilizer.

Regular Equipment

Runner openers. Twin-disk markers. Combination reverse-feed cotton and flat-drop corn hoppers, with corn plates, one pair of Kafir plates, and one pair of blank plates. Open or closed rim wheels, 30-in. Planter furnished with check-heads, reel, 80 rods of wire, and 2 steel stakes. Detachable runners.

Extra Equipment

Plates for peas, beans, Kafir corn, milo maize, broom corn, etc. Special assortment of bean plates, bundles Nos. 143 and 144. Peanut attachment (order one No. 4 and one No. 5. See next page). No. 20 fertilizer attachment. Two-horse hitch. No. 2 pea and bean attachment for drill only. No. 10 corn and pea (or bean) attachment for planters and drills. Covering shovels for drill only. POTH-26 tractor hitch. POTH-37 tractor hitch for pulling two No. 20 planters or drills. No. 15 hill-drill attachment for checkrow. No. 16 for drill. Special front with single seed cotton hoppers instead of regular hoppers. Blade covering attachment. Special front frame rail and marker parts to plant 38 to 52-in. rows.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>DESCRIPTION</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>Checkrow cotton and corn planter</td>
<td>514 lb.</td>
</tr>
<tr>
<td>20-D</td>
<td>Cotton and corn drill</td>
<td>374 lb.</td>
</tr>
<tr>
<td>21</td>
<td>Fertilizer attachment, for drill only</td>
<td>112 lb.</td>
</tr>
<tr>
<td>2</td>
<td>Pea and bean attachment, for drill only</td>
<td>94 lb.</td>
</tr>
</tbody>
</table>
Plant Various Seeds

In addition to its utility as a cotton and corn planter the No. 20 planter (or drill) can be quickly adapted to the planting of Kafir corn, sorghum, and various other seeds commonly grown in conjunction with cotton. A great number of these planters are sold for planting soy beans, a crop which is increasing in importance in the dry sections as a means of restoring nitrogen to the soil.

The runner can be quickly detached for resharpening or replacing.

The levers which control the depth of the runners can be locked in position, or the spring bolt can be held out of the ratchet to allow the lever to "float", a feature which is desirable in very rough ground.

McCormick-Deering Peanut Attachments

These attachments are designed for use in regular cotton planter hoppers. They handle either whole or hulled peanuts without cracking them. There is no brush nor spring-controlled cut-off, and every projection has been eliminated that would in any way tend to retard or crack the seed.

No. 4: Adapted to McCormick-Deering Nos. 111, 155-B, and 156-B cotton planters and listers. Right-hand hopper for Nos. 20, F-20-D and FA-320 planters; Nos. 34, F-34 and 7-P listers.

No. 5: Adapted to Nos. 6 and 8 Tip-Top planters. Left-hand hopper for Nos. 20, F-20-D, FA-320, F-73, and FA-75 planters; Nos. 34, F-34 and 7-P listers.

No. 7: Adapted to Nos. 5 and 7 Tip-Top, F-72, and FA-74 planters; Nos. 7, 52, 83, 411 and 423 listers; No. 2 Widetread; Nos. 12 and 17 drill attachments; Nos. F-56, F-57, F-58, F-59, F-67 and F-68 Farmall planters.

Regular Equipment

Plates for handling whole or hulled peanuts. Drilling distances for Nos. 4 and 5: 4, 6, and 8-in. For Nos. 7: 9, 11, 12, 14, and 16-in.

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Peanut attachment</td>
<td>15 lb.</td>
</tr>
<tr>
<td>5</td>
<td>Peanut attachment</td>
<td>15 lb.</td>
</tr>
<tr>
<td>7</td>
<td>Peanut attachment</td>
<td>7 lb.</td>
</tr>
</tbody>
</table>

Fred. 1935
McCormick-Deering Loose-Ground Lister-Planters

No. 34 Cotton and Corn
No. 134 Flat-drop Corn

The loose-ground lister is used to plant seed in beds of warm, moist soil with ridges of loose, well-aerated soil between to absorb the rainfall instead of permitting it to drain off in the trenches as sometimes occurs when hard ground listing has been employed in sections where there is considerable rainfall.

Furnished Two Ways

The McCormick-Deering loose-ground lister can be furnished either as a combination cotton and corn lister adapted to use in the cotton sections, or as a straight corn lister.

The hoppers are removable, making it very easy to change the plates without moving the seed, or to dump the seed when changing from cotton equipment to corn or Kafir corn equipment.

Adjustable Width

These planters are adjustable to plant rows 3 ft. to 3 ft. 8 in. apart, at intervals of 2 in.

The planting mechanism has two speeds; at fast speed it will drill corn 11, 13 or 15 in. apart; at slow speed 17, 19 or 23 in. apart.

The disks are 18 inches in diameter, and are provided with chilled spindles which revolve in removable chilled bushings, the bushings being replaceable at small cost when worn out. The bearings are equipped with dust-proof caps.

Regular Equipment

No. 34 equipped with combination reverse-feed cotton and flat-drop corn hoppers. No. 134 equipped with flat-drop corn hoppers. Open or closed rim wheel, 36-in. diameter. Automatic marker.

Extra Equipment

Special plates for Kafir corn, milo maize, broom corn, etc. Adjustable disk marker in place of regular marker. Two-horse hitch. Covering attachment: No. 12 corn and pea attachment for lister with PO-1073 shank. No. 13 for lister with PO-1642 shank. Peanut attachment for No. 34 lister (order 1 each, Nos. 4 and 5).

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>34</td>
<td>Cotton and corn loose-ground lister-planter</td>
<td>559 lb.</td>
</tr>
<tr>
<td>134</td>
<td>Flat-drop corn loose-ground lister-planter</td>
<td>548 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering
Walking Listers—Single and Combined

Description
The single lister is intended to open the furrow and to be followed by a one-horse corn drill. The No. 3 lister drill is built for this purpose and when both are wanted it is only necessary to order a combined lister, specifying shovel or disk coverers as wanted. An extra pair of handles and a gauge wheel can be furnished with the combined lister as an attachment, so that the drill attachment may be removed from the lister and used independently as a one-horse corn drill, the depth being regulated by an adjustable gauge wheel. When used as a drill only the shovel coverers are used.

On the combined lister, disk coverers are preferable in trashy ground, as they cut through the trash and roots better and form a better furrow.

Beam
Made of I-beam steel with ample clearance in the throat. Equipped with an adjustable clevis.

Handles
Made of beaded steel. Malleable hand grips adjustable to lengthen handles. Handles securely braced to beam.

Bottom
Hardened steel molds and solid steel share. Malleable runners make lister run steadily. The subsoiler is adjustable for depth.

Hopper
The drill hopper is hinged and can be tilted to remove seed or easily taken off to change plates. Steel wheels operate the seed mechanism.

Coverers
Shovel or disk as ordered. They leave a small furrow on each side of seed bed, draining off surplus water and preventing corn from rotting if rain is followed by cold, damp weather.

Shovel coverers and opening shovel provided with wood break pins. The disk coverers are 18 inches in diameter. When disk coverers are used the seed mechanism is driven by the disks.

Trip Lever
Trip lever provided with a series of holes which gives the operator adjustment for regulating the depth of planting.

Regular Equipment
Corn plates and one blank plate. No. 1 subsoiler and shovel coverers. No. 3 drill furnished with handles and gauge wheel.

Extra Equipment
Disk coverers instead of shovel, on the combined lister. Handle and gauge wheel attachment for combined listers with shovel coverers. Special plates for beans, for listers with shovel coverers. (Bundle No. 144.) No. POSS-26 subsoiler for use in gumbo soils.

<table>
<thead>
<tr>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>14-in. single lister</td>
<td>188 lb</td>
</tr>
<tr>
<td>14-in. comb. lister, shovel coverers</td>
<td>189 lb</td>
</tr>
<tr>
<td>14-in. comb. lister, disk coverers</td>
<td>195 lb</td>
</tr>
<tr>
<td>No. 3 lister drill with shovels</td>
<td>81 lb</td>
</tr>
</tbody>
</table>
McCormick-Deering
Sulky Listers—Two Wheel

No. 111 Cotton and Corn
No. 411 Variable Drop Cotton and Corn
No. 482 Variable Drop Corn

Hoppers

We can furnish this lister with any of three different hopper equipments, namely, with reverse cotton feed known as the No. 111 cotton and corn lister; variable drop single seed cotton and flat drop corn hoppers, known as the No. 411 lister; or with variable flat drop corn hoppers, with which equipment it is known as the No. 482 lister.

Regular Equipment

Nos. 111 and 411: No. 2B bottom, 13-inch rolling coulter (PORC-15), four-horse evener (POWE-50), No. 9 12-inch disk coverers, No. 18 subsoiler, No. 4 root cutter. No. 111 equipped with reverse feed cotton and flat drop corn hopper with seed plate bundle No. 117. No. 411 equipped with variable drop single seed cotton and flat drop corn hoppers, with seed plate bundle No. 133.

No. 482 furnished with No. 2A bottom, 13-inch coulter (PORC-15), four-horse evener (POWE-50) and neckyoke, No. 12 12-inch disk coverers, No. 1 subsoiler, No 3 root cutter, variable flat drop corn hoppers with seed plate bundle No. 132.

Nos. 111, 411 and 482: concave tire wheels.

One polished Kafir plate and one blank plate supplied with each No. 411 and 482 lister. These polished plates handle small seeds more accurately, and will not crack seeds like ordinary plates.

Extra Equipment

Nos. 111 and 411: No. 2A, 4B or 4C bottom, 14-inch disk coverers, No. 10 shovel covering attachment, No. 1 subsoiler, solid press wheel attachment. No. 4 peanut attachment for No. 111 or No. 6 for 411.

No. 482: No. 4B bottom, No. 1 shovel covering attachment, No. 11 14-inch disk covering attachment, No. 12, 14 or No. 22 subsoiler, solid press wheel attachment. Special pinto bean plate.

Nos. 111, 411, 482, flat tire wheels instead of concave. Special plates can be supplied for planting Kafir corn, milo maize, broom corn, sorghum seed, etc. 24-inch sweep attachment.

Special bean plates, bundle No. 143 for No. 111, bundle 162 (large bean plates) for No. 411.

POSS-26 subsoiler for use in gumbo soils.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>DESCRIPTION</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>482</td>
<td>14-in. flat drop corn lister</td>
<td>477 lb.</td>
</tr>
<tr>
<td>111</td>
<td>14-in. cotton and corn lister</td>
<td>481 lb.</td>
</tr>
<tr>
<td>411</td>
<td>14-in. cotton and corn lister</td>
<td>495 lb.</td>
</tr>
<tr>
<td></td>
<td>Solid press wheel attachment</td>
<td>25 lb.</td>
</tr>
<tr>
<td></td>
<td>Open center press wheel att.</td>
<td>22 lb.</td>
</tr>
<tr>
<td>1</td>
<td>Shovel covering attachment instead of reg. disk, att.</td>
<td>8 lb.</td>
</tr>
<tr>
<td></td>
<td>14-in. disk covering att. instead of reg., add.</td>
<td>9 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering
Sulky Listers—Two-Wheel

Illust. 4—No. 411 Cotton and Corn Lister. Notice the lever for adjusting the depth of the covering disks.

**Bottom**

The bottom is built with soft center steel molds and share. The feed is thrown in or out automatically with the lowering or raising of the bottom. The bottom is attached by means of a single large bolt and tail nut. It is, therefore, easy to remove when desired.

**Drive**

The seed mechanism of this lister is driven by a chain, protected perfectly by a guard. All gears are encased to protect them from dust and trash.

**Wheels**

Wheels are 34 inches in diameter and have concave tires. The wheel boxes are in the form of long sleeves and the wheels can be set in or out for different widths of rows. Boxes are equipped with dust-proof hard-oil screw caps, thus combining the adjustable width feature with the popular McCormick-Deering wheel construction.

The axle is so shaped as to form the bail which raises the bottom, a strong balance spring giving the bottom an easy lift.

The seat and foot rests are adjustable to suit the operator's comfort, whether man or boy.

**Coverers**

Disk or shovel coverers are furnished. The disks are considered regular equipment and will be shipped unless shovels are specified in the order. The disk coverers can be equipped with either 12 or 14-inch disks.

**Leveling Device**

The patented leveling device maintains uniform suction and angle and assures uniform depth. The bottom lifts squarely and rigidly.

Illust. 5—Detail of shovel coverers, which can be supplied instead of disk coverers.
McCormick-Deering Variable Drop Cotton and Corn Sulky Listers—No. 423

Hopper Equipment

Hoppers are removable—easy to change plates without removing seed, or to dump the seed. The cotton hoppers are extra large. The feed mechanism is the single seed type.

The variable drop feature gives the operator three choices of drilling distances without stopping the machine, as the lever is shifted. Two sets of sprockets are furnished, which, with the variable drop feature, give a range of six different speeds, making it possible to plant from 1½ to 3½ pecks per acre.

It is easy to convert the hopper equipment for corn planting.

Bottom

The bottom is made with hard steel molds thoroughly tempered and solid steel share. It is attached with one large bolt and tail nut, and is therefore quickly removable. A patented leveling device maintains the proper bottom suction and angle.

Wheels

Front wheels are 34 inches in diameter with concave tires. They can be set in or out from 33 to 42 inches by sliding them on the wheel boxes which are in the form of long sleeves. Boxes are dust-proof and equipped with sandbands and hard oil screw caps.

Rear wheels are 18 inches in diameter with 1½-inch half-oval tires.

Lever

Conveniently placed. A strong tension spring assists the operator in raising and lowering the bottom. The seed mechanism is thrown into and out of gear automatically.

Hitch

The tongue can be set in the center for four horses or to one side for three horses. Hitch is direct to beam.

Regular Equipment


Each lister furnished with one polished Kafir plate and one blank plate.

Extra Equipment

No. 2A, 4B or 4C bottom. No. 11, 14-inch disk coverers. No. 1 shovel covering attachment. No. 1 subsoiler (see “Subsoilers”). Flat tire wheels. No. 6 peanut attachment. Reverse feed cotton hoppers instead of regular hoppers. 24-in. sweep attachment.

Special plates can be supplied for planting milo, Kafir corn, feterita, etc. Special bundle No. 162 for large beans. POSS-26 subsoiler.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>423</td>
<td>Cotton and corn, disk coverers</td>
<td>608 lb.</td>
</tr>
<tr>
<td>1</td>
<td>Shovel covering att., deduct</td>
<td>12 lb.</td>
</tr>
<tr>
<td>14-in.</td>
<td>Disk covering att., add.</td>
<td>6 lb.</td>
</tr>
</tbody>
</table>
The No. 464-A variable drop lister is provided with means for changing the drilling distance instantly while the machine is in motion. A small lever, convenient to the hand of the operator, shifts the pinions under the hopper, giving three speeds of seed plate and, therefore, three different drilling distances with the same plate. Two corn plates are supplied, and give the following drilling distances: 7-hole plate will drill 14, 16 or 18 inches apart; 8-hole plate will drill 16, 18 or 20 inches apart.

Hoppers
Extra large, tilting type. Sight feed. Drop is of improved flat drop construction and will not crack the seed. Bottom plate reversible, one side being provided with a smooth face and the other side recessed—handles large or small corn.

Wheels
Front wheels are 34 inches and adjustable in or out for 33 to 42 inches. Concave tires. Wheels slide in or out on long wheel boxes and are locked in place by set screws. Boxes are equipped with dust-proof sand bands, hard oil screw caps, collars, and line pins.
Rear wheels 18 inches in diameter with 13½-inch half-oval tires, oval side out. These wheels are staggered and perform the same function as open center wheels on corn planters.

Bottom
Soft-center steel molds and share. Attached with one large bolt and tail nut, quickly removable. A patented leveling device maintains proper bottom suction and angle.

Clutch
Throws in or out automatically as the bottom is lowered or raised. Mounted on the one-piece axle sleeve—clutch spring throws no strain on wheel box nor axle collar.

Hitch
Hitch is made direct to beam and ample lateral and vertical adjustments are provided. Tongue can be set in center for four horses or to side for three horses.

Regular Equipment
No. 2A bottom, 13-inch rolling coulter (PORC-15), four-horse evener (POWE-50) and neckyoke. No. 12, 12-inch disk coverers, No. 1 subsoiler, No. 3 root cutter, concave tire wheels, variable flat-drop hoppers with seed plate bundle No. 132.

Extra Equipment
No. 4B bottom. No. 11, 14-inch disk coverers. No. 1 shovel coverers. Nos. 12, 14, 22 or 26 sub-soilers. Flat tire wheels. 24-inch sweep attachment. Special plates for Kafir corn, milo maize, pinto beans, etc. No. 7F corn and pea hopper in place of regular.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>464-A</td>
<td>V. D. Lister, Disk Coverers..</td>
<td>581 lb</td>
</tr>
<tr>
<td></td>
<td>Shovel Covering Att., deduct.</td>
<td>10 lb</td>
</tr>
<tr>
<td></td>
<td>14-inch Disk Covering Att., instead of 12-inch, add</td>
<td>7 lb</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering Widetread Listers

Illust. 8—No. 1-A Widetread Corn Lister with guide runners, which can be supplied as extras.

The Original Widetread
This is the original Widetread lister, invented by a western farmer to meet the needs of western farmers. It is covered by patents, therefore cannot be successfully imitated. The principle upon which it is built is so simple that it seems unbelievable that it was not discovered long ago—one wheel running in the last furrow made gauges the furrow that is being made. The rows are always parallel, making it easy to cultivate with a 2-row cultivator. There is no waste ground in the field when planted with a McCormick-Deering Widetread lister.

Planting Mechanism
In addition to the wide tread feature the flexibility of the planting mechanism is a big feature. The seed mechanism is driven by the covering disks, which are held yieldingly to their work by a cushion spring which keeps them in constant contact with the ground regardless of the unevenness of the surface. The planting parts are raised and lowered with the bottom. The shovel on the seed spout makes a seed furrow in the loose dirt. The covering wheels throw the dirt back in, thoroughly covering the seed.

Corn or Cotton
Furnished with flat drop corn hoppers known as No. 1 Widetread. With single seed cotton hoppers with corn cut-off and flat drop plates for corn planting, and known as the No. 2 Widetread.

Subsoiler
A subsoiler just in front of the seed spout loosens the soil below the furrow bottom, forming a perfect seed bed. The Widetread lister works the subsoil better than any other type of lister or planter. The distance between the subsoiler and the seed spout prevents trash from gathering.

Regular Equipment
No. 1-A equipped with No. 1-A bottom, No. 9 root cutter, and flat drop corn hopper, with seed plate bundle No. 139.
No. 2 equipped with No. 2-B bottom, No. 4 root cutter, and single seed cotton and flat drop corn hopper, with seed plate bundle No. 138.
Each lister furnished with one polished Kafir plate and one blank plate.

Extra Equipment
No. 1-A: No. 14 subsoiler, No. 2 guide runners.
No. 2: No. 2-A bottom, No. 14 subsoiler, No. 2 guide runners, and No. 6 peanut attachment. Special bundle No. 162 for handling large beans.
Special plates for handling Kafir corn, sorghum seed, etc. Special pinto bean plates for No. 1-A Widetread. No. 7-E corn and pea hopper in place of regular hopper, at additional cost; also as an extra.

Specifications
<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-A</td>
<td>Widetread corn lister</td>
<td>669 lb.</td>
</tr>
<tr>
<td>2</td>
<td>Widetread cotton lister</td>
<td>694 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering Widetread Listers

Wheels
The front carrying wheels, which might also be called guide wheels, are double, with two tires which conform to the bottom of the furrow, but are set apart far enough to prevent packing the soil over the seed. These double-tired wheels leave little trenches on both sides of the row, and these trenches prevent the dirt from washing and uncovering the seed.

Bottoms
The molds are provided with dirt shields which prevent loose soil from slopping over and interfering with the proper planting of the seed. Bottoms swung from two points giving a double bail effect which assures smooth running and a level furrow bottom.

Easy to Handle
Easy handling is one of the finest features of the McCormick-Deering Widetread lister. It requires an experienced hand and team to get even satisfactory results with the ordinary lister, but a green hand with a green team can do good work with a Widetread. In turning, the castering rear wheels permit the lister to be turned in its tracks.

When the long lever is in the center notch of the ratchet, the frame is level for transportation. As the lever is thrown one way or the other one wheel is raised simultaneously with the lowering of the other wheel. It is easy to level the Widetread on side hills, permitting the operator to ride in comfort. A secondary lever adjusts the depth and raises and lowers the bottom at the ends of the field.

Improved Hitch Construction
Hitch is to a link which distributes pull on frame and beam, transmitting just enough of the pull to the frame to draw the weight of the frame and prevent it from interfering with the raising of the bottom. This construction has all the advantage of direct pull from beam, but is an improvement over the direct hitch.

Double Listing
Guide runners can be furnished as an attachment for use in double listing. The attachment for the machines as now built is known as the No. 2 Guide Runner attachment. No. 1 is for machines built prior to July, 1919, and includes necessary brackets. The illustration (No. 10) shows how the guide runners hold the lister to its work.
McCormick-Deering Wheatland Listers—No. 5

Combination Horse or Tractor

Illust. 14—No. 5 Wheatland Lister can be equipped to be drawn either by horses or a tractor.

This lister is a simple, substantial implement adapted to the preparation of wheat ground. It is equipped with a tongue truck and hitch clevis, for using either horse or tractor hitch.

The levers that raise and lower the bottoms, and adjust the depth, are assisted by heavy springs that make their operation easy.

Illust. 15—This shows the tractor hitch attachment for the No. 5 Wheatland lister. Note the locking strap for locking the tongue truck to prevent the rear end from "whipping" when the bottoms are raised.

Adjustable Width

The bottoms can be set in or out for furrows 3 ft. to 3 ft. 8 in. apart. The wheels also have adjustment in the long bearing sleeves for changing the width of tread.

The Drill Attachments

Two types of planting attachments can be supplied for the No. 5 Wheatland lister. One is the trailing type as used on Widetread listers. The other consists of the same planting units that are used on the No. 7 lister. See "Lister Drill Attachments."

Regular Equipment

No. 2-B lister bottom with hard mold and chilled share. Tongue truck, and clevis for horse or tractor hitch.

Extra Equipment

Lister or middle breaker bottom. PORC-54 rolling coulter. POTH-15 tractor hitch. POWE-58, 6-horse evener. POWE-56, 6-horse evener with extension. 24-in. sweep attachments for horse-drawn lister.

Tongue attachment (includes neckyoke). Neckyoke. Press wheel attachment. Nos. 11-A and 12 lister drill attachment. (See "Lister Drill Attachments") No. 9 planting attachment (as used on No. 7 lister, which see). Single-wheel tongue truck.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Two-row combination horse or tractor Wheatland lister</td>
<td>459 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935

153
McCormick-Deering Two-Row Listers

Illustration 17—
No. 7 two-row Cotton and Corn Lister.
Note that each hopper has its own driving mechanism.

No. 7, Cotton and Corn Lister.

The No. 7 is a simple, practical 2-row lister, the general design of which is the same as that of the No. 5 shown on the preceding page. It is equipped with combination single-seed cotton and flat-drop corn hoppers mounted on the rear rail above the beams, each hopper having its own individual driving mechanism. The main carrying wheels are 26 in. in diameter with 2½-in. rims.

Easy to Operate

Each side of the lister is controlled by its own lever which adjusts the depth of or lowers or raises the bottom. Levers conveniently located on the rear frame make it possible to adjust the depth of the coverers at will. The angle of the disks can be changed to regulate the amount of dirt thrown.

This lister can be adjusted to plant in rows 3 ft. 2 in., 3 ft. 4 in., 3 ft. 6 in., or 3 ft. 8 in. apart. It will drill corn 8, 12, 14, 16, 19 or 24 inches apart; plant cotton a single seed at a time at the rate of 1½ to 3½ pecks per acre. Plates can be supplied to meet requirements outside this range.

Reverse-Feed Cotton Hoppers

To meet the demand from those sections where the P & O reverse-feed type of mechanism has been so long and favorably known, the No. 7 lister can be supplied with this type of hopper. This is also a combination hopper, and plates are supplied to meet all usual requirements for planting corn. This lister is known as No. 7-P.

Regular Equipment

The No. 7 lister is equipped with combination single-seed cotton and flat-drop corn hoppers. No. 7-P is equipped with reverse-feed cotton and flat-drop corn hoppers. Corn plates covering the usual range of planting requirements are included with hopper equipment, also a pair of Kafr plates.


Extra Equipment


Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Two-row, single-seed cotton and flat-drop corn lister</td>
<td>725 lb.</td>
</tr>
<tr>
<td>7-P</td>
<td>Two-row, reverse-feed cotton and flat-drop corn lister</td>
<td>697 lb.</td>
</tr>
</tbody>
</table>

Illustration 18—Side view of No. 7 Cotton and Corn Lister.
Horse or Tractor

These listers are so designed that they are readily adaptable to horse or tractor draft. When equipped for horses they are supplied with tongue, evener and seat, and the depth adjusting screw and leveling lever are assembled for convenient operation from the seat. When supplied with tractor hitch the depth screw and the lever project toward the tractor. Therefore, whether one of these listers is equipped for horse or tractor draft, it is a finished job.

The planting units can be set in or out for rows 3 feet 2 inches, 3 feet 4 inches or 3 feet 6 inches apart.

Power Lift

These listers are equipped with a simple, positive power-lift device. On tractor listers the lift is controlled by a trip rope which can be tied convenient to the hand of the operator. On the horse listers the power-lift device is controlled by means of a foot trip.

The power-lift feature is particularly convenient on the horse listers, for the man who has six horses to control usually has his hands full. Any boy who can handle six horses can operate one of these listers.

Easy Depth Adjustment

A crank-and-screw device affords a remarkably easy method of adjusting the depth of the bottoms. One revolution of the adjusting crank gives one-half inch of up and down adjustment. The screw is extremely easy to adjust, having a ball bearing, which enables any operator to adjust the depth.

An easily accessible screw gives the finest possible suction adjustment. Changing the depth of the bottoms does not affect the suction. A lever is provided for leveling the lister under all conditions.

Regular Equipment

Equipped with horse or tractor hitch as specified. Horse hitch includes No. 58 six-horse evener, tongue, neckyoke, and seat. Tractor hitch comprises POTH-42 tractor hitch.

No. 151 equipped with flat-drop corn hoppers and plates. No. 1-A, 14-inch lister bottoms. No. 12, 12-inch disk coverers. No. 1 subsoilers.

No. 152 equipped with combination single-seed cotton and flat-drop corn hoppers. No. 2-B, 14-inch lister bottoms. No. 12, 12-inch disk coverers.

Extra Equipment

No. 11, 14-inch disks or No. 1 shovel covering attachments. PORC-92 13-inch rolling coulters. No. 1, 12, 14, 22, 25 or 26 subsoilers. Wheels with 6-inch rims for sandy soil. Corn and pea hoppers in place of regular hoppers or as extras on No. 151 lister. No. 11, 14-inch disk coverers. No. 1-B or 1-C, 14-inch lister bottoms for No. 151 listers. No. 2-A, 2-C, 4-B, or 4-C, 14-inch lister bottoms for No. 152 lister. POWE-56 six-horse evener. Extensions to convert POWE-58 to POWE-56 evener to permit horses to work in old furrows when relisting. 24-inch sweep attachments. Guide wheel attachment. POTH-137 spring release hitch. Special seed plate bundle No. 162 for No. 152 lister for large beans.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>DESCRIPTION</th>
<th>WEIGHT WITH HORSE HITCH</th>
<th>WEIGHT WITH TRACTOR HITCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>151</td>
<td>Flat-drop corn lister</td>
<td>1150 lb.</td>
<td>978 lb.</td>
</tr>
<tr>
<td>152</td>
<td>Cotton and corn lister</td>
<td>1187 lb.</td>
<td>1014 lb.</td>
</tr>
<tr>
<td>153</td>
<td>Wheatland lister</td>
<td>958 lb.</td>
<td>788 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Two-Row Combination
Horse or Tractor Lister

No. 151, Corn
No. 152, Cotton and Corn
No. 153, Wheatland

Illustr. 20—No. 151 Lister with guide wheel attachment.
Note the sturdy construction of this lister.

Guide-Wheel Attachment
These listers, when equipped with guide-wheel attachment, are admirably suited for re-listing, with horses or Farmall tractors. Standard-tread tractors are not so well adapted for two-row re-listing, owing to the difficulty of keeping the tractor on the ridges.

Positive Draft
The planting mechanism is driven from the left front wheel, and because this wheel is always in positive contact with the ground, ample traction is assured to drive the seeding mechanism under all planting conditions. This and the accurate delivery of the seeding mechanism assure accurate planting.

Plants Various Seeds
The No. 51 corn lister is equipped with the improved flat-drop corn hoppers. These hoppers, with the proper plates, will handle various sizes of seed and will not crack the seed. The cotton hopper has the single-seed-cotton and flat-drop-corn hoppers.

Seed Spacings
The planting distances are 15, 17, 19, 23½ and 29 inches for corn, and 2½, 3, 3½, and 3½ inches apart for cotton seed. Plates can be supplied for planting Kafir corn, milo maize, broom corn, and other seeds. The corn listers can be supplied with combination corn and pea, or bean hoppers.

Illustr. 21—The No. 153 Wheatland Lister, with horse hitch. Nos. 151 and 152 can also be equipped with this hitch.

Feb. 1935
McCormick-Deering Three-Row Tractor Listers
No. 82, Corn; No. 83, Cotton and Corn; No. 84, Wheatland

Illust. 22—McCormick-Deering No. 82 three-row tractor Corn Lister. No. 83 is the same lister with cotton hoppers.

Here is a 3-row lister which can be supplied as a corn lister, or as a cotton lister, or as a Wheatland lister. It is adjustable for 36, 38, 40, 42, or 44-inch rows. It is a power-lift lister, there being a power-lift device on each wheel, both controlled by one trip rope. The three planting units operate in unison, being driven by a jointed and adjustable shaft which gives each unit individual freedom with reference to the ground. The feed shaft is driven from both wheels, assuring a continuous flow of seed.

Regular Equipment
No. 82 equipped with No. 2-A 14-inch lister bottoms, No. 1 sub-soiler, and No. 12 12-inch disk coverers. No. 83 equipped with No. 2-B 14-inch lister bottoms and No. 12 12-inch disk coverers. No. 84 equipped with No. 2-B 14-inch lister bottoms.

Extra Equipment
Rolling coulter attachment. Press wheel attachments for Nos. 82 and 83. No. 1 shovel or No. 11 14-inch disk coverers for Nos. 82 and 83. Guide wheel attachment. No. 4-B or 4-C middle breaker bottoms. No. 25 or 26 sub-soilers. No. 1 sub-soilers for No. 83. No. 6 peanut attachment for No. 83. No. 7-G corn and pea attachment for No. 82. No. 11-A or No. 12 drill attachment for No. 84. Planting attachment to convert No. 84 lister to No. 82 or No. 85: No. 17 corn, No. 18 cotton.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>82</td>
<td>Three-row tractor corn lister</td>
<td>1267 lb.</td>
</tr>
<tr>
<td>83</td>
<td>Three-row tractor cotton and corn lister</td>
<td>1325 lb.</td>
</tr>
<tr>
<td>84</td>
<td>Three-row Wheatland lister</td>
<td>1014 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
Seeding Mechanism

The corn lister, No. 82, is equipped with improved flat-drop corn hoppers of the tilting type. No. 83 has combination single-seed cotton and flat-drop corn hoppers. It will plant a single seed at a time at the rate of 1 3/4 to 3 3/4 pecks per acre. No. 84 is supplied without planting attachments, for use for listing wheat land. Planting attachments can be supplied as shown under extra equipment on the preceding page.

Re-listing

For flat listing, the wheels are set in close to the frame so that both wheels run on solid ground. For re-listing, the wheels are set out to run in the furrows. Guide runners can be supplied as an attachment, as shown in Illust. 26. This attachment holds the lister to its work by straddling the center ridge. When the listing units are raised for transportation they are carried on the two wheels, and for that reason the lister is equipped with a stiff hitch. A spring-release device protects both lister and tractor from damage should one of the bottoms strike a stone or other buried obstacle. When it is desired to drill wheat between two wide spaced corn rows the center bottom can be removed, converting the machine to a 2-row lister with two full rows between the bottoms.
McCormick-Deering Lister Drill Attachments
For Listers and Farmall Middle Breakers

Illust. 27—No. 11-A Lister Drill Attachment on Wheatland lister bottom.

These attachments are supplied under four numbers. The Nos. 11-A and 12 work on Wheatland listers and the No. 3 Farmall middle buster. The Nos. 17 and 18 work on the Nos. 4 and 5 Farmall middle busters. Nos. 12 and 17 plant cotton from 2 to 3 ½ pecks per acre, corn 19, 22 ½, or 28 inches apart, and Kafir corn 9 ½ inches apart in the drills. Nos. 11-A and 18 plant corn 14, 16, 19 or 22 ½ inches apart in the drills, Kafir corn 9 ½ inches apart.

On special orders, Nos. 11-A and 17 can be equipped with combination corn and pea hopper in place of the regular hopper. This hopper will plant corn 14, 16, 19 or 23 ½ inches apart, Kafir corn 9 ½ inches apart. It also will plant peas 14, 16 or 19 inches apart. If it is desired to plant corn only, the pea hopper can be left off, using the lid for the corn hopper. Plates supplied are interchangeable in the two hoppers.

The No. 5 Wheatland lister can be supplied with the same listing equipment as is used on the No. 7 lister, under attachment No. 9. See No. 7 lister.

Regular Equipment
Nos. 11-A and 18 are equipped with corn plates, one polished Kafir plate, and one blank plate. Nos. 12 and 17 are equipped with four cotton plates, three corn plates, one Kafir plate, and one blank plate. Each attachment number covers one unit only—order one for each lister or middle breaker bottom.

Extra Equipment
Plates for planting milo maize, broom corn, and other sorghum seeds, beans, peas, etc. Combination corn and pea hopper, as shown above. Peanut attachments for Nos. 12 and 17.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>DESCRIPTION</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-A</td>
<td>Corn lister-drill attachment</td>
<td>75 lb.</td>
</tr>
<tr>
<td>12</td>
<td>Cotton and corn lister-drill attach.</td>
<td>91 lb.</td>
</tr>
<tr>
<td>17</td>
<td>Cotton and corn lister-drill attach.</td>
<td>98 lb.</td>
</tr>
<tr>
<td>18</td>
<td>Corn lister-drill attachment</td>
<td>80 lb.</td>
</tr>
</tbody>
</table>

Press Wheel Attachments for Wheatland Listers

The Nos. 5 and 7 listers shown on the preceding pages can be supplied with this press wheel attachment on special order. We recommend them as particularly desirable for corn listers, as the staggered wheels firm the soil over the seed, not only assuring a good job of covering, but better germination of the seed. One attachment is required for each row, and be sure to specify for which lister wanted.

A friction lock holds the wheels in line while the lister is working, disengaging automatically and allowing the wheels to caster in turning.

Feb. 1935
Lister and Middle Breaker Bottoms

Three types of lister and middle breaker bottoms are available for various McCormick-Deering machines. The most popular type for listers is the lister bottom, which is adapted to stubble ground or any ground such as would call for the stubble type of plow bottom. Middle-breaker bottoms are adapted to tight, hard, or black land, the molds being longer than the lister molds and having an easy, gradual turn.

The third type is the sandy-land bottom. This bottom has a lower and more sloping share and the mold is shorter and higher and more abrupt. It leaves the top of the bed or ridge flatter than the regular lister bottom.

Subsoilers for Listers

<table>
<thead>
<tr>
<th>No.</th>
<th>Material</th>
<th>Net Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-A</td>
<td>Hard Hard</td>
<td>34 lb.</td>
</tr>
<tr>
<td>2-A</td>
<td>Hard Hard</td>
<td>30 lb.</td>
</tr>
<tr>
<td>3-B</td>
<td>Hard Solid</td>
<td>30 lb.</td>
</tr>
<tr>
<td>4-B**</td>
<td>Hard Solid</td>
<td>25 lb.</td>
</tr>
<tr>
<td>4-C</td>
<td>Solid Solid</td>
<td>25 lb.</td>
</tr>
<tr>
<td>6-A</td>
<td>Hard Hard</td>
<td>25 lb.</td>
</tr>
<tr>
<td>6-B</td>
<td>Hard Solid</td>
<td>33 lb.</td>
</tr>
<tr>
<td>10-B</td>
<td>Hard Solid</td>
<td>29 lb.</td>
</tr>
<tr>
<td>11-B*</td>
<td>Hard Solid</td>
<td>31 lb.</td>
</tr>
<tr>
<td>12-B*</td>
<td>Hard Solid</td>
<td>31 lb.</td>
</tr>
<tr>
<td>16-B*</td>
<td>Hard Solid</td>
<td>31 lb.</td>
</tr>
<tr>
<td>17-B*</td>
<td>Hard Solid</td>
<td>31 lb.</td>
</tr>
</tbody>
</table>

Specifications

<table>
<thead>
<tr>
<th>Regular on These Listers</th>
<th>Special for These Listers</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Walking Listers, Nos. 82, 151, 464, and 482 listers, and Nos. 17, 23, and 25 planting attachments</td>
<td>Nos. 7, 7-P, 111, and 411 listers</td>
<td>5 lb.</td>
</tr>
<tr>
<td>12 No. 151 lister and No. 23 planting attachments</td>
<td>Nos. 83, 84, 151, 152, 464-A and 482 listers, No. 1-A wide-tread, No. 5 Wheatland, and Nos. 11-A, 12, 18, 23 and 24 planting attachments</td>
<td>7 lb.</td>
</tr>
<tr>
<td>14 No. 153 lister and No. 23 planting attachments</td>
<td>Blackroot shares can be supplied for 14-inch lister bottoms on special order</td>
<td>9 lb.</td>
</tr>
<tr>
<td>18 Nos. 111, 411 and 423 listers</td>
<td>No. 1-A Wide-tread</td>
<td>5 lb.</td>
</tr>
<tr>
<td>22 No. 1-A Wide-tread</td>
<td>Nos. 83, 84, 151, and 152 listers, No. 5 Wheatland, and Nos. 12, 18, 23, and 24 planting attachments</td>
<td>6 lb.</td>
</tr>
<tr>
<td>25 No. 7-P, and 151 listers, No. 5 Wheatland, and Nos. 11-A, 12, and 23 planting attachments</td>
<td>Walking listers, Nos. 7, 7-P, 82, 83, 84, 151, 152, 111, 411, 423, 464, and 482 listers, No. 1-A Wide-tread, and Nos. 11-A, 12, and 17 planting attachments</td>
<td>5 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Ridge Busters—Nos. 1 and 2

Ridge Busters

There are at least three propositions with which farmers in certain sections have to contend and which have brought McCormick-Deering ridge busters into great popularity in those sections: lack of moisture, soil blowing, and the Hessian Fly.

Help to Retain Moisture

The first step in preparing the soil when the ridge buster is to be used, is to go over the ground with a middle breaker. This should be done soon after harvest, to put the ground in shape to retain the small amount of rainfall which usually comes about that time. The ridge buster should follow about 4 or 6 weeks after plowing. It tears down the ridges and leaves the ground leveled out a little rough. If the soil tends to blow, it should be seeded after working with the ridge buster, as it is then in condition to resist the wind.

The single and double-row ridge busters can be used behind any listers or middle breakers.

Save Time

A two-bottom lister works 72 to 88 inches as against 28 inches for a two-bottom plow; or 42 inches for a three-bottom. As ridge bursting may be considered equivalent to disk harrowing, the time saved by this method is very great.

Gangs

The gangs are mounted on 1\(\frac{1}{2}\) -inch square bar steel rock shafts. One lever raises the disks on the single-row, and on the double-row one lever raises the outside gangs, the other the inside gangs. Each pair of disks comprises one 18 and one 20-inch disk. The bearings are supplied with hard oil from screw caps on the disk hubs. The disk arms are adjustable for more or less angle, and the gangs can be set for in- or out-throw.

The disks are ground on the back, or convex, side, and polished on the concave side. This assures good penetration and scouring.

Runners

Made of well seasoned lumber and shod with angle steel.

Regular Equipment

Equipped with crusher board, flexible link hitch; and a comfortable pressed-steel seat so placed as to afford easy access to levers.

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Wt., Lb.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Single-Row Ridge Buster</td>
<td>246</td>
</tr>
<tr>
<td>1</td>
<td>Double-Row Ridge Buster</td>
<td>436</td>
</tr>
</tbody>
</table>
The Nos. 3 and 4 wheeled busters are built to stand the hardest kind of work and do their work with the smallest possible power demand. The weight of the buster is carried on the furrow wheels.

Built of Steel

These busters are built almost entirely of steel and the simplicity of their design gives the necessary strength, yet avoids weight which would add to the draft without adding to the efficiency or durability of the implements.

Heavy Disk Gang

Each unit has two pairs of disk gangs, each pair comprising one 18-in. and one 20-in. disk, set 8 in. apart on the shaft. Sand bands prevent dust from entering the bearings. Changing the width between the pairs of disks can be accomplished quickly by loosening set screws and sliding the pairs of disks in or out.

The disks are ground on the back or convex side and are polished on the concave side. This assures good penetration and clean scouring.

Regular Equipment

Disks, 18 in. outside, 20 in. inside. Each row unit has its own forecarriage and furrow wheels.

Extra Equipment

POWE-15, 2-horse evener (two required for 2-row). POSE-155, 5-horse evener for 2-row, Tractor hitches, POTH-17, 2-row; POTH-18, 3-row (Farmall); POTH-19, 4-row.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Single-row ridge buster, horse type.</td>
<td>322 lb.</td>
</tr>
<tr>
<td>4</td>
<td>Two-row ridge buster, horse type.</td>
<td>681 lb.</td>
</tr>
<tr>
<td></td>
<td>Two-row, tractor, with POTH-17</td>
<td>590 lb.</td>
</tr>
<tr>
<td></td>
<td>tractor hitch</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Three-row, tractor, with POTH-18</td>
<td>941 lb.</td>
</tr>
<tr>
<td></td>
<td>Farmall hitch</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Four-row, with POTH-19 tractor</td>
<td>184 lb.</td>
</tr>
<tr>
<td></td>
<td>hitch</td>
<td></td>
</tr>
</tbody>
</table>

Illust. 29—The single-row No. 3 Wheeled Ridge Buster.

Illust. 30—A rear view of the two-row No. 4 Ridge Buster.
McCormick-Deering Ridge Busters

Illust. 31—The two-row Ridge Buster with POSE-155 5-horse evener which can be supplied on special order. This evener spaces the horses to walk in the furrows.

One and Two-Row for Horses
Two and Four-Row for Tractors

The No. 3 is a single-row buster for use with horses. No. 4 is a two-row buster, also for horses, and equipped with the same spreader and "turntable" feature that has made P & O lister cultivators popular for so many years. The two-row machine comprises two single-row units which in operation are held in their proper relation by the spreader.

On the tractor buster, the cultivating units are attached to a long hitch bar on which they are adjustable as to width of row. On the four-row buster the alternate units are held together by spreaders similar to those used on the two-row buster.

The "turntable" construction on the two-row horse-drawn buster prevents any interference with the work of either unit which might occur when one team gets ahead of the other. The in-and-out freedom of units on the spreader bar permits them to conform to the rows regardless of variation in width. The "turntable" is 16 inches in diameter, affording an extra wide bearing and assuring equal distribution of weight on the two gangs of each unit. The wearing surfaces are provided with reversible and replaceable wearing plates, which is a feature of real economy.

Both Sides Cut Alike

The furrow wheels hold each unit in the center of its furrow, so that the disks on both sides must cut alike. The front wheels support the weight of the evener, eliminating neck weight when horses are used. All wheels are equipped with replaceable dust-proof wheel boxes, sand bands, and hard oil screw caps.

One of the most important reasons for the success of the McCormick-Deering ridge busters is the fact that they hold to the furrows regardless of conditions.

Each unit has two control levers, one for raising and lowering the gangs, and the other for giving gangs the desired angle.

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McCormick-Deering Ridge Busters

No. 5 for Tractors

Illust. 33—The McCormick-Deering No. 5 three-row tractor Ridge Buster.

The introduction and wide sale of McCormick-Deering three-row listers naturally led to a demand for a three-row ridge buster. This new McCormick-Deering three-row ridge buster meets this popular demand. It combines quality with simplicity of design and remarkable fitness for the work a tool of this kind has to do. It combines ruggedness with a lightness of draft that is surprising.

It is easy to convert the three-row buster to a two-row, or the two to a three-row.

Double Runners Hold the Disks to Their Work

The low, sturdy construction of the McCormick-Deering No. 5 ridge buster, and the long, furrow-fitting runners assure good work under all conditions. The runners are made of angle steel, and equipped with replaceable steel shoes.

Adjustable Width

The runners are adjustable to work in furrows 38, 40, 42 or 44 inches apart.

The hitch comprises two heavy steel bars which pull from directly in front of both pairs of runners, and two short bars which attach to the tractor drawbar.

Light-Running Disks

The disks are polished and sharpened, and are free-running on the spindles, being lubricated by the hard oil grease caps on the ends of the spindle bearings. The spindles are replaceable—another feature of economy.

The angle of the disks is easily adjustable. Steel thrust washers prevent the end thrust of the disks from wearing out the bearings against which the disks work.

Regular Equipment

Disks, 18-in. outside, 20-in. inside, sharpened on backs and polished on concave side to assure good penetration and scouring.

Specifications

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<th>No.</th>
<th>Description</th>
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McCormick-Deering Grain Drills

Illust. 1—Rear view, McCormick-Deering 20-6 plain Grain Drill with fluted force-feed, all-steel hopper, saw-blade, double-disk furrow openers, full-length foot board, power-lift, steel wheels, wheel scrapers and covering chains.

A Complete Line of Drills With All-Steel Hoppers

McCormick-Deering grain drills can be obtained with double-run or fluted force-feed, and are built in plain and fertilizer types. The McCormick-Deering line includes a variety of sizes, from the small one-horse 5-disk drill to the large 28-marker power-lift tractor drill.

Furrow Openers for Every Soil

A variety of furrow openers to meet practically every soil condition is available. Drills may be equipped with pin or spring hoes, open delivery single disks, closed delivery single disks, saw-blade double disks, curved blade double disks or shoes. Individual press wheels for beet planting, gang press wheel attachments for pressing soil over each planted row and force-feed grass seed attachments for all sizes and types of drills are available as extra equipment at small additional cost.

All-Steel, Rust-Resisting Hopper

All McCormick-Deering plain drills are regularly equipped with large capacity, all-steel, rust-resisting hoppers. These strong, sturdy all-weather hoppers will not warp or get out of shape and are held firmly to the main frame by steel braces, which add strength and durability to the complete drill.

The all-steel hopper lids are water-tight and are provided with spring plungers which hold the lids wide open or tight shut. When filling the hopper, the open lids provide a firm, grain-tight surface against which the seed can be poured—a feature that prevents spilling and wasting of seed. A strong, one-piece, steel hinge extends the full length of the lid.

Illust. 2—Rear view, McCormick-Deering 12-6 plain Grain Drill with fluted force-feed, all-steel hopper, closed delivery chilled bearing single-disk furrow openers, seat, hand-lift and wood wheels.

Illust. 3—Rear view, McCormick-Deering 14-7 plain Grain Drill with double-run feed, all-steel hopper, closed delivery chilled bearing single-disk furrow openers, seat, hand-lift, covering chains and wood wheels.

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McCormick-Deering Grain Drills

Illustr. 4—Rear view, McCormick-Deering 20-6 plain Grain Drill with fluted force-feed, all-steel hopper, single-disk, arch-hanger type furrow openers, end foot boards, hand-lift and steel wheels.

For Accurate and Dependable Seeding

Drilled grain always stands a better chance than broadcast grain, particularly in dry weather. When grain is planted with a good drill it reaches the bottom of the seed trench and is quickly covered with the proper amount of soil. Good seed and favorable weather are important factors in providing a healthy stalk of grain, but a good drill with a dependable, accurate feed must be used if the seed is to be planted right.

Double-Run and Fluted Feed

McCormick-Deering grain drills are available either with double-run or fluted force-feed in order to meet the seeding requirements in various localities. The improved double-run feed is a combination of two feeds in one and is especially recommended where a variety of large and small seeds are sown such as small grain, soybeans, canning peas, etc. Each side of the feed cup is adapted for planting a wide variety of seeds. The fluted force-feed is a force feed in every sense of the word, because it sows any seed from flax to stock peas, including the regular grains with unvarying accuracy.

Solid, Strong Main Frame

The main frame, built of angle steel, with cross braces, steel corner pieces and gussets with rivets, forms a solid foundation for the complete drill. The front rail of the frame is dropped to provide better penetration and a low draft line for the furrow openers. The 18-6 size and larger have double truss rods, while the smaller sizes are equipped with single truss rods.

Steel Axles, Roller Bearings

The cold-drawn steel axles on McCormick-Deering 24-6 grain drills or smaller are 1 3/8 inches in diameter while 1 1/2-inch axles are used on the larger drills. The end axle boxes are equipped with steel roller bearings which prevent axle binding and provide light draft. Drills of 14-6 size or larger have two-piece axles. Axles are set to give the proper pitch and gather to the wheels.

Illustr. 5—Rear view, McCormick-Deering 14-6 plain Grain Drill with fluted force-feed, all-steel hopper, closed delivery steel bearing single-disk furrow openers, covering chains, end foot boards, hand-lift and wood wheels.

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Practical Features Prove Superior Design

Wood or Steel Wheels
McCormick-Deering grain drills can be supplied with wood or steel wheels. The 18-6 size drill or larger have 4-inch tires except the 20-8, 24-7, and 28-6 sizes, which have 5-inch tires (steel only). All sizes smaller than the 18-6 have 3-inch tires, but 4-inch tires can be supplied as extra equipment.

Steel Wheels With Grooved Tires
Steel wheels have 18 spokes with 5-inch grooved tires on 20-8, 24-7, and 28-6 sizes. The steel wheels used on McCormick-Deering grain drills are built to stand hard use and are not subject to climatic conditions. Every part of the McCormick-Deering grain drill from the wheels to the all-steel, rust-resisting hopper is constructed and assembled under the watchful supervision of trained workmen.

Best of Wood Stock Used
The wood stock used in wood wheels is yard-seasoned and dried to a maximum of 8 per cent moisture content before being assembled in the wheels. Spokes are hickory and oak. There are no finer wood wheels used on any grain drill than the wheels on McCormick-Deering drills. Extra care in manufacture, combined with high-grade materials, provide an exceptionally long-life wheel.

Power-Lift Attachment
Power-lift attachments are built for use with all sizes of drills. A power-lift attachment and tractor hitch converts any size of drill into a tractor drill. This power-lift feature is supplied as extra equipment at extra cost. It may be purchased with the drill or if the drill is of the hand-lift type, the power-lift attachment may be substituted later.
Fertilizer Grain Drills for Bigger Crop Yields

Some farms lack one or more of the important soil elements required to produce a good yield. Until these elements are supplied, the soil will never reach its maximum productiveness, regardless of good weather or favorable seeding conditions.

Simple Feeding Mechanism

With a McCormick-Deering fertilizer grain drill the distribution of ground limestone, phosphates, bone meal, or practically any variety of commercial fertilizer can be made in just the right quantities necessary to build up the soil.

The fertilizer hopper and simple feeding mechanism is not an attachment but an integral part of the drill, with a separate and independent drive. The fertilizer feed can be thrown off or on and the quantity easily and quickly changed while the drill is in motion.

Fluted and Double-Run Feed

Fertilizer grain drills can be obtained with any desired type of furrow openers and are available with double-run or fluted force feed. Grass seed attachments for fertilizer grain drills can be supplied at small additional cost.
McCormick-Deering Grain Drills

Illust. 10—McCormick-Deering 28-6 power-lift Tractor Drill with fluted feed, front delivery double-disk furrow openers, full length foot board, and all-steel, rust-resisting hopper.

Power-Lift Tractor Drills, Three Sizes, 20-8, 24-7, 28-6

McCormick-Deering power-lift tractor drills are built in three sizes, 20-8, 24-7, and 28-6. These big, light-draft tractor drills with all-steel hoppers fit in with the far-reaching program of power farming and can be obtained with any type of furrow opener. The power-lift feature is supplied as regular equipment on tractor drills but may be purchased as extra equipment in place of the hand-lift on horse-drawn drills.

Power-Lift Attachment

The power-lift attachment is of the conventional type and modeled along the lines of the best known plow lifts. It is easily operated. One pull of the rope attached to the trip lever raises the furrow openers, while another pull lowers the openers and automatically applies the required amount of pressure to the disks.

Convenient Pressure Adjustment

A convenient adjustment is provided by means of a quadrant and small hand lever located on the rock shaft, whereby the exact amount of pressure is quickly and easily regulated to suit all soil conditions. This feature does not interfere with raising the openers to maximum height at all times. No matter what the pressure or depth of planting might be, the disks are always raised to the same height when the clutch engages. When the disks drop they enter the ground without wasting seed.

Illust. 11—McCormick-Deering grain drill power-lift attachment. Can be purchased with the drill or supplied for hand-lift drills as extra equipment.

Illust. 12—The McCormick-Deering 28-6 power-lift Tractor Grain Drill will seed 40 to 50 acres a day and do it easily and economically.
McCormick-Deering Grain Drills

Deep-Furrow Grain Drills, 10-12 and 14-12 Sizes

McCormick-Deering deep-furrow grain drills with a positive double-run feed, all-steel, rust-resisting hopper, angle steel main frame, and improved disk bearings are built in two sizes. The 10-12 and 14-12 sizes are equipped with 10 and 14 disks spaced 12 inches apart. While these two sizes are supplied as complete drills, the deep-furrow openers can be easily and quickly attached to any McCormick-Deering grain drill with 6, 7 or 8-inch spacing having an even number of furrow openers. When this is done it is necessary to close off the cups not in use.

Plants Seed in Deep Furrows

With the McCormick-Deering method of deep-furrowing or semi-listing, the seed is deposited below the dry surface, deep in the furrow where it is properly covered and completely protected.

Large 16-Inch Diameter Disk

The single-disk deep-furrow opener is a large 16-inch diameter disk with a convenient three-way undercut adjustment to meet all soil conditions. The completely enclosed, dust-proof, dirt-proof and oil-tight disk bearings are made of the finest materials obtainable.

Durable Construction Throughout

Both the 10-12 and 14-12 sizes are exceptionally light draft, yet sturdy enough to stand years of hard use. The drawbars and side braces are spaced wide apart when attached to the front rail of the drill, thus providing unusual strength and rigidity where it is needed the most. This construction makes it possible to maintain the proper spacing and the correct angle of the openers under all seeding conditions.

Illust. 13—McCormick-Deering 14-12 deep-furrow Grain Drill with steel hopper, tractor hitch, power lift, steel wheels, wheel scrapers, gang press wheel attachment and weight boxes. A smaller size with 10 disks, spaced 12 in. apart can also be obtained.

Illust. 14—Single-disk, deep-furrow opener. Note the large 16-in. disk blade and the convenient Alemite hydraulic lubricating fitting for oiling the disk bearing. It is an easy matter to adjust the undercut of this opener to an intermediate, minimum, or maximum undercut position.

Illust. 15—Front view of the 14-12 deep-furrow Grain Drill with steel hopper, tractor hitch, power lift, steel wheels, wheel scrapers and footboard.
McCormick-Deering Grain Drills

Semi-Deep Furrow Grain Drills, 12-10 and 16-10 Sizes

McCormick-Deering semi-deep furrow grain drills are used for planting winter wheat in semi-arid sections. These light-draft, double-run feed, semi-deep furrow grain drills deposit the seed at the proper depth in a narrow trench where the seed has more than an even chance for speedy germination and rapid growth. Built in two sizes—12 and 16 disks with 10-inch spacing—these drills are equipped with a large-capacity, rust-resisting, all-steel hopper. A strong steel main frame, cross-braced for strength, holds all moving parts in perfect alignment. Axle boxes, gear yoke bearings, power-lift bearings, and disk bearings are equipped with Alemite hydraulic lubricating fittings. A power-lift attachment can be supplied as extra equipment.

Convenient Hand-Lift Levers

Convenient hand-lift levers, supplied as regular equipment, may be assembled on the drill for use either in the center for front operation, or at each end, front or rear. Rear center hand-lift levers are available for use with seat and are supplied as extra equipment.

14-Inch Heat-Treated Disk

The 14-inch disk blade is heat treated and the fully enclosed, oil-tight bearing is protected from dust and dirt. A large felt washer, on the inside of the flange on the disk hanger, protects the bearing against dirt.

The single-disk, semi-deep furrow opener has a "rocker-rib" adjustment for maintaining the correct relation between the disk blade and the scraper on the lower end of the boot.

An undercut adjustment increases or decreases the normal undercut by inserting the undercut adjuster in the proper position between the drawbar and hanger.
McCormick-Deering Grain Drills

All-Steel, Rust-Resisting, Water-Tight Hopper

McCormick-Deering plain drills are equipped with a large-capacity, all-steel, copper-bearing rust-resistant, hopper. This strong, well-braced, and practically weather-proof hopper has divided hopper lids and will not sag, warp, split, or rot.

No Spilling or Wasting of Seed

The water-tight and grain-tight lids, equipped with continuous lid hinge, opens wide and enables the operator to fill the hopper without spilling and wasting seed. Spring lid locks are provided which hold the lids wide open or tightly shut.

Only High-Grade Materials Used

The sides and lids on McCormick-Deering plain grain drill hoppers are made from 16-gauge steel. The hopper ends are pressed from 12-gauge steel and provide unusual strength at both ends. All-steel hopper construction throughout assures dependable seeding performance over a long period of years.

Regular Horse Hitch

2-horse for 1 pole
3-horse for 1 pole
3-horse for 2 poles
3 and 4-horse pulley for 2 poles
4-horse for 1 pole
4-horse pulley for 2 poles
6-horse pulley for 2 poles

Horse Hitches Can be Supplied for Tractor Drills

4-horse or 6-horse hitch for 20-8 power-lift drill
6-horse or 8-horse hitch for 28-6 and 24-7 power-lift drills
3-horse hitch for 12-7 and 14-6 drills
4-horse hitch for 14-7, 16-8, 18-7, 20-6 and 22-6 drills

Changes for Regular Equipment

3-horse hitch in place of 2-horse
4-horse hitch, 1 pole in place of 2-horse
4-horse hitch, 1 pole in place of 3-horse
6-horse hitch, 1 pole (Press Drill only)
6-horse hitch, 2 pole in place of 4-horse
8-horse hitch, 2 pole in place of tractor hitch, (28-6, 24-7, only).

Two-Drill Tractor Hitch

The two-drill tractor hitch illustrated at the left is available for use with McCormick-Deering fluted and double-run feed grain drills in the following sizes: 18-6, 20-6, 22-6, 24-6, 16-7, 18-7, 16-8, 12-10, 16-10, 10-12, 28-6, 24-7, 20-8, and 14-12.

Illustration 20-A—With a two-drill tractor hitch, two drills can be pulled behind the tractor at the same time, thus the job of seeding can be done faster, with less work and at considerably low cost.

Illustration 20 — All-steel rust-resistant, water and grain-tight hoppers are regular equipment on all McCormick-Deering plain grain drills.

Tractor Hitches for Grain Drills

Tractor hitches can be supplied for any size grain drill.
McCormick-Deering Grain Drills
Fluted Force-Feed

Improved, Fluted Force-Feed Cup

The improved, fluted force-feed cup used on McCormick-Deering grain drills will handle any kind of seed accurately and efficiently under all conditions. Due to correct design and careful assembly, every feed run delivers exactly the same quantity of seed at a given setting as all the other feed runs.

Adjustable Bottom

The McCormick-Deering fluted feed seed cup has an adjustable bottom which may be set in any one of three positions for planting all sizes of grains or kernels.

For Planting Wheat, Rye, Barley, Etc.

In Illustr. 21 the adjustable bottom, A, is set in its highest position for planting wheat, rye, cleaned oats or barley, flax, millet, etc. Illustr. 22 shows the adjustable bottom in position for large kernels such as corn, peas, beans, trashy oats, barley, and speltz.

In Illustr. 23 the bottom of the cup is shown at "clean out" position. When it is desired to clean out the grain at the end of the season or change to other seed, this feature is a distinct advantage over other drills that do not possess this convenience.

Double-Run Feed

Chain Drive Transmission

The double-run feed speed transmission, mounted on the axle of McCormick-Deering grain drills, is a complete machine in itself. It is hung on the axle with a strong yoke which holds all moving parts in perfect alignment and prevents excessive wear. A chain drive operates the double-run feed transmission and should any foreign object accidentally get into the feed cup, a chain link breaks before any part of the transmission is damaged.

Two Feeds in One

The double-run feed is really two distinct feeds in one. Each side of the feed is adapted for certain kinds of seed. The large side is for corn, beans, peas, and large seeds, while the small side is for wheat, rye, flax, etc.

Instead of the single and double-feed cup covers often used on grain drills, a single one-piece steel cup cover is used on each feed cup. The cup cover is held in place by a clamp attached to the bridge of the cup and fits over either side of the cup and completely covers it. Extra cup covers are supplied for closing both sides when planting row crops. The sturdy construction and assembly of this unit assures unusual seeding accuracy.

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McCormick-Deering Grain Drills
Angle Steel Drop Frame and Roller Bearing Axles

Roller Bearings Prevent Axle Binding
The axles on McCormick-Deering grain drills are constructed of cold-drawn steel, a process that hardens the outer surface and toughens the steel against wear. The fully enclosed end axle boxes are equipped with roller bearings which prevent axle binding, thus assuring an exceptionally light-running machine.

Simple Design, Light Draft
The inner axle boxes, located slightly to the rear and upward in relation to the outer boxes, cause the wheels to toe in at the front and inward at the bottom. This feature permits sufficient pitch and gather in the wheels for light draft and minimum wear.

Angle Steel Main Frame
The main frame, built of angle steel, along with the generous use of cross braces, steel corner pieces, and gussets with rivets in place of bolts, forms a solid, self-supporting foundation for the complete drill. From top to bottom the new and complete line of McCormick-Deering plain drills with steel hoppers represents an outstanding value in seeding machine construction and design.

Note the drop front of the frames which give a straight line of draft.

Roller Bearings

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Note the drop front of the frames which give a straight line of draft.

Illust. 28—All 14-marker drills and larger have two-piece steel axles with extra angle steel cross ties at the inner ends. Axles are set to give correct pitch and gather to the wheels.

Feb. 1935
McCormick-Deering Grain Drills
Single and Double-Disk Furrow Openers

Wrong Correct Wrong

Illust. 29—Single-disk drag bars are adjustable. Center disk shows correct amount of undercut.

Illust. 30—In muddy, sticky soils closed delivery furrow openers are desired. All single disk openers have rocker rib scraper adjustment shown in illustration opposite.

Illust. 31—Open delivery furrow openers are particularly adapted for trashy ground. Lower end of boot serves as scraper.

ADJUST NUTS ABOVE AND BELOW ROCKER RIB PIVOT TO TAKE UP ALL WEAR ON SCAPER

Illust. 33—Single-disk scraper with oscillating blade. Scraper automatically conforms to curvature of the disk.

Illust. 35—Single-disk steel bearing. Broad surface prevents wabbling.

Illust. 34—Beet press wheel attachment for single-disk openers.

Illust. 36—The hand lift here illustrated is furnished as regular equipment on McCormick-Deering Grain Drills.

Feb. 1935
McCormick-Deering Grain Drills

Single and Double-Disk Furrow Openers

Illustr. 37—McCormick-Deering front-delivery double-disk furrow opener. In the circle at the left the reversible bearing is shown which can be reversed for double service after years of wear.

Illustr. 38—Rear view, McCormick-Deering double-disk furrow opener.

Front Seed Delivery, Double-Disk Furrow Openers

The method of front seed delivery used on McCormick-Deering double-disk furrow openers not only conserves seed but assures a more uniform job of placing the seed at the proper depth in the furrow.

No Scattering of Seed on Loose Top Soil

In Illustr. 39 (1) shows how the rear seed delivery drops the kernels against the up-turn of the disk blades, and in wet, muddy fields some of the seed is wasted by being caught and carried upward. Figures (2) (3) and (4) indicate how the seeds from a rear seed delivery are scattered and only partially covered. Some go deep while others fly backward and fall into the loose, upper surface, where they will not sprout. The McCormick-Deering front seed delivery double-disk furrow opener is shown planting the seed exactly where it belongs.

Illustr. 39—Cross-section view of McCormick-Deering front delivery, double-disk furrow opener. Note how the spiral ribbon tube drops the seed ahead of the disk bearing, not behind it. Every seed is planted right down at the extreme bottom of the furrow.

Illustr. 40—Concave side of steel bearing single-disk furrow opener (arch hanger type).

Illustr. 41—Convex side of steel bearing single-disk furrow opener (arch hanger type).
McCormick-Deering Grain Drills
Spring and Pin Hoe and Shoe Furrow Openers

Hoe Opener

Hoe furrow openers are particularly adapted to loose stony soils free from trash. Hoe openers require a special device for attaching shoes whereby they may be set single and double rank. Supplied with the 20-6 and smaller sizes in 6-inch spacing.

Illustr. 42—Pin hoe furrow opener. Very satisfactory where stones, stumps, or other obstructions are seldom encountered. Any excessive strain breaks the pin and prevents injury to the hoe. Has three adjustment holes on ear of hoe for regulating angle of penetration.

Illustr. 45—Beet press wheel attachment for hoe furrow openers. Attached by clamp around hoe. The split wheels are provided with scraper. Pressure and depth are easily regulated. Pressed wheel may be assembled as an open or closed wheel.

Shoe Furrow Openers

Shoes may be supplied in place of disks for all two-horse drills and larger. All shoe drills have shoes arranged in double or zig-zag rank to permit trash to pass between more easily and to give additional clearance for large clods and cornstalk roots. Some kinds of soil respond better to shoe furrow openers than any other kind of furrow openers. When they are wanted, they must be specified.

Illustr. 43—Shoe furrow opener. Blades are made of high carbon steel and always scour in any kind of soil. Can be supplied for any size drill.

Illustr. 44—Spring hoe furrow opener for stony or stumpy ground. Hoes are made of pressed steel. Illustration shows hoe passing an obstruction. Spring brings hoe back to normal position automatically.

Steel Ribbon Grain Tubes

Illustr. 46—The illustration above shows the flexible, steel ribbon grain tubes and various styles of tube tops that are supplied. These exceptionally strong steel rust-resisting, copper-bearing, tubes conform to every motion of the furrow openers without kinking or buckling. The small alfalfa and grass seed tube shown at the right is used on the McCormick-Deering grass seed attachment.
McCormick-Deering Grain Drills
Gang Press Wheel Attachments for Grain Drills

Illustr. 47 — Weight box can be supplied as extra equipment for tractor-drawn drills.

Constructed in Pairs

Gang press wheel attachments are supplied for McCormick-Deering drills having an even number of furrow openers with the exception of those with six furrow openers. Each gang of press wheels is pivoted at its forward connection and works independently of all other wheels on the attachment. Each set of two wheels is provided with a strong pressure spring which holds it firmly to its work. Wheels are constructed with a web center to keep trash from collecting.

Valuable for Light Soils

Some of the soil in this country is excellent in quality but so light that it blows before strong winds. These press wheel attachments follow the drill furrow openers, packing the soil over the seed, leaving low ridges on either side. These ridges and trenches prevent the wind from blowing the soil from the seed and afford favorable protection against winter thaws and freezes. Seat bars are arranged to place the weight of the driver on the press wheels.

Illustr. 48 — Seats used on drills can be attached to gang press wheel attachment.

Seat on Gang Press Wheel Attachment

The seat shown in illustration above is not a part of the gang press wheel attachment. Regular drill seat can be bolted to press wheel attachment so that the driver’s weight is placed on the press wheels. Seat can be ordered as extra equipment when drill has no seat. (Seat not available on 28-6, 24-7 and 20-8 sizes.)

Sizes andWeights of Gang Press Wheel Attachments

<table>
<thead>
<tr>
<th>Size</th>
<th>Weight</th>
<th>Size</th>
<th>Weight</th>
<th>Size</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>8-8</td>
<td>191 lb.</td>
<td>10-7</td>
<td>241 lb.</td>
<td>12-6</td>
<td>281 lb.</td>
</tr>
<tr>
<td>10-8</td>
<td>240 lb.</td>
<td>12-7</td>
<td>285 lb.</td>
<td>14-6</td>
<td>298 lb.</td>
</tr>
<tr>
<td>12-8</td>
<td>266 lb.</td>
<td>14-7</td>
<td>330 lb.</td>
<td>16-6</td>
<td>370 lb.</td>
</tr>
<tr>
<td>16-8</td>
<td>356 lb.</td>
<td>16-7</td>
<td>423 lb.</td>
<td>18-6</td>
<td>378 lb.</td>
</tr>
<tr>
<td>20-8</td>
<td>440 lb.</td>
<td>18-7</td>
<td></td>
<td>20-6</td>
<td>461 lb.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24-7</td>
<td></td>
<td>22-6</td>
<td>505 lb.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>24-6</td>
<td>530 lb.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>28-6</td>
<td></td>
</tr>
</tbody>
</table>

Add for seat, if wanted, 22 lb.

Feb. 1935
McCormick-Deering Grain Drills

Star Fertilizer Feed

Illustr. 49—Star fertilizer feed used on McCormick-Deering Fertilizer Drills. Observe the powerful driving gears. This same type of fertilizer feed is used on all fertilizer drills in the McCormick-Deering line.

Simple and Positive

This improved feed is controlled wholly by levers. There are no parts to remove to make changes in the quantity sown. Mechanism may be set to sow from 30 to 1135 pounds of average commercial fertilizer to the acre. This is a range wide enough to meet almost every conceivable requirement. Changes in quantity may be made while the drill is in motion. Two speeds are provided which are controlled by the lever, shown above. All the quantity gates are moved by one lever—hence all must deliver an equal quantity to each furrow. No tools are required to remove parts for cleaning.

A Steady Even Flow

There is no wavy or bunchy sowing with the Star fertilizer feed because of the peculiar design of the feed outlets. These outlets are so shaped and placed that the revolving feed wheels deliver a constant supply of fertilizer to each furrow. Feed gates, under which the revolving fingers carry the fertilizer, are regulated by convenient feed levers. Raising or lowering permits more or less fertilizer to be carried to the feed tubes.

Steel Box Grass Seed Attachments for McCormick-Deering Plain Steel Hopper Grain Drills

Grass Seed Attachments

All drills can be fitted with rust-resisting, copper-bearing steel grass seed attachments regardless of size. They are always fastened to the front of the hopper and are always ready for instant use. They may be placed in or out of gear by an independent clutch device. All grass seed attachments have fluted feed.

Drill or Broadcast

Small steel ribbon tubes connect with the regular grain tubes for sowing in rows or broadcasting in front of furrow openers. On special order, at extra cost, long tubes may be supplied which broadcast the grass seed back of the furrow openers.

<table>
<thead>
<tr>
<th>Size</th>
<th>Weight</th>
<th>Size</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-8</td>
<td>29 lb.</td>
<td>12-7</td>
<td>43 lb.</td>
</tr>
<tr>
<td>8-8</td>
<td>36 lb.</td>
<td>14-7</td>
<td>49 lb.</td>
</tr>
<tr>
<td>9-8</td>
<td>37 lb.</td>
<td>16-7</td>
<td>50 lb.</td>
</tr>
<tr>
<td>10-8</td>
<td>41 lb.</td>
<td>18-7</td>
<td>61 lb.</td>
</tr>
<tr>
<td>12-8</td>
<td>47 lb.</td>
<td>20-7</td>
<td>136 lb.</td>
</tr>
<tr>
<td>14-8</td>
<td>57 lb.</td>
<td>22-7</td>
<td>49 lb.</td>
</tr>
<tr>
<td>16-8</td>
<td>67 lb.</td>
<td>24-7</td>
<td>54 lb.</td>
</tr>
<tr>
<td>18-8</td>
<td>73 lb.</td>
<td>26-7</td>
<td>59 lb.</td>
</tr>
<tr>
<td>20-8</td>
<td>82 lb.</td>
<td>28-7</td>
<td>62 lb.</td>
</tr>
<tr>
<td>22-8</td>
<td>94 lb.</td>
<td>30-7</td>
<td>70 lb.</td>
</tr>
<tr>
<td>24-8</td>
<td>104 lb.</td>
<td>32-7</td>
<td>139 lb.</td>
</tr>
</tbody>
</table>

Specifications

Illustr. 50—Showing how grass seed hopper is attached to front side of plain grain drill hopper. Note the independent chain drive direct from the main drill axle.
McCormick-Deering
Wide Track BroadcastSeeder

A Light Draft Seeder

The McCormick-Deering wide track seeder is a strong, durable broadcaster that is much used in sections where wide track seeders are in demand. Wheels are 48 in. high, with staggered spokes upset in the rim. Each wheel is a driver and operates one half of the seeder. The hopper has a capacity of 5¾ bushels and is hung close to the ground to prevent the wind from blowing the seed about. The seed chutes are also protected from the action of the wind.

Even Seeding

Ten feed cups scatter the seed evenly over the 11-ft. strip between the wheels. Sloping metal bridges between the cups deliver all the seed to the feed wheels. Outside bottom boards between the cups protect the bridges from damage by cornstalks, etc.

Grass Seed Attachment

A grass seed box equipped with 16 small fluted feed runs can be ordered for the McCormick-Deering, either at the time of purchase or later.

Specifications

<table>
<thead>
<tr>
<th>Size</th>
<th>Description</th>
<th>Shipping Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-ft.</td>
<td>Wide track</td>
<td>510 lb.</td>
</tr>
</tbody>
</table>

Regular Equipment—Steel wheels.
Extra Equipment—Grass seed attachment; 2-horse hitch.

Feb. 1935
McCormick-Deering
Narrow Track Broadcast Seeder

Reduces Tongue Whipping
This McCormick-Deering seeder is particularly valuable in cornstalk ground because the narrow tread between the wheels eliminates to a large extent tongue whipping on rough ground.

Substantially Built
Grain hopper is mounted on a strong angle steel frame, well braced at the corners. Axle is a continuous piece of cold rolled steel. Feed rod is in one piece, driven by chain in the center and controlled by a convenient lever.

Fluted Force-Feed
Fluted force-feed is used, which permits any desired quantity of grain to be sown to the acre. This feed is illustrated in detail at the bottom of the page.

Hinged Grain Spouts
Grain spouts are hinged to the feed cup and are held in position by a stout coil spring. If the spout should strike a stump or other obstruction, it will back out of the way and then return to position.
Markers are provided at each end of the hopper. Grass seeder which attaches to the rear of the hopper can be supplied at extra cost.

Specifications

<table>
<thead>
<tr>
<th>Size</th>
<th>Description</th>
<th>Shipping Weight</th>
<th>Regular Equipment</th>
<th>Extra Equipment</th>
</tr>
</thead>
</table>

Feb. 1935
McCormick-Deering Hoe Broadcast Seeders

Illust. 58—The McCormick-Deering Hoe Broadcast Seeder, rear view. Equipped with wood or steel wheels, as desired. Grass seed attachment is supplied on special order.

Illust. 59—Fluted force feed is used on all broadcast seeders. It assures even distribution.

Illust. 60—Grass seed box attaches to the front of the grain hopper as illustrated. Note "shut-tight" lid on grain hopper.

Illust. 61—Spring trip hoe passing an obstruction. Note that the hoe point has sprung far enough back to pass the stone. When the obstruction is passed a spring compression will pull the hoe back into its regular position. Each hoe is independent of all the others.

A Seeder for Rough Ground

The McCormick-Deering hoe broadcast seeder is particularly suited for use in rough, stony land and can be used as a cultivator by throwing the seeding mechanism out of gear. These seeders are equipped with fluted force feed as illustrated on this page. Angle steel frame is well braced to hold all working parts in correct alignment. Forty-eight in. wheels are mounted on 13/8-in. cold rolled steel axle. Double lift levers and 2-piece axles on 16 and 22 furrow sizes.

Specifications

<table>
<thead>
<tr>
<th>Sizes</th>
<th>Hitch</th>
<th>Shipping Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-bar</td>
<td>1 Pole, 2-horse</td>
<td>710 lb.</td>
</tr>
<tr>
<td>16-bar</td>
<td>2 Pole, 3-horse</td>
<td>925 lb.</td>
</tr>
<tr>
<td>22-bar</td>
<td>2 Pole, 4-horse</td>
<td>1135 lb.</td>
</tr>
</tbody>
</table>

Regular Equipment
- Wood or steel wheels. Reversible points.

Extra Equipment
- Grass seed attachment.

Feb. 1935
For Drilling in Standing Corn
The McCormick-Deering one-horse 5-disk drill is built for the special work of drilling crops in between rows of standing corn. It plants wheat, rye, and other small grains. This drill is easy for the operator to handle. It is built close to the ground. The forward caster wheel, together with the two drive wheels set wide apart at rear of machine, form a triangular support which gives the drill great stability.

Driving Mechanism Operates
Two drive wheels furnish reliable power to operate the seed feeding mechanism. Both wheels have ratchet hubs to assure continuous seeding in turning. The power is transmitted from the wheels by a drive shaft and through an automatic clutch to the chain and sprocket drive which operates the seed and fertilizer feeding mechanism with the lowering of the disks to working position.

Well Built Frame
The rigid steel frame is V-shaped. The outside furrow openers are provided with a shield to push aside broken and fallen cornstalks and are pivoted to allow them to conform to the width of the rows. An adjusting lever is provided to regulate the spacing of the openers for 6, 7 or 8-in. spacing.

Specifications

<table>
<thead>
<tr>
<th>Sizes</th>
<th>Description</th>
<th>Shipping Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-disk Plain</td>
<td>332 lb.</td>
<td></td>
</tr>
<tr>
<td>5-disk Fertilizer</td>
<td>396 lb.</td>
<td></td>
</tr>
</tbody>
</table>

Extra Equipment

McCormick-Deering Plow Press Drill
Built In Two Sizes
The McCormick-Deering fluted feed plow press drill is built in two sizes, 7 and 9-furrow, and is designed for use with a 3 or 4-furrow plow. The drill is attached to the rear of the plow by means of a hitch that is adapted for use with any standard type of plow. With the McCormick-Deering the seed is properly covered by the press wheels in the rear and the job of plowing and planting can all be done in one operation. Single-disks, double-disks, or shoe openers can be supplied.

Specifications

<table>
<thead>
<tr>
<th>Sizes</th>
<th>Shipping Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>893 lb.</td>
</tr>
<tr>
<td>9</td>
<td>1067 lb.</td>
</tr>
</tbody>
</table>

Extra Equipment
8 and 10-wheel plow packer. Grass seed attachment.

Illust. 62—McCormick-Deering 5-Disk Drill, fertilizer type with grass seed attachment.

Illust. 63—McCormick-Deering 9-furrow Plow Press Drill, equipped with saw-blade double-disk openers, forecarriage, grass seed attachment, and fluted force-feed.
McCormick-Deering Press Drills

Illust. 64—McCormick-Deering 16-7 Press Drill equipped with fluted feed, all-steel hopper, and saw-blade double disk furrow openers. May also be equipped with shoe or single-disk openers if desired. Built in three sizes—20-6, 12-7 and 16-7.

A Big Strong Press Drill

Wherever the soil is light, arid, sandy or badly exposed to strong wind, the McCormick-Deering press drill will soon pay for itself. The 26-in. press wheels follow each furrow opener and firm the soil over the seed in such a way that it remains covered until it can sprout and stoil out. The weight of the driver and part of the drill rests on these wheels. Built in three sizes, 12-7, 16-7 and 20-6. Fluted force-feed is used.

Durable Tongue Truck

All McCormick-Deering press drills are equipped with a well-built tongue truck. This truck is so constructed that the wheels can turn completely under the steel stub tongue, thus making a short turn easy. Truck wheels are high and substantially built.

Disk or Shoe Openers

McCormick-Deering press drills may be equipped with single-disk, double-disk, or shoe openers as ordered. This affords a sufficiently wide range of furrow openers from which to select the type best suited for any soil in which the press drill is used.

Specifications—McCormick-Deering Press Drills with Fluted Feed

<table>
<thead>
<tr>
<th>Sizes</th>
<th>Description</th>
<th>Shipping Weight with Shoe</th>
<th>Shipping Weight Single Disk</th>
<th>Shipping Weight Double Disk</th>
<th>Regular Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-furrow</td>
<td>6-in. spacing</td>
<td>1740 lb.</td>
<td>1960 lb.</td>
<td>2080 lb.</td>
<td>Tongue truck. 4-horse hitch.</td>
</tr>
<tr>
<td>12-furrow</td>
<td>7-in. spacing</td>
<td>1338 lb.</td>
<td>1470 lb.</td>
<td>1542 lb.</td>
<td>Extra Equipment</td>
</tr>
</tbody>
</table>

Feb. 1935
One Size Only

McCormick-Deering alfalfa and grass seed drills are made in one size only, with twenty single-disk furrow openers spaced 4 in. apart. Disk blades are 11 in. in diameter. Steel wheels are used regularly, 40 in. in height. Axle is a cold rolled steel shaft and frame is of angle steel.

Sows All Small Seeds

This drill is designed particularly for alfalfa, clover, red top, timothy, blue grass, rape, Sudan grass, millet, flax, hemp and wheat. These different seeds can be planted in a great variety of quantities to the acre.

Specially Designed Feed

The feed cup is similar to the double-run feed described on another page except that it is smaller and designed particularly for this drill. It is provided with tight covers for either side of the cup. Drives direct from the axle with spur gears arranged for a wide variation of speeds.

Specifications

<table>
<thead>
<tr>
<th>Size</th>
<th>Description</th>
<th>Shipping Weight</th>
<th>Regular Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-furrow</td>
<td>Alfalfa and grass seed</td>
<td>813 lb.</td>
<td>2-Horse hitch. Steel wheels</td>
</tr>
<tr>
<td>4-in. spacing</td>
<td>drill</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

McCormick-Deering No. 5 Endgate Seeder

A Reliable Endgate Seeder

The McCormick-Deering No. 5 endgate seeder is practically double throughout. The feed rolls, cut-offs, steel distributing wheels, seed tubes, driving gears, etc., are in pairs. The extra large grain hopper is easy to fill because it slants in toward the operator and over the wagon box where no seed will be wasted.

High-Grade Mechanism

The driving gears are carefully made, meshed to just the right depth, thus eliminating wear and reducing noise. They are held in position by collars. The machine is driven by a heavy sprocket wheel bolted to rear wheel of wagon. The fluted force feed is used in this endgate seeder.

Wide Throw

Width of distribution for common oats is from 36 to 40 ft.; wheat 42 to 52 ft.; flax 20 to 26 ft.; timothy 20 to 24 ft.; clover 24 to 28 ft.

Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Shipping Weight</th>
<th>Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endgate seeder</td>
<td>157 lb.</td>
<td>Chain and Sprocket for 44-in. wagon wheel. Special sprockets for smaller and larger wheels can be supplied.</td>
</tr>
</tbody>
</table>
McCormick-Deering Beet Drills
Plain and Fertilizer

McCormick-Deering beet drills are supplied in two sizes—Nos. 6-A and 6-B which plant in rows 18, 20, 22, or 24 in. apart and have provision for alternate 16 and 24-in. spacing, or alternate 18 and 22-in. spacing; and the Nos. 7-A and 7-B, which plant in rows 20, 22, 24, 26, or 28 in. apart. Nos. 6-A and 7-A are plain drills; Nos. 6-B and 7-B have a fertilizer attachment built in. Both the seed hopper and the fertilizer hopper have divided lids.

Accurate Depth Gauge
A feature of McCormick-Deering beet drills is the method of controlling the depth when the disk furrow openers are used. The disks are equipped with depth bands which can be expanded to give five adjustments between 1 and 2 inches, inclusive. It is not necessary to remove the disks to adjust the depth bands—simply loosen the bolts which hold the cam-shaped spreader blocks and set the bands to the adjustment desired. The disks have dust-proof seals. The pressure on the furrow openers can be regulated independently by separate springs, as shown in Illust. 2, or the press wheels can be locked with the openers and controlled by the same springs which give pressure to the openers. By setting the depth bands to control the depth, and then utilizing the full leverage of the depth lever, the necessary pressure can be secured on the depth bands and press wheels to firm the soil well over the seed and thus promote uniform germination.

Regular Equipment
Steel wheels. Two-horse hitch with special width of spread to prevent horses from walking on rows. Neck-yoke. Double automatic markers. Seat. Grain agitator. Runner or disk openers, as ordered. Press wheels, 9¾ or 10¾-in. diam., as ordered. (Larger wheel has wider, more concave rims.)

Extra Equipment
Irrigating attachment, 42 lb. Fertilizer agitator attachment. Fertilizer reducing ring.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Disk</td>
<td>Shoe</td>
<td></td>
</tr>
<tr>
<td>6-A</td>
<td>Plain drill, for 18, 20, 22, or 24-in. rows</td>
<td>866 lb.</td>
<td>760 lb.</td>
<td></td>
</tr>
<tr>
<td>6-B</td>
<td>Fertilizer drill, for 18, 20, 22, or 24-in. rows</td>
<td>980 lb.</td>
<td>870 lb.</td>
<td></td>
</tr>
<tr>
<td>7-A</td>
<td>Plain drill, for 20, 22, 24, 26, or 28-in. rows</td>
<td>910 lb.</td>
<td>800 lb.</td>
<td></td>
</tr>
<tr>
<td>7-B</td>
<td>Fertilizer drill, for 20, 22, 24, 26, or 28-in. rows</td>
<td>1025 lb.</td>
<td>920 lb.</td>
<td></td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering beet drills are equipped with the same type of internal, double-run feed as is used in McCormick-Deering wheat drills. This type of feed is vastly superior to the fluted type for handling beet seed, as it will not clog with the little "whiskers" that break off from the beet seed. The internal feed lifts the chaff out with the seed. In addition to beet seed, these drills can also be used for planting peas, beans, corn, sorghum seed, etc.

Wide Sowing Range

Nos. 6-A and 6-B plant beet seed from 10 to 31 pounds to the acre. Nos. 7-A and 7-B from 9 to 29 pounds per acre. No. 6-B will sow fertilizer at the rate of 60 to 524 pounds to the acre; and No. 7-B, 50 to 475 pounds. A special reducing ring may be obtained for sowing small quantities of fertilizer. The fertilizer hopper holds about 10 pecks.

Other features of McCormick-Deering beet drills are: double run feed cups having one compartment for small seed, another for large seed; ratchet drive; sloping grain hopper bottoms, assuring an even flow of seed to the feed cups; self-aligning steel roller axle bearings; automatic markers; accurate working parts; easy adjustments; and strong serviceable construction throughout.

On the fertilizer drills the seed and fertilizer mechanism can be used either together or separately. The seed mechanism and the fertilizer feed go into or out of gear automatically.

Illust. 6—The star fertilizer feed ready to assemble. The back plate has been cut away to show the arrangement of the feed guide operated by the quantity lever on the end of the hopper. All parts can be removed quickly and easily without the use of tools.

Illust. 7—The irrigating attachment which can be supplied for McCormick-Deering beet drills. Two of these are required for each drill.
McCormick-Deering Two-Row Beet Cultivator—No. 10

Frame
The frame is simple and strong, and the cultivator is furnished with a pair of shafts for one horse. By setting them close together, and using the extension, a two-piece tongue is obtained so that two horses can be used if desired. It is light, easily guided, and has been successful wherever used.

Wheels
The wheels are 26 inches in diameter, with 2-inch face, made with staggered spokes. They are adjustable in and out for different widths of rows.

Frame
The frame is simple and strong, and the cultivator is furnished with a pair of shafts for one horse. By setting them close together, and using the extension, a two-piece tongue is obtained so that two horses can be used if desired. It is light, easily guided, and has been successful wherever used.

Wheels
The wheels are 26 inches in diameter, with 2-inch face, made with staggered spokes. They are adjustable in and out for different widths of rows.

Double Cross Bars
The No. 10 cultivator has two pairs of parallel cross bars, providing ample space for any number of attachments at varying widths. The adjustment of each pair is independent, making it possible to change the angle or pitch of all the attachments on the rear bars without disturbing the adjustment of those on the front bars, or the front bars may be changed without disturbing the rear bars. Besides this adjustment, each attachment is individually adjustable in any direction by means of adjustable clamps.

Riding Attachment
The No. 10 beet cultivator can be equipped with the seat attachment, which includes the seat rails, rear wheel and lever, when ordered as an extra.

Regular Equipment
Combination shafts and tongue
Singletree
Seven clamps
Handles
No cultivating appliances

Extra Equipment
Duck feet, knife or disk weeders, deer tongues, irrigating shovels, etc., as illustrated and listed on the page of "Attachments for McCormick-Deering Beet Cultivators." To meet all conditions the following equipment is recommended: 2 pairs No. 2 knife weeders, 2 pairs No. 3 disk weeders, 3 No. 4 duck feet, 7 deer tongues, and 3 No. 4 irrigating shovels. Two-horse evener (POWE 15) and neckyoke. No. 1 riding attachment. No. 29 shields.

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Two-row beet cultivator, less cultivating attachments</td>
<td>232 lb.</td>
</tr>
<tr>
<td></td>
<td>Riding attachment</td>
<td>111 lb.</td>
</tr>
<tr>
<td></td>
<td>POWE 15 two-horse evener</td>
<td>13 lb.</td>
</tr>
<tr>
<td></td>
<td>Neckyoke</td>
<td>5 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Beet and Bean Cultivators  
No. 3-C and No. 3-D

Illust. 3—No. 3-C two-row Beet Cultivator with knife weeders and duck feet.

No. 3-C and No. 3-D cultivators have tool bars 90 inches long which are of rigid double-cross-bar construction with plenty of clearance for the cultivating appliances. They can be adapted to a wide variety of row spacings for cultivating beets, beans, lettuce, and many other crops including corn.

The wheel spacing of No. 3-C is adjustable from 38 to 62 inches. Equipped with a single rear wheel it will cultivate two rows spaced 20 to 42 inches apart, or four rows spaced 16, 18, 20, or 22 inches apart, or any even number of rows up to eight rows 10 inches apart. Equipped with two rear wheels it will cultivate three rows 22, 24, 26, or 28 inches apart, or five rows 10 to 16 inches apart, or seven rows 10, 11, or 12 inches apart.

No. 3-D cultivator is similar to No. 3-C except that it is adapted to cultivating irrigated land. The wheels are adjustable from 38 to 62 inches apart, and the wheels are carried 3 1/2 inches lower so as to run in the irrigated furrows, but if desired, they may be set to the same height as on No. 3-C. No. 3-D has two rear wheels that can be spaced up to 42 inches apart. The rear wheel frame is of the pivoted floating type enabling it to be operated on irregular ground without straining the main frame.

Foot Levers

By means of foot levers, so placed that the feet of the operator rest in the stirrups naturally, the wheels of both No. 3-C and No. 3-D may be pivoted either way, carrying the shovels and weeders toward or away from the plants, assuring close cultivation and at the same time providing a quick and efficient means of dodging when there is danger of cutting the plants, regardless of the depth or type of shovels used.

Both Sides Rise Alike

The main lever raises and lowers the gang as a unit at the end of the rows. The gang is suspended from two points, and the rock shaft extending across the frame causes both sides to rise squarely. Auxiliary levers enable the operator to adjust either side independently when working in uneven ground.

Cushion springs between the levers and the gang give the gang a yielding pressure, adapting it to ordinary irregularities in the ground. Strong balance springs assist the operator in raising the gang.

Wheels

The front wheels are 23 inches and the rear wheels 18 inches in diameter. All wheels have 3-in. tires. They are equipped with dustproof boxes and compression grease cups for using hard oil. The seat is adjustable backward or forward on the seat spring to accommodate a tall or short driver.

Attachments

Like the other beet cultivators, the No. 3-C is furnished less the cultivating appliances, the purchaser ordering his equipment according to his needs.

Regular Equipment

Two-horse evener (POWE-45) and neckyoke.
11 clamps for No. 3-C and 13 for No. 3-D. Single rear wheels for No. 3-C. Double rear wheels for No. 3-D. Seat. Umbrella bracket.

Extra Equipment

Knife or disk weeders, deer tongues, duck feet, etc., as illustrated and listed on the page of "Attachments for McCormick-Deering Beet Cultivators." No. 29 sheet iron shields. Evener and neckyoke extension for cultivating two 42-inch rows. Double wheel rear truck. Fertilizer attachment for fertilizing both sides of two rows.

To meet all conditions, the following equipment is recommended for No. 3-C: 2 pairs No. 2 knife weeders, 2 pairs No. 103 disk weeders, and 3 No. 4 duck feet or 7 No. 7 deer tongues.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-C</td>
<td>Two-row beet cultivator, less cultivating attachments</td>
<td>449 lb.</td>
</tr>
<tr>
<td>3-D</td>
<td>Two-row beet cultivator, less cultivating attachments</td>
<td>475 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Beet and Bean Cultivators
No. 3-C and No. 3-D

Illust. 3-A—No. 3-C Cultivator with 2-wheel rear truck and equipment for cultivating three rows of beans 28 inches apart.

Illust. 3-B—No. 3-C Cultivator with equipment for cultivating two rows of corn 42 inches apart.

Illust. 3-C—No. 3-C Beet Cultivator with No. 32 fertilizer attachment for fertilizing both sides of two rows. The hoppers hold 50 pounds each. Adjustments are provided for fertilizing from 50 to 400 pounds to the acre, depending on row width and the condition of the fertilizer.

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McCormick-Deering Beet and Bean Cultivators

No. 8

Wide Range of Adaptability

The No. 8 beet and bean cultivator is adapted to the cultivation of four rows of beets or beans, whether planted 16, 18, 20, 22, 24, 26, 28 or 30 inches apart. It is very light in draft, two horses pulling it easily under ordinary conditions.

Frame

The frame is made of high quality steel, thoroughly trussed and braced throughout and very strong and rigid, while at the same time comparatively light.

Cultivating Attachments

Different localities call for different equipment, and for that reason McCormick-Deering beet cultivators are supplied less the cultivating appliances, the purchaser selecting the equipment that will best suit his conditions.

Three-Row Bean Attachment

An attachment can be supplied which enables the purchaser to cultivate three rows instead of four in beans, melons, peas, etc. This attachment comprises an extra rear wheel and parts necessary to set the rear wheels to straddle the middle row.

Regular Equipment

Two-horse evener (POWE-45) and neckyoke that will permit adjustment for 20 to 28-inch rows. Thirteen clamps. Umbrella bracket.

Extra Equipment

3-row bean attachment: Deer tongues, duck feet, knife weeders, irrigating shovels, etc., as listed on page of "Attachments for McCormick-Deering Beet Cultivators." To meet all conditions the following equipment is recommended: 4 pairs No. 2 knife weeders, 4 pairs No. 3 disk weeders, 5 No. 4 duck feet, 13 No. 6 or No. 7 deer tongues and 2 or 5 No. 4 irrigating shovels. V-wheels, marker, and special duck feet for chopping cotton. No. 41 shields, twin disk markers, half sweeps, and 6\frac{1}{2}, 8\frac{1}{2} or 10\frac{1}{2}-in. sweeps for blocking out and thinning beets. No. 29 shields.

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Beet cultivator (less cult. atts.)</td>
<td>535 lb.</td>
</tr>
<tr>
<td></td>
<td>3-Row bean attachment</td>
<td>36 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Beet and Bean Cultivators

No. 8

Illustr. 6—No. 8 Beet Cultivator with attachment for cultivating three rows of beans, and with duck feet and knife weeders. The rear wheels are 28 in. apart. Rows up to 38 in. wide can be cultivated with this equipment.

Two pairs of parallel cross bars 115 inches long provide ample space for any number of attachments at varying widths.

This double bar construction has three distinct advantages over the single bar—it offers more clearance between the cultivating appliances; it is very rigid and very strong.

The foot levers enable the operator to pivot the wheels either way, carrying the cultivating appliances to or away from the plants, assuring close cultivation.

The main lever raises and lowers the gang as a unit at the ends of the rows. The gang is suspended from two points, and both sides rise together. Auxiliary levers enable the operator to adjust either side independently when working in uneven ground.

Illustr. 7—McCormick-Deering No. 8 Beet Cultivator equipped for blocking out and thinning beets. The special equipment comprises 4 pairs of No. 3 disk weeders, 5 duck feet (No. 3 or No. 4 can be supplied according to spacing requirements), 4 pairs of No. 41 shields, and twin disk markers with ropes to raise and lower markers from the seat. No. 10 deer tongues often are used with this equipment with 6½, 8½ or 10½-in. sweeps as the three center shovels, and with half sweeps as the two outside shovels.

Illustr. 8—No. 1 Cotton Chopper. Takes a strip 10 feet wide. Equipped here with 5 straight and 4 offset standards and No. 8 duck feet. Regular equipment includes marker, V-rim wheels, two-horse evener and neckyoke, and 9 No. 4 duck feet.

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Attachments for McCormick-Deering Beet Cultivators

Purchaser Chooses Equipment
As has been stated elsewhere, different localities call for different equipment, and in order to enable the purchaser of a McCormick-Deering beet cultivator to obtain the machine best adapted to his particular requirements, the cultivators are built so that the different cultivating attachments are interchangeable, and the purchaser selects the equipment he wants. These attachments are all made of the best quality of steel and can be placed on the cross bars of the cultivators for rows of varying widths.

Note particularly the No. 103 disk weeder. It has a chilled spindle, oil-soaked wood bushing and dust-proof boxing, with hard oil screw cap. The spindle bracket is adjustable to give the disk the desired angle. The scraper is supplied only on special order.

Irrigating Shovel
The irrigating shovel has an adjustable block which provides suction adjustment.

Other Attachments
There are two sizes of duck feet; knife weeders, both right and left hand; disk weeders; deer tongues, as illustrated, and diamond points. The No. 5 pin-break deer tongue is used on the No. 3-C beet cultivator. It is equipped with a single point, flat-faced shovel, 2 x 6½ inches: No. 15 spring trip.

Clamps
Each cultivator is furnished with clamps sufficient for ordinary requirements, but extra clamps can be supplied.

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Net Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Duck foot, small, offset shank, each</td>
<td>4 lb.</td>
</tr>
<tr>
<td>4</td>
<td>Duck foot, large, offset shank, each</td>
<td>4 lb.</td>
</tr>
<tr>
<td>5</td>
<td>Deer tongue, pin break, each</td>
<td>6 lb.</td>
</tr>
<tr>
<td>6</td>
<td>Deer tongue, each</td>
<td>4 lb.</td>
</tr>
<tr>
<td>7</td>
<td>Deer tongue att., for using IHC 2½ x 10-in.</td>
<td>8 lb.</td>
</tr>
<tr>
<td>8</td>
<td>Deer tongue att., offset standard with slotted</td>
<td>8 lb.</td>
</tr>
<tr>
<td>10</td>
<td>Deer tongue att., offset standard with round</td>
<td>8 lb.</td>
</tr>
<tr>
<td>15</td>
<td>Spring trip</td>
<td>8 lb.</td>
</tr>
<tr>
<td>2</td>
<td>Knife weeders, 6-in. blade, per pair</td>
<td>8 lb.</td>
</tr>
<tr>
<td>3</td>
<td>Knife weeders, 7-in. blade, per pair</td>
<td>8½ lb.</td>
</tr>
<tr>
<td>12</td>
<td>Knife weeders, 6-in. blade, per pair</td>
<td>8½ lb.</td>
</tr>
<tr>
<td>13</td>
<td>Knife weeders, 7-in. blade, per pair</td>
<td>9 lb.</td>
</tr>
<tr>
<td>14</td>
<td>Knife weeders, 8-in. blade, per pair</td>
<td>12 lb.</td>
</tr>
<tr>
<td>103</td>
<td>Disk weeders, 12-in. blade, per pair</td>
<td>21 lb.</td>
</tr>
<tr>
<td>106</td>
<td>Disk weeders, 10-in., per pair</td>
<td>21 lb.</td>
</tr>
<tr>
<td>1</td>
<td>Diamond point, with shank</td>
<td>3 lb.</td>
</tr>
<tr>
<td>4</td>
<td>Irrigating shovel, each</td>
<td>7 lb.</td>
</tr>
<tr>
<td>29</td>
<td>Sheet iron shields with clamp, per pair</td>
<td>14 lb.</td>
</tr>
<tr>
<td>41</td>
<td>Flexible shields, per pair</td>
<td>12 lb.</td>
</tr>
<tr>
<td></td>
<td>Marker attachment</td>
<td>56 lb.</td>
</tr>
<tr>
<td></td>
<td>Tool clamps, complete, each</td>
<td>1 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Two-Row Cultivators

Styles UD and UE

Row Widths
The McCormick-Deering two-row cultivators are the UD for rows 40 to 44 inches apart, and the UE for rows 32 to 40 inches apart. The UE is equipped with an adjustable frame. This feature can be supplied as a special feature on the UD cultivator. It permits setting the wheels in 4 inches on each side for narrower planted crops. The UD with this feature is designated as UF.

Regular Equipment
Cross or plain arches. Double pole and neckyoke. Plain shields. Concave tires. No. 36 3-horse evener with UD cultivators. UE cultivators equipped with adjustable frame. No. 39 combination 3 and 4-horse evener, and jockey arch (No. 23 for steel-beam gangs, No. 23A for pipe-beam gangs).

Extra Equipment
Rotary shields. Disk hillers 11 or 13 inches in diameter, for use with steel beam gangs. Knife attachments for either steel beam or pipe beam gangs. For UD: No. 37 4-horse equipment, No. 38 4-horse equipment with drop pole and double wheel tongue truck, No. 42 4-horse equipment with drop pole and single wheel tongue truck, No. 44 5-horse equipment with double wheel truck, No. 45 5-horse equipment with single wheel truck; single or double wheel drop pole tongue truck with pole and neckyoke; single wheel truck for use at front ends of two poles; and tractor hitches for 10-20 and W-30 tractors (specify whether cultivator is equipped with tongue truck). For UE: No. 43 4-horse equipment with drop pole and single wheel tongue truck; No. 46-A 3-horse equipment; No. 47 4-horse equipment with drop pole single wheel, V-rim, tongue truck. UD: No. 24 jockey arch for steel beam gangs, No. 24-A for pipe beam. Adjustable frame. Surface attachment.

Specifications

<table>
<thead>
<tr>
<th>NUMBER, UD</th>
<th>NUMBER, UE</th>
</tr>
</thead>
<tbody>
<tr>
<td>DESCRIPTION</td>
<td>ROUND SHANK</td>
</tr>
<tr>
<td></td>
<td>PIN BREAK</td>
</tr>
<tr>
<td></td>
<td>SPRING TRIP</td>
</tr>
<tr>
<td>Steel beam, 8-shovel</td>
<td>UD-1</td>
</tr>
<tr>
<td>Steel beam, 8-shovel</td>
<td>UD-8A</td>
</tr>
<tr>
<td>Pipe beam, 8-shovel</td>
<td>UD-10</td>
</tr>
<tr>
<td>8-shovel, friction trip</td>
<td></td>
</tr>
<tr>
<td>Steel beam, 12-shovel*</td>
<td>UD-21</td>
</tr>
<tr>
<td>Steel beam, 12-shovel*</td>
<td>UD-201</td>
</tr>
<tr>
<td>Steel beam, 12-shovel* potato</td>
<td>UD-41</td>
</tr>
<tr>
<td>Steel beam, 16-shovel* potato</td>
<td>UD-241</td>
</tr>
<tr>
<td>Steel beam, 15-shovel</td>
<td></td>
</tr>
</tbody>
</table>

Spring-tooth gang 62 (6 shovels) and spring-tooth gang 63 (8 shovels) also are available for the UD cultivator.

* 1 shovel less on UE cultivators. Also see page of "Horse-Drawn Cultivator Gang Equipment".
McCormick-Deering Two-Row Cultivators
Styles UD and UE

Illustr. 2—UE two-row pivot wheel Cultivator with No. 220 gangs and No. 23A jockey arch. No. 231C steel beam gangs and No. 23 jockey arch are available for potato cultivation.

Two Types of Arch

Two types of arch can be furnished on either the UD or UE. The cross arch construction is an original feature on the McCormick-Deering two-row, and is a handy feature for use in sections where crops are planted with two-row planters. With this type of arch, the alternate gangs remain the same distance apart and work together. The two crop rows being the same distance apart, they having been planted with a two-row planter, the two alternate gangs shift together in equal relation to the crop rows, making the McCormick-Deering two-row handle like a single row cultivator.

Where crops are planted or listed with one-row planters, the straight arch construction shown in Illustr. 4 should be used. With this type of arch the outside gangs are fastened in pairs, and can be set for wide or narrow cultivation to suit the variation in the widths of the crop rows.

Illustr. 3—Cross arch construction for rows planted two at a time. The distance of cultivation from the row can be quickly changed with this type of arch.

Illustr. 4—Straight arch construction for crops planted one row at a time. A handy lever adjusts the two sets of gangs to unevenly spaced rows.
McCormick-Deering Two-Row Cultivators

Illustr. 5—Knife attachment, POKA-11 for two-row pipe-beam gang cultivators for use in the first two cultivations of listed crops. Adjustable to width, to angle of knives, and to the height of the ends of knives. Full set for two-row cultivator includes three 48-in. knives, one 36-in. knife and two shields. A similar knife attachment, POKA-10, is available for steel beam gangs.

Illustr. 5—Each gang-head arch connection on McCormick-Deering two-row cultivators is provided with a take-up bushing that makes it a simple matter to tighten the gang couplings. The coupling sleeve "A" is cone-shaped at each end, and fits snugly into cone recesses in the bracket. By loosening bolt "B" and turning bushing "C" and then retightening bolt "B", the coupling can be made as rigid as when it left the factory, even though many acres have been cultivated.

Pivot Wheel

Pressure on the foot pedals gives instant guiding action in dodging. A shift of approximately 14 inches can be made between hills planted in 32 to 40-inch rows. For first cultivation when close, accurate work is required, the gangs can be linked to shift with the wheels, giving double-quick dodging action. This is also a good feature in cross cultivation.

The wheels can be locked when transporting the cultivator.

Easy Gang Control

Spring pressure, which can be regulated for hard or soft ground, holds the gangs firmly to their work. Lift springs make the gangs almost self-balancing and easy to raise, their lifting effect taking hold only when the gangs are started upward.

There are two levers directly in front of the operator, one of which adjusts the spacing of the gangs with reference to the row on cross arch cultivators, or shifts the gangs in pairs on straight arch cultivators. The other levels the frame and the gangs with reference to the tongue. This feature can be utilized to obtain deep cultivation close to the row the first time over.

Illustr. 6—A is the lever which locks the gangs so that they shift with the wheels, or so that all four gangs work together and are guided simply by the pivoting of the wheels. B extends from a short lever directly in front of the operator and, by means of the links C and D, controls the width apart of the two sets of gangs when the straight arches are used, or distance of the gangs from crop row when cross arches are used.

Illustr. 6—A lever, directly in front of the operator, levels the frame regardless of the height of the team.

Feb. 1935
McCormick-Deering Two-Row Cultivators

Illust. 7—No. UD-21 gangs with center tooth attachments which can be supplied on special order.

Illust. 8—No. 62 spring-tooth gangs on the UD Cultivator.

Other Features

The main frame is made of heavy flat bar steel, rigidly braced and hot-riveted together. The main frame angle is reinforced by a heavy truss rod.

The wheels are high, with wide tires, heavy spokes staggered at the hubs, into which they are cast.

Wheel bearings are dust-proof and are equipped with renewable boxes, dust-proof sand bands, and hard oil screw caps. Collars and linch pins hold the wheels on the axle. Each sand band is equipped with an oil cup.

Illust. 9—This 3-horse evener with the two poles (No. 36 hitch) constitutes regular equipment on the UD Cultivator. The same type of evener can be supplied for UE on special order, under No. 46-A.

Illust. 10—Four-horse evener with doubletrees at the outer end of the evener. This evener is adjustable for 36 or 42-inch rows.

Illustr. 10-A—Four-horse evener with doubletrees moved in for driving through 12-foot gates. This is the 4-horse evener supplied with Nos. 37, 38 and 42-hitch equipment. The same type evener is supplied on UE Cultivator with Nos. 43 and 47 hitch equipment.
McCormick-Deering Two-Row Cultivators

The UD is regularly equipped with the three-horse evener shown in Illust. 9 on the preceding page, and two tongues and neckyoke. The UE is regularly equipped with the No. 39 three and four-horse equipment for use with two poles. A wide range of possible equipment is available, including four and five-horse eveners with single or double wheel drop pole tongue trucks. These tongue trucks are built right into the frame and are therefore very strong and rigid.

In Illust. 10-A on the preceding page note that the four-horse evener permits setting the doubletrees in close to the pole for driving through gates. The teams are not unhitched from the doubletrees nor do they move forward. The clevis pins are merely pulled out and the doubletrees slipped in on the long bar.

Note that a single wheel tongue truck is also available for use at the ends of the two poles. These two poles are regular equipment on the UD and UE cultivators.

Illust. 12—The single wheel truck which can be supplied for use at ends of tongues on any cultivator equipped with two tongues.

Illust. 12-A—The cast, V-rimmed wheel which can be supplied in place of the wheel shown in Illust. 13 on special order.

Illust. 13—The No. 43 four-horse equipment with drop pole and single wheel tongue truck for UE Cultivator. This equipment is No. 42 for the UD Cultivator.

Feb. 1935
McCormick-Deering Two-Row Cultivators
Surface Attachment—No. 24

Saves a Man and One Horse

The McCormick-Deering two-row cultivator with surface attachment enables one man and three horses to do as much work as can be done by two men and four horses with single-row machines. The simple lever arrangement, with the instant gang control in the foot levers, makes it extremely easy to handle, assuring efficient cultivation and cross cultivation.

Parallel Gang Movement

The gangs do not swing, but travel sideways with the pivoting of the wheels, and always at the same angle with the row, so that all blades cut the same width and depth all the time. In dodging stray hills the operator finds the movement required simple and natural.

Gang Construction

The blades are of high carbon steel, carefully sharpened. Slotted blocks permit leveling the blades independently. The standards are round and blades are attached by means of clamps which permit setting the blades at any angle. The spreaders permit the gangs to be adjusted independently, without throwing the blades out of level.

Levelers

The levelers are made of heavy spikes securely fastened in malleable heads. A sheet steel crusher covers the spikes, with the exception of about half an inch at the points, and assists in pulverizing the soil. These crushers can be removed if desired.

A Rigidly-built Cultivator

This positively makes the most rigid two-row surface cultivator built, and when all adjustments have been made and it is tightened up, the blades may be run close to the corn with perfect safety.

Those who own McCormick-Deering two-row shovel gang cultivators can convert them into first-class two-row surface cultivators by adding the No. 24 two-row surface attachment.

Regular Equipment


Extra Equipment

Rotary shields.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>Surface att. for UD cultivator</td>
<td>251 lb</td>
</tr>
</tbody>
</table>

Feb. 1935
The New 4 is a pivot axle, balance frame cultivator which fits a remarkably wide range of cultivating requirements. Its great adaptability to the cultivation of all row crops, the ease with which it is operated and the time and labor-saving features embodied in its construction, undoubtedly make the New 4 the leading single row cultivator in the United States.

The frame of the New 4 is always in balance whether the gangs are raised or lowered. As the gangs are raised by the master lever the frame moves forward, and with it the driver, balancing the cultivator nicely. The axle arch is always perpendicular.

Foot pedals enable the operator instantly to guide the cultivator either to right or left in dodging. The wheel pivots employ two bearing balls to provide the easiest possible operation.

**Regular Equipment**
- Evener
- Neckyoke
- Shields
- Gangs as shown in table.

**Extra Equipment**
- Rotary shield
- Diak hillers
- Wing hillers
- Spring-tooth attachments
- Fertilizer attachment
- Tobacco hoeing attachment
- Center shovel attachment
- Pin-break
- Spring-trip
- Spring-tooth
- No. 14 jockey arch for pipe beam gangs
- No. 19 for steel beam gangs
- Weeder attachment (specify whether for steel or pipe-beam gangs)
- Four-horse hitch
- Wide range of shovel equipment, including spearhead shovels.

### Specifications

<table>
<thead>
<tr>
<th>Gang Description</th>
<th>4-Shovel</th>
<th>6-Shovel</th>
<th>8-Shovel</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Weight</td>
<td>Weight</td>
<td>Weight</td>
</tr>
<tr>
<td>Steel beam, round shank, pin break</td>
<td>1</td>
<td>446 lb.</td>
<td>21</td>
</tr>
<tr>
<td>Steel beam, round shank, spring trip</td>
<td>11</td>
<td>461 lb.</td>
<td>31</td>
</tr>
<tr>
<td>Steel beam, slotted shank, pin break</td>
<td>201</td>
<td>499 lb.</td>
<td>221</td>
</tr>
<tr>
<td>Steel beam, slotted shank, spring trip</td>
<td>211</td>
<td>465 lb.</td>
<td>231</td>
</tr>
<tr>
<td>Steel beam, special slotted shank, pin break</td>
<td>301</td>
<td>452 lb.</td>
<td>321</td>
</tr>
<tr>
<td>Steel beam, special slotted shank, spring trip</td>
<td>311</td>
<td>468 lb.</td>
<td>331</td>
</tr>
<tr>
<td>Pipe beam, friction trip</td>
<td>204</td>
<td>499 lb.</td>
<td></td>
</tr>
<tr>
<td>Pipe beam, slotted shank, pin break</td>
<td>210</td>
<td>491 lb.</td>
<td></td>
</tr>
<tr>
<td>Pipe beam, slotted shank, spring trip</td>
<td>220</td>
<td>507 lb.</td>
<td></td>
</tr>
<tr>
<td>Spring tooth</td>
<td>61</td>
<td>443 lb.</td>
<td>62</td>
</tr>
</tbody>
</table>
McCormick-Deering New 4 Cultivator

Control Lever
In addition to the master lever, which raises the gangs as a pair and adjusts the depth, each gang has its own depth regulating lever for independent adjustment.

When the master lever is released, a strong spring helps start the gangs up, after which the pull on the traces takes effect and assists in the raising of the gangs, thus making the New 4 a horse-lift cultivator; likewise, when going into the ground the draft takes effect and helps to pull the shovels in. This is because the draft is practically on the center of the load on the gangs. The ease with which the gangs are raised or lowered assures quick work at the ends.

A lever directly in front of the operator adjusts the gangs for close or wide cultivation. A tongue lever is also provided to adjust the tongue to the height of the team.

Hitch Direct to Gangs
The line of draft is straight from the horses’ shoulders to the centers of the gangs. This eliminates side thrust and makes the cultivator easy to control.

The wheels are 40 inches in diameter, have concave tires and sixteen spokes, staggered in extra long hubs. Dust-proof caps and sand bands exclude dirt. Each hub is equipped with a hard oiler.

Gang Control
Pressure on the foot pedals pivots the wheels and also shifts the gangs, giving a double-quick action in dodging plants out of line. This makes the New 4 an ideal hillside cultivator. The gangs are always parallel to the crop row. Compression springs give the gangs a yielding pressure and at the same time make the New 4 a splendid weed killer.
Gang Equipment for New 4 Cultivator

Steel Beam Gangs
No. 1. 4-shovel, round shank, pin break.
No. 11. 4-shovel, round shank, spring trip.
No. 201. 4-shovel, slotted shank, pin break.
No. 211. 4-shovel, slotted shank, spring trip.
No. 21. 6-shovel, round shank, pin break.
No. 31. 6-shovel, round shank, spring trip.
No. 221. 6-shovel, slotted shank, pin break.
No. 231. 6-shovel, slotted shank, spring trip.
No. 41. 8-shovel, round shank, pin break.
No. 51. 8-shovel, round shank, spring trip.
No. 224. 8-shovel, slotted shank, pin break.
No. 251. 8-shovel, slotted shank, spring trip.

Special Steel Beam (Take Georgia Sweep Bolts)
No. 301. 4-shovel, slotted shank, pin break.
No. 311. 4-shovel, slotted shank, spring trip.
No. 321. 6-shovel, slotted shank, pin break.
No. 331. 6-shovel, slotted shank, spring trip.
No. 341. 8-shovel, slotted shank, pin break.
No. 351. 8-shovel, slotted shank, spring trip.

Pipe Beam Gangs
No. 204. 4-shovel, friction trip.
No. 210. 4-shovel, slotted shank, pin break.
No. 220. 4-shovel, slotted shank, spring trip.

Spring Tooth Attachments
No. 61. 4-spring tooth.
No. 62. 6-spring tooth.
No. 63. 8-spring tooth.
These spring teeth are attached to the beams by the same clamps as used for shovel standards. Teeth are double pointed and reversible.

Feb. 1935
McCormick-Deering Balance Rider Cultivator

Rider Balances Gangs
The Balance Rider is a leverless cultivator in which the rider's weight is balanced against the weight of the gangs, affording a sensitiveness of control that assures clean work under extreme conditions. The frame is short coupled and compact, so that the Balance Rider is both easy to handle and easy on the team.

Adjustments are provided to adapt the cultivator to any operator, and to the weight of the gangs selected. The manner in which this adjustment is obtained is shown in Illust. 26.

Very Sensitive
Because of its sensitive balance control the Balance Rider cultivator is especially suited to work in fields infested with vines and stubborn weeds. It can be used in any crop planted in 30 to 48-inch rows. Every adjustment essential to good work under varying conditions is provided for.

Gangs Swing Level
The cross arm pivots on the end of the seat frame, which gives a very easy lift. The gangs can be raised together or independently. The driver always has them under easy control either in level or hilly ground. Hang-up hooks are provided. The gangs can be set in or out on the cross bar to correspond with similar adjustments on the couplings; therefore, the gangs always swing level whether set for wide or narrow cultivation.

Wheels are 42 inches in diameter and can be set in or out for 41 to 57-inch track.

Equipment
Equipment includes neckyoke and shields, also any of the steel beam gangs, as listed in the following table, as well as on the page of "Horse-Drawn Cultivator Gang Equipment." No. 2 jockey arch supplied as special equipment.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC1</td>
<td>Steel beam, round shank, pin break, 4 shovels</td>
<td>340 lb.</td>
</tr>
<tr>
<td>SC5</td>
<td>Steel beam, round shank, pin break, 4 shovels, adjustable inside standard</td>
<td>356 lb.</td>
</tr>
<tr>
<td>SC15</td>
<td>Steel beam, round shank, spring trip, 4 shovels, adjustable inside standard</td>
<td>377 lb.</td>
</tr>
<tr>
<td>SC21</td>
<td>Steel beam, round shank, pin break, 6 shovels</td>
<td>354 lb.</td>
</tr>
<tr>
<td>SC21B</td>
<td>Steel beam, round shank, pin break, 6 shovels, rear shovels off-set</td>
<td>375 lb.</td>
</tr>
<tr>
<td>SC31B</td>
<td>Steel beam, round shank, spring trip, 6 shovels</td>
<td>398 lb.</td>
</tr>
<tr>
<td>SC25</td>
<td>Steel beam, round shank, spring trip, 6 shovels, adjustable inside standard</td>
<td>383 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering Jewel Hammock Cultivator

Style ZD

Illust. 27—Jewel Hammock Cultivator with No. 21 gangs.

For efficient cultivation, easy handling, and all around comfort for the operator, combined on a hammock type cultivator, the Jewel Hammock is hard to beat.

Gang Control

The gangs are fastened to the front arch by pivot couplings, and are suspended at the rear by steel pipes or pendulums fastened at the top to rocker arms, which project from the axle arch. The upper ends of the pendulum are supported by levers working against cushion springs, which cause the gangs to be carried at a fixed depth but which, at the same time, allow the operator to force the gangs down into depressions.

Handles on the pendulums and stirrups on the gangs enable the operator to handle the gangs with his hands or feet, or both. This arrangement gives a remarkably easy and accurate gang control. Lock-up hooks are provided, so that the gangs can be locked when transporting the cultivator.

Gang Shift

Levers on the rocker arms regulate the cultivating depth. The gangs can be set in or out, to work close to or away from the rows. They can also be tilted so that the outside shovels will work deeper or more shallow than the inside shovels. The gangs shift parallel.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>WT. LESS SHOVELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZD 21</td>
<td>Steel beam, 6 shovels</td>
<td>450 lb.</td>
</tr>
<tr>
<td>ZD 31</td>
<td>Steel beam, spring trip, 6 shovels</td>
<td>485 lb.</td>
</tr>
<tr>
<td>ZD 41</td>
<td>Steel beam, 8 shovels</td>
<td>462 lb.</td>
</tr>
</tbody>
</table>

Balance

A balance lever enables the operator to keep the cultivator in proper balance whether he be light or heavy.

Width

The upper arms of the axle telescope into a structural steel tube, which permit setting the wheels in or out for work in rows of standard widths. This allows the wheel tread to vary from 44 to 54 in. and the cultivator to be used in rows 30 to 48 in. in width.

Regular Equipment

Neckyoke. Plain shields. Concave tire wheels. Standard shovel equipment and gangs as listed in the table below. For other gangs, see page on "Horse-Drawn Cultivator Gang Equipment."

Extra Equipment

Rotary shields in place of regular. No. 8 jockey arch. Disk hillers with clamps.

Illustration:
- Illustr. 28—This shows the manner in which the Jewel Hammock gang is attached to the arch. Loosening set screw, A, permits setting gang in or out for different widths of cultivation. B is set screw and collar which levels gangs for shallow or deep cultivation. C, D and E take up any looseness due to wear.
The McCormick-Deering TF is a disk cultivator with a balance frame and a pivot axle. It is ideal for work in fields infested with weeds, quack grass and vines, because the disks turn and cut as they cultivate and thereby prevent gathering on the gangs.

The TF has a master lever which raises the gangs as a pair, and also regulates the depth of cultivation. When the master lever is brought into action, a large tension spring helps to start the gangs up, and, at the same time, the pull of the traces assists in raising the gangs, making the TF a horse-lift cultivator. Each wheel pivot has a ball bearing.

Gang Control

The gangs on the McCormick-Deering TF disk cultivator shift parallel to the crop row. The gang carriage shifts on rollers. Pressure on the foot pedals pivots the wheels and simultaneously shifts the gangs. The rigidity of the gangs assures thorough cultivation. Wide, heavy couplings hold the gangs in a fixed position in front. Lifting rods which run from the depth control levers have adjustable pressure springs which hold the gangs firmly in the ground at the rear.

Wheel tread may be set between 44 and 56 in.

Disk Gang Construction

Gangs can be set for level, bed, or furrow cultivation. The gangs can be quickly reversed from in-throw to out-throw, or vice versa.

The gangs can be tilted up or down to conform to the slope of crop-bed or furrows. The gang head bearings are heavy, and machine-cut to an exact fit, making the disk gangs exceptionally rigid and strong.

The disk bearings are equipped with dust-proof, chilled iron bushings. Each bearing has a grease cup.

Regular Equipment


Extra Equipment

Gangs listed for TF cultivator on page of “Horse-Drawn Cultivator Gang Equipment.” Fertilizer attachment (see New 4 cultivator). No. 213-A spring trip, 4-shovel attachment. Scrapers. Four-horse hitch. Harrow attachment (two disks and spools to be bolted one to each gang; this makes it a 4-foot reversible disk harrow).

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>DESCRIPTION</th>
<th>Wt.</th>
</tr>
</thead>
</table>
| TF 99A| With 14-in. disks | 603 lb.
| TF 98A| With 16-in. disks | 605 lb.

Feb. 1935
McCormick-Deering Disk Cultivator

Style TG

The McCormick-Deering TG disk cultivator is of rigid frame, swinging gang construction, especially designed for use in gumbo and the hard soil of river bottoms. After the pressure levers are set for the desired average depth of penetration of the disks, the driver may secure additional pressure (in gullies or where the soil is particularly hard) by depressing the foot pedals. This makes possible uniform depth of penetration regardless of hard soil.

The beams are so designed that the growing plants are gathered and passed without bending them over sidewise. Gang heads are simple and rigid. An improved wedge-lock construction locks the gangs rigidly in the desired setting, thereby eliminating looseness.

The TG cultivator is adjustable from 48 to 62-inch wheel tread.

### Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>TG 101</td>
<td>With 14-inch disks</td>
<td>461</td>
</tr>
<tr>
<td>TG 100</td>
<td>With 16-inch disks</td>
<td>466</td>
</tr>
<tr>
<td>TG 102</td>
<td>With 18-inch disks</td>
<td>473</td>
</tr>
</tbody>
</table>

### Regular Equipment

Evener, Neckyoke, Shields. 14, 16, or 18-inch disks.

### Extra Equipment

Scrapers.

Feb. 1935
McCormick-Deering Victor Cultivator

Style YB

The Victor cultivator is a simple and practical cultivator designed so that the operator may either ride or walk, as he chooses.

Frame

This cultivator has a long frame which gives it perfect balance. The axle curves upward and telescopes inside the arched tubing, providing for different widths of wheel treads. A low hitch is used with the pull direct to the gangs. High clearance in the center gives the operator a clear view of the row.

Control

Each gang is provided with an individual control lever which gives an accurate adjustment of cultivating depth. The seat may be moved backward or forward for different leg lengths, the special balance lever providing ample balance adjustment for any weight of driver. This lever also makes it possible to balance the cultivator when it is used as a walking cultivator. The seat may also be raised or lowered to suit the operator. Adjustable tension springs counterbalance the weight of the gangs.

Foot Lever Gangs

The Victor gangs are provided with a foot lever device enabling the operator to raise them to clear trash without disturbing the control levers. Handles are supplied for each gang which the driver may use to assist in dodging hills, or the seat may be folded over and the Victor used as a walking cultivator.

All gangs are equipped with improved cone couplings which are adjustable to take up wear. The gangs may be set up or down on the cone pivots to level them for different cultivating depths, and they may be moved in or out at the front end for close or wide cultivation of the row.

Regular Equipment

Any of the standard McCormick-Deering gangs, those shown in the accompanying table being the most popular. Neckyoke. Concave tire wheels.

Extra Equipment

Rotary shields. No. 8 jockey arch.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>YB 213</td>
<td>Jointed pipe beam, 4-shovel, slotted shank, spring trip</td>
<td>461 lb.</td>
</tr>
<tr>
<td>YB 5</td>
<td>Steel beam, 4-shovel, round shank, pin break</td>
<td>403 lb.</td>
</tr>
<tr>
<td>YB 15</td>
<td>Steel beam, 4-shovel, round shank, spring trip</td>
<td>434 lb.</td>
</tr>
<tr>
<td>YB 215</td>
<td>Steel beam, 4-shovel, slotted shank, spring trip</td>
<td>418 lb.</td>
</tr>
<tr>
<td>YB 21</td>
<td>Steel beam, 6-shovel, round shank, pin break</td>
<td>416 lb.</td>
</tr>
<tr>
<td>YB 31</td>
<td>Steel beam, 6-shovel, round shank, No. 1 spring trip</td>
<td>465 lb.</td>
</tr>
<tr>
<td>YB 21A</td>
<td>Steel beam, 6-shovel, round shank, pin break, all standards adjustable</td>
<td>429 lb.</td>
</tr>
<tr>
<td>YB 231A</td>
<td>Steel beam, 6-shovel, slotted shank, spring trip, all standards adjustable</td>
<td>458 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering YH Cultivator

The McCormick-Deering YH cultivator is a leverless cultivator that can be used either as a walker or rider. When the operator desires, he can get off and walk and do as good work either way. The seat folds over out of the way and the handles are adjustable left or right and forward or backward.

**Easy to See Crop Row**

The frame and seat rails are constructed so there is nothing to interfere with clear view of the crop row.

The balance springs at the front of the gangs are very strong and make the gangs easy to move and raise, and when properly adjusted are equally effective when riding or walking.

Depth adjustment or penetration control is afforded by the depth adjusting screws near the operator. A few turns will make the shovels run shallow but the gangs can be pressed down to cultivate deeper in hard spots or when crossing gullies and will return to the desired depth when the extra pressure is released. The arches are extra wide, affording ample room when “laying by” tall corn.

**Easy Gang Movement**

The gangs are easy to move up and down and left or right, either singly or as a pair, making it very easy to dodge plants which are out of line and to dig up weeds between the hills.

When the gangs are raised, the wheels automatically move back and prevent the tongue from flying up when turning at the ends of rows or when transporting.

The draft of the team is transferred to the gangs in such manner that the pull of the team forces the gangs into hard ground. The draft links are adjusted easily to lessen the digging power in soft or sandy soils.

**Strong Construction**

Steel predominates throughout the construction of the YH cultivator. The frame rails are strong, the eveners are double-trussed, and the wheels are of time-proved McCormick-Deering design with the boxes sealed against dirt and easy to remove for repairs.

The wheels are 42 in. in diameter and can be set in or out for 41 to 57-in. track. The 21-B gang specially designed for this cultivator has rear shovels that extend behind the wheels when the wheels are set to narrow tread. This permits doing good work on hillsides where it is necessary to set the wheels to narrow tread to prevent them from sliding down the slope to the adjacent row.

**Regular Equipment**

Neckyoke. Concave tire wheels. No. 21-B 6-shovel, round shank, pin-break gang.

**Specifications**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>YH 21B</td>
<td>Steel beam, 6-shovel, round shank, pin-break</td>
<td>395 lb.</td>
</tr>
<tr>
<td>YH 25</td>
<td>Steel beam, 6-shovel, round shank, pin-break, adjustable inside leg</td>
<td>396 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
For All Crops

This is one of the most popular cultivators in the McCormick-Deering line. Its sale is not confined to any particular locality as it is a successful cultivator for all crops where a standard width cultivator can be used. The wheels can be set for 34 to 44-inch tread.

Gangs

Many of the McCormick-Deering types of gangs can be supplied for use on the Volunteer cultivator. Special attention is called to the improved construction on these pages. The inside legs on the jointed beam gangs can be set at an angle to conform to bedded rows.

Another improvement in the gang couplings prevents the gangs from becoming loose and working up or down, thereby affecting the depth. This improvement is shown in Illust. 26. See also Illust. 33.

Adjustment is provided to set the gangs up or down to run level at the desired depth. They can also be set in or out for different widths of cultivation.

Regular Equipment

In the following table are listed popular gangs. Other gangs are listed on the page of "Horse-Drawn Cultivator Gang Equipment." Regular equipment includes neckyoke, singletrees and shields. Steel-beam, spring-trip gangs equipped with No. 1 trip. Jointed beam gangs equipped with No. 8 trip.

Extra Equipment

Spring-tooth attachments, Nos. 63, 79, 81, 82, 83, 84, or 85 for parallel pipe beam gangs. Two-inch flat tires. Pair of bull tongue shovels. Moldboard hillers for 4-shovel gangs. No. 5 13-in. disk hillers. No. 22 jockey arch for use with disk hillers. Special wide hitch and neckyoke for cultivating cane.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>DESCRIPTION</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>A 213</td>
<td>Jointed pipe beam, 4 shovels, spring trip</td>
<td>340 lb.</td>
</tr>
<tr>
<td>A 212</td>
<td>Square pipe beam, 4 shovels, spring trip</td>
<td>331 lb.</td>
</tr>
<tr>
<td>A 215</td>
<td>Steel beam, 4 shovels, spring trip, adjustable inside leg</td>
<td>310 lb.</td>
</tr>
<tr>
<td>A 21</td>
<td>Steel beam, 6 shovels, pin break</td>
<td>292 lb.</td>
</tr>
<tr>
<td>A 233</td>
<td>Jointed pipe beam, 6 shovels, spring trip</td>
<td>376 lb.</td>
</tr>
<tr>
<td>A 241A</td>
<td>Steel beam, 8 shovels, pin break, for double pointed shovels</td>
<td>328 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering
Volunteer Balance Frame Cultivator
Style K

Balance Frame
To balance tongue and gangs to eliminate all tendency of the tongue to fly upward when the gangs are hung up, the axles on this cultivator are offset about 8 inches to the front, shifting the weight of the machine forward sufficiently to overcome this tendency. The balance of the frame may be changed for light or heavy gangs.

Gangs
Any standard type of McCormick-Deering gangs can be supplied as listed below, or as shown on the page of "Horse-Drawn Cultivator Gang Equipment." This cultivator is of the same improved construction as the style A cultivator. These improvements are bound to add to the already great popularity of these famous cultivators.

Note particularly that the cone pivot couplings permit taking up lost motion due to wear, and thereby assure accurate handling of the gangs.

Construction
Wheels are 30 inches in diameter, with concave rims. They are equipped with removable dust-proof boxes, sand bands, and hard oil screw caps. They can be set in or out for 34 to 44-inch track. The handles are adjustable to suit the operator.

Regular Equipment
Any of the popular gangs shown in the accompanying table. Other gangs are listed on the page of "Horse-Drawn Cultivator Gang Equipment." Steel beam spring-trip gangs are furnished with No. 1 spring trip. Jointed beam spring-trip gangs are furnished with No. 8 spring trip. Furnished with singletrees, neckyoke and shield.

Extra Equipment
Number 63, 79, 81, 82, 83, 84 or 85 spring-tooth attachment. 2-in. flat tires. Pair of bull tongue shovels. No. 5 13-in. disk hillers. No. 22 jockey arch for use with disk hillers.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight Less Shovels</th>
</tr>
</thead>
<tbody>
<tr>
<td>K 213</td>
<td>Jointed pipe beam, 4 shovels, spring trip</td>
<td>337 lb.</td>
</tr>
<tr>
<td>K 212</td>
<td>Square pipe beam, 4 shovels, spring trip</td>
<td>322 lb.</td>
</tr>
<tr>
<td>K 215</td>
<td>Steel beam, 4 shovels, spring trip, adjusting inside leg</td>
<td>306 lb.</td>
</tr>
<tr>
<td>K 21</td>
<td>Steel beam, 6 shovels, pin break</td>
<td>292 lb.</td>
</tr>
<tr>
<td>K 233</td>
<td>Jointed pipe beam, 6 shovels, spring trip</td>
<td>372 lb.</td>
</tr>
<tr>
<td>K 241A</td>
<td>Steel beam, 8 shovels, pin break, for double pointed shovels</td>
<td>322 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Cultivators
Special Equipment

Jockey Arches

Pivot axle cultivators, such as the New 4, TF, UD and UE, sometimes require jockey arches to obtain additional gang rigidity for cultivation in adverse soil conditions, or where the weeds and quack grass have made an exceptional growth.

Some cultivators are built with the gangs pivotally coupled at the forward end, so that each gang can be worked in and out separately. Sometimes the operator wishes to lock the rear ends of the gangs together so that they will shift as a pair, and jockey arches can be supplied as special equipment for this purpose. Representative types of these arches are illustrated above. The following table gives information as to what arches are available for each cultivator.

<table>
<thead>
<tr>
<th>No. of Arch</th>
<th>Cultivators for Which Available</th>
<th>Type of Gang on Which Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Special on SC and YH.</td>
<td>Steel</td>
</tr>
<tr>
<td>3</td>
<td>Special on UD, UE, UF.</td>
<td>Steel</td>
</tr>
<tr>
<td>8</td>
<td>Special on YB and ZD.</td>
<td>Steel</td>
</tr>
<tr>
<td>14</td>
<td>Special on New 4.</td>
<td>Steel</td>
</tr>
<tr>
<td>19</td>
<td>Special on New 4.</td>
<td>Pipe</td>
</tr>
<tr>
<td>22</td>
<td>Special on A and K.</td>
<td>Pipe</td>
</tr>
<tr>
<td>23</td>
<td>Regular on UE.</td>
<td>Steel</td>
</tr>
<tr>
<td>23-A</td>
<td>Regular on UE.</td>
<td>Pipe</td>
</tr>
<tr>
<td>24</td>
<td>Special on UD and UF.</td>
<td>Steel</td>
</tr>
<tr>
<td>24-A</td>
<td>Special on UD and UF.</td>
<td>Pipe</td>
</tr>
</tbody>
</table>

The method of adjusting the spreaders to change the distance between the front ends of the gangs is evident in the illustrations.

Rotary Shields

The shields regularly supplied with cultivators are designed to prevent clods and soil from covering up young plants. Sometimes, however, it is desirable to permit some of the fine soil to trickle in around the plants to cover up the small weeds that are too close to the plants to be destroyed by the cultivator shovels. Rotary shields are supplied for this purpose. They let fine soil in around the plants but hold back the clods. This fine soil acts as a mulch and retards the escape of moisture. Rotary shields can be furnished as special equipment instead of regular shields, or as extras.
## Horse-Drawn Cultivator Gang Equipment

X indicates gang equipment available for McCormick-Deering horse-drawn cultivators. Note that all gangs with numbers under 100 have round shanks; all with numbers in the 200 series, slotted shanks. The gangs in the 300 series have special slotted shanks for Georgia sweep bolts.

<table>
<thead>
<tr>
<th>Description</th>
<th>No. Shovels</th>
<th>Gang No.</th>
<th>Shank</th>
<th>Trip or Break</th>
<th>New 4</th>
<th>UD and UF</th>
<th>UE</th>
<th>ZD</th>
<th>SC</th>
<th>YB</th>
<th>YH</th>
<th>TF</th>
<th>A and K</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel Beam</td>
<td>4</td>
<td>1</td>
<td>Round</td>
<td>Pin</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Steel Beam</td>
<td>4</td>
<td>11</td>
<td>Round</td>
<td>Spring</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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Feb. 1935
*To take Georgia Sweeps.*

213
McCormick-Deering Cultivator Gangs

Illust. 42—No. 210, 2-shovel adjustable pipe-beam, pin-break, slotted-shank gang, as used on New 4 cultivators. Can be furnished for the New 4, TF, UD, and UE Cultivators. Can also be supplied with round shank and spring trip.

Illust. 43—No. 220, 2-shovel, adjustable pipe-beam, spring-trip, slotted-shank gang, as used on New 4 cultivator. When ordered for the TF YB, UD or UE Cultivators, it takes the same spring trip as shown in Illust. 50.

Illust. 44—No. 251, 4-shovel, steel-beam, spring-trip, adjustable, slotted-shank gang for New 4 cultivator. Four-shovel gangs can be supplied for all cultivators, except the YB, YH, and SC. Supplied with round or slotted shank, pin-break or spring-trip.

Illust. 45—No. 1, 2-shovel, round shank, pin-break gang for UD. Can also be furnished for the New 4, UE SC, and TF Cultivators. Supplied with both round and slotted shanks and with pin-break or spring-trip.

Illust. 46—No. 8A, 2-shovel, steel-beam, pin-break, round-shank gang, as used on the UD. Furnished either with round or slotted shanks and pin-break or spring-trip. Specially designed for listed corn territory. Also supplied for UE Cultivator.

Illust. 47—No. 21, 3-shovel, steel-beam, pin-break, round-shank gang, as furnished for UD. This type of gang can be furnished for all cultivators except the YH. Supplied with round or slotted shank, pin-break or spring-trip.

Illust. 48—No. 41, 4-shovel, steel-beam, pin-break, round-shank gang, as used on UD and ZD. Can be furnished with round or slotted shank, pin-break or spring-trip. Supplied for ZD, New 4, TF, A, and K Cultivators.

Illust. 49—No. 238, 3-shovel, combination pipe and steel-beam, spring-trip, slotted-shank gang, as supplied for UE Cultivators.

Illust. 50—No. 220, 2-shovel, adjustable pipe-beam, spring-trip, slotted-shank gang, used on the UE Cultivators. Can also be furnished for UD, New 4, YB, and TF Cultivators.

Illust. 51—No. 204, 2-shovel, adjustable pipe-beam, friction-trip gang, as supplied for the UE Cultivator. This type of gang is used only on the UE, UD, TF, and New 4 Cultivators.

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McCormick-Deering Cultivator Gangs

Illustr. 52—No. 205, 2-shovel, steel-beam, slotted-shank gang, as used on ZD cultivator. The inside leg is adjustable. Can be supplied also for YB, A, and K cultivators. Furnished in both round and slotted shank, spring trip, or pin break.

Illustr. 53—No. 21, 3-shovel, steel-beam, pin-break round-shank gang for ZD. This type of gang with adjustable standards can be furnished for all cultivators except the YH.

Illustr. 54—No. 215, 2-shovel, steel-beam, spring-trip, slotted-shank gang. The inside shank is adjustable. Disk hiller supplied as extra equipment. This type of gang can be supplied for A, K, YB, SC, and ZD cultivators. No. 15 is the same gang but with round shanks.

Illustr. 55—No. 21, 3-shovel steel-beam, pin-break gang for YB. Can also be furnished for all cultivators except the YH. No. 221 is the same gang but with slotted shank.

Illustr. 56—No. 5, 2-shovel, steel-beam, round-shank, pin-break gang, adjustable inside shank as used on the YB. Can also be supplied for the A, K, ZD, and SC cultivators.

Illustr. 57—No. 31 steel-beam spring-trip, round-shank gang for A and K cultivators. This gang with slotted shanks is No. 231; with round shank, pin break, it is No. 21; and with slotted shank, pin-break No. 221.

Illustr. 58—No. 41 steel-beam, round shank, pin-break gang as supplied for A and K cultivators. Supplied also for New 4, UD, ZD and TF cultivators.

Illustr. 59—No. 15, 2-shovel, steel beam, spring-trip round-shank gang for SC cultivator. The front standard is adjustable. Also available for YB, ZD, A and K cultivators.

Illustr. 60—No. 213 2-shovel, jointed beam, spring-trip gang as used on A and K. Can also be supplied for the YB cultivator.

Illustr. 61—No. 236 3-shovel, flat-steel beam, slotted shank, spring-trip gang for A and K. Can also be furnished with round shank and pin break or slotted-shank and pin-break.
McCormick-Deering Spring-Tooth Gangs

Illustr. 62—Nos. 79 and 179-A spring-tooth attachment. For use on all Nos. 3 and 13 gangs, and on regular gang cross-heads. The legs of the gang are removed and the spring-tooth brackets put on in their place. Shields are furnished. No. 79 is adapted to all jointed beam gangs and No. 179-A is adapted to the No. 98 TF gang. Nos. 83 and 86 spring-tooth attachments are similar to Nos. 79 and 179-A respectively except that they are equipped with crimped teeth.

Illustr. 64—No. 81, diverse spring-tooth attachment. This attachment can be used on all pipe-beam cultivator gangs. The teeth can be set V-shaped with the inside shovels ahead or in the reverse position, with the outside shovels ahead. Teeth can be set in a straight line at right angles with row or can be set in a straight line diagonally as a side harrow. Furnished with handle brackets. Handles and No. 22 shield furnished as extras. No. 84 diverse spring-tooth attachment is similar to No. 81 except that it is equipped with crimped teeth.

Illustr. 66—No. 8 spring trip with slotted shank and round standard.

Illustr. 67—No. 8 spring trip with flat standard.

Illustr. 68—Auburn spring trip which is furnished only on New 4 Cultivator.

Illustr. 69—No. 1 spring trip.

No. 8 is the spring trip used on most of the spring trip gangs except New 4. When a stone or root is encountered, this trip allows the shovel to turn back. The shovel immediately springs back into place. By adjusting the set screw on the back of the shank, the spring trip can be made to break hard or easily. Tightening the compression spring also makes the trip break harder. There are two positions for the spring to work in, depending on the position of the gang.

The Auburn spring trip, shown in Illustr. 68, is used on New 4 cultivator gangs.

No. 1 spring trip is used on A and K cultivators with curved standards.
### McCormick-Deering Cultivator Shovels

**Straight Shovels**

<table>
<thead>
<tr>
<th>Size</th>
<th>Number Hard Steel</th>
<th>Number Solid Steel</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 x 9 in</td>
<td></td>
<td>3766BB</td>
<td>With back, round shank</td>
</tr>
<tr>
<td>2½ x 9 in</td>
<td></td>
<td>3786BB</td>
<td>With back, slooted shank</td>
</tr>
<tr>
<td>2½ x 7 in</td>
<td>3800BB</td>
<td>3788BB</td>
<td>With back, round shank</td>
</tr>
<tr>
<td>3 x 9 in</td>
<td>3321B</td>
<td>3789BB</td>
<td>With back, round shank</td>
</tr>
<tr>
<td>3½ x 9 in</td>
<td>3801BB</td>
<td>3790BB</td>
<td>With back, round shank</td>
</tr>
<tr>
<td>4 x 9 in</td>
<td>3804BB</td>
<td>3793BB</td>
<td>With back, round shank</td>
</tr>
<tr>
<td>5 x 9½ in</td>
<td>3805BB</td>
<td>3794BB</td>
<td>With back, round shank</td>
</tr>
<tr>
<td>2½ x 11 in</td>
<td></td>
<td>3752B</td>
<td>With back, round shank</td>
</tr>
<tr>
<td>4 x 14 in</td>
<td>3808BB</td>
<td>3797BB</td>
<td>With back, round shank</td>
</tr>
<tr>
<td>5 x 11 in</td>
<td>3337B</td>
<td>3147B</td>
<td>With back, slooted shank</td>
</tr>
</tbody>
</table>

**Twisted Shovels**

<table>
<thead>
<tr>
<th>Size</th>
<th>Number Hard Steel</th>
<th>Number Solid Steel</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3½ x 9 in</td>
<td>3802BB</td>
<td>3791BB</td>
<td>With back, round shank</td>
</tr>
<tr>
<td></td>
<td>3326B</td>
<td>3792BB</td>
<td>With back, round shank</td>
</tr>
<tr>
<td>4 x 14 in</td>
<td>3806BB</td>
<td>3795BB</td>
<td>With back, round shank</td>
</tr>
<tr>
<td>5 x 9½ in</td>
<td>3809BB</td>
<td>3798BB</td>
<td>With back, round shank</td>
</tr>
</tbody>
</table>

**Spearhead Shovels**

<table>
<thead>
<tr>
<th>Size</th>
<th>Number Hard Steel</th>
<th>Number Solid Steel</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3½ x 7 in</td>
<td>3919BB</td>
<td>3848BB</td>
<td>With back, round shank</td>
</tr>
<tr>
<td>5 x 8 in</td>
<td>3823B</td>
<td>3849B</td>
<td>With back, slooted slotted</td>
</tr>
<tr>
<td>6 x 8½ in</td>
<td>3812BB</td>
<td>3852BB</td>
<td>With back, round shank</td>
</tr>
<tr>
<td></td>
<td>2854B</td>
<td>3853B</td>
<td>With back, round shank</td>
</tr>
<tr>
<td>7 x 9½ in</td>
<td>3813BB</td>
<td>3854BB</td>
<td>With back, round shank</td>
</tr>
</tbody>
</table>

**Double-Pointed Shovels**

<table>
<thead>
<tr>
<th>Size</th>
<th>Number Hard Steel</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1¼ x 10½ in</td>
<td></td>
<td>With 1 bolt, no back, for slotted shank</td>
</tr>
<tr>
<td>1½ x 10½ in</td>
<td>166246B</td>
<td>With 1 bolt, no back, for slotted shank</td>
</tr>
<tr>
<td>2 x 8 in</td>
<td>2532B</td>
<td>With 2 bolts, no back, for spring tooth</td>
</tr>
<tr>
<td>2½ x 10 in</td>
<td>2204B</td>
<td>With 1 bolt, no back, for slotted shank</td>
</tr>
<tr>
<td>2 x 11 in</td>
<td>2205B</td>
<td>With 2 bolts, no back (bull tongue) for slotted shank</td>
</tr>
<tr>
<td>2 x 11 in</td>
<td>2205½B</td>
<td>With 2 bolts, no back (spring tooth) for slotted shank</td>
</tr>
<tr>
<td>3 x 10 in</td>
<td>2294B</td>
<td>With 1 bolt, no back, for slotted shank</td>
</tr>
<tr>
<td>3½ x 10 in</td>
<td>16127B</td>
<td>With 1 bolt, no back, for slotted shank</td>
</tr>
<tr>
<td>4 x 10 in</td>
<td>16373B</td>
<td>With 1 bolt, no back, for slotted shank</td>
</tr>
</tbody>
</table>

**Detachable Point Shovels**

<table>
<thead>
<tr>
<th>Size</th>
<th>Number Hard Steel</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4½ in</td>
<td>15651BB</td>
<td>Shovel with point, round shank</td>
</tr>
<tr>
<td>4½ in</td>
<td>15649B</td>
<td>Shovel with point, slotted shank</td>
</tr>
<tr>
<td>5½ in</td>
<td>15652BB</td>
<td>Shovel with point, round shank</td>
</tr>
<tr>
<td>5½ in</td>
<td>15650B</td>
<td>Shovel with point, slotted shank</td>
</tr>
<tr>
<td>4½ in</td>
<td>3819B</td>
<td>Point for 15649B and 15651B</td>
</tr>
<tr>
<td>5½ in</td>
<td>3820B</td>
<td>Point for 15650B and 15652B</td>
</tr>
</tbody>
</table>

NOTE—Shovel numbers followed by BB indicate 2-piece clamp.
McCormick-Deering Cultivator Shovels

Sweeps

<table>
<thead>
<tr>
<th>Size</th>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 1/2 in.</td>
<td>3190B</td>
<td>No back, for slotted shank.</td>
</tr>
<tr>
<td></td>
<td>4528B</td>
<td>With back, for round shank.</td>
</tr>
<tr>
<td>8 1/2 in.</td>
<td>3191B</td>
<td>No back, for slotted shank.</td>
</tr>
<tr>
<td></td>
<td>4529B</td>
<td>With back, for round shank.</td>
</tr>
<tr>
<td>10 1/2 in.</td>
<td>3192B</td>
<td>No back, for slotted shank.</td>
</tr>
<tr>
<td></td>
<td>4530B</td>
<td>With back, for round shank.</td>
</tr>
<tr>
<td>5 in.</td>
<td>12934</td>
<td>With bolt, for slotted shank.</td>
</tr>
<tr>
<td>8 in.</td>
<td>12933</td>
<td>With bolt, for slotted shank.</td>
</tr>
<tr>
<td>10 in.</td>
<td>12932</td>
<td>With bolt, for slotted shank.</td>
</tr>
<tr>
<td>12 in.</td>
<td>12931</td>
<td>With bolt, for slotted shank.</td>
</tr>
<tr>
<td>15 in.</td>
<td>12930</td>
<td>With bolt, for slotted shank.</td>
</tr>
<tr>
<td>18 in.</td>
<td>12929</td>
<td>With bolt, for slotted shank.</td>
</tr>
</tbody>
</table>

*Also available for use with spring teeth.

Half Sweeps

<table>
<thead>
<tr>
<th>Size</th>
<th>Number Right Half</th>
<th>Number Left Half</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 1/2 in.</td>
<td>3193B</td>
<td>3194B</td>
<td>No back, for slotted shank.</td>
</tr>
<tr>
<td></td>
<td>4531B</td>
<td>4532B</td>
<td>With back, for round shank.</td>
</tr>
<tr>
<td>8 in.</td>
<td>14615</td>
<td>14614</td>
<td>No back, for slotted shank.</td>
</tr>
<tr>
<td>10 in.</td>
<td>14617</td>
<td>14616</td>
<td>No back, for slotted shank.</td>
</tr>
</tbody>
</table>

Detachable Point Sweeps

<table>
<thead>
<tr>
<th>Size</th>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 1/2 in.</td>
<td>15653BB</td>
<td>Half sweep, complete, right, for round shank.</td>
</tr>
<tr>
<td>6 1/2 in.</td>
<td>15656B</td>
<td>Half sweep, complete, left, for round shank.</td>
</tr>
<tr>
<td>6 1/2 in.</td>
<td>25740B</td>
<td>Half sweep, complete, left, for slotted shank.</td>
</tr>
<tr>
<td>6 1/2 in.</td>
<td>25741B</td>
<td>Half sweep, complete, left, for slotted shank.</td>
</tr>
<tr>
<td>8 in.</td>
<td>15653BB</td>
<td>Full sweep, complete, for round shank.</td>
</tr>
<tr>
<td>8 in.</td>
<td>25739B</td>
<td>Full sweep, complete, for slotted shank.</td>
</tr>
<tr>
<td>10 in.</td>
<td>15654BB</td>
<td>Full sweep, complete, for round shank.</td>
</tr>
<tr>
<td>6 1/2 in.</td>
<td>3824B</td>
<td>Half sweep, right, for 15655B.</td>
</tr>
<tr>
<td>6 1/2 in.</td>
<td>3825B</td>
<td>Half sweep, left, for 15656B.</td>
</tr>
<tr>
<td>8 in.</td>
<td>3826B</td>
<td>Sweep for 15653B.</td>
</tr>
<tr>
<td>10 in.</td>
<td>3827B</td>
<td>Sweep for 15654B.</td>
</tr>
</tbody>
</table>

Joyce and McGregor Sweeps

<table>
<thead>
<tr>
<th>Size</th>
<th>Number Joyce</th>
<th>Number McGregor</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 in.</td>
<td>6044B</td>
<td>6040B</td>
<td>No back, for slotted shank.</td>
</tr>
<tr>
<td>8 in.</td>
<td>6045B</td>
<td>6041B</td>
<td>No back, for slotted shank.</td>
</tr>
<tr>
<td>10 in.</td>
<td>6046B</td>
<td>6042B</td>
<td>No back, for slotted shank.</td>
</tr>
<tr>
<td>12 in.</td>
<td>6047B</td>
<td>6043B</td>
<td>No back, for slotted shank.</td>
</tr>
<tr>
<td>15 in.</td>
<td>6048B</td>
<td>6050B</td>
<td>No back, for slotted shank.</td>
</tr>
<tr>
<td>18 in.</td>
<td>6049B</td>
<td></td>
<td>No back, for slotted shank.</td>
</tr>
</tbody>
</table>

*Bolts supplied only as ordered—No. 25515B.

NOTE—Shovel numbers followed by BB indicate 2-piece clamp.

Illust. 75—Sweep for slotted shank.
Illust. 76—Sweep for round shank.
Illust. 77—Half sweep.
Illust. 78—Detachable point sweep.
Illust. 79—Joyce sweep.
Illust. 80—McGregor sweep.
Illust. 81—5-in. turning shovel, No. 16412B right hand, No. 16413B left hand.
Illust. 81A—6-in. turning shovel, No. 16410B right hand, No. 16411B left hand.
Illust. 82—Cotton scrapers, No. 28 right, No. 29 left.

Feb. 1935
A Style and Size for Every Crop Planted in Rows

McCormick-Deering One-Horse Cultivators

Three Sizes
McCormick-Deering one-horse cultivators are built in three sizes with 5, 7 and 9 shovels. Each of these sizes can be equipped with lever expander, simple lead wheel, lever lead wheel and with wing hillers and horse hoe. The construction of the various cultivators is identical. Handles are of well seasoned oak, with heavy round and tie bolt. The strength of the frame is sufficient to withstand the severest use to which this cultivator will be subjected under average working conditions. Do not confuse these sturdy little cultivators with the cheaply built cultivators offered at a lower price.

Simple Numbering System
For the sake of simplicity in ordering, the following numbering system has been adopted: 5-shovel cultivators are known as the 50 series, 7-shovel as the 70 series, and 9-shovel as the 90 series. 51, 71, 91, indicate the simplest cultivator of the series, a cultivator without attachments of any kind. 52, 72, 92, indicate the addition of a lever expander. 53, 73, 93, indicate lever expander, plus simple lead wheel. 54, 74, 94, indicate lever expander, simple lead wheel, wing hillers, and horse hoe. 55, 75, 95, indicate lever expander, lever lead wheel, wing hillers, and horse hoe.

Specifications

<table>
<thead>
<tr>
<th>Size</th>
<th>No.</th>
<th>Weight, Lb.</th>
<th>Attachments</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-Tooth</td>
<td>51</td>
<td>53</td>
<td>For All Sizes, including 14-Tooth</td>
</tr>
<tr>
<td>5-Tooth</td>
<td>52</td>
<td>57</td>
<td>Lever expander</td>
</tr>
<tr>
<td>5-Tooth</td>
<td>53</td>
<td>65</td>
<td>Simple lead wheel</td>
</tr>
<tr>
<td>5-Tooth</td>
<td>54</td>
<td>71</td>
<td>Lever lead wheel</td>
</tr>
<tr>
<td>5-Tooth</td>
<td>55</td>
<td>74</td>
<td>Hillers and Horse Hoe</td>
</tr>
<tr>
<td>7-Tooth</td>
<td>71</td>
<td>60</td>
<td>Long Moldboards or Potato Hillers</td>
</tr>
<tr>
<td>7-Tooth</td>
<td>72</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>7-Tooth</td>
<td>73</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>7-Tooth</td>
<td>74</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>7-Tooth</td>
<td>75</td>
<td>81</td>
<td></td>
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<tr>
<td>9-Tooth</td>
<td>91</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td>9-Tooth</td>
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<td>76</td>
<td></td>
</tr>
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<td>9-Tooth</td>
<td>93</td>
<td>83</td>
<td></td>
</tr>
<tr>
<td>9-Tooth</td>
<td>94</td>
<td>89</td>
<td></td>
</tr>
<tr>
<td>9-Tooth</td>
<td>95</td>
<td>92</td>
<td></td>
</tr>
</tbody>
</table>
McCormick-Deering One-Horse Cultivators

Adjustable Outside Shovel Shanks

The outside shovel shanks on these cultivators are fastened to the frame by adjustable swivel couplings. By loosening the bolt on each shank the shovels can be set to throw the dirt in or out toward the crop rows as desired. This feature is specially valuable when wing hillers are used.

Illustr. 2—No. 54 One-Horse Cultivator with hand lever expansion, wing hillers, and horse hoe. The wing hillers and horse hoe replace the regular shovels shown to the right.

It is unnecessary to illustrate all the one-horse cultivators with their varied equipment. The illustrations on this page are representative types and give an adequate idea of the different equipment and the many uses to which these cultivators can be put.

Illustr. 3—No. 73 One-Horse Cultivator. Regular shovels but with hand-lever expansion and simple lead wheel.

Illustr. 4—Potato hillers or long moldboards.

Illustr. 5—No. 95 One-Horse Cultivator. As indicated by this number, this cultivator is equipped with lever lead wheel, lever expander, wing hillers and horse hoe.
McCormick-Deering
New Southern One-Horse Cultivator

The New Southern is the lightest of the McCormick-Deering one-horse cultivators. Even though light in weight, it is built strong and substantial. The tooth bars are made of channel steel, pivoted in front, and can be extended for wide or narrow rows.

The shovel shanks are adjustable up and down for deep or shallow cultivation. The shanks are the same type as furnished on the regular 5, 7 and 9-tooth cultivators. Therefore, the New Southern can be equipped with any of the shovels made for the other 5, 7 or 9-tooth cultivators.

This cultivator can be equipped with hand wheel expansion set screw, or with lever for expanding gang.

Regular Equipment

Extra Equipment
No. 3 attachment, lead wheel without lever. No. 4 attachment, moldboards and horse hoe. No. 5 attachment, lead wheel with lever. Wide variety of shovels. Steel handles.

McCormick-Deering 14-Tooth Cultivator

The 14-tooth is a handy, sturdily built cultivator, adaptable for the cultivation of all row crops. The tooth bars on this cultivator can be set for wide or narrow cultivation. The sharp teeth do an excellent job of mulching the soil and killing weeds. The teeth are clamped to the side bar with two bolts and have three adjustments for changing the cutting angle. The handles are of good length, and are adjustable.

Regular Equipment
Straight side bars with expansion lever. Straight side bars with expansion lever and lead wheel.

Extra Equipment
Straight side bar, hand wheel expansion. Straight side bar, hand wheel expansion and lead wheel. Shipping weight, 59, 65, 53 and 59 lb., respectively.

Special Equipment
Double-pointed teeth instead of regular. Set of weeder teeth, which includes three right and four left. Steel handles.
McCormick-Deering Dixie Wonder Cultivator

The Dixie Wonder is a high-grade weeder and surface mulch cultivator, especially adaptable for cultivating corn, cotton, tobacco, or other crops which are planted in rows. The spring teeth do an efficient job killing weeds. In stony ground where ordinary cultivators are thrown out of the ground, the teeth on the Dixie Wonder pass these obstructions and spring back into place without throwing the cultivator out of the soil.

The Dixie Wonder is made in two sizes, 5 and 7 tooth. It can also be furnished with hand gang adjustment, as shown above; or with lever gang adjustment, as shown below. The Dixie Wonder is an all-steel tool except for the oak handles. The beam is made of two sturdy angle-steel bars.

The teeth of this cultivator can be set in a straight line across the row to break the crust without moving too much dirt, and can also be set V-shaped to move the dirt towards the center of the row, or reverse to move the dirt toward the crop row. The teeth can also be set in a diagonal line, either way, to throw all the dirt in one direction as for work on hillside.

Where it is desired to straddle the row, the center tooth can be taken out and dirt shields, which are furnished as extra equipment, can be used to protect the plants. Where the lead wheel is used, the hitch and lead wheel can be offset to clear the row.

Regular Equipment
Five or 7 tooth, hand or lever expansion, with regular teeth, crimped teeth or double-pointed reversible teeth. Weights, 5-tooth hand expansion 52 lb., lever expansion 60 lb.; 7-tooth, hand expansion 61 lb., lever expansion 69 lb.

Extra Equipment
Dirt shields to protect plants; offset lead wheel.

Ilustr. 10—7-Tooth Dixie Wonder with hand gang expansion. Also made in 5-tooth size. Hand levers can be furnished.

Ilustr. 12—Double-pointed reversible tooth and crimped tooth.

Ilustr. 11—Dixie Wonder with expanding levers and lead wheel. Center tooth removed to straddle row.

Ilustr. 13—Shows dirt shields which are furnished as extra equipment.
McCormick-Deering Double-Shovel Cultivators

These are high grade cultivators both in quality of material and workmanship. There are two types—the No. 1 is built with a well seasoned oak beam, steel shovel legs, and steel shovel beams. The No. 2 double-shovel cultivator has a steel beam, with adjustable shovel shanks. These shanks can be adjusted to increase or decrease the depth of cultivation, according to soil conditions or depth of cultivation desired.

A wide assortment of shovels can be used on the McCormick-Deering double-shovel cultivators to obtain such cultivation as the crop or soil conditions may require. Besides the regular 5-in. shovel, 2 1/2, 3 1/2, or "twister" shovels, similar to those shown in the lower illustration, may be had when ordered as extra equipment.

Regular Equipment
No. 1, wood handles, wood beam, steel shovel beams and 3 x 11 shovels. No. 2 steel beam, adjustable shovel shanks, wood handles.

Extra Equipment
Shovels as listed in following table. Heel slide for No. 2.

Weights
No. 1, wood beam..................40 lb.
No. 2, steel beam, less shovels ....39 lb.
No. 2, steel beam, with shovels ....45 lb.

<table>
<thead>
<tr>
<th>Extra Equipment No.</th>
<th>DESCRIPTION</th>
<th>THICKNESS</th>
<th>WIDTH</th>
<th>LGTH</th>
<th>WEIGHT PAIR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Calf tongue</td>
<td>3/4 in.</td>
<td>2 1/2 in.</td>
<td>11 in.</td>
<td>3 lb.</td>
</tr>
<tr>
<td>2</td>
<td>Bull tongue</td>
<td>3/4 in.</td>
<td>3 1/2 in.</td>
<td>11 in.</td>
<td>4 1/2 lb.</td>
</tr>
<tr>
<td></td>
<td>Blade</td>
<td>3/4 in.</td>
<td>5 in.</td>
<td>11 in.</td>
<td>6 lb.</td>
</tr>
<tr>
<td></td>
<td>Blade</td>
<td>3/4 in.</td>
<td>6 in.</td>
<td>11 in.</td>
<td>7 lb.</td>
</tr>
<tr>
<td>4</td>
<td>R. twister</td>
<td>3/4 in.</td>
<td>3 1/2 in.</td>
<td>11 in.</td>
<td>7 1/2 lb.</td>
</tr>
<tr>
<td>5</td>
<td>L. twister</td>
<td>3/4 in.</td>
<td>3 1/2 in.</td>
<td>11 in.</td>
<td>7 1/2 lb.</td>
</tr>
</tbody>
</table>

Illust. 14—McCormick-Deering No. 1 Double-Shovel Cultivator.

Illust. 15—McCormick-Deering No. 2 Double-Shovel Cultivator with adjustable shovel shanks.

Illust. 16—Shovels listed in accompanying table.

Feb. 1935
Illustration 17—Wide variety of shovels can be supplied on McCormick-Deering 5, 7, 9 and New Southern cultivators, adapting them for almost any crop requirement. All parts except the furrowers are interchangeable on all of these cultivators. When furrowers are used it is necessary to order the special shank shown at the top of this illustration.
McCormick-Deering Sled Lister Cultivator
No. 18

Illust. 35—No. 18 Sled Lister Cultivator with No. 2 knife attachment.

Driver's Weight Raises Gangs

A sled lister cultivator on which the driver's weight raises the gangs from the ground. In lowering the gangs, the latch on the lever is released, when the seat glides backwards, and if the ground is hard the gangs can be forced into the ground by pressing the feet against the crusher boards. The cultivating appliances are always in balance.

Durable in Service

Disk bearings have oil-soaked, hard-wood bushings, lubricated by hard-oil grease cups. The runners have angle-steel shoes, and the outside faces are covered with sheet steel. The crusher boards are made of steel and shaped to conform to the ridges.

The runners are adjustable in or out on the arches.

Illust. 36—Shovel attachment. Can be furnished for No. 18 Sled Lister Cultivator.

Regular Equipment

Ten, 11 and 12-in. disks, shield and jointed hitch.

Extra Equipment

Shovel attachment. Knife attachments.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>Sled lister cultivator</td>
<td>169 lb</td>
</tr>
<tr>
<td></td>
<td>34-in. knife leveler att</td>
<td>12 in.</td>
</tr>
<tr>
<td></td>
<td>40-in. knife leveler att</td>
<td>14 lb.</td>
</tr>
<tr>
<td></td>
<td>Shovel attachment</td>
<td>32 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
The construction of the No. 20 lister cultivator is almost entirely of steel. The machine is designed to follow the lister rows perfectly, and do a thorough job. One lever raises disks, shovels, and shield as a unit. The secondary gang lever raises the shovels and shield only, to clear them of trash. The axles are mounted on a rock shaft, so the balance wheels can be run on the tops of ridges of different row spacings. When the cultivator is lowered the balance wheels rise to working position at the same time. Either wheel can be adjusted independently. The carrying wheels are also controlled by levers, to raise the machine when transporting. Cushion springs on these levers act as shock absorbers.

One of the new features on these cultivators is the hand-wheel adjustment for regulating the height of the shield. This is extremely handy. The furrow wheels are made of pressed steel, and are equipped with dust-proof bearings, oil-soaked bushings, and hard oil screw caps. The ridge wheels also have this dust-proof bearing construction.

Regular Equipment
Two 16-inch disks, two shovels, and shield.
POSE-161; two-horse steel evener.
Neckyoke. Pin-break.

Extra Equipment
Four-shovel attachment. POKA-8
48-inch knife attachment. Disk attachment (see illustration 40).
Spring-trip shovel leg.

Specifications

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>Single-row wheeled lister cultivator</td>
<td>427 lb</td>
</tr>
<tr>
<td>POKA-8</td>
<td>48-inch knife attachment</td>
<td>60 lb</td>
</tr>
<tr>
<td></td>
<td>4-shovel attachment</td>
<td>35 lb</td>
</tr>
</tbody>
</table>

McCormick-Deering Wheeled Lister Cultivator
No. 20, Single Row

Illustr. 38—No. 20 Single-row Wheeled Lister Cultivator.

Illustr. 39—Knife attachment which can be supplied for McCormick-Deering wheeled lister cultivators. The attachment for No. 20 includes special long clamps to set the shovels farther back.

Illustr. 40—The disk attachment which can be supplied for McCormick-Deering riding lister cultivators. These are the same disk gangs that are used on the No. 18 sled lister cultivator.
McCormick-Deering Wheeled Lister Cultivators

No. 29 Two-Row

No. 30 Three-Row

Gangs set for first cultivation.

Each unit of the No. 29 two-row lister cultivator is similar to the single-row cultivator, and has the same gang equipment. The two units are free each to follow its own row, working in or out on the spreader pipe with any variation in the row spacing. These units are also pivotally connected with the spreader pipe, so that there is no twisting strain on the frame when one team gets ahead of the other. No. 30, the three-row, is the same as the No. 29 equipped with No. 58 evener and a center cultivating unit attached to the long bar of the evener.

Regular Equipment

Each unit is equipped with two 16-inch disks, two shovels, shield, and hillside attachment. The No. 29 two-row is equipped with ST-1129 two-horse eveners and neckyokes. The No. 30, three-row, is equipped with POWE 58 six-horse evener.

Extra Equipment

Shovel attachments. (Two legs with shovels with pin break for each row unit.) POKA-8, 48-inch knife attachment for No. 29. POKA-7, 36-inch or 48-inch blades for No. 30. Disk attachments, one for each row. Spring-trip shovel legs. Three-row attachment for the No. 29.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>WT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>2-row Wheeled Lister Cultivator</td>
<td>738 lb.</td>
</tr>
<tr>
<td>39</td>
<td>3-row Wheeled Lister Cultivator</td>
<td>1,266 lb.</td>
</tr>
<tr>
<td></td>
<td>Shovel Attachments per Unit</td>
<td>35 lb.</td>
</tr>
<tr>
<td>POKA-7</td>
<td>36-in. Knife Attachment per Unit</td>
<td>81 lb.</td>
</tr>
<tr>
<td>POKA-8</td>
<td>48-in. Knife Attachment per Unit</td>
<td>122 lb.</td>
</tr>
</tbody>
</table>

Illust. 41—The No. 29 two-row Lister Cultivator.

Illust. 43—This shows the oil-soaked bushing which lines the disk bearings. These bearings are very durable, almost frictionless, and can be replaced at small cost when worn out.

Illust. 42—The No. 30 three-row Lister Cultivator. The center cultivating unit can be supplied as an attachment for the two-row cultivator.

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McCormick-Deering Tractor Lister Cultivators
No. 31, Three-Row, No. 32, Four-Row

These tractor lister cultivators employ cultivating units similar to those used on the No. 29 two-row lister cultivator. No. 31 is a 3-row cultivator adapted to tractors of the 10-20 type, No. 32 the 4-row for the Farmall tractor. No. 31 has one long and two short gangs, the long gang in the center, so that the units can not interfere with each other in turning. On the No. 32 the units are arranged a short and a long and a short and a long. This arrangement makes the outfits easy to handle in the field. It should be noted that, because of the necessity of accommodating the outfits to the row spacings, the 3-row is not adapted to use with the Farmall, nor the 4-row to use with the 10-20.

Regular Equipment
Each unit equipped with two disks, two pin-break shovels, and shield.

Extra Equipment
Spring trip shovel legs. Four-shovel attachment, POKA-7, 36-in. knife attachment, disk attachment—order one of these attachments for each cultivating unit.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>3-row Lister Cultivator for 10-20 or 15-30 tractors*</td>
<td>1150 lb.</td>
</tr>
<tr>
<td>32</td>
<td>4-row Lister Cultivators for Farmall tractors</td>
<td>1531 lb.</td>
</tr>
</tbody>
</table>

* Specify for which tractor.

Illust. 44—No. 31, three-row Lister Cultivator for use with tractors of the 10-20 type.

Illust. 45—Cultivating four rows at a time with the No. 32 Farmall Lister Cultivator for F-20 and F-30 Farmall tractors.

Feb. 1935
McCormick-Deering Two-Row Tractor
Lister Cultivators
Nos. 33 and 41

For Farmall Tractors

The F-33 and F-41 2-row lister cultivators are identical machines except for the manner of attaching to the tractor. The F-33 is adapted to the Farmall 20, the F-41 to the Farmall 12. The F-33, though not an efficient load for the Farmall 30, can be adapted to that tractor where the owner has not a sufficient acreage to warrant the purchase of a larger cultivator.

Each row unit is free to follow its own row, even though the row widths may vary, as they generally do when planted with a single-row lister. The units are adjustable for 40, 42 and 44-inch rows. There is one long and one short beam which prevents the units from interfering with each other in turning.

Easy to Operate

The main lever attaches to the tractor where the operator can reach it from the tractor seat. Each unit has two levers, one for raising the shovels, disks and shields all at one time, the other for raising the shovels only, to adapt them to the ridges.

Each unit comprises two guide or furrow wheels, two shovels with pin-break legs, two 16-in. disks, and a long shield. It is easy to set the disks and shovels for different stages of cultivation. The furrow wheels keep the units centered on the rows and assure thorough cultivation.

Regular Equipment

Pin-break shovel legs. 16-in. disks. Shields.

Extra Equipment

Spring-trip shovel legs. Shovel attachments, pin-break or spring trip, to use in place of the disks. POKA-7 knife attachment.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>DESCRIPTION</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-33</td>
<td>Two-row lister cultivator for Farmall 20</td>
<td>781 lb.</td>
</tr>
<tr>
<td>F-41</td>
<td>Two-row lister cultivator for Farmall 12</td>
<td>790 lb.</td>
</tr>
</tbody>
</table>

Specify when ordering No. F-33 for Farmall 30 tractors.

Feb. 1935
McCormick-Deering Tractor Lister Cultivators
Nos. F-35, 37, 38
and FA-40

New Unit Construction
These tractor lister cultivators employ a new feature in lister cultivator construction. Each of the cultivating units is free to follow its own row, but instead of simply trailing from a one-point hitch, is held square with the row, with the shovels and disks meeting the soil always at the correct working angle. This is accomplished by means of a link on each unit, parallel with the draft bar.

On the 3 and 5-row cultivators the center unit is stabilized by means of long pivot bearings which render the unit rigid with respect to tipping but which permit some side swing through the parallel connection. This unit is kept in the center of the machine by equalizer springs which bring the unit back to its central position should it be slightly pulled sidewise by some obstruction. The other units are prevented from tipping by means of stabilizer pipes. These units are equipped with roller connections which permit them to work in or out on the stabilizer pipes to follow rows that are not parallel.

Short Coupled
Another advantage of the parallel unit construction employed in this cultivator is compactness. The whole machine is short coupled, yet the construction is such that the gangs do not interfere with one another in making a turn.

The Cultivating Units
Each unit comprises a pair of furrow guide wheels, two disks, two shovels with pin-break legs, and a long shield. Each unit has its own individual depth lever. There is also a master lever for regulating the depth of all units and for additional lift when transporting the cultivator.

Row Width
Holes are provided in the angle crossbars for attaching the cultivator units for rows 38, 40, 42, or 44 inches apart. The parallel gang movement takes care of any variation from these widths.

Hitch
The hitch plate can be raised or lowered for use with tractors having different heights of drawbars, to keep the cultivator hitch in correct working position.

Regular Equipment
Pin break shovel legs with 2½ x 9 single-point shovels. 16-inch disks.

Extra Equipment
Spring-trip shovel legs. Shovel attachment to convert each unit to a four-shovel unit. (Specify pin-break or spring-trip.) POKA-7 knife attachment, one required for each unit. Disk attachment.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-35</td>
<td>Two-row lister cultivator for Farmall tractors...</td>
<td>750 lb.*</td>
</tr>
<tr>
<td>37</td>
<td>Three-row lister cultivator for standard tread tractors</td>
<td>1125 lb.*</td>
</tr>
<tr>
<td>38</td>
<td>Five-row lister cultivator for standard tread tractors</td>
<td>1880 lb.</td>
</tr>
<tr>
<td>FA-40</td>
<td>Four-row lister cultivator for F-20 and F-30 Farmalls</td>
<td>1500 lb.*</td>
</tr>
<tr>
<td></td>
<td>Pin-break shovel attachment, per unit</td>
<td>35 lb.</td>
</tr>
<tr>
<td></td>
<td>Spring-trip legs, extra per leg</td>
<td>5 lb.</td>
</tr>
<tr>
<td></td>
<td>Disk attachment, per unit</td>
<td>47 lb.</td>
</tr>
<tr>
<td>POKA-7</td>
<td>Knife attachment, 36-in.</td>
<td>94 lb.</td>
</tr>
</tbody>
</table>

* Weights are approximate.
McCormick-Deering Tractor Cultivators

The Ultimate in Rugged Strength

The McCormick-Deering tractor cultivator will dig into any soil, regardless of conditions, and create a thoroughly broken and mellow seed bed. It is used where it is desired to go clear to the bottom of the seed bed, or deeper, to loosen the soil, to a depth of nine inches. Where a so-called plow sole, or layer of hard soil or shale, underlies the seed bed, the tractor cultivator will break it up and greatly increase the moisture-holding ability of the soil. It is used extensively in orchards, particularly citrus orchards, and has been used to a considerable extent, and is strongly recommended, by potato growers, who use it after plowing to make a loose, open seed bed. Where sod has been plowed under, the tractor cultivator is used diagonally across the furrow—it tears up the sod without dragging it out. Increased yields follow.

Does Not Clog

No part of the cultivator projects beyond the ends of the tooth bars, nor is there any lever projecting upward to encounter overhanging branches. The depth is regulated by a crank and screw. The teeth are set in three ranks, each 9 inches back of the preceding rank. They are spaced to cut furrows 7 inches apart, with a diagonal path 15 inches wide both ways rearward from the center shovel. This permits trash to get through without clogging the cultivator.

Regular Equipment

1¾-in. double point shovels. Regular standards, except 5-ft., which can be equipped with regular standards or with adjustable standards, as specified. End shield. POTH 95 tractor hitch.

Extra Equipment

As shown in table under attachments. Heavy-duty shovels in place of regular at small additional cost. Alfalfa renovator shovels in place of regular.

Specifications

<table>
<thead>
<tr>
<th>Size</th>
<th>Equipment</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 ft.</td>
<td>9 regular standards</td>
<td>895 lb.</td>
</tr>
<tr>
<td>5 ft.</td>
<td>9 adjustable standards</td>
<td>1013 lb.</td>
</tr>
<tr>
<td>6 ft.</td>
<td>11 regular standards</td>
<td>967 lb.</td>
</tr>
<tr>
<td>7 ft.</td>
<td>13 regular standards</td>
<td>1077 lb.</td>
</tr>
<tr>
<td>8 ft.</td>
<td>15 regular standards</td>
<td>1149 lb.</td>
</tr>
</tbody>
</table>

Attachments

| 6 ft. | Irrigating tool bars with shovels and clamps | 147 lb. |
| 9 ft. | Irrigating tool bars with shovels and clamps | 205 lb. |
| No. 1 Subsoil attachment | 34 lb. |
| No. 2 Subsoil attachment | 118 lb. |
| No. 2 Moldboard hiller with standard, each | 34 lb. |
| Border disk attachment | 288 lb. |
| Middle buster att. for 5 and 6-ft., with 3 No. 6-B bottoms, and 8-ft., tool bar and extra braces | 375 lb. |
| Middle breaker att. for 7 and 8-ft., with 3 No. 6-B bottoms | 205 lb. |
McCormick-Deering Tractor Cultivators

Heavy Construction

The bars, shanks, and clamps are heavy, high-quality steel. Heavy clamps with ¾-in. bolts hold the shanks in the tooth bars. The full edgewise strength of the shanks is utilized, the draft of the teeth being transmitted directly from frame to shank. Power-lift devices of dirt-proof design are provided on both wheels. Both power-lift clutches are put into action simultaneously by pulling on the trip rope. This assures a square lift. It also enables the operator to get the cultivator out of the ground quickly at the ends, and makes quick turns possible. The quick action of the power lift speeds up the work and adds to the life of both tractor and cultivator.

Attachments

The attachments available for this implement give it an extremely wide range of usefulness. The No. 2 10-in. moldboard hiller is usually used in sets of two, three, or four. There are two subsoiler attachments: the No. 1, which attaches to the regular tool bars, and the No. 2, which is a very heavy subsoiler for regular subsoiling work. When No. 1 is wanted for regular subsoiling operations, only one should be used, but when it is wanted for deep tillage operations, as in preparing potato ground, five should be ordered for the 7-ft. cultivator; seven for the 8-ft. It will be noted that the middle buster attachment for the 5 and 6-ft. sizes is considerably heavier than that for the 7 and 8-ft. This is because it is necessary to supply the regular 7 and 8-ft. tool bar and special braces for using the three middle buster bottoms on the 5 and 6-ft. sizes.

The alfalfa renovator shovels can be used on either the regular shanks or the adjustable shank as supplied on the 5-ft. cultivator for vineyard use.

The tread of the wheels of the tractor cultivator is 40 in.
McCormick-Deering No. 7 Mower

Enclosed Gears Running in Oil

Something New in Mowers
The McCormick-Deering No. 7 enclosed-gear mower marks a new era in mower construction. It is the first horse-drawn mower to contain such advanced engineering practices as a fully enclosed transmission, automatic lubrication, and numerous refinements that add much to the life, utility, and general efficiency of the machine.

Enclosed Transmission—Runs in Bath of Oil
The gears, countershafts, clutch and ratchets are compactly grouped together inside the gear case. Here a deep bath of oil completely envelops the moving parts and assures thorough lubrication not only of the transmission assembly inside the gear case, but also to the main axle bearings and the flywheel shaft bearings as well. The only friction surfaces not reached by the central oil supply are the pitman bearing and knife-head connection. Wear on the gears and bearings is reduced and noise and vibration minimized to a remarkable degree due to this new type of construction with the transmission fully enclosed and running in oil. The transmission parts of the No. 7 enclosed gear mower are built to such close precision that there is no loose play or chance for lost motion.

Types and Sizes
The No. 7 mower is available in 4½, 5, 6, and 7-foot cutting widths. It is made in both plain and vertical lift and in regular and heavy-duty types (see table below). The vertical-lift mowers possess the unusual feature of having both vertical and plain lift and can be changed instantly from one to the other by merely shifting a lever. The plain-lift mowers do not have this combination-lift feature. Big 7 mowers have heavier and wider rim wheels than the regular No. 7. Pneumatic-tired wheels can be obtained at extra cost for any size of No. 7 mower.

Regular Equipment
Tongue, neckyoke, and steel doubletrees. Two knives. Serrated ledger plates. Tools and oil can.

Extra Equipment
Reaping attachment for 4½ and 5-foot sizes. Buncher attachment for 4½, 5, 6, and 7-foot sizes. Weed attachment. Two-wheel tongue truck. Pea and bean vine lifters (set of six including outer shoe runner). Lespedeza bars (4½, 5, and 6-foot). Weed and brush bar (Cardo type), 3½, 4, 4½, and 5-foot cutting widths. Weed bar (Jumbo type), 3, 3½, 4, 4½, 5, 6, and 7-foot cutting widths. Mower pea bar attachment (3-ft.). Pneumatic tired wheels. Stub pole tractor hitch (for hitching mower direct to tractor). Steering pole or trailer hitch (for hitching trailing mower behind tractor mower or for hitching second of two mowers to tractor). Knives with under-serrated sections. Smooth ledger plates.

No. 7 Mower Specifications

<table>
<thead>
<tr>
<th>Size</th>
<th>Plain Lift</th>
<th>Big 7</th>
<th>Combination, Plain and Vertical Lift</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>REG. No. 7</td>
<td>SIZE</td>
<td>APPROX. WEIGHT</td>
</tr>
<tr>
<td>4½ ft.</td>
<td>770 lb.</td>
<td>4½ ft.</td>
<td>835 lb.</td>
</tr>
<tr>
<td>5 ft.</td>
<td>780 lb.</td>
<td>5 ft.</td>
<td>840 lb.</td>
</tr>
<tr>
<td></td>
<td>6 ft.</td>
<td>7 ft.</td>
<td>850 lb.</td>
</tr>
<tr>
<td></td>
<td>850 lb.</td>
<td>6 ft.</td>
<td>860 lb.</td>
</tr>
</tbody>
</table>

For Pneumatic-Tired Mower deduct 90 lb. from above weights.

Feb. 1935
McCormick-Deering No. 7 Mower

Illustr. 2—The main axle is made in two sections with the differential tying the two together inside the gear case. Illustration shows the long axle section slightly withdrawn to show the construction of the pawls and pawl plate. "A" indicates single roller bearings with steel races for short axle section. "B" double roller bearings with steel races slightly withdrawn. "C" steel-encased leather oil seals. "D" pawl holders. "E" main drive gear which also contains the ratchets.

Two-Piece Main Axle

The main axle is made in two sections (one long and one short shaft) with the pawl-and-ratchet devices placed at the junction of the two sections inside the gear case, similar to the differential arrangement on an automobile. Placing the pawls and ratchets in this location protects them from dust and undue wear and assures proper lubrication at all times. The axle revolves in four roller bearings (two single and two double) which are encased in steel sleeves that can be replaced when worn. The bearings are automatically oiled from the gear case and require no attention. Leather oil seals enclosed in metal cases prevent oil from leaking past the ends of the axle. The mower wheels are keyed solidly to the axle sections, eliminating end play, wobble, and lost motion.

Illustr. 3—Gear case with cover removed to show transmission assembly and method of lubrication. In this illustration portions of the main frame have been cut away to show location and construction of roller bearings and flywheel shaft bearing. All transmission parts and the main axle bearings and flywheel shaft bearings are automatically lubricated from the oil supply in the gear case.


Feb. 1935
McCormick-Deering No. 7 Mower
A High-Lift Mower with Automatic Pawl Lifting Lever

Convenient Levers
A feature much appreciated by owners of McCormick - Deering mowers is the steel lifting lever with its automatic pawl that latches and unlatches automatically with the movement of the lever. There is no detent to grip and no catch to be released on this lever. The instant the lifting lever passes either the half-lift or the full-lift notch, the pawl automatically falls into place and holds the lever in that position until the operator moves the lever forward, when it releases.

The tilting lever of the No. 7 mower is of a new type, likewise devoid of the ordinary latch. To disengage the lever it is pulled toward the operator and the bar can then be tilted in the position desired. When the lever is released it springs back against the quadrant and is held there by spring pressure.

New-Style Clutch
The clutch on the No. 7 mower consists of a heavy clutch plate with corrugations that fit against similarly shaped corrugations on the side of the clutch gear. This makes a stronger, quicker-acting clutch - one that permits the knife to start as soon as the mower moves forward.

ILLUST. 5—McCormick-Deering No. 7 plain-lift mower. With the hand lever in the first notch, the cutter bar is raised amply high to pass over most obstacles encountered in the field. It can also be raised with the foot lever if desired. Extremely high lift can be secured with the hand lever in the second notch as shown in this illustration. This is ample for all ordinary cutting, except in stumpy fields or among trees, rocks, and buildings where the vertical lift mower should be used. See following page.

ILLUST. 6—McCormick-Deering plain-lift enclosed-gear mower showing height of lift obtained with raising lever in the first notch.

ILLUST. 7—The wheels of the No. 7 mower can pass over an obstruction 5 inches high without disturbing the proper registration of the knife. This is a distinct advantage on rough ground or where there are stones or obstructions in the field.
Combination Plain and Vertical Lift

The No. 7 mower can be obtained either in the regular plain-lift type or in a combination plain and vertical lift (see table, first No. 7 mower page). The plain-lift type is popular wherever a high horizontal lift giving ample clearance for passing over ordinary obstacles is desired. The combination-lift type is suitable for similar conditions and has the added feature of a full vertical lift by means of the lifting lever. This combination-lift feature is something new and found only on the McCormick-Deering No. 7 vertical lift mower.

Heretofore all mowers have been made either in plain or in vertical-lift types. Each has its advantages. Plain-lift mowers have a greater clearance capacity between the inner shoe and the ground. Vertical-lift mowers permit raising the cutter bar to a full vertical position without stopping the mower or leaving the seat. Now, for the first time, both of these desirable features are available in one machine—the McCormick-Deering No. 7 combined plain and vertical-lift type mower. This mower has a high horizontal lift for passing over trash and stones and a full vertical lift that swings the bar out of the way of high obstructions. Either type of lift is instantly available by merely moving a small lever—see Illust. 11.

Illust. 10—"Safety-type" tilting lever is something new. It has no latch. To tilt the cutter bar the operator pulls the lever "A" slightly toward himself, which disengages the detent riveted into the side of the lever from the quadrant teeth at "B." When the bar is released it springs back and is held engaged with the quadrant teeth by spring pressure. "C" indicates connection with cutter bar yoke.
McCormick-Deering No. 7 Mower

Automatic Pitman

A feature much appreciated is the automatic pitman connection to the knife head. The pitman clasps are held to a snug fit around the knife head ball by means of a spring which automatically keeps the clasps at exactly the right tension. Any wear that may develop is immediately taken up by the spring pressure, without attention on the part of the operator. The pitman may be removed easily from the knife head without a wrench.

Improved Pitman Box Connection

In addition to the modern automatic pitman connection to the knife head, which is easy to connect and disconnect and is always held to a snug fit by spring tension, the pitman of the No. 7 mower has an improved connection to the pitman box by a tempered steel blade—strong and durable, yet sufficiently flexible to prevent binding of the pitman in its travel. This construction is a big improvement over the ordinary bolt-and-ratchet arrangement usually found on mowers, as there are no bolts and nuts to adjust and no wear to take up.

The pitman box is cast with a hollow chamber around its center which forms an oil reservoir when the bronze bushing is inserted. Oil is fed slowly from this reservoir by centrifugal force. The fitting through which oil is injected to the reservoir has a spring cover that prevents dirt from getting into the oil and bearing.

Improved Flywheel Shaft Bearings

The lower bearing on the flywheel shaft has the hardest task of any bearing on a mower. It must provide a smooth bearing surface for the high-speed shaft and it has to withstand the whipping effect of the flywheel and pitman. In the No. 7 enclosed gear mower, this bearing is extra long and is made of special copper alloy. The upper bearing is also of the same wear-resisting material and is extra long. Both bearings are automatically lubricated from the oil supply in the gear case.

Feb. 1935
McCormick-Deering No. 7 Mower
Oil-Tempered, Heat-Treated Cutter Bar

The McCormick-Deering cutter bar is made of high-carbon, heat-treated steel. It is tapered and reinforced with a rib extending the length of the bar. During the tempering process a slight upward bend is given the bar, and this tendency to assume an upward curve is further incorporated in the grain or structure of the steel itself. The result is a bar that will not sag but lies perfectly flat when the outer shoe and other parts are assembled on it. Wearing plates 5/8 inches in length prevent the knife from wearing the bar. The guards regularly supplied are equipped with serrated ledger plates, and the knife sections are made of the highest quality of heat-treated, oil-tempered steel.

Special Mower Bars
A variety of special mower bars are available for both the No. 7 and No. 6 mowers. Order should specify type of mower.

Heavy-Duty Bar—This bar is substantially constructed for heavy work and cutting over rough, stony ground. It has heavy-type guards (see Illust. 19) and is supplied with heavy knife. Guards have same spacing as on regular mower bar but are larger and heavier and make continuous contact at the base.

Weed Bar—This bar is designed for cutting heavy weeds, light brush, etc. It has heavy, blunt guards that have no lips (see Illust. 21). This feature permits cutting woody stems and stalks with less draft and likelihood of choking. A heavy knife is supplied.

Lespedeza Bar—A low-cut bar with steel double guards of special type having 1 1/2-inch spacing. Designed especially for cutting Lespedeza and other crops where an extremely low cut is desired. Steel guards have no ledger plates. Knife with underserrated sections is supplied.

Illustrations:
1. Regular mower bar with regular-type guard.
2. Heavy-duty bars with heavy-type guards.
3. Guards used on special Lespedeza bar.
4. Stub guard used on special weed bars, pea bars, etc.
McCormick-Deering No. 7 Mower

Useful Attachments for the Mower

Reaper Attachment
A reaping attachment for cutting grain and special seed crops can be supplied for use with all McCormick-Deering mowers having 4½ and 5-foot cutter bars. Attachment includes an extra seat over the right wheel for the operator, who reaps the crop onto the platform with a rake and retains it until a gavel of the right size is secured, then dumps it off upon the ground.

Buncher Attachment
This attachment is designed for gathering very short hay which cannot be raked easily. It is also used for gathering seed crops. The hay is gathered upon the slatted platform back of the cutter bar, and when a sufficient amount has accumulated, the driver dumps it by raising the shield as shown in Illustration 23. This is accomplished with a foot lever. Buncher attachments can be furnished for 4½, 5, and 6-foot mowers.

Mower Tongue Truck
Under certain conditions owners sometimes prefer to equip their mowers with a tongue truck. The tongue truck reduces side draft and takes the neck weight off the horses. The truck is provided with a casting permitting the attachment of a draft rod running from the inner shoe hinge on the cutter bar to the tongue truck. The tongue truck can be supplied with a long pole and stub pole or can be supplied without either pole when so ordered. Specify whether for No. 6 or No. 7 mower.

Vine Lifters
Used when cutting matted grass, vines, etc., also on binders for lifting lodged grain. The lifters fit over the guards and are bolted individually in place. Upper bar vibrates and clears itself of vines.

Weed Attachment
McCormick-Deering mowers can be equipped with a weed attachment which holds the cutter bar off the ground at a sufficient height to avoid stones or to pass over a young crop of grain. The attachment consists of an adjustable hook which supports the inner end of the cutter bar and a wheel for supporting the outer end of the cutter bar above the ground. Both ends are adjustable so that the cutter bar can be raised to any height up to 12 inches.
Canning Pea Mower Bar Attachment

This bar is made especially for harvesting green peas for canning. Owners tell us that it is the most successful bar for this purpose they have ever used. The bar is regularly equipped with pea vine lifters (set of six), pea vine divider, and windrower fingers. The pea vine lifters are of special design, smoothly finished, and streamlined to give the most efficient action. The lifters are hinged so that the points follow the contour of the ground closely, picking up all the vines and raising the pods above the sickle so that none will be cut or wasted.

The windrower is designed so that the vines are rolled gently into windrows, with the pods inside and the vines and stems on the outside. This prevents the pods from drying out and keeps the peas fresh. The windrow is deposited at the rear, out of the way of the horses or tractor wheels on the following round.

McCormick-Deering Knife Grinder

The McCormick-Deering knife grinder is designed to meet the demand for an inexpensive machine with which the farmer can sharpen his mower knives easily and quickly, and still retain the correct bevel edge and cutting angle of each section. It will grind one edge of each of the two sections at the same time. The knife is then moved along and the next two sections are ground. A spring maintains the pressure of the stone against the knife and the stone is of the proper shape to give the sections the correct bevel. The knife is held in the machine by clamps and simply turning the crank moves the stone over the edges of the sections. A handle on the frame permits holding the stone at any desired point so that nicks can be ground out.

Foot Power Attachment

The McCormick-Deering knife grinder is regularly supplied for hand power. At small extra cost, a stand, seat, pedals, chain, and sprocket will be supplied. The grinder is then clamped to the frame and operated from the seat by means of the foot pedals.

Regular Equipment

Crank for hand power and bevel stone for grinding mower knives. Weight, including stone, 20 pounds.

Extra Equipment

Flat stone for grinding tools
Saw gumming stone
Foot power attachment (weight 50 pounds)

McCormick-Deering knife grinder. An inexpensive tool for grinding mower knives. Can also be equipped for grinding tools and gumming saws.
McCormick-Deering
No. 7 Pneumatic-Tired Mower

For Cutting Weeds and Grass along the Shoulders of Hard-Surfaced Roads

The No. 7 enclosed-gear mower can be had equipped with pneumatic-tired wheels for highway use. Pneumatic tires provide efficient traction on paved or hard-surfaced roads and make a comfortably riding machine for the operator.

The tires are balloon type, 5.25 x 21-inch size. They are mounted on conventional automobile-type rims which fasten over the wheel spokes and are secured by locking lugs. This makes removal of the tire as simple as the removal of an automobile tire.

The wheels have special split type hubs and are clamped tightly around the axle by four bolts. In addition, the wheels are keyed to the axle, eliminating all likelihood of wobble and end play.

The No. 7 pneumatic-tired mower is available in 4 1/2, 5, 6, and 7-foot sizes. Equipment same as standard No. 7 mower. Weight, deduct 90 lb.

Illust. 30—McCormick-Deering No. 7 pneumatic-tired Mower. Used for cutting along shoulders of hard-surfaced roads and wherever air-cushioned wheels are desirable.

McCormick-Deering No. 7 Trailer Mower

When cutting with a tractor mower or Farmall mower, it is sometimes desirable to increase the width of cut by pulling another mower behind the tractor. For this purpose a special McCormick-Deering trailer mower can be supplied. This mower is similar in general design to the regular No. 7 enclosed-gear mower but has special gears for operating the mower efficiently at tractor speeds. The wheels are extra heavy and have 8-inch rims. When drawn behind a tractor-operated mower the trailer mower is equipped with a steering pole hitch to maintain the proper offset and a special hitch angle (depending on the model McCormick-Deering tractor used) is required. See page of tractor hitches for mowers to determine proper hitch angle required.

<table>
<thead>
<tr>
<th>Width of Cut</th>
<th>Description</th>
<th>Approximate Shipping Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 feet</td>
<td>No. 7 trailer mower with steering pole hitch</td>
<td>940 pounds</td>
</tr>
</tbody>
</table>

Hitch angle supplied extra. See page of tractor hitches for mowers.

Illust. 31—McCormick-Deering No. 7 trailer Mower drawn behind the Farmall No. 10 mower. The combined cutting width of these two mowers is 14 feet.
McCormick-Deering No. 6 Mowers

Illustr. 32—McCormick-Deering No. 6 Mower. Made in 4½ and 5-ft. cuts, both regular and vertical lift and in 6 and 7-ft. regular lift.

Standard Type Mower

The McCormick-Deering No. 6 is the standard type two-horse mower so popular for many years. It is built in plain and vertical-lift types and various sizes as listed below.

The cutter bar is made of high-grade steel, heat-treated and tempered in oil. It is reinforced with a rib which extends the entire length of the bar. The guards are equipped with serrated ledger plates, and the knife is equipped with the highest quality of heat-treated and tempered sections which give a clean, shear cut. Wearing plates 8 in. in length prevent the knife from wearing the bar. The weight of the cutter bar is carried on the wheels so that the bar floats over the ground.

Durable Wearing Parts

The knife head is made of drop-forged steel, under a patented process of manufacture. The ball of the knife head is case-hardened. Special hardwood pitman with automatic adjustment, which maintains a perfect connection between the knife head and pitman, is regularly supplied. The connection between the pitman and knife head does not wear spoon-shaped or cause the mower to work hard. The pitman box is equipped with bronze bushings. The push bar is located low, which helps to make the cutter bar float over the ground. Perfect alignment is maintained between the pitman and knife. The mower is operated through external gears of ample size. The bearings on the crankshaft are easily removed and replaced when worn. High-grade roller bearings are used on the main shaft and bevel gear shaft, also the adjustable ball thrust bearing maintains perfect mesh of the bevel gears. The main lifting lever is equipped with automatic locking device; no detent lever needed. All holes in the main frame are drilled and reamed in one operation to assure perfect alignment.

McCormick-Deering Big 6 Mower

The McCormick-Deering Big 6 mower is constructed exactly like the McCormick-Deering No. 6, except that it is built heavier throughout. The frame is larger and stronger and the wheels are higher. See specifications.

Regular Equipment

Tongue, neckyoke, and doubletrees on 2-horse mowers. Two knives or sickles. Thills and whiffletree on vertical lift 1-horse mower. Tools.

Extra Equipment

Reaping attachment for mowers, 4½-ft. and 5-ft. cuts. Buncher attachment for mowers, 4½-ft., 5-ft., 6-ft., and 7-ft. cuts. Weed attachment for 2-horse mowers, Special low cutter bar—6 ft. for Big 6 mower only. Weed or brush bars with heavy knives, 3-ft., 3½-ft., 4½-ft., and 5-ft. cuts. Lespedeza bars, 4½, 5, and 6-ft. Pea and bean lifters. Pea bar attachment. Grain lifters, same as on binder. Tongue truck. Two-horse hitch for vertical lift 1-horse mower. Tractor hitches, see Index. Special wheels with rubber tires for Big Six mowers.

Specifications

<table>
<thead>
<tr>
<th>Kind</th>
<th>Width of Cut</th>
<th>No. Horses</th>
<th>Wheels</th>
<th>Shipping Wt., Reg. Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 6 regular lift</td>
<td>4½ ft.</td>
<td>2</td>
<td>32 in.</td>
<td>468 lb. 740 lb.</td>
</tr>
<tr>
<td>No. 6 regular lift</td>
<td>5 ft.</td>
<td>2</td>
<td>32 in.</td>
<td>468 lb. 750 lb.</td>
</tr>
<tr>
<td>No. 6 vertical lift</td>
<td>4½ ft.</td>
<td>2</td>
<td>32 in.</td>
<td>468 lb. 760 lb.</td>
</tr>
<tr>
<td>No. 6 vertical lift</td>
<td>5 ft.</td>
<td>2</td>
<td>32 in.</td>
<td>468 lb. 760 lb.</td>
</tr>
<tr>
<td>Big 6 regular lift</td>
<td>4½ ft.</td>
<td>2</td>
<td>34 in.</td>
<td>49 lb. 810 lb.</td>
</tr>
<tr>
<td>Big 6 regular lift</td>
<td>5 ft.</td>
<td>2</td>
<td>34 in.</td>
<td>49 lb. 815 lb.</td>
</tr>
<tr>
<td>Big 6 regular lift</td>
<td>6 ft.</td>
<td>2</td>
<td>34 in.</td>
<td>49 lb. 820 lb.</td>
</tr>
<tr>
<td>Big 6 vertical lift</td>
<td>4½ ft.</td>
<td>2</td>
<td>34 in.</td>
<td>49 lb. 830 lb.</td>
</tr>
<tr>
<td>Big 6 vertical lift</td>
<td>5 ft.</td>
<td>2</td>
<td>34 in.</td>
<td>49 lb. 850 lb.</td>
</tr>
</tbody>
</table>

All weights are approximate.
McCormick-Deering No. 6 Mowers

One-Piece Main Frame

McCormick-Deering mower frames are cast in one piece. This assures great strength and rigidity. Every hole in the frame is drilled or reamed while the frame is held in a fixture, thus assuring perfect alignment of the shafts and proper fitting of all parts assembled with the frame. Note in Illust. 34 the roller bearings “B” and “C” on the axle shaft and the wide-faced driving gear “A.” This gear and the ratchet hub cast integral with it are keyed and pinned to the shaft, which means that they will not become loosened in operation yet can be removed for repairs.

Bevel Gear and Pinion

The bevel gear and pinion and the clutch mechanism are housed to protect them from dirt. All bearings and friction surfaces can be quickly reached for oiling. The gears are of liberal dimensions and are so arranged that the thrust which exists between separate pairs of gears is nicely balanced. The flywheel shaft is set well over to the side, permitting the use of a long pitman.

Heat-Treated Cutter Bar

The cutter bar is heat-treated and carefully tempered so as to resist any tendency to sag. The flexible gag arrangement permits the cutter bar to follow the contour of the ground closely. A heavy spring supports the weight of the cutter bar so that it practically floats over the ground. This puts the weight of the cutter bar on the wheels, providing better traction and reducing the draft.

Adjustments for Registration and Alignment

The registration and alignment of the knife are carefully adjusted to gauge when the mower is assembled at the factory, but should the cutter bar get out of alignment from any cause and the knife fail to operate properly as a result, the coupling bar and brace can be disconnected and either one adjusted by means of threads until the proper alignment is secured.

When it is desired to raise the cutter bar slightly above the ground for cutting higher, the steel shoe soles at the outer and inner ends of the cutter bar can be adjusted to accomplish this.

Illustrations:

- Illust. 33—Type of roller bearing used in McCormick-Deering No. 6 mowers.
- Illust. 34—The frame of the McCormick-Deering No. 6 mower is cast in one piece and all holes are drilled and reamed in fixtures. This assures perfect alignment. “A,” driving gear; “B” and “C,” roller bearings; “D,” supporting brace.
- Illust. 35—Renewable bushings at “A” and “C” mean long wear and easy repair. “B” is an adjustable ball thrust bearing; “E,” bevel pinion; “D,” washer and cotter pin.
- Illust. 36—Removing and replacing the bearings on the flywheel shaft is the work of a few minutes. “B,” shaft; “C,” pitman; “D,” nuts; “E,” removable shield; “F,” bearing.

Feb. 1935
McCormick-Deering One-Horse Mower

Where grass is allowed to grow to a considerable height on golf courses, in parks, cemeteries, etc., a mower is about the only machine with which it can be cut. The McCormick-Deering one-horse mower is well suited to this work because of its compact construction and vertical-lift feature which permits cutting between trees and around stones. This machine is also well adapted for use on small farms.

Specifications — One-Horse Mower

<table>
<thead>
<tr>
<th>Kind</th>
<th>Width of Cut</th>
<th>No. Horses</th>
<th>Wheels</th>
<th></th>
<th>Shipping Wt., Reg. Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-horse vertical lift</td>
<td>3½ ft.</td>
<td>1 or 2</td>
<td>30 in.</td>
<td>3½ in.</td>
<td>36½ in.</td>
</tr>
</tbody>
</table>

Rivet Block for Easy Replacement of Ledger Plates

The removal and replacement of ledger plates on mower and binder guards is a difficult job with the average tools found on the farm. In fact, you are more likely to injure the guard and throw it out of alignment if you attempt to replace ledger plates by the ordinary method. The rivet block shown in the accompanying illustrations can be purchased from any McCormick-Deering dealer and makes a quick and easy job of replacing ledger plates. The block is formed to hold the guard firmly in place when driving out the rivet from the old ledger plate and the pins make a splendid anvil on which to place the head of the rivet when riveting in the new ledger plate. See Illust. 39.
McCormick-Deering Self-Dump Rakes

McCormick-Deering self-dump rakes are well and favorably known wherever hay is raised because of their durability and easy operation. They dump quickly and the teeth return to the ground promptly so that there is no hay wasted. As the rake fills, the cleaner rods float above and retard the hay so that it does not roll into a ropy form.

Easy to Dump

The McCormick-Deering self-dump rake leaves a clean field because the teeth can be kept in position easily. By pressure on the foot lever, the teeth can be held down for bunching hay from the windrow. To dump the rake, just press slightly on the foot trip, which throws the pawls at the ends of the trip rods into engagement with the wheel ratchets. This causes the rake to dump automatically. Adjustment can be made for raising the teeth to the position you want for small windrows.

Wheels Interchangeable

The wheels are interchangeable so that when one side of the ratchet is worn the wheels can be reversed, giving practically double wear. The wheels have staggered spokes and heavy steel tires. They are large and keep the rake running smoothly, even on rough ground. Wheels with outside flanges hold the rake from slipping on side hills but cut into the sod to some extent. The inside flange will not cut in but does not hold so well on side hills. Either rim can be had with all styles of wheels. Mountain wheels have double steel rims which meet the purpose of both inside and outside flanges.

Durable Rake Teeth

McCormick-Deering rake teeth are made of high grade oil-tempered steel. They have a curve which brings them well under the hay, which they carry rather than drag over the ground. They do not dig in or tear up the sod.

The teeth undergo a severe test at the factory to be sure that they have the proper temper and will withstand hard usage. They are held in place by clamps. Should a single tooth be broken, it can be replaced by taking off only one section.

Substantial Main Frame

The main frame is made of angle steel strongly braced to resist twisting. The rake head is also made of angle steel and will not sag. The frame and rake head are connected by heavy hinges that do not twist under the strains to which they are subjected.

The 11-ft. size is known as the cornstalk rake and differs from the other rakes in that it is equipped with ¾-in. teeth with round points and without coil. It is also supplied with lifting spring to aid in lifting the rake.

Regular Equipment

Three-eighths-inch teeth with single coil. Thills which can be made into tongue.

Extra Equipment

Guard teeth. Doubletree and neckyoke. Mountain wheels (18 spokes, either with or without roller bearing special rims). One-half-in. teeth. ¾-in. double coil teeth. ¾-in. teeth with round or flat points. Regular wheels can be furnished with either inside or outside flanges, as ordered.

Specifications

<table>
<thead>
<tr>
<th>Width</th>
<th>Number of Horses</th>
<th>Number of Teeth Regular</th>
<th>Number of Teeth Special</th>
<th>Shipping Weight, Reg. Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 ft.</td>
<td>1 or 2</td>
<td>20</td>
<td>25</td>
<td>390 lb.†</td>
</tr>
<tr>
<td>9 ft.</td>
<td>1 or 2</td>
<td>24</td>
<td>30</td>
<td>425 lb.†</td>
</tr>
<tr>
<td>10 ft.</td>
<td>1 or 2</td>
<td>26</td>
<td>32</td>
<td>450 lb.†</td>
</tr>
<tr>
<td>11 ft.</td>
<td>1 or 2</td>
<td>22</td>
<td>29 and 43</td>
<td>495 lb.†</td>
</tr>
<tr>
<td>12 ft.</td>
<td>1 or 2</td>
<td>32</td>
<td>40</td>
<td>510 lb.†</td>
</tr>
</tbody>
</table>

*Cornstalk rake.†Approximate
Built in Two Sizes
This tedder is made in 6 and 8-fork sizes. Built entirely of steel.

Flexible, Adjustable Forks
Forks are provided with long coiled steel springs which allow them to spring back when an obstruction is encountered. The springs also relieve the tedder of the strain caused by the rapid movement of the forks. The stroke of each fork is adjusted by a device at the top.

Power Taken from Both Wheels
The power is applied from the center of the main shaft which is practically solid throughout its length, thus the strain is equally distributed over the entire tedder.

Roller Bearings
The main axle and crankshaft are equipped with roller bearings.

Bearings Are Wide
The extra wide bearings of the forks make steady motion. All boxes are easy to remove, being attached by bolts.

Cushion Frame
The angle steel main and thill frames are connected by springs which absorb shocks and jars which might not be absorbed by the springs on the forks. The McCormick-Deering tedder runs with the least amount of vibration possible.

Well-Built Wheels
Wheels are interchangeable, of large diameter and wide face. The hubs are large and the spokes staggered. The channel shape of the steel wheel protects the riveted ends of the projecting spokes.

Easy Adjustment
The clutch lever and balancing lever are within easy reach of the driver. The clutch moves on a keyed shaft; it is not necessary to shift any gears or sprockets, thus they are always in line. The seat is adjustable. Each fork bearing, as well as the main shaft and crankshaft bearings have oil cups, thus the machine is easily oiled. The forks are easily raised from the ground for transporting the machine.

Thill Hitch
The shafts are easily converted into a pole for two horses or can be spread apart for one horse.

Specifications

<table>
<thead>
<tr>
<th>Sizes</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-Fork</td>
<td>580 lb.</td>
</tr>
<tr>
<td>8-Fork</td>
<td>675 lb.</td>
</tr>
<tr>
<td>Height of Wheels</td>
<td>51 inches</td>
</tr>
<tr>
<td>Width of Tedder—6-Fork</td>
<td>83 inches</td>
</tr>
<tr>
<td>Width of Tedder—8-Fork</td>
<td>108 inches</td>
</tr>
</tbody>
</table>

*Approximate
McCormick-Deering Side Rakes and Tedders

Illustr. 1—McCormick-Deering Side Rake and Tedder. A combination machine, more serviceable than both a separate rake and tedder.

**Turns Leaves In—Stems Out**

The McCormick-Deering side rake and tedder forms a quick curing windrow in which the leaves are turned inward to prevent their being torn off the stems, while the stems are turned outward to get the quickest action from the sun and air. The straight teeth of the McCormick-Deering side rake and tedder do this as well as any rake can possibly do it, and get perfect results in tedding besides.

The raking width of the regular size McCormick-Deering side rake and tedder is 7 ft. 3 in., and on the bean special, 8 ft. The bean special has a longer reel that extends farther out from the caster wheel than does the regular side rake. The frames of the two machines are alike, but the left-hand wheel can be spaced farther out on the shaft, if desired, when operating in beans.

**Rakes and Teds**

The McCormick-Deering side rake and tedder can be instantly converted from a side rake to a tedder by changing the direction in which the reel revolves. This is accomplished by shifting a lever within convenient reach of the driver. Another lever sets the teeth at the correct slant for raking or tedding.

**Left-Hand Delivery**

In following the mower, the hay is placed upon the clean stubble, not on the unraked swath. The teeth work against the heads of the hay, catching in the crotches between the leaves and stems and raking clean.

**Reel Ends Adjustable**

A lever at the left of the driver controls the height of the rear end of the reel from the ground, and one at the right controls the height of the front end. This is quite necessary with varying conditions of hay and ground.

**Line of Draft Controlled**

The pole is not rigid. The steel rod to which it is attached can be slid to different positions after lifting the spring plunger, which locks it in place. Thus the pole can be kept in the line of draft. This is a valuable feature when the machine is changed from a rake to a tedder or vice-versa.

**Center Spider Stiffens Reel**

The tooth bars will not sag, for the spider or brace in the center of the reel holds them rigidly in place.

**Regular Equipment**

Pole and one caster wheel.

**Extra Equipment**


**Specifications**

<table>
<thead>
<tr>
<th></th>
<th>Regular Size</th>
<th>Bean Special Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raking width</td>
<td>7 ft. 3 in.</td>
<td>8 ft.</td>
</tr>
<tr>
<td>Spacing of teeth</td>
<td>3 3/4 in.</td>
<td>3 3/4 in.</td>
</tr>
<tr>
<td>Number of horses required</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Weight, complete</td>
<td>890 lb.</td>
<td>905 lb.</td>
</tr>
<tr>
<td>Weight of extra caster wheel</td>
<td>90 lb.</td>
<td>90 lb.</td>
</tr>
</tbody>
</table>

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McCormick-Deering Side Rakes and Tedders

A Strong, Light-Draft Machine

Roller bearings make this rake exceptionally light in draft. The angle steel frame is rigidly braced by a large truss beam running over the reel. The gears are extra heavy. The piping for the reel shaft and tooth bars is of ample size. The main axle is solid.

Illustration 2—The rake teeth are securely fastened to the rake bars by means of special malleable clips and bolts.

No Stub Axle

The bevel drive gears and clutch are mounted directly on the main axle. There is no stub axle to weaken from continued use.

Supplemental Caster Wheel

One caster wheel is regularly supplied with the McCormick-Deering side rake and tedder. An extra caster may be had on special order at additional cost. In some cases it is required on very rough ground. When one caster wheel is in a furrow or depression, the other holds the reel up, keeping the teeth from digging into the ground. This is a great convenience and amply justifies the extra cost. The caster wheels are pressed from one piece and are shielded to prevent hay winding.

Illustration 3—Looking down on the McCormick-Deering side rake and tedder. Notice the many good features of construction.
McCormick-Deering Windrow Hay Loader

Adjustable Carrier Section
This device, as shown in Illust. 2 on the next page, allows lowering of the delivery end of the carrier when starting a load—handy in windy weather. As the load is built up the section is raised by turning a crank at the top. The position of the section is retained by means of a ratchet and pawl. The sideboards as well as the delivery end fold, which keeps hay on the rack better and reduces the loader for storage.

Four Roller Bearings
There are two roller bearings on the upper carrier shaft and two on the main axle.

Regular Equipment
Forecarriage with hitching device which includes draft rod with hitching bracket, two couplers to attach to wagons, and coupler pin attached to release rope extending to top of loader.

Extra Equipment
Windlass hitch with tongue instead of forecarriage. It includes two windlasses for attaching to wagons, coupler pin, release rope extending to top of loader, and automatic stand for holding loader upright after it has been detached.

A gleaning cylinder attachment can also be had on special order.

Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Windrow Loader</th>
<th>Double Cylinder Loader</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width of ground covered</td>
<td>6 ft.</td>
<td>6 ft.</td>
</tr>
<tr>
<td>Height hay is elevated</td>
<td>10 ft. 3 in.</td>
<td>10 ft. 3 in.</td>
</tr>
<tr>
<td>Number of horses required</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Number of tooth bars—main cylinder</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Number of teeth per bar—main cylinder</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Number of tooth bars—gleaning cylinder</td>
<td></td>
<td>16</td>
</tr>
<tr>
<td>Weight with forecarriage</td>
<td>923 lb.</td>
<td>Not used</td>
</tr>
<tr>
<td>Weight without forecarriage</td>
<td>777 lb.</td>
<td>1106 lb.</td>
</tr>
</tbody>
</table>

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Builds High Loads

With the carrier section raised as in Illust. 1, the hay is elevated vertically 10 ft. 3 in., and 7 ft. 6 in. when the carrier is lowered as in Illust. 2.

Exceptionally Substantial Loader

The entire frame is made of steel and a 1½-in. cold drawn solid steel axle is used. The carrier slats are extra heavy and fastened by special clips to steel drive chains. The side boards are wide and strong.

Double Cylinder Loader

As the name of this loader implies, it is equipped with a gleaning cylinder in addition to the main cylinder. The gleaning cylinder picks up all hay left by the main cylinder, making this loader especially valuable in third and fourth cuttings of alfalfa and other short hay.

The two cylinders revolve toward each other, thus giving a double pick-up. The weight of the machine is nicely balanced on the wheels, making it unnecessary to use a forecarriage. (See Illust. 3.)

The gleaning cylinder is driven from the main axle by sprockets and chain. On both cylinders the teeth are controlled by tooth bar arms engaging cams. There are no toggles. The double-cylinder loader is equipped with automatic foot and windlass hitch (Illust. 4). The automatic foot holds the loader in upright position when detached from the wagon and is hooked up out of the way when the loader is in operation.

Gleaning Cylinder

A gleaning cylinder as shown in Illust. 3 can be attached to the adjustable section loader on special order, making a double cylinder hay loader. This device is useful in picking up very short hay. It is quickly attached to the machine and easily adjusted to the right height above the ground.

Forecarriage

The forecarriage is regularly supplied with the single cylinder loader. Its wheels are equipped with shields to prevent hay from winding.

Unhitched from Top of Loader

The man on the load pulls a rope extending from the top of the loader to a latch, either on the forecarriage or the special hitch, and disconnects the loader from the hay rack.

Illust. 3—The addition of the gleaning cylinder to the single cylinder loader shown in Illust. 1 makes a double cylinder loader. Gleaning cylinder can also be supplied at extra cost for single cylinder loader already in use.

Illust. 4—Windlass hitch special on windrow loader and regular on double cylinder loader.
McCormick-Deering Cylinder-Rake Hay Loader

The McCormick-Deering cylinder-rake hay loader combines the principles of two highly successful loaders. One man can operate it, thus reducing labor cost. The cylinder is equipped with high-grade steel teeth that pick up the hay from either swath or windrow and deliver it to the teeth on the rake bars which are so timed that the delivery of the hay from the cylinder exactly meets the movement of the rake bars. The cylinder is adjustable close to the ground so that short hay can be picked up clean.

Steel Construction—Light Draft

The frame of the machine is made entirely of steel with steel siding, and light draft is secured by means of thirteen roller bearings on parts subject to the greatest amount of friction.

A Windy Day Loader

The loader is so designed that delivery of the hay can be made 3 feet closer to the rack when starting the load. This is accomplished by lowering the upper section or delivery point. This helps on windy days. After the load is built up to a fair height, the delivery point can be raised to the maximum of 9 feet 2 inches.

Solid Steel Bottom

The loader is equipped with a solid bottom made of sheet steel so formed that the sections interlock, making it possible to remove them without difficulty if desired, but forming an absolutely tight bottom when in place.

Extra Equipment

Deck extension and shields for loading light hay.

Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest elevation of hay</td>
<td>9 ft. 2 in.</td>
</tr>
<tr>
<td>Overall length in operating position</td>
<td>12 ft. 2 in.</td>
</tr>
<tr>
<td>Overall width in operating position</td>
<td>6 ft. 10(\frac{1}{2}) in.</td>
</tr>
<tr>
<td>Diameter of cylinder</td>
<td>27 in.</td>
</tr>
<tr>
<td>Raking width</td>
<td>6 ft.</td>
</tr>
<tr>
<td>Stroke of rake bars</td>
<td>20 in.</td>
</tr>
<tr>
<td>In position for storing—</td>
<td></td>
</tr>
<tr>
<td>Overall height</td>
<td>6 ft. 3 in.</td>
</tr>
<tr>
<td>Overall length</td>
<td>14 ft. 2 in.</td>
</tr>
<tr>
<td>Weight, approximate</td>
<td>1140 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Sweep Rakes

**McCormick-Deering No. 2-A Rake**

The McCormick-Deering No. 2-A sweep rake is of the three-wheel type. It is equipped with an A frame and provided with a lever for raising and lowering the teeth. The seat is mounted at the rear over a single caster wheel. Extra pressure can be supplied to the teeth when on the ground by a spring just back of the A frame. The pole is hinged and the horses can be backed without raising the teeth.

**Extra Equipment**

Special teeth with turned-up points for soft ground. Extra long teeth (9-ft.) with turned-up points. Hay discharger.

**McCormick-Deering 1-B Two-Wheel Rake**

The two-wheel sweep rake has hinged poles. The wheels and axles are mounted on a pipe forming a third bar at the rear, to secure the proper balance and desired weight on teeth. The teeth are adjustable by sliding the seat backward and forward. To pick up the load the driver slides the seat forward, adding his weight to that of the teeth to hold them close to the ground. When the load is picked up, he pushes the seat back so that his weight overbalances that of the load and lifts the teeth off the ground.

**Three Bars Strengthen Rake**

The teeth are extra long and bolted to three bars at the rear, which braces the whole platform and relieves strain on the teeth. An additional bracing to the platform is given by the V-shaped construction of the seat board support.

The rear fender is built with a truss construction which prevents sagging of the rake in the center. In addition, steel braces run from the rear of the rake to the upper corners of the fender board, in order to raise the teeth at those points and keep them all in line.

**Steel Wheels—Renewable Bushings**

The rake is equipped with steel wheels mounted on removable bushings which slip on over the pipe axle. These bushings prevent wear on the pipe. They are provided with oil cups having large holes, in which cotton can be placed to retain the oil. The bushings are renewable.

<table>
<thead>
<tr>
<th>Rake No.</th>
<th>Extreme Width of Platform</th>
<th>Spacing of Teeth, Center to Center</th>
<th>Diameter, Main Wheels</th>
<th>Diameter, Caster Wheels</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-B, 2-wheel</td>
<td>12 ft. 4 in.</td>
<td>12 in.</td>
<td>20 in.</td>
<td>None</td>
<td>485 lb.</td>
</tr>
<tr>
<td>2-A, 3-wheel</td>
<td>12 ft. 4 in.</td>
<td>12 in.</td>
<td>20 in.</td>
<td>17 in.</td>
<td>630 lb.</td>
</tr>
<tr>
<td>4-B, 4-wheel</td>
<td>12 ft. 4 in.</td>
<td>12 in.</td>
<td>20 in.</td>
<td>17 in.</td>
<td>750 lb.</td>
</tr>
<tr>
<td>No. 9, 4-wheel</td>
<td>13 ft. 6½ in.</td>
<td>12½ in.</td>
<td>22½ in.</td>
<td>17 in.</td>
<td>1090 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Sweep Rakes

Illustr. 4—McCormick-Deering Nos. 4-B and 9 Sweep Rakes.

Standard and Heavy-Duty Four-Wheel Rakes

Two types of four-wheel sweep rakes are now available to meet varying conditions. The standard rake, No. 4-B, is illustrated above, while the heavy-duty type, No. 9, is almost identical except for heavier construction. The features described on this page apply to both rakes. Both are equally well constructed of clear, straight-grained lumber, and reinforced with steel and iron. The teeth are oiled to increase the freedom with which they pick up and release the hay. The front wheels are fitted with removable iron bushings that can be replaced when worn. The caster wheels at the rear are of large diameter which facilitates passing over irrigation ditches. The horses hitch at the rear and are close to the driver, making it easy to control them.

Power Lift

In Illustr. 5, the position of the lever, E, shows the rake teeth to be on the ground in the proper position to pick up the crop. Pressure of the foot on the treadle, A, gives additional pressure of the teeth against the ground, for picking up hay that has packed. B, is the foot lever lock. C, the power-lift foot lever. D, the power-lift bail. F, the treadle unlocking lever.

In Illustr. 6, the load has been raised off the ground and the lever, E, is pulled back until the treadle, A, engages the lock, B. The load can then be carried to the stacker.

The lifting toggle joint, D, is inoperative when teeth are in raking position, but it will unlock automatically when lifting lever, E, is pushed forward, allowing an additional raise of the teeth when crossing ditches or when hay rolls under the teeth.

Illustr. 7—Hay discharger ZMA-154 supplied extra for all McCormick-Deering horse-drawn sweep rakes. It prevents scattering load as rake is backed away from stacker teeth.
McCormick-Deering Hay Stackers

Illustration 1 — McCormick-Deering Overshot Hay Stacker.

McCormick-Deering Overshot Stacker

The McCormick-Deering overshot hay stacker is a substantial machine for general work. It builds stacks of medium height, is well made, and will give years of good service. The material used in the construction of the arms, levers, etc., is clear, straight-grained lumber, and because the timbers are short, they have ample strength to handle the strain of the lift. The teeth are made of carefully selected yellow pine and prepared so that the hay does not cling to them.

When the stacker is raised to its extreme height the head swings somewhat past the center to permit the platform to dump the hay. Springs pull the head back past the center again so that the head is lowered to the ground by gravity.

Builds High Stacks

The height from the ground to the pitcher teeth of the overshot stacker is adjustable from 16½ to 18½ feet, making it possible to build a stack of this height without forking the hay above the level of the pitcher teeth. However, a higher stack may be made by forking the hay off from the stacker and building the stack above the level of the pitcher teeth.

Draft Same at All Points of Altitude

The A frame which controls the pitcher head prevents sagging and makes the draft practically the same at all times. A heavy cable keeps the pitcher head from going over too far and the spring pulls it over the center so that it will fall into position for the next load.

Light Draft

The stacker may be easily operated by one horse, with three ropes, or two horses, with two ropes. The stacker can be easily slid across the stubble for transportation. However, transport trucks are furnished at additional cost when specially ordered.

Pitcher Head Teeth Adjustable

The pitcher teeth are adjustable and because of this they hold the hay on the stacker at the highest point of delivery, while the operator forks it to any part of the stack he desires.

Regular Equipment

Cables, draft rope, springs, retarding links, stakes and driving sledge.

Extra Equipment

Transport trucks. Hay retainers.

Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>148 in.</th>
<th>16½ to 18½ ft.</th>
<th>105 in.</th>
<th>62 in.</th>
<th>24 in.</th>
<th>970 lb.</th>
<th>95 lb.</th>
<th>9 lb.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extreme width of platform</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height of pitcher teeth</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total length of rake teeth</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total length of vertical teeth</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spacing of teeth (center to center)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport—weight</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hay retainer (in sets of 2 or 3); weight, each</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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McCormick-Deering High-Lift Hay Stackers

Work Rapidly

The McCormick-Deering high-lift stackers provide a rapid means of elevating hay on to a stack or wagon. The load is started at the ground with a short easy lift and as the stacker reaches a vertical position the arms extend, raising the load to the required height. As the stack is built up a means is provided to extend the arms higher until the maximum is reached. This is accomplished by placing pins in the holes provided for them in the arms A, Illust. 2. These holes are placed at suitable distances apart and the pins are inserted in corresponding holes in both arms, beginning with those nearest the stack for the lowest lift.

Easily Operated Transport

The wheels of the transport turn on a shaft which extends between the two frame pieces resting on the ground. Each end of the shaft terminates in a crank, the other ends of these cranks being attached to the frame members. By pulling a lever over until it engages a hook, the forward end of the stacker is raised off the ground and can be pulled about with a team. The lever is hinged, where it attaches to the shaft and can be folded when the stacker is in operation.

Ample Strength

The materials used are the best obtainable straight-grained lumber. The only castings are the sliders which work on the arms, A, Illust. 2, and the pulleys. All other metal parts are steel. The frame pieces are short, which means great strength. The cable is the best obtainable stranded steel rope.

Light Draft

This stacker is very light draft because the load is always lifted close to the pivot points of the arms. The first position of the stacker is one foot lower than any other stacker of equal capacity. In this way a one-foot lift is saved on each forkful of hay, over the ordinary stacker. The stacker also elevates one foot higher than other stackers of equal capacity.

Regular Equipment

Transport truck. Steel draft cable. Four stakes and rings for anchoring stacker to the ground. Sledge.

Specifications

<table>
<thead>
<tr>
<th>Size</th>
<th>Height of Stacks</th>
<th>Travel of Cable</th>
<th>Width of Platform</th>
<th>Length of Teeth</th>
<th>Overall Dimensions, Folded</th>
<th>Shipping Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 1</td>
<td>Used to build stacks up to 25 ft. high</td>
<td>34 ft. 6 in.</td>
<td>12 ft.</td>
<td>9 ft.</td>
<td>25 ft. 2 in.</td>
<td>12 ft. 4 in.</td>
</tr>
<tr>
<td>No. 2</td>
<td>Used to build stacks up to 30 ft. high</td>
<td>54 ft.</td>
<td>12 ft.</td>
<td>9 ft.</td>
<td>29 ft.</td>
<td>12 ft. 4 in.</td>
</tr>
<tr>
<td>No. 2 Heavy</td>
<td>Used to build stacks up to 30 ft. high</td>
<td>54 ft.</td>
<td>12 ft.</td>
<td>9 ft.</td>
<td>29 ft.</td>
<td>12 ft. 4 in.</td>
</tr>
</tbody>
</table>

*Approximate.
McCormick-Deering Hay Presses

Horse and Power Presses—Three Styles
McCormick-Deering hay presses are made in three styles: 1-horse, 2-horse and combination belted or motor.

Standard Sizes
McCormick-Deering 2-horse and power presses are made with the standard 14 x 18, 16 x 18 and 17 x 22-in. bale chamber. The 1-horse press is made in 14 x 18-in. size only.

Regular Equipment—One-Horse Press

Extra Equipment—One-Horse Press

Regular Equipment—Two-Horse Press

Extra Equipment—Two-Horse Press

Regular Equipment—Power Press

Extra Equipment—Power Press
McCormick-Deering 6 H.P. engine and 18 x 6½-in. clutch pulley for mounting on 14 x 18 or 16 x 18-in. press. Also the following package of parts when press is so equipped: Belt, belt tightener, engine clamps, engine hopper screen, muffler spark arrester and air intake screen. Special 14 H.P. 4-cylinder engine. Plain pulleys, 10, 12, 14 or 16 inches. Brake for truck wheels. Bale tie maker. Solid bottom feed table. Combination horse and tractor hitch for all three sizes. 6-in. tires on transport wheels instead of 4-in. 26½-in. front transport wheels. Extra wide claw extension for feeder board for alfalfa and short prairie hay. Quick tension device.

SPECIFICATIONS—McCORMICK-DEERING POWER PRESS

<table>
<thead>
<tr>
<th>Size Chamber</th>
<th>Size Feed Opening</th>
<th>Approx. Capacity, 10-Hr. Day</th>
<th>Approx. Weight of Bales</th>
<th>Approx. Weight of Bales</th>
<th>Length of Sweep</th>
<th>Weight with Hand-Feed (lbs.)</th>
<th>Weight with Self-Feed (lbs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 x 18 in.</td>
<td>14 x 22 in.</td>
<td>15 to 20 tons</td>
<td>60 to 100 lbs.</td>
<td>550 lbs.</td>
<td>9 ft.</td>
<td>1998 lbs.</td>
<td>Not furnished</td>
</tr>
<tr>
<td>16 x 18 in.</td>
<td>16 x 22 in.</td>
<td>20 to 24 tons</td>
<td>70 to 125 lbs.</td>
<td>550 lbs.</td>
<td>10 ft.</td>
<td>3682 lbs.</td>
<td>4063 lbs.</td>
</tr>
<tr>
<td>17 x 22 in.</td>
<td>17 x 25 in.</td>
<td>24 to 30 tons</td>
<td>100 to 165 lbs.</td>
<td>550 lbs.</td>
<td>Not furnished</td>
<td>4139 lbs.</td>
<td>4176 lbs.</td>
</tr>
</tbody>
</table>

*Approximate.

Lifting jack: (regular with 2-horse press, special with 1-horse press). Weight, 54 lb.

Ground wheels: One-horse, 14 x 18-in. presses, 20-in. front, 25½-in. rear, face 3 in.; truck tread, 37 in. All 2-horse presses: 30-in. front and rear, face 4-in.; truck treads, 58-in.

Step-over, 4½ inches high—all horse presses.

Attachments: Bale tie maker (makes wire ties from 6 ft. 6 in. to 10 ft. 6 in.). Weight, 40 lb.

---

SPECIFICATIONS—McCORMICK-DEERING ONE AND TWO-HORSE HAY PRESSES

<table>
<thead>
<tr>
<th>Size Chamber</th>
<th>Size Feed Opening</th>
<th>Approx. Capacity, 10-Hr. Day</th>
<th>Approx. Weight of Bales</th>
<th>Length of Sweep</th>
<th>10-Hr. Capacity, 6 to 8 tons</th>
<th>2-Horse Capacity, 7 to 9 tons</th>
<th>3-Horse Capacity, 9 to 11 tons</th>
<th>4-Horse Capacity, 11 to 13 tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 x 18 in.</td>
<td>14 x 22 in.</td>
<td>50 to 80 tons</td>
<td>9 ft.</td>
<td>6 to 8 tons</td>
<td>7 to 9 tons</td>
<td>9 to 11 tons</td>
<td>11 to 13 tons</td>
<td></td>
</tr>
<tr>
<td>16 x 18 in.</td>
<td>16 x 25 in.</td>
<td>60 to 90 lbs.</td>
<td>10 ft. 10 in.</td>
<td>7 to 9 tons</td>
<td>9 to 11 tons</td>
<td>11 to 13 tons</td>
<td>13 to 15 tons</td>
<td></td>
</tr>
<tr>
<td>17 x 22 in.</td>
<td>17 x 25 in.</td>
<td>90 to 120 lbs.</td>
<td>10 ft. 10 in.</td>
<td>11 to 13 tons</td>
<td>11 to 13 tons</td>
<td>13 to 15 tons</td>
<td>15 to 17 tons</td>
<td></td>
</tr>
</tbody>
</table>

*Approximate. Includes Attaching Parts.

Thirty revolutions of press flywheel to each stroke of pitman—all sizes.

Ground wheels—all sizes: Diameter front, 30 in.; rear, 36 in.; face tire, 4 in.; tread, center to center, 4 ft. 8 in. Brake for ground wheels, weight 50 lb.

18 x 6½-in. friction clutch pulley special with 6 H.P. Engine.

18 x 7½-in. plain pulley regular on press. 10, 12, 14 and 16-in. pulleys available on special order.

Feb. 1935
McCormick-Deering Hay Presses

Two Strokes of Plunger to Every Circle of Sweep

The two cross-head rollers of the sweep power arrangement are opposite each other, and operating with return segments and shock absorbing springs give two full strokes to every circle of the horses.

Toggle Joints Gives Greatest Power at End of Stroke

The plunger is operated by toggle joints, compounding the power enormously. The power arrangement of the sweep increases the leverage as the rollers move outward on the power arms, likewise the straightening out of the toggle joint links in the bale chamber produces greater power at end of the plunger stroke. A pull of 500 pounds on a sweep gives a pressure of about 76,800 pounds upon the plunger.

Low Step-Over

With bed reach resting on ground, the horses do not have to step more than 4½ inches high, thus they do not hesitate at this point.

Telescope for Transportation

The bed reaches of McCormick-Deering horse presses slide under the bale chambers when press is to be transported or stored.

Convenient to Feed

Feed tables can be placed on either side or back of feed opening. Large steel hopper with extension can be used on either side. Bed reach is long enough to allow bale chamber to be set back in barn to feed from mow, with ample room for sweep and horses outside.

Roller Tucker

This device controlled by large pressure springs folds down straggling ends of hay and makes neat compact bales. This tucker keeps each charge from being interwoven with the others, thus making the bales easy to break apart for feeding.

Lifting Jack for Horse Presses

This device is used in removing ground wheels on horse presses. It is supplied regularly with all two-horse presses and on special order with the one-horse press at additional cost.

Block Setter

On the 14 by 18 and 16 by 18-inch presses the man tying the bales drops the division blocks. A sheet steel pan is provided on the frame of the feeder head for the block to rest upon until the operator lowers blocks into feed opening by means of a strap. No block setter is used on the 17 by 22-inch press.
McCormick-Deering Hay Presses

Illustr. 8—McCormick-Deering Power Press (belted style—minus engine) ready for work.

McCormick-Deering Power Press—Three Sizes

The 14 x 18 and 16 x 18-inch power presses are regularly equipped as belt machines to be operated by tractors, but the frames are extended for the purpose of mounting engines. Either a high-grade, 4-cylinder, 14½ H.P. engine or a 6 H.P. McCormick-Deering engine can be supplied for these presses on special order. Attachments for mounting 6 H.P. engine, including clamps, belt, belt tightener, friction clutch pulley, hopper screen, special air intake excluding dust, and muffler spark arrester, can also be had on special order.

The 17 x 22-inch press is designed primarily to be operated as a belted press but may also be equipped with the 14½ H.P. engine.

McCormick-Deering 6 H.P. Engine

The 6 H.P. engine supplied on order for the 14 x 18 and 16 x 18-inch presses operates on kerosene. The engine is hopper-cooled with a fuel tank in its base—a compact arrangement. It has a built-in high tension magneto—no batteries required for starting. Crank case is enclosed. Principal bearings are lubricated by grease cups. (For description of 4-cylinder engine, see a following page.)

Tightening Engine Belt

The engine is held upon the bed angles by clamps. By loosening these clamps and tightening the nut on the bolt connecting the end of the bed angles and the end of the engine, the engine is pulled back, tightening the belt.

Speed

There are thirty revolutions of the press flywheel to each stroke of the pitman—on all three sizes of this press. A speed of 500 R.P.M. gives about 17 strokes to the pitman, and 650 R.P.M. about 22 strokes. Plain pulleys—10, 12, 14 and 16 inches—for changing speeds, can be supplied on order. If the McCormick-Deering 6 H.P. engine is used, the pitman will make about 19 strokes, provided the engine and press are equipped with the regular 18-inch pulleys, the engine being speeded at 350 R.P.M.

Shock Absorption

The friction plate on the press flywheel allows for unyielding objects which may fall in the feed opening by causing the flywheel to let go of the shaft automatically in case of accident. Then, too, there are heavy springs on the feeder arms which prevent breakage should the feeder head strike a hard object in the feed opening.

Large Double Gears

The 36-inch gears are not rigidly connected to the pitman, but are held by a pin which has sufficient play to even up the strain and work of the gears. Wear on the teeth is distributed uniformly by having an uneven number of teeth in the gear and pinion so that the same teeth do not mesh repeatedly. The pitman can be used in either of two opposite bearings.

Block Setter

The block setter on all three sizes of the power press is operated by hand. It consists of a steel frame pivoted to the top of the bale chamber. By means of strong springs it holds the block until the arm on the feeder head forces the block down into the feed opening. The block ejector "A" on the feeder head shown in Illustr. 10 is not rigid, but is held by a spring, thus if the block setter should happen to be at an angle when arm "A" strikes the block, no harm is done.

Long Pitman

The advantage of having a pitman of great length as on this machine, is that it makes practically a straight thrust against the plunger.

Bale Tensions

The 14 x 18 and 16 x 18-inch sizes have the single bale tension as shown in Illustr. 9 and the 17 x 22-inch size has a double bale tension as shown in Illustr. 8.

Self-Feeder

A self-feeder, supplied regularly on motor presses, helps give big capacity, makes feeding more convenient. It has a powerful thrust and saw-tooth grip which condenses the feed and carries it clear to the bottom of the feed opening.

Roller Tucker

Used on all McCormick-Deering hay presses. Folds down straggling ends of hay and makes smooth, neat "bales without tails."
McCormick-Deering Hay Presses

Illustr. 9—Power press block setter in reclin­ing position.

Extremely Steady Operation

The flywheel is extra heavy. Thus whether the press is operated as a motor press, with engine attached, or as a belt power press by a tractor, operation is steady. There is plenty of momentum.

Bale Chamber Extension

On the end of the bale chamber, a steel angle hinged extension may be let down when press is in operation. It is of sufficient length for one bale to rest upon after leaving the bale chamber. For transporting or storing the extension may be hooked up out of the way.

Flywheel Brake

The press flywheel is regularly equipped with a friction brake operated from either side of the press by means of a handle which may be inserted in the slotted holders on either side. The brake is strong enough to stop the press within one-half a stroke of the plunger.

Large Feed Table

The slatted bottom feed table as shown attached to press in Illustr. 8 is regularly supplied. It is large enough to allow the operator to select the proper amount to feed to the press each time. A solid bottom feed table for use when baling alfalfa, can be had on special order.

Well Oiled

Ample supply of grease cups and oil holes provide for good lubrication.

Illustr. 10—Power press block setter raised to allow block to be forced downward into feed opening.

Easily Transported; Always Ready

One team is all that is required to transport the whole outfit. It is not necessary to waste time digging holes for the wheels or staking it down. It can be set at any angle and on any side of a stack and still be in a convenient position to receive the hay.

End Delivery

This feature makes it very convenient in taking the bales from the press.

Signal Bell

All McCormick-Deering presses are equipped with signal bell which warns operator when to insert a new division block in the feed opening. It can be adjusted by a set screw to any point on the tying chamber to regulate the size of bales. It operates simply by the bale ties springing a trigger.

Follower or Division Blocks

These are well made of hardwood lumber, built in three layers, and reinforced with steel straps. Four of these blocks are regularly supplied with each power press.

Bale Tie Maker

Supplied on special order at slight additional cost with any McCormick-Deering press. Adjustable to various lengths of ties—6 feet, 6 inches, to 10 feet, 6 inches. By boring holes in the sill, ties can be made as short as desired. This device takes all twists and kinks out of the wire after the loop has been made.
McCormick-Deering Hay Presses

Four-Cylinder Engine

McCormick-Deering power hay presses can now be equipped with a high-grade, 4-cylinder engine, supplying ample power and embodying all the features that have made the former self-contained units so popular. At normal speed this engine supplies 14.5 horse power, and is under perfect control of the press feeder as the engine clutch lever is close at hand, enabling the feeder to start and stop the press quickly and conveniently. With this lever and the brake on the flywheel the press can be stopped almost instantly.

The engine is provided with a mounting so that it can be attached to the extended frame of all sizes of McCormick-Deering power hay presses. This mounting is so arranged that it permits tightening of the belt by means of a convenient adjustment. The engine is equipped with radiator screen, spark arrester screen on the exhaust pipe, air cleaner and oil filter, also high-grade magneto ignition with automatic impulse coupling for easy starting.

Specifications

<table>
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<th>Feature</th>
<th>Specification</th>
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<tr>
<td>Bore, Stroke</td>
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<tr>
<td>Fan—Size</td>
<td>14.5 inch</td>
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<tr>
<td>Engine speed (idling)</td>
<td>1425 R.P.M.</td>
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<tr>
<td>Pulley speed (under load)</td>
<td>1350 R.P.M.</td>
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<td>Pulley diameter</td>
<td>8 inch</td>
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<td>Pulley face</td>
<td>6 inch</td>
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<td>Gasoline tank capacity</td>
<td>9 gallons</td>
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<td>Weight</td>
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<tr>
<td>Clutch</td>
<td>8 inch</td>
</tr>
<tr>
<td>Oil filter</td>
<td></td>
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<tr>
<td>Magneto</td>
<td>1 H C with automatic impulse coupling</td>
</tr>
<tr>
<td>Carburetor</td>
<td>Zenith</td>
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<tr>
<td>Cooling system—Capacity</td>
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<td>Radiator screen</td>
<td></td>
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<td>Manifold shield</td>
<td></td>
</tr>
<tr>
<td>Air filter</td>
<td>1 H C</td>
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</tbody>
</table>

The engine is built for driving McCormick-Deering power hay presses which have the flywheel assembled on the right side. Presses built prior to 1929, having the flywheel assembled on the left side, require changing over to accommodate this engine.

Illust. 11—This modern, 4-cylinder engine makes the McCormick-Deering motor hay press a self-contained unit with ample power.

Illust. 12—Bale tie maker — adjustable for various lengths of ties from 6 ft. 6 in. to 10 ft. 6 in. By boring holes in the sill, ties can be made shorter if desired. Supplied at extra cost.
McCormick-Deering Grain Binders

Illust. 1—McCormick-Deering 8-ft. Grain Binder, contains the best ideas in binder design and construction. Built in three sizes, 6, 7 and 8-ft. cuts.

Result of Many Years’ Experience
The present McCormick-Deering grain binder contains the best features of previous models and many refinements that place it in a class apart. In this binder are combined the strength and ability to withstand hard usage with the light draft and easy operating qualities so much desired. The result is a binder you can depend upon to do a good job of harvesting, year after year—in light and heavy crops, in grain that is standing straight or is down and tangled.

Many New Improvements
A few of the improvements which make the McCormick-Deering easily the leading grain binder are listed here. Improved bevel gears with larger teeth which mesh deeper. Improved ball-thrust bearing on bevel gear shaft. Improved adjustment of ball-thrust bearing for meshing bevel gears. Ball-thrust bearings on both ends of the main wheel hub. Removable roller bearing in grain wheel. Roller bearings on both ends of main elevator driving roller. Improved self-aligning roller bearings in main frame. Vertical bolted connection between main frame and platform. Improved connection between platform and elevator frame. Better bracing for outside reel support. More space between main wheel and main drive chain, eliminating accumulation of dirt and undergrowth. Better platform canvas adjusting device. Controlling levers easier to reach and operate. Wider range of adjustments of reel. Choice of McCormick or Deering binding attachments.

Regular Equipment

Extra Equipment

Specifications

| Size | # Acres Cut 10 Hours | Highest Elevation of Reel | Lowest Elevation of Reel | Highest Elevation of Platform | Lowest Elevation of Platform (Slight Tilt) | Shipping Weight
<table>
<thead>
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<td>6 ft</td>
<td>15</td>
<td>33 in.</td>
<td>4 in.</td>
<td>18 in.</td>
<td>3 in.</td>
<td>1670 lb.</td>
</tr>
<tr>
<td>7 ft</td>
<td>17</td>
<td>33 in.</td>
<td>4 in.</td>
<td>18 in.</td>
<td>3 in.</td>
<td>1765 lb.</td>
</tr>
<tr>
<td>8 ft</td>
<td>20</td>
<td>33 in.</td>
<td>4 in.</td>
<td>18 in.</td>
<td>3 in.</td>
<td>1970 lb.</td>
</tr>
</tbody>
</table>

Bands can be placed $10\frac{1}{2}$ in. to 23 in. from butts of bundles.

*Based on horses traveling 2 miles per hour without stops.

Feb. 1935
Main Frame Stays in Alignment

Take a ruler in your hands. It is easy to bend it across the broad side but almost impossible edgewise. In the frame of the McCormick-Deering binder advantage is taken of this resistance to bending by placing the bars with the edges up and down. Twisting strains are prevented by substantial bracing and an unusually rigid method of attaching the main frame to the platform.

Strong Connection Between Main Frame and Platform

No twisting strain due to rough ground can cause the frame to get out of alignment. The front and back angle sills of the platform extend parallel to the front and rear members of the main frame for a considerable distance, doubly strengthening this point. The ends of the main frame are then vertically bolted to malleable castings, securely riveted to the platform angles. The ends of the angles are rigidly bolted to steel plates which are in turn bolted to the frame members.

Outside Reel Support Strengthened

The connection of the outside reel support to the platform, a weak point in most binders, has been made strong in the McCormick-Deering by first bolting the reel support to the platform frame and then bracing it securely both right and left. This is not only a more substantial form of construction but does not interfere with long grain dropping over the divider.
McCormick-Deering Grain Binders

Canvas Easily Adjusted

Tightening and loosening the canvases has been such an inconvenient task on many binders that it often has been neglected. To adjust the platform canvas on the McCormick-Deering, it is only necessary to put the crank supplied with the binder on to the square shank at the rear of the platform and turn to right or left as required. Two levers, AA, in Illust. 6, are connected with the slides in which the roller is mounted. In the ends of these levers are two nuts which work on threads on the rod running across the platform. This rod is turned by the crank.

Illust. 6—Tightening or loosening the platform canvas is made positive by turning the rod, AA. Threads and nuts on this rod operate the levers that move the roller.

The elevator canvas adjustments are equally simple. The rollers at the lower end of the elevator are hinged and are pushed down to tighten the canvas, and raised up to loosen it. The upper roller is provided with a lock to hold it in working position. The lower roller stays in position after being pushed down.

Many Roller Bearings

In the McCormick-Deering grain binders there are eight roller bearings, one on the crankshaft, two on the countershaft, two on the elevator drive roller, two on the main wheel, and one on the grain wheel. There are three ball bearings, one thrust bearing in the main bevel gear and two ball thrust bearings in the main wheel. These bearings greatly reduce the draft of the machine and make it a comparatively easy pull for horses.

Illust. 8—There are two large roller bearings, B, and two end thrust ball bearings, A, in the main wheel.

Illust. 7—There are roller bearings on both ends of the upper elevator roller, A. This means easy running, freedom from excessive wear and better alignment of canvases.

Illust. 9—The bevel gears of the McCormick-Deering binder are the strongest found in any grain binder. They have large, deep meshing teeth; see B. A is a ball thrust bearing, D and E roller bearings. C is the adjustment to mesh the gears properly.

Extra Strong Bevel Gears

McCormick-Deering binders have the strongest bevel gears of any binder. The teeth mesh deeply and do not get out of mesh. The depth of the mesh is adjustable by means of the nuts, C, as in Illust. 9. The ball thrust bearing that holds the gears in mesh is close to the bevel gear, instead of at the other end of the shaft, as in many other binders. This construction prevents springing of the frame and does not allow the gears to get out of mesh.

Feb. 1935
McCormick-Deering Grain Binders

Illustration 10—Raising or lowering the binder on the grain wheel is easily accomplished with the crank, A. The worm, B, operates in a rack, and locks the platform at any desired height.

Adjustments Easily Made

It is an easy task for a man to drive and operate the new McCormick-Deering grain binder. The adjustments for successfully harvesting the grain under varying field conditions are few and simple. For raising and lowering the binder on the main wheel, a crank supplied for the purpose is placed over a square shank, and turning this elevates the binder to the desired height. There is the same kind of an adjustment on the grain wheel, as shown in Illustration 10.


Levers Within Easy Reach

All levers for making necessary adjustments while cutting grain can be reached easily by the driver. The platform can be tilted, the reel can be set forward or backward, up or down, the binding attachment can be shifted to place the band near the center of the bundle, the butt adjuster can be changed so as to handle long or short grain, and the bundle carrier can be dumped at the will of the driver by means of the foot lever.

Harvests Tall or Short Grain

No matter whether your grain is short or tall, adjustments can be made in the binder to meet the conditions. The reel can be adjusted so low that the slats will just miss the guards, and with the platform lowered and tilted the shortest grain or grain badly down and tangled can be harvested successfully.

When grain is very tall the reel can be raised to any desired height up to 33 in. above the guards, and set forward or backward. The platform can also be raised so that less straw is cut when the grain is tall. Other adjustments, such as the size of the bundle and the placing of the band at the center of the bundle, are easily made.

Illustration 13—In tall grain the reel can be raised 33 in. above the guards. A and B indicate the distance between reel and guards.
Compact Machine for Transportation

It is often convenient to reduce the binder to small compass when transporting it through lanes, narrow gates, and over narrow bridges; also, when storing at the end of the season. Provision has been made for folding the dividers so that they come within the width of the platform, as shown in Illusts. 14 and 15. The dividers are provided with locks which hold them in either folded or working position. Transport trucks can be inserted under the binder frame, the tongue attached at the outer end of the platform, and the machine moved over any ordinary road or through the average gate or lane.

Choice of Binding Attachments

McCormick and Deering binding attachments are well and favorably known. They have stood the test of time and are recognized the country over as the best. To choose between these two attachments from the standpoint of durability, service, and accuracy, would be difficult. Some men prefer the McCormick, others the Deering. After careful consideration it was decided to give our customers their choice.

The McCormick-Deering binder is so constructed that either a McCormick or Deering binding attachment can be used without any other changes. Both have adjustments for making large or small bundles and for locating the bands in the center of the bundle.

Dependable Bundle Carrier

The bundle carrier carries five or six bundles. When you trip it the pipe rocks and both ends drop down so that the tines lie level on the ground for the greater part of their length. The bundles are swept off by the stubble without jar, no threshing or whipping. The spring helps to restore the bundle carrier after dumping. Should obstacles be encountered, the bundle carrier swings out of the way, then back in position again. It works as well going up or down hill as on the level.
McCormick-Deering Grain Binders

Attachments

McCormick-Deering No. 2 Automatic Grain Lifter

Illustr. 21—Grain lifter. A set of lifters will raise badly lodged grain so that the sickle can cut it. We recommend using a set of 4 for 6 and 7-ft. binders, 5 for 8-ft. binder.

Flax Bunching Attachment

A flax bunching attachment which takes the place of the binding attachment can be furnished for McCormick-Deering binders. It deposits the grain in unbound gavels or bunches. It is operated by a foot lever. The teeth are made of tempered steel.

Supplemental Outside Divider

The supplemental outside divider attaches to the regular divider and is used when the grain is down and badly lodged.

Tractor Hitches

For tractor hitches and power-drive, see index.

Feb. 1935
Operated By Tractor Power

The entire mechanism of the McCormick-Deering tractor binder is driven by power transmitted by a revolving shaft directly from the tractor. This construction assures a steady supply of power to meet the varying conditions of soil and grain. There is no choking due to slipping of the main wheel in wet or sandy soil. The main wheel simply carries the weight of the machine.

Equals Two 8-ft. Binders

With the McCormick-Deering tractor and 10-ft. tractor binder it is possible for one man to harvest as much grain in a day as two men with two 8-ft. horse-drawn binders. This is due to the uniformly faster travel of the tractor and to the wider cut of the machine. Hot weather and flies do not retard the work as is often the case when horses are used. The McCormick-Deering tractor binder can be operated at full speed all day and at night if necessary.

Under Perfect Control

The power take-off, through which the binder is operated, is controlled by the engine clutch and the belt pulley gear shift lever on the tractor. This permits the cutting and binding mechanism to be operated while the binder and tractor are standing still. When cutting is difficult, the tractor can be slowed down to two miles an hour while the cutting and binding mechanism continue to operate at normal speed.

Regular Equipment

Bundle carrier. Outside reel support. Retarding strap. Power drive shaft with slip clutch. Tools. Note: The power drive shaft does not include the power take-off which is a part of the tractor equipment and must be specified when placing your order for the tractor.

Extra Equipment


Specifications

Width of cut ....................... 10 ft.
Forward speeds ........ not to exceed 3 miles per hour
Highest elevation of reel .......... 31 in.
Lowest elevation .................. 2 in.
Bands can be placed 10½ in. to 23 in. from butts of bundles.

<table>
<thead>
<tr>
<th>Size</th>
<th>Number</th>
<th>Description</th>
<th>Shipping Weight</th>
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<td>10-ft.</td>
<td>McCormick-Deering No. 4</td>
<td>Tractor Binder for 10-20 and 15-30 Tractors</td>
<td>*2115 lb.</td>
</tr>
<tr>
<td>10-ft.</td>
<td>McCormick-Deering No. 4</td>
<td>Tractor Binder for F-20 and regular Farmall Tractors</td>
<td>*2095 lb.</td>
</tr>
<tr>
<td>10-ft.</td>
<td>McCormick-Deering No. 4</td>
<td>Tractor Binder for F-30 Farmall Tractor</td>
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<tr>
<td>10-ft.</td>
<td>McCormick-Deering No. 4</td>
<td>Tractor Binder for F-12 Farmall Tractor</td>
<td>*2120 lb.</td>
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<td>10-ft.</td>
<td>McCormick-Deering No. 4</td>
<td>Tractor Binder for T-20 TractorTractor</td>
<td>*2260 lb.</td>
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*Approximate.
McCormick-Deering Tractor Binder

The power shaft shown in Illust. 5 transmits the power from the tractor to the binder. This revolving shaft runs in roller bearings and is similar in construction to the driving shaft of an automobile. The power drive feature of the tractor binder makes it possible to operate the machine on wet, sandy, or slippery ground. This outfit will cut grain wherever the tractor can go. It will cut grain successfully in places where it would be difficult, if not impossible, for horses to pull a binder.

High-Grade Bearings

The McCormick-Deering tractor binder is equipped with high-grade roller bearings at all important points. These bearings run in housings which retain the oil and keep out the dust and dirt. They reduce friction on the revolving parts to a minimum and save power. The binder is equipped with the Alemite lubricating system. With the Alemite pressure system grease can be forced through the bearings; so there is no possibility of the lubricant failing to reach each wearing surface.

Slip Clutches Save Mechanism

The power shaft is equipped with universal joints which make it possible to transmit the power when the machine is making a turn as well as to drive the mechanism when the machine is tilted in different positions. The adjustable slip clutch shown in Illust. 5 prevents breakage should the machine become clogged.

Binder of Standard Design

The general design of the McCormick-Deering tractor binder is similar to that of the well-known grain binder which has proved through many years of use to be correct in principle. The frame is made of heavy steel bars, stronger and more compact than the regular binder. The binding attachment is similar to that of the standard binder but is speeded up to take care of the increased flow of grain coming from the wider cut machine. The packer shaft is drop-forged, which adds materially to its strength. All parts of the knotter, which are subject to wear from the twine, have been hardened to overcome this difficulty. The main wheel is 26 inches in diameter, 8 inches smaller than the main wheel of the regular binder, and consequently more rigid. The hub has a special bearing surface on the left-hand side to resist end thrust due to the unusually wide cut. No lugs are needed on the main wheel because it merely carries the weight of the binder. Two continuous rims prevent side slippage.

Platform Kept in Alignment

A new feature of the McCormick-Deering tractor binder keeps the platform in alignment with the reel. This is shown at A, Illust. 4. By simply adjusting the nut, the outer front corner of the platform can be raised or lowered, as may be necessary. This adjustment also stiffens the entire platform and keeps it in alignment.

Choice of Binding Attachments

The buyer may have his choice of either the McCormick or Deering binding attachments. Both these attachments are especially made to take care of the heavy flow of grain. They are provided with a convenient shift to keep the band in the center of the bundle. All levers for control of the binding attachment are within convenient reach of the driver. The knotter is easily threaded. The twine tension prevents overfeeding of the twine and looseness between the needle and ball. The twine can is located where the operator can see when the twine needs replenishing.
Especially Built for Rice

The McCormick-Deering rice binder, while similar in many respects to the McCormick-Deering grain binder, has many features especially designed for handling rice. The main wheel is entirely enclosed in galvanized iron to exclude mud. The grain wheel is shielded in a similar manner on one side. The metal parts that are exposed to the wet rice are galvanized, and the grain elevator is built higher. Special spade lugs are provided for the main wheel to give suitable traction.

Cutting Mechanism

The cutting knife is supported by a strong Z-shaped sill. It does not twist, sag or spring. The reel is quickly adjustable both backward and forward and up and down. The elevator handles the rice whether it is ripe and light or green and heavy. It floats (1 1/2 in.) at all corners and is open at the rear end. The elevator is held square by a strong brace attached to the main frame. The platform canvas and both elevator canvases have quick-acting tightening devices. The binding attachment can be easily shifted to tie the band from 10 to 24 in. from the butts of the bundles. The packers are timed with the needle. The needle is thus relieved of unnecessary strain. The trip hook is provided with a compression spring, which reduces the strain in heavy rice. The working parts of the binding attachment are readily accessible. The binder drive clutch is accessible.

Simple Knotter

The knotter is simple in construction. It has only two moving parts. Twine tension is easily adjusted. Liberal use of roller bearings helps to make the McCormick-Deering rice binder light running. The bundle carrier is operated with ease. Alemite grease cups are used on many bearings. The drive sprocket is attached to the hub of the main wheel, distributing the strain equally on all spokes.

Power Drive Attachment

A power drive attachment similar to that supplied with McCormick-Deering tractor binders can be supplied with the McCormick-Deering rice binder, so that the machine can be operated from the power take-off on McCormick-Deering tractors. This relieves the main wheel of any connection with the cutting and binding mechanism, and it only carries the weight of the binder. Power for operating the cutting and binding mechanism is taken directly from the tractor, and the capacity of the machine is increased considerably due to the faster speed, steady flow of power, and elimination of slippage.

Regular Equipment


Extra Equipment

Transport trucks. Power drive attachment. Tongue truck for 6 and 7-ft. machines. Supplementary outside divider. Mud scraper. Tractor hitches (see Index).

Specifications

<table>
<thead>
<tr>
<th>Width of cut</th>
<th>6, 7 and 8 ft.</th>
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</thead>
<tbody>
<tr>
<td>Highest elevation of platform</td>
<td>18 1/2 in.</td>
</tr>
<tr>
<td>Lowest elevation of platform</td>
<td>6 1/2 in.</td>
</tr>
<tr>
<td>Highest elevation of reel</td>
<td>29 in.</td>
</tr>
<tr>
<td>Diameter of grain wheel</td>
<td>42 1/2 in.</td>
</tr>
<tr>
<td>Diameter of main wheel over lugs</td>
<td>37 in.</td>
</tr>
<tr>
<td>Width of face main wheel</td>
<td>10 in.</td>
</tr>
<tr>
<td>Width of face grain wheel</td>
<td>3 in.</td>
</tr>
</tbody>
</table>

*Shipping weight 6 ft., ground drive ........ 2260 lb.
*Shipping weight 8 ft., ground drive ........ 2460 lb.
*Shipping weight 6 ft., power driven ........ 2400 lb.
*Shipping weight 7 ft., power driven ........ 2435 lb.
*Shipping weight 8 ft., power driven ........ 2465 lb.

*Approximate

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McCormick-Deering and International Binder Twine

One way you can always tell McCormick-Deering and International twine is to look into the top of the ball. If there is an opening in the crisscross cover, as shown in Illust. 1, it is genuine McCormick-Deering or International twine. This is a patented feature and it is a mighty good feature, too. It permits winding the cover on the ball at a greater angle to the sides of the ball. This holds the cover in place better and it will stand up and support the ball until the last inch of twine is run out. No collapsing or tangling in the can. Furthermore this uncovered area permits the top ball in the twine can to set down into the lower ball slightly and prevents tangling of the twine inside the lower ball.

Illust. 2—The patented crisscross cover will not collapse and cause the twine to tangle in the can. It runs out smoothly to the last inch.

<table>
<thead>
<tr>
<th>Brands</th>
<th>Feet Per lb.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sisal</td>
<td>500</td>
</tr>
<tr>
<td>Standard</td>
<td>500</td>
</tr>
<tr>
<td>Manila</td>
<td>600</td>
</tr>
<tr>
<td>Superior Manila</td>
<td>650</td>
</tr>
</tbody>
</table>

Packed in 50-pound bales, 48 pounds net.

McCormick-Deering and International twine is guaranteed to be the full length specified and of ample strength to bind any crop. There are no thin places or bunches to cause trouble.

The utmost care is exercised to see that only high-grade fibre is used. As the twine is made it is treated to preserve the fibre and to protect it against moisture and insects. Samples of the finished twine are taken frequently and tested to see that it runs uniformly as to length and weight and each sample is given a breaking test to make sure that it is far in excess of the required strength.

Illust. 3—A 50-pound bale of McCormick-Deering twine containing six 8-pound balls. The rope tie is long enough to make two halters.
A Standardized Product

The increasing use of steel chain for driving sprockets on many McCormick-Deering farm machines is another step forward in the standardization of parts and equipment used throughout the complete McCormick-Deering line. It is a part of the Harvester Company's continuous program of standardization as it is now progressing, not only on chains but also on many other parts.

Eleven standard sizes of steel chain are used on McCormick-Deering farm machines—thus eliminating the need of the McCormick-Deering dealer carrying a wide variety and assortment of chains in stock—a standardization equally as advantageous to farm machine owners.

Advantage of Steel Chain

McCormick-Deering steel chain, by its strength, durability, and accuracy of size and fit, has proven itself superior to other types of chain. Being made of high-grade steel, it may be depended upon to be strong and durable. Its pulling strength and durability far exceeds that of malleable cast chain. Each and every foot of steel chain is tested for breaking strength before it is assembled on the machines, or bound for shipping.

The process of making steel chain maintains an accuracy of size and uniformity of quality which cannot be reproduced in manufacturing other types of chain. Each link is cut from a ribbon of steel in a steel die; therefore, the same sized links are always uniform in size and shape. This accuracy and uniformity of size is assurance that each McCormick-Deering steel chain will fit on the sprockets for which it is intended.

As each link is cut in the steel die it is assembled into a complete chain. It then is hardened, tempered and finally dipped in a special preservative, producing a hard coating which increases its resistance to rust, at the same time leaving the chain in a nice condition for handling.

Since steel chain is regular equipment, it should always be carried in stock as repairs. It is carried in stock lengths and not only can be used on McCormick-Deering machines, but works equally as efficiently on many machines formerly manufactured by the Harvester Company and sold under various trade names, such as "McCormick," "Deering," "International," "P & O," "Kentucky," "Empire Jr." and "Hoosier."

Reduces Operating Costs

The man who selects his farm operating equipment from the McCormick-Deering line secures all the advantages of this standardized product, steel chain. Its durability and strength keeps down his operating cost, its accuracy of size and fit assures maximum working efficiency. By selling the users of McCormick-Deering farm machines steel chain they are rendered a valuable service, a service which gives them the many advantages of standardized equipment—productive of a profit.
McCormick-Deering
Combined Push Binder and Header

Illust. 1—The combined type machines can be equipped with a binding attachment and bundle carrier so that grain can be bound in bundles as with the ordinary binder.

A Combination Machine

The McCormick-Deering combined type header and push binder is a combination machine which can be equipped with either a binding attachment or a header elevator. It is ideal for grain growing districts because it can be adapted to the conditions found in different years. One year the grain may be in such condition that binding would be the most satisfactory way to harvest it; the next year it may be better to head it. The combined machine is adapted to either condition by simply changing the attachment.

Driver Has Perfect Control

The machine is pushed over the field by the team hitched at the rear and the driver stands astride a tiller lever by which he can guide the machine. An experienced driver, however, can steer the machine almost entirely by his manner of driving, but where short turns are necessary the tiller lever must be used. The method of turning at corners is described and illustrated on a following page in connection with the description of the McCormick-Deering plain type header.

Regular Equipment

Hitch for six horses. Special 8-horse evener when ordered. Tools.

Extra Equipment

Binder attachment (including short elevator) 590 lb.
Header elevator (for all sizes), 8½ ft. long...344 lb.
Header elevator (for all sizes), 10 ft. long...387 lb.
Bundle carrier for push binder..................105 lb.
Brake attachment.................................45 lb.
Flax attachment for push binder.................80 lb.
Tractor hitch (see index).......................100 lb.

Specifications

<table>
<thead>
<tr>
<th>Width of Cut</th>
<th>Main Wheel</th>
<th>Grain Wheel</th>
<th>Lowest Adjustment of Platform</th>
<th>Highest Adjustment of Platform</th>
<th>Shipping Weight</th>
<th>Weight 8½-Ft. Elevator</th>
<th>Weight Binding Attachment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Diam.</td>
<td>Face</td>
<td>Diam.</td>
<td>Face</td>
<td>4 in.</td>
<td>36 in.</td>
<td>2565 lb.</td>
</tr>
<tr>
<td>10 ft.</td>
<td>54 in.</td>
<td>11 in.</td>
<td>54 in.</td>
<td>3½ in.</td>
<td>4 in.</td>
<td>36 in.</td>
<td>2565 lb.</td>
</tr>
<tr>
<td>12 ft.</td>
<td>54 in.</td>
<td>11 in.</td>
<td>54 in.</td>
<td>3½ in.</td>
<td>4 in.</td>
<td>36 in.</td>
<td>2655 lb.</td>
</tr>
<tr>
<td>14 ft.</td>
<td>54 in.</td>
<td>11 in.</td>
<td>54 in.</td>
<td>3½ in.</td>
<td>4 in.</td>
<td>36 in.</td>
<td>2740 lb.</td>
</tr>
</tbody>
</table>

Illust. 2—The combined type machine can also be equipped with an 8½-ft. elevator for heading the grain. This takes the place of the binding attachment. A 10-ft. elevator can be supplied at extra cost.
McCormick-Deering Push Binders

All Steel Construction
The McCormick-Deering push binder is made almost entirely of steel. For this reason it is much lighter than the average machine of equal capacity.

Roller Bearings
Make Draft
Light
Ball and roller bearings are used at all points that are subject to any great amount of friction. For this reason the McCormick-Deering push binder is an exceptionally light draft machine and horses can operate it longer without the necessity of rest.

Full View
of Field
From his position on the steering platform, the driver has a full view of the field and can handle his teams with very little difficulty.

All Levers Within Easy Reach
Every lever for the control of the machine while cutting is within easy reach of the driver. The reel can be raised, lowered or shifted forward and back, platform can be raised or lowered, the binding attachment set for long or short bundles and the bundle carrier operated all from the driver’s platform.

Driving Power Transmission
Power is transmitted from the main wheel with the least loss because of the accuracy of the parts and the simplicity of the design. From the main wheel the power is transmitted by means of a large sprocket and chain to a smaller sprocket on the clutch shaft and from that point by means of bevel gears to the binding attachment and elevators.
McCormick-Deering Combined Push Binder and Header

Binding Attachment
The binding attachment is similar to that used on International Harvester binders but is speeded up to accommodate the greater volume of grain. The machine can be supplied either with binding attachment or header elevators.

Header Elevators
Two lengths of header elevators can be supplied: 8½ ft. and 10 ft. Both are strongly made and positively driven by means of gears directly from the clutch shaft. They are provided with rollers on the under side so that when the barge comes in contact it does not damage the elevator.

Substantial Wood Pitman
The hardwood pitman supplied with McCormick-Deering push binder has been found to give the most satisfactory results. It is made of carefully selected hard maple and thoroughly oil soaked. It has steel reinforcing straps at both ends through which bolts or rivets pass in order to strengthen the points that come in contact with the crank and sickle head.

Quick Acting Brake
When ordered, a brake can be supplied for the McCormick-Deering push binder. It consists of a band around the drum on the main wheel, and is operated from the driver’s platform. It acts quickly, and is serviceable for controlling the machine on hills or for stopping it quickly if desired.

Bundle Carrier
A bundle carrier is supplied at small additional cost. It consists of a canvas raddle running over two rollers. It holds four bundles and can be operated by the driver from his position on the platform. For transporting it folds out of the way.

Flax Bunching Attachment
By removing binder and header attachments, the machine can be equipped with a flax buncher. This device collects the grain or other crop as fast as it is cut and can be dumped at the will of the driver in bunches or gavels. It is an exceptionally useful attachment for harvesting flax or seed crops.
McCormick-Deering Plain Type Header

Illustr. 1—McCormick-Deering plain type Header.
Two sizes, 12 and 14-ft. cuts.

The McCormick-Deering plain type header has been so extensively used that a description of it seems hardly necessary. Where the conditions are such that the grain can be headed satisfactorily, this machine is an excellent one with which to harvest a large crop. It is made in two sizes, 12 or 14-ft. cuts.

Construction Similar to Push Binder

The construction of the plain type header is quite similar to that of the combined push binder and header except that due to the fact that it can only be used for heading grain the mechanism is somewhat more simple. The description of the combined machine in the preceding pages, however, gives a general idea of the construction of the plain type header, and the exceptions to this are briefly covered on the following page.

Easy to Operate

The driver of the header has the advantage of being close to his team, and when standing on the platform at the rear he has a clear view of the field before him as well as the cutting mechanism, and can control the machine perfectly. While the steering of the machine by means of a tiller wheel at the rear may sometimes be necessary, the horses soon become accustomed to working with the header and the driver can control the machine almost entirely by the manner in which he handles the team.

Regular Equipment

8½-foot header elevator. 4-horse hitch. Tools.

Illustr. 2—The horses are hitched behind the platform on the push binder or header and the driver stands on a platform close to his teams. At a corner, the left team pulls the rear end of the machine around while the right team sidesteps into position. The driver has a clear view of the field and all levers for the control of the machine are within easy reach.

Extra Equipment

6-horse hitch
10-foot header elevator (for either size) 310 lb.
Brake ................................................... 75 lb.
Flax attachment ............................... 80 lb.
Tractor hitch (see index) .......... 95 lb.

Specifications

<table>
<thead>
<tr>
<th>Width of Cut</th>
<th>Main Wheel</th>
<th>Grain Wheel</th>
<th>Lowest Adjustment of Platform</th>
<th>Highest Adjustment of Platform</th>
<th>Shipping Wt. With 81-Foot Elevator</th>
<th>Shipping Wt. With 10-Foot Elevator</th>
<th>Weight of 12-Fam Reel</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 ft.</td>
<td>54 in.</td>
<td>54 in.</td>
<td>4 in.</td>
<td>36 in.</td>
<td>2875 lb.</td>
<td>2905 lb.</td>
<td>55 lb.</td>
</tr>
<tr>
<td>14 ft.</td>
<td>54 in.</td>
<td>54 in.</td>
<td>4 in.</td>
<td>36 in.</td>
<td>2940 lb.</td>
<td>2970 lb.</td>
<td>60 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
Illust. 3—Driving mechanism of the McCormick-Deering header elevator and platform canvas.

Elevators Have Direct Drive

Drive for the elevators on the McCormick-Deering header is taken off the bevel gear shaft and is simple and efficient. Universal joints on both the upper and lower canvases of the elevator permit 8½-ft. size being raised and lowered to any angle from 7½ feet above the ground at the upper end to a position which just clears the ground for the purpose of swathing. See Illusts. 5 and 6.

Platform Canvas Released at End of Day

By means of the device shown in Illust. 4, the tension upon the platform canvas can be released at the end of the day's work. The method of releasing it or tightening it is simple, consisting of a bolt with an eye as shown in A, Illust. 4, and a sliding box, B, in which one of the canvas rollers runs. To tighten the canvas the eye-bolt, A, is turned to the right, and the tension is released by turning it in the opposite direction. A similar device at the other end of the roller permits keeping both sides of the canvas at the same tension.

Well-Constructed Elevator

Two sizes of elevators are available. An 8½-ft. elevator is regularly furnished with the machine but a 10-ft. elevator can be supplied on special order at a slight additional cost. The elevator is constructed of wood, is strongly braced with angle steel braces as shown at C, Illust. 5. The underside is equipped with two rollers so that when the elevator comes in contact with the wagon box or barge, it will not be injured. A canvas hood, A, at the top of the elevator directs the grain down into the barge. The height of the elevator is regulated by means of a rope and blocks, the rope extending to the driver's platform where it is attached to a convenient cleat. As the illustration shows, the elevator can be used in a slanting position for loading the grain into a barge or can be lowered so that it just clears the ground for the purpose of swathing special crops.

Illust. 5—Elevator raised in position for loading grain into barge or wagon box.

Illust. 4—The platform canvas is easily adjusted by means of the screw, A. B is the box for the platform canvas roller.

Illust. 6—Elevator lowered to position for swathing.
McCormick-Deering Reaper

For Grain and Seed Crops
The McCormick-Deering reaper will cut and place in gavels any grain or seed crop. On farms where a binder is not available and where the acreage is limited, it is sometimes used to cut wheat and oats. It will cut flax, buckwheat, rye, barley, and other small grain equally well.

Nursery men have found the McCormick-Deering reaper serviceable in harvesting flower seeds. When cutting crops like clover, alfalfa, etc., for seed, it is sometimes desirable to have them thoroughly cured before stacking. For cutting of this nature a reaper is often preferred and the McCormick-Deering reaper is especially adapted for this work.

A Convenient Machine
An important feature of the McCormick-Deering reaper is the ease and dispatch with which the driver can make every adjustment to meet varying crop conditions without leaving the seat. He can quickly adjust the rakes to sweep the platform, to have them act as reels without sweeping or tilt the platform to throw the knife down for picking up lodged grain.

The rakes can be set so that every second, every third, every fourth, every fifth or all the rakes will sweep the platform as the operator desires. The reaper can be folded into small space for storage or for hauling through narrow lanes and gates.

Practically All-Steel Construction
The grain wheel can be removed from the outer platform for transport purposes, the whole operation being accomplished in a few minutes without removing a bolt.

Regular Equipment
Tongue, neckyoke, evener and tools.

Extra Equipment
Caster wheel to support tongue. Main wheel with 8-in. face.

Specifications

<table>
<thead>
<tr>
<th>Cut</th>
<th>MAIN WHEEL</th>
<th>FIELD WEIGHT</th>
<th>SHIPPING WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Diameter</td>
<td>Face</td>
<td></td>
</tr>
<tr>
<td>5 ft</td>
<td>32 in.</td>
<td>7 in.</td>
<td>945 lb.</td>
</tr>
<tr>
<td>51/2 ft</td>
<td>32 in.</td>
<td>7 in.</td>
<td>960 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Threshers

Two sizes: 22 x 38 and 28 x 46

Illustr. 1—McCormick-Deering Grain Thresher equipped with self-feeder with 9-ft. carrier, wind stacker with special oscillating device, and No. 1 Hart Perfection weigher.

Regular Equipment

Combination tongue and stub pole. Self-feeder with 9-ft. carrier. Wind stacker. All belts except main drive belt to engine. Rockwood pulleys on cylinder shaft, cleaning fan, and wind stacker fan. One adjustable chaffer sieve and extension. One adjustable shoe sieve for all grains. One weed screen for shoe bottom.

When ordered on original order, one flax, timothy, or any other one sieve in place of weed screen. Weigher for 28 x 46 in. is Perfection No. 1; and 22 x 38 in. is Perfection No. 2.

Extra Equipment

Hand feeder. Rake stacker. Self-feeder with 14 or 21-ft. carrier. No. 1 Hart Perfection weigher with 9-ft. swinging tilting conveyor and wagon spout. No. 2 Hart Perfection weigher with 6-ft. swinging conveyor and wagon spout. Short elevator and bagger, with or without tally. Spokane or rice type bagging spout, with or without tally. Clover attachment. Pea and bean attachment. Alfalfa attachment. Kafir corn attachment. Right and left grain delivery spout. Barley bearder and reclaimer. Parts to change over grain thresher to alfalfa thresher. Alfalfa reclaimer. Special sieves for flax, timothy, orchard grass, sorghum grains, and other seeds. 4-ft. extension for wind stacker pipe. Wind stacker oscillating device. Brakes. Rear end hitch. Wheels with 8-in. tires. Cylinder pulleys, 7, 8, 10, 11, 12, 13, 14, 15-in. diam., 8\(^\frac{1}{2}\)-in. face.

Specifications

<table>
<thead>
<tr>
<th></th>
<th>22 x 38</th>
<th>28 x 46</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width of cylinder</td>
<td>22 in.</td>
<td>28 in.</td>
</tr>
<tr>
<td>Width of separator inside</td>
<td>38 in.</td>
<td>46 in.</td>
</tr>
<tr>
<td>Number of bars in cylinder</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Number of teeth in cylinder</td>
<td>72</td>
<td>92</td>
</tr>
<tr>
<td>Diameter of cylinder including teeth</td>
<td>21(\frac{1}{4}) in.</td>
<td>21(\frac{1}{4}) in.</td>
</tr>
<tr>
<td>Speed of cylinder</td>
<td>1000 r.p.m.</td>
<td>1000 r.p.m.</td>
</tr>
<tr>
<td>Diameter of cylinder shaft</td>
<td>2 in.</td>
<td>2 in.</td>
</tr>
<tr>
<td>Cylinder shaft bearings</td>
<td>Ball</td>
<td>Ball</td>
</tr>
<tr>
<td>Length of grate surface</td>
<td>33 in.</td>
<td>33 in.</td>
</tr>
<tr>
<td>Diameter main drive pulley</td>
<td>9(\frac{3}{4}) in.</td>
<td>9(\frac{3}{4}) in.</td>
</tr>
<tr>
<td>Face main drive pulley</td>
<td>8(\frac{1}{2}) in.</td>
<td>8(\frac{1}{2}) in.</td>
</tr>
<tr>
<td>Length of straw rack on straight line</td>
<td>10 ft. 10 in.</td>
<td>10 ft. 10 in.</td>
</tr>
<tr>
<td>Length of straw rack extension</td>
<td>13 ft. 2 in.</td>
<td>13 ft. 2 in.</td>
</tr>
<tr>
<td>Straw rack surface, square feet</td>
<td>34(\frac{1}{4})</td>
<td>41(\frac{3}{4})</td>
</tr>
<tr>
<td>Chaffer surface, square feet</td>
<td>13.3</td>
<td>16.1</td>
</tr>
<tr>
<td>Sieve surface, square feet</td>
<td>9.5</td>
<td>11.75</td>
</tr>
<tr>
<td>Height of machine at rear (over stacker pipe)</td>
<td>9 ft. 5 in.</td>
<td>9 ft. 5 in.</td>
</tr>
<tr>
<td>Height of machine at deck</td>
<td>7 ft. 1 in.</td>
<td>7 ft. 1 in.</td>
</tr>
<tr>
<td>Height of front wheels</td>
<td>30 in.</td>
<td>30 in.</td>
</tr>
<tr>
<td>Width of front wheels</td>
<td>6 in.</td>
<td>6 in.</td>
</tr>
<tr>
<td>Height of rear wheels</td>
<td>30 in.</td>
<td>30 in.</td>
</tr>
<tr>
<td>Width of rear wheels</td>
<td>6 in.</td>
<td>6 in.</td>
</tr>
<tr>
<td>Tread of front wheels</td>
<td>54 in.</td>
<td>54 in.</td>
</tr>
<tr>
<td>Tread of rear wheels</td>
<td>54 in.</td>
<td>54 in.</td>
</tr>
<tr>
<td>Diameter of wind stacker pipe inside</td>
<td>12(\frac{1}{2}) in.</td>
<td>12(\frac{1}{2}) in.</td>
</tr>
<tr>
<td>Length of windstacker pipe extended</td>
<td>18 ft. 3 in.</td>
<td>18 ft. 3 in.</td>
</tr>
<tr>
<td>Height of 9-ft. feeder carrier—low adjustment</td>
<td>5 ft. 6 in.</td>
<td>5 ft. 6 in.</td>
</tr>
</tbody>
</table>

Height of 9-ft. feeder carrier—high adjustment | 6 ft. | 6 ft. |

Height of 14-ft. feeder carrier—low adjustment | 3 ft. 11 in. | 3 ft. 11 in. |

Height of 14-ft. feeder carrier—high adjustment | 6 ft. 8 in. | 6 ft. 8 in. |

Capacity bu. per hour—Wheat | 65 to 130 | 80 to 160 |

Capacity bu. per hour—Oats | 110 to 220 | 140 to 280 |

Horse power to operate thresher with hand feed and folding stacker | 16 | 22 |

Horse power to operate thresher with wind stacker, self-feeder, and weight | McC-D. | McC-D. |

*Rockwood fiber pulley regularly supplied. Buyer may have his choice of Rockwood or plain iron pulley with lagging except in 15 in., which is supplied in iron only.

WEIGHT OF THRESHERS AND ATTACHMENTS

| Thresher, fully equipped with self-feeder, wind stacker, and Hart Perfection weigher | 5390 lb. | 5780 lb. |
| Self-feeder with regular 9-ft. carrier | 575 lb. | 685 lb. |
| Self-feeder with 14-ft. carrier | 895 lb. | 1030 lb. |
| No. 1 Hart Perfection weigher | 395 lb. | 395 lb. |
| No. 2 Hart Perfection weigher | 360 lb. | 393 lb. |
| No. 3 Hart Perfection weigher | 396 lb. | 396 lb. |
| No. 11 Hart Perfection loader | 304 lb. | 304 lb. |
| No. 12 Hart Perfection loader | 283 lb. | 283 lb. |
| No. 13 Hart Perfection loader | 290 lb. | 290 lb. |

Short elevator and bagger, with or without tally | 172 lb. | 172 lb. |

Wind stacker | 1175 lb. | 1300 lb. |
Illustr. 2—Interior view of McCormick-Deering Thresher from right side.

1. Feeder carrier. One man can fold it.
2. Feeder conveyor. High-grade steel chains and hardwood slats.
3. Hooks on knife arms. Help to carry grain into the feeder.
5. Retarders. Hold lower part of bundle while top is combed off by feeding pans.
7. Lower feeding pan. Saves grain threshed out in feeder.
10. Grate concave. Interchangeable with tooth sections for threshing various grains.
11. Grate. 90 per cent of separation of grain takes place here and on concaves.
13. First straw rack riser. Gives straw a considerable drop which assists in separation.
17. Third straw rack riser.
18. Fourth straw rack riser.
19. Fifth straw rack riser. All risers have same function of tossing and dropping straw.
23. Cleaning fan. All steel and iron structure. Adjustments to regulate and direct blast.
24. Chaffer. Adjustable for all grains and seeds.
25. Shoe sieve. Adjustable for threshing all grains and seeds.
26. Grain auger. Delivers threshed grain to weigher or elevator.
29. Tailings auger. Catches threshed heads and delivers them to tailings elevator, thence back to cylinder.
31. Wind stacker. Located on outside of thresher to give clear passage to chaff from sieves.
33. Stack pipe. Section removable for cleaning pipe.
34. Tailings spout. Delivers tailings from elevator to cylinder.
36. Tailings elevator. All-steel construction. Tension of chains adjustable.
37. Wind stacker hood. Adjustable from turret end.
38. Adjusting crank. For extending stacker pipe.
39. Adjusting crank. For moving stacker pipe sideways.
40. Adjusting crank. Raises and lowers stacker pipe.
41. Feeder support. Permits adjustment of carrier for height.
McCormick-Deering Threshers

Illustr. 3—Threshing cylinder constructed with twelve double steel bars, 72 teeth in the 22-in. and 92 teeth in the 28-in.

Rugged Cylinder

The cylinder is built up on two cast iron heads and a center casting. The heads and center castings are set at approximately equal distances apart on a shaft which is a force fit and also keyed in place. Recesses are cut at equal distances around the circumference of the heads and center casting into which are fitted twelve double steel bars. Into these bars are set the cylinder teeth. Over each head and center casting are shrunk steel bands which prevent the cylinder bars from working loose.

Illustr. 4—Concave and grate. A, adjusting lever for raising and lowering concave. B, ratchet that holds the concave in adjustment after setting. C, eccentrics which raise and lower concave slides.

Substantial Frame—Steel Siding

The frame is built entirely of steel. Large angles, firmly riveted together and securely trussed and braced, form a frame that has a wide margin of strength yet is not heavy. The siding is all galvanized steel, cut to assist in reinforcing the frame. The axles are built from heavy channels, between which are bolted the skeins. The wheels are iron and steel, with broad tires. The cylinder hangs in a steel frame, and is so constructed that the cylinder can be removed if necessary.


Adjustable Concave

The concave is adjustable endwise by means of set screws in the cylinder sides. This permits easy alignment of the cylinder and concave teeth. A lever operating eccentrics under each concave slide at the front adjusts the depth to which the concave and cylinder teeth mesh. A ratchet pawl holds the concave in adjustment after setting.


Steel Teeth—Tough and Hard

The cylinder and concave teeth are interchangeable. They are forged from .40 to .50 carbon steel and are exceptionally tough, and hard enough to withstand severe wear. They will not break under ordinary strains. Square shanks fit into square holes in the upper cylinder bars, and heavy nuts with lock-washers hold them in place.
McCormick-Deering Threshers

Illust. 7—Cast housing in which cylinder ball bearings are held. A shows the two nuts which hold the bearing to its supporting frame. B and C show how supporting frame is bolted to the frame of the thresher. D, Alemite fitting for lubricating bearing. E, cap which covers ball bearing.

Inspection is desirable, adjustment of any kind is rarely, if ever, necessary. The bearings are enclosed in dust-tight housing, securely bolted to the thresher frame.

Beater Assists in Separation

The beater is mounted directly back of the cylinder, and the blades swing close to the cylinder teeth. Its purpose is to reduce the velocity of the straw and direct it down on to the straw racks, so that the entire length of the rack will be used in separating the grain. The beater also prevents winding of the straw about the cylinder. In the McCormick-Deering the beater is made entirely of steel. The side of the thresher is so made that the beater can be removed by taking out a few bolts.

Ball-Bearing Cylinder

Ball bearings are used so extensively nowadays that their more common advantages, such as reduction of friction and wear, are fairly well understood. On the cylinder shaft of a thresher, however, they mean much more. The cylinder ball bearings on the McCormick-Deering thresher have put an end to that vigilant care which is so necessary with plain bearings. Every thresherman knows that plain bearings require a great deal of attention—hourly oiling when the machine is running, daily inspection for end play and frequent adjustments to take up wear. Oil once a week is enough for the McCormick-Deering ball bearings, and while an occasional inspection is desirable, adjustment of any kind is rarely, if ever, necessary. The bearings are enclosed in dust-tight housing, securely bolted to the thresher frame.

Highly Efficient Straw Rack

No single feature of the McCormick-Deering has done more to make it a favorite among threshermen than the design of the straw rack. As shown in Illust. 10, the rack is made in four sections, operated by two four-way crankshafts, each rack standing in a different position and one balancing another so that the machine runs very steadily and without vibration so common with the swinging or vibrating type of rack. The action of the rack upon the straw is to continually toss it while pins in the risers comb the straw apart and release any grain which may be lodged in it. The racks in the two machines are 10 ft. 10 in. long, making unusually compact threshing machines, yet the straw actually travels 13 ft. 7 in. in passing over the racks. The straw gets three drops of 10 in. from the risers in its passage over the racks. The frames of the sections are made of hardwood but the cross slats are galvanized steel. The bearings are supported by steel saddles, and each is supplied with an Alemite grease nipple. The boxes are of hardwood, oil treated.

Illust. 8—The duty of the beater is to throw the straw down upon the straw rack as it comes from the cylinder. It also prevents winding of the straw around the cylinder.

Illust. 9—One section of the straw racks. A, operating crankshaft. B, oil-treated wood box. C, steel saddle which supports the rack. D, sheet metal angles which prevent bearing nuts from turning. E, grease pipe with Alemite fitting.

Illust. 10—Four-section straw rack assembled. Note the risers, each of which gives a 10-in. drop to the straw, and the steel pins which comb the straw apart and assist in separation. A and B are the four-way crankshafts. C, adjustable front riser.
Leak-Proof Grain Pan

The frame of the grain pan is made of hardwood and the bottom is galvanized steel, formed in steps or corrugations. Instead of being nailed to the bottom of the side frame pieces, the sides of the galvanized iron bottom are turned up for the entire length of the frame. This prevents leakage so common in the ordinary grain pan. The pan receives diagonal up-and-down motion as well as forward and backward motion, which causes the mass of grain and chaff to be forced back to the chaffer. Two wood slats in the bottom of the pan, the ends of which are wider apart at the rear than at the front, assist in spreading out the grain and chaff over the bottom of the pan. The chaffer is of the Closz adjustable type, and is suitable for threshing practically all grains and seeds. The chaffer extension is also of the Closz type with adjustable opening, and its angle to the chaffer can also be adjusted.

Long Return Pan

The duty of the return pan is to catch any grain that may fall through the last one-third of the straw racks and carry it forward to the chaffer. It has a wood frame and smooth steel bottom, and receives constant vibration. In the McCormick-Deering the return pan is extra long so that the grain is delivered at the forward end of the chaffer instead of at the rear as in some threshers.

Tailings Elevator with New Feature

The tailings elevator is equipped with a steel chain to which hardwood blocks are attached. There is an opening at the lower end of the elevator for cleaning. The tailings are not merely dumped in one mass upon the cylinder, but as they leave the spout they strike a slanting steel plate or deflector which spreads them out so that they fall in a thin, wide stream over the entire width of the cylinder. This prevents over-loading the sieves on the tailings elevator side.
McCormick-Deering Threshers

Illustr. 14—Shoe with sieves in place. A, handhole through which the operator can reach and clean the shoe while the machine is in operation. B, adjustment for upper sieve. C and D, adjustments for raising and lowering front and rear ends of upper sieve.

Adjustable Shoe Sieve

The shoe is supplied with a Closz type adjustable sieve which is suitable for threshing all grains and many seeds. The sieve can be set at different angles as conditions may require without stopping the machine. This is accomplished by setting the wing nuts on the sides, shown at C and D, Illustr. 14, in various positions. There is a handhole in the side of the shoe, which permits the operator to reach in and clean the screen while the thresher is running. The shoe is driven by means of two pitmans running from the same crankshaft that operates the grain pan. The two parts counter-balance each other.

Even Air Blast to Sieves

The cleaning fan is made entirely of iron and steel. The blades are tapered from the center outward to secure an even pressure of air the entire width of the sieve.

Illustr. 15—The fan is made entirely of steel and iron. The blades are tapered from the inside outward to secure an even pressure of air the entire width of the sieve.

Illustr. 16—Lock seam of fan and shoe housing.

Lock Seams

The seams in the fan housing, also in the shoe, are made with a special lock joint as shown in Illustr. 16. This not only means a durable union between the two sheet metal parts but strengthens the corners against bending from ordinary strains to which the machine is often subjected.

Easy to Clean Stacker Pipe

The section of pipe between the blower housing and the turret can be removed by loosening three thumbscrews on the side of the housing. This is a great convenience when the blower pipe becomes clogged with straw. It gives easy access to the inside of the blower as well as the elbow in the stacker pipe.

Illustr. 17—If the wind stacker pipe becomes clogged with straw it is easy to remove the section just above the blower. This gives access to the blower and elbow in the blower pipe.
McCormick-Deering Threshers

Illust. 18—Wind stacker fan. Note that the blades have square ends and that they are offset from the center of the shaft. This construction is superior to the ordinary fan, as it secures the maximum blast and prevents rubbing the straw against the fan housing.

Powerful Wind Stacker

The wind stacker, or blower, as it is sometimes called, has a frame of angle steel, similar to the thresher, and sheet metal siding. The angles of the stacker bolt directly to the rear angles of the thresher and make a tight and substantial joint. The stacker fan is mounted on the right side in such a manner that it leaves the inside of the machine smooth so that no obstruction is offered to the passage of straw and chaff into the stacker fan. The hopper has a steep angle which causes the straw to slide into the fan easily. The fan has four square-end blades, and these blades are tipped slightly backward and out of center with the shaft. This type of fan has been found to give the maximum blast with the minimum power. The straw does not rub against the blower housing and consume power unnecessarily. The stacker pipe can be oscillated either by hand or power.

Clover Attachment

McCormick-Deering threshers can be equipped with the necessary parts for threshing clover and other hay seeds. The clover attachment consists of three concaves complete with corrugated teeth, and one clover sieve can be supplied at extra cost. This attachment also can be used to some extent for threshing alfalfa, but the regular alfalfa thresher with reclaimer attachment does a better job.

Pea and Bean Attachment

McCormick-Deering threshers do a good job of threshing peas and beans when equipped with the necessary pulleys for reducing the speed of the cylinder and regulating the speed of other parts of the machine to correspond. When the complete pea and bean attachment is ordered the following parts are supplied: Pulleys, concaves with special teeth, wood concaves, and choice of \( \frac{5}{8} \times \frac{3}{4} \) or \( \frac{7}{8} \times \frac{3}{4} \) oblong hole screen. The \( \frac{5}{8} \times \frac{3}{4} \) screen is used for small peas and beans.

Rockwood Fiber Driving Pulleys

McCormick-Deering threshers are regularly equipped with the famous Rockwood fiber pulleys on the cylinder shafts, both sides of the cleaning fans and the wind stacker fans. They give a highly efficient drive. The fiber sections of which the pulley is made are cemented together over an iron core or hub which is keyed to the cylinder shaft. Wooden pins passing through the fiber sections around the iron core further strengthen the pulley.

Illust. 19—Sectional view of wind stacker fan pulley and bearing. High-grade, tapered roller bearings are used at both ends of the shaft. The bearing is 9 inches long and the pulley is so constructed that the pull of the belt is between the bearings. This equalizes the strain and wear.


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Hart Perfection Weighers

Perfection weighers are available in three types—No. 1 with 9-ft. tilting and swinging conveyor for 28-in. thresher, No. 2 with 6-ft. swinging conveyor for 22-in. thresher, and No. 3 with stationary cross conveyor for 22 and 28-in. threshers. All weighers have standard Hart registering and tallying devices. The tilting feature found on the No. 1 weigher permits adjustments for height of conveyor. Conveyors on both Nos. 1 and 2 weighers can be swung across the machine so as to permit loading from either side.

Hart Perfection Loaders

These loaders are made in three types, corresponding closely to the three types of Perfection weighers. No. 11 loader has the same style of tilting and swinging conveyor as the No. 1 weigher, but is of course not equipped with registering device. The No. 11 loader is of the low-head, high-delivery type, suitable for either field or bin threshing. It has a 9-ft. tilting conveyor and swiveling wagon spout, which can be swung across the machine or turned within a 24-ft. circle. The No. 11 loader is supplied at extra cost with 22 and 28-in. threshers.

The No. 12 loader has a 6-ft. swinging conveyor, non-adjustable for height, which can be swung across the machine to permit loading from either side. It is supplied on special order at extra cost with 22 and 28-in. threshers.

The No. 13 loader has the same type of stationary cross conveyor as the No. 3 weigher and is equipped with two wagon spouts so that delivery can be switched to either side of the machine as desired. Supplied on special order at extra cost with 22 and 28-in. threshers.

Short Elevator and Bagger

The short elevator and bagger is a Harvester Company product and is thoroughly high-grade in every respect. Its construction is almost entirely of steel, with steel chains and sprockets for elevating the grain. A wood partition inside the elevator assures quiet running.

This is a convenient type of elevator for handling beans, peas, or grains that are to be put into bags. The bagging spout is equipped with a switch-over lever and can be supplied with or without tally.
High-Grade Self-Feeder

The McCormick-Deering feeder has been designed and built to fit the McCormick-Deering thresher. It brings the grain to the cylinder in the natural manner of expert hand feeding. As the bundles move into the feeder they are brought in contact with reciprocating knives which cut the bands and spread the grain evenly across the mouth of the feeder.

As the grain is carried back it passes over retarders, consisting of slowly turning hook-tooth wheels. These retarders hold the bottom part of the bundle while the top is combed off by the teeth of the feeding pans and passed in a steady flow to the cylinder.

Two Governors

The bundle carrier is controlled by two conditions, one the speed of the cylinder and the other the volume of grain being fed to the machine. When the speed of the cylinder falls below that necessary for proper threshing, the speed governor stops the carrier and prevents the bundles from moving forward. It is adjustable to act at a speed corresponding to the speed of the cylinder when threshing various grains and seeds.

The volume governor is controlled by the feeding pans. The pans are arranged so that an excessive volume of grain passing under them will raise them, operating a trip and stopping the carrier until the excess grain is combed off into the cylinder.

One-Man Folding Carrier

The carrier is supported by substantial steel braces running from the sills of the thresher frame to a point well out of the carrier. This relieves the feeder frame of all strains due to the weight of the carrier. Practically all feeders require two men to fold or unfold the carrier, but on the McCormick-Deering the hinged braces and weight of the two ends of the carrier are so proportioned that the outer end will not drop when it is unhooked, but can be lowered easily and folded back by one man.

The 14-Ft. Carrier Saves Time

In large threshing operations it often saves considerable time to have the thresher equipped with a long carrier. This permits two men to feed the machine from loads on opposite sides without danger of piling the bundles on top of each other in the carrier. One man can pitch into the forward end of the carrier while the other pitches into the rear end. When grain is headed and stacked in parallel stacks the thresher can be pulled in between the stacks and practically all of the grain pitched into the carrier without resetting the machine or without a great amount of help being employed in passing the grain from remote parts of the stacks to the pitchers.

Folds Compactly

When transporting the machine from one place to another, either by horses or tractor, it is necessary, of course, to fold the carrier. The pole is sufficiently long, however, so that the tractor operator is a safe distance from the carrier and it will not strike the backs of the horses when the machine is pulled by a team.
McCormick-Deering Threshers

Hand Feed

There are some localities where threshermen find it necessary to use a hand feed. For this reason McCormick-Deering threshers can be equipped with hand feed when so ordered.

The feeding table on the right and left side of the feeder opening are constructed of heavy galvanized steel, reinforced by angle steel which binds the entire edge of the table. These tables fold compactly for transportation. The feeder's platform is constructed of wood, thoroughly reinforced by angle steel bars, and supported by two steel rods from the frame of the thresher. This platform can be folded against the feeding table for transportation.

Rake Stacker

A straw carrier, or rake stacker, can be supplied on special order. This stacker is substantially made of wood, thoroughly reinforced and braced by angle steel. The carrier itself is formed by two rubber belts of good quality to which are riveted wood slats. The carrier is easily adjusted for height by means of a windlass which can be operated by a person standing on the ground. The carrier folds compactly for transportation.

Alemite Lubrication

Lubrication of all bearings has been greatly simplified in McCormick-Deering threshers by the use of Alemite fittings. A gun is supplied which forces grease through these fittings into the bearings at high pressure, thus forcing out the old grease and dirt and supplying new grease. Lubrication of the entire machine can thus be accomplished in a few minutes.

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McCormick-Deering Rice Threshers

Two Sizes:
22 x 38 and 28 x 46

Illustration 31—McCormick-Deering Rice Threshers resemble the regular grain threshers but have special features adapting them particularly for rice. Illustration shows the thresher equipped with No. 3 weigher and Spokane or rice type bagging spout.

Special Rice Machine
These threshers are built especially for threshing rice. The cylinder and concave have special rice teeth. A 12-in. drive pulley is supplied regularly for the cylinder shaft and the machine is otherwise equipped with pulleys to maintain proper speeds for threshing rice. The wheels have extra wide (8-in.) tires to meet the condition of soft ground usually encountered in rice sections. The galvanized steel siding protects against rust.

Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>22 x 38</th>
<th>28 x 46</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed of cylinder, r.p.m.</td>
<td>825</td>
<td>825</td>
</tr>
<tr>
<td>Diameter of main drive pulley, regular</td>
<td>12 in.</td>
<td>12 in.</td>
</tr>
<tr>
<td>7, 8, 10, 11, 13, 14, 15-in. supplied special</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width of tires, front wheels</td>
<td>8 in.</td>
<td>8 in.</td>
</tr>
<tr>
<td>Width of tires, rear wheels</td>
<td>8 in.</td>
<td>8 in.</td>
</tr>
<tr>
<td>Capacity, *bags in 10 hours:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In difficult threshing</td>
<td>150-200</td>
<td>250-300</td>
</tr>
<tr>
<td>In easy threshing</td>
<td>300-350</td>
<td>400-450</td>
</tr>
</tbody>
</table>

Special equipment for Kafir corn, cane, and milo. Cylinder pulleys, 7, 8, 10, 11, 13, 14, or 15-in. diam., 8-in. face. Brake. Wind stacker oscillating device.

Regular Equipment
Combination tongue and stub pole. Rockwood fiber pulleys on cylinder, cleaning fan, and wind stacker. All belts except main driving belt to power. Wheels with 8-in. tires. One chaffer sieve and tail rake. One adjustable shoe sieve. One screen for shoe bottom. Self-feeder with 9-ft. carrier. Wind stacker.

Extra Equipment

Shipping Weights

<table>
<thead>
<tr>
<th>Size</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>22 x 38-in.</td>
<td>Rice thresher, complete with self-feeder with 9-ft. carrier, wind stacker, and No. 2 Hart Perfection weigher</td>
</tr>
<tr>
<td>28 x 46-in.</td>
<td>Rice thresher, complete with self-feeder, 9-ft. carrier, and No. 1 Hart Perfection weigher</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Approximate Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rice thresher, complete with self-feeder with 9-ft. carrier, wind stacker, and No. 2 Hart Perfection weigher</td>
<td>5450 lb.</td>
</tr>
<tr>
<td>Rice thresher, complete with self-feeder, 9-ft. carrier, and No. 1 Hart Perfection weigher</td>
<td>5925 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering Alfalfa Threshers
Two sizes: 22 x 38 and 28 x 46

Illustr. 33—McCormick-Deering Alfalfa Thresher equipped with recleaner attachment.

Designed Especially for Alfalfa

The alfalfa thresher has been built especially for threshing alfalfa, and similar seed crops. The concaves are equipped with special corrugated teeth, as shown in the accompanying illustration. The straw rack has perforated metal sections and is operated at a moderate speed to assure clean separation. The beater grate is covered to prevent straw from lodging and returning over the cylinder.

Illustr. 34—One of the special concaves with corrugated teeth used in threshing alfalfa.

Cleaning is accomplished in the shoe in the usual manner. Although not supplied as a regular feature with the alfalfa thresher, unless so specified and at additional cost, the recleaner attachment is recommended for all alfalfa threshers as it enables the operator to do much cleaner work. When the recleaner is used, the grain conveyor is swung across the deck of the thresher and the spout is placed in the hopper of the recleaner. This delivers the seed to the recleaner.

Extra Equipment

Alfalfa recleaner. Other special equipment same as for grain threshers.

Specifications

Length of special straw rack, 11 ft. 6 in. Other specifications same as for regular grain threshers. Weight of 22 x 38-in., complete with 9-ft. carrier, wind stacker, and No. 2 Hart Perfection weigher, 5390 lb. Weight of 28 x 46-in., complete with 9-ft. carrier, wind stacker, and No. 1 Hart Perfection weigher, 5780 lb. Weight of alfalfa recleaner, 282 lb.

Illustr. 35—One section of straw rack showing special perforations for separating alfalfa seed from straw.

Illustr. 36—McCormick-Deering alfalfa recleaner, showing interior construction and arrangement of the sieve screens.

Regular Equipment

Corrugated concave teeth. Guard over beater grate. Special size pulleys to give correct speed to cylinder and other parts of the machine. Special alfalfa screen for shoe. Special perforated alfalfa straw rack. Other equipment is the same as grain threshers.

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McCormick-Deering Clover Threshers

22 x 38  28 x 46

Built Expressly for Clover Threshing
McCormick-Deering clover threshers are designed especially for threshing clover seed and are equipped with special parts for this purpose. The basic all-steel construction, ball-bearing cylinder, reciprocating type of straw rack (of special design), adjustable chaffer, and Alemite lubrication, are much the same as on the regular grain and alfalfa threshers. The clover threshers are built to thresh clover seed clean, save all the seed and give years of satisfactory service. Many of the up-to-date features that have made McCormick-Deering threshers so popular and successful are incorporated in these clover threshers. It should be noted, however, that they are built expressly for separating clover seed and the quality of their work is unexcelled by that of any other clover huller or thrasher on the market.

Cylinder and Concave
The concave is equipped with special corrugated teeth similar to those shown in Illust. 34. These teeth give the most satisfactory results in removing the seed from the pods. The cylinder and other parts have the correct speed to secure proper threshing and clean separation without waste.

Perforated Straw Rack
The four-section straw rack is of special design with perforations for separating the clover seed from the straw. This construction prevents fine straw particles from falling on the grain pan and clogging the chaffer. The straw rack sections are extra long and run at the proper speed for maximum separating efficiency. They are similar to the ones in the alfalfa threshers shown in Illust. 35.

Extra Wide Tail Board
The tail board at the rear of the chaffer is extra wide so as to permit of high adjustment to prevent the seed from blowing over.

Clover Sieves
The sieve in the cleaning shoe is especially designed for clover and has ½-inch round holes.

Recleaner Attachment
A recleaner attachment similar in design to the one shown in Illust. 36 and equipped with screens and sieves suitable for clover is available at extra cost. Seed is delivered from the elevator by means of an auger into the hopper of the recleaner. The clean seed is delivered from the recleaner spout into bags while the screenings are delivered from a separate spout. The recleaner attachment is recommended for use in weedy crops and for threshing on a commercial basis.

Two Sizes
McCormick-Deering clover threshers are built in two sizes—22 x 38 and 28 x 46.

Regular Equipment
Concaves with three rows of corrugated teeth. 4-section perforated straw rack. ½-in. round hole shoe sieve. Extra wide tailboard. Other equipment is same as for grain threshers.

Special Equipment
Clover recleaner. Other special equipment same as for grain threshers.

Specifications—Clover Thresher
Length of straw rack.......................... 11 ft. 6 in.
Other specifications same as for regular grain threshers.
Weight of 22 x 38-in. thrasher complete with 9-ft. carrier, wind stacker and No. 2 Hart Perfection weigher.................. 5426 lb.
Weight of 28 x 46-in. thrasher complete with 9-ft. carrier, wind stacker and No. 1 Hart Perfection weigher........... 5832 lb.
Weight of clover recleaner...................... 278 lb.
McCormick-Deering No. 11 Harvester-Thresher

Illustration 1—McCormick-Deering No. 11 Harvester-Thresher, front view. A prairie type machine that can be supplied in either 12 or 16-foot cut. This illustration shows the 16-foot size. The 60-bushel grain tank is the choice of most buyers because of the savings in labor and equipment it makes possible.

Harvests and Threshes in One Operation

The McCormick-Deering No. 11 harvester-thresher is supplied in two sizes—12 and 16-foot cuts. The machine consists of a header and a compact thresher with which the grain is first cut, then threshed and separated from the straw, and delivered into a wagon box, bags, or a grain tank as the owner may choose. The straw is scattered over the field at the rear to fertilize future crops.

Saves Time, Labor and Money

By accomplishing both cutting and threshing in one operation, losses due to many handlings of grain, labor of hauling, and the delays incident to harvesting and threshing with separate machines are greatly reduced. No twine is required and there is no shocking or stacking. The crop is ready for the market earlier than when grain is cut and threshed separately.

Help and Power Required

Ordinarily two men can operate the McCormick-Deering harvester-thresher, one on the tractor, and one on the machine. When horses are used, one man drives the team, but a second man is usually required to look after handling the grain, especially if it is bagged.

Naturally, the condition of the ground over which the machine is pulled and the condition of the crop have much to do with the power required to operate the outfit. It has been found more satisfactory to pull the machine with a tractor, and a 15-30 McCormick-Deering supplies sufficient power for either the 12 or 16-foot cut. When pulled by horses, 8 are needed under most conditions, but sometimes 10 or 12 are required.

Regular Equipment

- 4-cylinder auxiliary engine
- Tractor hitch
- Choice of 60-bu. grain tank or bagging attachment as ordered
- Straw-spreading attachment
- Operator's platform

Extra Equipment

- 8-horse hitch
- 4-horse supplemental hitch parts for converting
- 8-horse hitch to 12-horse hitch
- Self-feeder and straw carrier for stationary threshing
- Straw collector
- Wagon loader
- 10-foot outer platform section to change 12-foot machine to 16-foot cut
- Kafir corn heading attachment
- Soybean attachment
- Clover attachment
- Rice attachment

Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width of cut</td>
<td>12 or 16 ft</td>
</tr>
<tr>
<td>Height lowest stubble</td>
<td>4 in.</td>
</tr>
<tr>
<td>Height highest stubble</td>
<td>32 in.</td>
</tr>
<tr>
<td>Width of canvas</td>
<td>36 in.</td>
</tr>
<tr>
<td>Width of cylinder</td>
<td>24 in.</td>
</tr>
<tr>
<td>Width of thresher, rear</td>
<td>42 in.</td>
</tr>
<tr>
<td>Length separator surface*</td>
<td>118 in.</td>
</tr>
<tr>
<td>Length chaffer sieve</td>
<td>43½ in.</td>
</tr>
<tr>
<td>Length of cleaning sieve</td>
<td>34½ in.</td>
</tr>
<tr>
<td>Number of cylinders in engine</td>
<td>4</td>
</tr>
<tr>
<td>Bore and stroke</td>
<td>3¾ x 5 in.</td>
</tr>
<tr>
<td>R.P.M.</td>
<td>1,500</td>
</tr>
<tr>
<td>Drive to threshing cylinder</td>
<td>Gear and Coupling</td>
</tr>
<tr>
<td>Number</td>
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</tr>
<tr>
<td>Front wheels</td>
<td>Diameter 26 in.</td>
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<tr>
<td></td>
<td>Width 4½ in.</td>
</tr>
<tr>
<td></td>
<td>Number 1</td>
</tr>
<tr>
<td>Main wheel</td>
<td>Diameter 54 in.</td>
</tr>
<tr>
<td></td>
<td>Width 18 in.</td>
</tr>
<tr>
<td>Grain wheel</td>
<td>Diameter 54 in.</td>
</tr>
<tr>
<td></td>
<td>Width 12 in.</td>
</tr>
<tr>
<td>Cylinder bearings</td>
<td>Ball</td>
</tr>
<tr>
<td>Fan bearings</td>
<td>Roller</td>
</tr>
<tr>
<td>Beater bearings</td>
<td>Roller</td>
</tr>
<tr>
<td>Front wheel bearings</td>
<td>Plain</td>
</tr>
<tr>
<td>Main wheel bearings</td>
<td>Tapered Roller</td>
</tr>
<tr>
<td>Grain wheel bearings</td>
<td>Tapered Roller</td>
</tr>
<tr>
<td>Length overall</td>
<td>24 ft. 8 in.</td>
</tr>
<tr>
<td>Width overall /Cutting</td>
<td>20 ft. 9 in.</td>
</tr>
<tr>
<td>(12-ft machine) Transport</td>
<td>15 ft.</td>
</tr>
<tr>
<td>Extreme height</td>
<td>10 ft. 8 in.</td>
</tr>
<tr>
<td>Weight (12 ft., with grain tank)</td>
<td>9945 lb.</td>
</tr>
</tbody>
</table>

*Measured in horizontal line from center of cylinder shaft to point of discharge of the straw.
No Waste with McCormick-Deering

The grain is carried directly from the sickle of the McCormick-Deering No. 11 harvester-thresher to the threshing cylinder. It is threshed and delivered into a grain tank, wagon box, or bags, as the owner may choose. No chance for shattering or other losses here.

Compare this with heading and threshing with separate machines. Headed grain is spread about with forks and trampled on in the barges. It is passed from the barges to the stack where it is again forked about and trampled on. It lies in the stack, often for weeks, subject to rain, wind, hot sun, mice, birds, and insects. It is then trampled over again and pitched into a thresher.

When in addition to this you consider the possible losses from hurried, careless threshing, it is easy to see why the combine saves so much more grain.

Does Not Scatter Weed Seeds

The grain passes through a revolving weed screen which removes the weed seeds and delivers them into a separate bag instead of scattering them over the ground.

Fertilizes Field for Future Crops

The straw left from threshing with the stationary thresher is frequently burned because it can not be spread on the field without considerable expense. But with the McCormick-Deering harvester-thresher a straw-spreading attachment is regularly supplied. As fast as the straw comes from the machine it is spread behind the thresher the width of the cut swath and can be plowed under easily. This process costs nothing, and the effect of the fertilizer on future crops is estimated at a gain of one to two additional bushels per acre.

Makes Early Fall Plowing Possible

When harvesting and threshing are done at different times, in two operations, help is sometimes exchanged among neighbors. This often means that fall plowing is delayed, if not neglected altogether. The next year's crop does not get the chance it would if plowing had been done at the right time.

When the harvester-thresher is used, fall plowing can begin immediately. Frequently the advantage of early plowing is enough to justify the purchase of the machine. One man tells us it means three bushels more to the acre.

Early Sale—Better Price

Every grain grower can remember some years when the price of grain was high early in the season but slumped in the fall. Farmers who had their grain threshed when the high price prevailed got several cents more a bushel than the man who was compelled to thresh late in the season. The harvester-thresher owner can sell his grain at any time that suits him because it is threshed and ready for delivery.

Brings Top Market Price

The impression that grain cut and threshed with the harvester-thresher does not bring as high a price as grain cut with a header or binder and threshed in a stationary thresher is entirely unfounded. The Harvester Company made a canvass of a large number of millers and elevator men in the harvester-thresher territory and every one spoke in the highest terms of combine grain, and in most cases stated they would rather have harvester-thresher wheat than wheat threshed after standing in the stack for several weeks.
As fast as the grain is cut it falls upon the platform canvas and is carried up between the upper and lower elevator canvases to the feeder carrier. The saw-toothed beater and the spiked beater help to carry the grain to the threshing cylinder. The grain passes between the cylinder and concave, where the greater portion of separation takes place, and the grain is carried on the conveyor to the grain pan. As the grain pan is vibrated, the grain flows down until it reaches the shoe sieves where a blast of air from the shoe fan carries away the chaff, and the grain falls through the sieves upon grain chute—1 and runs down into grain auger—1.

Threshed grain is carried by the grain auger into the lower end of grain elevator—1 and elevated and distributed over the recleaner sieves by grain auger—2. Here it receives a blast of air from the recleaner fan. The clean grain falls through the recleaner sieves and runs down into grain auger—3, which carries it out into the grain elevator—2, and it is delivered to the revolving weed screen. Here the weed seeds are eliminated and the clean grain is delivered at the grain spouts.

Tailings passing over the shoe sieves are returned by the tailings elevator to the tailings spout and thence to the cylinder for rethreshing. They are spread out and delivered in front of the cylinder by means of the deflector. Tailings passing over the recleaner sieves are carried by the tailings auger into the tailings elevator where they join the tailings from the shoe and are returned to the cylinder. As the straw comes from the cylinder, the cylinder beater retards it and throws it down upon the straw rack. The four-section straw rack with its risers tears the straw apart, shaking out every particle of grain into the troughs underneath each rack section. The grain flows down these troughs to the forward end of the shoe sieves. The straw passes out at the straw discharge onto the ground.

Correctly Designed Cutting Mechanism

The Harvester Company's many years of experience in the manufacture of grain harvesting machines is easily recognized in the construction of the platform and cutting mechanism. The platform is hinged directly to the right side of the machine in a most substantial manner. The supporting frame is built of light but strong angle steel, and the platform is counterbalanced by five heavy spiral springs with special mechanism for conveying the pull of these springs to the platform.

The platform is 36 inches wide. The canvas carries the grain to the elevator as in a header, being continuous from the platform to the delivery point into the feeder conveyor. This assures all grain being carried to the cylinder since there is no break in the canvas through which the grain can be lost. A short upper elevator canvas makes the delivery of the grain to the conveyor positive.

Ball-Bearing Cylinder

The cylinder is 24 inches long and is mounted on large ball bearings. These bearings are self-aligning and enclosed in dust-tight cases. They require only occasional oiling. The cylinder is built up on cast iron heads and a center casting. The ends of the bars are set into slots and steel bands are shrunk over the bars to prevent their loosening. Both cylinder and concaves are equipped with high-grade steel teeth.

The feeder carries the grain as it comes from the platform until it reaches the cylinder. The movement of the grain in the feeder is assisted by two beaters. The wings on the lower beater are saw-toothed, and the upper one is a drum cylinder to which are attached a number of spiked bars. This spiked beater not only assures positive delivery of the grain to the cylinder, but also acts as a retarder regulating the flow of grain and preventing overfeeding.
McCormick-Deering No. 11 Harvester-Thresher

Practically Complete Separation at Cylinder

The cylinder is mounted high enough in the machine to permit immediate separation of the grain by gravity through the concaves and grates. There are five square feet of grated surface beneath the cylinder and main beater. Full advantage is taken here of the great centrifugal force of the cylinder and main beater revolving above the grates to separate the grain from the straw and force it through the grates. A short conveyor directly underneath the concave elevates the grain and delivers it upon a grain pan.

The straw racks are thus relieved of the burden of separating a large volume of grain from the straw as this is accomplished at the cylinder.

Wide Straw Racks of Novel Type

Back of the cylinder the separator widens to 42 inches. This great width is in line with the best threshing machine practice, as all threshers have a separating space of one-half to two-thirds greater width than the cylinder. The reason is obvious. The thinner the straw is spread out in passing over the straw rack the more thorough will be the separation of the grain.

The beater spreads the straw the full width of the straw racks, which are made in four sections and operated by two 4-way crankshafts, one at each end of the rack. As no two sections are in the same position at the same time, their operation causes a continuous shaking and tossing of the straw, which gives a more thorough separation than any other type of straw rack.

Attached to the underside of each rack section is a trough which carries the grain forward and delivers it upon the shoe sieve so that it will pass over the entire sieve and receive a thorough cleaning. Rods inserted lengthwise in the straw rack sections form a screen to separate the grain and straw.

These rods are removable to vary the size of the opening for threshing different crops.

Thorough Cleaning on Shoe Sieve

The mass of grain and chaff is well spread out by means of dividers in the grain pan before it reaches the shoe sieve. At the shoe a blast of air from the shoe fan strikes it, carrying away the chaff and allowing the grain to fall through upon an inclined chute and to flow down into the grain auger which carries the grain out into a short elevator on the left side.

Recleaner Assures Clean Grain

By means of a short elevator the grain is elevated to a recleaner directly above the straw rack. Here the grain is evenly distributed across the sieves by means of an auger. The recleaner is practically a duplicate of the old-time fanning mill. A blast of air from the recleaner fan thoroughly rides the grain of all chaff. The tailings pass out and are returned by the tailings elevator to the cylinder for rethreshing. The clean grain is now delivered by means of an auger to another elevator and carried to the revolving weed screen.
McCormick-Deering No. 11 Harvester-Thresher

Weed Seeds Eliminated

Any accumulation of weed seeds in the grain is taken care of in the revolving weed screen. This revolving screen has a mesh suitable for the elimination of all matter except the full size kernels. The grain passing through it is cleaned of all foul seeds which pass into a separate spout and are delivered into a bag, not on the ground. Only clean grain reaches the delivery spout and can be handled in a grain tank, by a wagon loader, or bagger, as the owner may choose.

Disposal of Straw

The straw is delivered by means of the straw rack to the rear of the machine, and when regularly equipped, the straw-spreading device attached at the rear spreads the straw the full width of the cut swath. Crop authorities wherever harvesters-threshers are used approve this method of disposing of the straw and agree that the greatest return is secured by utilizing the straw as a fertilizer. However, as there are some owners who wish to save a portion of their straw for bedding and feed, a straw collector can be provided which enables the operator to drop the straw in bunches containing two or three forkfuls. This attachment is supplied at extra cost. Straw dropped in this manner can be picked up by men with forks, or a hay loader can be used if desired.

Grain Tank

The machine as usually sold is equipped with a 60-bushel grain tank. This tank is emptied by gravity and is equipped with a chute which delivers the grain well over the edge of the wagon box. The chute folds out of the way when not in use. At intervals the machine can be met by a motor truck or wagon which drives alongside. A lever operating the slide at the bottom of the tank is pulled and the grain is released into the box of the truck or wagon. While the machine can be supplied equipped with either a grain tank, bagging platform or wagon loader at corresponding adjustments in price, the grain tank is the choice of most buyers because fewer wagons are needed to haul the grain, and less help is necessary to operate the machine.

Wagon Loader

The wagon loader consists of a pipe extending from the revolving weed screen far enough out from the machine so that the wagon can be pulled alongside and the grain delivered directly into the wagon box.

Bagging Attachment

The bagging attachment consists of a platform with a seat for the bag sewer and bag holders for the attachment of two bags underneath the two-way grain spout. A switch-over lever is provided in the grain spout which permits one bag to be filled while the other is being removed and sewed. After sewing the bags are dropped upon an inclined chute, and when three or four are collected the bag sewer can drop them on the ground by pressing a foot lever.

Grain Tank

The machine as usually sold is equipped with a 60-bushel grain tank. This tank is emptied by gravity and is equipped with a chute which delivers the grain well over the edge of the wagon box. The chute folds out of the way when not in use. At intervals the machine can be met by a motor truck or wagon which drives alongside. A lever operating the slide at the bottom of the tank is pulled and the grain is released into the box of the truck or wagon. While the machine can be supplied equipped with either a grain tank, bagging platform or wagon loader at corresponding adjustments in
McCormick-Deering No. 11 Harvester-Thresher

**High-Grade Auxiliary Engine**

Power for operating the No. 11 harvester-thresher is furnished by the famous International Harvester ball-bearing crankshaft engine. This is the same type of engine that is used on McCormick-Deering tractors. It has the same removable sleeve cylinders, perfect oiling system, governor, enclosed disk clutch, and in fact all the features that have made these tractor engines famous.

The engine is located on the A frame, just forward and to the right of the main wheel. The drive is through a pair of high-grade bevel gears directly to the cylinder shaft. These gears are entirely enclosed and run in oil. The engine is well up out of the dust and its location puts the weight in the most advantageous position. It is equipped with a large capacity cooling radiator. The air intake for the carburetor is extended to a considerable height to avoid taking in dust, and the engine is equipped with an oil air cleaner to clean the air before it enters the carburetor. The exhaust pipe is extended above the head of the operator when seated on the machine.

**Platform Folds for Transportation**

For transporting the machine from one field to another or over roads, the platform folds at approximately the center, the folded portion standing in a vertical position. This reduces the machine to a width of 15 feet, making it possible to pass through ordinary gates or over bridges. When folding the platform the reel is removed and carried on hooks provided for the purpose. The work of folding and unfolding the platform is simple and requires only a short time.

**62 Ball and Roller Bearings**

There are sixty-two ball and roller bearings in the No. 11 McCormick-Deering harvester-thresher including the idler rollers for tightening the chains. These bearings are of the self-aligning type.

**Operator’s Platform**

A new feature of the McCormick-Deering harvester-thresher, which will be much appreciated by every owner, is the operator’s platform. It is located on the right-hand side of the machine high enough to place the operator out of the dust and in a position where he can see the entire field both in front and behind the machine, and for quick access to such parts as may need attention while the machine is cutting grain in the field.

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Illost. 11—For transporting the machine from one field to another, the platform can be folded, thus reducing the machine to an overall width of 15 feet.

Illost. 13—Auxiliary engine used to operate the cutting and threshing mechanism. A thoroughly high-grade, four-cylinder power plant. The radiator screen shown is extra.

Illost. 12—The man on the operator’s platform has full control of the harvester-thresher. He can raise or lower the platform with the wheel directly in front of him. He can control the clutch, G, on the auxiliary engine, and the brake, F, on the main wheel is within easy reach. He has immediate access to the openings A, B and E in the grain and tailings elevators, also to the recleaner, C, and straw rack, D. He can see when the grain tank is filled.
Illustr. 14—Front view of McCormick-Deering No. 8 Harvester-Thresher—a machine that cuts a 10 or 12-foot swath and threshes the grain as fast as it is cut. The cutting and threshing mechanism is operated by power from an auxiliary engine mounted on the machine. Any tractor supplying 10 h.p. or more at the drawbar can pull this machine, or it can be pulled by horses when the proper equipment is ordered.

Universal Machine

The McCormick-Deering No. 8 harvester-thresher is designed for use wherever grain is raised in sufficient quantities to justify this method of harvesting. It is not only used in the western states where combines were first employed, but it is generally recognized as a universal harvesting method throughout the central, eastern, and southern states.

The McCormick-Deering No. 8 harvester-thresher is equipped with an auxiliary engine for operating the cutting and threshing mechanism and can be pulled by a tractor of any make having sufficient power. The machine also can be pulled by horses, 6 to 8 being required. This machine is made in 10 and 12-foot cuts. Although constructed along simple, practical lines, the No. 8 contains every feature necessary for doing good work. Its cutting, threshing, and separating units are of the most efficient design, properly coordinated to save the maximum amount of grain.

Regular Equipment

4-ft. inner and 6-ft. outer section platform for 10-ft. machine. 4-ft. inner and 8-ft. outer section platform for 12-ft. machine. Auxiliary engine. 30-bu. grain tank, bagging platform or wagon loader as ordered. Tractor hitch, Forecarriage, Brake. Straw-spreading attachment. Choice of Z-bar or low-bar cutting platform on 10-ft. machine only. Operator's platform.

Extra Equipment


Specifications

| Width of cut | 10 or 12 ft. |
| Height lowest stubble | 4 in. |
| Height highest stubble | 32 in. |
| Width of canvas | 36 in. |
| Width of cylinder | 24 in. |
| Width of threshing, rear | 37 in. |
| Length separator surface | 118 in. |
| Length chaffer sieve | 37 in. |
| Length of cleaning sieve | 37 in. |
| Number of cylinders in engine | 4 |
| Bore and stroke | 33\frac{1}{2} \times 4\frac{1}{2} in. |
| R.P.M | 1600 |
| Drive to threshing cylinder | Gear and coupling |
| Number | 2 |
| Diameter of front wheel | 24 in. |
| Width of front wheel | 4 in. |
| Number of main wheel | 2 |
| Diameter of main wheel | 54 in. |
| Width of main wheel | 12 in. |
| Diameter of header wheel | 54 in. |
| Width of header wheel | 9 in. |
| Cylinder bearings | Ball |
| Fan bearings | Roller |
| Plain |
| Main wheel bearings | Tapered roller |
| Header wheel bearings | Tapered roller |
| Length overall | 20 ft. 6 in. |
| Width overall (cutting) | 19 ft. 6 in. |
| (10-ft. machine) Transport | 14 ft. 6 in. |
| Extreme height | 10 ft. 6 in. |
| Approx. weight, 10-ft. machine complete with engine and 30-bu. grain tank | 7480 lb. |
| 12-ft. machine, as above | 7565 lb. |
After the grain is cut it falls upon the platform canvas and is carried up between the upper and lower elevator canvases and delivered upon the feeder carrier. The saw-toothed beater and spiked beater help to carry the grain back to the cylinder. The grain passes between the cylinder and concaves. Here the greater part of the separation takes place, and the grain is carried upon the conveyor to the grain pan. The grain pan is vibrated and the grain flows across it until it reaches the shoe sieves, where a blast of air from the fan carries away the chaff and the grain falls through upon the chute and runs into the grain auger.

Threshed grain is carried by the auger into the grain elevator and elevated to the revolving weed screen. Here the weed seeds are taken out and the clean grain is delivered at the grain spouts and the weed seeds at the weed seed spout. As the straw comes from the cylinder the cylinder beater retards it and throws it down upon the straw racks. It is also retarded by the check flap. The four-section straw rack tosses the straw and the pins in the risers comb it apart, shaking out every particle of grain into the troughs underneath each rack section. The grain flows down these troughs upon the forward end of the shoe sieve. The straw passes out at the straw discharge on to the ground.

Tailings passing over the shoe fall on to the tailings chute and run down into the tailings auger. They are carried out by this auger into the tailings elevator and delivered by the elevator to a deflector, which distributes the tailings evenly in front of the cylinder for rethreshing. A straw spreader or straw collector can be attached at the rear for disposition of the straw as the owner may choose.
McCormick-Deering No. 8 Harvester-Thresher

Beaters Assure Even Feeding

The carrier consists of two steel chains to which are riveted wooden slats—these slats are steel-sheathed to prevent wear. The grain is further assisted in passing to the cylinder by the two beaters. The lower beater is saw-toothed, while the upper beater is a drum to which are riveted a number of bars containing spikes. These beaters have a tendency to maintain an even flow of grain so that the cylinder speed remains constant and does efficient threshing.

Greater Part of Separation at Cylinder

The cylinder is mounted high in the machine, making it accessible and permitting immediate separation of the grain by gravity. There are 5 square feet of grated surface beneath the cylinder and main beater. Full advantage is taken here of the great centrifugal force of the cylinder and beater revolving above the grates to separate the grain from the straw and force it through the grates. This relieves the straw racks of the burden of separating a large quantity of grain from the straw.

Grain Cut and Threshed Without Waste

The McCormick-Deering No. 8 harvester-thresher has been designed to harvest and thresh a fair-sized acreage of small grain, soybeans, flax, rice, clover, and many other crops. As fast as the grain is cut it falls upon the platform canvas and is delivered to a carrier which acts as a self-feeder for the thresher, carrying the grain to the threshing cylinder.

The platform canvas is continuous up to the point where the grain is delivered into the carrier, but the elevation of the grain from the platform is made positive by a short upper canvas. At the delivery point of the grain to the carrier, and running close to the lower elevator canvas, is an extra roller which assures the grain being carried into the feeder.

Ball-Bearing Cylinder

The cylinder of McCormick-Deering No. 8 harvester-thresher is 24 inches long and mounted on large ball bearings. These bearings are self-aligning, enclosed in dust-tight cases, and require only occasional oiling. The cylinder has 8 bars and is equipped with an ample number of high-grade steel teeth.

Concaves

The concave equipment consists of two concaves with two rows of teeth each, and two with one row of teeth. A grated section is also supplied. With these concaves any combination necessary for threshing can be made. The concaves are adjustable from outside the machine.
McCormick-Deering No. 8 Harvester-Thresher

Slip Clutches Prevent Breakage
The driving mechanism of such parts of the machine as may possibly become clogged in operation are equipped with slip clutches so that breakage is prevented. These clutches are steel, drop-forged, and heat-treated.

Efficient Four-Section Straw Rack
The type of straw rack used in the McCormick-Deering harvester-thresher is unusually efficient. It is made in four sections and operated by two four-way crankshafts at opposite ends of the racks. These crankshafts give each section an individual up-and-down and circular motion which pulls the straw apart, tossing it and turning it at the same time that it is carried back over the racks. This type of straw rack construction is noted for its exceptionally clean work both in combines and stationary threshers. Its ability to clean the grain is not equalled by any other similar device. So efficient are these racks that their separating capacity is greater than the ordinary type of thresher rack of considerably greater length. The under part of each rack is in the form of a trough, and as the grain falls through the slats in the racks it is carried forward in these troughs to the front end of the shoe.

Steel rods running lengthwise in the rack sections form a screen to eliminate straw particles from the grain. These rods are removable to change the size of the openings for threshing various crops. Ample oiling facilities are provided for each crankshaft bearing and they are easily accessible.

Shoe Sieves Complete Separation
The grain is carried by a short chain and slat conveyor operating underneath the cylinder up to a short grain pan. This pan is vibrated and delivers the grain upon the shoe sieve where a blast of air from the cleaning fan strikes it. The shoe sieve is of the Cloez no-choke type and is very efficient. It receives a forward and backward motion which causes the grain to fall through the sieves while the chaff is carried away by the blast from the fan. After the grain has passed through the shoe sieves it is elevated and delivered to a revolving weed screen.

Weed Seeds Removed
The weed screen is a revolving drum with elongated holes just large enough to allow small seeds such as mustard and other weed seeds to fall through and pass out of the weed spout, while the grain is carried through the drum by a spiral until it reaches the end and is delivered into the grain spout. This device removes all weed seeds from the grain and these seeds are delivered into a separate bag, not blown about or scattered over the field. This device is regularly supplied without extra cost.

Straw Collector
The straw collector is a device which enables the owner to collect the straw in bunches of two or three forkfuls and drop it on the field so that it can be picked up later. This straw collector consists of three canvas curtains hung from the top of the machine at the rear by suitable supporting members. This forms a box for the reception of the straw as it comes from the straw rack. The bottom is a wooden platform arranged to tilt for the purpose of dumping the straw when the collector is filled.

Dumping is accomplished by means of a rope which can be pulled by the machine operator or the driver of the tractor as the case may be. This device is supplied at extra cost.
McCormick - Deering No. 20 Harvester-Thresher

8-Foot Cutting Width

Illust. 23—McCormick-Deering No. 20 Harvester-Thresher. It is made in 8-ft. cutting width. This machine attaches direct to the tractor and is power-operated through the power take-off shaft or may be equipped with engine.

Regular Equipment
Grain tank or bagging platform as ordered. Tractor hitch. Power-drive attachment (this does not include power take-off shaft which is a part of the tractor); or auxiliary engine as ordered. Straw-spreading attachment. Adjustable chaffer sieve. Adjustable shoe sieve. Sprockets for changing cylinder speed for threshing various grains. Tools and grease gun.

Extra Equipment

Soy Bean Attachment
Cylindrical sprocket to give speed of 500 r.p.m. Concave with special teeth, tailings elevator screen, clean grain elevator screen for tank or bagging attachment, feed conveyor cover curtain, cylinder drive chain extension. This equipment is in addition to the low cutter bar with which the machine must be equipped when shipped from factory.

Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width of cut</td>
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<td>Range of platform tilt</td>
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<tr>
<td>Width of canvas</td>
<td>36 in.</td>
</tr>
<tr>
<td>Width of cylinder</td>
<td>22½ in.</td>
</tr>
<tr>
<td>Width of thresher, rear</td>
<td>24 in.</td>
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<tr>
<td>Length of separator surface</td>
<td>11 ft.</td>
</tr>
<tr>
<td>Length of chaffer sieve</td>
<td>37 in.</td>
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<tr>
<td>Length of cleaning sieve</td>
<td>37 in.</td>
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<tr>
<td>Drive to cylinder</td>
<td>Chain</td>
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<table>
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<th>Measurement</th>
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<td></td>
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<td>Grain Wheel</td>
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<td>Width</td>
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<td>Roller</td>
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</tr>
<tr>
<td>Wheel bearings</td>
<td>Roller</td>
<td></td>
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<tr>
<td>Length overall</td>
<td>21 ft. 8½ in.</td>
<td>Cutting</td>
<td>16 ft. 5½ in.</td>
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<td>12 ft. 5 in.</td>
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<tr>
<td>Extreme height</td>
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<td>Capacity grain tank</td>
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<tr>
<td>Approx. weight, complete</td>
<td>3955 lb.</td>
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<td>4000 lb.</td>
<td>with engine</td>
<td></td>
</tr>
</tbody>
</table>

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As fast as the grain is cut it falls upon the platform canvas and is carried up between the upper and lower elevator canvas belts to the cylinder. The grain passes between the cover, and is carried upon the canvas belt to the cylinder. The grain passes beneath the auger and chaffers and is carried up to the top of the cylinder. The grain falls upon the canvas belt and is carried away by the auger and chaffers. The grain is then passed over the screen and the cleaned grain passes over the auger to the grain elevator and passes over the feed screen for cleaning.
A Light-Draft, Direct-Connected Machine

The McCormick-Deering No. 20 is an efficient, light-draft harvester-thresher designed especially for owners having comparatively limited acreages to harvest. This machine has an 8-ft. cutting width and contains the most up-to-date and efficient grain and money-saving features to be found on any harvester-thresher. It is economical to own and operate, and it will handle efficiently all staple grains and many varieties of special crops.

Power-Drive or Engine Optional

The No. 20 harvester-thresher is available either as a direct-connected power-drive machine operated through the power take-off of the McCormick-Deering 10-20, 15-30, T-20, Farmall (regular), and Farmall 30 tractor, or it may be had equipped with an auxiliary engine for operating the combine mechanism. When equipped with engine, the No. 20 can be drawn by tractors other than McCormick-Deering or with horses when the special forecarriage is used.

Large, Substantial Wheels

The No. 20 is carried on two wheels revolving on roller bearings. These wheels are built up from large malleable hubs in which large steel spokes are bolted. The ends of the spokes are formed into heads and these set into grooves in the rims, making a very substantial and rugged construction. The rims are grooved to add strength and stiffness.

Well-Constructed Header Unit

The Harvester Company’s many years’ experience in the manufacture of all types of grain harvesting machines is reflected in the construction of the header unit. The platform is built entirely of steel, well braced with steel angles. The cutter bar which supports the sickle is shaped to resist sagging and twisting. This construction also permits the canvas to run close to the knife and practically on a level with it so that short straw and heads are delivered to the canvas without loss. The header platform is balanced by spiral springs and adjustments for height are made from the tractor seat by means of a conveniently located lever.

Elevator and Feeder

A large capacity elevator, rigidly attached to the header platform, delivers the cut grain from the platform into the feeder housing. The construction of the elevator is such that there is no loss of shattered kernels between the platform and the elevator. Distributor fingers are attached to the upper end of the elevator and these can be adjusted to distribute the grain uniformly across the feeder. The feeder is of the so-called “drag” type, consisting of a slatted chain carrier moving over a steel bottom. The feeder is enclosed in a sheet-steel housing, 24 inches wide, and amply high for heavy and fluffy crops. This housing is designed to accommodate the elevator at any height to which the platform and elevator may be raised. A spiked beater is located in the rear part of the feeder housing. This beater not only assists in moving the grain to the cylinder to assure positive delivery, but also prevents the grain from entering the cylinder in bunches, thereby eliminating danger of “slugging.” The beater can be quickly removed to give easy access to the cylinder. This is accomplished by loosening three thumb screws and withdrawing the beater, together with door, through the removable section of the housing on the right side of the machine. The cylinder and concaves are then readily accessible.
McCormick-Deering No. 20 Harvester-Thresher

Illust. 26—The power drive shaft transmits power from the tractor to the harvester-thresher mechanism. The harvester-thresher is connected directly to the tractor drawbar. Note the control lever for operating the cutting platform from the tractor seat.

Ball-Bearing Cylinder
The cylinder is of the spike-tooth type which has been found through many years' experience to be best adapted for threshing all grains. The cylinder revolves on ball bearings enclosed in dust-tight housings that retain the oil, thus eliminating the necessity of frequent oilings and adjustments. An important feature in connection with the No. 20 harvester-thresher is that the speed of the cylinder may be quickly changed for threshing special crops, such as peas, beans, etc., by substituting a different size drive sprocket without disturbing the normal speed of the rest of the machine.

Concaves
Three two-row plain-tooth concaves and two perforated blank concaves are supplied regularly with the machine. Corrugated tooth concaves for threshing flax and special crops are supplied extra. The concaves are adjustable front and rear. Concaves can be changed easily from underneath the machine or from above through the feeder housing after the spiked beater has been removed. Access into feeder housing may be had by dropping the platform to lowest position.

Finger Grate
The grate is of novel design and constructed to reduce the possibility of grain or damp material lodging in the grate and rendering it ineffective. It is made of tapered steel fingers which extend upward and curve toward the rear. The location and construction of the grate assure all grain being acted upon by the maximum amount of centrifugal force of the cylinder. This results in more efficient separation.

Illust. 27—Power is applied to the machine through bevel-gears, and distributed through high-grade roller chains and sprockets to the principal parts of the machine. Other drives are through steel chains and high-grade sprockets. Sprockets of suitable size for threshing various grain seeds can be supplied.


Three-Section Straw Rack
McCormick-Deering harvester-threshers have long been famous for their multiple-section straw racks. In the No. 20 harvester-thresher the three sections of the straw rack are operated by two three-way crankshafts so that no two sections are in the same position at the same time. The straw is given a constant tossing and turning action which thoroughly separates the grain and permits it to fall through to the grain pan and chaffer underneath. The racks are of light, sturdy, all-steel construction and have risers equipped with pins that comb the straw apart and release the grain. Attached to the underside of each section is a trough which carries the grain forward and delivers it upon the front end of the chaffer sieve. Rods inserted lengthwise in each section form a screen to separate the grain from the straw. These rods are removable to vary the size of openings for different conditions. Each section is mounted on the two crankshafts by means of hardwood boxings. The crankshafts themselves turn in roller bearings. All boxings and bearings are equipped with Alemite oilers.
Grain Pan and Chaffer

Extending underneath the cylinder and for approximately two-thirds of the distance back in the separator is the grain pan. The bottom of this pan is of sheet steel and is formed in steps or corrugations leading to the rear. Attached to the rear of the grain pan and forming a single unit with it is the chaffer. The grain pan and chaffer unit is oscillated back and forth by means of a crank and pitman. As the mass of threshed grain and chaff falls upon the moving grain pan, an immediate tendency toward separation takes place. The kernels of grain, being heavier than the chaff, work to the bottom of the mass and are held momentarily in the corrugations of the grain pan while the chaff and light material sift to the top. As the mass then passes back on to the chaffer sieve, it is in condition to be acted upon in the most effective manner by the blast of air from the cleaning fan.

To increase still further the effectiveness of the separating action on the chaffer sieve, fingers are attached to the end of the grain pan and slightly above the chaffer shoe. These fingers suspend the coarser material as it leaves the grain pan, keeping it off the front end of the chaffer sieve and thereby preventing overloading. This is a new feature and its efficiency is reflected in the clean grain delivered from the machine.

The chaffer is of the adjustable fin type and can be quickly adjusted for separating any grain and special seed crops. Following the chaffer is the chaffer extension, made of sheet steel strips, adjustable to form different size openings. The extension can be raised or lowered for heavy or light grain.

Double Cleaning System

The cleaning shoe is located directly beneath the chaffer and is actuated from the same crankshaft as the grain pan and chaffer unit, but with opposing stroke so as to minimize vibration and secure greater cleaning efficiency. This combination of chaffer and cleaning shoe provides a double cleaning system comparable in principle and effect to that found on harvester-threshers employing a recleaner. In the No. 20 harvester-thresher the initial cleaning operation is performed by the chaffer, while the function of the cleaning shoe is to give the grain a final and thorough cleaning similar to that obtained with the recleaner in other machines. It will thus be seen that the No. 20 harvester-thresher embodies in simplified form all the elements and advantages of a recleaner type machine. Correctness in principle and design have made the No. 20 an outstanding success in the hands of users throughout the country.

The length of the cleaning apparatus is such as to afford an exceptionally large sieve area. When cleaning is difficult, round hole or other special sieves may be used under, and in addition to, the adjustable shoe sieve. A large variety of special sieves are available when required for the various kind of grain and seeds that may be threshed.

Weed Screen

After passing over the cleaning shoe the grain is elevated into the grain tank. In passing up the elevator the grain is carried over a fine mesh screen located in the bottom of the elevator. This screen removes small weed seeds and broken kernels, but will not allow the whole kernels of grain to pass through. These screenings are collected into a bag, not scattered over the ground.

Ample Oiling Facilities

Practically all the bearings on the machine are equipped with Alemite fittings for high-pressure grease-gun lubrication. Grease can be applied to these bearings quickly, and in a thorough manner by means of a grease gun regularly supplied with the machine.
McCormick-Deering No. 20 Harvester-Thresher

The platform control rack is provided with automatic stop brackets and the power control has a safety slip clutch which prevents the device from operating beyond prescribed limits should the operator neglect to release the control rope in time.

Platform Folds for Transportation

The platform is designed to fold at approximately the center, thus reducing the machine to a convenient width for passing through narrow gates and lanes, or over bridges without difficulty. The reel is carried on brackets. The work of folding the platform for transportation requires but a few minutes.

Engine Attachment

The No. 20 harvester-thresher can be provided with an auxiliary engine in place of the power drive when so ordered and at an adjustment in price. This permits operating the No. 20 with horses or with a tractor not equipped with suitable power take-off. When the harvester-thresher is to be pulled with horses the special forecarriage and seat attachment must be ordered. The engine supplies ample power to operate the machine in heavy and difficult cutting. It is also required when the pick-up attachment is used.

The engine is a high-grade, four-cylinder, heavy-duty type operating on gasoline. The power to operate the thresher is transmitted through a belt from a pulley on the engine crankshaft.

The engine has all modern equipment such as magneto ignition with automatic impulse starter, oil filter, and air cleaner. The radiator is regularly supplied with a screen to prevent accumulation of straw and chaff. A lever for operating the clutch is located between the engine and belt pulley, and the throttle and spark controls are also within easy reach of the tractor operator.
McCormick-Deering Windrow-Harvesters

Built in Three Sizes
McCormick-Deering windrow-harvesters can be supplied in three sizes—8, 12, and 16-ft. cut. The 8-ft. machine has a capacity of 25 to 30 acres per day; the 12-ft., 35 to 45 acres; and the 16-ft., 55 to 60 acres.

Two Types of Drives
The McCormick-Deering windrow-harvesters are supplied with two types of drives: ground drive and power drive. On the ground-drive machines power is transmitted from the main wheel through chains and sprockets. This type of machine can be operated either by horses or tractor. When horses are used a forecarriage is supplied, which supports the forward end of the machine and the seat for the driver. The forecarriage is also required with tractors of other make than McCormick-Deering. The power-drive type is arranged for operation through the power take-off of McCormick-Deering tractors. This type of drive makes the machine independent of ground and traction conditions as it receives ample power through the power take-off.

Equipment
These machines will be supplied with the following equipment, and in each case the order must specify the equipment desired so as to secure a complete machine.

*8-ft. windrow-harvester with ground drive and tractor hitch for McCormick-Deering 10-20 and 15-30 tractors.
*8-ft. windrow-harvester with ground drive and tractor hitch for Farmall tractors. Specify if regular or F-30 tractor.
12 or 16-ft. windrow-harvester with power drive attachment for McCormick-Deering 10-20 and 15-30 tractors.
12 or 16-ft. windrow-harvester with power drive attachment for McCormick-Deering Farmall F-30 tractor.
12 or 16-ft. windrow-harvester with power drive attachment for McCormick-Deering regular and F-20 Farmall tractors.
12 or 16-ft. windrow-harvester with ground drive and forecarriage with stub pole tractor hitch for tractors of other makes as well as McCormick-Deering.
12 or 16-ft. windrow-harvester with ground drive, without forecarriage for McCormick-Deering 10-20 and 15-30 tractors.
12 or 16-ft. windrow-harvester with ground drive, without forecarriage for McCormick-Deering Farmall tractors. (Reg. and F-20 or F-30 as specified.)
12-ft. windrow-harvester with forecarriage and 3-horse hitch.
16-ft. windrow-harvester with forecarriage and 4-horse hitch.
*Forecarriage and horse hitch not supplied.

Specifications

<table>
<thead>
<tr>
<th></th>
<th>8 Ft.</th>
<th>12 Ft.</th>
<th>16 Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall length</td>
<td>21 ft.</td>
<td>22 ft. 8 in.*</td>
<td>22 ft. 8 in.*</td>
</tr>
<tr>
<td>Overall width</td>
<td>13 ft.</td>
<td>17 ft. 6 in.</td>
<td>21 ft. 6 in.</td>
</tr>
<tr>
<td>Width of platform folded</td>
<td>37 in.</td>
<td>48 in.</td>
<td>48 in.</td>
</tr>
<tr>
<td>Diameter main and grain wheels</td>
<td>9 in.</td>
<td>8 in.</td>
<td>8 in.</td>
</tr>
<tr>
<td>Face of main and grain wheels</td>
<td>27 in.</td>
<td>27 in.</td>
<td>27 in.</td>
</tr>
<tr>
<td>Highest position of cutter bar</td>
<td>4 in.</td>
<td>4 in.</td>
<td>4 in.</td>
</tr>
<tr>
<td>Lowest position of cutter bar</td>
<td>30 in.</td>
<td>33 in.</td>
<td>42 in.</td>
</tr>
<tr>
<td>Width of windrow opening</td>
<td>1770 lb.</td>
<td>2725 lb.</td>
<td>3265 lb.</td>
</tr>
<tr>
<td>Weight with tractor hitch and power drive</td>
<td>1770 lb.</td>
<td>2725 lb.</td>
<td>3265 lb.</td>
</tr>
<tr>
<td>Weight with tractor hitch and ground drive</td>
<td>1770 lb.</td>
<td>2725 lb.</td>
<td>3265 lb.</td>
</tr>
</tbody>
</table>

*Without horse hitch or forecarriage.  All weights approximate.

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McCormick-Deering Windrow-Harvesters

Handles Unevenly Ripened Grain

Grain which has ripened unevenly and is therefore not successfully threshed from the standing straw with the harvester-thresher can be cut with a McCormick-Deering windrow-harvester and allowed to dry. Later it can be picked up with the pick-up attachment on McCormick-Deering harvester-thresher and threshed.

Green Weeds Separated

When weedy grain is cut and threshed with the harvester-thresher the moisture from the green stems and seeds mixed with the threshed grain sometimes causes heating. This condition can be avoided by harvesting the weedy crop with a McCormick-Deering windrow-harvester. The grain and weeds are cut together and the weeds dry out in the windrow. They are then easily separated from the grain in threshing.

Reduces the Possibility of Loss

The McCormick-Deering windrow-harvester permits cutting grain for subsequent threshing with the harvester-thresher, earlier than it is customary to combine. In this way the natural hazards to which standing grain is subjected, such as wind, rain, hail, etc., are greatly reduced.

Valuable Accessory to Combine

All the advantages of combined harvesting and threshing are available to the grain grower in territories where the conditions mentioned above have hitherto interfered with the use of this great time and labor-saving machine, and the windrow-harvester is now accepted as a thoroughly practical method of handling nearly all grain and seed crops.

Design Similar to Header

The windrow-harvester somewhat resembles a header, but instead of delivering the grain to an elevator the swath is deposited on the ground at the rear of the machine. As the machine travels forward, a windrow is formed with the heads of the grain overlapping the butts, much as shingles lie on a roof.
McCormick-Deering Windrow-Harvesters

Opens Fields Without Waste

When making the opening cut in a field, the windrow-harvester is driven so as to cut the outside grain, next to the fence, or as it is sometimes called, the back swath. (See 1st, Illust. 4.) The machine is then turned around and driven back to cut the second swath, straddling the first windrow, and delivering the second windrow on top of the first one. (See 2nd, Illust. 4.) When cutting the second swath the machine must be equipped with the windrow deflector. The type used on the 12 and 16-ft. machines is shown in Illust. 5. With the 8-ft. machine the method is somewhat different, the deflector for this machine being shown in Illust. 6. In the 12 and 16-ft. windrow-harvesters the deflector presses down the first windrow and keeps the grain from piling up in front of the cutter bar as the machine passes over it. When cutting the following swath the deflector is removed. In the 8-ft. machine the first windrow is picked up and carried through the machine with the second one, so that the two windrows are laid together at the same time. The result is the same. The second swath only in each case is somewhat narrower than the others because the deflector covers a portion of the cutter bar. The windrow deflector is regularly supplied with each windrow-harvester.

Grain Lies on Stubble to Cure

The grain should be cut fairly high with the McCormick-Deering windrow-harvesters to leave sufficient stubble so that the windrow will lie on top of the stubble. To accomplish this, the stubble is bent by a deflecting bar directly back of the cutter bar. This device presses down and holds the stubble together in form to spring up and support the grain as fast as it is delivered from the platform of the windrow-harvester. By holding the stubble together while the windrow is being laid upon it, no pockets are formed in which the grain might lodge.

Storms Do Not Cause Losses

Windrowed grain is less likely to be injured by hail than standing grain or grain in the shock, and according to many who have made a practice of windrowing their grain for years, any shattered grain lies on top of the windrow and is picked up by the pick-up attachment on the harvester-thresher.

Though rain may fall on the grain after it is in the windrow it will not be damaged as much as grain in the shock and though the windrow may be somewhat beaten down into the stubble the pick-up attachment on the harvester-thresher will pick it up clean.
McCormick-Deering Windrow-Harvesters

No Grain Deposited at Corners

Another exclusive feature of the McCormick-Deering windrow-harvesters is the delay clutch which, when disengaged, stops the action of the platform canvas for a predetermined distance. This device is employed when turning corners and results in keeping the corners free from grain so that the windrow will not be run over or trampled when cutting the following swath. To disengage the clutch, the driver merely pulls a rope, after which further attention is unnecessary as the clutch is automatically engaged after the machine has traveled the predetermined distance. This distance can be varied from 15 to 35 ft. as required. The reel and sickle continue to operate at the corners as long as the machine is traveling forward, but the platform canvas remains stationary until the clutch engages automatically and after the machine is again cutting on the straightway. The operation of the delay clutch is clearly shown in Illust. 9.

Folds Compactly for Transportation

When the machine is to be transported from one field to another or some distance over roads, the platform can be folded. This reduces the 16-ft. cut machine to a width of 15 ft. 10 in. The reel is removed and placed on supports provided for that purpose. The sickle is laid on the cross arms of the reel. The whole operation of folding and unfolding the platform can be accomplished by the ordinary crew of the machine in a few minutes.

Substantial Construction

The McCormick-Deering windrow-harvester is built almost entirely of steel and iron. The frame is constructed of steel tubing and angle steel of ample proportions. It is light enough to be easily handled, yet strong enough to withstand normal strain. The wheels are of the same type as on other grain-harvesting machines of equal weight, being built up from cast iron hubs with steel spokes and steel rims. The platform is practically all-steel construction.

The grain is cut by a standard sickle running in malleable iron guards equipped with steel ledger plates. This assures a clean, shear cut.

Roller bearings are used on the revolving parts subject to any great amount of friction so that the machine is a comparatively easy pull for tractor or horses. When operated by a McCormick-Deering tractor the machine can be hitched directly to the drawbar and the lever for raising and lowering the platform comes within the reach of the tractor operator. A jack is attached to the front end when equipped with power drive. This is used to support the front end when not connected with the tractor and to facilitate hitching the machine to the tractor. The tractor-operated machine can also be equipped with a forecarriage.

Alemeite Lubrication

Practically all bearings are equipped with Alemite fittings for high-pressure grease gun lubrication. This modern and efficient method of lubrication reduces the time and labor necessary for oiling to a minimum.

Illust. 7—End view of 16-ft. Windrow-Harvester equipped with power drive. This illustration shows a number of features described more at length in the text.

Illust. 8—Windrow-Harvester folded for transporting.

Illust. 9—Diagram showing the action of the delay clutch when turning corners with the Windrow-Harvester. Notice that no grain is deposited at the corners, thus avoiding running over the previous windrow.

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McCormick-Deering
Pick-Up Attachments

Gathers the Windrowed Crop

The pick-up attachment for the McCormick-Deering harvester-thresher is used to pick up the windrowed grain and deliver it on to the harvester-thresher platform. It is attached to the front of the platform after the reel and knife have been removed. This device is made in suitable sizes for all current machines and orders must specify with which harvester-thresher the attachment is to be used. (See table below.)

Specifications

<table>
<thead>
<tr>
<th>Size</th>
<th>No.</th>
<th>Description</th>
<th>Approximate Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>5'6&quot;</td>
<td>ZDB-169</td>
<td>Pick-up attachment with volume control for No. 20 (engine drive)</td>
<td>495 lb.</td>
</tr>
<tr>
<td>6'6&quot;</td>
<td>ZDB-170</td>
<td>Pick-up attachment with volume control for No. 8 not equipped with floating spiked beater</td>
<td>1095 lb.</td>
</tr>
<tr>
<td>6'6&quot;</td>
<td>ZDB-171</td>
<td>Pick-up attachment with volume control for No. 11 not equipped with floating spiked beater</td>
<td>835 lb.</td>
</tr>
<tr>
<td>6'6&quot;</td>
<td>ZDB-172</td>
<td>Pick-up attachment with volume control for No. 11 equipped with floating spiked beater</td>
<td>995 lb.</td>
</tr>
</tbody>
</table>

The above are for harvester-threshers equipped with regular Z bar only. When harvester-thresher is equipped with special low bar, orders for pick-up attachment must so specify.

* Orders must state whether this pick-up attachment is to be used with a 1932 harvester-thresher or on an older model.

The grain is first cut with a windrow-harvester which deposits it in windrows on top of the stubble.

The windrowed grain is then gathered and threshed with the harvester-thresher equipped with pick-up attachment.

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Sensible Volume Control

Grain in windrows frequently lies in bunches. This is especially true of flax and unless some means is provided for controlling the feeding of the grain into the thresher, a heavy slug or bunch will sometimes pass through the cylinder and cause clogging. To avoid this difficulty, the feeder of the McCormick-Deering harvester-thresher is provided with a volume control acting through the upper or spiked beater. When a bunch or mass of grain reaches this beater, it is so arranged that it will be raised by the mass passing under it. This operates the volume control mechanism which stops the movement of the platform canvas and feeder carrier. No more grain can be fed into the cylinder until the mass has been combed off by the teeth of the spiked beater and threshed. This spiked beater also acts as a positive retarder, preventing the cylinder from jerking in bunches of grain.

Platform Canvas Delivers Grain to Thresher

The fingers of the pick-up attachment deliver the grain over guides directly on to the platform canvas of the harvester-thresher. By means of this canvas the grain is carried to the thresher feeder and thence to the cylinder in the usual manner. The pick-up attachment is provided with skids at each end and in the center, by means of which the platform can be adjusted to the proper height. After the attachment has been placed in position, the platform is balanced by means of the counterbalancing springs so that it just floats over the ground.

The mechanism for raising and lowering the platform is not locked, but the platform is free to rise or fall with changes in the contour of the ground.

Does Not Pick Up Stones

The teeth of the pick-up attachment are flexible and when they encounter stones in the field will not pick them up, but the stones spread the teeth and pass between them and under the platform of the harvester-thresher. You need have no fear that stones will be delivered onto the platform with the grain and cause breakage.
McCormick-Deering Corn Binders

One-Row Vertical

Illustr. 1—Main wheel side of McCormick-Deering Vertical Corn Binder. Note the easy access to the interior of the machine.

Built for Long Service

The McCormick-Deering corn binder is an easy operating machine because it is made almost entirely of steel and all the important revolving parts subject to any great amount of friction are equipped with self-aligning roller bearings. Large lugs on the main wheel assure good traction and the machine cuts both heavy and light corn with equal facility.

Regular and Short Corn Binders

The vertical corn binders are made in two styles, the regular for corn of normal height and the short corn binder for those territories where corn does not grow tall. Both binders are designed to pick up down and leaning stalks and to bind the bundles in an upright position. They are laid on the ground gently and do not break off the ears.

Internal Gear Drive

The McCormick-Deering binder has a positive gear drive which eliminates all chain trouble. The main driving gear is an internal gear attached to the main wheel and the pinion meshing with this gear transmits the power to other parts of the machine. The gear teeth are heavy, assuring great strength and long wear, and the internal type assures part of three teeth being always in mesh while with an external gear only one tooth is entirely in mesh.

Dependable Binding Attachment

The binding attachment on the corn binder operates on the same general principle as the binding attachment of the grain binder. It is just as dependable. The knotted ties accurately every time, and uses the minimum amount of twine. Adjustments can be made to put the band near the center of the bundle in either tall or short corn.

Vital Parts Easily Accessible

An important feature of this corn binder is the accessibility of all parts. The operator can reach into the machine from the grain wheel side and remove undergrowth, and adjustments of the knives can be made easily without removing the other parts of the machine.

Regular Equipment

Tongue and three-horse evener. Tools.

Extra Equipment


Illustr. 2—McCormick-Deering Short Corn Binder, a machine designed for territories where only short corn is raised.

Specifications—Vertical Type Corn Binder

<table>
<thead>
<tr>
<th>Kind of Binder</th>
<th>Main Wheel</th>
<th>Grain Wheel</th>
<th>No. of Horses</th>
<th>Range of Butt Pan Adjustment</th>
<th>Shipping Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Height</td>
<td>Width Face</td>
<td>Height</td>
<td>Width Face</td>
<td>With Reg. Carrier</td>
</tr>
<tr>
<td>Regular</td>
<td>36 in.</td>
<td>8 in.</td>
<td>32 in.</td>
<td>3 in.</td>
<td>1730 lb.</td>
</tr>
<tr>
<td>Short</td>
<td>36 in.</td>
<td>8 in.</td>
<td>32 in.</td>
<td>3 in.</td>
<td>1655 lb.</td>
</tr>
</tbody>
</table>

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McCormick-Deering Corn Binders
(One-Row Vertical)

Illustration 4—The McCormick-Deering corn binder has an internal gear drive, which assures positive operation. A, pinion; B, raising and lowering segment.

Positive Gear Drive

The power is transmitted from the main wheel on the McCormick-Deering corn binder through gears instead of chains. The heavy internal gear is attached on the inside of the main wheel and meshing with it is the pinion through which the power is transmitted to other parts of the machine. The internal gear drive is regarded as the most powerful of all gear transmissions, as a part of three teeth are in mesh at practically all times, whereas with the external gear only one tooth can be engaged at a time. Internal gears are also much easier to protect from dirt as they can be shielded as will be seen in Illustration 4. A shows the pinion in mesh with the internal gear, but in this illustration the shield is removed to show the pinion. Normally this part of the machine is entirely enclosed.

Light Draft

The main frame of the McCormick-Deering corn binder is made of flat steel bars. It is trussed and braced and will withstand the severe strains in the field. The stiff frame holds the working parts in proper relation with each other and helps to increase the life of the machine.

Wide Gathering Points

The wide space (22 in.) between the gathering points on the McCormick-Deering corn binder assists the driver in following the row. The gathering points pick up badly leaning corn.

Illustration 5—The gathering points on the McCormick-Deering corn binder are 22 in. apart and so constructed as to straighten down corn.

Gathering Points Adjustable

The gathering points are adjustable in relation to the ground and can be raised or lowered as conditions may require, by the operator, with a lever near the seat.

Three Sets of Chains

There are three sets of elevator chains used on the McCormick-Deering corn binder. The lower set carries the butts of the corn. The middle set extends well forward and helps to pick up and straighten the down corn. The upper set holds the corn upright.

Illustration 6—Gathering chains which raise down corn and carry it to the knife and binder.
**McCormick-Deering Corn Binders**

**One-Row Vertical**

**Illust. 9**—Butt pan in lowest position for handling tall corn.

**Illust. 10**—Butt pan in highest position for handling short corn. There is an adjustment of 12 inches from the highest to the lowest position.

**Easily Accessible**

If undergrowth collects about the knife or between the cutting and binding mechanism, it is easily removed. The entire machine on the grain wheel side is open and the operator can reach in and remove any objectionable material at this point.

**Binds Tall or Short Corn**

The butt adjuster shown in the down position in Illust. 9 and up in Illust. 10, has an adjustment of 12 inches. This is sufficient for placing the band in practically the middle of the bundle on all corn, whether tall or short.

The adjustment is made easily by means of a lever near the seat; see B, Illust. 8.

**Illust. 8**—The levers are all within easy reach of the driver. A adjusts the position of the gatherer boards with relation to the ground. B shifts the butt pan. The bundle carrier trip is under the driver's foot.

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McCormick-Deering Corn Binders
(One-Row Vertical)

Binding Attachment
The binding attachment is very similar in construction to the one on the grain binder. It is strongly made and handles heavy corn satisfactorily. It binds the bundles in upright position.

Two Types of Bundle Carrier
The drop bundle carrier is the type usually supplied with the vertical corn binder. It is so located that it catches the bundles as they are bound and deposits them in rows. (See Illust. 12.)

At extra cost a conveyor type of bundle carrier shown in Illust. 8 can be supplied. This carrier has a conveyor consisting of two chains running over sprockets and with cross slats attached to the chains by which the bundles are carried out of the machine and laid on the ground. This bundle carrier is operated by a foot lever near the driver. It has the advantage of delivering the bundles far enough away from the machine so that the horses will not step on them on the next round of the field.

Positive Cutting
The McCormick-Deering corn binder has been improved by the use of a flat steel bar frame which has served so admirably in McCormick-Deering grain binders for years.

The bars are placed with their edges up and down so that they are able to withstand the maximum strain. The cutting knives are attached directly to that part of the frame which supports the gatherer boards.

There are three knives: two stationary, shown at A, Illust. 11, and one reciprocating knife shown at B. Most of the stalks are cut by pressure against the stationary knives but to assure their being cut clean and that the undergrowth, so often found in cornfields, shall be cut also, a reciprocating section, B, is used in connection with the two stationary knives. This reciprocating section is operated by a crank and pitman shown in Illust. 11.

Auto Tongue Truck
A tongue truck relieves the horses of neck weight and helps to steer the binder in a straight line. A tongue truck can be supplied at extra cost. See Illust. 8.

Kafir Corn Attachment
An attachment which facilitates cutting Kafir corn is regularly supplied. It consists of a rod which attaches to the discharge arm, which holds the corn in position until tied and discharged.

Bundle Loader
The McCormick-Deering vertical corn binder can be equipped at extra cost with a bundle loader or elevator which carries the bundles directly from the binding attachment onto a wagon driven alongside the machine. This greatly facilitates handling both mature corn and corn for silage, as it eliminates the difficult task of pitching the bundles from the ground to the wagon.
McCormick-Deering Corn Binders
(One-Row Horizontal)

Illustr. 14—The McCormick-Deering Horizontal Corn Binder will cut from five to seven acres of corn per day.

Indispensable for Silage
The McCormick-Deering corn binder probably finds its greatest use in cutting corn for silage. It can cut from five to seven acres per day, keeping pace with the ensilage cutter so that the corn reaches the cutter in good condition for fodder.

Steel Construction Assures Light Draft
The McCormick-Deering horizontal corn binder is built almost entirely of steel, and for this reason is an exceptionally light pull for horses. Three horses can handle it under average conditions. Ball and roller bearings are supplied for all rotating parts subject to any great amount of friction. This means light draft.

Harvests Corn in All Positions
No matter whether the corn is short, tall, leaning or down, a McCormick-Deering horizontal corn binder can be adjusted to harvest it all in good condition. The gatherer boards can be lowered so that they will raise the leaning stalks to a vertical position. The machine can also be adjusted to cut short corn or extra tall corn. Every bundle is evenly butted and the bands are placed near the center so that the bundles are easy to handle. The horizontal position of binding has won many friends. There are certain corn growers who prefer it to any other type of binding attachment. The bundle carrier lays the bundles on the ground, far enough away from the binder so that the horses do not step on them the next time around the field.

Reduces Work of Harvesting Corn
For cutting corn for silage or to be shocked and husked later, the McCormick-Deering horizontal corn binder is a great labor saver because it will do the work of from five to seven men with less effort. Corn is one of the most difficult crops to harvest by hand, and it is hard to get help to do it. The horizontal corn binder goes into the field regardless of conditions, and makes it possible to cut a large acreage each day.

Regular Equipment

Extra Equipment

Specifications—Horizontal Type Corn Binder

<table>
<thead>
<tr>
<th>LENGTH OVER ALL</th>
<th>WIDTH OVER ALL</th>
<th>MAIN WHEEL</th>
<th>GRAIN WHEEL</th>
<th>CAPACITY Acres PER DAY</th>
<th>SHIPPING WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>WITHOUT TONGUE</td>
<td></td>
<td>MAIN WHEEL</td>
<td>GRAIN WHEEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>HEIGHT</td>
<td>WIDTH</td>
<td>Height</td>
<td>Width</td>
</tr>
<tr>
<td>11 ft. 6 in.</td>
<td>6 ft.</td>
<td>37 in.</td>
<td>9 in.</td>
<td>37 in.</td>
<td>3½ in.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5 to 7</td>
</tr>
</tbody>
</table>

Length with tongue truck, 14 ft. 6 in.

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McCormick-Deering Corn Binders
(One-Row Horizontal)

Light but Strong Frame
A corn binder must have a strong frame because it receives repeated shocks from cutting each hill of stalks. Illust. 15 shows the rigid construction and cross bracing of the McCormick-Deering frame. The angle steel bars from which the frame is built are formed to proper shape and hot-riveted together. The brackets that support the bearings are made from malleable iron.

Illust. 15—Substantial frame of McCormick-Deering horizontal corn binder; A, clutch lever; B, one of two driving pinions.

All Steel Main and Grain Wheels
The main wheel is 37 inches high and made almost entirely of steel. The rim is 9 inches wide and rolled from a single strip of metal. The ends are welded together and the edges turned under to stiffen the rim. The spokes are set staggered to give strength and are riveted both into the hub and rim. The grain wheel is the same height as the main wheel and the rim is 3½ inches wide.

Illust. 16—The internal gear is enclosed to keep out dirt; A, driving gear; B, clutch pawls.

Internal Gear Drive
The internal gear drive is used on the McCormick-Deering horizontal corn binder because it permits two teeth to be constantly engaged instead of one, as in an external gear. The internal gear also permits the complete enclosure of both the gear and the pinions, so that dirt and trash are excluded.

Gatherers Adjustable for Down Corn
The shoes, G, Illust. 18, at the lower end of the gatherer boards, are from 20 to 22 inches apart. Corn is straightened by these gatherer boards as it passes between them, and the chains with the finger links draw the stalks together and hold them, so that they can be cut. When corn is leaning badly or is down, the shoe raises it. For badly down corn, the blocks D, and sprockets, E, can be moved down to the slots, F. A short chain under the lower gatherer board equipped with fingers also helps to pick up down corn. Machine is also adjustable for cutting extra tall corn.

Illust. 17—The gears which drive the binder are entirely enclosed.

Illust. 18—The gatherer boards will pick up down and leaning corn.
McCormick-Deering Corn Binders
(One-Row Horizontal)

Illustr. 19—It is easy to adjust this corn binder for height.

Easily Adjusted for Height

It is only necessary to adjust one side of a McCormick-Deering horizontal corn binder for height, and this is easily done on the grain wheel side by means of a quadrant, as shown in Illustr. 19. Turning the handle, C, raises or lowers the bearing, A, and this raises or lowers the frame of the binder.

Illustr. 20—All levers are within easy reach of the driver.

Knife Cuts Clean

There are two stationary knives and one reciprocating knife in the cutting mechanism. The stationary knives are long and form a gradual taper, so that many of the stalks are cut by being crowded against these knives before they reach the reciprocating section. The moving knife has a serrated edge which assists in cutting tough stalks.

A Comfortable Seat

The seat on the McCormick-Deering corn binder was made for comfort. It is mounted on a spring that absorbs the shocks of riding over rough ground, and is adjustable forward or backward to correspond with the height of the driver. The bundle carrier levers form a comfortable foot rest.

Every Lever Easy to Reach

The levers for the control of the various parts are all within easy reach of the driver. The butt adjuster lever is shown at A, Illustr. 20. C is the binder shifter lever. Together these levers give a range of adjustment to the binder of 20 inches. The tilting lever, B, has a range of 14 inches. The shoe can be raised still higher if necessary for extra tall corn.

Illustr. 21—The butt adjuster evens the butts of the bundles.

Butt Adjuster Makes Even Bundles

The butt adjuster, B, Illustr. 21, evens the butts of the stalks as they fall on the binder deck and pushes them forward, so that the packers catch them and form them into bundles. The butt adjuster fork, shown at A in same illustration, reaches into the throat of the machine and clears out the trash and weeds, so that they do not clog the knife.

Binds Bundles Horizontally

The McCormick-Deering horizontal corn binder binds the bundles in a horizontal position. There is a considerable advantage in this, for the bundle is discharged far enough from the binder so that the outside horse will not step on it the next time around the field.

Illustr. 22—Binding attachment has a range of adjustment of 20 inches.
McCormick-Deering Corn Binders
(One-Row Horizontal)

Illust. 23—The knotter on the McCormick-Deering horizontal corn binder is of the well-known Deering type. Owners of McCormick-Deering grain binders will understand its adjustments, for this type has been in use for many years.

Reliable Deering Type Knotter
If you have used a McCormick-Deering grain binder, you know that you can depend upon the knotter to tie right every time. It has been doing so for more than thirty-five years. The same knotter is used in the McCormick-Deering corn binder. Once the twine tension is set, the knotter needs no further adjustment, but continues to do good work as long as the binder is operated.

Illust. 24—The gears are shielded to keep out trash and the binder is amply provided with oil holes.

Shields Protect Exposed Gearing
All exposed gearing is covered by means of metal shields. This is to keep the trash out of the machine and protect the operator. The gathering chains are also protected to prevent them from accumulating trash.

Ample Oiling Facilities
All the oil holes are easy to reach and protected from dust. These are large, placed where they can be reached easily, and are all equipped with pressed metal covers hinged and held in place so that they will not be lost.

Illust. 25—Bundle loader for McCormick-Deering horizontal corn binder.

Illust. 26—The tongue truck makes the operation of the corn binder easy for both driver and horses.

Tongue Truck
A tongue truck can be supplied with the horizontal corn binder at additional cost. It keeps the tongue from lashing the sides of the horses, reduces the neck weight, and makes the machine run more smoothly. It also aids in turning square corners and helps keep the binder in line with the rows on the straight-away cut. The truck is made entirely of iron and steel and the wheels are fitted with removable dust-proof bearings which can be replaced at small cost when worn.

Illust. 27—A shield is provided to cover the knotter. Position A shows the shield raised for access to the knotter mechanism. Position B shows the shield lowered in its normal position.

Bundle Loader
The McCormick-Deering horizontal corn binder can be equipped with a bundle loader or elevator which carries the bound bundles directly from the machine onto a wagon driven alongside. This eliminates the hard work of pitching the bundles, and is equally useful in handling mature corn or corn for silage.
Built for Heavy Service at Tractor Speeds

The construction of the McCormick-Deering two-row corn binder includes the most modern and approved engineering practices. All parts are designed for heavy work at tractor speeds. The mechanism is power driven from the tractor engine, assuring uniform operating speed regardless of slippery ground or heavy crop conditions. The gatherers are amply wide to permit following the rows without difficulty and without missing any of the stalks. Adjustments can be made for rows spaced 38, 40 and 42 in. apart. The gatherers are correctly designed to raise and gather any down or leaning stalks and are shielded to provide a smooth passage and to prevent the ears of corn from being knocked off. There are three sets of gatherer chains to assure proper handling of tall or short corn. These chains are of heavy pintle type equipped with fingers and are so arranged that the stalks are delivered in an upright position to the binding attachment. The corn is bound while in a vertical position with the butts standing firmly in the butt pan. This results in firmly bound, squarely butted bundles that stand well in the shock.

A Big-Capacity Machine

The McCormick-Deering two-row corn binder will prove a profitable investment where a big-capacity, tractor-operated machine is required. It is capable of harvesting large acreages of corn quickly and in the most efficient manner. The machine is the result of nearly half a century of practical corn machine experience, during which time every crop condition that a corn binder is likely to encounter has been met and successfully overcome.

Power Drive and Transmission

Power is transmitted from the tractor through the power-drive shaft and transmission gears to a countershaft and then through sprockets and roller chains to different parts of the machine. The power-drive shaft is equipped with universal joints and safety slip clutch. The transmission gears are enclosed and run in oil. Most of the sprockets are cut steel and the drive chains are of the heavy-duty roller type. Roller bearings equipped with Alemite oilers are provided at all vital points.

Two Types

The binder is available in two types—the so-called "long arm" type for use in tall and average length corn as grown in the corn belt and the "short arm" type for short and small varieties of corn. Orders should specify which type of binder is wanted.

For Use with McCormick-Deering Tractors

The two-row corn binder is designed strictly for tractor use and is power driven from the tractor engine of the McCormick-Deering 10-20, 15-30, or Farmall tractors. Orders must specify with which type of tractor the binder is to be used.

Regular Equipment

Tractor hitch and power drive parts: Order ZMA-144 hitch for 15-30 tractor, ZMA-133 hitch for 10-20 tractor, ZMA-135 hitch for regular Farmall (regular and narrow tread), ZMA-172 hitch for Farmall 30 (regular tread).

Extra Equipment

McCormick-Deering Corn Binders

Two-Row Power Drive

Illustr. 2—This illustration of the McCormick-Deering two-row Corn Binder shows the power-drive shaft equipped with universal joint and safety slip clutch, the tilting lever, and the butt pan adjusting lever by means of which the twine band can be placed near the middle of the bundle. The bundle carrier shown at the rear is extra equipment.

Positive Cutting Mechanism

The cutting mechanism consists of a reciprocating bar to which are riveted two sickle knives (one for each row). These sickle knives work in conjunction with two sets of stationary knives having converging edges which give a drawing stroke against the corn as the binder moves forward. The greater part of the corn is cut by the stationary knives before the reciprocating section is reached. The sickle knives complete the cut and also cut any undergrowth which may be carried in with the stalks. All knives can be removed readily for sharpening.

Vertical Type Binding Attachment

The binding attachment on the McCormick-Deering two-row corn binder is similar in general design to the binding attachment on the single-row vertical type corn binder but is of heavier construction and capable of handling heavy crops at tractor speeds. The packers provide a continual packing action which has much to do with the firm bundles turned out by this binder.

The knotted is of the well-known McCormick type, long famous for its simplicity and unfailing accuracy in tying.

Sturdy Wheels

The wheels are sturdily constructed and are of ample size (32 x 7 in.). The tires are grooved and equipped with lugs. Road rings for transporting the binder over hard surface roads can be supplied as extra equipment. Each wheel is provided with a raising and lowering crank operating a worm and rack. This enables the binder to be set at any desired height for cutting either on level ground or on hillsides.

Bundle Carrier and Wagon Loader

At extra cost a conveyor type of bundle carrier, shown in the accompanying illustrations, can be supplied. The bundle carrier permits dropping the bundles in groups of four or five, thus reducing the labor of gathering and shocking.

A wagon loader is available at extra cost. It elevates the bundles directly from the binder into a truck or wagon driven alongside the machine. The bundles are delivered so that they can be loaded crosswise in the most convenient manner and without the necessity of turning them around. The wagon loader is substantially built and the bulk of the weight is carried upon a caster wheel, not upon the machine.

Easy to Operate

It is an easy matter to operate the McCormick-Deering two-row corn binder. The tilting lever for tilting the binder so as to raise or lower the points of the gatherers is within easy reach of the tractor operator. The butt pan can be raised or lowered by means of a shifting lever so as to regulate the location of the twine band. When the bundle carrier is used, the trip pedal for operating this equipment forms a natural foot rest for the tractor operator, and its operation at the right time becomes a simple matter.

Specifications—Two-Row Corn Binder

<table>
<thead>
<tr>
<th>Type of Binder</th>
<th>Description</th>
<th>Approx. Shipping Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular</td>
<td>McCormick-Deering 2-row Power-drive Corn Binder for 10-20 tractor</td>
<td>2595 lb.</td>
</tr>
<tr>
<td>Regular</td>
<td>McCormick-Deering 2-row Power-drive Corn Binder for 15-30 tractor</td>
<td>2585 lb.</td>
</tr>
<tr>
<td>Regular</td>
<td>McCormick-Deering 2-row Power-drive Corn Binder for Reg. and F-20 Farmall</td>
<td>2610 lb.</td>
</tr>
<tr>
<td>Regular</td>
<td>McCormick-Deering 2-row Power-drive Corn Binder for F-30 Farmall</td>
<td>2615 lb.</td>
</tr>
<tr>
<td>Short</td>
<td>McCormick-Deering 2-row Power-drive Corn Binder for 10-20 tractor</td>
<td>2440 lb.</td>
</tr>
<tr>
<td>Short</td>
<td>McCormick-Deering 2-row Power-drive Corn Binder for 15-30 tractor</td>
<td>2445 lb.</td>
</tr>
<tr>
<td>Short</td>
<td>McCormick-Deering 2-row Power-drive Corn Binder for Reg. and F-20 Farmall</td>
<td>2470 lb.</td>
</tr>
<tr>
<td>Short</td>
<td>McCormick-Deering 2-row Power-drive Corn Binder for F-30 Farmall</td>
<td>2475 lb.</td>
</tr>
</tbody>
</table>
Built for Efficient Operation

The same high standard of construction is followed in building these machines that is used in the well known McCormick-Deering line of farm operating equipment. These ensilage cutters have earned reputations for themselves because of the sturdy type of construction, proper design, and efficient operation. All McCormick-Deering ensilage cutters are built of high-grade materials and with high quality workmanship.

There are many splendid features on these ensilage cutters that every user should know about; for instance, the steel flywheel, knife-on-flywheel construction, large paddle rolls, steel conveyors, mechanism controlling length of cut, safety features, facilities for oiling, rugged steel main frame, etc. These are described on the following pages.

Regular Equipment

Type A—Mounted on steel trucks. Tractor hitch with horse-tongue extension. Two sets of knives (three knives to each set). Traveling conveyor; grindstone; deflector; reversible cutter bar.

No. 12-A—Mounted on steel truck. Tractor hitch with horse-tongue extension; two sets of four knives each; reinforced steel wheels; traveling conveyor; enclosed transmission for apron drive; pressure lubrication; slip clutches on apron; deflector; reversible cutter bar.

Types F and G—Truck with tongue for horses; traveling conveyor; deflector; two sets of straight knives; reversible cutter bar; flexible pipe connection.

Extra Equipment

Type A—Blower pipe; distributor pipe; curved or straight knives; shredder bars; flexible elbow for dry fodder; extension corn chute; pulleys.

No. 12-A—Blower pipe; distributor pipe; shredder bars; extension corn chute; flexible elbow for dry fodder; knife-grinding attachment; extra knives; hand feed with extension table leaf.

Types F and G—Curved or straight knives (Type G); straight only (Type F); hand-feed extension table leaf; skid mounting (Type F); shredder bars; blower pipe; distributor; flexible elbow for dry fodder; traveling conveyor.

Specifications (See a following page for hay cutting capacities)

<table>
<thead>
<tr>
<th>Type</th>
<th>Cap. Tons Per Hour Cutting or Shredding</th>
<th>H.P. Required on Carburetor Engine</th>
<th>Revolutions Per Minute</th>
<th>Dia. Flywheel, Inches</th>
<th>Dia. Flywheel, Shape</th>
<th>Throat, Inches</th>
<th>Throat, Height, Inches</th>
<th>Length of Cut, Inches</th>
<th>Cat. No.</th>
<th>R’G’LAR PULLEY</th>
<th>Special Pulleys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type A</td>
<td>16 to 25</td>
<td>20 to 25</td>
<td>550 to 600</td>
<td>48</td>
<td>21/4</td>
<td>16</td>
<td>71/4</td>
<td>Three knives</td>
<td>3635-L</td>
<td>16</td>
<td>9</td>
</tr>
<tr>
<td>No. 12-A</td>
<td>10 to 16</td>
<td>12 to 20</td>
<td>600 to 700</td>
<td>40</td>
<td>2</td>
<td>121/4</td>
<td>61/4</td>
<td>Four knives</td>
<td>3635-L</td>
<td>14</td>
<td>7</td>
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<tr>
<td>Type G</td>
<td>8 to 10</td>
<td>8 to 10</td>
<td>750 to 800</td>
<td>36</td>
<td>13/4</td>
<td>11</td>
<td>5</td>
<td>Two knives</td>
<td>397-L</td>
<td>13</td>
<td>8</td>
</tr>
<tr>
<td>Type F</td>
<td>3 to 6</td>
<td>4 to 6</td>
<td>800 to 900</td>
<td>30</td>
<td>13/4</td>
<td>9</td>
<td>3</td>
<td>Two knives</td>
<td>E-2400</td>
<td>11</td>
<td>6</td>
</tr>
</tbody>
</table>

Size of Truck Wheels—Type A, 3-in. tire 26-in. rear wheel, 24-in. front wheel; No. 12-A, 3-in. tire, 24-in. rear wheel, 22-in. front wheel; Types F and G, 3-in. tire, wheels 22-in. front and rear.

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McCormick-Deering Ensilage Cutters

Illustr. 2—Flywheel used on the Type A cutter. Regularly equipped with three straight knives. (Extra set in tool box.)

Illustr. 3—Back side view of the steel flywheel shown in Illustr. 2. Boiler-plate sections riveted together.

Flywheels Built of Boiler Plate
The steel flywheels on McCormick-Deering ensilage cutters assure safety under all working speeds. At the same time they are heavy enough to have plenty of momentum to assure a continuous high throw. The steel plates, riveted together, are 3-ply on the Types A and G, and 2-ply on the Type F. The flywheel is riveted to a steel hub, into which the shaft is forced by hydraulic pressure and keyed.

Flywheel Cuts, Throws, Blows
Both the knives and fans are secured to the flywheel so that cutting and elevating are done in one operation. The fans throw the ensilage up the pipe and the powerful blast elevates it into the highest silos.

Fans
Types A and G have six fans and Type F has four. The fans are made of malleable iron and consequently will bend before breaking. They are riveted solidly to the boiler-plate flywheel. The fans on the Type A cutter are curved as shown in Illusts. 2 and 3, while the fans on Types F and G are straight, similar to the No. 12-A shown in Illusts. 6 and 7.

Knife Cuts, Throws, Blows
Both the knives and fans are secured to the flywheel so that cutting and elevating are done in one operation. The fans throw the ensilage up the pipe and the powerful blast elevates it into the highest silos.

Illustr. 4—Knife adjustment—practically the same on all types. Knife adjusted to or from cutter bar by loosening or tightening double nuts on bolt, C.

Visible Features
Shaft with key forced into boiler-plate flywheel by hydraulic pressure.
Complete machine tested before leaving factory.
Knife adjustments—double nutted.
Fans firmly riveted to boiler-plate flywheel.
Shearing strain on knife posts—not on knife bolts.
Offset on feed roll casting prevents point of the knife from striking the cutter bar. Intake part of feed throat is guarded.
Ends of shafts in protective positions.
Apron feed protected at outer end by a shield.
Low speed of flywheels.
Trucks are regular equipment on all McCormick-Deering ensilage cutters. They can be easily removed, however, if desired. All wheels are made with strong oval spokes.

Knives Quickly Removed
The knives on all McCormick-Deering flywheels are quickly removed by unscrewing double nuts from the knife bolts on the offset side of the wheel from the knives—no danger of cutting one's hands. Special wrench supplied with each cutter for this purpose. Removing the knives need not disturb double-nutted knife adjustment shown in the illustration below.
McCormick-Deering
Ensilage Cutter No. 12-A

The McCormick-Deering No. 12-A ensilage cutter, in addition to being a large-capacity machine, has many distinctive features new to the ensilage cutter field. Outstanding among these is the enclosed transmission-gear feature whereby the length of cut can be changed without stopping the machine. In addition, the gears, which constitute an automobile-type transmission, are fully enclosed and run in a bath of oil.

The No. 12-A is constructed from the base up to combine light weight with maximum performance. Special alloy-steels have been used throughout. Anti-friction bearings, located on the fast-moving shafts, improve the performance of the machine. A clutch, which controls the apron and can be operated from either side of the machine, is also enclosed. In fact, practically every moving part aside from the apron is enclosed, and the others are all protected with shields.

Feeding facilities have been given special consideration in the No. 12-A. A large, properly-shaped feed throat takes the bundles just as they are delivered from the field. The bands do not have to be cut. A slip clutch on the feed rolls prevents the corn from clogging the machine. The McCormick-Deering paddle rolls work in conjunction with the feed rolls and apron, so the machine is practically self-feeding. The apron is extra large, making it possible for one man to unload and feed the machine at the same time.

This cutter is built with a special flywheel of reinforced boiler-plate steel having four knives and eight steel wings. This design assures safety at all working speeds. Cutting knives are secured to the flywheel. This "knife - on - flywheel" construction assures a sturdy and economical machine that cuts and elevates the ensilage in one operation, and with a minimum number of parts.
McCormick-Deering Ensilage Cutter, No. 12-A

Illustr. 8—The compact arrangement of the working mechanism of the No. 12-A ensilage cutter.

Many of the distinctive features of the No. 12-A ensilage cutter are shown in the illustration above. The drive from the main shaft to the transmission is through the steel chain (1). This is also shown in Illustr. 10. (2) indicates the gear shifting lever. (3), the lever for throwing the machine in and out of gear. This lever can be operated from either side of the machine. (4) indicates the slip clutch on the feed rolls and apron drive which prevents the machine from becoming clogged. (5), one of the four cutting knives. (6), front thrust bearing. (7), one of the eight flywheel wings.

The No. 12-A ensilage cutter is equipped with special bearings throughout. The flywheel shaft runs in high-grade ball bearings. All the bearings in the transmission are high-duty ball and roller bearings.

Large Cutting Capacity

The capacity of the 12-A exceeds that of any machine of equal size, due to the size of the throat and high operating speed. Running at its low rate of 600 r.p.m. with four knives, there will be 2400 cuts per minute. Increasing the speed to 700 r.p.m. gives 2800 cuts per minute.

Automobile-Type Transmission

The operation of the selective gear transmission which controls the speed of the feeding mechanism

Illustr. 9—The knife-grinding attachment which is available on special order for the 12-A ensilage cutter.

Illustr. 10—The transmission for controlling the length of cut.

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McCormick-Deering Ensilage Cutters

Types F and G

Illust. 12—Type F Ensilage Cutter. Feed conveyor is permanently mounted on truck.

Type F Cutter

The Type F McCormick-Deering ensilage cutter is built for the average individual needs—for the man with an engine of 4 to 6 horse power, who has a small amount of corn. At the normal speed of the flywheel of 800 r.p.m. the ensilage would be elevated into a 30-ft. silo or higher with ease. The flywheel is built of boiler plate steel and safe at any working speed. It is heavy enough to assure uniform cutting and high throw without materially increasing the speed or overloading the engine. The feed table is mounted permanently on trucks, as shown in the illustration.

Type G Cutter

This machine is much the same in construction as the Type F, except that it is larger and is for the man with a small tractor who wishes to fill his own silo. It has a capacity of 8 to 10 tons an hour. The traveling conveyor is built permanently on the frame, the cutter being belted crosswise of the ground wheels. With the Type G, the same as with the Type F, there is nothing to take down or put up except the piping. Both Types F and G are light in weight, require little space for storage, and are unusually economical in operation.

Frames

The heavy wood frames on both Types F and G are solidly jointed. They are bolted and braced. The main frames form a rigid and firm foundation for the working parts.

Traveling Conveyors

All types of ensilage cutters are regularly equipped with traveling steel conveyors. The conveyors and feed rolls act in harmony—traveling the same number of feet per minute.

Feed Table and Skid Mounting—

Type F

On special order, the Type F cutter will be supplied mounted on skids. It can likewise be equipped with hand feed table. The inner end of the feed table is supported by the cutter itself and the outer end by two legs.

Cutter Bars Reversible

As with the Type A cutters, the cutter bars for the Types F and G are made of tool steel. They have two cutting edges and may be removed for grinding. They can be reversed when one cutting edge becomes worn. They are not only beveled but set at an angle, thus always presenting a cutting edge.

Speeds

Ensilage cutter speeds vary with the height of the silo and the kind and condition of the feed. Experience shows that the speeds given in the specification table are the best for all conditions. Ensilage cutter tests have shown that considering both power and capacity the best results are obtained when the speeds used are nearer the minimum range rather than the maximum, shown in the specification table. This, however, should be considered when figuring pulley sizes; for instance, if the silo is 30 ft. and the cutter a Type G, it is better to figure the speed around 750 instead of 800; the higher speeds being used for higher silos.

Proper Size of Pulley

To figure proper diameter pulley for cutter, multiply the diameter of the engine pulley in inches by the speed of the pulley in revolutions per minute, and divide by the specified speed of cutter. This gives the diameter of the cutter pulley in inches. It is also highly advisable to use a speed indicator on the cutter to determine the speed in all cases.
McCormick-Deering Ensilage Cutters

Types F and G

How to Secure Different Cuts
Types F and G

See Illust. 14. Different cuts are obtained by different combinations of the gears on the shafts A, B and C. Shaft C (the bevel gear shaft) is the driver, shaft B is the idler, and shaft A (the lower feed roll shaft) is the driven. All three gears fit all three shafts, and each gear can serve either as the driver, idler, or driven. Note the numbers on the idler gear mounting—1, ¾, ½, ¼. These denote the cut. For instance, if a ¾-in. cut is desired, the ¾ notch is lined up with a notch on the gear casing and the mounting bolted on, the gears placed on the shafts, the cotter pins inserted in shafts A and C, and the hard oiler placed in the end of shaft B. There is no way of putting the gears on wrong, as only one combination is possible for each cut.

Lengths of Cuts on Type F Cutter, Two Knives

Table below shows length of cut obtained with each combination of gears. For example: With a 12-tooth gear on bevel gear shaft, a 20-tooth on intermediate stud and 16-tooth on lower feed roll shaft, and notch on intermediate stud marked ¾-in. lining up with notch on supporting bracket, a ¾-in. cut is obtained. (See Illust. 14.)

<table>
<thead>
<tr>
<th>Bevel Gear Shaft</th>
<th>Intermediate Stud</th>
<th>Lower Feed Roll Shaft</th>
<th>Length of Cut</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 Teeth</td>
<td>16 Teeth</td>
<td>20 Teeth</td>
<td>¾ in.</td>
</tr>
<tr>
<td>12 Teeth</td>
<td>20 Teeth</td>
<td>16 Teeth</td>
<td>¾ in.</td>
</tr>
<tr>
<td>20 Teeth</td>
<td>12 Teeth</td>
<td>16 Teeth</td>
<td>¾ in.</td>
</tr>
<tr>
<td>20 Teeth</td>
<td>16 Teeth</td>
<td>12 Teeth</td>
<td>1 in.</td>
</tr>
</tbody>
</table>

Length of Cuts on Type F Cutter, Four Knives

Cuts one-half as long are obtained when four knives are used instead of two.

Length of Cuts on Type G Cutter, Two Knives

(This cutter wheel takes two knives only.)

Table below shows length of cut obtained with each combination of gears. For example: With a 15-tooth gear on bevel gear shaft, a 20-tooth on intermediate stud and 25-tooth on lower feed roll shaft, and notch on intermediate stud marked ¾-inch lining up with notch on supporting bracket, a ¾-in. cut is obtained. (See Illust. 14.)

<table>
<thead>
<tr>
<th>Bevel Gear Shaft</th>
<th>Intermediate Stud</th>
<th>Lower Feed Roll Shaft</th>
<th>Length of Cut</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 Teeth</td>
<td>20 Teeth</td>
<td>25 Teeth</td>
<td>¾ in.</td>
</tr>
<tr>
<td>15 Teeth</td>
<td>25 Teeth</td>
<td>20 Teeth</td>
<td>¾ in.</td>
</tr>
<tr>
<td>25 Teeth</td>
<td>15 Teeth</td>
<td>20 Teeth</td>
<td>¾ in.</td>
</tr>
<tr>
<td>25 Teeth</td>
<td>20 Teeth</td>
<td>15 Teeth</td>
<td>1 in.</td>
</tr>
</tbody>
</table>
McCormick-Deering Ensilage Cutters

Paddle Roll
For many years the paddle roll has been a distinctive feature on McCormick-Deering ensilage cutters. They were the first cutters on the market equipped with a paddle roll. The paddle roll exerts a positive grip on the uncut fodder, forcing it into the feeding rolls. It practically saves one man's time.

Steel Main Frame
Ensilage cutting requires rapid motion. The mechanism can be kept in alignment only by a very rigid frame. No binding of gears on McCormick-Deering cutters. On the larger cutters, Types A, and No. 12-A, all-steel main frames are used. They consist of heavy channel steel, hot-riveted under tremendous pressure in a special die or holder. Cross sills of heavy bar steel and truss braces under the frame prevent sagging and twisting. And the frame is so divided that the weight of the mechanism is evenly divided in relation to the flywheel shaft.

Lengths of Cut
All McCormick-Deering ensilage cutters have a wide range of lengths of cut so that they can be used to meet almost all requirements. Type A cuts the fodder in the following lengths—\(\frac{1}{4}\) inch, \(\frac{1}{2}\) inch, 1 inch and 1 inch. There are some intermediate cuts between these which can be obtained by various combinations of the driving sprockets and gears.

With Types G and F, when two knives are used, the lengths of cut obtainable are \(\frac{1}{4}\) inch, \(\frac{1}{2}\) inch, 1 inch and 1 inch. When four knives are used on the Type F, the lengths of cut obtained are one-half of these sizes.

How Cuts Are Obtained (Type A)
\(\frac{3}{4}\)-inch: With small change gear on main shaft engaging large change gear on bevel pinion shaft, and the chain on six-tooth sprocket on square shaft connecting to the ten-tooth sprocket on feed roll shaft.
\(\frac{1}{2}\)-inch: With the six-tooth sprocket on bevel gear shaft, connecting to eight-tooth sprocket on feed roll shaft.
\(\frac{3}{4}\)-inch: With the ten-tooth sprocket on bevel gear shaft, connecting to eight-tooth sprocket on feed roll shaft.
1-inch: With the ten-tooth sprocket on bevel gear shaft, connecting to ten-tooth sprocket on feed roll shaft.

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McCormick-Deering Ensilage Cutters

Replaceable Bottom Plate

Illustration 19 shows a sectional view of the blower housing. The letter A indicates the steel bottom plate. It is made of hard, high carbon steel and will stand an unusual amount of hard usage. If it should ever become worn a new one can be put in place easily at small cost.

In addition to this bottom plate a replaceable shield is provided. This shield is located at the outlet of the blower housing and relieves the housing of wear.

Corn Chute

McCormick-Deering ensilage cutters, Type A, and No. 12-A, may be equipped with corn chute as shown in Illustration 20. It is possible to feed the cutter direct from the wagon when it is equipped with this chute. The special curve shape and width of the chute prevent the cornstalks from catching and interfering with feeding. The legs are removable and they together with the chute may be placed upon the conveyor.

Capacities When Cutting Hay

In some sections these ensilage cutters are used for cutting dry hay, usually alfalfa. As the hay is rather bulky and dry it is not possible to cut as much as it is of green corn. The following capacities are approximate:

Type A—4 to 8 tons hay an hour.
No. 12-A—2 to 4 tons hay an hour.
Type G—1 1/2 to 2 tons hay an hour.
Type F—1/2 to 1 ton hay an hour.

Shredder Bars

All McCormick-Deering ensilage cutters shred as well as cut—by using shredder bars supplied on special order, either with or without straight knives. The shredding capacity is practically the same as the cutting capacity. When shredder bars are used with knives, straight knives only will fit.
McCormick-Deering Ensilage Cutters

Illustr. 23—Flexible joint, A, on all types permits the proper tilt of the pipe, even with difficult settings.

Blower Pipe

Supplied on special order. Made in 1 ft., 4 ft., 6 ft., 8 ft. and 10-ft. lengths and in 6 in., 7 in. and 9-in. diameters as shown in specifications. The pipe is made of heavy galvanized steel, heavy enough to resist bending, and is so constructed as to be perfectly smooth on the inside. Each section of pipe for Types A and G is fitted with two malleable iron rings having bolt holes by which the sections are bolted together. The inwardly crimped ¼-in. projection of the upper end of each section fits into the lower end of the next section, making a tight, telescoping joint.

Deflector and Distributor

Deflector

Supplied regularly with each McCormick-Deering ensilage cutter. Forms part of the complete distributor shown in Illust. 24, but when so used the adjustable extension shown in Illust. 25 is omitted. When used alone, the adjustable extension is controlled by a rope either within or without the silo, throwing the cut fodder from side to side.

Illust. 25—Deflector. Regularly supplied with all McCormick-Deering ensilage cutters. It has an up-and-down adjustment, controlled either within or without the silo, so that the ensilage can be thrown from one side of the silo to the other. A, deflector, B, adjustable section. When distributor pipe is ordered the adjustable section, B, is not furnished.

Blower Pipe Lengths

<table>
<thead>
<tr>
<th>LENGTH</th>
<th>TYPE A 9-IN. DIAM.</th>
<th>TYPE G 7-IN. DIAM.</th>
<th>TYPE F AND NO. 12 6-IN. DIAM.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-ft.</td>
<td>194-LA</td>
<td>827-L</td>
<td>1180-L</td>
</tr>
<tr>
<td>4-ft.</td>
<td>193-LA</td>
<td>828-L</td>
<td>1181-L</td>
</tr>
<tr>
<td>6-ft.</td>
<td>196-LA</td>
<td>829-L</td>
<td>1182-L</td>
</tr>
<tr>
<td>8-ft.</td>
<td>197-LA</td>
<td>830-L</td>
<td>1183-L</td>
</tr>
<tr>
<td>10-ft.</td>
<td>198-LA</td>
<td>831-L</td>
<td>Not Supplied</td>
</tr>
</tbody>
</table>

Flexible Joints

Illust. 26—Tight pipe joints. Pipe sections on Types A and G are firmly joined to prevent leakage of air blast.

The pipe-and-fanhouse joint shown in Illustr. 23 is regular on all sizes. On special order a flexible pipe joint similar to that used on shredders may be had for use between pipe sections—all sizes. It allows a 25 to 30-degree angle—valuable for filling bins or mows with dry fodder.
McCormick-Deering Ensilage Harvester

The McCormick-Deering Ronning ensilage harvester makes ensilage from standing corn in one operation. It eliminates the corn binder, the cost of twine, the hard labor of gathering and hauling heavy bundles, and the exacting job of feeding a stationary ensilage cutter. It is to the corn grower who produces ensilage what the combine is to the grain grower.

A McCormick-Deering 10-20, W-30, 15-30, Farmall (except F-12) tractor furnishes the motive power, and it requires one man to operate the machine in the field. The cut ensilage is delivered to a truck or wagon pulled alongside. One man is needed at the silo to look after the blower and engine. A sufficient number of drivers with wagons or trucks are required to haul the cut ensilage to the silo. There is less labor required and consequently less trading of help and a smaller crew to feed.

Another decided advantage is the fact that the corn is placed in the silo immediately after it is cut in the field. All the rich valuable juices of the crop are retained and the ensilage is free from dirt and other accumulations common to bundles that lie in the field.

Packers and Distributors

One of the distinctive features of the ensilage harvester is the method of distributing the corn over the cutter head. This mechanism is shown and described in the illustration below.

Illust. 2—The rotary cutter head is mounted on efficient ball bearings. In the above illustration a section of the outer race has been removed at “A” to show the bearing construction.

Illust. 3—Sectional view showing operation of packers (A and B) in distributing the stalks uniformly over the cutter head. This method eliminates clogging and avoids excessive wear on any part of the cutter. No. 1 shows the placement of a hill by packer “A”; No. 2, hill passes through to the center; and No. 3 hill is placed to the right by packer “B”.

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The McCormick-Deering ensilage harvester is ruggedly constructed. The bridge-type main frame construction prevents sagging and twisting; anti-friction bearings and special lubrication reduce wear and power requirements to a minimum, which, combined with the operating principles and features, result in an outstanding machine for a quick, efficient and economical method of harvesting ensilage.

**Construction Features**

The McCormick-Deering ensilage harvester has many distinctive features. Included in this list are corn packers for distributing the cornstalks over the cutter head; reinforced pitman drive; eccentric chain tighteners on elevator chains; thirty-five ball and roller bearings; pressure lubrication; and many protective devices including shields on all moving parts and slip clutches on the apron drive, sickle drive, and the elevator. Universal joints prevent excessive wear and permit proper alignment of the different shafts.

**Operated Entirely by Tractor Power**

All the power for driving the sickle, the ensilage cutting mechanism, and the elevator is transmitted from the tractor engine through the power take-off directly to the ensilage harvester. This method of supplying the power direct to the ensilage harvester is similar to the method used in McCormick-Deering tractor binders, corn pickers, and other machines.

**Specifications**

<table>
<thead>
<tr>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensilage harvester for 10-20 or 15-30</td>
<td>2870 lb.</td>
</tr>
<tr>
<td>Ensilage harvester for Reg. and F-20 Farmall</td>
<td>2930 lb.</td>
</tr>
<tr>
<td>Ensilage harvester for F-30 Farmall</td>
<td>2930 lb.</td>
</tr>
</tbody>
</table>

---

*Illustration 4*—The McCormick-Deering Ronning Ensilage Harvester showing the power drive from the tractor and also the convenient lever for adjusting the height of the cut.

*Illustration 5*—Power is transmitted from the tractor engine to the ensilage harvester through shaft "3," "2," indicates the roller chain pitman drive. Power for the cutter head is transmitted through shaft with the two universal joints. "1," "4," indicates the location of the packers (See Illustr. 3).

*Illustration 6*—Left wheel and protective shield removed to show several operating features. "A" slip clutch on the apron drive, "B" spring controlling the throat opening, "C" roller bearings on main wheels, "E" elevator slip clutch, and "F" double universal joint on the elevator shaft.
The McCormick-Deering ensilage blower is used in conjunction with the McCormick-Deering ensilage harvester.

It delivers the ensilage to the silo. The blower takes the ensilage as it is dumped from the wagon or truck and blows it into the silo. The conveyor of the blower is provided with a clutch so that the conveyor apron can be stopped at any time while the blower is running. The average time for unloading a wagon or truck load is from three to five minutes. The conveyor can be raised or lowered readily to permit a wagon to drive through. This enables placing a load at the right place without backing or moving it around.

Deflector and Distributor

The ensilage blower is operated by a tractor or a 10 or 12 horsepower engine. Where a dump elevator is available or where the pit silo is used the blower is not necessary.

Equipment

The McCormick-Deering ensilage blower is regularly supplied with one length of six-inch pipe, truck and tongue for moving. Six-inch pipe, distributor pipe, top joint, etc., should be ordered as required. These parts are the same as used on the McCormick-Deering ensilage cutters.

Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensilage blower (less deflector)</td>
<td>1135 lb.</td>
</tr>
<tr>
<td>Blower deflector</td>
<td>50 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Steel Husker and Shredder

Illustration 1—The McCormick-Deering Steel Husker and Shredder. A medium-size machine of large capacity.

The advent of the steel husker and shredder has done much to increase the practice of shredding corn—converting all of the cornstalks into readily accessible and succulent feed. The steel construction has decreased the weight, improved the efficiency, and increased the life of the husker and shredder.

All-Steel Construction

The new McCormick-Deering husker and shredder is made of steel throughout. The main frame is arc-welded and riveted together with gusset plates and rigidly braced to assure true alignment of the shafts and other working parts. The top, sides, and bottom are of heavy-gauge galvanized steel and are lacquered for increased service.

The McCormick-Deering steel husker and shredder is more than a steel machine—it is an up-to-the-minute, large-capacity unit. The snapping and husking rolls have been combined, reducing the number of parts and at the same time increasing efficiency.

One of the outstanding features of the McCormick-Deering steel husker and shredder is its capacity. It is a 4-roll machine, but its capacity exceeds that of many 6-roll machines of other types. The combined snapping and husking rolls move the corn through the machine faster—one operation picking up immediately where the previous one left off.

Conserve Feeding Value

When corn fodder is fed in uncut lengths, a large portion of the stalks is wasted by being trampled under foot. In contrast to this, shredded stover is more completely utilized. Shredding induces the cattle to eat a greater part of the stalks. It makes stover easier to handle; less storage space is needed, and the residue is in better shape for bedding. Shredded stover, being highly absorbent and easier to handle, serves as an ideal manure fertilizer base. It distributes uniformly and is readily plowed under.

Aids Corn Borer Control

The husker and shredder is an effective aid in keeping corn borers under control. By running corn fodder through a closely adjusted McCormick-Deering shredder a very high percentage of the borers are destroyed. Since merely breaking the outer cover is sufficient to kill the borer, it is obvious that very few can pass through the shredding process without fatal injury. Close shredding, combined with clean plowing and careful burning of all cobs, provides an effective method of combating the corn borer.

Regular Equipment

Combination cutter and shredder head. Pulley, 11-in. diameter.

Special Equipment

Keystone type shredder head. 4-ft. telescoping blower pipe extension. Pulleys, 12, 13, 14, 16 and 18-in. diameter. Automatic throw-out safety clutch.

Specifications

<table>
<thead>
<tr>
<th>No. of Rolls</th>
<th>Speed (rev. per min.)</th>
<th>Horse Power Required</th>
<th>Capacity (bu. corn per day)</th>
<th>Approximate Shipping Weight</th>
<th>Cutter Head</th>
<th>Pulley</th>
<th>Combination Rolls</th>
<th>Feed Throat</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>900</td>
<td>15 to 30</td>
<td>400 to 700 lb.</td>
<td>3,450</td>
<td>14 in.</td>
<td>18 in.</td>
<td>18 in.</td>
<td>18 in.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7 in.</td>
<td>56 in.</td>
<td>3½ in.</td>
<td>3½ in.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 in.</td>
<td>18 in.</td>
<td>18 in.</td>
<td>18 in.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 in.</td>
<td>12½ in.</td>
<td>9 in.</td>
<td>12 ft.</td>
</tr>
</tbody>
</table>

Swinging Telescoping

9 in.     19 in.

4 in.     22 in.

Trucks

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McCormick-Deering Steel Husker and Shredder

Illustr. 2—The McCormick-Deering steel husker and shredder folds compactly for transportation.

Combined Snapping and Husking Rolls

The McCormick-Deering steel husker and shredder is equipped with combined snapping and husking rolls. There are four rolls set on a sloping plane and working in pairs. These rolls first snap and then husk the ears. The rolls are driven through machine-cut gears running in oil. A tension spring, shown in Illust. 3, permits the rolls to spread in the event some hard substance enters. A high-carbon thrust plate submerged in oil keeps each roll individually in position.

The combination rolls are solid metal on heavy shafts. Holes are provided with wood fillers into which husking pegs may be driven when required; likewise, the pegs can be removed by pulling them out. This makes it easy to keep the proper number and spacing of pegs to provide the most efficient job of husking.

Fodder Guide

The fodder guide roll, mounted directly in front of the cutter bar, regulates the feed of the stalks to the shredder head. This is an improved feature that adds much to the performance of the McCormick-Deering steel husker and shredder.

The Blower

The blower is mounted on tapered roller bearings and is belt driven. The bearings are thoroughly protected from dust and dirt and have Alemite lubrication. Dimensions of blower fan: 26-inch diameter, 6½-inch wide; 1373 r.p.m.

The blower intake is large, and the passageway is so constructed that the shredded fodder readily reaches the blower fan.

Lubrication

The gears which drive the combined snapping and husking rolls are enclosed and run in a bath of oil. All other parts of the machine are lubricated by means of the Alemite system of grease-gun lubrication.

Cleaning Mechanism

A specially designed triple screen thoroughly cleans the small amount of corn that is shelled in the husking process. In addition to the screens, the cleaning equipment consists of an all-steel shaker and a fast-moving fan. The cleaning fan is 12 inches in diameter, with 16-inch blades, and travels at 495 r.p.m.

Illustr. 3—The all-enclosed drive for the combined snapping and husking rolls. The large tension spring keeps the rollers in proper adjustment and protects them against breakage.
McCormick-Deering Steel Husker and Shredder

Combination Cutter and Shredder Head

The combination cutter and shredder head is regular equipment. It combines the advantages of both cutting and shredding.

The cutter head is a combination cutter and shredder head, having shredder bars between the cutting knives. The head is regularly equipped with 4 knives and 4 shredder bars. Either the bars or knives may be removed to give the following cuts.

<table>
<thead>
<tr>
<th>Knives</th>
<th>Shredder Bars</th>
<th>Cut</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>4</td>
<td>1/3 in. shredder cut</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>1/4 in. shredder cut</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>1/4 in. cut</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>1/4 in. cut</td>
</tr>
<tr>
<td>0</td>
<td>4</td>
<td>1/4 in. shred</td>
</tr>
<tr>
<td>0</td>
<td>2</td>
<td>1/4 in. shred</td>
</tr>
</tbody>
</table>

Combination Cutter and Shredder Head

All units of the head are accurately balanced, thus eliminating vibration and excessive stresses. The cutter head is mounted on two heavy-duty ball bearings which, in turn, are enclosed in dust-proof housings.

The knives are made of special plated knife-steel which is high-grade tool-steel plate-welded onto a softer steel back. The cutter bar is also plated knife-steel, riveted to a heavy angle support. The shredder teeth are tempered knife-section steel.

Shredder Head

A saw-tooth (Keystone type) shredder head may be substituted for the combination cutter and shredder head regularly supplied. Some owners prefer the saw-tooth shredder type of head because it has no knives to sharpen. The teeth, arranged to form a double spiral, shred the fodder into short lengths which keep well and do not pack tightly in the mow. The shredded fodder is convenient to handle and feed, and the residue makes excellent absorbent bedding.

Dimensions of saw-tooth shredder head: diameter, 12 in.; length, 20 in.; shaft, 2 in. diameter; bearings, heavy-duty ball.

All Parts Accessible

The various parts of the McCormick-Deering steel husker and shredder are readily accessible for inspection and adjustment. The gear drive to the rolls can be exposed by removing the cover plate. The fan can be inspected in a short time by removing a section of the blower housing (Illustr. 7). Removable covers on the top and both ends of the machine make it readily possible to reach the cutter head, combined snapping and husking rolls, fodder-guide roll, shaker, and screens.

Power Applied Direct to Cutter Head

The power from the tractor or engine is applied directly to the shredder head. The combined husking and snapping rolls are driven direct from the cutter head through a train of machine-cut and electrically heat-treated gears. There is thus no slippage or lost motion. The drive on the rolls is positive at all times regardless of whether a large or small amount of fodder is passing between the rolls. The shaker, fodder guide roll, ear retarder, and other moving parts are belt driven. This assures all parts being properly coordinated at all times.

Backed by Experience

McCormick-Deering huskers and shredders have nearly forty years of husker and shredder building experience back of them.

Illustr. 4—The combination cutter and shredder head is regular equipment. It combines the advantages of both cutting and shredding.

Illustr. 5—Saw-tooth (Keystone type) shredder head. This head is supplied on special order with McCormick-Deering husker and shredder.
McCormick-Deering Steel Husker and Shredder

Illust. 6—An automatic throw-out clutch can be supplied on special order. It is a safety device that instantly declutches the snapping rolls when the feed operator's weight is taken off the platform on which he stands.

Safety Clutch

A special safety clutch, supplied on special order, throws the machine out of gear if the operator takes his weight off the platform. The clutch is operated entirely from the footboards. If for any reason the operator takes his weight off the footboards the clutch immediately disengages, thus stopping all units except the shredder head and the blower. To re-engage the clutch the operator must resume his position on the footboards and throw the clutch in with the hand lever.

Many Safety Features

The McCormick-Deering steel husker and shredder is designed to comply with the rigid safety laws of Minnesota and Wisconsin. Spacious feed tables surround the operator, making it easy to feed this machine. The principal drive parts are belt driven. The few parts that are driven by chains are carefully shielded.

Delivery Conveniences

The ear corn elevator is rigidly constructed of heavy sheet steel. It can be extended or folded for transport or storage in a few minutes. The upper end of the elevator can be shifted to accommodate the wagons or trucks and it can also be used as a hopper, so it is not necessary to stop feeding while ear corn wagons are being changed.

The stacker is both swinging and telescoping. It is of heavy sheet steel with a steel frame. The adjustable swivel hood as well as the other controls of the stacker are operated from the machine.

The shelled corn elevator near the rear of the machine will deliver corn to sacks, boxes, or baskets. Hooks are provided for the former and a chute for the baskets and boxes.

Dimensions

When the McCormick-Deering steel husker and shredder is folded for storage it is 15 ft. 6 in. long, 5 ft. 10 in. wide, and 9 ft. high. It has an approximate shipping weight of 3,450 lb.


Illust. 7—The blower fan can be quickly inspected by merely removing a section of the blower pipe. It has heavy steel blades riveted to steel arms and a malleable hub. The fan is mounted on tapered roller bearings in dust-proof housings.
A Pull-Type Power-Driven Picker

The No. 100 is a one-row, pull-type corn picker operated through the power take-off shaft of McCormick-Deering tractors. The weight of the machine is carried on two sturdy main wheels, while the front end is supported by the tractor drawbar. Tractor and picker thus form a closely coupled, easily maneuvered outfit that requires but one man to operate. The No. 100 is designed to be operated at tractor speeds up to three miles an hour and has a potential capacity of 8 to 9 acres a day.

Tank or Wagon Elevator

The No. 100 picker can be supplied equipped with a 25-bushel tank as shown in the above illustration or with a wagon elevator as shown in Illust. 5. Orders must specify which type of disposal device is wanted. A special folding-type wagon hitch can be supplied for the elevator-equipped picker. This hitch permits towing a wagon alongside the machine to receive the corn.

Special Low Snapping Rolls

For sections where corn grows unusually low on the stalks the picker should be ordered equipped with the special low corn snapping unit. This unit consists of extended snapping rolls and gatherer chains which permit proper handling of ears growing close to the ground. The low corn snapping unit also can be supplied as extra equipment for regular type No. 100 pickers already in the field.

Specifications

(Picker Equipped with Tank)

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>APPROX. WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 100, one-row, power-driven corn picker with tank (regular snapping roll unit)</td>
<td>3880 lb.</td>
</tr>
<tr>
<td>No. 100, one-row, power-driven corn picker with tank (low corn snapping roll unit)</td>
<td>3915 lb.</td>
</tr>
<tr>
<td>No. 100, one-row, power-driven corn picker with wagon elevator (regular snapping roll unit)</td>
<td>3000 lb.</td>
</tr>
<tr>
<td>No. 100, one-row, power-driven corn picker with wagon elevator (low corn snapping roll unit)</td>
<td>3035 lb.</td>
</tr>
</tbody>
</table>

Orders must specify type of tractor hitch (see Regular Equipment).
McCormick-Deering Corn Pickers

Clean Picking and Husking

The gatherers on the No. 100 corn picker direct the stalks to the snapping rolls, and chains equipped with finger links hold the stalks in an upright position while the ears are snapped off. The snapped ears are then elevated to the husking rolls where the husks are removed.

Though working at much faster speed than hand huskers or the old-style horse-drawn pickers, the work of the No. 100 compares most favorably and is fully as clean and free from husks as corn picked by any other machine or method.

Spring-Balanced Gathering Unit

The gatherers and snapping rolls form a single unit that is spring-balanced and is easily adjustable for height by means of a lifting lever. Tilting this unit does not in any way disturb the rest of the machine and the husking rolls remain at their proper angle unaffected by the adjustment of the gathering and snapping units. This is an important feature in McCormick-Deering pickers and assures full efficiency of the husking unit at all times.

The gathering points are free to float within limits. This permits the points to follow the ground closely, raising the down and leaning stalks and directing them into the snapping rolls. The gatherer sheets are unusually wide and are properly fashioned to support any leaning and half-broken stalks, thereby saving the ears. There are three gatherer chains equipped with finger links which hold the stalks upright as they enter and pass through the snapping rolls. These chains are of the heavy pintle type and can be adjusted for varying conditions. A yielding stalk guide directs the stalks to the lower gathering chain so that the fingers can seize them quickly.

Snapping Roll Unit

The snapping rolls are of the approved type with spiral-shaped corrugations that take a firm grip on the stalks. Tapped holes are provided for inserting special set screws should the rolls become worn smooth or unusually severe conditions make it difficult for the rolls to pull through heavy stalks and trash. Convenient adjustments are provided to set the rolls closer or further apart as may be necessary. An ear retarder prevents any snapped ears from sliding down on top of the snapping rolls and becoming lost.

Snapping Roll Beater

When corn is unusually dry there is often a tendency for trash and broken stalks to be carried up the elevator along with the snapped corn. To avoid this the No. 100 picker has a beater located above the upper end of the snapping rolls. This beater is equipped with flexible paddles which force the trash and broken stalks down against the upper end of the snapping rolls so that the material is caught by the rolls and immediately expelled from
McCormick-Deering Corn Pickers

the machine. This is a valuable feature and assures cleaner husking under unfavorable conditions.

Husking Unit

After the ears have been snapped from the stalks they are carried by an elevator to the husking unit where the husks and remaining trash are removed. The husking unit is comprised of six husking rolls working in pairs, together with a series of retarders or baffle plates and agitator wheels. The function of the retarders is to press the ears against the revolving husking rolls so that the pins and flutes in the rolls immediately take hold and tear off the husks as the ears pass over the rolls. The agitator wheels act to straighten out the ears so that they proceed lengthwise over the rolls in position to be husked quickly and efficiently. The retarders are adjustable for more or less pressure and the husking rolls have adjustable spring tension at top and bottom. Ample adjustments, together with accessibility of the various units, is a characteristic feature of McCormick-Deering picker construction.

Saves the Shelled Corn

The trash which is removed in the husking operation falls onto a conveyor underneath the rolls where it is subjected to a blast of air from the cleaning fan and is expelled from the machine. Any shelled corn which may be present in the husks and trash falls through the sieve in the conveyor bottom and is delivered into the elevator along with the husked corn.

Safety Slip Clutches

Safety slip clutches are provided on all principal drives so that if any unusual strain is put on the moving parts the clutch will slip and prevent breakage.

Alemite Lubrication

Practically all bearings are equipped with Alemite fittings for grease-gun lubrication. This efficient method assures proper lubrication and greatly reduces the time necessary for oiling.

Roller Bearings and Roller Chain

Two features which every owner will appreciate are the generous use of roller bearings and high-grade roller chain in the construction of the No. 100 corn picker. These features reduce the draft and increase the life of the machine.

Enclosed Gears

Whenever reduction gears are required these gears are fully enclosed in dust-tight housings and run in oil.

Tank Quickly Unloaded

The tank is preferred by many owners because of the saving of time it makes possible. It can be emptied quickly into a wagon which meets the picker at intervals or the picker may be pulled alongside a wagon left at some convenient point in the field. Other owners sometimes erect temporary cribs at the end of the field and dump the contents directly into these. Whichever method is used, it is a simple matter to unload the tank by merely releasing the lever. This allows the chute to drop down and the entire contents of the tank slide out quickly. The tank has a capacity of 25 bushels.

Wagon Elevator

The wagon elevator is made of steel and is the correct height to deliver corn into a wagon or motor truck driven alongside. At small additional cost, a wagon hitch is provided which enables the operator to tow the wagon along with the picker. The elevator can be raised up alongside the machine for transporting and it is readily detachable for storage.
McCormick-Deering Corn Pickers

No. 200—Two-Row, Pull-Type

Illustr. 6—McCormick-Deering No. 200 two-row Corn Picker. This machine is supplied with an elevator for delivering the husked corn into a wagon drawn alongside.

One Man Can Pick Two Rows
The No. 200 corn picker is a two-row pull-type machine that operates through the power take-off of McCormick-Deering tractors. The corn is delivered by an elevator into a wagon drawn alongside the picker. The wagon may be drawn separately or it can be towed by the tractor by means of a special wagon hitch. The two-row machine is simply a duplication of the one-row principle that has proved so successful, the construction being proportionately heavier to withstand the strain of picking two rows at a time. The gatherers are so shaped that the picker readily handles the two rows without missing an occasional hill that may be out of line. The points of the gatherers slip under the down and leaning stalks, raise them, and guide them into the snapping rolls.

Ball and Roller Bearings
Steel construction and a generous use of ball and roller bearings make the No. 200 picker a comparatively light-draft machine. In this machine the corn from each row is husked in a separate set of husking rolls. It is cleaned by a fan and delivered into an elevator and then to a wagon. Shelled corn is carried by the same elevator into the wagon.

All Modern Features
The same features that have made other McCormick-Deering corn pickers so popular are found in the two-row type. Among these are clean husking, light draft, and easy control. There are beaters just above and back of the snapping rolls which eliminate trash by forcing it down through the snapping rolls and out of the machine. The driving mechanism on the gatherer chains is similar to that of the No. 100 picker as shown in Illustr. 3.

Easily Handled
The No. 200 picker can be handled as easily as any one-row machine. A lever for the adjustment of the gatherers for height is close to the tractor seat. The construction of the delivery spout is such as to assure even distribution of the corn in the wagon box when the wagon is towed along with the picker.

Regular Equipment
Tractor hitch and power drive parts as specified: Hitch for 10-20 only; hitch for 15-30 only; ZDA-302 for regular and F-20 Farmall; ZDA-303 for F-30 tractor; ZDA-354 for T-20 TracTracTor, ZDA-388 for W-30 tractor. Wagon elevator.

Extra Equipment

Shipping Weights

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>WEIGHTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 200 Two-row Corn Picker</td>
<td>4280 lb.</td>
</tr>
<tr>
<td>—Regular Type</td>
<td></td>
</tr>
<tr>
<td>No. 200 Two-row Corn Picker</td>
<td>4375 lb.</td>
</tr>
<tr>
<td>—Low Corn Type</td>
<td></td>
</tr>
</tbody>
</table>

Orders must specify type tractor. See list under Regular Equipment.

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**McCormick-Deering Corn Shellers**

**Illust. 1—McCormick-Deering four-hole All-Steel Sheller.**

**Made in Six Styles**
McCormick-Deering corn shellers are made in six styles and with capacities varying from the limited requirements of a hand sheller to 4000 bushels per day. The line includes a one-hole steel hand sheller, a two-hole steel hand or power sheller, two-hole and four-hole all-steel shellers and two sizes of cylinder shellers. There is a suitable size and type of sheller to meet every shelling requirement.

**Large Capacity with Less Power**
All McCormick-Deering shellers have an unusually large capacity considering the power required to operate them. They are light-weight machines and can be transported easily from place to place. They do a clean job of shelling when run to capacity and deliver the grain in a fit condition for seed, feed, or market. Sturdy construction and quality materials provide long years of satisfactory shelling performance.

**McCormick-Deering Corn Sheller Specifications**

<table>
<thead>
<tr>
<th>Machines</th>
<th><strong>STEEL HAND</strong></th>
<th><strong>STEEL XL</strong></th>
<th><strong>STEEL SHELLERS</strong></th>
<th><strong>CYLINDER SHELLERS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Size</strong></td>
<td><strong>1-HOLE</strong></td>
<td><strong>2-HOLE</strong></td>
<td><strong>2-HOLE</strong></td>
<td><strong>4-HOLE</strong></td>
</tr>
<tr>
<td>Capacity—Bushels per hour</td>
<td>Limited by requirements</td>
<td>25-40 power* 20 hand</td>
<td>100-150*</td>
<td>150-250*</td>
</tr>
<tr>
<td>Power required</td>
<td>Hand or 1 H.P. engine</td>
<td>Hand or 1½ H.P. engine</td>
<td>6 H.P.</td>
<td>10 H.P.</td>
</tr>
<tr>
<td>Power transmission</td>
<td>Crank or pulley</td>
<td>Crank or pulley</td>
<td>Belt drive, right angle or parallel</td>
<td>Belt drive</td>
</tr>
<tr>
<td>Drive regularly furnished</td>
<td>Crank</td>
<td>Crank and pulley</td>
<td>Belt drive</td>
<td>Belt drive</td>
</tr>
<tr>
<td>Regular pulley</td>
<td>8-in. Dia., 3-in. face (special)</td>
<td>6-in. Dia., 3-in. face (regular)</td>
<td>14-in. Dia., 4½-in. face (regular)</td>
<td>24-in. Dia., 6-in. face (regular)</td>
</tr>
<tr>
<td>Speed</td>
<td>165 pulley, 45 crank</td>
<td>250 pulley, 50 crank</td>
<td>325-375 R.P.M. belt pulley</td>
<td>375-425 R.P.M. belt pulley</td>
</tr>
<tr>
<td>Special pulleys furnished in place of regular on original order (no charge)</td>
<td>None</td>
<td>10, 12, 14 or 16-in.</td>
<td>10, 12, 14, 16, 18, 20, 22 or 26-in.</td>
<td>6, 8, 10, 12 or 16-in.</td>
</tr>
<tr>
<td>Regular equipment</td>
<td>Feed table, flywheel and crank</td>
<td>Feed table, flywheel, crank and pulley</td>
<td>Adjustable cob stacker, 9-ft. long</td>
<td>Swinging cob stacker, 12-ft. long</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Wagon-box elevator</td>
<td>Wagon-box elevator</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Suction fan</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Self-feeder</td>
</tr>
<tr>
<td>Instead of wagon-box elevator on original order (no charge)</td>
<td>Fan, belt pulley</td>
<td>Sacking elevator and wagon box elevator</td>
<td>Extension feeder Bagger</td>
<td>Extension feeder Bagger</td>
</tr>
<tr>
<td>Extra equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approximate weight-pounds</td>
<td>125</td>
<td>252</td>
<td>1185</td>
<td>2480</td>
</tr>
</tbody>
</table>

*The limits of the capacities given are approximate for husked corn under ordinary conditions.

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McCormick-Deering Corn Shellers

Quality Construction Throughout

The McCormick-Deering two and four-hole all-steel shellers have frames built of angle steel bars formed to the proper shape. The siding is made of heavy sheet metal bolted in place.

These shellers are regularly equipped with self-feeder and cob stacker. They can be set for either right angle or parallel belt drive, so that where space is limited on account of the location of buildings, the most convenient arrangement may be utilized.

The interior construction of these machines is practically the same with the exception that one accommodates two ears of corn at a time, and the other four.

The height of the four-hole all-steel sheller to the top of the elevator is 117 inches. When folded, the height is 70½ inches. The length without pole is 154 inches and the width overall 65 inches.

The height of the two-hole all-steel sheller to top of wagon box elevator is 107 inches. The overall height when folded for transportation or storage is 65 inches. The length for storage with stacker and hitch removed and elevator folded down, is 105 inches. The length of the machine overall, set up for operation, is 184 inches. The width is 48 inches.

Feeder Easily Controlled

The feeder consists of parallel chains equipped with prongs which carry the ears of corn directly into the shelling device. The two-hole sheller has two feeder chains, and the four-hole machine has four chains. The feeder is so constructed that it will not clog readily and has a throw-out lever so it can be stopped to allow the machine to clear itself.

Rapid Shelling Device

The shelling mechanism of the two and four-hole all-steel shellers does very fast work without breaking the kernels or scoring the cobs. The rag irons are adjustable from the outside of the machine. In addition they are under spring tension so that ordinary variations in the size of ears are followed automatically. Convenient adjustments for large or small ears can be made by means of the adjusting screws.

Ears Revolved and Shelled Clean

The picker wheel revolves the ears as they pass into the shelling device and the spiral arrangement of the teeth on the picker shaft draws the ears in and shells them. There is no crowding or crushing of the kernels or cobs.

Corn and Trash Thoroughly Separated

The shelled corn falls from the shelling device upon the separating chains. These are agitated by cams, and as they carry the cobs out into the cob stacker, the shelled corn and fine trash fall through to the chamber below. A blast of air from the fan blows out any remaining trash and assures perfect cleaning of the corn.
McCormick-Deering Corn Shellers

Efficient Shelled Corn Elevator

The shelled corn elevator has a positive chain and sprocket drive. It has sufficient capacity to take care of the maximum output of the machine without clogging. The spout is adjustable and can be swung through a range of a half circle.

Adjustable Air Blast

The fan is driven by a belt from the picker wheel shaft. There are wind gates on each side of the fan housing by which the intensity of the air blast can be regulated to blow out all trash without wasting any clean, shelled corn, no matter what the condition of the corn may be.

Angle Driving Mechanism

McCormick-Deering two and four-hole corn shellers can be used in close quarters because the driving belt can be run either parallel with the machine or at a right angle. The angle driving mechanism is a part of the regular construction of the machine and consists of a set of bevel gears. These gears are heavy and durable and are mounted in a rigid, strong bracket casting which holds them in perfect alignment.

Steel Axles and Wheels

The axles on the four-hole sheller are built of heavy, square steel. The axles on the two-hole sheller are round steel. The wheels are all-steel and have wide tires to make the machine light draft in transportation.

Four-Hole Sheller Folds Compactly for Transportation

The McCormick-Deering four-hole all-steel sheller can be reduced to a compact form for transportation. By removing the cob stacker and laying it on brackets attached to the side of the machine, and swinging the shelled corn elevator down on a special bracket, the outside dimensions of the machine are considerably reduced. The sheller can be easily transported through low doorways and under low bridges or trees.

When the two-hole sheller is being transported, the elevator is folded down. The stacker is not carried on the side of the sheller as on the four-hole machine but between jobs is carried in the wagon or other conveyance accompanying the shelling outfit.
McCormick-Deering Corn Shellers

Half-Circle Swinging Range

The cob stacker on the four-hole sheller is so constructed that it can be swung to any desired point from one side of the sheller to the other through a half circle. The stacker has a positive chain and sprocket drive which operates through a set of bevel gears in such a way that the angle at which the stacker is set does not interfere with the drive.

Cobs Cannot Slip Back

On the four-hole sheller the cob stacker trough is V-shaped and is made of sheet metal reinforced by angle-steel edges. The cobs are conveyed through the stacker trough by a chain having flat steel pads with the corners beveled or clipped off so as to conform in shape to the sloping sides of the stacker. This provides a positive and continuous movement for the cobs. To prevent the cobs from slipping back at the lower end of the stacker trough there is a steel flap. This flap swings forward over each paddle on the stacker chain, and is brought back to position by spring tension after the paddle has passed. The lower end of the trough is therefore completely closed at all times so no cobs can slip through. The movement of the flap also prevents the cobs bridging in the trough.

Cob Stack on Four-Hole Sheller

The stacker on the four-hole sheller is supported by means of a quadrant-controlled height-adjusting lever which permits the swinging of the delivery end, and setting it at any point on a half circle.

Two-Hole Cob Stacker

The cob stacker on the two-hole all-steel sheller differs from the four-hole. The two-hole stacker is stationary but it can be adjusted to height of the delivery end, but it cannot be swung in a half circle as the four-hole.

Dependable, Low-Cost Performance

McCormick-Deering two and four-hole all-steel shellers do fast, clean work and are built strong for long years of hard use. Quality materials and simplicity in design provide efficient shelling performance at an extremely low cost.
McCormick-Deering Corn Shellers

Short Elevator and Bagging Attachment

It is sometimes desirable to bag shelled corn, and in order to make this convenient a short elevator and bagger can be furnished with the McCormick-Deering two and four-hole steel shellers at extra cost.

The four-hole bagger as shown in Illust. 10 is 5 feet 3 inches high, and attaches to the auger at the base of the sheller in the same manner as the wagon box elevator. A two-way bagger is provided with clamps at the end of each spout for holding the bags. There is also a lever at the upper end of the bagging spouts for directing the shelled corn into either spout so that one bag can be removed and tied while the other bag is being filled.

Illust. 10—A short shelled corn elevator and two-way bagging spout can be supplied for both the two and four-hole Shellers upon special order.

When the sheller is equipped with the short elevator and bagging attachment the height to top of elevator is only 5 feet 10 inches from the ground.

Extension Feeder Easily Attached

An extension feeder can be supplied which attaches readily to the regular feeder by means of clamps. An angle drive consisting of bevel gears driven by chain and sprockets makes it possible to set the extension feeder at any angle to the machine within the range of a half circle without interfering with the drive. The extension feeder consists of a first section with jack and any number of intermediate sections that may be required. A boot is attached to the end of the last section and is provided with adjusting cranks for keeping the chains tight. Extension feeder sections are supplied as extra equipment at additional cost.
The McCormick-Deering No. 1 cylinder corn sheller is probably the most satisfactory machine in the line for custom shelling. It is also favored by many farmers who raise corn exclusively and find that it pays them to own a large capacity machine. With a McCormick-Deering No. 1, early shelling can be done and the best prices for corn obtained. This machine also provides cobs for fuel.

Another important feature about this size sheller is that when the farmer is finished shelling his own corn he can take the outfit to his neighbors and shell there at a good profit to himself, and in this way make the machine help pay its own way.

The average farm tractor furnishes the necessary power to operate the McCormick-Deering No. 1 cylinder sheller successfully. It has large capacity, shells clean and leaves the cobs in good condition for fuel. The outfit folds in small space for transportation and when not in use can be stored without taking up an excessive amount of room.

Large Capacity—Clean Work
The No. 1 cylinder corn sheller, for its size and power required, is one of the most rapid shelling machines built. Its capacity is from 350 to 550 bushels of husked corn per hour and it can be operated with a tractor, supplying 16 to 20 h.p. on the belt. The corn is fed into the hopper, either directly or by means of an extension feeder. The ears are forced forward between a cylinder and a shelling cage by means of a spiral. The cage is composed of grates through which the shelled corn drops. The teeth on the cylinder are set at an angle so that the spiral they form carries the ears in between the cylinder and the grates and revolves them at the same time.

Substantial Frame
The frame of the machine is built up of heavy timbers, held together with joint bolts so that all joints can be kept tight. In addition to this, the construction of the machine is such that it is substantially braced by the bolting of the various parts in place and will not readily spring out of shape through operation or hauling over rough roads. The axles are wood with cast-iron skeins, but the bolsters through which they are bolted to the frame of the machine are cast-iron and the axle is well braced to the frame. The wheels are steel and have broad tires, which makes transportation easy.

Can Be Made Compact for Transportation
For transporting the machine from place to place, the cob stacker is removed and laid on brackets on the side of the machine. The blower pipe and shelled corn elevator can also be removed. The machine can then be transported over all ordinary roads and will clear low doorways, bridges, or trees.
McCormick-Deering No. 1 Cylinder Corn Sheller

Illust. 16—Interior of No. 1 Cylinder Corn Sheller showing shelling cage, A, and separating device, B.

Shelling Cage

In most corn shellers of the cylinder type it is a difficult matter to adjust the shelling cage for large or small ears, but in the McCormick-Deering the adjustment can be made from the outside of the machine by simply turning two cranks, one for each end of the cage. This makes it possible to open the forward end of the cage wider than the rear if desired, or vice-versa.

Illust. 17—The separating device consists of rows of triangular plates which revolve and keep the cobs in motion.

Thorough Separation

The No. 1 cylinder sheller separation is accomplished by means of an entirely original device consisting of seven sets of triangular sections. Each section is built up of a number of triangular sheet metal pieces, so spaced that the pieces composing one section overlap those of the other. They are timed so that in revolving the cobs are moved forward and constantly turned over until they pass out of the machine. This agitation thoroughly separates all the shelled corn and allows it to drop down between the sections to a chamber below, where it is subjected to a blast from the cleaning fan.

Suction Fan

As the mass of cobs and corn passes over the separator, it is subjected to a suction of air from the fan on top and near the end of the machine. This draws off all the husks and the light trash, while the remainder falls through with the shelled corn and is blown out by means of the cleaning fan underneath. The corn falls directly into an auger spout and is carried out into the shelled corn elevator on the side of the machine. From there it is delivered either into a wagon box, bin, or sacks, as the owner may wish.

Parallel or Right-Angle Drive

The McCormick-Deering No. 1 cylinder corn sheller can be driven with a belt running in either direction, parallel with the machine or at any right angles to the machine on either side, as may be most convenient. This makes it possible to place the machine in narrow places between buildings where it is most convenient for handling the corn, but which under ordinary circumstances would be impossible for lack of space in which to place the tractor.

Illust. 18—Extension feeder. A, connection between first and second sections and boot. C, one of two cranks for tightening chains.

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McCormick-Deering No. 2 Cylinder Corn Sheller

For Individual or Custom Work

The McCormick-Deering No. 2 cylinder sheller represents the latest and most practical design in power sheller construction, combining durability with light weight and easy running. It shells clean regardless of whether the corn has been husked clean or "dirty" and delivers the husks and trash separately from the cobs. Where corn has been husked hurriedly or merely snapped with the husks left on, or where the corn is tough and difficult to shell, the McCormick-Deering No. 2 will handle it easily and do an excellent job.

Ball and Roller Bearings

Among the many important features of the McCormick-Deering No. 2 sheller is the use of high-grade ball and roller bearings similar to those used in automotive construction. Eight ball bearings are used—two on the cylinder shaft, two on the cross shaft, two on the cleaning fan, and two in the fan drive tightener. The blower or suction fan has four roller bearings.

Swinging Cob Stacker

The cob stacker swings in a half circle and is adjustable to five positions. A slip clutch on the drive chain prevents breakage should the cob chain ever become clogged.

Convenient Self-Feeder

A large size self-feeder is constructed with heavy sheet steel sides and hopper riveted to an angle steel frame. The position of the feeder is at the end of the sheller. For transport, the lower end of the feeder is easily raised by hand, locked in position with a pin through the supporting angles near the axle, and carried on the machine.

Parallel or Angle Drive

The No. 2 cylinder sheller may be driven from either side with the driving belt at right angles to the machine or parallel with it. To drive parallel, the drive pulley is removed from the cylinder shaft and attached on the cross shaft which is extended for this purpose.

Shelling Mechanism

The ears of corn are shelled between the rapidly revolving cone-shaped cylinder and stationary concaves in the adjustable shelling cage which encircles it. The face of the cylinder has lugs arranged in spiral form which aid in revolving the ears lengthwise, at the same time working them toward the rear. This method shells kernels off the cobs much the same manner as when shelling an ear by hand. The cylinder is built up in sections and is carefully counterbalanced to eliminate destructive vibration.

Illust. 20—Interior view of the sheller showing the separating and cleaning mechanisms. "A" is the steel chute which aids in spreading the mass of shelled corn and cobs evenly across the stationary cob rack "B." "C" are cob walkers which agitate the mass and work the cobs to the rear. They are actuated by two four-way crankshafts. The shelled corn is cleaned by a blast of air from the cleaning fan "F" as it falls through the cleaning screen "D." It is then caught in the hopper "E" and carried away by auger to the elevator and then to the bagging spout. The cobs are delivered to the cob carrier "G," while the light trash and husks are drawn away by a powerful suction fan as indicated at "H."

Illust. 21—View of the shelling cage showing the upper concaves swung back to reveal the shelling cylinder. The cylinder is carefully counterbalanced and runs on ball bearings.

Illust. 22—Feeder side of the McCormick-Deering No. 2 All-Steel Cylinder Corn Sheller. Capacity, 150 to 250 bushels of husked corn per hour and from 75 to 125 bushels of snapped corn per hour.

Feb. 1935
McCormick-Deering XL Corn Sheller
Hand Operated or Power Driven

Illustr. 23—McCormick-Deering All-Steel XL Corn Sheller, hand type. The belt pulley at the bottom of the illustration is furnished as regular equipment.

Speed 50 R. P. M.
The crank speed is 50 r. p. m., giving a flywheel speed of 250 r. p. m. When driving with belt it is necessary that the speed of 50 r. p. m. be maintained to prevent the shelled corn from being carried out with the cobs. Operating the McCormick-Deering all-steel XL corn sheller at the proper speed prevents wear and breakage and prolongs the life of the machine.

Rag Irons Adjustable
The rag irons may be adjusted in two directions, an up-and-down movement and a side movement. The rag iron and picker and stripper wheels form a triangular opening for the ears of corn to pass through. The size of this opening is regulated to suit the size of the ear by tightening or loosening the rag iron tension belt.

Durable Construction
The McCormick-Deering all-steel corn sheller is extremely durable and sturdy in construction. It is built of the highest grade materials and accurately assembled. All wheels, gears and pinions are cast separately and fastened to the shaft instead of the shaft and pistons being cast all in one piece. This makes it unnecessary to replace parts other than those actually worn or broken.

Illustr. 23-A—McCormick-Deering All-Steel XL Corn Sheller equipped with bagging elevator.

Bagging Elevator
The bagging elevator attachment shown in Illustr. 23-A can be furnished at extra cost. It may be attached quickly and easily and will be found very convenient wherever considerable quantities of corn are to be bagged. It has an adjustment spout which may be swung to any desired position.

Seed Corn Tipper
A seed corn tipper on the end of the flywheel shaft is furnished regularly on XL shellers. This simple device is used for quickly removing tips and butts from ears of seed corn so that only the best and most uniform size kernels may be shelled and used for seed.

Feb. 1935
McCormick-Deering Corn Shellers

One-Hole Hand Steel Sheller

The McCormick-Deering one-hole hand sheller is a spring type sheller of all-steel construction. It can be furnished with or without fan.

Open Gear Teeth

The gear teeth on the back of the picker wheel, Illust. 24, are open at the bottom. This is also true of the teeth on the pinion with which it meshes. The openings at the bottom permit kernels of corn, which by accident may fall into the teeth of these gears, to pass on through without being crushed and drop down into the lower part of the machine. This same feature applies should any small stones or pieces of metal get into the sheller when it is in operation.

Wide Space Between Stripper Wheel Teeth

The wide spaces between the stripper wheel teeth are extra wide so that shelled corn readily falls out of these teeth. The corn does not lodge and become broken as is frequently the case in machines where the spaces between the teeth are comparatively narrow and shallow.

Saves Cost of Repairs

In McCormick-Deering hand shellers each gear wheel is a separate casting. The gears and pinions are keyed to the shaft so that they can be removed readily and replaced with new parts in case of accident. It is easy to see how much more economical it is to replace a broken pinion than to put in an entirely new picker wheel shaft with all parts cast together in one solid piece.

Bearings are Bored

On the McCormick-Deering sheller the shafts fit much better because each bearing is bored to the exact size to receive the shaft.

Belt Pulley Supplied as Extra

A belt pulley can be supplied as extra equipment at additional cost, so that the sheller can be power driven if so desired. A one-horse power engine gives sufficient power to operate the sheller at its full capacity.
McCormick-Deering Feed Grinders

McCormick-Deering feed grinders are made in three types and three sizes as shown in the table below. The Type B mills are designed to grind corn on the cob and crush the cobs. They will also grind small grains and shelled corn. The Type C mills grind all grains and shelled corn or a mixture of both. The Type D grinds corn in the husk, pulverizes the cobs and husks and makes a fine meal of the whole mass. They will grind corn on the cob and small grains.

In the table below the capacities are only approximate, as the speed of the mill, power, condition of the corn or grain to be ground and the degree of fineness to which it is to be ground influences the capacity. Care should be taken in choosing the right size pulley to give the required speed and a wide belt should be used in all cases. The mill should not be speeded above the maximum speed given in the table.

Regular Equipment

Belt pulley as listed in table below. One set of grinding plates attached to mill. One extra grinding plate. One set of cone breakers. Lag screws for attaching machine to floor. Supplemental bottom with Type B when ordered.

Extra Equipment

Choice of various size pulleys in place of regular pulley. Sacking elevator. Wagon elevator with swivel spout or bagging spout. Supplemental hopper.

Specifications

<table>
<thead>
<tr>
<th>GRINDER</th>
<th>POWER—SPEED—CAPACITY</th>
<th>REGULAR PULLEY Diam. Face</th>
<th>WIDTH OF BELT</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type &quot;C&quot; 6-in.</td>
<td>Engine horse power: 3</td>
<td>6 in.</td>
<td>6 to 8 in.</td>
<td>185 lb.</td>
</tr>
<tr>
<td></td>
<td>Grind speed, r. p. m: 450</td>
<td>4 to 6 in.</td>
<td>8 or over</td>
<td>255 lb.</td>
</tr>
<tr>
<td></td>
<td>Capacity bushel, per hour: 9-18</td>
<td>6 in.</td>
<td>24-48</td>
<td>365 lb.</td>
</tr>
<tr>
<td>Type &quot;C&quot; 8-in.</td>
<td>Engine horse power: 6</td>
<td>8 in.</td>
<td>10 in.</td>
<td>180 lb.</td>
</tr>
<tr>
<td></td>
<td>Grind speed, r. p. m: 600</td>
<td>8 in.</td>
<td>1200 lb.</td>
<td>255 lb.</td>
</tr>
<tr>
<td></td>
<td>Capacity bushel, per hour: 18-36</td>
<td>8 in.</td>
<td>24-48</td>
<td>365 lb.</td>
</tr>
<tr>
<td>Type &quot;B&quot; 6-in.</td>
<td>Engine horse power: 3</td>
<td>8 in.</td>
<td>24-48</td>
<td>180 lb.</td>
</tr>
<tr>
<td></td>
<td>Grind speed, r. p. m: 375</td>
<td>8 in.</td>
<td>10 in.</td>
<td>255 lb.</td>
</tr>
<tr>
<td></td>
<td>Capacity bushel, per hour: 9-18</td>
<td>8 in.</td>
<td>24-48</td>
<td>365 lb.</td>
</tr>
<tr>
<td>Type &quot;B&quot; 8-in.</td>
<td>Engine horse power: 6</td>
<td>8 in.</td>
<td>10 in.</td>
<td>180 lb.</td>
</tr>
<tr>
<td></td>
<td>Grind speed, r. p. m: 500</td>
<td>8 in.</td>
<td>1000 lb.</td>
<td>255 lb.</td>
</tr>
<tr>
<td></td>
<td>Capacity bushel, per hour: 18-36</td>
<td>8 in.</td>
<td>24-48</td>
<td>365 lb.</td>
</tr>
<tr>
<td>Type &quot;B&quot; 10-in.</td>
<td>Engine horse power: 8</td>
<td>10 in.</td>
<td>12 in.</td>
<td>180 lb.</td>
</tr>
<tr>
<td></td>
<td>Grind speed, r. p. m: 480</td>
<td>10 in.</td>
<td>1600 lb.</td>
<td>410 lb.</td>
</tr>
<tr>
<td></td>
<td>Capacity bushel, per hour: 24-48</td>
<td>10 in.</td>
<td>36-72</td>
<td>415 lb.</td>
</tr>
<tr>
<td>Type &quot;D&quot; 8-in.</td>
<td>Engine horse power: 6</td>
<td>8 in.</td>
<td>10 in.</td>
<td>180 lb.</td>
</tr>
<tr>
<td></td>
<td>Grind speed, r. p. m: 500</td>
<td>8 in.</td>
<td>1000 lb.</td>
<td>255 lb.</td>
</tr>
<tr>
<td></td>
<td>Capacity bushels, per hour: 12-36</td>
<td>8 in.</td>
<td>24-72</td>
<td>365 lb.</td>
</tr>
<tr>
<td>Type &quot;D&quot; 10-in.</td>
<td>Engine horse power: 8</td>
<td>10 in.</td>
<td>12 in.</td>
<td>180 lb.</td>
</tr>
<tr>
<td></td>
<td>Grind speed, r. p. m: 520</td>
<td>10 in.</td>
<td>1600 lb.</td>
<td>410 lb.</td>
</tr>
<tr>
<td></td>
<td>Capacity bushels, per hour: 18-36</td>
<td>10 in.</td>
<td>36-72</td>
<td>415 lb.</td>
</tr>
</tbody>
</table>

*Grinders should not be run above this speed.
McCormick-Deering Feed Grinders

Illustr. 2—The Type C Feed Grinder grinds small grain and shelled corn.

Type B for Corn on Cob

The Type B feed grinder shown in Illustr. 1, is equipped with cob breaker which crushes the cobs into small bits. There is an agitator which prevents ear corn from becoming clogged inside the hopper. All Type B grinders have flywheels.

Illustr. 3—The Type D Feed Grinder grinds corn in the husk, corn on the cob, and small grains.

The Type D grinder, Illustr. 3, is intended for grinding corn in the husk, and is provided with knives which cut the cobs and husks into small pieces so they can be ground into meal. The Type D will also grind corn on the cob and small grains.

Illustr. 4—Grinding mechanism of Type B feed grinder. A, is the agitator driving worm; B, agitator driving gear; C, agitator; D, cob breaker; E, concave; F, cob cutting knife; G, feed regulating slides; H, grinding plates; I, plate release lever; J, plate adjusting crank; K, hand lock nut.

Type C for Small Grain

The Type C grinder is designed for grinding small grain only. The hopper bottom slants toward the grinding plates and there is a spiral that forces the grain to the plates.

Illustr. 5—Grinding mechanism of Type D feed grinder. A, indicates the hand lock nut; B, plate adjusting crank; C, plate release lever; D, feed regulating slides; E, cob cutting knives.

Double-Faced Grinding Plates

McCormick-Deering grinders are equipped with grinding plates that do not clog when grinding damp or hard or soft grain. They are reversible and do fast grinding with minimum amount of power. The cone breakers help to break up the cobs.

Illustr. 6—Grinding mechanism of Type C feed grinder. H, indicates the grinding plates; I, plate release lever; J, plate adjusting crank; K, feeding spiral; L, hand lock nut.

Illustr. 7—Grinding plates and cone breakers used in all mills.

Feb. 1935
McCormick-Deering Feed Grinders

SPECIAL SIZE PULLEYS SUPPLIED AT EXTRA COST

<table>
<thead>
<tr>
<th>TYPE &quot;C&quot; GRINDER</th>
<th>TYPE &quot;B&quot; GRINDER</th>
<th>TYPE &quot;D&quot; GRINDER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>6-Inch</strong></td>
<td><strong>6-Inch</strong></td>
<td><strong>8-Inch</strong></td>
</tr>
<tr>
<td><strong>Diam.</strong></td>
<td><strong>Face</strong></td>
<td><strong>Diam.</strong></td>
</tr>
<tr>
<td><em>6&quot;</em></td>
<td>6&quot;</td>
<td>8&quot;</td>
</tr>
<tr>
<td>8&quot;</td>
<td>6 1/2&quot;</td>
<td>8 1/2&quot;</td>
</tr>
<tr>
<td>10&quot;</td>
<td>6 1/2&quot;</td>
<td>8 1/2&quot;</td>
</tr>
<tr>
<td>12&quot;</td>
<td>6 1/2&quot;</td>
<td>8 1/2&quot;</td>
</tr>
<tr>
<td>14&quot;</td>
<td>6 1/2&quot;</td>
<td>8 1/2&quot;</td>
</tr>
<tr>
<td>16&quot;</td>
<td>6 1/2&quot;</td>
<td>8 1/2&quot;</td>
</tr>
<tr>
<td>18&quot;</td>
<td>6 1/2&quot;</td>
<td>8 1/2&quot;</td>
</tr>
<tr>
<td>20&quot;</td>
<td>6 1/2&quot;</td>
<td>8 1/2&quot;</td>
</tr>
<tr>
<td>22&quot;</td>
<td>6 1/2&quot;</td>
<td>8 1/2&quot;</td>
</tr>
</tbody>
</table>

*Pulley regularly furnished with grinder.

**Concaves Protected from Breaking**

The concave of the Types B and C McCormick-Deering grinders is shown in Illustration 9. On the Type B it is provided with a knife, C, which helps to cut up the cobs. The bottom is formed in spiral ribs which help to break up the cobs and feed them to the grinding plates. The concave is held in position by wooden break pins which will give way before the concave is broken should any hard object get into the mill.

**Convenient Elevators**

Either a bagging elevator or a wagon box elevator can be supplied at extra cost. These elevators are strongly made and are easily attached or detached from the mills. The sacking elevator is regularly equipped with a double spout so that two bags can be attached and the feed switched from one to the other. A similar bagging spout can be supplied with the wagon elevator or swivel spout which can be turned in any convenient direction to discharge the feed.

**Illustrations**

Illustration 8—Cob breakers used in Type B and Type D mills. Top—8-in. D and 10-in. Band D. Center—8-in. B. Bottom—6-in. B.

Illustration 9—Concave and cob knife of Types B and D feed grinders.

Illustration 10—Short bagging elevator and bagging spout supplied at extra cost.

Illustration 11—Wagon elevator with bagging spout, also adjustable wagon spout.
McCormick-Deering Roughage Mill—No. 2

A Large Capacity Mill

The McCormick-Deering roughage mill No. 2 is of the flywheel type equipped with two straight knives and fifty-six reversible swinging hammers. The hammers are mounted on the flywheel disk in four groups and, when in operation and extended, swing in a circle 26 inches in diameter. Extra large ball bearings mounted at both ends of the flywheel shaft, and fully enclosed, run in a constant bath of oil.

Convenient Self Feeder

The self-feeder on the McCormick-Deering is similar to that used on ensilage cutters and in addition to having a regular conveyor apron has traveling fingers at both sides of the conveyor. This feature assures positive, uniform feeding of hay, cornstalks, and other roughages to the large feed opening where three constantly moving feeder forks pull the roughage into the feed rolls.

The self-feeder is built at a convenient height from the ground to permit easy feeding of roughage into the mill without strain on the operator. An automatic governor prevents overloading or slugging of the mill. A safety device consisting of a control lever extending across the feed conveyor acts as a safeguard and stops the conveyor apron instantly in an emergency.

Efficient Grinding Assured

The grinding screen on the McCormick-Deering, instead of being at the bottom of the mill, is at one side—a feature that assures positive grinding of all grains and roughages, fine or otherwise, according to the size of screen used.

The McCormick-Deering meets every grinding requirement and will grind wheat, oats, barley, rye, shelled corn, ear corn, Kafir corn, milo-maize, hegari, feterita, bundle oats, cornstalks, hay, baled hay, alfalfa, beans, peas, and grain sorghums both headed and in the bundle. Cotton seed and cotton seed cake can also be ground with the McCormick-Deering.

Regular Equipment

Drive Pulley ............................................. 6 in. dia., 10 in. face
Cyclone ..........................................................

Extra Equipment ..................................... 8 in. dia., 10 in. face
Two-Way Bagger
Knife-Grinding Attachment
Curved Knives

Specifications

<table>
<thead>
<tr>
<th>Power</th>
<th>Flywheel Speed</th>
<th>Feed Opening</th>
<th>No. of Hammers</th>
<th>Dia. of Hammers, Ext.</th>
<th>Approx. Ship Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 H.P. Minimum</td>
<td>1600 to 1650 R.P.M.</td>
<td>12½ in. x 6½ in.</td>
<td>56</td>
<td>26 in.</td>
<td>1356 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
Two Screens, Regular Equipment
The machine is regularly equipped and shipped with two screens, 3/4-inch round holes and 3/4-inch round holes, unless other special size screens are specified when ordering. The auger, located at the lower end of the screen directs the ground material to the blower fan which in turn lifts it to the cyclone.

Large Size, Steel Hopper
The McCormick-Deering roughage mill No. 2 is a large-capacity unit for individual or custom work. It is built with a large-size steel hopper at the side of the conveyor into which can be fed small grains and shelled corn; thus by use of proper screens, grain and roughage can be mixed in proper proportions as desired by the operator.

Cyclone, Regular Equipment
The cyclone on the McCormick-Deering is supplied as regular equipment and can be easily adjusted up or down. This feature permits the filling of sacks attached to the bagging spout or the delivery of ground feed into a truck or wagon. Two-way bagger and knife-grinding attachment are supplied as special equipment at small additional cost.
McCormick-Deering Hammer Mill—No. 1-A

Meets Practically Every Grinding Requirement

McCormick-Deering Hammer Mill No. 1-A will grind wheat, oats, barley, rye, shelled corn, ear corn, Kafir corn, milo maize, hegari, feterita, corn stalks, hay, alfalfa, beans, peas, grain sorghums, both headed and in the bundle; and various roughages.

The all-steel hopper has a gravity feed chute and a combination feeder door which regulates the feeding capacity of the mill. The feeder door has an adjustable gate for small grains. When grinding ear corn the gate is raised to top position.

Hammer Speed, 1900 to 2000 R.P.M.

When feeding roughage such as corn fodder, hay, or bundle oats, the feeder door is raised to a wide-open position which provides a clear passage in the chute and assures efficient grinding. The grain, or roughage, is ground and pulverized by the twelve heavy steel hammers revolving at approximately 1900 to 2000 r.p.m. The wind blast, produced by the rapidly revolving hammers, forces the ground grain or roughage up through the screen and into the cyclone feed collector where the feed drops into bags attached to the two-way bagging spout.

The screen on the McCormick-Deering is at the top, directly over the hammers, which permits even grinding of all materials and prevents waste.

The twelve hammers are of high-grade, heat-treated forged steel and are reversible, which doubles the wearing edge of the hammers. Bolted to the inside of the rotor housing are three interchangeable screens which serve as a grinding medium. The grinding screens extend completely around the rotor except for space occupied by the outlet screen and a pocket at the bottom into which foreign matter, such as nails, nuts, and wire, accumulates. Stationary breakers in the form of heavy thresher cylinder teeth help to break up the ear corn before the ears reach the hammers.

Ball Bearings

The flywheel is of the steel disk type, with one shredder bar (ensilage cutter type) which assists the hammers in pulverizing the roughage by first shredding and cutting it into small pieces. All moving parts, including the flywheel, are assembled on a shaft mounted on two large ball bearings. The ball bearings run in a bath of oil and are assembled in a housing, fully enclosed and protected at all times from dust, dirt, and water.

Two heavy steel pipes, mounted one on each side of the mill frame and extending to the top of the cyclone feed collector, serve as supports and add to the rigidity of the outfit. A convenient lever for controlling the flow of ground material when bagging is in the center of the two-way bagging spout.

Special equipment can be obtained for using the cyclone in a high position which makes it convenient to load the ground grain directly into a wagon or truck. When the cyclone is used in a high position, a cotton duck delivery tube is used in place of the two-way bagging spout.

Approximate Capacities

<table>
<thead>
<tr>
<th>Grain</th>
<th>Size Screen</th>
<th>H. P.</th>
<th>Approximate Capacities Pounds Per Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oats</td>
<td>1/4 in.</td>
<td>15 to 30</td>
<td>550 to 1250</td>
</tr>
<tr>
<td></td>
<td>3/8 in.</td>
<td>15 to 30</td>
<td>1200 to 2500</td>
</tr>
<tr>
<td></td>
<td>1/2 in.</td>
<td>15 to 30</td>
<td>1500 to 4000</td>
</tr>
<tr>
<td>Wheat</td>
<td>1/4 in.</td>
<td>15 to 30</td>
<td>2000 to 5200</td>
</tr>
<tr>
<td></td>
<td>3/8 in.</td>
<td>15 to 30</td>
<td>2300 to 5500</td>
</tr>
<tr>
<td>Shelled Corn</td>
<td>1/4 in.</td>
<td>15 to 30</td>
<td>1500 to 4000</td>
</tr>
<tr>
<td>Barley</td>
<td>1/4 in.</td>
<td>15 to 30</td>
<td>1500 to 4000</td>
</tr>
<tr>
<td>Ear Corn</td>
<td>1/4 in.</td>
<td>15 to 30</td>
<td>1500 to 4000</td>
</tr>
</tbody>
</table>

Screens Available

Round holes: 1/4, 3/8, 1/2, 3/4, 1 in., 1 1/4, 1 1/2, 2, 2 1/2, 3 1/2 and 4 1/2 in.

Square holes: 1/2, 7/8, 1, 1 1/4, and 1 1/2 in.

Oblong holes: 7/8 x 1 1/4 in.

Note: Unless other sizes of screens are specified when ordering, one 1/4-in. and one 3/8-in. round hole screen will be shipped with the mill.

Regular Equipment

Drive pulley (Rockwood Type) 5-in. diam., 8-in. face.
Cyclone feed collector. Two-way bagger.

Extra Equipment

Drive pulley (Rockwood Type) 4 1/2-in. diam., 8-in. face.
Drive pulley (Rockwood Type) 6-in. diam., 8-in. face.
Drive pulley (Rockwood Type) 7-in. diam., 8-in. face.
Feed table 23 1/2-in. wide, 48-in. long.
Parts for using cyclone feed collector in high position.

Specifications

<table>
<thead>
<tr>
<th>Power</th>
<th>Flywheel Speed</th>
<th>No. of Hammers</th>
<th>Dia. of Hammers Ext.</th>
<th>Width</th>
<th>Approx. Ship. Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 H.P. Minimum</td>
<td>1900 to 2000</td>
<td>12</td>
<td>24-in.</td>
<td>54 1/4 in.</td>
<td>470 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Hammer Mill—No. 1-B

Rotor Assembly Steel-Disk Design
In appearance and size the McCormick-Deering Hammer Mill No. 1-B is very similar to the No. 1-A mill, but its construction is entirely different. The flywheel or rotor assembly is of the steel-disk design and equipped with 48 swinging hammers which operate in a 24-inch diameter circle when hammers are extended. These hammers are reversible, end for end and side for side, which provides four grinding edges.

Reversible Grating Plate Liners
The flywheel or rotor disk shaft is mounted on taper roller bearings which run in a bath of oil and revolve at a speed of from 1900 to 2000 r.p.m. The rotor housing is of steel-plate design with a hinged cover at the top which makes it easy to change the grinding screens, shredder bars and knives. Bolted on the inside of the rotor housing and housing cover are the grinding plate liners which can be reversed easily when one side becomes worn.

Alemite Lubrication
The blower fan shaft is mounted on ball bearings. All moving parts are equipped with the Alemite system of pressure lubrication.

Regular Equipment
Drive pulley (Rockwood Type) ........................................5 in. dia., 8 in. face
Cyclone, Two-Way Bagger.

Extra Equipment
Drive pulley (Rockwood Type) ........................................6 in. dia., 8 in. face
Drive pulley (Rockwood Type) ........................................7 in. dia., 8 in. face
Parts for using cyclone in high position.

Specifications

<table>
<thead>
<tr>
<th>Power</th>
<th>Flywheel Speed</th>
<th>Number of Hammers</th>
<th>Dia. of Hammers Ext.</th>
<th>Weight</th>
</tr>
</thead>
</table>
| 15 H.P. Minimum | 1900 to 2000   | 48                | 24 in.               | 531 lb.

Approximate Capacities (Pounds per Hour)

<table>
<thead>
<tr>
<th>Size Screen</th>
<th>Oats</th>
<th>Wheat</th>
<th>Shelled Corn</th>
<th>Barley</th>
<th>Ear Corn</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4 in.</td>
<td>1100 to 2200</td>
<td>4000 to 11000</td>
<td>3500 to 9300</td>
<td>3700 to 9300</td>
<td>2000 to 5000</td>
</tr>
<tr>
<td>5/16 in.</td>
<td>3300 to 7300</td>
<td>4600 to 11500</td>
<td>3700 to 9700</td>
<td>3700 to 9800</td>
<td></td>
</tr>
<tr>
<td>3/16 in.</td>
<td>3500 to 8500</td>
<td>4600 to 11500</td>
<td>3700 to 9700</td>
<td>3700 to 9800</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: The capacities shown above are approximate and will vary according to the fineness of grinding required, speed of mill, power applied and condition of materials to be ground.

Feb. 1935
McCormick-Deering Hammer Mill—No. 1-B


Various Size Screens Available
This mill can be equipped with either two reversible cutter knives or two shredder bars. Knives are shipped with the mill as regular equipment unless otherwise specified. The grinding screen is mounted in a vertical position and can be secured in any size from 1/8-inch diameter round hole to 2 1/4-inch round hole. If sizes of screens are not given when ordering, the 3/4-inch round hole and 3/4-inch round hole will be furnished with the mill. At the lower end of the screen an auger directs the ground material into the blower fan which blows the ground grain or roughage up into the cyclone.

Gravity Feed
The large-capacity feed hopper on the No. 1-B mill is of the gravity feed type and located at the side of the rotor housing. The angle of the hopper can be adjusted easily, which permits faster feeding; consequently increased capacity. On the inside, or directly in the throat of the hopper is a baffle of sectional hinged retarder fingers which help to regulate the feed when grinding ear corn and prevents stalks and shelled corn from kicking back from knives or shredder bars.

Convenient, Easy to Operate
When grinding small grain, the quantity entering the mill is controlled by the adjustable gate on the feeder door. Corn fodder, hay, etc., are fed into the mill by raising the feeder door to the wide open position. A pocket having a clean-out door, which can be removed easily, is located in one corner of the rotor housing. This pocket collects all nails, wire, bolts, etc., which otherwise might be forced through the mill. The cyclone is held in position by a single pipe support which permits the cyclone to be used at either side of the mill. A two-way bagger is supplied as regular equipment.

An All-Purpose Mill
McCormick-Deering Hammer Mill No. 1-B will grind wheat, oats, barley, rye, shelled corn, ear corn, Kafir corn, milo maize, legari, feterita, cornstalks, hay, alfalfa, beans, peas, grain sorghums, both headed and in the bundle; and various roughages.

Illustration 3—Cyclone in high position, from which the ground grain can be loaded easily and quickly into a wagon or truck.

Feb. 1935
McCormick-Deering Riding Beet Puller No. 3

The McCormick-Deering No. 3 beet puller is easily controlled by means of one lever conveniently located to the right of the operator. Two powerful counterbalancing springs assist this lever in raising and lowering the lifter blades. The axles swing forward as the lifters are raised, keeping the puller always in balance. Three horses will easily pull the machine under usual conditions. The tongue is set to the side of the frame when three horses are used, but it can be set to the center for using two or four horses.

Good Work in Heavy Foliage

The frame and standard construction give ample clearance for heavy foliage. Rolling coulters are located in the right position to cut off outside leaves and make the work easier for the lifters. The front wheels also assist in this work. They have V-shaped rims and assist greatly in holding the puller to the row.

Strong Adjustable Standards

The standards are of extra-heavy, high-quality steel and are easily shifted in or out to regulate the space between the lifter blades. When set at the angle most favorable for easy penetration, the standards are locked by two set screws. The blades are of an improved pattern designed to catch the beets toward the top so that it is not necessary to run the lifters very deep.

Adjustable Wheel Width

The main wheels are 34 in. in diameter and can be set for different widths of tread, as each wheel box is in the form of a long sleeve. On both the main wheels and the front wheels, the wheel box is covered on the inside by a sand band and on the outer end by a dust-proof, hard-oil screw cap.

Regular Equipment

Two CWRC-1 13-in. rolling coulters. POWE-53 three-horse evener. Forged steel lifter blades with detachable points. Neckyoke with three holes at each end so that it can be adjusted for different widths of rows.

Extra Equipment

POWE-57 four-horse evener.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Riding beet puller with 3-horse evener</td>
<td>660 lb.</td>
</tr>
</tbody>
</table>

Illustration:

- Illustration 1: The McCormick-Deering No. 3 Riding Beet Puller.
- Illustration 2: These easy-acting foot guides make it a simple matter to follow the row. The seat rails are rigidly connected to the frame of the machine.
McCormick-Deering Potato Diggers

The elevators on McCormick-Deering one and two-row power-driven potato diggers are operated by the power take-off from the tractor. There are no lugs on the digger wheels to clog with mud and cause the shovel to rise too high for efficient digging. There is not the extra weight of an auxiliary engine that has to be lubricated and kept in condition. Most of all, the speed of the elevator is very much more easily controlled. This means fewer bruised potatoes—a factor which in itself often goes a long way in paying for the cost of a power-driven digger.

Elevators Are Wide—26 Inches
The elevator is 26 inches wide, providing nearly 20 per cent more separating area than an ordinary digger. Therefore a correspondingly smaller amount of agitation and speed of the elevator is needed to liberate the potatoes from the soil. There is less wear on the links—they last longer.

Wide Range of Elevator Speeds
In addition, the speed of the elevator can be controlled accurately to meet varying soil requirements. In addition to rollers for use in light, sandy soil where no agitation is needed, three different-sized agitator sprockets are supplied as regular equipment. An automobile-type of three-speed transmission, available on special order, enables the operator to change the elevator speed quickly. This transmission has a reverse which makes it possible to dislodge a stone from the elevator simply by reversing its direction of travel. Four different-sized sprockets for the drive chain on the apron-shaft also are available, an intermediate size being supplied with each digger.

This combination of controls makes it possible to run the elevator at all times at the slowest speed consistent with efficient separation of the soil from the potatoes. The hazard of bruising potatoes is reduced to a minimum.

Regular Equipment

Extra Equipment

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Size</th>
<th>Type Elevator</th>
<th>Hitch Available</th>
<th>Delivery</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>7-ft.</td>
<td>Rod Link</td>
<td>1-row for F-12, F-20, F-30, 10-20 or 15-30 tractors</td>
<td>Extension elevator</td>
<td>1440 lb.</td>
</tr>
<tr>
<td>11</td>
<td>7-ft.</td>
<td>Rod Link</td>
<td>2-row for Farmall-20 or Farmall-30</td>
<td>Extension elevator</td>
<td>2906 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Potato Diggers

Illust. 2—McCormick-Deering No. 10 one-row power-driven Potato Digger with 3-speed transmission (supplied on special order).

Strong Construction
McCormick-Deering power-driven potato diggers are capable of standing up under the most difficult work. The frames are built of strong angle-steel bars, solidly braced to resist excessive strain. The sides are steel plates and the beams are of extra strong I-beam steel. There is ample clearance under the beams for vines and trash, and a center cleaning device on the two-row digger keeps the space between the two diggers free from obstruction. The elevator links are tempered to give the very finest wearing qualities possible. The links are so shaped that should one of them break, it can be easily and quickly replaced.

Illust. 3—These three types of shovels are available for use with McCormick-Deering potato diggers. The long shovel “B” is supplied regularly while the short shovel “A” and the special “Black Root” shovel “C” may be obtained on special order. “A” and “B” are available in either 22 or 26-in. width and “C” in 26-in. width only. Note that the blade of the “Black Root” shovel extends beyond the sides of the elevator. This facilitates sliding tough varieties of roots off the ends of the shovel. These shovels are heat-treated.

Illust. 4—Roller type of fore truck available for two-row potato digger. The rollers, running one on the top of each bed, are a big help, particularly on uneven ground, in keeping the digger shovels at a constant level with relation to the beds regardless of irregularities in the beds or between the beds where the tractor wheels travel. Because the rollers are located inside the tractor drawbar, the digger is just as closely coupled to the tractor as when the fore truck is not used. A similar fore truck, with one roller, is available for the one-row power-driven digger, and a roller type of tongue truck is available for horse-drawn diggers.

Feb. 1935
McCormick-Deering Potato Diggers

Illust. 5—View of power take-off and tractor hitch on two-row digger. Note the straight line of power direct from the tractor back through the transmission and final drive on the digger. Note also the drop hitch, providing a low line of draft. This contributes considerably to the ease of operating the outfit successfully up and down hill.

Illust. 6—Interchangeable agitator sprockets for use on McCormick-Deering diggers. In loose soil where little agitation is needed, the roller "A" is used. Sprockets "B" and "C" provide a normal amount of agitation, while the extra length sprocket "D" may be used in soils where extreme agitation is needed. These parts are of hard white iron and therefore need no oiling. Greasing them would cause the soil and sand particles to form a grinding paste which would increase wear.

Illust. 7—Two rod-link deflectors—one for each side of the machine—can be supplied on special order for use with McCormick-Deering diggers to lay the potatoes in a single row behind the digger.

Illust. 8—How the links of the front elevator and the extension elevator of McCormick-Deering diggers may be joined to form one continuous apron for use in soils where the drop of the potatoes from the front elevator to the extension elevator would cause bruising. Arrow points to the attachment which holds the apron off the ground.

Feb. 1935
McCormick-Deering Potato Diggers

Illust. 9—McCormick-Deering No. 7, 7-ft. rod-link, four-horse Potato Digger with 22-in. elevator and two-wheel tongue truck. Roller type tongue truck for use in uneven ground and heavy vine conditions can be supplied at slight additional cost.

Strength and Light Draft

McCormick-Deering one-row horse-drawn potato diggers combine strength with light draft to an extent that assures them of many years of dependable service. They get all the potatoes under the most difficult conditions.

Three different sizes of agitator sprockets, in addition to rollers, are available to provide the correct amount of agitation of the rod link elevators according to the condition of the soil.

Rod Link or Riddle Type Elevator

The rod link type of elevator meets the requirements in most sections but in localities where the ground is very stony, the riddle or bar-grate type of elevator is preferred. The McCormick-Deering 6-ft. digger can be furnished with riddle type elevator when wanted. No stone trap is necessary on this type of digger. The riddle type cannot be converted to the rod link type nor vice versa.

High-Quality Steel Links

As on the power-driven diggers, the rod link elevators are made of heavy, high-carbon, heat-treated steel. This steel is much stronger than ordinary steel, or steel that is low in carbon.

Regular Equipment

Automobile-type two-wheel tongue truck. 30-in. wheels and 2-horse hitch on 6-ft. diggers, 36-in. wheels and 4-horse hitch on 7-ft. diggers. Spade lugs. Standard-size shovel.

Extra Equipment

Roller truck in place of regular truck. Short shovel, “Black Root” shovel for No. 9 digger. Side hill lugs. 4-horse hitch for 6-ft. diggers. Road rings (specify whether for 30 or 36-in. wheels). Rolling coulter. Tractor hitch. Stone trap. 3-in. extension rims. Continuous apron attachment (except No. 4 digger). Straight instead of offset apron links. These diggers can be supplied less the ground driving parts if it is desired to drive the elevator with an engine. Parts can be supplied for attaching well-known makes of engines. 30-in. wheels for 7-ft. diggers.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Size</th>
<th>Type Elevator</th>
<th>Width Elevator</th>
<th>Hitch Furnished</th>
<th>Delivery</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>6-ft.</td>
<td>Riddle</td>
<td>22-in.</td>
<td>2-horse</td>
<td>Shaker and vine turner</td>
<td>1085 lb.</td>
</tr>
<tr>
<td>5</td>
<td>6-ft.</td>
<td>Rod link</td>
<td>22-in.</td>
<td>2-horse</td>
<td>Shaker and vine turner</td>
<td>1070 lb.</td>
</tr>
<tr>
<td>3-A</td>
<td>6-ft.</td>
<td>Rod link</td>
<td>22-in.</td>
<td>2-horse</td>
<td>Extension elevator</td>
<td>1045 lb.</td>
</tr>
<tr>
<td>6</td>
<td>7-ft.</td>
<td>Rod link</td>
<td>22-in.</td>
<td>4-horse</td>
<td>Shaker and vine turner</td>
<td>1195 lb.</td>
</tr>
<tr>
<td>7</td>
<td>7-ft.</td>
<td>Rod link</td>
<td>22-in.</td>
<td>4-horse</td>
<td>Extension elevator</td>
<td>1170 lb.</td>
</tr>
<tr>
<td>9</td>
<td>7-ft.</td>
<td>Rod link</td>
<td>26-in.</td>
<td>4-horse</td>
<td>Extension elevator</td>
<td>1240 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering Potato Diggers

Rear Shaker and Vine Turner

The Nos. 4, 5, and 6 diggers are equipped with rear shaker and vine turner. This equipment is best for normal digging conditions, as the vine turner deflects the vines to the side, leaving the potatoes in a clean neat row behind the digger. Where the soil is sticky or hard to shake out and an extra amount of agitation is required, the extension elevator adds about 3 feet of cleaning capacity and gives cleaner separation of the potatoes from the soil.

The specially designed tongue truck permits the McCormick-Deering digger to be turned in a remarkably short space.

Convenient Attachments

The rolling coulter will be found useful where the vines are green and heavy, or where the ground is weedy and trashy. Under usual conditions rolling coulters are not necessary.

The roller type tongue truck is an advantage in uneven ground and heavy vine conditions.

The stone trap can be used to advantage on rod link diggers in certain conditions of stony ground. Where the digging is extra heavy some users prefer to operate the elevator by means of an engine mounted on top of the digger. Parts for attaching well-known makes of engines can be supplied.

The road rings are well worth their slight additional cost when the digger is to be transported over hard roads.

Feb. 1935
McCormick-Deering Potato Digger—No. 3

Ilust. 16—McCormick-Deering No. 3 Potato Digger.

Shaker

The grate is hinged at the front. A five-pointed wheel under the grate gives it an up-and-down motion which thoroughly sifts the soil from the potatoes as they pass over the rods. The outside fenders on the sides of the grate keep the potatoes on the grate and cause them to be deposited behind the digger without scattering, making it easier to gather them up.

Potatoes dug with the McCormick-Deering potato digger are clean and whole and bring a better price on the market than potatoes dug the old way.

Blade

The blade is made of solid steel and is perfectly straight, to scoop the potatoes up onto the shaker. It gets clear down under the potatoes without cutting any of them. Furthermore, there is no waste occasioned by potatoes being left in the ground.

Runners

The runners steady the digger and prevent the jar occasioned by the action of the shaker wheel from being transmitted to the digger itself. In other words, the vibration of the shaker wheel is not transmitted to the hands of the operator.

Forecarriage

The forecarriage consists of a heavy lateral cross bar securely fastened to the beam and long enough to place the gauge wheels far enough apart so that they straddle the rows and do not crush or mutilate the potatoes. Each wheel runs on the solid ground between the rows, thereby keeping the digger on an even course and permitting it to work at a uniform depth. This feature of having two gauge wheels set wide apart also prevents clogging as often happens with diggers having but one gauge wheel. The wheels can be adjusted up or down or sideways to suit conditions.

Fender

The fender comprises a steel shank and a grey iron spool designed to clear away the weeds and vines, preparing the way for the blade. It is adjusted up or down as the digger is adjusted to run deep or shallow.

Beam

The beam is made of flat bar steel, which gives the necessary strength without adding undue weight.

Hitch

The hitch consists of a regular walking plow clevis, cross clevis and shackle, which gives ample adjustment laterally and vertically.

Handles

The handles are made of well-seasoned oak and are adjustable up or down to suit the operator.

Regular Equipment

Furnished with Forecarriage and Fender.

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Potato Digger</td>
<td>151 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering Farmall Tractors

Equipment and Specifications

Regular Equipment


Farmall 20: Belt pulley. Power take-off. 40 x 6-in. rear wheels with 3 \( \frac{1}{2} \) x 15 \( \frac{1}{2} \)-in. angle lugs. Combination kerosene and gasoline manifold. Oil filter. Air cleaner. 1 H.C magnetor with automatic impulse coupling. Regular or narrow tread.

Farmall 30: Belt pulley. Power take-off. 42 x 8-in. rear wheels with 5-in. steel spade lugs. Combination kerosene and gasoline manifold. Oil and air filters. 1 H.C magnetor with automatic impulse coupling. Regular or narrow tread.

Extra Equipment

Farmall 12: Wide-tread front axle with 22 \( \frac{1}{2} \) x 3 \( \frac{1}{2} \)-in. steel wheels with skid rings, or with 5.25 x 16-in. pneumatic tires. Rear wheels with 9.00 x 36-in. pneumatic tires, front wheel with 7.50 x 10-in. pneumatic tire. (Will supply with pneumatic front and steel rear, or with regular front wheel and pneumatic rear.) Single rim rear wheels with angle lugs. Kerosene attachment. Rear wheel fenders. 5-in. spade lugs. 3 \( \times \) 9-in. meadow lugs. Over treads for regular rear wheels with 4-in. spade lugs. 6-in. extension tires for rear wheels. Electric lighting attachment. Front wheel double-end mud scrapers. Lister skid ring attachment. Radiator screen and guard.

Farmall 20: Wheels 42 x 12, with 4-in. spade lugs. Single-rim rear wheels with angle lugs. Open center rear wheels with spad lugs. Pneumatic tires: 6.00 x 16 in. front, 9.00 x 36 in. rear, or 11.25 x 24 in. rear. Will supply pneumatics on rear, steel front, or pneumatics front, steel rear. 5-in. spade lugs. 6-in. extension rims for 40 x 6 or 42 x 12-in. rear wheels. 4 x 3 x 21-in. angle lugs for open rear wheels. Meadow lugs (3 \( \frac{1}{2} \)-in. high). 4-in. extension tires for front wheels. Blade extensions for angle lugs for skeleton rear wheels. Overtires for all wheels (specify wheels and lugs). Adjustable 8-in. overtires with 4-in. spade lugs for regular rear wheels. Cushion seat attachment. Double-end mud scrapers for front wheels. Cotton shields. Fenders. Electric lighting attachment. Wide-tread front axle attachment for narrow-tread tractors.


Farmall Specifications

<table>
<thead>
<tr>
<th>Farmall 12</th>
<th>Farmall 20</th>
<th>Farmall 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>16-in. or 210 or 12-in. plows</td>
<td>2-plow</td>
<td>3-plow</td>
</tr>
<tr>
<td>2( \frac{1}{2} ), 3, and 3( \frac{1}{2} )</td>
<td>2( \frac{1}{2} ), 2( \frac{1}{2} ), 3( \frac{1}{2} ), 3( \frac{1}{2} )</td>
<td>3( \frac{1}{2} ), 3( \frac{1}{2} ), 3( \frac{1}{2} ), 3( \frac{1}{2} )</td>
</tr>
<tr>
<td>1400</td>
<td>1200</td>
<td>1150</td>
</tr>
<tr>
<td>Bore and Stroke</td>
<td>Factory sealed</td>
<td>Factory sealed</td>
</tr>
<tr>
<td>3 by 4 in.</td>
<td>3( \frac{1}{2} ) by 5 in.</td>
<td>4( \frac{1}{2} ) by 5 in.</td>
</tr>
<tr>
<td>12( \frac{1}{2} ) by 5 in.</td>
<td>14 by 6( \frac{1}{2} ) in.</td>
<td>14( \frac{1}{2} ) by 7 in.</td>
</tr>
<tr>
<td>538</td>
<td>654</td>
<td>682</td>
</tr>
<tr>
<td>538</td>
<td>2195</td>
<td>2612</td>
</tr>
<tr>
<td>610</td>
<td>505</td>
<td>554</td>
</tr>
<tr>
<td>25 by 4 in.</td>
<td>2395</td>
<td>25 by 4 in.</td>
</tr>
<tr>
<td>81( \frac{1}{2} ) in. to C to C</td>
<td>25 by 4 in.</td>
<td>83( \frac{1}{2} ) and 11( \frac{1}{2} ) in.</td>
</tr>
<tr>
<td>54 by 6 in.</td>
<td>140 in.</td>
<td>42 by 12 in.</td>
</tr>
<tr>
<td>44( \frac{1}{2} ) to 79 in.</td>
<td>86( \frac{1}{2} ) and 95( \frac{1}{2} ) in.</td>
<td>77( \frac{1}{4} ) and 83( \frac{1}{2} ) in.</td>
</tr>
<tr>
<td>76 in.</td>
<td>8 ft.</td>
<td>94 in.</td>
</tr>
<tr>
<td>1251 in.</td>
<td>Thermosiphon</td>
<td>147 in.</td>
</tr>
<tr>
<td>74( \frac{1}{2} ) in. (ends of axles)</td>
<td></td>
<td>89( \frac{1}{2} ) and 97( \frac{1}{2} ) in.</td>
</tr>
<tr>
<td>7 ft.</td>
<td></td>
<td>83( \frac{1}{2} ) ft.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pump and splash</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pump and splash</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12 in. single plate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12 in. single plate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gear and sector enclosed</td>
</tr>
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</tbody>
</table>

ILLUS. 1—Farmall 20 turns on an 8-ft. radius, Farmall 12 on a 7-ft. radius, and Farmall 30 on an 8\( \frac{1}{2} \)-ft. radius.
The Farmall System of Farming

Ten years have passed since the original McCormick-Deering Farmall was offered to American farmers. Nothing since the invention of the McCormick reaper has done so much to lighten farm labor. Farmall tractors have not only made individual farm operations easier on nearly 200,000 row-crop farms, they have so systematized farm management as to make farm life simpler and easier than it has ever been in the whole history of agriculture.

Not Just a Tractor

Farmall is not just a tractor. A Farmall and the machines designed to work with it, as time-saving, labor-saving units on all crop operations, constitute a system of farming—the Farmall system. It took nearly ten years to perfect the first Farmall, and the reason why it took so long was that Harvester Company designers were studying every phase of farm operation—every crop operation—and building the tractor to fit every farm power requirement. That's why a Farmall is the ideal power unit for any farm.

Three Sizes Now

The original Farmall was the 2-plow size. With improvements, and a good 10 per cent more power, this 2-plow size is now known as Farmall 20. As the popularity of the Farmall system spread, the Farmall 30 3-plow tractor was brought out for the large farms, then the Farmall 12 for smaller operations and for any farm as an auxiliary tractor. These three sizes meet the requirements of row-crop farms everywhere.
They Cultivate Row Crops

Before the McCormick-Deering Farmall was built there were successful farm tractors, but these tractors would not cultivate row crops, and the row-crop farmer had to keep too many horses. The Farmall did away with that necessity. With the Farmall and a 2 or 4-row cultivator the Farmall owner can do at least as good a job of cultivating as he could with horses, and he does it several times as fast. The Farmall supplies economical power for his plowing and tillage work, planting and cultivating, to cut and harvest his hay, operate the binder, the corn picker or the potato digger. His whole power requirement is thus included in one efficient, economical, easy-handling power unit.

The Farmall Engine

All McCormick-Deering Farmalls are equipped with the same type of 4-cylinder engine. The bore and stroke of each is shown in the table of specifications. These engines are equipped with McCormick-Deering replaceable cylinders. This construction eliminates expensive reboring operations should the cylinders become scored through neglect or worn through long use. One or more cylinders may be removed and replaced with new cylinders without unbalancing the engine. The replaceable cylinder is the power-producing part of the McCormick-Deering engine actually as good as new. Replacement can be speedily, easily, and economically made without removing the engine from the tractor.

Triple Power Tractors

Farmall tractors come completely equipped to deliver steady, dependable power for all drawbar and belt work, and to operate, through the power take-off, the mechanisms of such machines as the tractor binder, mower, potato digger, corn picker, etc. There is no stumping a Farmall farmer—he has power for every emergency—power that does not have to be bedded down, curried nor fed—power that does not eat when it's idle, never gets soft, and never gets tired, even in those long, hot days of harvest time.

Farmall 12

The Farmall 12 is the latest addition to the Farmall line. It has ample power to pull one 16 or 18-inch plow, or two 10 or 12-inch plows. It will plow, harrow, and plant, and with one of the Farmall-12 cultivators one man can do as much work as three or four men with six or eight horses. As a cultivating tractor it really is a wonder—easy to handle in any field—and ordinarily operates on about a gallon of fuel an hour.

As regularly equipped, Farmall 12 operates on gasoline, but it can be equipped with combination gasoline and kerosene manifold on special order.
McCormick-Deering Farmall Tractors

filters are illustrated and described more at length under other McCormick-Deering farm tractors shown elsewhere in this catalog.

Illust. 6—The International high-tension magneto. This magneto is used on all three Farmalls. It provides quick, easy starting in all weather.

The International Magneto

Farmall tractors are equipped with International high-tension magnetos with automatic impulse coupling. This automatic impulse coupling provides a good, healthy starting spark regardless of cranking speed. This, and efficient carburetion, account for the easy starting of all McCormick-Deering tractors in all weather conditions. International magnetos are especially built to operate under dusty field conditions, all working parts being effectively protected against dust and water.

Engine Always Clean Inside

Every Farmall tractor is equipped with an oil, an air, and a fuel filter, the same as all other McCormick-Deering farm tractors. This means a clean engine—an engine that is in condition to deliver maximum power with a minimum of wear on cylinder walls, pistons, and engine bearings. These

Illust. 7—Rear wheel fenders as supplied on special order for Farmall 12.

The Farmall Clutch

The Farmall clutch is the same efficient single-dry-plate type of clutch used on other McCormick-Deering wheeled tractors. This clutch takes hold gradually and smoothly, and steadily applies the power to the load when engaged. The clutch shaft is supported on two ball bearings.

Rear Wheel Fenders

Rear wheel fenders can be supplied on special order for all Farmall tractors. They add little to the cost of the tractor, and in many cases their use is desirable.

Pneumatic Tires

Farmall tractors can be shipped from the factory equipped with pneumatic tires in sizes and combinations listed under extra equipment on the first page of the Farmall section of this catalog. While the Farmalls are regularly equipped with steel wheels, which, with the wide range of lug equipment available, will meet all farming conditions, it is just as easy to get a Farmall on rubber as it is any other tractor. It's a matter which the purchaser may decide for himself, according to his needs or preference.

Illust. 8—The Farmall 12 on pneumatic tires. Pneumatic tires cost extra.

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McCormick-Deering Farmall Tractors

Illustr. 9—The McCormick-Deering Farmall 20 2-plow Tractor with 42 x 12-inch rear wheels. The 40 x 6-inch rear wheels are considered regular.

Farmall 20

The Farmall 20 is the original Farmall all-purpose 2-plow, cultivating tractor, with latest improvements and a good 10 per cent more power. It has four forward speeds, giving added flexibility. This is the tractor for the farms in the quarter-section class—from the size of farms best served by the Farmall 12 to the 250 to 300-acre farms best served by the Farmall 30.

Farmall Patented Features

A score of patents on Farmall tractors and their attachments explain why Farmall performance cannot be duplicated by any other tractor. One of these is the patented steering-wheel cultivator gang shift which is absolutely essential to good work in checkrowed crops at rapid tractor travel. Another is the steering wheel brake control which automatically applies braking action to either rear wheel, enabling the tractor to pivot on the wheel on the inside of the turn. This feature makes square turns possible—close work at ends of rows, and in small or irregular fields. Still another is the forward location of the cultivator gangs, which gives the shovels next to the row full advantage of the side movement of the front end of the tractor as it is guided along the crop rows. Yet another is the location of the power take-off with reference to the machines to be operated by it. These and other patented features are what make the slogan "If It Isn’t A McCormick-Deering It Isn’t A Farmall," mean exactly what it says.

Lighting Equipment

Unusual weather conditions which may hold back plowing, planting, or other farm work, sometimes make it desirable to work the tractor at night. This is possible with a Farmall tractor. No-battery electric lighting equipment is available for all McCormick-Deering tractors, making it possible to operate continuously at peak periods, stopping only for fuel and change of operators.

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McCormick-Deering Farmall Tractors

The Power Take-Off

The power take-off is regular equipment on Farmall tractors. The power take-off shaft revolves at a constant speed regardless of the forward speed of the tractor. In other words, the tractor may be traveling in first, second, third, or fourth speed, as conditions require. For instance, when operating in heavy grain, if the binder should choke, the speed of the tractor can be cut down without reducing the speed of the sickle and binder mechanism. The same applies to the mower in heavy grass. The power take-off can be operated when the tractor is standing still, as when spraying fruit trees.

The Wide Front Axle Attachment

All three Farmalls can be shipped as four-wheel tractors (wide front axle and wheels) or the wide front axle and wheels can be supplied as an attachment. On the Farmall-12 attachment the wheels are adjustable from 44 to 64-inch tread, each wheel being independently adjustable by 2-inch intervals. For the Farmall 20 and the Farmall 30 this attachment is mainly used on the narrow-tread tractors so that the front wheels will track with the rear wheels. The treads of the front wheels for these tractors are 55\frac{1}{2} inches on the F-20 attachment and 58\frac{3}{4} inches on the F-30 attachment.

With one of these wide-front-axle attachments, a Farmall tractor makes a sturdy, dependable and economical 4-wheel tractor.

Illust. 11—The Farmall 20 with pneumatic tires. This equipment can be supplied at some additional cost.

Illust. 12—Showing the ideal location of the Farmall power take-off.

Illust. 13—The Farmall 20 with wide front axle attachment which can be supplied on special order.
Illust. 14—Farmall 30 tractor as seen from the left. The little lever near the fuel tank regulates manifold heat to assure efficient combustion of fuel.

The 3-Plow Farmall 30

There is a class of farms on which the power requirements are a little heavier on some jobs than those of the farms best served by the Farmall 20. Broadly, this may be considered the three-hundred-acre class of farms, though it includes many smaller farms where implements pull harder because of stubborn soils, or hilly fields. The Farmall 30 three-plow tractor meets the demand from these farms. It has an abundance of reserve power. It handles 4-row planters and cultivators with ease under severe working conditions. It pulls three plows under all usual conditions, and will plow from 8½ to 13⅛ acres a day. It pulls the larger sizes of disk harrows and soil pulverizers, larger drills and other drawbar tools. It supplies ample power for operating 2-row corn pickers, 2-row potato diggers, harvester-threshers, etc. It handles the larger belt jobs, and is a splendid power unit for the man who does custom work.

Belt Work

Belt machines operate best at uniformly constant speeds. This is true of threshers, corn shellers, ensilage cutters, huskers and shredders, hammer mills, feed grinders and all similar machines. The Farmall tractors provide an abundance of smooth-flowing power with ample reserve to meet peak loads commonly encountered in belt work. Farmall 12 will operate most of the belt machines found on the farm with the exception of the larger ensilage cutters and threshers. Farmall 20 will operate a 22-inch thresher, Farmall 30 a 28-inch thresher, and both will operate other belt machines of like power demand.

Illust. 15—The Farmall 30 tractor on pneumatic tires.
The wide range of possible equipment for Farmall tractors is listed on page 368. Some of it is illustrated on this page, but not all. Note that F-20 with 40 x 6 wheels and F-30 with angle rim wheels can be supplied with special 8-inch adjustable overtires, to meet the requirements of row crops. The following table shows the different treads available when these overtires are used:

Possible Adjustments of Wheel Treads, Using 8-in. Adjustable Overtires

<table>
<thead>
<tr>
<th>Tractor</th>
<th>Wheel</th>
<th>Position</th>
<th>Tread Without Adj. rims</th>
<th>Possible Treads with 8-in. Adjustable Overtires—Center to Center of Overtires</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-20</td>
<td>Regular</td>
<td>Regular</td>
<td>74</td>
<td>68, 70, 72, 74, 76, 78 and 80 in.</td>
</tr>
<tr>
<td>F-20</td>
<td>Regular</td>
<td>Reversed</td>
<td>83</td>
<td>77, 79, 81, 83, 85, 87 and 89 in.</td>
</tr>
<tr>
<td>F-20</td>
<td>Offset</td>
<td>Set Out</td>
<td>89</td>
<td>83, 85, 87, 89, 91, 93 and 95 in.</td>
</tr>
<tr>
<td>F-20</td>
<td>Offset</td>
<td>Set In</td>
<td>69</td>
<td>63, 65, 67, 69, 71, 73 and 75 in.</td>
</tr>
<tr>
<td>F-20 N. T.</td>
<td>Offset</td>
<td>Set In</td>
<td>57</td>
<td>51, 53, 55, 57, 59, 61 and 63 in.</td>
</tr>
<tr>
<td>F-20 N. T.</td>
<td>Offset</td>
<td>Set Out</td>
<td>77</td>
<td>71, 73, 75, 77, 79, 81 and 83 in.</td>
</tr>
<tr>
<td>F-30</td>
<td>Angle Rim</td>
<td>Set In</td>
<td>72</td>
<td>68, 70, 72, 74 and 76 in.</td>
</tr>
<tr>
<td>F-30</td>
<td>Angle Rim</td>
<td>Set Out</td>
<td>90</td>
<td>86, 88, 90, 92 and 94 in.</td>
</tr>
<tr>
<td>F-30 N. T.</td>
<td>Angle Rim</td>
<td>Set In</td>
<td>60</td>
<td>56, 58, 60, 62 and 64 in.</td>
</tr>
<tr>
<td>F-30 N. T.</td>
<td>Angle Rim</td>
<td>Set Out</td>
<td>78</td>
<td>74, 76, 78, 80 and 82 in.</td>
</tr>
</tbody>
</table>
McCormick-Deering Farmall Two-Way Plow
No. 88

For F-20 and F-30 Farmalls

Illust. 1—The Farmall No. 88 two-way Plow. No. N-88 is same plow for narrow-tread Farmall.

For Small, Irregular, and Irrigated Fields

The No. 88 plow is designed for those sections where it is desired to turn all the furrows the same way. This applies to irrigated land or hilly land. It is also, because of its short turning radius, well adapted to small or irregular fields.

Illust. 2—A rear view of the Farmall two-way Plow, with soil cut away to show relation of gauge wheel to bottom. Notice that the idle bottom is well out of the way.

The No. 88 is a power-lift plow. If the tractor is not already equipped with a double power lift, it is necessary to get the tractor double power-lift attachment in order to use the plow.

In raised position the bottoms are carried high off the ground, affording plenty of clearance. If an obstacle is encountered in the field, the plow can be backed, the bottom raised, the obstacle removed, and the plowing proceed without leaving a gap.

The plow is quite sturdy and will work under extremely difficult conditions, such as plowing deep in alfalfa sod or hard soil. The depth of each bottom is controlled by a gauge wheel and lever.

Regular Equipment


Extra Equipment

Front end tractor weight (218 lb.). Combination rolling coulters and jointers: PORC-107, R. H.; PORC-126, L. H. Jointers to convert regular coulters to combination coulters and jointers. Gauge wheel extension rims (makes 7-in. face). For special shares, see "Bottoms and Shares."

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>DESCRIPTION</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>88</td>
<td>Two-Way plow for F-20 tractor</td>
<td>850 lb.</td>
</tr>
<tr>
<td>88-30</td>
<td>Two-Way plow for F-30 tractor</td>
<td>860 lb.</td>
</tr>
<tr>
<td>N-88</td>
<td>Two-Way plow for F-20, narrow-tread tractor</td>
<td>855 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Farmall Disk Plows

No. 47 2-furrow
No. 48 3-furrow

A Direct-Connected Plow

Here is a plow which connects directly to F-20 and F-30 tractors, making a compact, close-coupled unit well adapted to work in small or irregular fields, point rows, and hilly land.

It is a hand or power-lift plow, as ordered. When a power-lift plow is used it is necessary for the tractor to be equipped with the Farmall power-lift attachment.

A new feature in this plow is a stabilizing spring which uses the weight of the tractor when needed for penetration or to prevent the plow from kicking out of the furrow. This feature is also an advantage when throwing furrows uphill.

The cutting angle of the disk can be regulated to increase penetration in hard ground. A special set of stub beams is available to set the disks at a more abrupt angle with the soil for tearing down ridges in sandy soil.

Note that the plow has only one wheel, the weight of the front end of the plow being carried on the tractor. This outfit will plow around ends or on curves on a 20-foot radius, cutting practically a normal furrow. Overhead beam construction gives the greatest possible clearance for trash and for deep plowing.

Regular Equipment

Hand or power lift, as ordered (power-lift plow equipped with parts for attaching to power lift, but does not include power lift, which is a tractor attachment). Disks 26 x 3/4 in. Six pairs of wheel weights. Roller-bearing disks. Moldboard scrapers.

Extra Equipment

Disks 26 x 3/4 in. Special stub beams and scraper arms.

Specifications*

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>For</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>47</td>
<td>2-furrow</td>
<td>Farmall-20</td>
<td>1470 lb.</td>
</tr>
<tr>
<td>48</td>
<td>3-furrow</td>
<td>Farmall-20</td>
<td>1640 lb.</td>
</tr>
<tr>
<td>47-30</td>
<td>2-furrow</td>
<td>Farmall-30</td>
<td>1485 lb.</td>
</tr>
<tr>
<td>48-30</td>
<td>3-furrow</td>
<td>Farmall-30</td>
<td>1655 lb.</td>
</tr>
</tbody>
</table>

*Specify hand or power lift.

Feb. 1935
McCormick-Deering Farmall No. 90 Plow
For Farmall 12

A Compact Plowing Unit

The No. 90 plow is designed for and can be used only with the Farmall 12. It is supplied either as a hand-lift or power-lift plow. It attaches well up under the tractor, making a close-coupled, compact outfit well adapted to small or irregular fields. When the plow is raised the tractor turns on a seven-foot radius.

A drawbar is supplied with the plow for pulling trailing implements without removing the plow from the tractor.

The plowing depth is controlled by an adjustable gauge wheel. The plow is carried on a hinged bail which prevents any up-and-down motion of the tractor, due to passing over bumps or depressions, from interfering with the plowing depth.

A special attachment, comprising 1 1/2-in. shank and clamp, can be supplied on special order for using 18-in. coulters. An adapter ring and U-bolts can be supplied for the No. 90 plow for attaching power lift to pneumatic-tire rear tractor wheel. There is also available an adapter hub to locate the power lift independently on the tractor rear axle so the land-side tractor wheel can be set out on the axle for hillside plowing.

Regular Equipment

Hand or power lift. GA bottom in 16 or 18-in. HA, KA, MA, BBA, or SA bottom in 16-in. PORC-83 combination 16-in. coulter and jointer.

Extra Equipment

PORC-34 plain 15-in. rolling coulter. Jointer to change plain coulter to combination. Plain jointer, steel or chilled. Power-lift attachment for plows already in field. 1 1/2-in. coulter shank attachment for using 18-in. coulters. Adapter ring for power-lift plows when pneumatic tires are used. Adapter hub for power-lift drive sprocket for hilly land. For special shares see "Bottoms and Shares."

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
<td>Hand-lift plow for Farmall 12</td>
<td>545 lb.</td>
</tr>
<tr>
<td>90</td>
<td>Power-lift plow for Farmall 12</td>
<td>605 lb.</td>
</tr>
</tbody>
</table>
The Farmall middle buster is used in the preparation of ridges for cotton and other crops planted in bedded rows, and also in those sections where it is desired to leave the soil in ridges in order to hold moisture and prevent soil from blowing. A wide range of equipment is available to meet the varying requirements of the different sections where middle busters or listers are used.

Two Types

Farmall middle busters are available in two types, the No. 3 with straight beams as shown in Illust. 1, and the No. 4 with offset beams as shown in Illust. 3. These middle busters are adjustable for rows 38 or 40 inches apart.

The offset beams on No. 4 place the bottoms directly behind the Farmall rear wheels. The spreader arch on the No. 4 assures that the two bottoms will always run parallel.

Regular Equipment

No. 11-B 14-in. middle buster bottoms, hand or power-lift type (power-lift attachment not included, but necessary connections for power-lift are included).

Extra Equipment

PORC-94 14-in. or PORC-98 16-in. rolling coulter for No. 3. Drill attachments, trailing type, No. 11-A, corn; No. 12, cotton and corn for No. 3, Nos. 17 and 18 for No. 4. (Order one for each beam.) Planting attachments, mounted type, for No. 3, No. 22 cotton and corn, No. 25, corn. Pressure springs. Twin disk marker. Parts to convert No. 3 to No. 4. Straight beams for No. 4. No. 7 sweep attachment (two required). 22, 24, and 26-in. bedding sweeps. Wings for bedding sweeps. Lister bottoms with hard or solid molds and solid shares. No. 12-B middle buster bottoms. 22-in. shares for No. 11-B bottoms. Drawbar adjusting lever. Center beam attachment for No. 4. Power-lift attachment. Parts for converting hand lift to power lift. Skid attachment.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Type and Equipment</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Hand-lift type, middle buster bottom</td>
<td>493 lb.</td>
</tr>
<tr>
<td>3</td>
<td>Hand-lift type, middle buster bottom</td>
<td>432 lb.</td>
</tr>
<tr>
<td>3</td>
<td>Hand-lift type, No. 7 sweep attachments and bedding sweeps</td>
<td>477 lb.</td>
</tr>
<tr>
<td>3</td>
<td>Power-lift type, No. 7 sweep attachments and bedding sweeps</td>
<td>416 lb.</td>
</tr>
<tr>
<td>4</td>
<td>Hand-lift type, middle buster bottom</td>
<td>665 lb.</td>
</tr>
<tr>
<td>4</td>
<td>Power-lift type, middle buster bottom</td>
<td>603 lb.</td>
</tr>
<tr>
<td>4</td>
<td>Hand-lift type, No. 7 sweep attachments and bedding sweeps</td>
<td>649 lb.</td>
</tr>
<tr>
<td>4</td>
<td>Power-lift type, No. 7 sweep attachments and bedding sweeps</td>
<td>587 lb.</td>
</tr>
<tr>
<td></td>
<td>Center beam attachment for No. 4</td>
<td>110 lb.</td>
</tr>
<tr>
<td></td>
<td>Skid attachment</td>
<td>51 lb.</td>
</tr>
</tbody>
</table>
Farmall Middle Busters—Nos. 3 and 4

Cotton Beds and Listing

The bottoms are set in close to the tractor so that the tractor wheels effectively control the depth, assuring good work even on side hills. No. 3 is especially adapted to making beds for cotton, and for listing.

Re-listing

No. 4 is adapted to re-listing and to working over or building up beds prepared the preceding fall. For the latter job the center beam attachment which can be supplied enables the operator to work three rows at a time.

When using these middle busters the tractor drawbar is turned to set ahead, under the tractor. This brings the bottoms forward far enough for the depth to be controlled by the tractor wheel. This construction also makes a more compact unit and one that is easier to handle.

Pressure Spring Attachment

Sometimes when conditions are extra hard it is desirable to put an extra amount of pressure on the bottoms. The pressure spring attachments which can be supplied make this possible. Order should specify whether the attachment is wanted for No. 3 or No. 4 middle buster.

Drill Attachments

The No. 3 Farmall middle buster can be converted into a first-class lister by the addition of a lister-drill attachment which can be supplied on special order. The No. 11-A is the attachment for corn, and it will drill corn, 14, 16, 19, or 22½ inches apart. The No. 12 will plant cotton a seed at a time at the rate of 2 to 3½ pecks per acre and will drill corn, 19, 22½, or 28 inches apart. Both attachments will drill Kafir corn 9½ inches apart. Blank plates are supplied. Plates for planting other seeds can also be supplied.
McCormick-Deering Planting Attachments

For No. 3 Farmall Middle Buster

 Illust. 6—The No. 22 Cotton and Corn Planting attachment on No. 3 Farmall middle buster.

Converts No. 3 Middle Buster into a First-Class Planter

One of these attachments converts a No. 3 Farmall middle buster into a first-class cotton or corn planter. The attachment is easy to put on or take off. The No. 22 attachment is equipped with single-seed cotton hoppers, and with corn cut-off and plates for planting corn and Kafir. It will plant from 13 to 40 pounds of cotton seed to the acre, will plant corn 19 inches apart in the rows, and Kafir 9½ inches. If it is desired to plant more cotton seed to the acre, seed-plate bundle No. 166 can be supplied, which plates make it possible to plant from 50 to 70 pounds per acre. Plates can also be supplied for planting beans, peanuts, and other seeds.

The corn planting attachment is No. 25. It will plant corn 12, 13½, 16 or 19 inches apart, Kafir 8 inches apart.

 A 10-tooth sprocket can be supplied on special order which changes these planting distances to 14, 14½, 17 and 20½ inches for corn, 9½ for Kafir. Plates for planting other seeds can be supplied.

 A slip clutch protects the hopper mechanism should hard substances get into the seed.

Regular Equipment

Both attachments are equipped with seed-plate drive, with slip clutch, and with No. 12 12-in. disk coverers. No. 22 is equipped with combination single-seed cotton and flat-drop corn hoppers, No. 25 with flat-drop corn hoppers. Each is supplied with one Kafir plate and one blank plate, in addition to other plates.

Extra Equipment

No. 11, 14-in. disk coverers. No. 11 pin-break shovel coverers. No. 12 spring-trip shovel coverers. Ten-tooth sprocket for use in place of regular 9-tooth sprocket. Seed-plate bundle No. 166 for No. 22, for planting 50 to 70 pounds of cotton seed per acre. Seed plate bundle No. 162 for No. 22 for planting beans. No 7 peanut attachment for No. 22. Special plates for planting Kafir corn, milo maize and other seeds. POSS-1 subsoiler for No. 25.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>Planting attachment for cotton and corn</td>
<td>377 lb.</td>
</tr>
<tr>
<td>25</td>
<td>Planting attachment for corn</td>
<td>315 lb.</td>
</tr>
</tbody>
</table>

Specify whether for F-20 or F-30 tractor.
McCormick-Deering Farmall Middle Buster
No. 5

For Farmall 12

Attaches Directly to Farmall 12
The No. 5 middle buster attaches directly to the regular Farmall-12 drawbar, which is first reversed, bringing the implement well up under the tractor and making a very compact outfit, easy to handle, and especially suited to small or irregular fields.

Easy Control
Two levers give easy control of the buster. One lever controls the height of the hitch, the other raises and lowers the bottom. The bottom is equipped with runners. Adjustment is provided for levelling the bottom.

For hilly or rolling land a special levelling attachment is available to provide adjustment while the outfit is in motion. A slotted break-off protects the bottom from damage, should it encounter a hidden stone, root, or other obstacle.

Pressure Spring Attachment
The bottom is free to maintain its normal working depth, and in any ordinary soil, the natural suction of the bottom will hold it to its work. If the ground is extremely hard, a pressure spring attachment can be put on to bring heavy spring pressure on the bottom.

Planting Attachments
The No. 5 middle buster can be converted into a first-class planter by adding either the No. 17 planting attachment for cotton, corn, or other seeds, or the No. 18, which has the regulation flat-drop. Various plates are available for both attachments, including bean plates. A peanut attachment can be supplied for the No. 17 attachment.

Regular Equipment
No. 11-B 14-in. lister bottom.

Extra Equipment
Pressure spring attachment. Steering guide attachment. Drawbar levelling attachment. Bedding sweeps, 22, 24 and 26 in. Wings for bedding sweeps. No. 7 sweep attachment. No. 17 cotton and corn or No. 18 corn planting attachment. PORC-132 rolling coulter. The No. 7D pea attachment can be supplied for the No. 18 planting attachment.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Middle buster for Farmall 12</td>
<td>240 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
The 12-ft. No. 1 Weeder-Mulcher.

This weeder-mulcher is adapted to use behind Farmall tractors. It attaches to the regular tractor drawbar with a two-point hitch which gives the tractor complete control over the implement, yet it can be detached merely by pulling two hitch pins. It comes in 12 and 18-ft. sizes, and there is an 18-ft. extension attachment for the 12-ft. machine.

A Splendid Tillage Tool

This is a splendid tool to use wherever there are crusts to be broken, and where it is desirable to keep the surface free from weeds and well mulched throughout the growing season. The action of the teeth is such that it can be used in various crops until they are, in the case of potatoes, a foot high. The crops to which the weeder-mulcher is adapted are potatoes, corn, cotton, peas, peanuts, beans, onions, cabbage, etc. It will keep the soil mulched to a depth of 2 to 2½ inches, if desirable.

The Weeder-Mulcher in Potatoes

Expert potato growers have adopted the weeder-mulcher as a definite part of their equipment. It is used as soon as the plants can be seen in the rows. The finger teeth get the first crop of tiny weeds before they are large enough to be troublesome, and while they are easy to kill. From then on the implement is used after every rain, or every seven to ten days, if there is no rain, until the plants are a foot high. This keeps the surface clean and well mulched, and also causes the roots to grow lower down, which prevents them from drying out, and also reduces the number of sunburnt potatoes.

Construction

The main frame is constructed of angle steel bars, solidly braced. The finger type teeth are clamped securely to three parallel steel bars, which puts the teeth in three ranks, and while working approximately every two inches of the surface, allows plenty of clearance between the ranks and between the teeth in the ranks.

There are two levers for regulating the depth of the teeth. Each lever operates a rock shaft to which are attached two spring-pressure rods connected with the cross beams carrying the tooth bars. Through this construction, pressure is applied to the teeth at four points, assuring uniform penetration.

Folds Up for Transporting

The frame is carried on two wide-faced castor wheels. There is a third, or transport, wheel folded up and carried above the frame when the implement is at work. To transport the implement, or to take it through a gate, this transport wheel is swung to the ground position, the tooth frame is swung up and latched, and a hinged hitch which is provided on the right end of the frame is used to hook onto the tractor. The implement is then drawn endwise and will go through any farm gate.

Regular Equipment

Sixty-four finger-type weeder teeth on the 12-ft., 96 on the 18-ft. Transport wheel and hitch.

Extra Equipment

Extension attachment to convert 12-ft. weeder-mulcher to 18-ft.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Weeder-mulcher, 12-ft.</td>
<td>633 lb.</td>
</tr>
<tr>
<td>1</td>
<td>Weeder-mulcher, 18 ft.</td>
<td>803 lb.</td>
</tr>
<tr>
<td></td>
<td>18-ft. extension attachment for 12-ft.</td>
<td>170 lb.</td>
</tr>
</tbody>
</table>
Fast and Economical

In many sections the introduction of modern, low-cost production methods has resulted in a demand for faster and more economical means of dusting crops. This is particularly true in the South where calcium arsenate is used in boll-weevil control. The McCormick-Deering duster meets this demand. It can be used on the McCormick-Deering Farmall or Farmall 20, wide or narrow tread, Farmall 30, 10-20, W-30 and 15-30 tractors. It will dust up to 60 rows at a time and will successfully handle the various poisons applied in the form of dust. It is also used for dusting trees in commercial orchards and for dusting potatoes.

Death to Weevils

In cotton, the dust cloud reaches every part of the plant. When the dusting is done at night, which is the best time, the dust quickly goes into solution with the dew nestling in the leaves around the bolls. The adult weevils, settling in the bolls to lay their eggs, are thus assured a killing dose of poison.

Mechanism Driven by Power Take-Off

The poison dust is drawn through an adjustable valve by a fan, operated by the power take-off. The fan shaft extends up into the hopper and operates agitators which prevent the powder from packing around the valve. The hopper takes a 100-pound bag of calcium arsenate at a time. The quantity of dust discharged can be regulated instantly, without stopping the outfit.

Six-Row Attachment

A six-row attachment with twelve nozzles for dusting both sides of six crop rows—potatoes, beans, cabbage, mint, cucumbers, etc.—can be supplied. It is adjustable for rows 20 to 42 inches apart. The discharge nozzles can be raised by means of a lever, to clear ditches, washes, etc. There is also a six-nozzle six-row attachment for forcible dusting of cotton where infestation is unusually bad.

Regular Equipment

Broadcast discharge spout.

Extra Equipment

Twelve-nozzle, 6-row attachment (includes two tractor weights). Six-nozzle, 6-row attachment.

Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>McCormick-Deering Tractor Duster</td>
<td>570 lb.</td>
</tr>
<tr>
<td>12-Nozzle, Six-Row Attachment (with weights)</td>
<td>725 lb.</td>
</tr>
<tr>
<td>6-Nozzle, Six-Row Attachment</td>
<td>290 lb.</td>
</tr>
</tbody>
</table>

Specify for which tractor wanted.

Illustr. 1—McCormick-Deering Duster mounted on Farmall tractor. "A" regulates quantity. "B" changes the nozzle for height or right or left discharge. "C" is the gear box and "D" the power take-off.

Illustr. 2—The 6-row, 12-nozzle attachment for dusting both sides of six rows of potatoes, cabbage and other row-planted crops.

Feb. 1935
Farmall Four-Row Planters and Drills

FA-112
Checkrow

FA-116
Drill

The Farmall No. FA-112 corn planter combines accuracy with a wide range of adaptability to the requirements of planting corn, beans and other row crops. It can be operated either as a check-row, hill-drop planter, or as a drill.

Variable Drop, Hill or Drill

The simplicity of the variable drop device is remarkable. The driving pinion has three sets of teeth. Check-row planters can be changed instantly to drill when desired. The variable drop feature is just as desirable on drills as on check-row planters and this feature is the same on both drills and planters. When the Farmall No. FA-112 4-row corn planter is used as a drill this feature gives a drilling range of 7, 9, 10, 11, 12, 14, 15, 18, or 22 inches with the 16-hole seed plates regularly supplied. Edge drop, flat-drop, or hill-drop plates can be supplied.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA-112</td>
<td>4-row Corn Planter</td>
<td>1287 lb.</td>
</tr>
<tr>
<td>FA-116</td>
<td>4-row Corn Drill</td>
<td>981 lb.</td>
</tr>
</tbody>
</table>

The built-in power hill-drop is a feature of the No. FA-112 planter. It requires but a moment to change one of the members on the clutch so that the valves will be tripped once for each revolution of the feed shaft. This planter is adjustable for 36, 38, 40 and 42-inch rows.

Automatic Check Heads

The check heads close automatically as the wire is stretched. The wire rollers are chilled and turn on machined steel studs, which greatly reduces friction and adds to the life of these parts. A rod wire doffer is regularly provided.

Equipment

The Farmall No. FA-112 4-row planter is equipped with No. 4 gauge shoes, automatic marker, reel, 80 rods of check wire, and two steel stakes. Equipment available on special order includes stub runners; No. 6 blade furrowing attachment; No. 7 11-inch, and No. 8 13-inch double disk furrowing attachments; fertilizer attachment; corn and pea hoppers; special plates; and bands for open center wheels.

Farmall Corn Drill No. FA-116

The Farmall corn drill No. FA-116 is a 4-row corn drill equipped with straight shanks without valves. The same special equipment is available as for the Farmall No. FA-112 corn planter.

Illustr. 1—The Farmall No.FA-112 four-row Corn Planter.

Illustr. 2—The No. 7 disk furrowing attachment can be supplied on special order. It has 11-in. disks. The No. 8 is similar except it has 13-in. disks.

Illustr. 3—The No. 6 blade furrowing attachment.

Feb. 1935
Side-Connected Type
A Farmall No. FA-122 checkrow planter or FA-126 drill makes a most compact, efficient, easily handled outfit. It enables the owner to plant from 40 to 50 acres a day without working overtime.

Two 2-Row Units
There are two 2-row units, one attached to each side of the tractor. The manner in which they are attached to the tractor causes them to be held rigid laterally, thus maintaining uniform row spacing. At the same time each two-row unit is free with respect to up-and-down motion and is thus able to follow the contour of the ground. This means uniform planting depth.

The Checkrow Planter
The FA-122 checkrow planter has the same latitude of utility as the McCormick-Deering No. 102 checkrow planter in that it can be used either as a checkrow planter, or as a drill, or as a hill-drop drill. The simple mechanism by which this latitude is accomplished is shown in Illust. 5.

To assure perfect coordination of the two units, the check shafts are connected by a universal coupling which assures all valves opening at the same time, yet does not interfere with the flexibility of the two units as described above.

Regular Equipment
Runner openers. 30-in. wheels with open center or closed rims. Double-disk marker. FA-126, drill only. FA-122 checkrow planter equipped with 80 rods of wire, reel, stakes, and wire sheaves. Flat, edge, or full hill-drop plates.

Extra Equipment
Fertilizer attachment. Combination corn and pea hoppers. No. 7, 11-in., or No. 8, 13-in. disk furrowing attachments. No. 6 blade furrowing attachment. No. 4 gauge shoes. Power-lift attachment (when ordering planter or drill with power lift, specify whether for Farmall 20 or Farmall 30). Special plates for various seeds (see No. 102 corn planter). Single or double-disk furrow openers.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA-122</td>
<td>Checkrow planter</td>
<td>1630 lb.</td>
</tr>
<tr>
<td>FA-126</td>
<td>Drill</td>
<td>1475 lb.</td>
</tr>
</tbody>
</table>

Illustrations:
- Illustr. 4—Farmall FA-122 four-row, checkrow Corn Planter.
- Illustr. 5—Detail of clutch showing the built-in automatic hill-drop feature. The dog "A" strikes the roller "B" and through the check-shaft arm and check-shaft opens the valves in the boots. "C" shows the position of the dog "A" when checkrow planting.
- Illustr. 6—No. 4 gauge shoe which can be supplied on special order.
- Illustr. 7—The combination corn and pea hopper which can be supplied in place of the regular hoppers or as extras.
Illust. 8—This shows the wire sheaves on the back of Farmall FA-122 and FA-320 checkrow Planters.

Always a Hill in Reserve

The valves in the FA-122 planter are of the same type as those employed in the well-known McCormick-Deering No. 102 checkrow planter. When a hill is discharged from the lower valve the kernels for the next hill have already accumulated at the upper valve. By the time the lower valve has returned to closed position the hill at the upper valve will have come down to the lower valve and will be waiting for the next actuation of the check shaft.

The variable drop feature makes it possible to plant two, three, or four kernels to the hill with the checkrow planter and on the drills it gives three different spacings of the seeds in the row with the same plate, which, in combination with the three sprockets on the main axle, gives nine different drill spacings. Edge, flat, or full hill-drop plates are interchangeable in the hoppers.

Adjustments are provided to meet varying planting and seed-bed requirements. When planting on beds the caster wheels are set to run in the furrows. There are Alemite oilers on the axle boxings, caster wheels and caster-wheel axle brackets, spacer rod bearings, wire pulleys, etc.

The Wire Sheaves

Wire sheaves, or pulleys, on the ends of the long marker rail, through which the marker wire travels across the planter as the outfit moves across the field, keep the wire stretched straight all the time, and the tension on the wire uniform. This feature is essential to accurate checkrowing. It also simplifies the handling of the wire at the ends of the field. Holes are provided in the marker rail for setting the wire sheaves in or out so that exactly four row-widths of wire is between the sheaves.
Farmall Four-Row Cotton and Corn Planters

Checkrow and Drill
38, 40 or 42-inch rows

FA-320 is a four-row side-connected checkrow planter employing two 2-row units, one of which is connected to each side of the planter. FA-320-D is of the same general design, but adapted only to drilling. The planters are located ahead of the rear tractor wheels so that the operator is able to give his attention to the tractor and at the same time observe the working of the units. A four-row planter makes it possible to plant 40 to 50 acres a day without working overtime, and 4 or 5 acres more for every hour worked overtime.

Improved Seeding Mechanism

The seeding mechanism on these planters has been designed to meet the more strenuous wear which results from the faster traveling speed of a tractor. The gear mountings on the shanks are such that the gear brackets take all the thrust of the bevel driving gears. The driving gears have wide-surfaced bearing hubs, and there is a steel washer between the gear hubs and the gear brackets.

Each hopper is held down securely by a hinge in front and two thumb nuts in the rear. The agitators have wide center bearings, and are held rigidly in mesh with the driving gears by large white iron washers which bear almost directly over the teeth. The hopper lids are held by springs. The corn cut-off is improved to assure a seed-tight fit.

The Wire Sheaves

Wire sheaves, or pulleys, on the ends of the long marker rail, through which the wire travels as the outfit moves across the field, keep the wire stretched straight all the time and assure accurate check. This feature also simplifies the handling of the wire at the end of the field. For more information and an illustration of this cross-over check-wire feature, see Farmall No. FA-122 corn planter.

Regular Equipment


Extra Equipment

Power-lift attachment (specify for which Farmall tractor). Combination corn and pea hoppers in place of regular, or as extras (No. 11 for planters with PO-1332-A shanks. No. 14 for planters with PO-1640 shanks). Depth wheels and means for allowing front frame to float (replace depth levers) can be supplied in place of regular equipment when so ordered. No. 16 hill drill attachment. Special seed plates for various seeds. Peanut attachment (takes two No. 4 and two No. 5). Fertilizer attachment. No. 4 gauge shoes.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA-320</td>
<td>Checkrow cotton and corn planter</td>
<td>1853 lb.</td>
</tr>
<tr>
<td>FA-320-D</td>
<td>Cotton and corn drill</td>
<td>1587 lb.</td>
</tr>
</tbody>
</table>
Farmall Two-Row Drill—No. F-20-D

The Farmall No. F-20-D two-row drill is adapted to hitch behind the Farmall. When in working position it is free to follow the surface of the ground to assure uniform depth. There is an overhead beam which hitches to the tractor and is supported at the rear by a caster wheel. This overhead beam carries the drill clear of the ground in turning or transporting.

Improved Seeding Mechanism

International Harvester engineers have recognized that the greater speed of Farmall planting puts more work on the drilling mechanism, and have designed accordingly. In the F-20-D the gear mountings on the shanks are such that the gear brackets take all the thrust off the bevel driving gears. The gears have wide surfaced bearing hubs, and there is a steel washer between each gear hub and gear bracket to take the wear.

The hoppers are hinged at the front and held down at the rear by two thumb nuts on each hopper. The agitator has a wide center bearing and is held rigidly enmesh with the driving gear by a large white-iron washer contacting with the agitator almost directly over the teeth. There is no chance for the driving mechanism to slip.

Other features of improved construction in F-20-D drills are:
- Bolted hopper drums
- Improved lids held on by springs
- Improved corn cut-off which assures seed-tight fit between cut-off plate and hopper bottom

The drilling distances for corn are: 11, 12, 14, 16, 18, and 22 inches; for cotton, 7 and 11 inches.

Hill-Dropping Attachment

A hill-drilling attachment can be supplied on special order for F-20-D drills. This attachment is shown in Illust. 15. You will notice that there is a disk which is slipped on the drill shaft, and that this disk is equipped with steel pins. As the disk revolves with the drill shaft, these pins strike the little arm and actuate the rock shaft, thereby opening the valves in the boots.

Regular Equipment

30-in. open-center or closed-rim wheels, as ordered.
Blade coverers. No. 4 gauge shoes. Adjustable for 38, 40, and 42-in. rows.

Extra Equipment

Twin disk marker. No. 16 hill-drill attachment.
No. 20-A fertilizer attachment. No. 14 corn-and-pea attachment (for runners with PO-1640 shank).
Peanut attachments (order one each, Nos. 4 and 5).
Special seed plates. Single-seed cotton and flat drop corn hoppers.
Special seed-plate bundle No. 162 for single-seed hoppers for planting large beans.
Special wheels with 10-in. open-center rims.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-20-D</td>
<td>2-row cotton and corn drill . . .</td>
<td>650 lb.</td>
</tr>
</tbody>
</table>
Farmall Two-Row Cotton and Corn Planters

These planters are used principally in those sections where the soil has previously been thrown up in beds. They are the type of planter used almost universally in the black gumbo lands of Texas. They can be used either with sweeps or with middle breaker bottoms.

Two Types of Seeding Mechanism

F-72 is a single-seed planter. It will plant cotton seed at the rate of 8 to 36 pounds to the acre. It is equipped with a variable-drop device which gives three changes of speed for each pair of seed plates, and there are four cotton plates for each hopper. In addition to cotton, it will plant corn 15, 17 or 19 inches apart. Kafir 7½, 8½ or 9½ inches apart, and can be supplied with plates for planting various other seeds.

F-73 is equipped with the well-known McCormick-Deering reverse-feed type of seeding mechanism in which picker wheels, revolving in a direction opposite that of the agitators, tear the cotton seed apart as it comes from the hoppers and assure a uniform flow of seed to the soil. The quantity planted is regulated by a gate at the opening of each hopper bottom, and the quantity can be regulated to plant as thick or as thin as desired. F-73 will also plant corn 20 and 25 inches apart, Kafir 8½ and 12½ inches apart.

Both planters are adjustable for 38, 40, or 42-inch row spacings. When the planters are raised at the ends of the field they are carried on an overhead beam which extends backward from the rear of the tractor and is supported by a rear caster wheel. This permits the tractor to make a short turn either to the right or left, or to back up.

The standards on these planters are always vertical, and the bottoms always run level. The main carrying wheels are equipped with ratchet drive.

Regular Equipment

No. F-72 equipped with single seed cotton and flat-drop corn hoppers. No. F-73 equipped with reverse-feed cotton and flat-drop corn hoppers. Both planters supplied with an assortment of corn plates, and a pair of Kafir plates. Other equipment as shown in table. Flat or concaved tire wheels.

Extra Equipment

44-in. wheels. No. 22 fertilizer attachments. 16, 18, 20, and 22-in. planting sweeps. 22, 24, and 26-in. bedding sweeps. Wings for bedding sweeps. Middle breaker bottoms. No. 3 or No. 4 spring-shoe opener. Open or closed-rim press wheels. Peanut attachments (No. 5 for No. F-73, No. 6 for No. F-72). Special plates for various seeds.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Type of Hopper</th>
<th>Coverer</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-72</td>
<td>Single seed</td>
<td>Pin-break shovel</td>
<td>1004 lb.</td>
</tr>
<tr>
<td>F-72</td>
<td>Single seed</td>
<td>Spring-trip shovel</td>
<td>1014 lb.</td>
</tr>
<tr>
<td>F-72</td>
<td>Single seed</td>
<td>Disk</td>
<td>1020 lb.</td>
</tr>
<tr>
<td>F-73</td>
<td>Reverse feed</td>
<td>Pin-break shovel</td>
<td>978 lb.</td>
</tr>
<tr>
<td>F-73</td>
<td>Reverse feed</td>
<td>Spring-trip shovel</td>
<td>988 lb.</td>
</tr>
<tr>
<td>F-73</td>
<td>Reverse feed</td>
<td>Disk</td>
<td>994 lb.</td>
</tr>
</tbody>
</table>
Farmall Four-Row Cotton and Corn Planters
Nos. FA-74
and FA-75

Illustr. 20—The Farmall four-row Planter No. FA-74. No. FA-75 is very similar except equipped with reverse-feed hoppers.

With a Farmall and one of these four-row planters, one man can plant from 40 to 50 acres a day. There is a separate planting unit for each row, all driven in unison by the planter axle. The planter is carried on three main wheels, the axle being equipped with a universal joint near the center wheel. This construction permits the planter units to conform to the surface of the ground, thereby assuring uniform planting depth. The front end of the frame is carried on two caster wheels. Foot boards enable the operator easily to reach any part of the planter.

No. FA-74 Single-Seed Planter
The No. FA-74 will plant a single cotton seed at a time, and at the rate of 8 to 36 pounds to the acre. A variable drop device provides three changes of distances for each plate. Four pairs of plates (20, 30, 40 and 42-cell) are supplied. This planter will plant corn 15, 17 or 19 inches apart, Kafir corn 7½, 8½ or 9½ inches apart. Plants in rows 38 to 42 inches apart.

No. FA-75 Reverse-Feed Planter
This planter has the reverse feed or picker wheel type of seeding mechanism. It will drill cotton seed in any desired quantity. It will plant corn 20 or 25 inches apart, Kafir corn 8½ or 12½ inches apart. Plates can be supplied for Kafir corn, milo maize, and other seed. 38 to 42-in. rows.

Perpendicular Standard
The standard is always perpendicular when in the raised or lowered position so that the suction of the sweep or bottom is always the same, regardless of the depth. The sleeve in which the standard works is equipped with rollers which eliminate friction and makes for easy operation of the raising lever. Provision is made for adjusting the suction of the bottom or sweep to suit conditions.

The ratchet drive feature in the wheels makes it impossible to drive the seed mechanism backward, and assures the operation of the mechanism by one of the wheels whenever the planter is moving forward.

Regular Equipment
No. FA-74 equipped with single-seed cotton and flat-drop corn hoppers. No. FA-75 equipped with reverse-feed cotton and flat-drop corn hoppers. Both planters are supplied with plates for corn and Kafir. Other equipment as shown in table. Flat or concave tires.

Extra Equipment
Two No. 22 fertilizer attachments. Adjustable forecarriage. 16, 18, 20, and 22-in. planting sweeps. 22, 24, and 26-in. bedding sweeps. Peanut attachments (No. 5 for FA-75 No. 6 for FA-74). Middle breaker bottoms. Open or closed-rim press wheel attachments. Spring shoe openers. Plates for various seeds.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Type of Hopper</th>
<th>Coversers</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA-74</td>
<td>Single seed</td>
<td>Spring-trip shovel</td>
<td>2008 lb.</td>
</tr>
<tr>
<td>FA-74</td>
<td>Single feed</td>
<td>Disk</td>
<td>2020 lb.</td>
</tr>
<tr>
<td>FA-75</td>
<td>Reverse feed</td>
<td>Pin-break shovel</td>
<td>1928 lb.</td>
</tr>
<tr>
<td>FA-75</td>
<td>Reverse feed</td>
<td>Spring-trip shovel</td>
<td>1948 lb.</td>
</tr>
<tr>
<td>FA-75</td>
<td>Reverse feed</td>
<td>Disk</td>
<td>1960 lb.</td>
</tr>
</tbody>
</table>
The construction of the Farmall loose-ground lister-planter is similar to that of the F-20-D drill; that is, it is a pull-type machine which, when the planting units are raised, is carried on an overhead beam supported at the rear by a caster wheel. This arrangement makes the outfit an easy one to handle.

The lister-planter is supplied either as a combination cotton and corn lister or as a straight corn lister. F-34 is the cotton lister; F-134, the corn lister.

No. F-34

In the cotton lister hopper the agitator and feed wheel work counter to each other, so that as the cotton seed leaves the hopper it is effectually separated and conveyed to the soil in a uniform flow. The quantity is regulated by a gate which opens or closes the opening through which the seed is discharged. This is the same seeding mechanism described under "Improved Seeding Mechanism" on the F-20-D Farmall cotton and corn drill, which see. The drilling distances are the same as for F-134.

No. F-134

F-134 is equipped with large plate flat-drop corn hoppers. Two speeds, made possible by sprocket combinations, with the plates supplied with F-134, give drilling distances for corn of 11, 13, 15, 17, 19 and 23 inches apart, 7 3/8 and 11 1/8 inches for Kafir. Wheels may be either open or closed-rim type.

Regular Equipment

No. 34 equipped with combination reverse feed cotton and flat-drop corn hoppers. No. 134 equipped with flat-drop corn hoppers. Both are supplied with corn plates and a pair of Kafir plates. 36-in. open wheels. Shipped set for 42-in. rows but adjustable for 38, 40, 42, and 44-in. rows.

Extra Equipment

Twin disk marker. Closed-rim wheels. No. 12 combination corn and pea attachment. Peanut attachments for F-34 (takes one each, Nos. 4 and 5).

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>F- 34</td>
<td>Cotton and corn lister planter...</td>
<td>851 lb.</td>
</tr>
<tr>
<td>F-134</td>
<td>Corn lister planter..............</td>
<td>869 lb.</td>
</tr>
<tr>
<td>12</td>
<td>Corn and pea attachment...........</td>
<td>108 lb.</td>
</tr>
<tr>
<td></td>
<td>Twin disk marker attachment......</td>
<td>78 lb.</td>
</tr>
<tr>
<td></td>
<td>Fair covering attachments........</td>
<td>12 lb.</td>
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</tbody>
</table>
Farmall Four-Row Lister-Planters

Illustr. 27—Farmall four-row, power-lift, loose-ground, Cotton and Corn Planter FA-34. FA-134 is the same planter with flat-drop corn hoppers. This planter is now equipped with POTH-39 Farmall swinging hitch.

The FA-34 and FA-134 Farmall four-row lister-planters meet the demand for Farmall machines of larger capacity. The Farmall is rapidly changing the amount of work accomplished per person per day—four rows at a time—is the growing demand. These planters operate similarly to the two-row planters described on the previous page. The four-row planters are hitched well ahead of the tractor drawbar, resulting in three outstanding advantages: First, close coupling; second, short turning radius—close work at ends of rows; and third, elimination of whipping action. The depth of the seed furrows is regulated by depth-adjusting screws within easy reach of the operator on the planter.

Operated from the Tractor Seat

This planter comprises two units, each unit having a power lift, two open-center wheels, and a caster-wheel forecarriage. The units are connected together in such a way that each is free to follow the surface of the ground independently of the other, assuring uniform depth of planting. The power lift can be operated from either the tractor or the planter seat.

Double Disk Markers

The double-disk markers are spring balanced. They are operated by levers within easy reach of the operator on the planter. This feature is a great convenience when reaching the end of a row. It eliminates the necessity of the operator getting off the seat. The runners are easily detached for sharpening or for replacing. Provision is made on the platform for carrying an additional supply of seed.

Regular Equipment for FA-34 Corn and Cotton Lister

This planter employs the same planting units as those described for the F-34 planter; however, there are twice as many units used in this planter. Equipment includes POTH-39 swinging drawbar hitch.

Regular Equipment for FA-134 Corn Lister Planter

The FA-134 corn lister planter employs the same planting units as those described for the F-134 planter. Being a four-row planter, twice as many units are employed. Equipment includes POTH-39 swinging drawbar hitch.

Extra Equipment

Special equipment includes special plates for Kafir corn, milo maize, broom corn, etc. Both FA-34 and FA-134 will plant in rows 38, 40, 42, or 44-in. apart. The planting mechanism has two speeds for corn and Kafir; these speeds give drilling distances for corn of 11, 13, 15, 17, 19, and 23 in. apart; 7\(\frac{1}{2}\) and 11\(\frac{3}{4}\) in. for Kafir. No. 12 corn and bean (or pea) attachment. Covering attachments (two pairs).

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA-34</td>
<td>Combination reverse feed cotton and flat-drop corn planters</td>
<td>1725 lb.</td>
</tr>
<tr>
<td>FA-134</td>
<td>With flat-drop corn hoppers</td>
<td>1700 lb.</td>
</tr>
</tbody>
</table>
Farmall 2-Row Cotton and Corn Planters—Nos. F-56 and F-58
For F-20 and F-30 Tractors

Built in Two Types
These two-row planters are adaptable to the F-20 and F-30 Farmalls. The F-56 is equipped with runners and press wheels adapted to planting on beds, as practiced in Mississippi, Arkansas and other sections. The F-58 is equipped with sweeps and covering shovels, adapted to Texas and other sections where it is the practice to break down the beds at planting time and deposit the seed practically at the soil level.

The seeding mechanism is driven from the right-hand tractor wheel, through a countershaft. A slip clutch on the seed shaft prevents damage to the hopper mechanism should hard substances get in with the seed.

Hand or Power Lift
These planters are supplied either as hand or power lift, as ordered. The power-lift planters come with the parts necessary for connecting with the power lift attachment, but do not include the power lift, which is a tractor attachment.

Single Seed Hoppers
The hopper mechanism is of the single-seed, or plate, type. It has a wide range of planting quantities, from a minimum of eleven pounds to the acre to a maximum of two and a half bushels or more. This type of mechanism assures excellent separation of the seed, and therefore, uniform planting, and greater economy than any other cotton drop available. Plate equipment can be supplied to meet the most particular requirements of any section.

The planting distances for corn are 14½, 17, 19½ or 23½ inches; Kafir, 9½ or 11½ inches. Row widths, 36, 38, 40 and 42 in.

Regular Equipment

Extra Equipment
Spring-trip shovel coverers, in place of pin-break, or as extras, for F-58. No. 7 peanut attachments (order two). No. 16 combination corn and pea or bean attachment. Runner wings, dirt shields and 12-in. middle buster shape bottoms for F-56.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>DESCRIPTION</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-56</td>
<td>Cotton and corn planter, hand lift</td>
<td>687 lb.</td>
</tr>
<tr>
<td>F-56</td>
<td>Cotton and corn planter, power lift</td>
<td>687 lb.</td>
</tr>
<tr>
<td>F-58</td>
<td>Cotton and corn planter, hand lift</td>
<td>732 lb.</td>
</tr>
<tr>
<td>F-58</td>
<td>Cotton and corn planter, power lift</td>
<td>732 lb.</td>
</tr>
</tbody>
</table>

Specify whether for F-20 or F-30 Farmall.

Feb. 1935
Farmall 4-Row Cotton and Corn Planters—Nos. FA-57 and FA-59
For F-20 and F-30 Tractors

These four-row planters are adaptable to the F-20 and F-30 Farmalls. The FA-57 is equipped with runners and press wheels adapted to planting on beds, as practiced in Mississippi, Arkansas and other sections. The FA-59 has sweeps and covering shovels as used in Texas, and other sections where it is the practice to break down the beds at planting time and deposit the seed practically at the soil level.

The seeding mechanism is driven from the right-hand tractor axle, through a countershaft. A slip clutch on the seed shaft prevents damage to the hopper mechanism should hard substances get in with the seed.

Power Lift
These are power-lift planters, that is, they are equipped with necessary parts for connecting to the powerlift. The powerlift itself is a tractor attachment.

Single Seed Hoppers
The single seed hopper mechanism gives a wide range of planting quantities, from eleven pounds to the acre to two and a half bushels or more. This type of mechanism assures excellent separation of the seed, uniform planting, and greater economy than any other cotton drop available. Plate equipment can be supplied to meet the most particular requirements of any section. Row widths are 36, 38, 40 and 42 in.

The planting distances for corn are 14½, 17, 19½ or 23½ inches; Kafir, 9½ or 11½ inches.

Regular Equipment

Extra Equipment
Spring-trip shovel coverers in place of pin-break, or as extras, for No. FA-59. No. 7 peanut attachment (takes one for each hopper). No. 16 corn and pea attachment (order two). Runner wings, dirt shields, and 12-inch middle buster shape bottoms for No. FA-57 planters. Marker attachment.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA-57</td>
<td>Four-row Cotton and Corn Planter</td>
<td>1367 lb.</td>
</tr>
<tr>
<td>FA-59</td>
<td>Four-row Cotton and Corn Planter</td>
<td>1441 lb.</td>
</tr>
</tbody>
</table>

Specify whether for F-20 or F-30 Farmall
Farmall Cotton and Corn Planter
—Nos. 67 and 68

For Farmall 12

Connect Direct

These are direct-connected, compact, power-driven planters for use on the F-12 Farmall. They are equipped with large single-seed hoppers. The seeding mechanism is driven by a sprocket mounted on the tractor rear axle. The planting units are free to follow the ground, assuring uniform planting depth, regardless of the height of the beds.

It is easy to mount or detach one of these planters—it is not necessary to dismantle it to get it off.

A slip clutch protects the seeding mechanism against damage should hard substances get mixed with the seed.

Planting Quantities and Row Widths

The regular plate equipment permits planting 13, 19, 27, 36 or 40 pounds of cotton seed per acre. A special seed plate bundle, No. 166, increases these quantities to 50 to 70 pounds per acre. Plates are also supplied for planting corn 21 inches apart in the rows, and Kafir 10½ inches apart, also a pair of blank plates. F-67 plants in rows 34 to 42 inches apart, F-68 plants in rows 36 to 42 inches apart. Bundle 162, available on special order, plants beans 5 or 6 inches apart, and has a blank plate which can be drilled to meet special planting requirements.

Regular Equipment

Single seed cotton and flat-drop corn hoppers.
No. F-67 equipped with pin-break shovel coverers.
No. F-68 equipped with runner openers, blade coverers, and open center press wheels.

Extra Equipment

Marker attachment. No. 16 corn and pea hoppers.
Seed plate bundle No. 166 for planting 50 to 70 pounds of cotton seed per acre (takes 2). Seed plate bundle No. 162 for beans (takes 2). No. 6 peanut attachment (takes 2). Runner wings and dirt shields for F-68. Sweeps, 16, 18, 20 or 22-in., for F-67.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-67</td>
<td>Two-row Cotton and Corn Planter</td>
<td>605 lb.</td>
</tr>
<tr>
<td>F-68</td>
<td>Two-row Cotton and Corn Planter</td>
<td>631 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
Farmall Cultivators—Nos. 201 and 201-A

For 38, 40 and 42-in. row-spacings

Illust. 1—The Farmall two-row hand-lift Cultivator No. 201 for corn and cotton.

The Triple Control

This is the feature of Farmall shifting-gang cultivators which makes them superior to all other tractor cultivators. It enables the Farmall operator to do good work in checked corn at rapid tractor travel. When he turns the steering wheel to guide the tractor along the rows he automatically gives the gangs an additional side shift, or dodge, enabling him not only to dodge hills out of check but cultivate uniformly on both sides of the hills.

At the ends, turning the steering wheel to its limit automatically brakes the rear wheel on the inside of the turn and the tractor pivots on the other rear wheel, turning on the shortest possible radius. Steering the tractor, shifting the gangs, and braking either rear wheel for a pivot turn, constitute the Farmall triple-control feature. It is exclusively a Farmall feature—it is patented.

Regular Equipment

No. 201 equipped with 11 No. 9 spring trips and adjustable jockey arches. No. 201-A equipped with 8 No. 9 spring trips and jockey arches on the front section, and 7 double spring teeth on the rear section. Shovel equipment is optional. Specify whether cultivator is for regular Farmall, Farmall 20 or Farmall 30.

Extra Equipment

As shown in table. Also: Disk hillers. Long front standards for listed corn. Lettuce cultivating attachment. "A" type rear section for No. 201 cultivator. Rear wheel shields.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>DESCRIPTION</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>201</td>
<td>Farmall Cultivator, hand lift</td>
<td>790 lb.</td>
</tr>
<tr>
<td>201</td>
<td>Farmall Cultivator, power lift*</td>
<td>791 lb.</td>
</tr>
<tr>
<td>201-A</td>
<td>Farmall Cultivator, hand lift</td>
<td>1087 lb.</td>
</tr>
<tr>
<td>201-A</td>
<td>Farmall Cultivator, power lift*</td>
<td>1062 lb.</td>
</tr>
</tbody>
</table>

Attachments

<table>
<thead>
<tr>
<th>No.</th>
<th>DESCRIPTION</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Bean harvesting attachment</td>
<td>293 lb.</td>
</tr>
<tr>
<td>1</td>
<td>Rotary weeder attachment (2)</td>
<td>134 lb.</td>
</tr>
<tr>
<td>3</td>
<td>Rotary weeder shields (set of 4)</td>
<td>70 lb.</td>
</tr>
<tr>
<td></td>
<td>Rear wheel track sweep attachment for No. 201</td>
<td>103 lb.</td>
</tr>
<tr>
<td></td>
<td>Power-lift attachment, single lift, for reg. and F-20 Farmalls</td>
<td>276 lb.</td>
</tr>
<tr>
<td></td>
<td>Power-lift attachment, single lift, for Farmall 30</td>
<td>319 lb.</td>
</tr>
</tbody>
</table>

*Includes connections to power lift, but does not include the power lift, which is a Farmall attachment.
Forward Gang Mounting

You will notice that the gangs are mounted forwardly on the tractor so that the front shovels are just a little to the rear of the center of the front wheels. This is another patented Farmall feature and it has two distinct advantages. One is that in this location the shovels get the full advantage of the steering action of the tractor in addition to the automatic side shift and the other is that the depth of the shovels is gauged by the front tractor wheels, thus assuring uniform depth. This makes it unnecessary to be constantly working with the depth levers—still another reason why Farmall cultivators are easy to operate.

Works Close to Plants

Because of the facility of dodging action the inside shovels on a Farmall shifting-gang cultivator can be set the normal distance apart—it is not necessary to set them wide in order to make up for lack of dodging action, as on cultivators not having these patented Farmall features. This makes it possible to follow the crop rows accurately, and get the weeds close to the plants. Remember that it is the weeds close to the plants that do the most damage.

Bean Harvesting Attachment

The No. 3 bean harvesting attachment which can be supplied for Nos. 201 and 201-A cultivators is used in place of the regular cultivator standards and is raised, lowered, or adjusted by the cultivator levers in the same manner as the cultivator gangs. There is a vine divider for each row, which untangles the vines from the adjacent rows and brings them into position for cutting. This attachment enables bean growers to minimize loss by shattering by cutting and curing the beans in the windrow before threshing.
Farmall Disk Cultivator—No. 211-A

For Heavy Weeds and Vines

The Farmall Nos. 211 and 211-A disk cultivators are especially adapted to work in fields infested with weeds and vines and to heavy gumbo soils. This type of equipment is particularly suited to bottom lands. In vines the disks do a much better job and will not clog, where cultivation with shovels would be hopeless.

In soils where there are hidden stumps or roots the disks have the advantage over shovels that they roll over the obstructions without damage to disks and without delaying the work.

For Barring Off

Provision is made for using barring-off disks on the first cultivation, and, with this equipment, once over with the Farmall disk cultivator is equal to two cultivations with horse-drawn cultivators, since the barring-off disks work close to the rows and throw the dirt away, while the regular disks throw soft dirt back close to the plants. On the No. 211-A the rear section cuts out the centers and works the wheel tracks.

Power Lift

While the Farmall disk cultivator can be supplied in either hand or power-lift type, the power-lift type is much more satisfactory, due to the weight of the disk equipment. With the power-lift attachment, which is available for the Farmall tractor, the Farmall disk cultivator becomes extremely easy to handle. The front section is mounted on the front end of the tractor and has the same pivot gang arrangement as on the No. 201 cultivator. For that reason, what is said about the handling of the No. 201 cultivator applies to No. 211 equally. Quick response to the steering wheel, easy dodge, clean, close work in heavy weeds and vines, make the Farmall disk cultivator a splendid investment.

Regular Equipment

Hand or power-lift, but owing to the greater weight of disk equipment the power-lift type should be ordered.

Specify whether cultivator is wanted for regular Farmall, Farmall 20, or Farmall 30. Regular equipment is with eight 16-in. disks on front section on Nos. 211 and 211-A, and, on No. 211-A a rear section, with four 13-in. (No. 7) disk hillers and three No. 9 spring trips with 12-in. McGregor sweeps.

Extra Equipment

Power-lift attachment (see Farmall tractors). No. 10, 12-in. disk hillers for use on front section for barring off. Equipment to convert No. 211 to No. 201 or 201-A cultivator.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>211</td>
<td>Hand-lift cultivator</td>
<td>915 lb.</td>
</tr>
<tr>
<td>211</td>
<td>*Power-lift cultivator</td>
<td>950 lb.</td>
</tr>
<tr>
<td>211-A</td>
<td>Hand-lift cultivator</td>
<td>1288 lb.</td>
</tr>
<tr>
<td>211-A</td>
<td>*Power-lift cultivator</td>
<td>1258 lb.</td>
</tr>
</tbody>
</table>

* Includes connections to power lift but does not include power-lift attachment, which is a Farmall tractor attachment.
Farmall Cultivators—No. 203-A

Illustration 8—Farmall two-row Cultivator, No. 203-A. The vine lifters are special equipment.

The Farmall No. 203-A cultivator is adapted to cultivating crops planted in rows 28 to 42 inches apart, depending upon the equipment used and the tread of the tractor. The tread of the Farmall 20 is 74 in., or 85 in. if the wheels are reversed. The narrow-tread Farmall has a tread of 57 in., with the regular wheels or 77 in. with the wheels reversed. The tread of the Farmall 30 is 77 in. or 85 in. when the wheels are reversed. Treads between these ranges can be secured by using the 8-in. adjustable overtires. This cultivator with the shields shown in the above illustration is especially popular with potato growers.

Regular Equipment

Specify hand or power lift, and whether for regular F-20 or F-30, wide or narrow-tread. No. 1, 2, 3, or 4 equipment on cultivators for regular tread F-20 and F-30. No. 2 equipment for narrow-tread. No. 1 equipment includes 4 No. 9 spring trips and 4 double spring teeth, on the front section, 7 double spring teeth on the rear—for rows 38 to 44 in. apart. No. 2 equipment includes 8 No. 9 spring teeth on the front section, 7 double spring teeth on the rear—for rows 34 to 42 in. apart on regular tread Farmalls, 28 to 42 in. on narrow-tread. No. 3 equipment includes 8 No. 9 spring trips on the front section, 5 No. 9 spring trips on the rear—for rows 36 to 42 in. apart. No. 4 equipment includes 8 double spring teeth with special tool bars, on the front section, 7 double spring teeth on the rear—for rows 34 to 42 in. apart. Shovel equipment is optional. Equipment includes shields.

Extra Equipment

As shown in table. Also: POKA-9 knife attachment. No. 3, 4, or 5 moldboard hillers. No. 1, 2, or 7 disk hillers. No. 52 rotary shields.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>203-A</td>
<td>Hand lift, No. 1 equipment</td>
<td>835 lb.</td>
</tr>
<tr>
<td>203-A</td>
<td>Power lift, No. 1 equipment</td>
<td>810 lb.</td>
</tr>
<tr>
<td>203-A</td>
<td>Hand lift, No. 2 equipment</td>
<td>810 lb.</td>
</tr>
<tr>
<td>203-A</td>
<td>Power lift, No. 2 equipment</td>
<td>784 lb.</td>
</tr>
<tr>
<td>203-A</td>
<td>Hand lift, No. 3 equipment</td>
<td>751 lb.</td>
</tr>
<tr>
<td>203-A</td>
<td>Power lift, No. 3 equipment</td>
<td>725 lb.</td>
</tr>
<tr>
<td>203-A</td>
<td>Hand lift, No. 4 equipment</td>
<td>825 lb.</td>
</tr>
<tr>
<td>203-A</td>
<td>Power lift, No. 4 equipment</td>
<td>800 lb.</td>
</tr>
<tr>
<td>N-203-A</td>
<td>Hand lift, No. 2 equipment</td>
<td>802 lb.</td>
</tr>
<tr>
<td>N-203-A</td>
<td>Power lift, No. 2 equipment</td>
<td>768 lb.</td>
</tr>
</tbody>
</table>

Attachments

| 4 | Bean harvesting attachment       | 201 lb. |
| 1 | Rotary weeder attachment (2)     | 134 lb. |
| 3 | Rotary weeder shields (set of 4) | 70 lb.  |
| 1 | Front wheel vine lifters         | 47 lb.  |
| 1 | Rear wheel vine lifters          | 92 lb.  |
| 1 | Power lift att., single lift, for regular or F-20 Farmall | 276 lb. |
| 1 | Power lift att., single lift, for Farmall 30 | 319 lb. |

*Includes connections to power lift, but does not include power-lift attachment, which is a Farmall attachment.
Farmall Cultivators—No. 203-A

Easy Handling

One of the features of all Farmall cultivators is the forward location of the shovels that work next to the plants. This location gives the shovels the full advantage of the quick side travel of the front end of the tractor as it is guided along the crop rows. This makes it easy for the 203-A cultivator to follow any two rows that have been planted in pairs. Another advantage of the forward location of the gangs is that the front wheels accurately gauge the depth of the shovels, assuring uniform cultivation.

The shovels on the rear section work the centers of the rows, and the rear wheel tracks. The wide range of shovel equipment, and the other attachments available, adapt these cultivators to a very wide range of work.

Power Lift

No. 203-A cultivators can be supplied either in the hand-lift or power-lift type. When ordering a cultivator it is important to specify whether it is for the regular, F-20 or F-30 Farmall, whether it is for wide or narrow-tread, and whether hand or power lift. It should be understood that the power lift cultivator itself does not include the power-lift attachment, which is a Farmall attachment and can be used to operate other implements besides the cultivator. The power-lift cultivator includes the parts necessary to connect the cultivator with the power-lift attachment.

Vine Lifters

The vine lifters are supplied on special order. They are especially advantageous in the later cultivations of potatoes, when the vines cover most of the ground. They part and lift the vines so that the wheels do not injure them. The vines settle back into place after the cultivator has passed. The lifters are well balanced, and "float" along the ground.
The No. 210-A Farmall cultivator is a two-row rigid-frame cultivator in which the main gang draft bar or pipe is carried on the front end of the tractor in such position that the front shovels are located near the pivot point of the front wheels where they get the full amount of side travel of the tractor as it is steered to follow the rows, thus making it easy to follow crooked rows. The gang draft pipe is high enough to give ample clearance for corn or cotton plants in the late stages of growth. The gang pipe is so braced and trussed as to give sufficient rigidity for the most severe conditions. This construction assures good penetration and a thorough job of weed killing in difficult soils.

No. 210-A works in rows 36 to 48 inches apart.

Regular Equipment
Specify whether hand or power lift, and whether for regular Farmall, Farmall 20 or Farmall 30.

Eight No. 9 spring trips on front section, 7 double spring teeth on rear section—for rows 36 to 48 in. Shovel equipment is optional.

Extra Equipment
As shown in table. Also: No. 1, 2 or 7 disk hillers. No. 3 rotary weeder shields in place of regular or as extras.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>DESCRIPTION</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>210-A</td>
<td>Farmall Cultivator, hand lift</td>
<td>924 lb.</td>
</tr>
<tr>
<td>210-A</td>
<td>Farmall Cultivator, *power lift</td>
<td>898 lb.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ATTACHMENTS</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vine lifters for front wheels</td>
<td>51 lb.</td>
</tr>
<tr>
<td>Vine lifters for rear wheels</td>
<td>92 lb.</td>
</tr>
</tbody>
</table>

1  Rotary weeder (order 2)       | 67 lb. |
2  Rotary weeder (order 2)       | 42 lb. |
Power-lift att., single lift, for regular or F-20 Farmall | 276 lb. |
Power-lift att., single lift, for Farmall 30       | 319 lb. | | 

*Includes connections to power lift, but does not include power-lift attachment, which is a Farmall attachment.

Illustration 13—A rear view of the No. 210-A Cultivator showing how the rear section works the wheel tracks and the spaces between the rows. Note also the high clearance for the growing crop. While the cultivator is shown with sweeps it can be supplied with other types of shovels to suit the purchaser.
A Pivot Gang Cultivator
This cultivator is adapted to corn, cotton, potatoes, and other crops planted in 28 to 44-inch rows. The shovels that work next to the plants are carried on the front gangs where the operator can see them and the rows ahead and thus do first-class work. The other shovels are carried on the rear section.

Patented Gang Shift
By means of a patented Farmall feature, the front gangs are pivoted automatically with the steering of the tractor, providing a dodging facility which enables the operator to take full advantage of the rapid travel of the tractor. In other words, the ability to move the shovels to or from the plants is just about twice what it would be if the operator had to depend upon the travel of the tractor only to make the shovels follow the rows. Another patented Farmall feature is the forward location of the gangs.

Regular Equipment
No. 1 or No. 2 equipment. No. 1 equipment comprises 4 spring trips and No. 49 shields on the front section, 7 spring trips on the rear section. No. 2 equipment comprises 4 spring trips and No. 49 shields on the front section, and 7 double spring teeth on the rear. No. 27 jockey arch on front sections. Shovel equipment is optional.

Extra Equipment
Set of 4 No. 11 13-in. disk hillers. No. 4 rotary weeder attachment. No. 29 jockey arch for rear section. "L" type rear section—see No. 417-J cultivator. No. 1 tooth-bar attachment for beets and beans (see "Beet and Bean Cultivators" for tooling equipment). Bean harvester attachment.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>215-H</td>
<td>Farmall-12 Cultivator with No. 1 equipment</td>
<td>658 lb.</td>
</tr>
<tr>
<td>215-H</td>
<td>Farmall-12 Cultivator with No. 2 equipment</td>
<td>683 lb.</td>
</tr>
</tbody>
</table>
Easy to Operate

Two levers raise and lower and adjust the depth of both front and rear sections. The weight of the gangs is counterbalanced by spring tension, applied in such manner as not to affect the gangs while at work, but to assist the operator in raising or lowering the gangs.

Jockey arches on the front gangs hold the shovels to desired working width.

Beet and Bean Attachment

A special parallel tooth bar attachment can be supplied for the front section, for cultivating four rows of beets, beans, and other crops planted in 20-inch rows, or rows alternating 18 and 22 inches. It also can be used in two rows 24 or 26 inches apart. When it is used, the rear tractor wheels are set out to straddle all four rows. The tooling equipment shown under the No. 8 Beet Cultivator can be supplied.

This attachment is of special interest to those corn and cotton growers who also grow soybeans. Experience has shown that it pays to plant soybeans in narrow-spaced rows, and cultivate them. Once or twice over with a rotary hoe while the plants are small, followed by the No. 215-H cultivator with this parallel tool bar attachment assures larger returns from the beans, with only a nominal outlay for cultivating equipment.

Bean Harvesting Equipment

This consists of the knives and front wheel shield shown on the previous page. For a description of the purpose and operation of this attachment see page on "Bean Harvesting Attachments."
Built for Hard Work

The No. 218-K cultivator is a rigid frame cultivator. The main draft bar, or pipe, is carried on the front end of the tractor. This places the front shovels, which work right next to the rows, near the pivot point of the front wheel, where they get full advantage of the side travel of the front end of the tractor as it is steered to follow the rows. This makes it easy to cultivate crooked rows.

The construction of the cultivator is extremely sturdy, adapting it to hard clay or gumbo soils. It is a popular cultivator in the South and other sections where cultivating conditions call for more than ordinary stamina and durability.

Easy to Operate

Two levers are provided for regulating the depth and for raising and lowering the gangs. Each lever controls one side of the cultivator, front and rear sections. The operation of these levers is made easy by heavy counterbalancing springs. The gangs are held to their work by pressure spring rods.

The gangs can be set in or out for cultivating rows 36, 38, 40 or 42 inches apart. Note that the operator needs only to watch the shovels on the right-hand front gang. The rear shovels cultivate the centers of the rows, and clean up the wheel tracks.

Regular Equipment

No. 1, 2 or 5 cultivating equipment. No. 1 equipment comprises 6 straight spring trips with 8-in. McGregor sweeps and No. 47 shields on the front section, and 7 straight spring trips with 8-in. McGregor sweeps and No. 29 jockey arch on the rear section. No. 2 equipment comprises 6 straight spring trips with 8-in. McGregor sweeps and No. 47 shields on the front section, 7 double spring teeth with 8-in. McGregor sweeps and No. 29 jockey arch on the rear. No. 5 equipment comprises 4 No. 13 disk hillers, 2 No. 34 jockey arches, 2 No. 60 shields and 1 adjustable hobble on the front section, and 3 spring trips with 12-in. McGregor sweeps and 4 No. 7 disk hillers on the rear section.

Extra Equipment

No. 5 moldboard hillier, No. 1 rotary weeder, No. 3 rotary shield, and Nos. 1, 2 and 7 disk hillier attachments, No. 49 shields.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>218-K</td>
<td>Farmall-12 Cultivator with No. 1 equipment</td>
<td>887 lb.</td>
</tr>
<tr>
<td>218-K</td>
<td>Farmall-12 Cultivator with No. 2 equipment</td>
<td>922 lb.</td>
</tr>
<tr>
<td>218-K</td>
<td>Farmall-12 Cultivator with No. 5 equipment</td>
<td>935 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
The Farmall No. 405-A is a 4-row beet and bean cultivator. The speed of the tractor and the ease with which the cultivating units are controlled not only assure a thorough job of cultivation but enable a man to get over three or four times as much ground as a man with horses. It will be noticed that the gangs can be spaced to cultivate 4 rows 22 in. apart or four rows spaced 18 and 22 in. apart alternately. This adapts the cultivator particularly to irrigated sections where it is the practice to run an irrigating furrow in every second row.

Tractor Tread
When using the No. 405-A cultivator the wheels are reversed, increasing the tread on the regular and F-20 Farmalls to 83 in. or 85 3/8 in. on the Farmall 30. The wheels should be equipped with 8-in. adjustable overtires (See Wheel and Lug Equipment). These overtires are available on special order.

Uniform Penetration
The front gangs are so attached to the front beams as to afford sufficient flexibility to each gang to enable it to conform to irregularity in the surface of the soil, thus assuring uniform penetration.

Regular Equipment
Nos. 11, 12, or 13 tooling equipment. No. 11 equipment includes 10 spring trips with 4 pairs of No. 4 knife weeders, and 2 No. 6 duck feet on the front section, and 3 spring trips with 12-in. Joyce sweeps on the rear section. No. 12 equipment includes 10 spring trips with 8 No. 107 10-in. disk weeders and 2 No. 6 duck feet on the front section, and 3 spring trips with 12-in. Joyce sweeps on the rear section. No. 13 equipment includes 10 spring trips with No. 9 deer tongues on front section, and 3 spring trips with 12-in. Joyce sweeps on rear section. For rows 22 in. apart, or 18 and 22 in. alternating. Specify hand or power lift, and whether for regular Farmall, Farmall 20 or Farmall 30.

Extra Equipment
As shown in table. Also moldboard and disk hillers, special shovels, sweeps, half-sweeps, etc.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>DESCRIPTION</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>405-A</td>
<td>Hand lift, No. 11 equipment</td>
<td>1124 lb.</td>
</tr>
<tr>
<td>405-A</td>
<td>*Power lift, No. 11 equipment</td>
<td>1100 lb.</td>
</tr>
<tr>
<td>405-A</td>
<td>Hand lift, No. 12 equipment</td>
<td>1114 lb.</td>
</tr>
<tr>
<td>405-A</td>
<td>*Power lift, No. 12 equipment</td>
<td>1089 lb.</td>
</tr>
<tr>
<td>405-A</td>
<td>Hand lift, No. 13 equipment</td>
<td>1095 lb.</td>
</tr>
<tr>
<td>405-A</td>
<td>*Power lift, No. 13 equipment</td>
<td>1070 lb.</td>
</tr>
</tbody>
</table>

Attachments

<table>
<thead>
<tr>
<th></th>
<th>DESCRIPTION</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Rotary weeder attachment (2)</td>
<td>42 lb.</td>
</tr>
<tr>
<td></td>
<td>Rear wheel vine lifters</td>
<td>92 lb.</td>
</tr>
<tr>
<td>40</td>
<td>Shield (pair)</td>
<td>15 lb.</td>
</tr>
<tr>
<td></td>
<td>Power-lift attachment, single lift, for reg. and F-20 Farmalls</td>
<td>276 lb.</td>
</tr>
<tr>
<td></td>
<td>Power-lift attachment, single lift, for Farmall 30</td>
<td>319 lb.</td>
</tr>
</tbody>
</table>

*Includes connections to power lift, but does not include power-lift attachment, which is a Farmall attachment.
Farmall Cultivators—No. N-406-A

No. N-406-A cultivator is adapted to use with the narrow-tread Farmall with offset wheels set in to a 57-in. tread. This wheel tread puts two rows inside and two outside the rear wheels. When cultivating in rows spaced 18 and 22 inches apart alternately, the wheels are reversed to obtain a tread of 77 inches. This places all four rows inside, the rear wheels.

Regular Equipment

Specify hand or power lift, and whether for regular, F-20 or F-30 Farmall (Note that the N-406-A cultivator is adapted only to the narrow-tread Farmalls). Nos. 11, 12, 13, 14, 15, 16, or 17 equipment. No. 11 equipment includes 10 spring trips with 4 pairs of No. 4 knife weeders, 2 No. 6 duck feet, and 4 pairs No. 40 shields on the front section, and 3 spring trips with 12-in. Joyce sweeps on the rear section. No. 12 equipment includes 10 spring trips with 8 No. 107 10-in. disk weeders, 2 No. 6 duck feet, and 4 pairs No. 40 shields on the front section, and 3 spring trips with 12-in. Joyce sweeps on the rear section. No. 13 equipment includes 10 spring trips with No. 9 deer tongues and 4 pairs No. 40 shields on the front section, and 3 spring trips with 12-in. Joyce sweeps on the rear section. No. 14 equipment includes 10 spring trips, 4 right-hand and 4 left-hand 10-in. half sweeps, two 8½-in. sweeps, and 4 pairs No. 40 shields on the front section, and 3 spring trips with 12-in. Joyce sweeps on the rear section. No. 15 equipment includes 10 spring trips with 4 right-hand and 4 left-hand 8-in. half sweeps, two 8½-in. sweeps, and 4 pairs No. 40 shields on the front section, and 7 double spring teeth with 6½-in. sweeps on the rear section. No. 16 equipment includes 10 spring trips with 4 right-hand and 4 left-hand 8-in. half sweeps, two 15-in. Joyce sweeps, and 4 No. 2 rotary weeders on the front section, and 3 spring trips with 15-in. Joyce sweeps on the rear section. Also 5 No. 1 11-in. wing hillers. No. 17 tooling equipment is same as No. 16 except that the right and left-hand half sweeps on the front section are 10-in. instead of 8-in.

Extra Equipment

As shown in table. Also: moldboard and disk hillers, special shovels, sweeps, half sweeps, etc.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-406-A</td>
<td>Hand lift, with No. 11 equipment</td>
<td>1300 lb.</td>
</tr>
<tr>
<td>N-406-A</td>
<td>*Power lift, with No. 11 equipment</td>
<td>1275 lb.</td>
</tr>
<tr>
<td>N-406-A</td>
<td>Hand lift with No. 12 equipment</td>
<td>1384 lb.</td>
</tr>
<tr>
<td>N-406-A</td>
<td>*Power lift, with No. 12 equipment</td>
<td>1359 lb.</td>
</tr>
<tr>
<td>N-406-A</td>
<td>Hand lift with No. 13 equipment</td>
<td>1271 lb.</td>
</tr>
<tr>
<td>N-406-A</td>
<td>*Power lift with No. 13 equipment</td>
<td>1246 lb.</td>
</tr>
<tr>
<td>N-406-A</td>
<td>Hand lift with No. 14 equipment</td>
<td>1281 lb.</td>
</tr>
<tr>
<td>N-406-A</td>
<td>*Power lift with No. 14 equipment</td>
<td>1256 lb.</td>
</tr>
<tr>
<td>N-406-A</td>
<td>Hand lift with No. 15 equipment</td>
<td>1295 lb.</td>
</tr>
<tr>
<td>N-406-A</td>
<td>*Power lift with No. 15 equipment</td>
<td>1270 lb.</td>
</tr>
<tr>
<td>N-406-A</td>
<td>Hand lift with No. 16 equipment</td>
<td>1370 lb.</td>
</tr>
<tr>
<td>N-406-A</td>
<td>*Power lift with No. 16 equipment</td>
<td>1345 lb.</td>
</tr>
<tr>
<td>N-406-A</td>
<td>Hand lift with No. 17 equipment</td>
<td>1360 lb.</td>
</tr>
<tr>
<td>N-406-A</td>
<td>*Power lift with No. 17 equipment</td>
<td>1335 lb.</td>
</tr>
<tr>
<td></td>
<td>Front wheel vine lifters</td>
<td>51 lb.</td>
</tr>
<tr>
<td></td>
<td>Rear wheel vine lifters</td>
<td>92 lb.</td>
</tr>
<tr>
<td>2</td>
<td>Rotary weeder</td>
<td>42 lb.</td>
</tr>
<tr>
<td>40</td>
<td>Shield (pair) (4 pairs required)</td>
<td>15 lb.</td>
</tr>
<tr>
<td></td>
<td>Field cultivator attachment</td>
<td>57 lb.</td>
</tr>
<tr>
<td></td>
<td>Power-lift attachment, single lift, for narrow-tread regular or F-20</td>
<td>266 lb.</td>
</tr>
<tr>
<td></td>
<td>Power-lift attachment, single lift, for narrow-tread Farmall 30.</td>
<td>309 lb.</td>
</tr>
</tbody>
</table>

*Includes connections to power lift, but does not include power-lift attachment, which is a Farmall attachment.
McCormick-Deering Bean Harvesting Attachment

For No. N-406-A
Farmall Cultivators


Illust. 18 shows the four-row bean harvesting attachment which can be supplied for use in connection with Farmall N-406-A cultivator. This attachment cuts four rows of beans and leaves them in a windrow. The beans are allowed to lie in the windrow and cure a day or two, depending on whether they are to be stacked first or threshed with a harvester-thresher.

Curing Minimizes Loss

The curing in the windrow minimizes the loss due to shattering or shelling out, and has the additional advantage that the weeds are dried to such an extent that they are easily separated from the beans in threshing, the result being a clean job of threshing. There is a vine divider for each row which untangles the vines and brings them into cutting position. The front vine shield clears the vines from the path of the front wheels and prevents shattering out the beans. The attachment for N-406-A with No. 16 or No. 17 tooling equipment, which is used in the irrigated sections, has floating divider heads and gathering rods. This allows the dividers to drop into furrows and get under the vines. When the knives are raised from the ground the floating dividers are automatically lifted with the knives to give high clearance.

It should be noted that the bean harvesting attachments fit the regular gang beams in place of the regular standards and that to use this attachment the purchaser must first have a No. N-406-A Farmall cultivator.

Regular Equipment

No. 1 bean-harvesting attachment is adapted to N-406-A cultivator with No. 11, 12, 13, 14 or 15 tooling equipment. No. 2 is adapted to N-406-A cultivator with No. 16 or 17 tooling equipment. Equipment includes front vine lifters.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bean-harvesting attachment</td>
<td>645 lb</td>
</tr>
<tr>
<td>2</td>
<td>Bean-harvesting attachment</td>
<td>748 lb</td>
</tr>
</tbody>
</table>

Feb. 1935
Nos. 412-F and 612-F are four and six-row beet and bean cultivators. They are equipped with double, parallel, tool bars, which permit arranging knife and disk weeders, duck feet, diamond points, etc., in two ranks on the front section. This enables the user to secure any desired combination of ground tools so that he can thoroughly cultivate all ground between the rows, regardless of the row spacing.

**Power Lift**

These cultivators are supplied only in the power-lift type; that is, they have the necessary connections to the power lift. Since the power lift is a Farmall attachment and can be used to operate other Farmall equipment, this attachment is not supplied as a part of the cultivator and must therefore be ordered separately.

**Forward Mounting**

The forward mounting of all Farmall cultivators is especially advantageous on these cultivators, as it enables the operator to watch the ground tools very closely. Again, the easy handling of the Farmall, the quick response of the cultivator to the action of the steering wheel, and the perfect control of the tractor, all work together to assure the finest kind of a cultivating job.

While the parallel bars permit of any arrangement, these cultivators are generally used in rows 22 in. apart or 18 and 22 in. apart, alternately.

**Regular Equipment**

For use in connection with power lift. No. 412-F, 4-row, equipped with 4 pairs No. 6 8-in. knife weeders, 4 No. 14 8½-in. duck feet and 1 No. 13 duck foot; also, 2 standards with irrigating shovels on front section and 3 spring trips with irrigating shovels on rear section. No. 612-F, 6-row, equipped with 6 pairs No. 6 8-in. knife weeders, and 6 No. 14 8½-in. duck feet and 1 No. 13 duck foot; also, 2 standards with irrigating shovels on front section and 3 spring trips with irrigating shovels on the rear section.

For rows 22 in. apart or alternating 18 and 22 in. apart.

Specify whether cultivator is for regular Farmall, Farmall 20, or Farmall 30.

**Extra Equipment**

Power lift, Nos. 13 and 14 duck feet, Nos. 5 and 6 knife weeders, No. 2 diamond point, and No. 108 10-in. disk weeder.

**Specifications**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>412-F</td>
<td>4-row, *power-lift type.</td>
<td>1152 lb.</td>
</tr>
<tr>
<td>612-F</td>
<td>6-row, *power-lift type.</td>
<td>1202 lb.</td>
</tr>
<tr>
<td>13</td>
<td>Duckfoot, ea.</td>
<td>7 lb.</td>
</tr>
<tr>
<td>14</td>
<td>Duckfoot, ea.</td>
<td>6 lb.</td>
</tr>
<tr>
<td>5</td>
<td>Knife weeder, small, pair</td>
<td>10 lb.</td>
</tr>
<tr>
<td>6</td>
<td>Knife weeder, large, pair</td>
<td>11 lb.</td>
</tr>
<tr>
<td>2</td>
<td>Diamond point, ea.</td>
<td></td>
</tr>
<tr>
<td>108</td>
<td>10-in. disk weeder</td>
<td>8 lb.</td>
</tr>
</tbody>
</table>

*Includes connections to power lift but does not include power-lift attachment, which is a Farmall attachment.
When a man sees a Farmall and one of these 4-row cultivators moving across a field at a rate of three or four miles an hour, doing a splendid job at the rate of 40 to 65 acres a day, he is able to appreciate why his neighbors are going to Farmall farming.

Quick Dodge

No. 407-A is a shifting-frame cultivator. As the Farmall operator steers the tractor, the mechanism shown in Illustration 23 gives an accelerated dodging action. The cultivator follows the same rows as the 4-row planter, and, since the four rows were all planted at the same time, the operator needs only watch the inside row. The instant control of the tractor, and the sensitive response to the steering wheel, enable the tractor operator to work at approximately twice the speed of horses. At the end of the field, as the steering wheel is turned to either limit of its action, the rear wheel on the inside of the turn is held automatically by the differential brake and the tractor pivots on that wheel for the shortest possible turn.

Patented Features

The combination of features which makes this cultivator so easy to handle—the triple steering wheel control of guiding, shifting the gangs and braking the rear wheel, in connection with the location of the cultivating attachment on the front end of the tractor—is protected by patents.

Regular Equipment

Hand or power-lift type (specify which). The power-lift cultivator includes connections to power lift but does not include power lift, which is a Farmall attachment. Specify whether for regular Farmall, Farmall 20, or Farmall 30 tractor.

Equipment includes 12 spring trips on front section, 7 double spring teeth on rear section.

Extra Equipment

No. 1, 2, or 3 disk hillers. No. 1 or 2 rotary weeder (order 4). No. 3 rotary weeder shields (order 2 sets of 4). Power-lift attachment.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>407-A</td>
<td>Hand-lift, 4-row Farmall cultivator</td>
<td>1612 lb.</td>
</tr>
<tr>
<td>407-A</td>
<td>Power-lift, 4-row Farmall cultivator</td>
<td>1534 lb.</td>
</tr>
</tbody>
</table>

Power-Lift Attachments

Single lift for reg. or F-20 Farmall          276 lb.
Single lift for Farmall 30                     319 lb.
The four-row Farmall cultivator No. 408-A is especially adapted to hard ground conditions encountered in some sections of the cotton and corn belts. Good penetration and thorough weed killing are readily obtained in difficult soils. Steering of both the tractor and the cultivator is so simple and easy that 65 acres a day per man is a common accomplishment. Gangs are adjustable for rows 38, 40 and 42 inches apart.

Each gang is so attached to the front frame that it is free to follow the surface of the ground, thus assuring uniform penetration.

Regular Equipment

Specify whether hand or power lift, and whether for regular Farmall, Farmall 20, or Farmall 30. No. 5 or No. 6 equipment. No. 5 equipment includes 8 No. 9 spring trips, 8 double spring teeth and shields on the front section, and 7 double spring teeth on the rear section. No. 6 equipment includes 14 No. 9 spring trips and shields on the front section, and 5 No. 9 spring trips on the rear section. Shovel equipment is optional.

Extra Equipment

As shown in table. Also: No. 1, 2 or 7 disk hillers. No. 3 rotary weeder shields in place of regular shields or as extra. No. 5 moldboard hillers.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
</table>
| 408-A | Hand lift, No. 5 equipment   | 1790 lb.
| 408-A | Power lift, No. 5 equipment  | 1765 lb.
| 408-A | Hand lift, No. 6 equipment   | 1800 lb.
| 408-A | Power lift, No. 6 equipment  | 1775 lb.

<table>
<thead>
<tr>
<th>Attachments</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vine lifters for front wheels</td>
<td>51 lb.</td>
</tr>
<tr>
<td>Vine lifters for rear wheels</td>
<td>92 lb.</td>
</tr>
<tr>
<td>Rotary weeder (order 4)</td>
<td>67 lb.</td>
</tr>
<tr>
<td>Rotary weeder (order 4)</td>
<td>42 lb.</td>
</tr>
<tr>
<td>Power-lift att., single lift, for regular or F-20 Farmall</td>
<td>276 lb.</td>
</tr>
<tr>
<td>Power-lift att., single lift, for Farmall 30</td>
<td>319 lb.</td>
</tr>
</tbody>
</table>

*Includes connections to power lift, but does not include power-lift attachment, which is a Farmall tractor attachment.
Farmall Beet and Bean Cultivator—No. 417-J
For Farmall 12

Illustration 26—The No. 417-J Beet and Bean Cultivator with knife weeders and duck feet.

Cultivates Narrow Rows
The No. 417-J cultivator, built for use on the F-12 Farmall, is adapted to the cultivation of beets, beans, and other crops grown in 16 to 30-inch rows. Double, parallel tool bar construction permits the widest possible range of adjustment of various types of ground-working tools. The ground tools on the front section cultivate close to the crop rows and work the centers of the outside rows, while those on the rear section cultivate the centers of the inside rows and work out the wheel tracks. The tools available for this cultivator are the same as those used on the No. 8 beet cultivator.

Illustration 27—The L-type rear section. It can be raised and lowered independently. It is available on special order.

Easy Control
The front and rear sections are raised, lowered, or adjusted for depth by means of two levers, each side separately. The operation of the levers is made easy by a lifting spring on each lever. The outer ends of the front section are carried on adjustable gauge shoes which prevent the ground tools from going too deep. Pressure springs assist in holding the ground tools to the depth determined by the setting of the gauge shoes.

Independent Rear Section
In fields where the turning space is very short or where ditches or washes make it necessary to raise the ground tools clear, it is sometimes desirable to raise and lower the front and rear gangs independently to let the rear section work clear up to the edge of the field or ditch. For this purpose the independent-lift rear section shown in Illustration 27 can be supplied on special order.

Regular Equipment

Extra Equipment
Ground tools: Knife weeders, duck feet, disk weeders, deer tongues, diamond points, and irrigating shovels in any combination desired. Extra heavy diamond points (No. 4 front, No. 5 rear). No. 59 shields. (See Beet Cultivator attachments for illustrations of ground tools.) L-type rear sections. Vine lifters for front and rear tractor wheels. No. 6 bean-harvester attachment (see page on Bean Harvester attachments). Spring-trip shovel standards.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>417-J</td>
<td>Beet and Bean Cultivator for Farmall 12</td>
<td>416 lb.</td>
</tr>
</tbody>
</table>

Orders should specify when cultivator is to be used with wide front axle tractor.
Farmall Beet and Bean Cultivator—No. 417-J
For Farmall 12

Illustration 28—One of the front sections with deer tongues set for cultivating 28-inch rows of beans.

Row Widths

The cultivating tools can be arranged on the No. 417-J cultivator for cultivating four rows 16 to 30 inches apart or for cultivating six rows 16, 18, or 20 inches apart.

Gauge Bracket

Special gauge brackets can be supplied for connecting regular pressure rods to the gang-lifting pipes to limit the depth of the ground tools without the use of gauge shoes. This is a very simple attachment.

Illustration 29—One of the front sections of the No. 417-J Cultivator with disk weeder equipment.
McCormick-Deering Farmall Mowers

Standard Construction

McCormick-Deering Farmall mowers are built with the same high standard of construction as other McCormick-Deering mowers. They are power-driven by the Farmall engine through the transmission by means of the power take-off. The cutter bar is made of high-carbon steel, tempered in oil. Cut gears are used. They are enclosed and run in a bath of oil.

The Farmall mower is so built that if the cutter bar strikes an obstruction it will swing back, thus preventing serious breakage.

The Farmall mower cuts a seven-foot swath. Running at the usual cutting speed, from 20 to 30 acres can be cut in a day. When a trailer mower is also pulled, as shown in Illust. 2, practically twice that acreage can be cut.

Square Corners

In cutting with the Farmall mower it is easy to maintain square corners, as backing or circling is unnecessary. This outfit can be quickly turned at the corners—even faster than a horse-drawn mower.

A slip clutch is provided on the shaft which attaches to the power take-off of the tractor. Should any hard object get caught in the knife the slip clutch slips and prevents breakage.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>7-ft. mower for Farmall 20</td>
<td>520 lb.</td>
</tr>
<tr>
<td>10</td>
<td>7-ft. mower for F-30 Farmall</td>
<td>505 lb.</td>
</tr>
<tr>
<td>10</td>
<td>7-ft. mower for narrow-tread Farmall 20</td>
<td>520 lb.</td>
</tr>
<tr>
<td>10</td>
<td>7-ft. mower for narrow-tread F-30 Farmall</td>
<td>505 lb.</td>
</tr>
<tr>
<td>12</td>
<td>7-ft. trailer mower</td>
<td>560 lb.</td>
</tr>
<tr>
<td>12</td>
<td>7-ft. mower for Farmall 12</td>
<td>517 lb.</td>
</tr>
<tr>
<td>ZMA-87</td>
<td>Trailer mower hitch for Farmall 20</td>
<td>235 lb.</td>
</tr>
<tr>
<td>ZMA-165</td>
<td>Trailer mower hitch for F-30 Farmall</td>
<td>240 lb.</td>
</tr>
<tr>
<td>ZMA-91</td>
<td>Trailer mower hitch for narrow-tread Farmall 20</td>
<td>230 lb.</td>
</tr>
</tbody>
</table>

Note: Be sure to state tractor for which equipment is wanted.
Farmall Sweep Rake

For Regular, F-20, F-30 and F-12 Farmalls

Illustr. 1—The Farmall Sweep Rake.

A Farmall sweep rake is quickly adjusted to a Farmall for use in bunching and moving hay for stacking and for gathering grain shocks for threshing or stacking. With the use of this sweep rake, one man controls both the tractor and the rake. The sweep rake is attached ahead of the Farmall so the operator has perfect control of the rake when loading, moving and unloading at the stacker.

Power-Lift

The Farmall sweep rake is built with the McCormick-Deering power-lift device. As soon as the load has been picked up in the field, the operator releases the rear rake lever. The pressure of the hay lifts the teeth so the weight of the hay is carried on the tractor and rake wheels. This feature makes the sweep rake especially desirable for irrigated land and other rough fields. The teeth can also be raised and lowered by hand, thus enabling the Farmall and sweep rake to travel rapidly from the field to the stack, whether loaded or empty. The teeth are lowered by use of a foot lever release.

Easily Controlled

Side teeth on each side of the rake hold the hay intact to permit more rapid traveling over the fields. The Farmall operator readily places the load on the stacker teeth, lowers the load, reverses the tractor, turns, and is quickly on the way for another large load.

The two steel wheels of the sweep rake are on pivot axles, controlled from the Farmall steering wheel. With this feature the load can be shifted sideways as well as forward or backward. These wheels are mounted on removable bushings which slip over the axle. The bushings prevent wear on the axles. They are provided with oil cups having large holes in which oil can be placed to retain the oil.

Specifications

Specify whether for regular, F-20, F-30 or F-12 Farmall and wide or narrow tread.

<table>
<thead>
<tr>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmall Sweep Rake</td>
<td>1090 lb</td>
</tr>
</tbody>
</table>

Illustr. 2—Gathering a big load of hay with a Farmall Sweep Rake.

Illustr. 3—Easily placing a load of bunched hay on the stacker.

Feb. 1935
McCormick-Deering Farmall Beet Puller—No. 4

For Farmall 12

The No. 4 beet puller is a simple, sturdy, and very efficient attachment for the Farmall-12 tractor. It is easy to attach to the tractor. The regular tractor drawbar is turned ahead, and the front end of the puller frame is supported from this drawbar by means of adjusting straps for raising or lowering the drawbar.

The rear end of the puller frame is suspended from a rock shaft mounted on brackets attached to the rear axle housing. A lever is provided for raising or lowering, or regulating the working depth of the puller. Pressure springs on both puller beams help to hold the puller steady.

Light Draft

The puller points work on the principle of an inclined plane. They catch the beets just under the bulge and gently ease them out of the ground. From this it will be seen that it is not necessary to run the puller points very deep. This greatly reduces the amount of draft required to operate the implement.

The puller blades are adjustable to suit conditions. The points are replaceable. The puller is regularly equipped with rolling coulters which cut away the excess foliage.

When the puller is mounted on the tractor, the right tractor wheel is reversed and set out, while the left tractor wheel is set in to the tractor. This makes it possible to run the front tractor wheel to the left of the beet row and still have the puller centered with reference to the traction of the rear wheels, so that there is no difference in steering the tractor than there would be if the puller were mounted in the center of the tractor.

Regular Equipment

Rolling coulters: PORC-99, left hand; PORC-100, right hand. Replaceable points.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>DESCRIPTION</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Beet Puller for Farmall 12</td>
<td>415 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
Farmall One-Row Corn Picker—No. 10

A Farmall 20 or 30 and the Farmall one-row tank picker make a compact, self-contained unit under one-man control. It is especially easy to handle. It can be run right up to the fence and turned as short as the Farmall without the picker; that is, on an 8-foot radius. The picking mechanism is driven by the power take-off.

**Picks Down and Leaning Stalks**

The gatherers work right down close to the ground and do a clean job of picking. Finger-link chains carry the stalks back and force them against the snapping rolls, where they are snapped off and elevated to the husking rolls. Any trash which might otherwise accumulate on the rolls or in the elevator is forced down through the snapping rolls by flexible paddles attached to a revolving beater. The principle of this is new and exclusive, and one which is extremely essential in a corn picker.

The tank has a capacity of 20 bushels. When the tank is full, a lever on the side of the tank drops the chute and the corn is quickly transferred to a truck or wagon.

**Steel Construction**

All drive chains are high-grade roller chains. The conveyor chains and flights are of steel. The elevator sprockets are equipped with extra large roller bearings. The gears are cut steel, hardened. They are enclosed and run in grease. Where universal joints are used they are of the finest quality and workmanship, and are assembled in perfect time with each other, the result being the practical elimination of vibration.

A conveniently located lever makes it possible to adjust the gatherers to get under down and leaning stalks.

**Size and Capacity**

Width tank picker, overall, 7 ft. 3 in.; length overall, 14 ft. 3 in.; height overall, 11 ft. 7 in.; capacity of tank, 20 bushels; capacity, per 10-hour day at two miles per hour, 8 acres.

**Regular Equipment**

Grain tank, or wagon box elevator, as ordered.

**Extra Equipment**

Wagon-box elevator attachment for tank-type picker. Grain tank attachment for elevator-type picker. Gather extension fingers. Parts for adapting picker to rubber-tired tractors.

---

**Specifications**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>One-row Corn Picker with tank</td>
<td>3230 lb.</td>
</tr>
<tr>
<td>10</td>
<td>One-row Corn Picker with wagon-box elevator</td>
<td>2550 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935

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One of the biggest advantages of the Farmall 2-row corn picker, next to the saving of time and labor, is that it can be taken into a field anywhere, that is, on any two rows without disturbing the adjacent rows. It is not necessary to work the field in lands or to start on the edge of the field.

**Picks and Husks Clean**

The gatherers raise the down and leaning stalks. Traveling chains equipped with finger links carry the stalks back and force them against the snapping rolls where the ears are quickly snapped from the stalks and carried to the husking rolls. The husks and trash are expelled from the Farmall picker by flexible paddles attached to revolving beaters located above the upper end of the snapping rolls. These force the trash down through the snapping rolls and discharge it to the ground. Conveniently located levers enable the operator to raise both gatherers at once or adjust them separately as may be required to get under down and leaning stalks.

As fast as the corn is picked and husked it is delivered by an elevator to a wagon hitched directly to the center of the tractor drawbar—there is no side draft on this picker.

**Capacity**

The Farmall 2-row corn picker will pick and husk from sixteen to eighteen acres a day. Under favorable conditions it has done as high as twenty-three acres a day. One man to drive the picker and another to do the hauling will pick and husk and crib as much corn as sixteen average hand huskers.

The width of the picker, over all, 7 feet 9 inches. Length over all, 23 feet 6 inches. Height over all, 10 feet. These dimensions cover the picker complete with wagon rear elevator.

**Regular Equipment**

Rear delivery, or side delivery elevator, as ordered.

**Extra Equipment**

Parts to change rear delivery elevator to side delivery elevator. Gather extension fingers. Parts to adapt picker to rubber-tired Farmalls.

### Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>Two-row corn picker with rear delivery elevator</td>
<td>3915 lb</td>
</tr>
<tr>
<td>20</td>
<td>Two-row corn picker with side delivery elevator</td>
<td>4125 lb</td>
</tr>
</tbody>
</table>

Specify whether for F-20 or F-30 Farmall.
McCormick-Deering 10-20 Tractor

The McCormick-Deering line of tractors includes a variety of types and sizes to meet every farm power requirement and the majority of mobile industrial power needs. Every power job on the farm can be met economically and efficiently with one of the many McCormick-Deering tractors, power units, or stationary engines.

McCormick-Deering power includes standard wheel tractors; the Farmalls, the general purpose tractors; the crawler tractors, designated as TracTractors; industrial tractors; and power units. The wheel tractors can be equipped with either steel wheels or low-pressure pneumatic tires. McCormick-Deering tractors have established exceptional performance records in all sections of the country.

Regular Equipment

Extra Equipment

Specifications, 10-20

<table>
<thead>
<tr>
<th>Specifications</th>
<th>10 h. p.</th>
<th>20 h. p.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drawbar</td>
<td>10 h. p.</td>
<td>20 h. p.</td>
</tr>
<tr>
<td>Belt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forward speeds</td>
<td>2½—3</td>
<td>4½</td>
</tr>
<tr>
<td>Rev. speed</td>
<td>2½</td>
<td></td>
</tr>
<tr>
<td>Engine speed</td>
<td>1000 r. p. m.</td>
<td></td>
</tr>
<tr>
<td>Bore</td>
<td>4½</td>
<td></td>
</tr>
<tr>
<td>Stroke</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Pulley speed</td>
<td>645 r. p. m.</td>
<td></td>
</tr>
<tr>
<td>Belt speed</td>
<td>2573 ft. p. m.</td>
<td></td>
</tr>
<tr>
<td>Power take-off shaft speed</td>
<td>543 r. p. m.</td>
<td></td>
</tr>
<tr>
<td>Pulley diameter</td>
<td>15½</td>
<td></td>
</tr>
<tr>
<td>Pulley face</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Front wheel, diameter</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Front wheel, face</td>
<td>4½</td>
<td></td>
</tr>
<tr>
<td>Tread, front</td>
<td>45½</td>
<td></td>
</tr>
<tr>
<td>Drive wheel, diameter</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>Drive wheel, face</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Tread, rear</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Wheelbase</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>Length (over all)</td>
<td>123</td>
<td></td>
</tr>
<tr>
<td>Width (over all)</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Total height—steering wheel</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>Total height—radiator</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td>Turning radius</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Kerosene tank, capacity</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Gasoline tank, capacity</td>
<td>3½</td>
<td></td>
</tr>
<tr>
<td>Gear ratio (high)</td>
<td>33½ to 1</td>
<td></td>
</tr>
<tr>
<td>Drawbar adjustment</td>
<td>vert., 7 in.; hor., 14 in.</td>
<td></td>
</tr>
<tr>
<td>Platform</td>
<td>30 x 44½ in.</td>
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</tr>
<tr>
<td>Approximate shipping weight</td>
<td>4265 lb.</td>
<td></td>
</tr>
</tbody>
</table>

Illust. 1—McCormick-Deering 10-20 Tractors embody the many important features that tend to make power-farming profit-farming.

Illust. 2—Power as you need it—(1) belt; (2) drawbar; and (3) power take-off.
The successful performance of a tractor depends in a large measure on the power plant. McCormick-Deering tractor engines are of the well-balanced, valve-in-head type. They produce smooth-flowing power which permits the most efficient operation of all machines of proper capacity. These engines operate economically on either kerosene or gasoline.

The development of McCormick-Deering tractor engines dates back over a period of thirty years. During this time Harvester engineers improved the single-cylinder engine, progressed to the 2-cylinder, and then perfected the balanced 4 and 6-cylinder tractor engines. McCormick-Deering tractor engines are characterized by their smooth operation, free from vibration.

Engines of the different types are similar in design and construction. The McCormick-Deering 10-20; 15-30; W-30; the Farmalls, the F-20 and F-30; and T-20 Tractor engines are all of 4-cylinder construction, similar to the illustrations on this page. Their primary differences are in size.

Each McCormick-Deering tractor engine is given a prolonged test in the large testing plant during which exacting output standards must be met. Following this rigid test, every engine must pass a thorough inspection before being installed in a tractor.

Unit Construction

Accessibility, a very desirable feature of modern tractor design, is well evidenced by the unit construction feature of McCormick-Deering tractors. This is a feature originally introduced by International Harvester years ago. In addition to accessibility, this type of construction reduces overhauling and replacement to a minimum. Each unit—engine, clutch, transmission, final drive, etc.—can be removed, should the occasion demand, without disturbing the adjacent units. This makes it possible to take any of the units to a bench for adjustments and overhauling.
McCormick-Deering W-30 Tractor

The McCormick-Deering W-30 tractor is a new 2 or 3 plow triple-power tractor. It is a splendid unit for farms demanding more than the power of the 10-20, yet not requiring a tractor as large as the McCormick-Deering 15-30.

The W-30 is most convenient to operate. Its controls are designed for finger-tip response. The driver’s compartment is roomy, with protection from dust and dirt. The driver has ready visibility of both the tractor and the operated machine.

This tractor is not only economical, but it is built with an unusual number of new and distinctive features. It is compact, yet has the power and stamina to pull 2 or 3 plows under normal plowing conditions, 8 to 10-foot tractor disks, and other tillage implements requiring similar sized power.

The W-30 is always ready for any farm power job—drawbar, belt, or power take-off. In addition, a front-pull hook makes it mighty handy for moving equipment in and out of machine sheds, stretching fences, and scores of other jobs.

The W-30 is also distinctive for the judicious use of chrome-nickel steel and other modern high-grade alloys. Special electric heat-treating processes and the newest type of dust seals protect bearings and give greatly increased tractor life.

Regular Equipment


Special Equipment


Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drawbar</td>
<td>19.7 h.p.</td>
</tr>
<tr>
<td>Belt</td>
<td>31.3 h.p.</td>
</tr>
<tr>
<td>Forward speeds</td>
<td>23 3/4, 31/4, and 3 3/4 m.p.h.</td>
</tr>
<tr>
<td>Reverse speed</td>
<td>23 3/4 m.p.h.</td>
</tr>
<tr>
<td>Engine speed</td>
<td>1150 r.p.m.</td>
</tr>
<tr>
<td>Bore</td>
<td>4 3/4 in.</td>
</tr>
<tr>
<td>Stroke</td>
<td>3 in.</td>
</tr>
<tr>
<td>Pulley speed</td>
<td>675 r.p.m.</td>
</tr>
<tr>
<td>Belt speed</td>
<td>2695 ft. p.m.</td>
</tr>
<tr>
<td>Pulley diameter</td>
<td>15 3/4 in.</td>
</tr>
<tr>
<td>Pulley face</td>
<td>7 in.</td>
</tr>
<tr>
<td>Power take-off</td>
<td>540 r.p.m.</td>
</tr>
<tr>
<td>Front wheels, diameter</td>
<td>30 in.</td>
</tr>
<tr>
<td>Front wheels, face</td>
<td>43 3/4 in.</td>
</tr>
<tr>
<td>Tread, front</td>
<td>45 3/4 in.</td>
</tr>
<tr>
<td>Drive wheels, diameter</td>
<td>42 in.</td>
</tr>
<tr>
<td>Drive wheels, face</td>
<td>12 in.</td>
</tr>
<tr>
<td>Tread, drive wheels</td>
<td>53 3/4 in.</td>
</tr>
<tr>
<td>Wheelbase</td>
<td>72 1/2 in.</td>
</tr>
<tr>
<td>Length overall</td>
<td>120 3/4 in.</td>
</tr>
<tr>
<td>Width overall, front</td>
<td>57 3/4 in.</td>
</tr>
<tr>
<td>Width overall, rear</td>
<td>66 1/4 in.</td>
</tr>
<tr>
<td>Total height, steering wheel</td>
<td>60 in.</td>
</tr>
<tr>
<td>Total height, radiator</td>
<td>62 3/4 in.</td>
</tr>
<tr>
<td>Turning radius</td>
<td>13 1/2 ft.</td>
</tr>
<tr>
<td>Kerosene tank, capacity</td>
<td>24 gal.</td>
</tr>
<tr>
<td>Gasoline tank, capacity</td>
<td>1 gal.</td>
</tr>
<tr>
<td>Drawbar, vertical adjustment</td>
<td>10 in.</td>
</tr>
<tr>
<td>Drawbar, horizontal adjustment</td>
<td>14 in.</td>
</tr>
<tr>
<td>Approximate shipping weight</td>
<td>4820 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering W-30 Tractor

The roomy dust-protected driver's compartment of the McCormick-Deering W-30 is greatly appreciated by operators. The fenders extend forward to provide full dust protection. All controls are in ready reach and the seat and seat spring are adjustable for the operator's convenience.

The location of the belt pulley on the right side of the tractor is right in the operator's line of vision. This feature speeds up accurate belt alignment.

Likewise, the belt pulley is completely accessible for putting on and removing the belt at any time. The pulley also is sufficiently high to keep the belt clear of the tractor.

Dust-Proof Construction

The W-30 is a dust-proof tractor. New-type dust seals protect the wheel bearings, fan shafts, belt-pulley shaft and other moving parts outside the main frame. The brake and power take-off are inside the main frame. A fuel strainer cleans the fuel; air cleaner, the air; and the oil filter removes foreign materials from the lubricating oils.

Ball-Bearing Transmission

The transmission is mounted entirely on ball bearings. These bearings reduce friction and are always in true alignment; in fact, the rigid one-piece main frame of the tractor keeps the shafts in true alignment and all gears in full mesh. This main frame construction also permits the use of full-gear power transmission from the engine to the rear axle.

The W-30 is unusually easy to steer. Antifriction bearings are located on the steering shaft and steering knuckles, while the pivot pins are mounted on roller bearings. All parts are protected against dust, dirt and water.

Illust. 7—The McCormick-Deering W-30 can pull from the front as well as the rear.

Dust-Proof Construction

The W-30 is a dust-proof tractor. New-type dust seals protect the wheel bearings, fan shafts, belt-pulley shaft and other moving parts outside the main frame. The brake and power take-off are inside the main frame. A fuel strainer cleans the fuel; air cleaner, the air; and the oil filter removes foreign materials from the lubricating oils.

Illustration 9—It's impossible for dust or mud to get into the bearings. The rear axle bearing is equipped with a triple dust seal including the new McCormick-Deering diaphragm type.
McCormick-Deering 15-30 Tractor

Illust. 10—The McCormick-Deering 15-30—a powerful tractor for big-scale farming.

McCormick-Deering tractors have great reserve power, a necessary asset for successful farm use. This reserve power, which is an economy feature, permits the tractor operator to do the entire job regardless of the tough spots in the field. It means that he can start out and plan his work, whether plowing, seed-bed preparation, harvesting, etc., with the assurance that he can keep up that rate all day. This reserve power not only enables the operator to dispose of the peak loads but makes ample power available to meet future needs.

Forward Speeds

McCormick-Deering tractors are provided with a variety of forward speeds to meet the several power requirements. There are low speeds for heavy pulling, medium speed for plowing and similar work, and a higher speed for hauling purposes.

Transmissions

The transmissions are the selective gear type. All gears run in an oil bath. The transmission may be removed as a unit.

Final Drive

Power is transmitted to the drive wheels through large steel spur gears—drop-forged, accurately-machined and electrically-heat-treated, which run in an oil bath and are protected from dust and dirt.

Accessibility

One of the splendid features of McCormick-Deering tractors is the accessibility feature combined with ample protection of all the working parts. For instance, handhole covers on the side of the engine are readily removed for inspecting crankshaft, camshaft, and connecting rod bearings. The crankcase pan can be removed without taking the engine off the frame. Likewise, removable covers are provided for inspecting the transmission, final drive, and other parts.

Regular Equipment


Oil filter. Oil air cleaner. Removable spade lugs, 6 in. high. High-tension magneto with impulse starter. Hand brake. Thermostatic water control.

Extra Equipment


Specifications

<table>
<thead>
<tr>
<th>Drawbar</th>
<th>22 h. p.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belt</td>
<td>36 h. p.</td>
</tr>
<tr>
<td>Forward speeds</td>
<td>2½, 3½, 3¾ m.p.h.</td>
</tr>
<tr>
<td>Reverse speed</td>
<td>2½ m. p. h.</td>
</tr>
<tr>
<td>Engine speed</td>
<td>1050 r. p. m.</td>
</tr>
<tr>
<td>Bore</td>
<td>4¾ in.</td>
</tr>
<tr>
<td>Stroke</td>
<td>6 in.</td>
</tr>
<tr>
<td>Pulley speed</td>
<td>593 r. p. m.</td>
</tr>
<tr>
<td>Belt speed</td>
<td>2600 ft. p. m.</td>
</tr>
<tr>
<td>Power take-off shaft speed</td>
<td>536 r. p. m.</td>
</tr>
<tr>
<td>Pulley diameter (regular)</td>
<td>16¾ in.</td>
</tr>
<tr>
<td>Pulley face</td>
<td>9 in.</td>
</tr>
<tr>
<td>Front wheels, diameter</td>
<td>34 in.</td>
</tr>
<tr>
<td>Front wheels, face</td>
<td>6 in.</td>
</tr>
<tr>
<td>Tread, front</td>
<td>52 in.</td>
</tr>
<tr>
<td>Drive wheel, diameter</td>
<td>50 in.</td>
</tr>
<tr>
<td>Drive wheel, face</td>
<td>12 in.</td>
</tr>
<tr>
<td>Tread, rear</td>
<td>53 in.</td>
</tr>
<tr>
<td>Wheelbase</td>
<td>85 in.</td>
</tr>
<tr>
<td>Length overall</td>
<td>137 in.</td>
</tr>
<tr>
<td>Width overall</td>
<td>65 in.</td>
</tr>
<tr>
<td>Total height—steering wheel</td>
<td>70 in.</td>
</tr>
<tr>
<td>Total height— radiator</td>
<td>64 in.</td>
</tr>
<tr>
<td>Turning radius</td>
<td>16½ ft.</td>
</tr>
<tr>
<td>Kerosene tank, capacity</td>
<td>19 gal.</td>
</tr>
<tr>
<td>Gasoline tank, capacity</td>
<td>¾ gal.</td>
</tr>
<tr>
<td>Water tank for fuel mixture</td>
<td>9 gal.</td>
</tr>
<tr>
<td>Gear ratio (high) Engine to rear axle</td>
<td>44 to 1</td>
</tr>
<tr>
<td>Drawbar adjustment</td>
<td>vert., 8 in.; hor., 16 in.</td>
</tr>
<tr>
<td>Platform</td>
<td>35 x 52 in.</td>
</tr>
<tr>
<td>Approximate shipping weight</td>
<td>6540 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering Tractors

Illust. 11—The heavy-duty power plant of the McCormick-Deering 15-30 is compactly designed and constructed, yet readily accessible.

The practical design, ease of handling and convenience of operation, coupled with three forward speeds and ample power, give McCormick-Deering tractor owners an ideal tractor for farm power work. The turning radius, weight and method of control fit in exceptionally well with the modern trend of power farming.

Impeller Pump Cooling System
The W-30 and 15-30 cooling systems are thermostat-controlled and supplemented by an impeller pump to meet the requirements of these large power plants. The operation of these systems is an innovation in gas-engine cooling as the cooled water is directed on those engine parts where combustion heat is centralized. The pump is located between the engine and the fan, both the fan and the pump being operated by the same belt. The special thermostatic control is unique in design and maintains uniform engine temperatures.

Combination Fuel Manifold
The combination manifold makes possible efficient use of either kerosene or gasoline. Either can be used economically by merely reversing the baffle plate in the manifold and adjusting the valve to regulate the exhaust heat.

Oil Filter
The built-in oil filter removes grit, dirt, and other foreign material from the lubricating oil, thus conserving the lubricating qualities. The oil filter receives the oil from the crankcase and removes the foreign material, returning the filtered lubricant to the engine.

Drive Parts
All parts of the clutch, transmission, and final drive are sufficiently large to convey the increased power delivered by the engine. In fact, these tractors have been designed throughout for the big power jobs.

Illustration 12—All working parts of the McCormick-Deering engines are enclosed and protected from dirt and dust, and are readily accessible for inspection and adjustment.

Feb. 1935
Illust. 13—If a cylinder in a McCormick-Deering tractor is scored through neglect, or becomes worn after years of service, it may be replaced easily at a reasonable cost.

Replaceable Cylinders
The cylinders of all McCormick-Deering tractor engines are cast individually of close-grained iron. Each cylinder is machined on the outside and inside, honed and polished on the inside, and then assembled in the engine. The construction makes it a simple matter to replace cylinders, should they become scored through neglect, or worn through long use. One or more cylinders may be removed and replaced with new ones of the same size and finish without unbalancing the engine. The power-producing part of the engine then is made as good as new.

The first cost of replaceable cylinder construction is greater than the conventional construction, yet it simplifies engine overhauling, holds repairs expense to a minimum and retains high-grade performance. It eliminates reboring, which necessitates removing the engine from the tractor. This is another one of the many features indicating the unusual construction and performance of McCormick-Deering tractors.

Kerosene Carburetor
The carburetors on the McCormick-Deering tractors operate on either kerosene or gasoline very economically. Through the proper setting of the valves in the manifold, the exhaust heat is utilized to secure maximum power. These carburetors have no moving parts aside from the float mechanism. Loosening one nut permits taking the carburetors entirely apart for inspection.

Vibration-Free Engine
McCormick-Deering engines have both mechanical and power balance. Every crankshaft is accurately balanced by means of dynamic balancing machines. Pistons, connecting rods and bearings are weighed by sensitive scales to assure equal weight of all moving parts. The speed of the engine is controlled by a built-in factory-sealed governor. All these features result in an engine free of vibration—free of the most destructive force of mechanical equipment.

Large Crankshaft and Heavy-Duty Ball Bearings
The heavy-duty crankshaft is oversize and will withstand many times the strain placed on it in ordinary service. It is made of special high-grade steel, drop-forged, and electrically heat-treated. Connecting rod bearings are wide, long, finished to close limits, and polished to accurate size. This assures unusually long service.

The crankshaft runs in large, specially made ball bearings which are durable and efficient. Ball bearings are light running, readily lubricated, and require no adjustment. They save power for profitable work. Ball bearings have been used in International Harvester engines for many years and have been found most satisfactory.

Illust. 14—Heavy-duty crankshaft mounted on ball bearings. The pistons have four rings and two oil grooves, assuring excellent compression and lubrication.
McCormick-Deering Tractors

Illustr. 15—All wearing parts of the final drive are electrically heat-treated for long wear.

Illustr. 16—The compact and complete transmission unit of McCormick-Deering tractors.

Convenience of Unit Construction

McCormick-Deering tractors have unit construction throughout. By unit construction is meant that the engine, transmission, clutch, final drive, etc., are built as separate units and assembled into the main frame. Should the necessity for overhauling arise, each unit can be removed easily and independently.

The platform, fenders, and final-drive housing cover can be conveniently removed, if desired, without disassembly.

Transmission

The transmission gears are completely protected from dust and dirt, and run in a bath of oil. The gears are drop forged and electrically heat-treated for uniform service. All the principal bearings are either ball or roller, which are easily lubricated, light running, and save power.

One-Piece Main Frame

The one-piece main frame, the foundation of McCormick-Deering 10-20, W-30 and 15-30 tractors, extends from the front to the rear axle. The one-piece main frame construction assures all parts being in true alignment and permits proper design and use of full gear-drive transmission. The rigid main frame materially reduces vibration strains often present in other types of construction.

With the one-piece main frame there is no twisting, warping, or straining of the frame. There are no bolts or rivets to wear and give. The one-piece main frame forms an oil-tight housing for the units built into it.

Illustr. 17—The one-piece main frame forms a substantial foundation for the engine, a rigid base for the chassis, and a dust-proof and oil-tight housing for all working parts.
Single-Plate Clutch

The McCormick-Deering clutch is of the efficient single-plate type. The one friction disk, secured to the transmission shaft, is held firmly against the flywheel by the spring-compressed pressure plate. The clutch is self-compensating in that it gradually "takes hold" and steadily accelerates the tractor motion when engaged. All springs in the clutch function in unison, applying equal pressure to all portions of the friction plate. This positive spring action prevents slippage after the clutch is compensated to the load.

The clutch throw-out collar is mounted on a ball bearing and the forward end of the clutch shaft is mounted in a ball bearing in the flywheel, thus assuring true alignment and easy operation.

The clutch can be removed as a unit, should the occasion arise, without disturbing the engine or transmission. The clutch throw-out mechanism is lubricated from outside the main frame.

34 Ball and Roller Bearings

All McCormick-Deering tractors are liberally supplied with ball and roller bearings. For example there are 34 ball and roller bearings in the 10-20. Outstanding among them are the oversize ball bearings on the crankshaft which is a distinctive McCormick-Deering feature. The illustration below shows the location of the many anti-friction bearings in McCormick-Deering tractors.

It is a decided advantage to have anti-friction bearings on all main wearing parts. The many ball and roller bearings in McCormick-Deering tractors result in increased power for the fuel consumed. They also increase tractor life and reduce service requirements.

Bronze-backed, babbitt-lined bearings are used in the connecting rods. The camshaft, steering knuckles, rocker arms, and piston pin bearings and bushings are of phosphor bronze. They are all replaceable.
McCormick-Deering Tractors

McCormick-Deering tractors have a system of lubrication which has been developed for tractors after many years of actual experience under all farm working conditions. In this system—the circulating-splash type—the oil is kept in circulation by a gear-driven gear pump which delivers the oil to the troughs underneath the connecting rods. Due to the design of the troughs, and working of the pump, oil is delivered to these troughs whether the tractor is working upgrade, downgrade, or on a sidehill. As a result there is proper lubrication of all working parts under varying conditions.

Due to the use of the one-piece main frame the transmission and final drive run continually in a bath of oil. Furthermore, the dust-proof housings prevent dirt and grit from entering.

All parts of the tractor which cannot be lubricated either by the circulating-splash system or by running in a bath of oil are lubricated through pressure fittings.

The Oil Filter

McCormick-Deering tractors are regularly equipped with an oil filter which removes dirt, grit, and other foreign material from the lubricating oil, thus conserving the lubricating qualities. The oil filter receives the oil from the crank case, filters out the foreign material, and returns the lubricant to the engine. The filtering element is easily removed and cleaned by washing. In the event the filtering element becomes clogged, the oil passes directly from the pump to the oil lines through an automatic by-pass in the filter.

Steering Mechanism

The automobile type of steering is used on McCormick-Deering tractors, thus increasing the convenience of control. The steering knuckles are equipped with phosphor-bronze bushings which can be replaced readily when worn.

Comfort of Operator

Every possible feature of convenience for the comfort of the operator is found on McCormick-Deering tractors. The position of the seat places the operator high above the dust zone, and affords him a clear view ahead. The wide fenders protect him from dust and dirt, and the convenient platform is appreciated by all operators.

Three Forward Speeds

Three forward speeds enable the tractor to meet efficiently all drawbar jobs whether on road or field.
McCormick-Deering Tractors

Illustr. 23—The drawbar has a wide range of adjustment both horizontally and vertically.

Adjustable Drawbar

The drawbars of McCormick-Deering tractors are conveniently located and have a wide range of adjustments. The drawbar can be raised or lowered by a tumbuckle. The horizontal adjustment permits hitching machines so as to reduce side draft to a minimum.

Belt Pulley

The belt pulley and its equipment are so constructed on McCormick-Deering tractors that one man can readily align the belt. The belt pulley is conveniently located on the right-hand side of the tractor, and high enough to prevent any part of the tractor from interfering with the belt. It is driven by the tractor clutch and controlled by a separate lever—thus, need not be running when the tractor is on drawbar work.

Convenient Brake

A serviceable brake is an important feature in controlling and operating the tractor. The McCormick-Deering brake works on the countershaft direct and is very effective both on drawbar and belt work.

Power Take-Off

The rapid development of power-farming machines indicates the advisability of selecting a tractor with a practical power take-off designed and built to become an integral part of the tractor. The McCormick-Deering tractors provide unlimited opportunities for their owners as they can be used on an almost endless list of jobs—not only for drawbar and belt use, but to operate machines through the power take-off.

The power take-off consists of a shaft attached to the rear of the transmission. It is enclosed and protected from dust and dirt. It can be used at the same time as the belt pulley, if desired. This method of applying power to the pulled machine is far more satisfactory than where the machine depends upon traction wheels to operate it. The power take-off assures positive operating power and uniform speed to such tractor-drawn machines as mowers, binders, corn pickers, ensilage harvesters, and others.

The power take-off always runs at the same speed regardless of the forward speed of the tractor. Furthermore, it can be operated when the tractor is standing still. This is an advantage in clearing the pulled machine should it become clogged.

Illustr. 25—The power take-off permits using larger machines and operating them under rather adverse conditions. Power is transmitted direct from the engine to the pulled machine.
McCormick-Deering Tractors

Throttle Governor

McCormick-Deering governors are completely enclosed and built integral with the engines to accurately regulate the engine speed to the load. During the period the engines are being tested, before placing them in the tractors, each governor is individually adjusted, after which it is sealed. This has many advantages; first, assures a uniform flow of smooth power; second, excludes all dust and foreign material from the working parts; and third, protects the rods and shafts from injury.

Coordinated Carburetion

All parts of the carburetion system of McCormick-Deering tractors are designed and constructed in Harvester factories. The system includes all parts from the fuel tanks and air intake to the combustion chamber. Each part is designed to coordinate with every other part. The carburetor requires no adjustments as it is set at the factory and constructed to give the most efficient operation at all speeds. The carburetor has no moving parts aside from the float chambers. Loosening of one nut permits taking the entire carburetor apart for inspection.

High-Tension Magneto

McCormick-Deering tractors are known for their ease in starting, regardless of weather temperatures. This is due to efficient carburetion and the hot spark delivered by the magneto. All McCormick-Deering tractors are equipped with the International high-tension magneto and built-in impulse starter. The impulse starter assures a good starting spark, regardless of the cranking speed.

Oil Air Cleaner

All of the air which reaches the combustion chamber passes through the oil air cleaner which removes dust, dirt, and other foreign material. The air is drawn through finely matted wire which is covered with a film of oil. The dust is caught by the oil and settles back into the bottom of the cleaner. The waste oil from the engine crankcase is satisfactory for use in the cleaner.

The Fuel Strainer

The fuel cleaner, located directly below the fuel tank, removes the impurities from the fuel. The settling bowl is of large capacity and is easily removed for cleaning. As the fuel passes upward through the large fine-mesh screen the filtered material settles to the bottom, thus the screen is self-cleaning.

Illust. 26—McCormick-Deering all-enclosed factory-sealed governor.

Illust. 27—The carburetor combines simplicity of design with high efficiency in operation.

Illust. 28—The accessible, yet well-protected International high-tension magneto is regular equipment on all McCormick-Deering tractors.

Illust. 29—The oil air cleaner is simple in construction and highly efficient in operation.

Illust. 30—The fuel cleaner removes water, dirt, grit and other foreign material from the engine fuel.

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McCormick-Deering Tractors

Illustration 31—Overtire for use with angle lugs.

Illustration 32—Extension tire and spade lugs on regular wheel.

Illustration 33—Extension rims and long angle lugs.

Illustration 34—Malleable road lugs available for either 10-20, W-30, or 15-30.

Useful Tractor Equipment

Angle lugs, size 4 in. x 2 in. x 3 in. x 12 in. for 10-20 and W-30. (Set of 32. Illustr. 31.)

Angle lugs, size 5 in. x 3 in. x 9 in. x 13 in. for the 15-30. (Set of 32. Illustr. 31.)

Steel spade lugs are 4 and 5 in. high on the 10-20 and W-30, 5 and 6 in. high on the 15-30, width 3 in. (Set of 64. Illustr. 32.)

Steel spade lugs, 4 and 5 in. for 10-20 and W-30; 5 and 6 in. for 15-30, 3½ in. wide used with a 6-in. extension tire. (Set of 16 per wheel. Illustr. 32.)

Extension tire 6 in. wide (Illustr. 32). Also 12-in.


Low-pressure pneumatic tires with wheels.

Set of front wheel extension tires 3½ in. wide on 10-20 and W-30, 4 in. wide on 15-30; total width of wheel and tire on 15-30 is 10 in.; on 10-20 and W-30, 8 in. (Illustr. 37).

Front wheel tire ring for loose soil, 3 in. high. Forged steel road lugs for 10-20 and W-30.

Malleable road lugs 1½ in. high with a 1-in. face on 10-20 and W-30; 1½ in. high with 1-in. face on 15-30, 16 per wheel. (Illustr. 34).

Road wheels with twice as many spokes as regular wheel made specially to stand the heavy road work. (Illustr. 43).

Adjustable Hitch

An adjustable side-hill tractor hitch enables the operator to quickly shift the hitch of the plow when working on side hill so as to get the proper width of furrow. This shifting is done by the use of a lever which is located within convenient reach of the operator. This attachment can be quickly put on the tractor or taken off. It has proven invaluable to good plowing on side hills or uneven ground.
McCormick-Deering Tractors

Lighting Equipment

Electric lighting equipment is available for and can be attached to any of the McCormick-Deering tractors.

The electric lighting system consists of a no-battery, constant-voltage generator and a large reflector headlamp, a reflector platform lamp switch, necessary cables and brackets for installing. The generator supplies a steady current at all working speeds of the tractor, and it throws a shaft of light sufficiently far ahead of the tractor to permit working at full speed and the rear light floods the pulled machine. The no-battery electric lighting system supplies a constant current without the use of batteries whatsoever.

Sliding Drawbars

Sliding drawbars can be secured on special order for each of the McCormick-Deering tractors. Sliding drawbars have many varied uses. The primary use, however, is to enable tractors to turn corners with a full load, thus completing the work to the end of the field. This is a very desirable feature in small or irregular shaped fields.

Road Wheels

McCormick-Deering 10-20, W-30, and 15-30 tractors can be equipped with special road wheels. These wheels are constructed for the stresses encountered in traveling on hard surfaces. The number of spokes has been doubled and blunt lugs used for riding comfort.

Road Wheels

McCormick-Deering 10-20, W-30, and 15-30 tractors can be equipped with special road wheels. These wheels are constructed for the stresses encountered in traveling on hard surfaces. The number of spokes has been doubled and blunt lugs used for riding comfort.
Experience shows that it pays to do a good job of cultivation in orchards, orange, walnut and grapefruit groves, etc. This work should be done at the right period, which is usually short, due to conditions. For this reason the man who has a dependable tractor built to do his work always has the advantage.

With tractor-drawn implements, which are made heavier and stronger, the tractor owner can work the soil to the proper depth, and cover his area in a short time. This is usually very important, especially when the most urgent problem is the conserving of moisture.

The tractor owner can do just as fast and as good work the last hour of the day as he can in the first, even though the weather may be hot and disagreeable. There need be no slighting or skimping on account of lack of power. The entire orchard or grove can be cultivated uniformly.

There are many kinds of work around the average orchard or citrus grove that require dependable power, including plowing, harrowing, cultivating, ditching, grading, removing stumps and stones, leveling operations, pulling trees, various kinds of belt work, etc. All these require an economical and dependable power unit to obtain the best results. The McCormick-Deering tractor owner has this kind of a power unit.

Regular Equipment for 10-20


Extra Equipment for 10-20

(Always mention number of tractor when ordering extra equipment. Number is stamped on name plate on rear of hood.) Fenders with apron for rear wheels (see Illust. 2). Spark arrester with high exhaust pipe. Disk wheels (see Illust. 4).

Specifications for 10-20

Height steering wheel, 55 in. For other regular and extra equipment and specifications, see page on McCormick-Deering 10-20 tractor.

Regular Equipment for 15-30

High skid rings. Fenders (see Illust. 5). Short air intake pipe. Belt pulley shipped detached.

Extra Equipment for 15-30

Fenders with aprons for rear wheels (see Illust. 2). Spark arrester with overhead exhaust pipe. For other regular and extra equipment and specifications, see McCormick-Deering 15-30 page.

Illustration 2—These aprons prevent the lugs and spokes from injuring the branches or limbs of the trees. They are made of heavy gauge sheet steel. They fit regular orchard tractors (10-20 and 15-30 sizes), and the narrow tread (10-20) tractor. The regular farm tractors (10-20 and 15-30 sizes), can be fitted with these aprons by changing the fenders.
McCormick-Deering Orchard Tractors

McCormick-Deering orchard tractors are similar in construction to the regular McCormick-Deering farm tractors; that is, the engine, transmission, main frame, final drive, air cleaner, etc., are the same. The orchard tractors have some special features which enable them to meet conditions in orchards, groves and vineyards, etc., such as aprons to shield upper half of the drive wheels, low steering wheel, low seat, high skid rings, etc.

McCormick-Deering orchard tractors dispose of seasonable jobs in quick order and are available for the many odd jobs that arise. These rugged tractors work when and where needed, plowing and subsoiling, deep and shallow cultivating, harrowing, disk ing, and planting, turning under cover crops, furrowing and ditching for irrigation, operating sprayers and dusters, or pulling trailers and skids. They readily dispose of the miscellaneous jobs, such as pulling trees and moving boulders.

These compact tractors with orchard equipment work close to the trees, practically eliminating hand work. They are triple-power orchard tractors supplying power on the drawbar, belt, or power take-off.

Illust. 3—California Orchard Tractor, 10-20 and 15-30 sizes. Belt pulley carrier is replaced by special cover.

Regular Equipment for California 10-20 Orchard Tractor

High skid rings. Fenders with aprons over rear wheels (see Illust. 3). Low seat. Low steering wheel. Short air intake pipe. Overhead exhaust with spark arrester. 4-in. spade lugs. Clutch housing cover.

Extra Equipment for 10-20

Disk wheels (see Illust. 4).
Rear 12-in. face, 42-in. diam.
Front 6-in. face, 26-in. diam.
Belt pulley attachment (which includes pulley drive shaft). Power take-off attachment (which includes pulley drive shaft). For other special equipment, see 10-20 tractor page.

Specifications of 10-20

Height of steering wheel, 55 in. For other specifications, see 10-20 tractor page.

Regular Equipment for California 15-30 Orchard Tractor

High skid rings. Fenders with aprons over rear wheels (see Illust. 3). Short intake pipe. Spark arrester with overhead exhaust. 6-in. spade lugs.

Extra Equipment for 15-30

Belt pulley attachment. Power take-off attachment. For other extra equipment and for specifications, see 15-30 tractor page.

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McCormick-Deering Narrow-Tread Tractor

The McCormick-Deering 10-20 orchard tractor is available as a narrow-tread model having an overall width of only 48 inches. This tractor is especially adapted for operation in narrow orchard and vineyard rows as well as in hops, sugar cane, and similar crops. The narrow-tread tractor has all the features of the regular 10-20, the only difference being in the width of the unit itself.

Regular orchard fenders can be used with the narrow-tread 10-20. When so equipped it can work close to the rows without damage to trees, vines, or other crops. This tractor also can be used for plowing, ditching, furrowing and similar jobs as well as soil cultivation. The narrow-tread 10-20 can be equipped to do belt work also. Sprayers and other power machines can be operated from the power take-off.

Regular Equipment for Narrow-Tread 10-20 Tractor
Fenders as shown in Illust. 5. Open-type wheels as shown in Illust. 3.

Extra Equipment
(Always mention number stamped on name plate of tractor when ordering extra equipment.)

- Aprons for rear wheels.
- Power take-off attachment.
- Pulley attachment.
- Disk wheels, front and rear.
- Open-type rear wheels with 10-inch wide tire.
- Spark arrester with overhead exhaust pipe.
- Foot brake attachment.
- High skid rings. (High skid ring and foot brake are not to be used together.)

For other extra equipment, see page on 10-20 tractor.

Specifications
Width over rear tires, 48 inches. Wheels:
- Front (spoke wheel) 26-in. diam., 4 3/4-in. face.
- Rear (spoke wheel) 42-in. diam., 12-in. face.

(When equipped with 10-in. rear wheels, width over the rear wheels is 46 inches.) For other specifications, see 10-20 tractor page.
McCormick-Deering W-12 Tractor

Illustr. 1—The McCormick-Deering W-12 is of the conventional steel wheel type. This tractor brings to the small and diversified farm operator the advantages of those veterans of power farming—the McCormick-Deering 10-20, 15-30, and the Farmalls.

The McCormick-Deering W-12 tractor provides the right amount of power for small farm operations. It is a powerful unit designed to pull one 16-inch plow and other implements in proportion. Under favorable conditions it handles two 12-inch bottoms. Its size adapts it to special types of work. It is readily maneuvered and turns within a circle having a radius of 108 inches. This, combined with its compact design, makes it an ideal unit for operation in close quarters.

Operating Economy

The W-12 offers exceptional operating economy. The engine is unusually tenacious in the way it "hangs on" under heavy loads. Its stamina gives the operator the assurance that he can plan his work and the W-12 will "carry through."

Similar to all other McCormick-Deering tractors, the W-12 is designed for triple-power service—to supply power on belt, drawbar, and power take-off. This makes it an all-power, all-year tractor for farms within its capacity.

Illustr. 2—The cylinders are cast individually, machined outside, honed and polished on the inside, and then assembled in the engine housing. This construction makes it a simple matter to replace one or more of the cylinders should they become scored through neglect or worn after long use without unbalancing the engine.

Illustration of a tractor engine with text describing its features and specifications.

Engineering Refinement

Engineering refinement is in evidence at every point. Filtering devices clean the oil, air, and fuel and provide improved operating efficiency. Downdraft carburetion and the high-tension induction magneto assist in obtaining maximum value from the fuel. The W-12 is also an easy steering tractor.

The transmission with three traveling speeds from 2 1/2 to 4 miles per hour, is provided entirely with ball bearings—in fact, a feature of these high-quality ball bearings and 6 roller bearings in the W-12—a feature that alone proves exceptional engineering refinement.

Regular Equipment


Extra Equipment


Specifications

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated drawbar horsepower (gasoline)</td>
<td>10.46</td>
</tr>
<tr>
<td>Rated belt horsepower (gasoline)</td>
<td>16.07</td>
</tr>
<tr>
<td>Number of cylinders</td>
<td>4</td>
</tr>
<tr>
<td>Engine speed</td>
<td>1700 r.p.m.</td>
</tr>
<tr>
<td>Belt</td>
<td>3 in.</td>
</tr>
<tr>
<td>Stroke</td>
<td>4 in.</td>
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<tr>
<td>Pulley speed</td>
<td>787 r.p.m.</td>
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<tr>
<td>Belt speed</td>
<td>2730 ft. p.m.</td>
</tr>
<tr>
<td>Pulley diameter</td>
<td>13 1/8 in.</td>
</tr>
<tr>
<td>Pulley face</td>
<td>6 1/8 in.</td>
</tr>
<tr>
<td>Power take-off shaft speed</td>
<td>567 r.p.m.</td>
</tr>
<tr>
<td>Forward speeds</td>
<td>2.14, 2.8, 3.6 m.p.h.</td>
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<tr>
<td>Reverse speed</td>
<td>2.16 m.p.h.</td>
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<td>Front wheels, diameter</td>
<td>22 1/4 in.</td>
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<td>Front wheels, face</td>
<td>31 1/2 in.</td>
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<td>Rear wheels, diameter</td>
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<tr>
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<td>8 in.</td>
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<tr>
<td>Turning radius</td>
<td>108 in.</td>
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<td>Tread, front</td>
<td>40 3/8 in.</td>
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<tr>
<td>Tread, rear</td>
<td>42 3/4 in.</td>
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<td>Wheelbase</td>
<td>60 in.</td>
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<tr>
<td>Length overall</td>
<td>104 1/2 in.</td>
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<tr>
<td>Width overall</td>
<td>50 1/2 in.</td>
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<tr>
<td>Height of steering wheel</td>
<td>55 in.</td>
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<td>Capacity fuel tank</td>
<td>11 gal.</td>
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<tr>
<td>Drawbar adjustment—vertical</td>
<td>8 1/4 in.</td>
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<tr>
<td>Drawbar adjustment—lateral</td>
<td>25 1/2 in.</td>
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<tr>
<td>Approximate shipping weight</td>
<td>2900 lb.</td>
</tr>
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</table>

* Extra equipment.
McCormick-Deering W-12 Tractor

The W-12, as well as the O-12 and Fairway 12 described on the following pages, have many distinctive features. Engine lubrication is of the full-pressure type, with a drilled crankshaft. Lubricant is supplied under pressure to the connecting-rod bearings and other working parts.

The oil is kept in circulation by a positive gear-driven rotary-gear oil pump. The pump extends deep into the crankcase pan—always submerged in oil. This assures proper lubrication, regardless of the angle at which the tractor may operate.

Built-In Governor

The speed of the engine is controlled by a built-in governor. The governor is operated from the camshaft, assuring positive coordination with the engine speed. The throttle control shaft is enclosed, assuring free and positive action of the throttle mechanism. This control of the engine speed is appreciated in all operations, but especially when operating machines on the belt.

McCormick-Deering Construction

The W-12, O-12, and Fairway 12 are McCormick-Deering construction from radiator to drawbar. Each part of these tractors is designed, constructed, and assembled to exacting Harvester manufacturing standards, in International Harvester factories. Every part is designed to coordinate with every other part.

All engines are given a prolonged test and must meet exacting requirements before they are placed in tractors. The completed tractor is tested before leaving the factory, assuring owners a high-quality tractor that will give years of low-cost performance.

Illustration:

Illustr. 4 — Chrome-nickel steel crankshaft in the W-12 tractor. The main and connecting-rod bearings are of precision-type, steel-backed, removable shell construction.

The drop-forged and electrically heat-treated heavy-duty crankshafts are made of special chrome-nickel steel. They are accurately balanced in motion by dynamic balancing machines and at rest with static machines.

The crankshafts are drilled for pressure lubrication. Oil is supplied through each of the main bearings and from there to the four connecting-rod bearings.

Full-Floating Piston Pin

The pistons have a full-floating piston pin bearing, the recommended practice for the highest quality engines—a feature that reduces friction and wear.

These and the many other features throughout the tractors are right in keeping with high-quality McCormick-Deering construction so well established in the hundreds of thousands of McCormick-Deering tractors at work in every section of the country.

Illustration:

Illustr. 5 — The power take-off is regular equipment. It is centrally located at the rear of the tractor in the most ideal position with reference to the machines that are operated with the tractor.
The McCormick-Deering O-12 is unusually compact—low, narrow, short—just the right design to work under low hanging branches. Its narrow tread permits operating between the trees without injuring crop or trees. The operator can drive close to the trees, turn short so as to work every row in succession. It is not necessary to skip rows, or “jockey around” to get in position for the next row. An all-enclosed governor, built integral with the engine, maintains a uniform speed.

The O-12 is a versatile tractor—supplying power where and when needed. In addition to pulling capacity implements in soil preparation work, sprayers and dusters can be operated direct from the tractor by means of the power take-off.

Soft, sandy soils are negotiated by this lightweight, rubber-tired tractor. The traction, weight, and power are so well coordinated that the tractor “moves” right along with its load at all times—whether pulling a plow, disk harrow, or other implement. This proper distribution of weight on the four wheels leaves the ground in the desired condition.

Illust. 7—A really compact tractor. It can be turned in a circle with a radius of 8½ feet.

Regular Equipment

Extra Equipment

Specifications
Maximum belt horsepower ........................................ 18.9
Number of cylinders ................................................. 4
Engine speed .................................................... 1400-2000 r.p.m.
Bore ............................................................ 3 in.
Stroke ........................................................... 4 in.
Pulley speed ...................................................... 748 r.p.m.
*Belt speed ...................................................... 2593 ft. p.m.
Pulley, diameter ......................................................... 13½ in.
Pulley, face ............................................................... 6½ in.
Power take-off shaft speed ............................... 538 r.p.m.
Speeds, Forward (1400 engine r.p.m.)
2½, 4½, 7½ m.p.h.
Reverse (1400 engine r.p.m.) .............................. 2½ m.p.h.
Speeds, Forward (2000 engine r.p.m.)
3½, 6, 10½ m.p.h.
Reverse (2000 engine r.p.m.) .............................. 3½ m.p.h.
Front wheels (low-pressure tires) ............... 6.00/9 (21½ in. O.D.)
Rear wheels (low-pressure tires) ................. 9.00/24 (42½ in. O.D.)
Turning radius ...................................................... 103 in.
Tread, front ........................................................ 39½ in.
Tread, rear .......................................................... 40½ in.
Wheelbase .......................................................... 60 in.
Length overall .................................................... 103 in.
Width overall .......................................................... 50 in.
Height of steering wheel ..................................... 52 in.
Fuel tank, capacity .............................................. 11 gal.
Drawbar adjustment—vertical .......................... 81½ in.
Drawbar adjustment—horizontal ..................... 25½ in.
Approximate shipping weight ................... 3200 lb.

*Supplied on special order.

Feb. 1935
McCormick-Deering O-12 Tractor

Low-Cost Performance

The O-12, like the W-12, is a very economical tractor to operate. It will work day in and day out on about a gallon of fuel an hour. In fact, many owners claim they are doing their regular work on from 6 to 8 gallons a day. This is due to the general design of the tractor throughout—including the liberal use of ball and roller bearings. Although regularly delivered with a gasoline carburetor, the O-12 can be equipped to operate on kerosene if desired.

Adjustable Drawbar

The drawbar on the O-12, similar to the W-12, is adjustable both vertically and horizontally to accommodate any of the orchard implements—plows, harrows, cultivators, sprayers. The drawbar has a vertical adjustment from 7 3/4 inches to 16 3/4 inches above ground. The horizontal adjustment is 25 3/4 inches—features that are appreciated by all tractor operators.

The front pull hook (Illust. 10) is a mighty handy feature. It is just the thing for pulling machines in and out of machine sheds, stringing fence, and other miscellaneous jobs.

Fuel, Oil, and Cleaning Devices

A fuel strainer, built integral with the fuel pump, removes impurities from the fuel. A large transparent glass settling bowl is easily removed for cleaning.

The oil air cleaner, containing the new-type machine-spun wire element, removes foreign particles from the air used in the fuel mixture. This International-built air cleaner is constructed to maintain uniform air pressures regardless of engine speeds. The action of the air in the cleaner circulates the oil into the filtering element, covering the wire wool with a film of oil which intercepts and holds the dust particles as the air is drawn through the filter.

The oil filter removes the grit, dirt, and other foreign material from the lubricating oil, thus conserving its lubricating qualities and increasing the life of the working parts. It receives oil direct from the oil pump in the crankcase, filters out the foreign material, returning the cleaned oil to the engine parts. The oil filter can be taken apart and the element cleaned when necessary.
McCormick-Deering Fairway-12 Tractor

The Fairway 12—a new McCormick-Deering tractor—is a small, compact and powerful golf course tractor. It is designed to meet the increasing demands on practically every course for fine playing conditions with lowered costs.

It is built complete as a golf course tractor in International Harvester factories. This assures proper coordination of every part and maximum service from the tractor.

The Fairway 12 is an all-purpose golf course unit—it hurries along with a gang of seven or nine mowers—cuts the rough—is used in general golf course improvement work, and provides power on the belt and power take-off for operating pumps, compost mixers, and other machines.

The Fairway 12 is easily maneuvered and turns completely in a circle with a radius of only 8½ feet. The flexibility enables operators to work in close quarters, to turn short, to cut close to shrubs and other obstacles—leaving very little to cut with hand labor.

Regular Equipment

Extra Equipment

Specifications
Maximum belt horsepower...... 18.9
Number of cylinders.............. 4
Engine speed.................. 1400-2000 r.p.m.
Bore.......................... 3 in.
Stroke.......................... 4 in.
Pulley speed.................... 748 r.p.m.
Belt speed..................... 2593 ft. p.m.
Pulley, diameter.............. 13½ in.
Pulley, face..................... 6½ in.
Power take-off, shaft speed.... 543 r.p.m.

Speeds, Forward (1400 engine r.p.m.)

2½, 4½, 7½ m.p.h.

Reverse (1400 engine r.p.m.)
3½, 6, 10½ m.p.h.

Speeds, Forward (2000 engine r.p.m.)

3½, 6, 10½ m.p.h.

Reverse (2000 engine r.p.m.)

Front wheels.............................. face 8 in., diameter 22½ in.
Rear wheels............................. face 16 in., diameter 42 in.
Turning radius......................... 110 in.
Tread, front......................... 44½ in.
Tread, rear......................... 47½ in.
Wheelbase.......................... 60 in.
Length overall..................... 103 in.
Width overall................... 63½ in.
Height of steering wheel...... 53½ in.
Fuel tank, capacity.............. 11 gal.
Approximate shipping weight..... 3000 lb.

* Supplied at extra cost.

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McCormick-Deering TracTracTors

Illustr. 1—McCormick-Deering T-20 TracTracTor, a compact, flexible unit for many power requirements.

The TracTracTors—T-20, TA-40, and the Diesel 40—complete the line of McCormick-Deering tractors and provide a type and size to meet every farm mobile power requirement. TracTracTors, like the other International Harvester tractors, are McCormick-Deering construction throughout. They supply low-cost power for all jobs calling for crawler-type power.

Illustr. 2—Low seat attachment supplied on special order for orchard and similar use.

Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum drawbar horsepower</td>
<td>24</td>
</tr>
<tr>
<td>Maximum engine horsepower</td>
<td>30</td>
</tr>
<tr>
<td>Forward speeds</td>
<td>134/4, 23/4, 33/4 m.p.h.</td>
</tr>
<tr>
<td>Reverse speed</td>
<td>2 m.p.h.</td>
</tr>
<tr>
<td>Bore</td>
<td>33/4 in.</td>
</tr>
<tr>
<td>Stroke</td>
<td>5 in.</td>
</tr>
<tr>
<td>Engine speed</td>
<td>1250 r.p.m.</td>
</tr>
<tr>
<td>Power take-off shaft speed</td>
<td>543 r.p.m.</td>
</tr>
<tr>
<td>Pulley diameter</td>
<td>153/4 in.</td>
</tr>
<tr>
<td>Pulley speed</td>
<td>645 r.p.m.</td>
</tr>
<tr>
<td>Track tread, width</td>
<td>413/4 in.</td>
</tr>
<tr>
<td>Track ground contact, length</td>
<td>523/4 in.</td>
</tr>
<tr>
<td>Track shoe, width</td>
<td>10 in.</td>
</tr>
<tr>
<td>Length over all</td>
<td>1123/4 in.</td>
</tr>
<tr>
<td>Width over all</td>
<td>553/4 in.</td>
</tr>
<tr>
<td>Height, top of air cleaner</td>
<td>553/4 in.</td>
</tr>
<tr>
<td>Turning radius</td>
<td>6 ft.</td>
</tr>
<tr>
<td>Drawbar height</td>
<td>103/4 in.</td>
</tr>
<tr>
<td>Kerosene tank, capacity</td>
<td>22 gal.</td>
</tr>
<tr>
<td>Gasoline tank, capacity</td>
<td>1 gal.</td>
</tr>
<tr>
<td>Approximate shipping weight</td>
<td>6250 lb.</td>
</tr>
<tr>
<td>Turning radius</td>
<td>6 ft.</td>
</tr>
<tr>
<td>Drawbar height</td>
<td>103/4 in.</td>
</tr>
<tr>
<td>Kerosene tank, capacity</td>
<td>22 gal.</td>
</tr>
<tr>
<td>Gasoline tank, capacity</td>
<td>1 gal.</td>
</tr>
<tr>
<td>Approximate shipping weight</td>
<td>6250 lb.</td>
</tr>
</tbody>
</table>

* Supplied on special order at extra cost.

† Available with wide tread of 51 inches.

The T-20 TracTracTor is distinctive for its compact design, ease of controls, accessibility, and pleasing appearance. It is especially adapted to orchards, vineyards, and similar places where space is limited. The T-20 is powered by a 4-cylinder ball-bearing engine similar in construction to those in the McCormick-Deering 10-20, W-30, 15-30, and Farmall tractors.
McCormick-Deering TracTracTors

Heavy Main Frame

Illustr. 3—The main frame of the McCormick-Deering T-20 TracTracTor showing the equalizer spring, final drive to the sprocket gears, and brake pedal controls.

McCormick-Deering TracTracTors are sturdily built from the ground up. The main frame consists primarily of a heavy, reinforced, one-piece, alloy iron casting. The frame houses the transmission and final drive gearing, including the steering clutches and steering brake.

The engine bracket, securely bolted to the main frame, supports the engine, complete with radiator and fan. The engine can be removed as a unit without disturbing the other units of the tractor. This construction provides a firm foundation for the tractor, not only to withstand the gruelling work TracTracTors are required to perform, but also to keep the shafts in true alignment and all gears in full mesh. One-piece construction also has another advantage—it permits designing all gears to run in a bath of oil.

Equalizing Spring

The tractor is mounted on the track frames at two points. The front mounting is on an equalizing spring which absorbs the ground shocks and protects the engine. The rear is mounted on the track pivot axle, which, with the front mounting, enables the tracks to oscillate so as to conform to the ground surface and remain in alignment, thus providing maximum traction.

The equalizing spring is of heat-treated, silico-manganese spring steel. The leaves, which are extra heavy, are assembled with a pivoting-point bracket.

The spring connects with the track frames through a spherical mounting. This construction provides freedom of oscillation to each track without adding stress to the spring assembly, the spring, or track parts. A stirrup retains the spring in the track-frame mounting.

Operator's Compartment

A most convenient and comfortable operator's compartment is provided. A full platform protects the operator and prevents dust coming in from below the tractor. The gear shift and steering clutch levers are at the operator's finger tips. The steering brake pedals are both on the right-hand side, so that the foot can be shifted readily from one to the other. One of the steering clutch lever grips is smooth and the other grooved, permitting the operator to know by feel which is the right and left clutch.

Illustr. 4—The belt pulley is easily attached at the rear of the T-20 TracTracTor. A similar attachment is available for the TA-40 and TD-40 (Diesel) TracTracTors.

Illustr. 5—Operator's compartment, where all controls and gauges are conveniently located.
These TracTracTors are the most accessible crawler tractors built. Steering clutches and steering brakes can be inspected, adjusted, or replaced in a short time without disturbing the tracks, track frames, and driving sprockets. The engines, clutches, and transmissions can be removed similar to the corresponding parts on the regular tractors.

The TA-40 is powered with a six-cylinder engine and the power is delivered through a five-speed ball bearing transmission. This provides unusual flexibility in adjusting the tractor speed to the job for maximum accomplishment.

Wide-Tread TracTracTors

Regular Equipment

Special Equipment

Specifications
Rated drawbar: 33.24 h.p.
Rated belt: 43.32 h.p.
Maximum drawbar: 51.21 h.p.
Maximum engine: 51.21 h.p.
Forward speeds: 1¼, 2¼, 3¾, 4 m.p.h.
Reverse speed: 1½ m.p.h.
Bore: 4½ in.
Stroke: 4½ in.
Engine speed (Governed speed): 1600 r.p.m.
Power take-off shaft speed: 546 r.p.m.
*Pulley speed: 604 r.p.m.
*Pulley diameter: 16½ in.
*Pulley face: 9 in.
Track tread, width: 47½ in.
Track ground contact length: 70½ in.
Track shoe, width: 16 in.
Length overall: 138½ in.
Width overall: 63½ in.
†Height, top of air cleaner: 82½ in.
Turning radius: 7 ft.
†Drawbar height (low): 14½ in.
Gasoline tank, capacity: 42 gal.
Approximate shipping weight: 11,200 lb.

†Measurements with full ground penetration of track grousers.

*Supplied on special order at extra cost.

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The TA-40 TracTracTor is powered by a heavy-duty 6-cylinder engine. This engine has all distinctive features of McCormick-Deering power plants and is International Harvester built. Simplicity, accessibility, and unusually economical performance are predominating characteristics. Outstanding features include individually replaceable cylinders, seven-bearing crankshaft, improved full force-feed lubrication, new type carburetion, hardened exhaust-valve seat inserts, and efficient cooling system, thermostatically controlled.

The seven-bearing crankshaft is drop-forged of chrome-nickel steel, heat-treated to give required strength and hardness. It is carefully machined, then accurately balanced before and after assembly with the flywheel. The connecting rods and pistons are also accurately balanced in sets before being assembled with the crankshaft.

The gear-type oil pump, driven by the camshaft, supplies oil under pressure to all main, connecting rod, piston pin, camshaft, and rocker arm bearings. All lubricant first passes through the oil filter.

The pump delivers the oil under pressure to the filter. From the filter, oil is pumped through a drilled passage in the crankcase and through holes drilled in crankcase webs to the main bearings. Drilled passages in the crankshaft provide for the lubrication of the main and connecting rod bearings. Rifle-drilled holes in the connecting rods carry oil to the piston pins. Crankcase webs also convey lubricant to the camshaft bearings. Rocker arm bushings and push rod balls and sockets are also lubricated by pressure.
The McCormick-Deering Diesel, powered by a new type full Diesel engine is a remarkable achievement in crawler tractor construction and performance. It is a Diesel that can be started by hand cranking under all weather conditions.

Regular Equipment

Specifications
- Rated drawbar horsepower: 33.51
- Rated belt horsepower: 43.12
- Maximum drawbar horsepower: 50.73
- Maximum engine horsepower: 50.73
- Forward speeds: 1 1/4, 2 1/4, 2 1/4, 3 1/4, 3 1/4 m.p.h.
- Reverse speed: 2 1/4 m.p.h.
- No. of cylinders: 4
- Bore: 4 3/4 in.
- Stroke: 6 3/4 in.
- Engine speed (Governed speed): 1100 r.p.m.
- Power take-off shaft speed: 546 r.p.m.
- Pulley speed: 604 r.p.m.
- Pulley diameter: 16 in.
- Pulley face: 9 in.
- Track tread, width: 47 3/4 in.
- Track ground contact, length: 70 3/4 in.
- Track shoe, width: 16 in.
- Length over all: 140 in.
- Width over all: 61 1/4 in.
- Height, top of air cleaner: 65 1/4 in.
- Turning radius: 7 ft.
- Drawbar height (low): 11 in.
- Fuel tank, capacity: 42 gal.
- Auxiliary tank, capacity: 11 1/4 gal.
- Approximate shipping weight: 12,000 lb.
- Supplied on special order at extra cost.
- Measurements with full ground penetration of track grousers.

Extra Equipment

Illustr. 10—McCormick-Deering TD-40 operates on small quantities of low-cost fuel.
The McCormick-Deering Diesel TD-40 TracTracTor power plant is a remarkable achievement in Diesel design and construction. It is a full Diesel embodying the accepted features of balanced engine construction and vibrationless performance. It differs from gasoline and kerosene engines in the method of fuel delivery and ignition. The Diesel uses no carburetor and no electric ignition equipment. The crankshaft, pistons, and valves operate the same as in a conventional engine.

McCormick - Deering Diesel pumps assure an accurately measured quantity of fuel, properly injected into the engine combustion chamber for maximum power. The accurate measurement of power combined with the combustion of Diesel fuels gives the engine unusual "lugging" power, that is, the ability to hang on under heavy loads.

The engine then shifts automatically to Diesel operation. The engine block is of rugged construction, reinforced to give reserve strength to meet Diesel pressures with minimum weight. The heavy-duty crankshaft of chrome-nickel alloy steel has five main bearings. Cylinders are replaceable. Lubrication is full pressure to all parts. The crankshaft is drilled, likewise the connecting rods for piston-pin lubrication. Drilled passages also convey lubricating oil to the camshaft and rocker arm bearings.

McCormick-Deering TracTracTors

The McCormick-Deering Diesel has another outstanding advantage in that it can be started by cranking as readily as a gasoline engine of corresponding size. This method of starting is not only easy but is positive, regardless of weather conditions or temperature.

This unique method—exclusively McCormick-Deering—converts the engine into a conventional gasoline engine for starting. It has modernized the Diesel and placed it right in step with present-day automotive equipment. This arrangement simplifies construction and eliminates costly and less reliable devices such as auxiliary engines, and electric starters with heavy-duty batteries.

The engine then shifts automatically to Diesel operation. This unusual method of starting assures fuel heat from the compressed air to give the snappy start that is so desirable in Diesel operation.
Illust. 14—Sectional view showing construction of track-driving mechanism on the McCormick-Deering T-40 TracTracTor. The T-20 is similar with the exception of having single-plate steering clutches and one less gear reduction.

McCormick-Deering TracTracTors are the most accessible crawler tractors built. This is a strong statement but readily apparent by a careful study of the construction. An outstanding example of this accessibility is found in the steering clutches and steering brakes. These important members can be inspected, adjusted, and replaced without disturbing tracks, track frames, or driving sprockets.

The arrangement, as well as the location of the final drive members, is exclusively a McCormick-Deering feature. The dotted line in the illustration above shows the line of power from the transmission to the drive sprocket. Note the several gear contacts—none have a radical reduction in speed. This keeps torque strain to a minimum. Each gear is wide-faced, machined, case-hardened, and electrically heat-treated. Each is forged from the particular alloy best suited for its performance. Heavy-duty ball bearings are used on every shaft.

The steering clutches are of the disk type and located between the transmission unit and the speed-reduction gears. In other words, the clutch shaft travels the same speed as the transmission shaft. This construction—steering clutches on high speed shafts—reduces materially the torque demand on the clutches. This is a most desirable feature and materially improves the performance of the tractor as a whole. The location of the steering clutches makes them readily accessible through rear cover plates.

Applying pressure to either steering clutch lever disengages that clutch; consequently no power is transmitted to its respective track. All power is then applied to the opposite track and the tractor pivots about the inoperative or idle track. This construction eliminates the use of a differential for compensating the power between the tracks. The use of two steering clutches permits the delivery of full engine power to either or both tracks.

The steering brakes are on the same shafts with the steering clutch plates. They are controlled by pedals and assist in making short turns. Clutches and brakes operate in dry compartments assuring sensitive response to pressure on the levers. All other members of the final drive, including the transmission, run in oil.
Positive Steering Brakes

The steering brakes are of the disk type controlled by pedals. The brake plate is similar in construction to the steering-clutch plate. A brake plate (3), covered on both sides with high-quality brake facing, is splined on each steering-clutch shaft. When braking, the pressure plate (5) forces the brake plate (3) against the outside brake-housing cover (not shown), thus holding the plate. This prevents the steering clutch shaft from turning, which stops all motion in this particular track-drive mechanism and the track itself.

The brake pedals operate the brake levers (2), which in turn revolve the actuating cam. This compresses, uniformly, the three brake springs (4). Moving the actuating cam pressure plate (5) forces the brake against the brake housing cover plates.

Heavy-Duty Steering Clutches

McCormick-Deering steering clutches give the TracTracTor unusual maneuverability under the most difficult conditions. They are built for constant punishment. They have only two friction plates and are located on high-speed shafts. Clutch speed slippage in this type of construction is negligible and at the same time control of the tractor is particularly sensitive.

The steering clutch action is self-compensating. All springs function in unison, applying equal pressure to all parts of the friction plates. This positive spring action eliminates slippage and uneven wear. The clutches, as well as all other parts of the final drive, are mounted entirely on ball bearings, which assure smooth performance. These clutches, in conjunction with the steering brakes, make square turns possible.

Illustration 15—McCormick-Deering T-20 steering brakes are located immediately inside the rear cover plate. The disk brakes can be removed through the circular covers.

The brakes on the TA-40 and Diesel 40 are similarly constructed. They are spline-connected to the steering clutch shaft.

Illustration 16—The steering clutch compartment on all McCormick-Deering TracTracTors is reached through the rear cover plates. It is only necessary to remove the rear housing and steering brakes to have ready access to the clutches themselves. Each clutch is removable and replaceable as a unit. The throw-out mechanism, mounted on ball bearings, is conveniently lubricated from outside the tractor housing.
Illust. 17—Lower track rollers—3 on each T-20 track and 5 on each T-40 track—revolve about hardened shafts which are immersed in oil.

McCormick-Deering TracTracTors are built to work in dust, loose sand, soft ground, mud, and water. The idler, sprocket, and upper and lower track rollers operate about steel shafts, constructed to take all side thrust at the centers of the shafts. The shaft bearings are protected with triple dust seals. These self-adjusting seals have proved unusually effective in keeping the destructive materials out.

Illust. 18—The track frame of the T-40 TracTracTor. Note the dual compression spring, front idler, and the two upper track rollers. The T-20 has one upper track roller. The tension of the springs is retained through a single adjustment.

The track frames are built of heavy steel channels riveted together—a construction that affords a most rugged base for McCormick-Deering TracTracTors. The McCormick-Deering track is built of rolled steel overlapping shoes, having penetrating grousers, secured to forged-steel electrically heat-treated links. The tracks are attached to the links by means of steel-alloy, heat-treated bolts. This construction provides a most durable track for working on all surfaces.

The chain is composed of link forgings connected by hardened bushings and pins forced into place under heavy pressure. Felt washers are enclosed in the links to prevent dust from entering between the track pins and the bushings. The pins and bushings are carburized and hardened to assure maximum and uniform wearing qualities to each individual member. Their size provides generous bearing area.

Illust. 19—Specially designed steel alloy driving sprockets. A triple dust seal excludes all dust, dirt, and water.

McCormick-Deering TracTracTors are built to work in dust, loose sand, soft ground, mud, and water. The idler, sprocket, and upper and lower track rollers operate about steel shafts, constructed to take all side thrust at the centers of the shafts. The shaft bearings are protected with triple dust seals. These self-adjusting seals have proved unusually effective in keeping the destructive materials out.

The shafts of the idler and track rollers operate in a bath of oil. An oil reservoir in each, supplied by external fittings, provides a generous supply of lubricant.

Illust. 20—The rugged, well designed track frame construction converts maximum engine horsepower into positive traction.
McCormick-Deering TracTracTors

Track Equipment

A few of the special track shoes available for the TracTracTors, regular and wide-tread.

A. Ice grouser and universal flat shoe.
B. Underside or chain side of universal flat shoe.
C. Rubber-faced shoe for pavement and factory use.
D. Overlapping flat shoe.
E. Angle shoe.
F. Street plate that bolts to regular track shoe.
G. Rolled track shoe — lengths from 12 inches (T-20) to 30 inches (wide-tread T-40).

For further information relative to track shoes, write the branch house.

Special Equipment

Special equipment includes low seat attachment for T-20 (Illust. 2, page 441), canopy-top with curtains, all-steel cab, belt pulleys, electric lighting, over-center clutch (TA-40 and TD-40), front pull hook, spark arrester, muffler, crankcase guard, rock shields, heavy push plate, front bumper, odometer, etc.

Illust. 28 (above)—Front push plate and bumper are valuable for forestry service and other places for pushing heavy objects.

Illust. 29 (right)—All-steel cab for T-40 TracTracTors. Operator has clear vision, front, rear, and either side. Ample space for a person either side of operator. Weight, 720 pounds.

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McCormick-Deering Tractor Hitches

A Full Line of Hitches to Match the Equipment

Farmers who use McCormick-Deering tractors and farm machines have available to them a complete line of hitches and power take-off connections that are easy to attach and work entirely satisfactorily. Anyone who has experienced the difficulty of attempting to use machines made by one manufacturer behind tractors built by another manufacturer can appreciate what this means.

IHC tractor hitches are not limited alone to current model farm machines, but, in accordance with the Harvester Company's policy of always protecting its customers' interest, such hitches are available for many IHC machines built ten or fifteen years ago. This often avoids the necessity of buying a new machine especially for use with the tractor when a similar type machine in good working order is already owned.

The following pages contain lists, illustrations, and brief descriptions of the important hitches and power drive connections available for McCormick, Deering and McCormick-Deering farm machines. No attempt has been made to list the numerous tractor hitches regularly supplied with the machines but only the most important ones available as special equipment.

Drawbar Attachment for Tractor

A number of special drawbar attachments for McCormick-Deering tractors are available for use with plows, harrows, and other tillage implements in small, irregular-shaped fields or wherever a shorter turn is desired than can be obtained with the regular tractor drawbar.

Sliding drawbar attachments, as shown in Illust. 2, are available for the 10-20 and 15-30 tractors. They are used in place of the regular drawbar and have the advantage of easy offside hitching as well as permitting shorter turns than with regular drawbars. The front end of the sliding drawbar is attached well forward, thus distributing the pull evenly.

The swinging drawbar for the 15-30 tractor only (see Illust. 3) is so designed that the hitch is free to swing within limits. This attachment permits even shorter turns that is possible with the sliding drawbar. A heavy coil spring is provided to take up the starting shocks.

The swinging drawbar hitch for Farmall tractors (see Illust. 1) is bolted to the regular tractor drawbar and is used in conjunction with it. It can be set offside if desired or left free to swing within limits.

Tractor Drawbar Attachments

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>POTH-39</td>
<td>Swinging drawbar hitch for regular and F-30 Farmall (regular tread)</td>
</tr>
<tr>
<td>POTH-107</td>
<td>Swinging drawbar hitch for regular and F-30 Farmall (narrow tread)</td>
</tr>
<tr>
<td>POTH-125</td>
<td>Swinging drawbar hitch for F-12 Farmall</td>
</tr>
<tr>
<td>14637-D</td>
<td>Sliding drawbar attachment for 10-20 tractor</td>
</tr>
<tr>
<td>17893-D</td>
<td>Sliding drawbar attachment for 15-30 tractor</td>
</tr>
<tr>
<td>11511-D</td>
<td>Swinging drawbar attachment for 15-30 tractor</td>
</tr>
</tbody>
</table>

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McCormick-Deering Tractor Hitches

Adjustable Drawbar Hitches

Adjustable drawbar hitches are especially adapted for use with tractor plows on hillsides. They permit changing the point of draft by means of a lever so that the plow will cut full-width furrows on either right or left-hand slopes. The hitch can be shifted easily from the tractor seat and while the tractor is in operation. The adjustable hitch bolts to the regular tractor drawbar and works in conjunction with it. Adjustable drawbar hitches are available for different tractors as shown in table below. They can be used with either a spring release hitch or a pin break hitch on the implement.

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Type of Hitch</th>
<th>Implement</th>
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</thead>
<tbody>
<tr>
<td>POTH-112</td>
<td>Adjustable Drawbar</td>
<td>Tractor Plows</td>
<td>Reg. F-20 and F-30 Farmall (regular tread)</td>
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<tr>
<td>POTH-113</td>
<td>Adjustable Drawbar</td>
<td>Tractor Plows</td>
<td>Reg. F-20 and F-30 Farmall (narrow tread)</td>
</tr>
<tr>
<td>POTH-124</td>
<td>Adjustable Drawbar</td>
<td>Tractor Plows</td>
<td>F-12 Farmall</td>
</tr>
<tr>
<td>POTH-108</td>
<td>Adjustable Drawbar</td>
<td>Tractor Plows</td>
<td>10-20 and 15-30</td>
</tr>
</tbody>
</table>

Illustr. 6—Special adjustable drawbar hitch for Farmall tractors. Order POTH-112 for use on regular tread Farmall tractors and POTH-113 for use on narrow-tread Farmalls. POTH-124 is for F-12 Farmall.

Tractor Stop Hitches

For 10-20, 15-30, and Farmall tractors (except F-12). Tractor stop hitches are designed to replace regular spring release plow hitches in localities where stones cause frequent tripping of plow hitch. Tractor stop hitches permit quick and easy recoupling of tractor and plow without necessity of operator leaving seat. When stop hitch is tripped the engine clutch is automatically disengaged, thus stopping tractor. A sliding drawbar arrangement allows tractor to move far enough ahead to compensate for momentum without completely uncoupling plow from tractor. To complete hitch connection again, the clutch throw-out mechanism is reset by means of convenient lever and tractor is reversed until sliding drawbar automatically recouples.

Illustr. 7—POTH-122 tractor stop hitch for regular, F-20 and F-30 Farmall. POTH-120 is similar hitch for 10-20 tractor. POTH-121 is for 15-30 tractor.

Tractor Plow Spring Release Hitches

This type of hitch is recommended for use with tractor plows wherever numerous obstructions such as stones or stumps are likely to be encountered. They not only protect the plow and tractor against serious damage but have the advantage of being quickly restored to working position. When an obstruction is encountered the draft hook is automatically tripped, thus releasing the plow from the tractor. To connect plow and tractor again the draft hook is restored to its normal position where

Illustr. 9—Spring release hitch POTH-139 can be supplied for Nos. 34-2, 34-32, 34-3 and 34-43 disk plows; POTH-127 for Nos. 34-4 and larger, and No. 33 plows.
McCormick-Deering Tractor Hitches

it can be quickly hooked to the drawbar clevis.
Spring release hitches are regularly supplied with Little Genius, Little Wonder, and Nos. 23 and 24 orchard plows. They are available also as extra equipment for other tractor plows (see table opposite).

Special Tractor Hitches for Plows

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Type of Hitch</th>
<th>Implement Description</th>
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<tr>
<td>POTH-43</td>
<td>Spring release</td>
<td>No. 1 disk plow</td>
<td>Any</td>
</tr>
<tr>
<td>POTH-139</td>
<td>Spring release</td>
<td>No. 34 (light) disk plow</td>
<td>Any</td>
</tr>
<tr>
<td>POTH-127</td>
<td>Spring release</td>
<td>Nos. 34 (heavy) and Nos. 33 and 33-A disk plows</td>
<td>Any</td>
</tr>
<tr>
<td>POTH-128</td>
<td>Rigid hitch</td>
<td>Nos. 34, 34-2, 34-3, and 34-4 disk plows</td>
<td>Any</td>
</tr>
<tr>
<td>POTH-118</td>
<td>Spring release</td>
<td>Little Genius 2 and 3-furrow</td>
<td>Any</td>
</tr>
<tr>
<td>POTH-119</td>
<td>Spring release</td>
<td>Little Genius 4 and 5-furrow</td>
<td>Any</td>
</tr>
<tr>
<td>POTH-105</td>
<td>Spring release</td>
<td>No. 37 Two-Way plow</td>
<td>Any</td>
</tr>
<tr>
<td>POTH-8</td>
<td>Tandem hitch</td>
<td>No. 1 disk plow</td>
<td>Any</td>
</tr>
<tr>
<td>*POTH-84</td>
<td>Tandem hitch</td>
<td>Nos. 33, 33-A, or 34 (light) disk plows</td>
<td>Any</td>
</tr>
<tr>
<td>POTH-94</td>
<td>Tandem hitch</td>
<td>Little Genius 2 and 3-furrow</td>
<td>Any</td>
</tr>
<tr>
<td>POTH-68</td>
<td>Tandem hitch</td>
<td>Little Genius 4-furrow (10 and 12 in.)</td>
<td>Any</td>
</tr>
<tr>
<td>POTH-44</td>
<td>Rigid hitch</td>
<td>Little Genius 4 and 5-furrow (14 and 16 in.)</td>
<td>Any</td>
</tr>
<tr>
<td>POTH-129</td>
<td>Rigid hitch</td>
<td>Little Genius 2 and 3-furrow</td>
<td>Any</td>
</tr>
<tr>
<td>POTH-130</td>
<td>Rigid hitch</td>
<td>Little Genius 4 and 5-furrow (10 and 12 in.)</td>
<td>Any</td>
</tr>
<tr>
<td>POTH-131</td>
<td>Rigid hitch</td>
<td>Little Genius 4 and 5-furrow (14 and 16 in.)</td>
<td>Any</td>
</tr>
</tbody>
</table>

*Blue print only.

Tandem Hitches for Plows

Where ample power is available it is sometimes desired to hitch two plows behind the tractor. To accomplish this in the most effective manner, special hitches are available in many cases and in others blue prints are supplied.

**Illustration:**
- Illustr. 10—POTH-105, special spring release hitch for No. 37 Two-Way plow.
- Illustr. 11—POTH-84, tandem hitch for pulling two Nos. 33, 33-A, or 34 disk plows.
- Illustr. 12—POTH-94, tandem hitch for two 2 or 3-furrow Little Genius plows. POTH-68 is similar type hitch for pulling two 4-furrow Little Genius plows.

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Special tractor hitches are available for various tillage tools as shown below. The hitches for rotary hoes permit pulling batteries of two and three single-section hoes behind the Farmall tractor, thus producing a wide-type machine and utilizing the full capacity of the tractor to better advantage.

### Special Tractor Hitches for Tillage Tools

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Type of Hitch</th>
<th>Implement</th>
<th>Tractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>POTH-96</td>
<td>Spring release</td>
<td>No. 2 Tractor cultivator</td>
<td>Any</td>
</tr>
<tr>
<td>SP-8344</td>
<td>Tractor hitch</td>
<td>Horse-drawn disk harrows</td>
<td>Any</td>
</tr>
<tr>
<td>POTH-73</td>
<td>Tractor hitch</td>
<td>Field cultivators Two No. 5-A rotary hoes</td>
<td>Farmall regular and F-30</td>
</tr>
<tr>
<td>POTH-74</td>
<td>Tractor hitch</td>
<td>Three No. 5-A rotary hoes</td>
<td>Farmall regular and F-30</td>
</tr>
<tr>
<td>ZMA-108</td>
<td>Tractor hitch</td>
<td>One No. 6 rotary hoe</td>
<td>Any</td>
</tr>
</tbody>
</table>

Illust. 14—Special tractor hitch for pulling disk harrows. With this hitch a horse-drawn type disk harrow can be equipped to be pulled with a tractor. The hitch is adjustable for different lengths as well as up and down.

Illust. 15—POTH-96, special spring release hitch for No. 2 tractor cultivator. Recommended for use in rock-infested fields.

Illust. 16—POTH-74, special tractor hitch for connecting together three No. 5-A rotary hoes to be drawn behind the Farmall regular, F-20 or F-30 tractor. Overall width of outfit is 23 ft. 9 in. For convenience in transporting, the three hoes can be disconnected and arranged in tandem fashion behind the tractor. Draft links and brackets are supplied for this purpose with the hitch.

### Special Tractor Hitches for Listers and Lister Tools

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Type of Hitch</th>
<th>Implement</th>
</tr>
</thead>
<tbody>
<tr>
<td>POTH-15</td>
<td>Pin break</td>
<td>Nos. 5, 7, and 7-P Wheatland listers</td>
</tr>
<tr>
<td>POTH-17</td>
<td>Tractor hitch (10-20)</td>
<td>Two single-row wheeled ridge busters</td>
</tr>
<tr>
<td>POTH-18</td>
<td>Tractor hitch (Farmall)</td>
<td>Three single-row wheeled ridge busters</td>
</tr>
<tr>
<td>POTH-19</td>
<td>Tractor hitch (15-30)</td>
<td>Four single-row wheeled ridge busters</td>
</tr>
<tr>
<td>POTH-132</td>
<td>Tractor hitch</td>
<td>Nos. 51, 52, and 53 listers</td>
</tr>
<tr>
<td>POTH-47</td>
<td>Pin break</td>
<td>No. 1 riding middle-breaker</td>
</tr>
<tr>
<td>POTH-80</td>
<td>Tractor hitch (10-20 only)</td>
<td>Three-row lister cultivator</td>
</tr>
<tr>
<td>POTH-103</td>
<td>Pin break</td>
<td>No. 45 Widetread lister</td>
</tr>
<tr>
<td>POTH-137</td>
<td>Spring release</td>
<td>Nos. 51, 52, and 53 listers</td>
</tr>
</tbody>
</table>

POTH-73, for pulling two No. 5-A rotary hoes behind the Farmall regular or F-30 tractor. Draft links and brackets are provided to transport the two sections in tandem fashion, thus making it easy to pass through ordinary farm gates.

POTH-19 (at right) for pulling four single-row busters behind McCormick-Deering 15-30 tractor or other large tractors. POTH-18 (not illustrated) is a similar type hitch for pulling three single-row ridge busters behind regular and F-30 Farmall tractors.

POTH-17 (at left) for pulling two ridge busters with 10-20 or similar size tractor.
McCormick-Deering Tractor Hitches

Special Tractor Hitches for Grain Drills, Lime Sowers, Etc.

Special tractor hitches are available for McCormick-Deering grain drills normally equipped with one or two poles for use with horses. These tractor hitches are substituted for the regular horse hitch equipment and are available for various drills as listed below. Order by package number and give size and type of drill. The reason for assigning different package numbers to the same style of hitch is because of the various lengths of truss rods required for different size drills. These hitches are for pulling one drill only behind the tractor.

Illust. 19 shows the tractor hitch for one-pole drills and the method of attaching it to the drill frame. Adjustments are provided at the rear end of the stub pole in conjunction with the clevis adjustment to hold the drill frame level in operation. The triangular clevis connection is reversible, giving a wide range of up and down clevis adjustment. An anchor strap holds the truss rod forward, preventing the corners of the frame from sagging. The hitch is easily attached to the tractor drawbar by means of the clevis and pin.

Illustration 20 shows the tractor hitch for two-pole drills. This hitch has similar adjustments for maintaining the drill frame level and is fastened to the tractor drawbar in the same way as the hitch for one-pole drills.

<table>
<thead>
<tr>
<th>Package Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RW-13207</td>
<td>For Type R drills having one pole—sizes 12 x 6, 9 x 7, 10 x 7, 11 x 7, 6 x 8, 8 x 8, 9 x 8, and 10 x 8</td>
</tr>
<tr>
<td>RW-13212</td>
<td>For Type R drills having one pole—sizes 14 x 6 and 12 x 7</td>
</tr>
<tr>
<td>RW-13213</td>
<td>For special 12 x 7 rice drill</td>
</tr>
<tr>
<td>RW-13217</td>
<td>For Type R drills having one pole—size 12 x 8</td>
</tr>
<tr>
<td>RW-17652</td>
<td>For Type R drills having one pole—size 13 x 7</td>
</tr>
<tr>
<td>RW-19405</td>
<td>For alfalfa and grass seed drill</td>
</tr>
<tr>
<td>RW-13222</td>
<td>For Type R drills having 2 poles—sizes 14 x 7 and 16 x 6</td>
</tr>
<tr>
<td>RW-13247</td>
<td>For Type R drills having 2 poles—size 16 x 7</td>
</tr>
<tr>
<td>RW-13242</td>
<td>For Type R drills having 2 poles—sizes 18 x 7 and 16 x 8</td>
</tr>
<tr>
<td>RW-15927</td>
<td>For Type R drills having 2 poles—size 18 x 6</td>
</tr>
<tr>
<td>RW-13228</td>
<td>For Type R drills having 2 poles—size 20 x 6</td>
</tr>
<tr>
<td>RW-13232</td>
<td>For Type R drills having 2 poles—size 22 x 6</td>
</tr>
<tr>
<td>RW-13237</td>
<td>For Type R drills having 2 poles—size 24 x 6</td>
</tr>
<tr>
<td>RW-15200</td>
<td>For McCormick-Deering lime sowers</td>
</tr>
<tr>
<td>RW-359</td>
<td>For McCormick-Deering press drills—sizes 20 x 6, 12 x 7, and 16 x 7</td>
</tr>
</tbody>
</table>

Tractor Hitches for Manure Spreaders

Illustration 22—Special stub tongue tractor hitch ZMA-89 which interchanges with horse hitch on McCormick-Deering manure spreaders. Note the shock absorbing spring.

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZMA-89</td>
<td>Stub tongue tractor hitch for regular manure spreader</td>
</tr>
<tr>
<td>ZMA-162</td>
<td>Power drive and hitch for manure spreader and 10-20 or 15-30 tractor</td>
</tr>
<tr>
<td>ZMA-163</td>
<td>Power drive and hitch for manure spreader and regular and F-20 Farmall tractors</td>
</tr>
<tr>
<td>ZMA-178</td>
<td>Power drive and hitch for manure spreader and F-30 tractor</td>
</tr>
<tr>
<td>ZMA-200</td>
<td>Power drive and hitch for power manure spreader and T-20 Tractor</td>
</tr>
</tbody>
</table>

Illust. 23—Power drive connection and tractor hitch ZMA-162 (complete) for Power Manure Spreader and 10-20 or 15-30 tractor. Order ZMA-163 for regular Farmall and ZMA-178 for F-30 tractor.
McCormick-Deering Tractor Hitches

Farmall Tractor Hitches for Planters

Illustr. 24—RW-17751 tractor hitch for pulling one McCormick-Deering No. 102, 104, or 106 planter behind the regular Farmall tractor. The planter is under full control of the tractor operator.

Tractor Hitches for Planters

Special Farmall hitches are available for pulling single planters (Nos. 20, "100 Series," and Tip-Top) with the two-plow Farmall (see table above); also special hitches for pulling two planters in combination.

The complete special hitch for pulling a single "100 Series" planter with the F-12 tractor comprises an auxiliary drawbar to which the planter is secured by means of a tongue hook and stub tongue, a sheave to keep the checkwire away from the tractor wheels, a lever for opening the planter from the tractor seat, special check head trips, and reel tension device. Where it is desired to have an operator on the planter a simple adapter hitch may be had in which are omitted the extra lever, check head trips, reel tension device and stub tongue.

POTH-29 for pulling two Tip-Top planters with the Farmall has a swinging hitch bar which permits making short turns. In using this hitch, the inside wheel of one of the two planters is removed and the two axles connected by means of a universal joint. A platform is provided so that the operator can move from one planter to the other and make adjustments while the machine is working. A bracket is mounted in the center of the platform to which is attached one of the regular planter seats.

<table>
<thead>
<tr>
<th>Hitch Number</th>
<th>Implement</th>
<th>Tractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>RW-17751</td>
<td>(One) 100 Series planter</td>
<td>Farmall 2-plow</td>
</tr>
<tr>
<td>POTI-26</td>
<td>(One) No. 20 planter</td>
<td>Farmall 2-plow</td>
</tr>
<tr>
<td>POTI-28</td>
<td>(One) Nos. 7 or 8 Tip-Top planter</td>
<td>Farmall 2-plow</td>
</tr>
<tr>
<td>POTI-29</td>
<td>(Two) Nos. 7 or 8 Tip-Top planters</td>
<td>Farmall 2-plow and F-30</td>
</tr>
<tr>
<td>POTI-123</td>
<td>(One) No. 20 planter</td>
<td>F-12 Farmall</td>
</tr>
<tr>
<td>*Complete Hitch</td>
<td>(One) Nos. 102 or 104 Corn planter</td>
<td>F-12 Farmall</td>
</tr>
<tr>
<td>*Complete Hitch</td>
<td>(One) No. 106 Corn drill</td>
<td>F-12 Farmall</td>
</tr>
<tr>
<td>*Adapter Hitch</td>
<td>(One) Nos. 102 or 104 Corn planter</td>
<td>F-12 Farmall</td>
</tr>
<tr>
<td>*Adapter Hitch Parts</td>
<td>(One) No. 106 Corn drill</td>
<td>F-12 Farmall</td>
</tr>
</tbody>
</table>

*Order by name.

Illustr. 26—Adapter hitch for adapting horse-drawn No. 106 corn drill to use with F-12 Farmall. A similar hitch plus wire sheave for keeping checkwire away from tractor wheels is available for Nos. 102 and 104 planters. Planter tongue not furnished with adapter hitches. Control is from planter seat.

Illustr. 27—Complete hitch for operating one No. 102 or No. 104 checkrow planter behind F-12 Farmall. Permits controlling planter from tractor seat. A similar hitch but without wire sheave, special checkhead trips, and reel tension device is available for No. 106 corn drill. Order by name complete hitch and state whether for checkrow planter or drill planter.

Illustr. 25—POTH-28 tractor hitch for pulling one Tip-Top planter behind the regular and F-20 Farmall tractor. Note the swinging hitch bar which permits short turns.

Illustr. 28—POTH-29 tractor hitch for pulling two Nos. 7 or 8 Tip-Top planters behind Farmall tractors (except F-12). Note the spring release hitch.

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McCormick-Deering Tractor Hitches

Miscellaneous Tractor Hitches for Corn Machines, Potato Planters and Diggers

Illust. 29—McCormick-Deering Two-Row Cultivators UD and UE can be supplied with a hitch for use with 10-20 and 15-30 tractors. It keeps the cultivator to the left of the center of the tractor drawbar, allowing the tractor to straddle two rows. It can be used also with other tractors. Order by name, McCormick-Deering two-row cultivator tractor hitch.

Illust. 30—ZMA-74 tractor hitch for McCormick-Deering 1-row vertical corn binder and Farmall tractor.

Tractor Hitches for Corn Binders

Special tractor hitches are available for pulling McCormick-Deering 1-row vertical and horizontal corn binders with tractor power. These hitches include wood stub tongue and the necessary parts for attaching to tractor drawbar. The control is from binder seat and requires a man on the machine. Order ZMA-24 tractor hitch for 1-row vertical corn binder when pulled by 10-20 or 15-30 tractor; ZMA-74 tractor hitch for 1-row vertical binder when pulled by Farmall tractor, and ZDA-127 tractor hitch for 1-row horizontal-type corn binder pulled by conventional-type tractor.

The McCormick-Deering 2-row corn binder is regularly equipped with power-drive parts and tractor hitch as ordered. Order hitch ZMA-144 for 15-30 tractor, ZMA-133 for 10-20 tractor, ZMA-135 for standard and F-20 Farmall (regular and narrow-tread), and ZMA-172 hitch for Farmall-30 (regular tread only). The 2-row binder is controlled from the tractor seat.

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZMA-24</td>
<td>Tractor hitch for 1-row vertical corn binder and 10-20 or 15-30.</td>
</tr>
<tr>
<td>ZMA-74</td>
<td>Tractor hitch for 1-row vertical corn binder and Farmall.</td>
</tr>
<tr>
<td>ZDA-127</td>
<td>Tractor hitch for 1-row horizontal corn binder (any tractor).</td>
</tr>
<tr>
<td>ZMA-144</td>
<td>Tractor hitch and power drive parts for 2-row corn binder and 15-30 tractor.</td>
</tr>
<tr>
<td>ZMA-133</td>
<td>Tractor hitch and power drive parts for 2-row corn binder and 10-20 tractor.</td>
</tr>
<tr>
<td>ZMA-135</td>
<td>Tractor hitch and power-drive parts for 2-row corn binder, regular and F-20 Farmall tractors.</td>
</tr>
<tr>
<td>ZMA-172</td>
<td>Tractor hitch and power drive parts for 2-row corn binder and Farmall 30 (regular tread only).</td>
</tr>
</tbody>
</table>

Tractor Hitches for Potato Machines

McCormick-Deering 1 and 2-row potato planters can be equipped with special tractor hitches. These hitches can be used with conventional-type tractors or with the Farmall tractors. A special tractor hitch is also available for the single-row, ground-drive potato diggers. Order hitch ZMA-144 for 15-30 tractor, ZMA-133 for 10-20 tractor, ZMA-135 for standard and F-20 Farmall (regular and narrow-tread), and ZMA-172 hitch for Farmall-30 (regular tread only). Orders for power diggers should specify the type of tractor with which digger is to be used, namely—regular or F-20 Farmall, F-30 Farmall, F-12 Farmall or 10-20 tractor for single-row digger, and regular Farmall or F-30 Farmall for 2-row digger.

Illustrations:
- Illust. 29: McCormick-Deering Two-Row Cultivators UD and UE with tractor hitch.
- Illust. 30: ZMA-74 tractor hitch for McCormick-Deering 1-row vertical corn binder and Farmall tractor.
- Illust. 31: No. 200 corn picker with special Wagon Hitch for trailing wagon alongside the machine to receive the husked corn. Order by name.
- Illust. 32: Special tractor hitch available for McCormick-Deering one-row ground-drive potato diggers.
- Illust. 33: Special tractor hitch which can be supplied for McCormick-Deering two-row potato planter.

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## McCormick-Deering Tractor Hitches

### Tractor Hitches for One Grain Binder Only
(Requires Man on Binder)

<table>
<thead>
<tr>
<th>For McCormick-Deering Grain Binder</th>
<th>For McCormick Grain Binder</th>
<th>For Deering Grain Binder</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZMA-94 stub tongue hitch for McCormick-Deering binders having steel stub tongue (1929 and later). Z-1367 stub tongue hitch for McCormick-Deering binders having wood tongue.</td>
<td>Z-1367 stub tongue hitch. Fits McCormick Improved (flat frame) binder, either right or left hand.</td>
<td>ZDB-103 stub tongue hitch. Fits Deering New Ideal or Ideal Binders.</td>
</tr>
</tbody>
</table>

### Tractor Hitches for First Grain Binder of Two
(Requires Man on Each Binder)

<table>
<thead>
<tr>
<th>For McCormick-Deering Grain Binder</th>
<th>For McCormick Grain Binder</th>
<th>For Deering Grain Binder</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZMA-95 stub tongue hitch for McCormick-Deering binders having steel stub tongue (1929 and later). ZA-1353 stub tongue hitch for McCormick-Deering binders built prior to 1929.</td>
<td>Z-1353 stub tongue tractor hitch. For McCormick Improved (flat frame) binders, either right or left hand.</td>
<td>ZDB-103 stub tongue (same as used for one binder only). For Deering Ideal and New Ideal.</td>
</tr>
</tbody>
</table>

### Tractor Hitches for Second Grain Binder of Two or More
(Requires Man on Each Binder)

<table>
<thead>
<tr>
<th>For McCormick-Deering Grain Binder</th>
<th>For McCormick Grain Binder</th>
<th>For Deering Grain Binder</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZB-1130 steering tongue hitch when front binder is also McCormick-Deering. ZA-1496 steering tongue hitch when front binder is not McCormick-Deering. Requires rear segment and brace bundle ZA-1497 when front binder is McCormick and bundle ZDA-116 if Deering.</td>
<td>ZA-1130 steering tongue hitch when front binder is also McCormick Improved. Z-1496 steering tongue hitch when front binder is not McCormick Improved. Requires rear segment and brace bundle ZA-1497 when front binder is McCormick-Deering and bundle ZDA-116 if Deering.</td>
<td>ZDA-101 steering tongue hitch when front binder is also Deering Ideal or New Ideal. ZDA-115 steering tongue hitch when front binder is not Deering Ideal or New Ideal. Requires rear segment and brace bundle ZA-1497 when front binder is McCormick-Deering and bundle Z-1497 if McCormick.</td>
</tr>
</tbody>
</table>

### One-Man Binder Control Tractor Hitches
(Requires no Man on Binder)

<table>
<thead>
<tr>
<th>For McCormick-Deering Grain Binder</th>
<th>For McCormick Grain Binder</th>
<th>For Deering Grain Binder</th>
</tr>
</thead>
</table>
McCormick-Deering Tractor Hitches

Tractor Hitch and Power-Drive Attachments
(For converting ground-drive binder to tractor-drive)

ZMB-16 tractor hitch and power-drive attachment with one-man control levers. (For McCormick-Deering binder when operated with 10-20 or 15-30 tractor.)
ZMB-20 Same as ZMB-16 but without one-man control levers.
ZMC-26 tractor hitch and power-drive attachment with one-man control levers. (For McCormick-Deering binder when operated with regular Farmall tractor.)
ZMA-184 Same as ZMC-26 but for Farmall F-30 tractor.
ZMA-210 Same as ZMC-26 but for Farmall F-12 tractor.
ZMD-26 tractor hitch and power-drive attachment without one-man control levers. (For McCormick-Deering binder when operated with regular or F-20 Farmall tractor.)
ZMA-174 Same as ZMD-26 but for Farmall F-30 tractor.
ZMA-211 Same as ZMD-26 but for Farmall F-12 tractor.
ZMA-212 tractor hitch and power-drive attachment with one-man control levers. (For Deering No. 3 binder when operated with Farmall F-12 tractor.)
ZMA-213 Same as ZMA-212 but without one-man control levers.
ZMA-233 power-drive tractor hitch without one-man control levers (W-30 tractor).
ZMA-232 power-drive tractor hitch with one-man control levers (W-30 tractor).

Tractor Hitches for Trailing a Grain Binder Behind a Tractor Binder

ZMA-28 trailer hitch for second binder behind No. 4 tractor binder.
ZMA-76 trailer hitch for second binder behind No. 2 tractor binder.
In addition to the above the second binder must be equipped with ZA-1496 steering tongue hitch if McCormick-Deering; Z-1496 steering tongue hitch if McCormick Improved; and ZDA-115 if Deering Ideal or New Ideal.

Tractor Hitches for Rice Binders

ZA-1367 wood stub tongue hitch for McCormick and McCormick-Deering rice binders having wood tongue. An inexpensive hitch suitable for any conventional type tractor. Includes Z-1415 adjustable drawbar extensions. (See Illust. 35.)
Z-1353 wood stub tongue hitch for McCormick-Deering rice binders having wood tongue. Similar to Z-1367 but with additional outer tongue brace (see Illust. 37). Adjustable drawbar extensions not included with this hitch.
ZDA-134 stub tongue hitch for one Deering Ideal or New Ideal rice binder.
ZMB-126 power drive attachment without one-man control levers for McCormick or McCormick-Deering rice binder when operated by 10-20 or 15-30 tractor.
ZMB-127 same as above for regular Farmall tractor.
ZMA-176 same as above for F-30 Farmall tractor.
ZMA-202 same as above for T-20 TracTracTor.
ZMA-203. Plain stub tongue hitch without power drive and without levers for T-20 TracTracTor.
ZMA-236 power-drive tractor hitch without one-man control levers for W-30 tractor.

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McCormick-Deering Tractor Hitches

Tractor Hitch for One Grain Binder Only

For those owners who do not wish to dismantle the tongue truck nor saw off the long tongue supplied with horse-drawn grain binders, a special stub tongue tractor hitch is available. This hitch requires a man on the binder as well as one on the tractor. Order tractor hitch ZDB-103 for Deering binder; Z-1367 for McCormick Improved binder or for McCormick-Deering binders equipped with wood tongue. For later McCormick-Deering binders equipped with steel A-frame tongue (for tongue truck), order hitch ZMA-94.

Illustr. 35—Stub tongue tractor hitch Z-1367 for McCormick Improved or McCormick-Deering binders having wood tongue. For steel A-frame tongue McCormick-Deering binders, use hitch ZMA-94.

Illustr. 36—Stub tongue tractor hitch ZDB-103 for one Deering binder only or first of two.

Tractor Hitch for First Grain Binder of Two

When it is desired to hitch two binders behind a tractor, a special tractor hitch for the first binder of two must be used. The reason for this is that the hitch parts regularly furnished for pulling the binder with horses are designed with strength only for pulling one binder and also because some parts of the steering tongue hitch must be used on both front and rear binders. When a large tractor (over 15-30) is used, a steering tongue tractor hitch is necessary on the first binder in order to permit it to cut a full swath and to clear the reel when turning.

For first of two binders, order ZMA-95 stub tongue hitch for current McCormick-Deering binders having steel A-frame tongue and ZA-1353 stub tongue hitch for McCormick-Deering binders having wood tongue. For McCormick Improved binders, order stub tongue tractor hitch Z-1353. For Deering Ideal and New Ideal, order ZBB-103.


Illustr. 38—Rear view of the first of two McCormick binders showing the portion of the McCormick steering tongue tractor hitch (ZA-1130) which is placed on the rear of the first binder. The first binder must be drawn by a McCormick stub tongue tractor hitch (Z-1353) except when pulled by a tractor larger than the 15-30.

Tractor Hitch for Second of Two or More Grain Binders

When the binders are pulled by a small tractor, the steering tongue tractor hitch is used between the first and second binders and in connection with the stub tongue hitches shown in illustrations 36 and 37.

For a tractor larger than the 15-30, the steering tongue tractor hitch is also used on the first binder and one on each additional binder. The steering tongue tractor hitch enables the second binder to travel in the desired offset relation with the binder in front and to be guided easily when turning corners. It is controlled from the seat of the second binder through a crank and a worm and gear arrangement which pivots the tongue in either direction as required. For McCormick-Deering grain binder, order steering tongue tractor hitch ZB-1130; for McCormick grain binder, ZA-1130; and for Deering grain binder, order ZDA-101.

Illustr. 39—McCormick steering tongue tractor hitch ZA-1130 used on front of second of two McCormick binders. This hitch permits offsetting the second binder so that it will cut a full swath and facilitates proper steering of the binder when turning corners. For McCormick-Deering binders use ZB-1130.

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McCormick-Deering Tractor Hitches

Tractor Hitches for Pulling Two or More Grain Binders

Tractor Hitch and One-Man Control for Grain Binders

Illustr. 40 — Segment and braces which are part of McCormick steering tongue tractor hitch ZA-1130 and attach to the rear of the first binder. The segment and braces, used in connection with the steering tongue device illustrated above, form a suitable connection between the first and second McCormick binders. For McCormick-Deering binders, order ZB-1130.

See previous pages for complete list of tractor hitches for binders

Illustr. 41 — Deering steering tongue tractor hitch ZDA-101 used on front end of second of two Deering left-hand binders. This hitch is required to offset the second binder sufficiently so that it can cut a full swath. It is also used on the first of two or more binders when pulled with a tractor larger than the 15-30.

Illustr. 42 — Part of Deering steering tongue tractor hitch ZDA-101 used on rear of first of two binders. This hitch, in connection with the steering tongue device shown in Illustration 41, forms a suitable connection between two Deering binders.

Tractor Hitch and Power-Drive Attachments for Grain Binders

Illustr. 43 — Tractor hitch and one-man control levers for McCormick Improved and McCormick-Deering binders. Connects with 10-20 and 15-30 tractors. The tractor hitch and one-man control for McCormick Improved binders is ZA-1500. For McCormick-Deering binders, order ZMA-19. With this hitch one man can operate both the tractor and binder from the tractor seat. When the one-man binder control is used on the first of two binders it takes the place of the stub tongue hitch. Similar style hitches are available for use with Farmall tractors. (See table on page 8.)

Illustr. 44 — One-man binder control tractor hitch ZDA-122 for Deering binder. Used in connection with 10-20 and 15-30 tractors. Permits tractor driver to control both tractor and first binder.

Illustr. 45 — This shows the power-drive attachment for use with McCormick-Deering 10-20 and 15-30 tractors. ZMB-20 is tractor hitch and power-drive attachment only for McCormick-Deering binders. ZMB-16 is tractor hitch and power-drive attachment with one-man control levers for use with McCormick-Deering binders.
McCormick-Deering Tractor Hitches

Power-Drive Attachment and One-Man Control Levers for Tractor Binders

Illustr. 46—This shows the power-drive attachment and one-man control levers for McCormick-Deering tractor binder when operated by a Farmall tractor. While the hitch and power-drive attachment are regularly supplied as a part of the binder, if they should be required for replacement, the hitch can be ordered under ZMA-119. One-man control levers are not regularly supplied but can be ordered under the number BC-12514 for Farmall tractors.

Illustr. 47—This shows the tractor hitch with power-drive attachment and one-man control levers for McCormick-Deering tractor binder. The tractor hitch and powerdrive are BD-12561; the one-man control levers are ZMA-63 for 10-20 and 15-30 tractors.

Illustr. 48—If it is desired to pull a second 8-foot or smaller grain binder behind the No. 2 or No. 4 tractor binder, a hitch can be supplied for this purpose known as ZMA-76.

Illustr. 49—Plan view of tractor hitch for McCormick-Deering push machines ZDA-105.

Hitches for Tractor Binders

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<th>DESCRIPTION</th>
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<td>ZMA-59</td>
<td>Power drive parts for No. 2 tractor binder (To change from Farmall to 10-20 or 15-30 tractors). For Machines prior to 1930.</td>
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<tr>
<td>ZMA-60</td>
<td>Power drive parts for No. 2 tractor binder (To change from 10-20 or 15-30 tractor to Farmall). For Machines prior to 1930.</td>
</tr>
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<td>ZMA-118</td>
<td>Power drive parts for No. 4 tractor binder (To change from Farmall to 10-20 or 15-30 tractor). For 1930 and prior machines.</td>
</tr>
<tr>
<td>ZMA-119</td>
<td>Power drive parts for No. 4 tractor binder (To change from 10-20 or 15-30 tractor to Farmall). For 1930 and prior machines.</td>
</tr>
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<td>ZMA-141</td>
<td>Power drive parts for No. 4 tractor binder (To change from Farmall to 10-20 or 15-30 tractor). For 1931 and current machines.</td>
</tr>
<tr>
<td>ZMA-142</td>
<td>Power drive parts for No. 4 tractor binder (To change from 10-20 or 15-30 tractor to Farmall). For 1931 and current machines.</td>
</tr>
<tr>
<td>ZMA-174</td>
<td>Power drive parts for No. 4 tractor binder (To change from 10-20 or 15-30 tractor to F-30 Farmall).</td>
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<tr>
<td>ZMA-209*</td>
<td>Power drive and hitch parts for tractor binder (F-12 Farmall).</td>
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<tr>
<td>ZMA-63*</td>
<td>One-man control levers for tractor binder (10-20 and 15-30 tractors).</td>
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<tr>
<td>BC-12514*</td>
<td>One-man control levers for tractor binder (All Farmall tractors).</td>
</tr>
<tr>
<td>B-32235*</td>
<td>One-man control levers for tractor binder (T-20 TracTor).</td>
</tr>
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<td>ZMA-198</td>
<td>Power drive and hitch parts without one-man levers for No. 4 tractor binder (T-20 TracTor).</td>
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<td>ZMA-199</td>
<td>Power drive and hitch parts with one-man levers for No. 4 tractor binder (T-20 TracTor).</td>
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<tr>
<td>ZMA-231</td>
<td>Power drive and hitch parts for No. 4 tractor binder (W-30 tractor).</td>
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*For Nos. 2 and 4 tractor binders.

Tractor Hitch for McCormick-Deering Push Binders and Headers

The McCormick-Deering tractor hitch for push machines consists of a series of rods joined by links, which makes a flexible hitch and pulls on a straight line from the front end of the pole. It is also attached to the inner corner of the platform. From here it extends to the tractor. The attachment of the chain made by the jointed rod is at a place on the steering pole of the machine where it overcomes a tendency to sidestep. There is no more effort required by the operator to guide the machine than when horses are used. The tractor runs ahead of the machine on the stubble of the previous round.

For McCormick-Deering or Deering push machines, order ZDA-105 tractor hitch. This hitch fits McCormick-Deering or Deering push binder, plain type header, and combined type header. For a second push binder of these lines, an additional hitch, ZDA-105, is needed.

A hitch for one-man control of the lever from the tractor platform can be supplied under the number ZDA-125.
McCormick-Deering Tractor Hitches
Tractor Hitches for Mowers

Illustr. 50—ZMA-159 stub tongue, spring release tractor hitch for pulling single or first of two No. 7 mowers behind any McCormick-Deering tractor. Hitch includes drawbar extension shown at right. ZMA-84 is the same style hitch for No. 6 and Big 6 mowers.

List of Mower Hitches

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZMA-84</td>
<td>Stub tongue hitch with automatic spring release for pulling one No. 6 or Big 6 mower behind 10-20, 15-30, or Farmall tractor.</td>
</tr>
<tr>
<td>ZMA-156</td>
<td>Parts for adapting stub tongue hitch ZMA-84 for use with T-20 TracTracTor.</td>
</tr>
<tr>
<td>ZMA-159</td>
<td>Stub tongue hitch with automatic spring release for pulling single or first of two No. 7 or Big 7 mowers. For use with any current McCormick-Deering tractor.</td>
</tr>
<tr>
<td>Z-1352</td>
<td>Stub tongue tractor hitch for first of two or more mowers (No. 4, Big 4, No. 6, Big 6, Deering New Ideal, and New Ideal Giant mowers). For use with 10-20, 15-30, and Farmall tractors.</td>
</tr>
<tr>
<td>Z-1328</td>
<td>Steering pole hitch for second of two or more mowers. Also required for first mower when pulled by a tractor larger than McCormick-Deering 15-30. Fits No. 4, Big 4, No. 6, Big 6, New Ideal, and New Ideal Giant mowers. This hitch includes bracket and necessary braces for attaching to axle of front mower, adjustable tongue, and stub tongue with steering device. For use with all tractors.</td>
</tr>
<tr>
<td>ZMA-88</td>
<td>Steering pole hitch for Big 6 Trailer Mower when drawn behind No. 20 tractor mower or No. 10 Farmall mower. This hitch consists of adjustable tongue equipped with spring release, stub tongue, and steering device. Requires use of special hitch angle on tractor. Order hitch angle ZMA-85 for 10-20 tractor; ZMA-86 for 15-30; ZMA-87 for reg. and F-20 Farmall (regular tread); ZMA-91 for reg. and F-20 Farmall (nar. tread); ZMA-165 for F-20 Farmall (regular tread); ZMA-226 for F-12 Farmall.</td>
</tr>
<tr>
<td>ZMA-160</td>
<td>Steering pole hitch for Big 7 Trailer Mower when drawn behind No. 20 tractor mower or No. 10 Farmall mower. This hitch requires use of special hitch angle on tractor same as listed for use with ZMA-88 (see above).</td>
</tr>
<tr>
<td>ZMA-161</td>
<td>Steering pole hitch for second of two or more No. 7 or Big 7 mowers. For use with all tractors. This hitch includes bracket and necessary braces for attaching to axle of front mower, adjustable tongue, stub tongue, and steering device.</td>
</tr>
</tbody>
</table>

Illustr. 51—Rear view of first of two mowers showing that portion of the steering pole tractor hitch ZMA-161, which is clamped to the rear of the first mower. The remainder of the hitch is shown in Illust. 52.

Illustr. 52—Steering pole tractor hitch ZMA-161 for offsetting second of two or more No. 7 or Big 7 mowers. Used also on first mower when pulled by tractor larger than McCormick-Deering 15-30. Z-1328 is steering pole tractor hitch for Nos. 4 and 6 mowers.

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McCormick-Deering Tractor Hitches

Illustr. 53—This shows the No. 7 trailing mower used in connection with the Farmall No. 10 mower. The steering tongue hitch for the trailing mower is ZMA-160. The hitch angle extending from the tractor is ZMA-87 for the regular tread Farmall. Other tractors require different hitch angles (see list of mower hitches).

Tractor Hitches for Two or More Mowers

To attach two or more mowers behind a McCormick-Deering tractor the first mower must be equipped with a stub tongue tractor hitch—Z-1352; ZMA-84, or ZMA-159 (see list of mower hitches on preceding page). The second and additional mowers must be equipped with steering tongue hitch, Z-1328 or ZMA-161 (see list of mower hitches), so as to permit the proper offset for cutting a full swath. The second mower is attached to the first by means of a bracket clamped to the axle of the front mower. Extending from this bracket to a flexible tongue connection is an adjustable tongue which can be offset as required. The proper offset is maintained by means of a crank and quadrant attached to the stub tongue and steering tongue of each trailing mower. A series of mowers connected in this manner cannot, of course, be expected to turn a sharp corner. It is necessary that the field be cut with rounding corners so that a non-stop run can be made. No operator is required on the first mower, but a man is usually seated on each following mower so as to steer the mower when turning corners and otherwise adjust the machine.

Tractor Hitches for Trailing Mower Behind Tractor Mower

Big 6 and Big 7 Trailing Mowers are especially designed for cutting at tractor speeds and are frequently used behind a No. 20 tractor mower or No. 10 Farmall mower. When so used, the trailing mower must be equipped with a steering pole hitch which attaches to a long hitch angle extending from the tractor. The adjustable tongue, which is part of the steering pole hitch, is equipped with a spring release hitch which attaches to the hitch angle. (For information as to catalog numbers of hitch angles and steering pole hitches, see list of Mower Hitches on preceding page.)
**McCormick-Deering Tractor Hitches**

**Farmall Tractor Hitch for Hay Tools**

Illust. 56—ZMA-56, hay tool tractor hitch for pulling two side-delivery rakes, two self-dump rakes, or two tedders with the regular Farmall tractor. ZMA-56 is a complete hitch and includes the hitch angle ZMA-87 as illustrated above.

Where the owner already has the hitch angle ZMA-87 (also required for use with trailer mower behind No. 10 Farmall mower), he need not order the complete hay tool hitch but can secure the remainder of the hitch less angle by ordering hay tool hitch ZMA-57.

**Tractor Hitch for Side Rake**

Illust. 57—Special tractor hitch RFTH-1 for McCormick-Deering side rake and tedder. This hitch consists of a 6-ft. stub pole, clevis iron and pin for attaching to tractor drawbar.

**Tractor Hitch for Wagons**

The No. 85 tractor hitch tongue for wagons consists of a regular wagon type drop tongue cut short and equipped with a casting holding a coil spring and clevis. It is substituted for the regular wagon tongue and will fit any McCormick-Deering or Weber standard two-horse wagon or gear. The clevis is easily attached to the regular drawbar of the tractor. The coil spring takes up the starting shocks and protects the gears from being pulled out of position or broken through a sudden pull.

Where it is desired to pull two or more wagons in tandem fashion behind a tractor or motor vehicle, each wagon is equipped with the tractor hitch tongue (see Illust. 59). The second and following wagons are connected to the preceding wagon by means of a clamp attached to the rear axle of the preceding wagon. Owing to the variety of axles on different wagons, the clamps are not furnished but can be made by any local blacksmith. The construction of the clamp is shown in Illust. 60.

Illust. 59—This shows the No. 85 tractor hitch as used between the first and second wagons. The coil spring absorbs the starting shocks.

Illust. 60—This shows the construction of the clamps to go around the axles. Clamps are not furnished but can be made by any local blacksmith.
McCormick-Deering Service

The McCormick-Deering service sign has become a familiar emblem throughout the country. Dealers appreciate the value of the service end of their business, and tractor owners realize the added value in their tractor investment.

Service Operations Grouped

The various service group operations have been covered thoroughly in the McCormick-Deering Tractor Service Standard Maintenance Operation and Price Manual. Each group is described in detail and in sequence of operation which emphasizes the values offered. This applies to group operations under general adjustments and overhauling, engine tuning, front and rear axles, belt pulley, bull pinion, clutch, cooling system, main frame, fuel and exhaust system, ignition system, lubrication system, sheet metal parts, steering apparatus, transmission and wheels.

Flat-Rate Service

A flat-rate service has been worked out for each service job on McCormick-Deering tractors. This system, as outlined in the new McCormick-Deering service manual (Illust. 2) puts a price tag, so to speak, on each service job. Service becomes a regular package commodity, the same as any other piece of equipment in the dealer's store. The dealer and tractor owner can discuss any item of service and each will know just what work is to be done and what the labor cost will be.

Practically all items of service on McCormick-Deering tractors are divided into definite groups.

The McCormick-Deering dealer's service bulletin binder will keep all service bulletins intact and immediately available when needed. The binders can be washed if they become soiled. When properly used, this binder saves time and instills customer confidence in service station methods.

Illustration 3—A well-lighted and fully-equipped service station makes a favorable impression, invites inspection by customers, and speeds up the service work itself.
Improvement Packages

Tractor improvement packages are a unique and outstanding feature of McCormick-Deering service not offered by any other tractor manufacturer. They are a real sales and service asset to the dealer.

Improvement packages enable owners of McCormick-Deering tractors of prior years' production to have the new McCormick-Deering tractor developments installed on their present units. This is done in conjunction with a thorough overhaul at a nominal cost to the owner and yet at a profit to the dealer. Moreover, this service work is generally done during the dealer’s so-called "slack season." Since this also coincides with the customer’s slack period, the tractor owner does not lose time from his power-farming work.

The prices of improvement packages have been established at a very low figure for the purpose of encouraging McCormick-Deering tractor owners to take full advantage of this service. Furthermore it is human nature to want equipment that is new and modern in every respect. Capitalize on these facts and make it a point to show the benefits of improvement packages to McCormick-Deering tractor owners.

McCormick-Deering improvement packages should always be installed on tractors in the dealer’s service station by competent mechanics using McCormick-Deering service tools. Under no circumstances should an improvement package be sold to a customer for him to install.

Show and talk the improvement package program. Use it as a leader to sell the thorough overhauling idea. This will increase the sale of repair parts. Customers will become greater boosters for the McCormick-Deering line because of the improved performance and increased efficiency of their tractors. Service station labor and equipment will return a greater year-around profit. Both the dealer and his customers will benefit by the increasing sale and better service of a universally popular and satisfactory product.

McCormick-Deering Service Tools

A set of McCormick-Deering service tools has been designed especially for McCormick-Deering tractors. These tools will enable the mechanics to do all service operations in less time and more efficiently. A set of service tools should be standard equipment in every service station.
McCormick-Deering Power Units

McCormick-Deering power units range in size from 12 to more than 100 horsepower. There are nine gasoline-powered sizes, and the PD-40 (Diesel). Four of the gasoline units have four cylinders and five have six cylinders.

This complete line meets the demands of an extremely wide variety of stationary power applications: air compressors, drills, rock crushers; cranes, hoists, and loaders; ditchers, dredges, and excavators; electric generators, cotton gins, and ice plants; elevators and ferry boats; power shovels, concrete mixers, and road rollers; logging equipment, sawmills, and winches; dusters, sprayers, and pumps of all kinds.

All sizes except the Model 200 are supplied with an angle base. Belt pulleys, and different types of custom-built bases, can be obtained on special order.

### Specifications

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<tr>
<th>Model</th>
<th>P-12</th>
<th>P-20</th>
<th>P-30</th>
<th>P-35</th>
<th>PD-40</th>
<th>PA-40</th>
<th>PA-50</th>
<th># PA-80</th>
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*Belt pulley supplied on special order—other sizes available.

×Auxiliary fuel tank capacity, 1½ gallons.

#Will be in production early in 1935. Specifications are tentative.

*Dimensions include standard base.

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McCormick-Deering Power Units

McCormick-Deering Power Units have the same types of engine that have been for a number of years, establishing distinctive records of operating economy and dependability in the hands of thousands upon thousands of users of International Harvester automotive equipment. Simple, compact construction and the ability to speed up production and reduce overhead have made these units the popular choice the country over. They are replacing steam, electricity, and other forms of power on various types of applications.

The many outstanding and distinctive features of other McCormick-Deering engines are incorporated in the power units. They provide a smooth flow of power and are able to meet the peak loads frequently encountered in severe industrial service. Eloquent testimony of the high quality of these units is the fact that more than 100 manufacturers of power-operated equipment build their machines to be operated by McCormick-Deering industrial tractors and power units.

Besides their reputation for low-cost performance, McCormick-Deering power units are noted for their ease of starting and dependability as evidenced by the large numbers operating in isolated locations. They have the same reliable cleaning devices as McCormick-Deering tractors—air cleaners, fuel strainers, and oil filters.

McCormick-Deering Diesel

The McCormick-Deering Diesel Model PD-40 has the same type of engine as the TD-40 TracTor. It is establishing a reputation in the Diesel field with its ease of starting. A unique device—exclusively McCormick-Deering—adapts the engine to gasoline operation, for starting. It can be started as easily as a conventional gasoline engine of similar size under all weather conditions. It automatically returns to Diesel operation after making a certain number of revolutions.

Due to exceptional design, the McCormick-Deering Diesel is extremely tenacious, difficult to stall, and has the desired "lugging" ability feature. The engine is McCormick-Deering construction throughout, retaining accepted features of balanced design that provide vibrationless performance. It operates on small quantities of low-grade, low-cost fuels.

The Diesel fuel pump—McCormick-Deering design and construction—provides accurately measured fuel injections at all engine speeds. This accounts for the unusual part-load fuel economy. A governor, built integrally with the pump, accurately controls the amount of fuel for the load requirement.

The pump will withstand corrosion from fuel and the elements. All reciprocating parts are made of Nitroloy metal, hardened to 1100 Brinnell hardness. All valve parts are of stainless steel, while all pump parts are Parkerized, a process to prevent rusting and corrosion. This refinement in design and construction followed throughout assures a Diesel giving unusual performance.
McCormick-Deering 1½ to 2½ h.p. Engine

Simple and Compact—Variable Power Rating

Light in Weight
The McCormick-Deering 1½ to 2½ h.p. engine weighs approximately 168 pounds. It is simple, compact, easy to operate, and can be placed in out-of-way corners. Here is an economical handy engine for jobs requiring a variation of from 1½ to 2½ h.p.

Easy to Start
A high-tension, rotary-type Wico magneto with impulse starter is supplied as regular equipment and provides quick, easy starting under all weather conditions. A convenient stop switch is located on the magneto.

Variable Speed Throttle Governor
The McCormick-Deering with a range of from 1½ to 2½ h.p. is in reality two engines in one. This variable power rating is made possible by a throttle governor enclosed in the crankcase and regulated by a simple governor speed adjusting screw. By turning the governor speed adjusting screw all the way in, the engine operates at 1000 r.p.m. at which speed it develops 2½ h.p. When the governor speed adjusting screw is turned all the way out, the speed is reduced to 600 r.p.m. and develops 1½ h.p. This feature enables the user to operate his engine at variable speeds, depending upon the kind of work being done and the power required to do it.

Regular Equipment
Wico magneto. Pulley size 4-in. diameter x 5-in. face. Steel skids.

Extra Equipment
Kerosene attachment. Auxiliary water hopper. Air cleaner. Pulley sizes, 3, 5, 6, 7, and 8-in. diameter x 5-in. face.

McCormick-Deering 1½ to 2½ h.p. Engine Specifications

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>1½ to 2½</td>
<td>600 to 1000</td>
<td>300 to 500</td>
<td>3½</td>
<td>3½</td>
<td>1⅛</td>
<td>2½</td>
<td>16½</td>
<td>28</td>
<td>18</td>
<td>175</td>
</tr>
</tbody>
</table>

Illust. 1—Pulley side of McCormick-Deering 1½ to 2½ h.p. Engine.

Illust. 2—Flywheel side of McCormick-Deering 1½ to 2½ h.p. Engine. Air cleaner attachment is supplied as extra equipment.

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McCormick-Deering 1½ to 2½ h.p. Engine

Automatic Lubrication

At every turn of the governor gear, which revolves in a bath of oil, all moving parts, including the governor gear, crankshaft, crankshaft pinion, camshaft, and cam gear, are automatically oiled. On the inside of the crankcase, oil holes are provided for the lubrication of the crankshaft, camshaft, and governor gear bearings. The connecting-rod bearing is lubricated from an oil chamber through the crankshaft, and the oil is carried from the crankshaft oil chamber up through the crank pin to the connecting-rod bearing.

Honed Cylinder

The McCormick-Deering cylinder is specially honed, providing a smooth surface for piston and rings. Honing a cylinder reduces wear and assures maximum power at low cost. The piston is equipped with three compression rings and one oil ring. Crankshaft, camshaft and connecting rod bearings are replaceable.

Enclosed Crankcase

The completely enclosed crankcase protects the working parts against rain, sleet, snow, dust and dirt. The removable cylinder head cover marked “A” in Illust. 4, fits snugly over the cylinder head and protects the spark plug, valves, valve-rocker arms, and valve push rods.

Steel Fuel Tank

The fuel tank has a capacity of 1½ gallons. It is built of reenforced steel with splash plates on the inside and is without a gravity opening. Steel skids, with large-size handholes at each end, make transporting an easy job.
McCormick-Deering 3, 6, and 10 h.p. Engines

Reliable Stationary Power

McCormick-Deering 3, 6, and 10 h.p. engines are in every sense of the word reliable, low-cost stationary power units. The 6 and 10 h.p. sizes are ideally suited for operating feed grinders, corn shellers, deep well pumps, buzz saws, or for other miscellaneous power operations.

Extra Friction Clutch Pulleys

<table>
<thead>
<tr>
<th>Diam.</th>
<th>6 H.P.</th>
<th>10 H.P.</th>
<th>Diam.</th>
<th>6 H.P.</th>
<th>10 H.P.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FACE</td>
<td>FACE</td>
<td></td>
<td>FACE</td>
<td>FACE</td>
</tr>
<tr>
<td>14 in.</td>
<td>6 1/2 in.</td>
<td>6 1/2 in.</td>
<td>24 in.</td>
<td>6 1/2 in.</td>
<td>6 1/2 in.</td>
</tr>
<tr>
<td>16 in.</td>
<td>6 1/2 in.</td>
<td>6 1/2 in.</td>
<td>26 in.</td>
<td>6 1/2 in.</td>
<td>6 1/2 in.</td>
</tr>
<tr>
<td>18 in.</td>
<td>6 1/2 in.</td>
<td>6 1/2 in.</td>
<td>28 in.</td>
<td>6 1/2 in.</td>
<td>6 1/2 in.</td>
</tr>
<tr>
<td>20 in.</td>
<td>6 1/2 in.</td>
<td>6 1/2 in.</td>
<td>30 in.</td>
<td>6 1/2 in.</td>
<td>6 1/2 in.</td>
</tr>
<tr>
<td>22 in.</td>
<td>6 1/2 in.</td>
<td>6 1/2 in.</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Atlas Pump Jacks

The Atlas center-drive clutch driven jack as shown in Illust. 7-A is built especially to operate with McCormick-Deering engines. This efficient, simple jack may be placed in any position—on the floor, wall, ceiling, post, or can be easily clamped to any pump standard whether it be a single or two-pipe stand. Engines operating in high speed require a jack of 5 to 1 ratio.

Double-Geared Jacks

The strong, substantially-built, double-geared jack shown in Illust. 7-B has a lifting capacity up to 200 feet, with a 2-inch cylinder. The gears automatically equalize so there is always an equal pull on each set of gears. This jack is furnished either in clamp or sub-base style.

Regular Equipment

Magneto. Skids on 3 h.p. engine. Skids on 6 and 10 h.p. when not portable. Plain pulleys on 3 h.p. No plain pulleys for 6 and 10 h.p. engines are shipped regular unless ordered. Plain pulleys from 6 to 18-inch diameter, inclusive, will be furnished with the 6 h.p. engine and from 6 to 26 inches in diameter with the 10 h.p. engine if specified, without additional cost. Additional charge for larger sized plain pulleys. Tools.

Extra Equipment

Plain pulleys. Friction clutch pulleys for 6 and 10 h.p. Two wheel hand truck (3 h.p.). Four-wheel truck (3 h.p.). Horse truck (6 and 10 h.p.). Pump jack. Brake for horse trucks. Spark arrester on 6 and 10 h.p.

McCormick-Deering 3, 6, and 10 h.p. Engine Specifications

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>600</td>
<td>4 1/4</td>
<td>5 1/2</td>
<td>5</td>
<td>21</td>
<td>1 1/4</td>
<td>37 in. 29 1/4 in. 29 1/4 in.</td>
<td>54 29 1/4 in. 34 1/4 in.</td>
<td>460</td>
</tr>
<tr>
<td>6</td>
<td>550</td>
<td>4 3/4</td>
<td>8</td>
<td>*14</td>
<td>12 1/4</td>
<td>3 1/4</td>
<td>51 in. 36 1/4 in. 36 1/4 in.</td>
<td>54 40 1/4 in. 42 1/4 in.</td>
<td>870</td>
</tr>
<tr>
<td>10</td>
<td>425</td>
<td>6</td>
<td>10</td>
<td>*22</td>
<td>10 1/4</td>
<td>11 1/4</td>
<td>67 1/4 in. 56 1/4 in. 46 1/4 in.</td>
<td>90 1/4 in. 56 1/4 in. 55 1/4 in.</td>
<td>2285</td>
</tr>
</tbody>
</table>

*Furnished when ordered at no additional cost.
McCormick-Deering Cream Separators

Built in Six Sizes
Hand, Electric or Engine Driven

McCormick-Deering ball-bearing cream separators are built in six sizes, ranging from the small No. 1, with a capacity of 350 pounds of milk per hour to the large No. 6, with a capacity of 1500 pounds. They may be operated by hand, engine, or electric power.

Four Ball Bearings

McCormick-Deering cream separators are extremely easy to turn. There are ball bearings at four high speed points in every machine regardless of size. The spindle is supported at the top and bottom by ball bearings and the pinion shaft at both ends is ball-bearing equipped. The feature of ball bearings provides a smooth, quiet, long-life machine.

Rust-Proof Stainless Steel Discs

Stainless steel discs with electrically welded stainless steel spacers are an exclusive McCormick-Deering feature. These discs, in every instance, have proved their superiority over the regular carbon steel discs. McCormick-Deering stainless steel discs and spacers absolutely will not rust or discolor from contact with acids in milk. They are easier to clean and keep clean than carbon steel discs and are a great deal more sanitary.

Close Skimming

McCormick-Deering cream separators will skim efficiently at various milk temperatures. A specially designed cream separator bowl with a skimmilk regulating screw and two wide-open skimmilk outlets assure close skimming under all conditions. In the McCormick-Deering the density of the cream is regulated by controlling the discharge of skimmilk. This simple adjustment for cream density is positive and provides a more uniform cream in a better condition for churning.

Durable, Mirror-Like Finish

The durable, mirror-like finish on McCormick-Deering cream separators is baked on and will not crack, chip, or grow dull with use. The surface can be easily and quickly wiped off with an oily cloth and it will shine as brilliantly as the day it left the factory.

Automatic Lubrication System

With every turn of the spindle driving gear all moving parts and bearings are automatically sprayed with oil. A glass panel in the lower part of the supply can bracket serves as a convenient and positive oil supply guide.

Regular Equipment


Extra Equipment

Electric motor and drive. Power attachment for engine or line shaft.

McCormick-Deering Cream Separator Specifications

<table>
<thead>
<tr>
<th>MACHINE NUMBER</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity of Milk Per Hour</td>
<td>350 lb.</td>
<td>500 lb.</td>
<td>750 lb.</td>
<td>900 lb.</td>
<td>1200 lb.</td>
<td>1500 lb.</td>
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<tr>
<td>Crank Speed R.P.M.</td>
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<td>60</td>
<td>48</td>
<td>48</td>
<td>48</td>
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<tr>
<td>Pinion Speed R.P.M.</td>
<td>752</td>
<td>752</td>
<td>678</td>
<td>678</td>
<td>678</td>
<td>678</td>
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<tr>
<td>Bowl Speed R.P.M.</td>
<td>8917</td>
<td>8917</td>
<td>8226</td>
<td>8226</td>
<td>7533</td>
<td>7533</td>
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<tr>
<td>Total Height from Floor to Top of Supply Can</td>
<td>44 3/4&quot;</td>
<td>44 3/4&quot;</td>
<td>48 3/4&quot;</td>
<td>48 3/4&quot;</td>
<td>50 3/4&quot;</td>
<td>50 3/4&quot;</td>
</tr>
<tr>
<td>Total Height from Floor to Top of Supply Can—Short Stool</td>
<td>45 3/4&quot;</td>
<td>45 3/4&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height from Floor to Crankshaft Center</td>
<td>30&quot;</td>
<td>30&quot;</td>
<td>31 1/2&quot;</td>
<td>31 1/2&quot;</td>
<td>32&quot;</td>
<td>32&quot;</td>
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<tr>
<td>Capacity of Supply Can in Lbs. of Milk</td>
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<td>40</td>
<td>60</td>
<td>60</td>
<td>80</td>
<td>80</td>
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<tr>
<td>Length of Crank</td>
<td>8 3/8&quot;</td>
<td>8 3/8&quot;</td>
<td>10 3/8&quot;</td>
<td>10 3/8&quot;</td>
<td>11&quot;</td>
<td>11&quot;</td>
</tr>
<tr>
<td>No. of Teeth in Large Spiral Gear</td>
<td>188</td>
<td>188</td>
<td>212</td>
<td>212</td>
<td>226</td>
<td>226</td>
</tr>
<tr>
<td>No. of Teeth in Pinion</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>No. of Teeth in Bronze Gear</td>
<td>83</td>
<td>83</td>
<td>97</td>
<td>97</td>
<td>100</td>
<td>100</td>
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<tr>
<td>No. of Threads on Bowl Spindle</td>
<td>7</td>
<td>7</td>
<td>8</td>
<td>8</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Weight of Bowl in Lbs. (Empty)</td>
<td>6.35</td>
<td>7.65</td>
<td>11.70</td>
<td>12.95</td>
<td>20.70</td>
<td>23.55</td>
</tr>
<tr>
<td>Floor Space Overall</td>
<td>25 x 33&quot;</td>
<td>25 x 33&quot;</td>
<td>28 x 34&quot;</td>
<td>28 x 34&quot;</td>
<td>30 x 34&quot;</td>
<td>30 x 34&quot;</td>
</tr>
<tr>
<td>Shipping Weight</td>
<td>195 lb.</td>
<td>196 lb.</td>
<td>229 lb.</td>
<td>230 lb.</td>
<td>292 lb.</td>
<td>296 lb.</td>
</tr>
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</table>
McCormick-Deering Cream Separators

Ball Bearings At All High Speed Points

The ball bearing and stainless steel disc features help to make the McCormick-Deering the easiest turning, closest skimming and most sanitary cream separator on the market. The spindle is held in position and completely surrounded at the top and bottom by ball races which turn with the spindle. The ball race that separates the balls is made of special alloy manganese bronze. The ball pockets are deep, which permit perfect lubrication around each ball and the balls are made of carbon-chrome steel.

Pinion Shaft Mounted on Ball Bearings

Next to the spindle the highest speed point in a cream separator is the pinion shaft upon which the phosphor-bronze spindle driving gear is mounted. At each end of the pinion shaft, mounted in the frame are the same high-quality ball bearings as those that surround the spindle. Ball bearings reduce wear and add years to the life of the machine.

Removable Crankshaft Bearings

The McCormick-Deering is equipped with heavy removable phosphor-bronze bearings on the crankshaft. These bearings are unusually large and made of the finest materials obtainable. They are adjustable and can be moved endwise, which permits accurate alignment of operating parts. The crankshaft speed of the McCormick-Deering is very slow—48 and 60 r.p.m. Because of this slow speed, removable phosphor-bronze bearings are used as the slow speed does not create the friction or hard turning that high speed does.

When comparing the crank speed of 48 to 60 r.p.m., with the spindle speed of 7533 to 8917 r.p.m., and the pinion shaft speed of 678 to 752 r.p.m., it is easy to understand why ball bearings are placed at all high-speed points while the low-speed points are amply protected by heavy phosphor-bronze bearings.
McCormick-Deering Cream Separators
With Four Ball Bearings and Rust-Proof Stainless Steel Discs

Built in Six Sizes—Hand, Electric or Engine Driven

“For One Cow or a Hundred”
McCormick-Deering Cream Separators

Superior Design in Bowl Construction

In designing McCormick-Deering cream separator bowls, Harvester engineers have incorporated the scientific principles of centrifugal force as applied to the separation of butter-fat from milk.

There are many important factors involved in the designing and building of an efficient cream separator bowl, namely: milk temperatures; butter-fat content of milk skimmed; regulation of cream density; capacity; height, width, weight, speed, angle and spacing of discs; delivery of milk to bowl and discs; cream and skimmilk outlets.

Cream Regulated by Discharge of Skimmilk

Upon the construction of the bowl depends the amount of butter-fat recovered from a given quantity of milk.

In the design of the new McCormick-Deering cream separator bowl, the density of the cream is regulated by controlling the discharge of the skimmilk. This construction is far superior to and more efficient than the cream screw type of separator bowls. With the cream-screw type of bowl the regulation takes place at a point directly in the path of the cream discharge. In the McCormick-Deering, the skimmilk regulation of the cream density is scientifically applied at the point of discharge of the skimmilk and not in the path of the cream. This adjustment for cream density is less sensitive, more positive, and results in the delivery of a more uniform cream in a better condition for churning.

Disc Transfer Rod Packed with Each Machine

Illustrations Nos. 10 and 11 show how easily McCormick-Deering stainless steel discs can be removed from the tubular shaft for washing. It is not necessary to turn the tubular shaft upside down to remove them. A simple, handy steel transfer rod, packed with each machine, is placed through the opening of the disc and screwed to the bottom threaded disc. By lifting the rod, the discs slide up and over the tubular shaft and are ready to be washed.
McCormick-Deering Cream Separators

Rust-Proof Stainless Steel Discs

McCormick-Deering cream separator discs are stainless steel. They will not rust, even at the points where the spacers separate the discs because the spacer buttons are made of the same grade of stainless steel and are electrically welded in place. Stainless steel discs assure a uniformly high quality of cream with no subsequent metallic flavor in the butter which sometimes occurs when milk is separated by a machine having rusted discs.

Stronger Than Old-Type Discs

McCormick-Deering stainless steel discs are much stronger than the old-type discs and will resist cracking under pressure. The disc holds its shape and can be taken off or put on the tubular shaft easily and quickly without binding.

No Tin To Wear Off

There is no coating of tin on the stainless steel discs. Consequently there is nothing to wear off with use. The discs always remain in the same relative position to one another and the bowl maintains accurate balance much longer than a bowl with ordinary tinned discs.

Discs Are Not Numbered

McCormick-Deering cream separator stainless steel discs are not numbered and no particular order is necessary in the bowl. After the bottom disc, which is tapped for the transfer rod, has been slipped over the tubular shaft, the other discs may be assembled in any order and the machine will work just as well.

Positive Automatic Oiling System

Every Bearing and Moving Part Lubricated

The McCormick-Deering cream separator with its close fitting parts and high speed requires a system of lubrication that must be positive and accurate under all conditions. Every bearing and moving part is thoroughly lubricated yet there is not an oil cup or oil hole on the machine to clean or fill. The McCormick-Deering is automatically lubricated at every turn of the spindle driving gear which revolves in a metal trough filled at all times with clean fresh oil.

Metal Trough Regulates Oil Supply

The spindle driving gear revolves in a metal trough located in the oil reservoir. This trough is automatically filled with fresh, clean oil. As the spindle driving gear revolves the oil is sprayed to all bearings and gears inside the machine. Oil is admitted to the spindle driving gear from the oil reservoir through a hole in the bottom of the trough. This construction provides a constant supply of oil of the proper amount and assures adequate lubrication at all times.

Glass Panel Oil Gauge

The glass panel in the lower part of the supply can bracket is a convenient and positive oil supply guide. As long as the oil is sprayed against the glass panel it is evident that a supply of oil is being provided for every bearing and moving part.

Overflow Tube Regulates Oil Level

The overflow tube (see Illust. 12) in the reservoir absolutely controls the oil level through an opening near the top of the tube. When fresh oil is added, the old oil is forced out and discharged from the bottom of the reservoir between the overflow tube and cap to the drip cup underneath. When the oil level is maintained to overflow point, only fresh, clean oil is being used.
McCormick-Deering Cream Separators

Illus. 15—One-piece spun metal, anti-splash supply can is locked securely on the supply can bracket. This feature permits the placing of a can of milk on the side of the supply can without tipping it over.

Illus. 16—The faucet is located on the outside of the supply can. The plug does not extend through the faucet, a feature that prevents leakage should the supply can be placed on the floor or table.

Illus. 17—The supply can revolves within the bracket's circuit. This added convenience enables the user to remove the tinware and bowl without lifting the supply can off the bracket.

Illus. 18—The cream and skim milk spouts are each one-piece with no seams, laps or rivets to obstruct an even flow of cream and the proper discharge of skim milk.

Illus. 19—The main driving gear is completely enclosed. A safety feature that not only protects the gear from dust and dirt, but prevents accidents often caused when gears are exposed.

Illus. 20—The crank clutch takes hold instantly and releases quickly at any point in the crank circuit.

Illus. 21—The speed indicator (bell type) is located at the end of the crank. When machine has been brought up to speed, the bell ceases to ring and remains silent as long as proper speed is maintained.

Feb. 1935
McCormick-Deering Cream Separators

Special Built Electric Motor
The motor is specially built for the McCormick-Deering. It is completely enclosed and protected from milk, water, and dirt. This efficient, low-cost power unit is known as the "repulsion start type" of motor, and is the only motor recommended for use with McCormick-Deering ball-bearing cream separators. This unit is actually two motors combined in one.

Low Starting Amperage
As the bowl increases its speed, less power is required and the motor automatically changes over to another type by the release of a centrifugal clutch. This design gives a maximum power with a low-starting amperage which prevents the undesirable dimming of lights when starting the motor or during its operation. This feature also enables the motor to start the separator bowl without assistance from the hand crank, which is not possible with other less efficient types.

Supply for All Currents
The McCormick-Deering can be supplied for all currents from 32 to 220 volts, either direct or alternating, or 25, 40, or 60-cycle. This includes current supplied from farm lighting plants, interurban railways, and power lines. Motor equipment for the McCormick-Deering may be ordered for any size machine now in use.

Motor Easily Installed on Machine
It is a simple matter to equip any hand-operated McCormick-Deering cream separator with electric motor. On every hand-operated machine the drip shelf is drilled and threaded, which permits a quick and easy installation of the motor shelf without making adjustments or dismantling the machine in any way. The motor shelf is placed in position by inserting the bolts into threaded holes in the original drip shelf on the machine.

Motor Attachments
Complete motor attachments for McCormick-Deering ball-bearing cream separators are carried under the following numbers, and when ordered will be shipped without any further identification:
10654-C Electric Motor Drive Attachment—Direct current motor for Nos. 1 and 2 separators.
10655-C Electric Motor Drive Attachment—Alternating current motors for Nos. 1 and 2 separators.
10656-C Electric Motor Drive Attachment—Direct current motor for Nos. 3 and 4 separators.
10657-C Electric Motor Drive Attachment—Alternating current motor for Nos. 3 and 4 separators.
10720-C Electric Motor Drive Attachment—Direct current motor for Nos. 3 and 4 separators.
10721-C Electric Motor Drive Attachment—Alternating current motor for Nos. 3 and 4 separators.
McCormick-Deering Cream Separators

To assist in ordering power-drive attachments for McCormick-Deering ball-bearing cream separators in use, the following table has been compiled. The number representing a complete attachment:

<table>
<thead>
<tr>
<th>TYPE</th>
<th>POWER-DRIVE ATTACHMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>COMPLETE</td>
</tr>
<tr>
<td>Nos. 1 &amp; 2</td>
<td>Nos. 3 &amp; 4</td>
</tr>
<tr>
<td>McCormick-Deering</td>
<td>10741-C</td>
</tr>
<tr>
<td></td>
<td>10742-C</td>
</tr>
<tr>
<td>Nos. 5 &amp; 6</td>
<td>10743-C</td>
</tr>
</tbody>
</table>

The shipping weight of power-drive attachment is approximately 20 pounds.

Illustr. 25—Convenient shifting lever enables the operator to transfer the drive belt from the tight pulley to the idler pulley without disconnecting the power.

Illustr. 26—The shifting lever is pushed inward, which transfers the drive belt from the tight pulley to the idler pulley.

Illustr. 27—The McCormick-Deering power-drive attachment makes it possible to drive the separator from line shaft overhead without the belt interfering with supply can on the machine.

Power-Drive Attachment Equipped with Tight and Loose Pulley

The McCormick-Deering power-drive attachment is of the latest design and positive in operation. It is equipped with a tight and loose pulley for disconnecting the power to the separator without stopping the line shaft. The mere sliding of the belt on the power drive by shifting the lever, releases the power while the bowl is running down. This attachment does not interfere with hand operation. The crank is not connected in any way with the power drive and it does not swing when the separator is in operation.

Extended Pinion Shaft a Feature

Hand-operated McCormick-Deering ball-bearing separators can be changed easily to operate with electric motor or power-drive attachment. This is accomplished by an extended pinion shaft so constructed that the operating pulley can be attached quickly without replacing the pinion shaft or bearings which are in the machine. A metal cap is placed over the extended pinion. This cap is easily removed when an electric motor or power-drive attachment is to be used.

Simple, Efficient Power-Drive

The McCormick-Deering power-drive attachment may be attached quickly and easily to any McCormick-Deering cream separator now in use, or, if desired, it can be supplied with a new machine. This efficient power attachment makes it possible to operate the cream separator either by engine, electric motor, or line shaft. A direct connection is made without requiring a speed reducing gear and the power operates the separator at a constant, uniform speed.
McCormick-Deering Cream Separators

For Separating Large Quantities of Milk Daily

No longer is it necessary for creameries, ice cream factories, milk plants, etc., to purchase expensive, large-capacity power machines. A No. 5 1200-pound McCormick-Deering or a No. 6 1500-pound McCormick-Deering equipped with electric motor or power-drive attachment, will handle efficiently a large volume of milk daily and will satisfactorily meet the requirements of the user under every condition.

In some instances, where the creameries' requirements demand a large-capacity machine to handle several thousand pounds of milk daily, it is far more economical to install a battery of two, three, or even four large-capacity McCormick-Deering cream separators as compared with the expensive, complicated power machines.

With two or three large-capacity McCormick-Deering cream separators, the creamery operator can use the entire capacity of these machines, during the peak periods, economically and with a much smaller initial investment. During the seasons of the year when less milk is separated, one or two McCormick-Deering cream separators may be used, thereby maintaining a lower operating expense and increasing the life of the machines. With a battery of these large-capacity cream separators installed in milk plants, it is possible to simultaneously skim cream of different densities.

Saves Time and Labor

Where complicated power machines are installed and a breakdown occurs, it is often many hours before the machine is ready for use. This delay not only causes considerable annoyance and waste of valuable time, but results in the souring of milk that can be avoided if two or three McCormick-Deering large-capacity cream separators are available.

High or Low Stools for Nos. 5 and 6

McCormick-Deering cream separators can be supplied with either high or low stools. The high stool is used with Nos. 1, 2, 3, and 4 sizes and the low stool is especially recommended with Nos. 5 and 6; however, the high stool will be supplied as regular equipment unless otherwise specified. The height of the No. 5 and No. 6 is 50½ inches with the high stool and 45½ inches with the low stool.

McCormick-Deering Cream Separator Oil

McCormick-Deering cream separator oil is a high-quality and light-bodied lubricant, specially refined for use in McCormick-Deering ball-bearing cream separators. This oil gives to the high-grade ball bearings the proper lubrication they require. There is no gumming and less wearing of bearings or gears than is likely when an inferior grade of oil is used.

One-Half and One-Gallon Sizes

McCormick-Deering cream separator oil is sold only through McCormick-Deering dealers. It is put up in hermetically sealed, four-color, lithographed cans of one-half and one-gallon sizes. Six one-gallon cans boxed weigh 57 lb. per case. The twelve one-half gallon cans boxed weigh 60 lb. per case.

Table of Engine and Line Shaft Speeds and Size of Pulley to be Attached to Engine or Line Shaft for Power-Drive Attachments.

<table>
<thead>
<tr>
<th>Size of Pulleys</th>
<th>Nos. 1 and 2</th>
<th>Nos. 3 and 4</th>
<th>Nos. 5 and 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>250</td>
<td>12&quot;</td>
<td>12&quot;</td>
<td>12&quot;</td>
</tr>
<tr>
<td>300</td>
<td>10&quot;</td>
<td>10&quot;</td>
<td>10&quot;</td>
</tr>
<tr>
<td>350</td>
<td>8¾&quot;</td>
<td>8¾&quot;</td>
<td>8¾&quot;</td>
</tr>
<tr>
<td>400</td>
<td>7½&quot;</td>
<td>7½&quot;</td>
<td>7½&quot;</td>
</tr>
<tr>
<td>450</td>
<td>6¼&quot;</td>
<td>6¼&quot;</td>
<td>6¼&quot;</td>
</tr>
<tr>
<td>500</td>
<td>6&quot;</td>
<td>6&quot;</td>
<td>6&quot;</td>
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<tr>
<td>550</td>
<td>5½&quot;</td>
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<tr>
<td>600</td>
<td>5&quot;</td>
<td>5&quot;</td>
<td>5&quot;</td>
</tr>
<tr>
<td>650</td>
<td>4¼&quot;</td>
<td>4¼&quot;</td>
<td>4¼&quot;</td>
</tr>
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</table>
# McCormick-Deering Milker Specifications

<table>
<thead>
<tr>
<th></th>
<th>Shipping Weight</th>
<th>SPECIAL FEATURES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Test Cup Rubber</td>
</tr>
<tr>
<td>Single Unit complete with 70-lb. pail</td>
<td>63 lb.</td>
<td></td>
</tr>
<tr>
<td>Double Unit complete with 70-lb. pail</td>
<td>70 lb.</td>
<td></td>
</tr>
<tr>
<td>Single Unit complete less pail</td>
<td>63 lb.</td>
<td></td>
</tr>
<tr>
<td>Double Unit complete less pail</td>
<td>70 lb.</td>
<td></td>
</tr>
<tr>
<td>Single Unit pail (aluminum—40 lb.)</td>
<td>31 lb.</td>
<td></td>
</tr>
<tr>
<td>Double Unit pail (aluminum—70 lb.)</td>
<td>38 lb.</td>
<td></td>
</tr>
<tr>
<td>Single Unit complete with 40-lb. pail</td>
<td>60 lb.</td>
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</tr>
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</table>

### SINGLE CYLINDER PUMP

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>½ h.p. motor with vacuum pump</td>
<td>32</td>
<td>D.C.</td>
<td>16</td>
<td>315</td>
<td>1725</td>
<td>275</td>
<td>62 ½</td>
<td>18 ½</td>
<td>2 ½</td>
<td>14</td>
<td>2 or 4</td>
<td>Up to 15</td>
<td>21</td>
<td>247</td>
<td>282</td>
<td></td>
</tr>
<tr>
<td>1 h.p. motor with vacuum pump</td>
<td>110-220</td>
<td>A.C.</td>
<td>60</td>
<td>530</td>
<td>1725</td>
<td>520</td>
<td>62 ½</td>
<td>18 ½</td>
<td>4</td>
<td>14</td>
<td>2 or 4</td>
<td>Up to 40</td>
<td>21</td>
<td>158</td>
<td>204</td>
<td></td>
</tr>
<tr>
<td>1 ½ h.p. motor with vacuum pump</td>
<td>110-220</td>
<td>A.C.</td>
<td>50</td>
<td>535</td>
<td>1725</td>
<td>520</td>
<td>62 ½</td>
<td>18 ½</td>
<td>5</td>
<td>14</td>
<td>2 or 4</td>
<td>Up to 40</td>
<td>21</td>
<td>167</td>
<td>204</td>
<td></td>
</tr>
<tr>
<td>2 h.p. motor with vacuum pump</td>
<td>110-220</td>
<td>A.C.</td>
<td>25</td>
<td>575</td>
<td>1425</td>
<td>520</td>
<td>62 ½</td>
<td>18 ½</td>
<td>4</td>
<td>14</td>
<td>2 or 4</td>
<td>Up to 40</td>
<td>21</td>
<td>163</td>
<td>204</td>
<td></td>
</tr>
<tr>
<td>2½ h.p. motor with vacuum pump</td>
<td>220</td>
<td>D.C.</td>
<td>530</td>
<td>1725</td>
<td>520</td>
<td>62 ½</td>
<td>18 ½</td>
<td>4</td>
<td>14</td>
<td>2 or 4</td>
<td>Up to 40</td>
<td>21</td>
<td>163</td>
<td>204</td>
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<td></td>
</tr>
</tbody>
</table>

### DOUBLE CYLINDER PUMP

<table>
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<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 h.p. motor with vacuum pump</td>
<td>110-220</td>
<td>A.C.</td>
<td>60</td>
<td>1025</td>
<td>1725</td>
<td>520</td>
<td>57 ½</td>
<td>10 ½</td>
<td>4</td>
<td>8</td>
<td>4 or 8</td>
<td>40 to 100</td>
<td>23</td>
<td>41</td>
<td>247</td>
<td>282</td>
</tr>
<tr>
<td>1 h.p. motor with vacuum pump</td>
<td>110-220</td>
<td>A.C.</td>
<td>50</td>
<td>1035</td>
<td>1425</td>
<td>520</td>
<td>57 ½</td>
<td>10 ½</td>
<td>4</td>
<td>8</td>
<td>4 or 8</td>
<td>40 to 100</td>
<td>23</td>
<td>41</td>
<td>247</td>
<td>292</td>
</tr>
<tr>
<td>1 h.p. motor with vacuum pump</td>
<td>110-220</td>
<td>A.C.</td>
<td>25</td>
<td>1175</td>
<td>1425</td>
<td>520</td>
<td>57 ½</td>
<td>10 ½</td>
<td>4</td>
<td>8</td>
<td>4 or 8</td>
<td>40 to 100</td>
<td>23</td>
<td>41</td>
<td>251</td>
<td>292</td>
</tr>
<tr>
<td>1 h.p. motor with vacuum pump</td>
<td>110</td>
<td>D.C.</td>
<td>1080</td>
<td>1725</td>
<td>520</td>
<td>57 ½</td>
<td>10 ½</td>
<td>4</td>
<td>8</td>
<td>4 or 8</td>
<td>40 to 100</td>
<td>23</td>
<td>41</td>
<td>251</td>
<td>292</td>
<td></td>
</tr>
<tr>
<td>*Vacuum Pump to attach on 1½ to 2½ h.p. engine.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 or 4</td>
<td>Up to 40</td>
<td>11</td>
<td>19</td>
<td>76</td>
<td>185</td>
</tr>
<tr>
<td>Vac. Pump only for flat belt drive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 or 4</td>
<td>Up to 40</td>
<td>11</td>
<td>19</td>
<td>76</td>
<td>185</td>
</tr>
</tbody>
</table>

### Regular Equipment

For single cylinder vacuum pump unit—one vacuum gauge, one vacuum regulator, and six stall cocks.

For double cylinder vacuum pump unit—one vacuum gauge, two vacuum regulators, and twelve stall cocks.

### Extra Equipment

Only for 1½ to 2½ h.p. engine operated vacuum pumps:

- Electric lighting generator with three adapters and four 12-16 volt 21 C.P. single contact lights for 1½ to 2½ h.p. engine.
- Auxiliary hopper attachment for 1½ to 2½ h.p. engine.
- Includes "V" belt and "V" belt pulley for engine.
McCormick-Deering Milkers

Single and Double Units
Single and Double-Cylinder Pumps

The McCormick-Deering milker, built in single and double units for engine or electric motor power, meets the requirements of the man with a few cows as well as the dairyman with a large herd. The single unit milks one cow at a time and the double unit milks two.

Easily and Quickly Installed

The compact assembly of the motor, or engine with single or double-cylinder vacuum pump, requires only a small space for its operation and can be installed easily and quickly in any part of the barn or room selected for its installation.

Simple, Fast Milking Unit

The McCormick-Deering milker is so simple in construction that anyone can operate it with ease. There are no complicated parts to get out of order or adjustment and no inaccessible parts to wash and keep clean. The McCormick-Deering is a simplified fast-milking unit, efficient in operation, with new and exclusive features never before incorporated in a milker.

Engine or Electric Power

For the dairyman who desires economical engine power to operate his milker, the popular McCormick-Deering 1 1/2 to 2 1/2 h.p. engine is supplied. Where electric motor is required, a special-built, fully-enclosed 1/8, 1/4, and 1 h.p. motor is furnished. The 1 1/2 to 2 1/2 h.p. McCormick-Deering engine with single-cylinder pump will operate two double or four single units. When the double-cylinder pump is used, four double or eight single units can be used with maximum efficiency. The 1/8 h.p. electric motor will handle two single units or one double, while the 1/4 h.p. motor will supply sufficient power for four single or two double units. The 1 h.p. motor furnished only with the McCormick-Deering double-cylinder vacuum pump meets the requirements of the dairyman with a large herd and will operate four double or eight single units at one time.
McCormick-Deering Milkers

No-Oil, No-Spring Pulsator
The fully-enclosed, no-oil, no-spring, McCormick-Deering pulsator, is positive in action and operates successfully at 40° below zero or 100° above. The no-oil, no-spring feature prevents freezing in winter and assures years of satisfactory milking performance.

Only Two Moving Parts
The McCormick-Deering pulsator has only two moving parts which slide across hard, non-wearing, stainless steel plates. The speed of the pulsator is set at the factory to run from 48 to 54 pulsations a minute. Should the pulsator speed need adjusting, loosen the thumb lock nut, and adjust the regulating screw on top of the control slide valve as shown in Illust. 5. The speed of 48 to 54 pulsations per minute gives each teat the same number of milking periods and the same number of rest periods, each of equal duration.

Two-Piece Teat Cup Assembly
The McCormick-Deering two-piece teat cup assembly consists of a high-grade, flexible one-piece rubber liner and a metal shell with no complicated parts to wash and keep clean.

Long-Life Rubber Liners
The rubber liner is made of the finest rubber obtainable, and with proper care will last a long time. All rubber liners furnished as regular equipment with McCormick-Deering milkers have a 1 1/4-in. opening at the top and will fit practically any normal teat. A rubber liner with a 1 3/4-in. opening for small teats and a 1 5/8-in. for large teats can be obtained upon special order.

Teat Cup Shells Stand Hard Use
McCormick-Deering teat cup shells will not crack, chip, or break and are constructed with two flat sides. When placed in the shell the rubber liner is held slightly out of round, which permits the liner to squeeze opposite the flat sides in the shell. To prevent the constant flexing of the rubber at one point, the liner can be assembled in a different position in the flat-sided shell, thereby changing the point of flexing to a new position each time the milker is used.

Single and Double-Cylinder Vacuum Pumps
The only moving parts on McCormick-Deering single and double-cylinder vacuum pumps are the drive shaft, connecting rod, and piston. The bearing surfaces are of liberal size. Inside the fully-enclosed pump crankcase and located on each side of the eccentric drive are counter-weights that effectively balance the reciprocating action of the piston and connecting rod. This feature prevents vibration and assures a quiet, smooth-running pump.

All Moving Parts Thoroughly Lubricated
McCormick-Deering vacuum pumps are thoroughly lubricated by a continuous splash of oil from the oil dipper at the end of the connecting rod. To prevent the escape of oil through the air outlet pipe, a steel oil baffle is placed in the cylinder head. This feature, together with a special oil seal on the drive shaft, permits the use of lighter oil, thus providing maximum lubrication and a light-running pump.

Replaceable Cylinder
The replaceable cylinder in McCormick-Deering vacuum pump construction is another economy feature. Should a cylinder ever become worn, it easily can be replaced with a new one, thereby eliminating the expense of a complete new pump.
McCormick-Deering Milkers

Auxiliary Water Hopper for 1½ to 2½ h.p.
Engine—Capacity 2 Gallons

The auxiliary water hopper shown in Illust. 9 is supplied as extra equipment for McCormick-Deering 1½ to 2½ h.p. engines. With the auxiliary hopper, additional hot water is available for washing the milker and cream separator parts, thus eliminating the troublesome task of heating water in the home and carrying it to the milkhouse or barn.

Capacity, Regular Hopper—2½ Gallons

The capacity of the regular hopper is 2½ gallons and of the auxiliary hopper, 2 gallons, or a total of 4½ gallons when the auxiliary hopper is used. When the single-cylinder vacuum pump is used, water will heat to about 180° F. in approximately 40 minutes. With the double-cylinder vacuum pump much less time is required.

Convenient Drain Valve

A convenient side outlet drain valve is supplied with every vacuum pump attachment for the McCormick-Deering 1½ to 2½ h.p. engine.

Electric Lights at Low Cost

In order to provide dairymen with electric lighting facilities in the milkhouse or barn, a K.W. (large type) electric lighting generator is supplied as special equipment at small additional cost. This high-grade electric generator can be mounted on any McCormick-Deering 1½ to 2½ h.p. engine and is driven by the same "V" belt that operates the vacuum pump, from a 2½-in. pulley on the generator.

Approximately ¾ h.p. is required to operate the generator at a speed of 2,400 r.p.m. The current generated is from 12 to 16 volts alternating current and provides sufficient current to operate three 21-candle power lights at one time. Additional lights can be installed, but no more than three lights should be used at one time for best results.

The armature on the generator is mounted on ball bearings. There are no brushes to wear out and no voltage control devices are required as the generator is not affected by an open or closed circuit. When a K.W. electric lighting generator is ordered as special equipment, four 21-candle power 12 to 16-volt single-contact lights and three light bulb adapters are supplied. If more adapters are required, they should be ordered extra.

Vacuum Tank—Important Milker Feature

The vacuum tank on McCormick-Deering milkers is another important feature and involves an entirely new principle in vacuum tank construction and design. When the pump is not working or when there is no vacuum in the pipe line, the vacuum tank rests upon a sub-base about ¾-inch below the extension on the vacuum pump cylinder head. This feature eliminates the load on the vacuum pump when starting the engine or electric motor.

Protects Vacuum Pump

When the motor or engine is started the vacuum tank is raised up to the extension on the vacuum pump cylinder head, and the vacuum automatically holds and seals the tank in position. When the engine or motor is stopped the vacuum tank is automatically released from its position and drops ¾-in. to the sub-base below. If milk should be drawn into the pipe line, due to an overflowing pail, the milk will collect in the tank away from the vacuum pump where it can be seen and conveniently emptied.

Illust. 8
McCormick-Deering milker vacuum tank.

Feb. 1935

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McCormick-Deering Milkers

Many New and Exclusive Features

Vacuum Regulator

There are many desirable McCormick-Deering milker features such as the simple, accurate vacuum regulator or relief valve installed on the pipe line which automatically controls the amount of vacuum required for efficient, rapid milking. The vacuum regulator or relief valve acts as a safeguard against the use of excessive vacuum and can be adjusted easily to furnish from 14 to 16½ in. of vacuum on the line. The pulsator and milker parts consume about 2 in. of vacuum, therefore the maximum vacuum delivered to the cows at time of milking is approximately 14½ in.

Dependable Vacuum Gauge

As an added safety feature, and to make sure that the proper amount of vacuum is being supplied at all times, a dependable vacuum gauge is furnished as regular equipment. The vacuum gauge positively checks the accuracy and operation of the vacuum regulator.

Regular Equipment

Six anti-freeze stall cocks, one vacuum gauge, and one vacuum regulator are supplied as regular equipment with the single cylinder vacuum pump unit. One vacuum gauge, two vacuum regulators, and twelve stall cocks are supplied as regular equipment with the double cylinder vacuum pump unit.

Solution Rack Keeps Rubber Parts Sterilized Between Milkings

The McCormick-Deering solution rack, shown in Illustration 13, makes it easy and convenient for the dairyman to keep the interior surfaces of all milker rubber parts covered with a sterilizing solution between milkings.

The Bristol white stoneware solution jar has a capacity of two gallons and is fastened securely to the wall. Two sets of four teat cups each can be placed in the rack. One or two more sets can be placed in the same rack by the addition of extra brackets bolted to either one or both ends of the main bracket. The teat cup brackets have a baked enamel finish and will hold any size teat cup in the proper position for sterilizing. The open end of each milk hose is slipped over a drilled plug on the underside of the teat cup bracket so that all of the air will be forced out as the teat cups are filled. The long air hose placed over another plug projecting from the underside of the rack keeps if off the floor. Each set of four teat cups is filled with the solution by means of a small flexible rubber tube attached to the drain cock on the jar.
Many Extra-Value Features

The McCormick-Deering all-purpose farm truck is built to stand up under heavy-duty hauling and to give the long service expected of McCormick-Deering products. This all-steel truck, weighing only 750 pounds, is electrically welded at sixty different points and, while built especially for use with tractors, the steel stub pole can be interchanged quickly with a steel or wood pole, making the truck equally serviceable as a horse-drawn truck.

There are other steel farm trucks, but only the McCormick-Deering has all these long-life and service-giving features: all-steel rugged construction throughout, electric welding, roller bearings in all wheels, Alemite lubrication, telescoping reach, swivel coupling, auto-steering front axle, cushion-spring tractor hitch which can be interchanged quickly with steel or wood pole for horses, and bracket adjustment for 36 or 42-in. boxes. These features are what is meant by extra values—the practical kind that help make the McCormick-Deering the most profitable all-steel farm truck built.

Regular Equipment

Tractor hitch. Steel horse tongue or one-horse thills optional in place of tractor hitch at an adjustment in price.

Special Equipment

Wheels with 4-in. and 9-in. tires. Reach extension. Neckyoke and steel doubletrees. ZMA-167, gear brake with box attachment. ZMA-168, gear brake only. ZMB-188, rear brake attachment for either ZMA-167 or ZMA-168. Wheel sprocket for lime-spreading attachment. Wheel sprocket for endgate seeder. Wood tongue with bracket. Tractor hitch stub pole with spacers for use with wood pole bracket only.

Specifications

Steel Wheels—Extra heavy construction. Tires electrically welded, flanged, and grooved. Each wheel has 18 hot-riveted steel spokes with heads set in tire grooves to prevent road wear. Hub is malleable and extra long. Wheels have adjustable take-up washer, sandproof steel band, and dustproof hub cap. Wheel diameter, front, 28 in.; rear, 34 in. Tires, 6-in. flange regular; 4-in. straight edge or 9-in. flange furnished on special order.

Roller Bearings—Two high-grade, agricultural-type roller bearings in each wheel. Bearings run in removable steel races which prevent hubs from wearing and add to life of bearings.

Lubrication—Dustproof hub cap. Inner end of hub has Alemite oiler for quick replenishment.

Auto Steering Feature of front wheels enables truck to turn short without rubbing against the wagon box. Turning radius, 141 in. when coupled short and 189 in. when set for 126-in. wheelbase. Auto-steering feature also eliminates excessive tongue lashing when horse pole is used.

Reach—Steel tubing, adjustable telescoping type, with swivel coupling. Adjustments are provided for wheelbases of 7, 8, 9, 10, and 10 1/2 ft. Special reach extension available for lengthening wheelbase to 12 and 12 1/2 ft. Telescoping feature eliminates overhang, so that end of reach does not extend beyond rear axle when gear is short-coupled.

Axle—Each axle consists of two channel steel members electrically welded, forming a box which provides a rigid connection for the spindle brackets. Spindle brackets extend through carefully machined holes in the reach braces. There are no rivets or bolts to work loose. This construction enables the spindles at all times to maintain the proper pitch and gather of the wheels. All spindles are 1 3/4 in. in diameter.

Ground Clearance—Front axle, 17 in.; rear axle, 16 in.

Front Bolster—Oscillating. Formed channel steel. Stops on front axle prevent excessive oscillation.

Stake Brackets—10 in. high, adjustable to take boxes 38 in. or 42 in. in width.

Tongue—Two-piece. Designed to take cushion spring tractor hitch or steel extension pole and doubletrees for horses. Wood pole available as extra. Includes bracket suitable for tractor hitch.

Track—Standard "Auto," 56 in.

Weight—With tractor hitch, 750 lb. With steel horse tongue, 760 lb.
McCormick-Deering All-Purpose Farm Trucks

Illust. 2—This shows the unusual flexibility of the pipe reach which is equipped with a swivel coupling. The blocks supporting the raised wheels are 18 inches high, and while it is never expected to place the gear in such an unusual position, this view illustrates the exceptional flexibility of the truck.

Most For Your Money

Examine Illust. 3 at the left and compare the features pointed out there with the construction of other all-steel farm trucks. Only in the McCormick-Deering is it possible to get so much for the money.

Hitched behind a tractor it gives its owner a light weight, light draft unit for practically any hauling job on the farm. It turns short, without scraping the box. When closely coupled there is no reach extending beyond the rear axle because the reach telescopes.

When used with horses the steel horse pole can be substituted quickly for the stub pole tractor hitch, or, if preferred, a wood pole can be supplied with an equally simple means of interchanging it with the tractor hitch. If more than one truck is to be pulled at a time, there is an eye in the rear axle to which the hitch in the second truck can be attached.

Note in Illust. 2 at the top of the page, the great flexibility of the McCormick-Deering all-purpose truck. There is no twisting of the truck frame when hauling over rough ground. The truck takes even the extreme irregularities of irrigation ditches without strain.

Illust. 3—(Left) Bird’s-eye view of McCormick-Deering All-Purpose Farm Truck. Note the heavy, all-steel rugged construction of the axles, hounds, reach and wheels. The McCormick-Deering is an International Harvester product, built to stand up under heavy loads and to give satisfactory performance over a long period of years.

Feb. 1935
McCormick-Deering All-Purpose Farm Trucks

is electrically welded. Flanges are turned on the edges, and a groove is formed in the center to protect the spoke ends from wear. A steel liner is placed inside the hub, and there are two roller bearings in each wheel. Grease is inserted through an Alemite cup by high-pressure gun. The ends of the axles are covered with dust-tight screw caps.

Illust. 4—The wheels have two roller bearings (B and E) separated by a spacer (D) and running in a stationary steel race which prevents wear on the hub. Ample lubrication to the wheel bearings is provided by means of the Alemite oiler (A) and the grease packed in the dust-proof hub cap (C).

Substantial Wheels
The wheels are built up by hot-riveting the spokes into cast hubs and into a rolled steel tire. The tire

Illust. 6—Rear axle, showing the electrically-welded, box-shape construction which provides a strong support for the spindle brackets.

Rigid Rear Axle Construction
Wheel brackets bolted into the box-like rear axle give a wide margin of strength for the support of the wheel spindles. The axle itself is made up from two steel channels electrically welded together. Dust plates on the inner ends of each wheel spindle eliminate dust from the bearings.

Illust. 5—Rear brake attachment. The brakes are controlled by the lever at the rear, to which is fastened a rope leading to the front of the truck.

Sprockets for Operating Endgate Machines
Sprockets can be supplied for operating an endgate seeder or lime sower. The endgate seeder sprocket has 38 teeth and is designated as N-2325. The lime sower sprocket (6027-AA) has 32 teeth.
McCormick-Deering All-Purpose Farm Trucks

Brake with Wagon Box Attachment

When so ordered, a brake with wagon box attachment can be supplied with the all-purpose farm truck. This is a shoe brake, as shown in Illust. 7. The lever is of ample length to permit easy operation and the connecting pull rods are adjustable to compensate for wear.

Tractor Hitch and Wood Pole Quickly Interchanged

Another desirable feature on the McCormick-Deering all-purpose farm truck is the quick and easy method of interchanging the steel pole or steel tractor hitch for a wood pole when the truck is used with horses. A special attaching device is provided in the nature of a socket into which either the tractor hitch or wood pole slips easily and is firmly held in place with a single bolt.
Weber Farm Wagons

Illust. 1—Weber two-horse Farm Wagon, equipped with slip tongue. Drop tongue optional. Spring seat is supplied as extra equipment.

Illust. 2—Weber two-horse Farm Wagon, equipped with drop tongue. Brake and spring seat supplied as extra equipment. This Weber wagon box for hauling grain is 10 ft. 6 in. long and 26 in. deep.


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Webber Two-Horse Farm Gears

Weber two-horse farm gears are supplied in the following sizes: N-21, Light, 1,500-lb. capacity; N-23, Medium, 3,000-lb. capacity; and N-24, Standard, 4,500-lb. capacity. Wheel heights available, 36 in. x 36 in., 36 in. x 40 in., 40 in. x 40 in., 44 in. x 44 in., and 44 in. x 48 in. Tire sizes from 1½ in. to 4 in. and of various thicknesses (see contract.) Gears furnished without brake, with either drop tongue, trees, yoke and stay chains; or slip tongue, trees, tongue chains, and stay chains. Track, 56 in. standard or 60 in. wide track, or wide track with bolster stakes set for 36 in. box. Bolster stakes, 11 in. with loose rings regular; 8 in. when ordered. Weber cast skeins and skein boxes.

Extra Equipment

Extra-heavy reach. Reach 11 ft. 6 in. long in place of regular. Reach 13 ft. 6 in. long in place of regular. Wagon brake Nos. 26, 32, or 40. Gear brake Nos. 26, 32, or 40½. No. 36½ rear gear brake. Fifth wheel. Full circle bolster support on front gears. Steel skeins. 2 in. deeper built-up rear bolster. Tractor hitch.

Weber and Buckeye Wagon Boxes

<table>
<thead>
<tr>
<th>Type No.</th>
<th>Width Either 38 in. or 42 in.</th>
<th>Kind of Rear</th>
<th>Grain Reinforced Bottom Cleats</th>
<th>No. of Bottom Cross Sills</th>
<th>Rods to Hold Down Top Box</th>
<th>Inside Box Chains</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-1</td>
<td>9 ft. 6 in.</td>
<td>Board</td>
<td>No.</td>
<td>No</td>
<td>Four</td>
<td>No.</td>
</tr>
<tr>
<td>N-2</td>
<td>10 ft. 0 in.</td>
<td>Folding</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No.</td>
</tr>
<tr>
<td>N-3</td>
<td>10 ft. 0 in.</td>
<td>Folding</td>
<td>No</td>
<td>No</td>
<td>Four</td>
<td>No.</td>
</tr>
<tr>
<td>N-4</td>
<td>10 ft. 0 in.</td>
<td>Folding</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No.</td>
</tr>
<tr>
<td>N-5</td>
<td>10 ft. 0 in.</td>
<td>Folding</td>
<td>No</td>
<td>No</td>
<td>Four</td>
<td>No.</td>
</tr>
<tr>
<td>N-6</td>
<td>10 ft. 0 in.</td>
<td>Board</td>
<td>No</td>
<td>No</td>
<td>Four</td>
<td>No.</td>
</tr>
<tr>
<td>N-7</td>
<td>10 ft. 0 in.</td>
<td>Board</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No.</td>
</tr>
<tr>
<td>N-8</td>
<td>10 ft. 0 in.</td>
<td>Folding</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No.</td>
</tr>
<tr>
<td>N-9</td>
<td>10 ft. 0 in.</td>
<td>Board</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No.</td>
</tr>
<tr>
<td>N-10</td>
<td>10 ft. 0 in.</td>
<td>Folding</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No.</td>
</tr>
<tr>
<td>N-11</td>
<td>10 ft. 0 in.</td>
<td>Board</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No.</td>
</tr>
<tr>
<td>N-12</td>
<td>10 ft. 0 in.</td>
<td>Folding</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No.</td>
</tr>
<tr>
<td>N-13</td>
<td>10 ft. 0 in.</td>
<td>Board</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No.</td>
</tr>
<tr>
<td>N-14</td>
<td>10 ft. 0 in.</td>
<td>Board</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No.</td>
</tr>
<tr>
<td>N-15</td>
<td>12 ft. 0 in.</td>
<td>Board</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No.</td>
</tr>
<tr>
<td>N-16</td>
<td>10 ft. 0 in.</td>
<td>Folding</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No.</td>
</tr>
<tr>
<td>B-100</td>
<td>10 ft. 0 in.</td>
<td>Folding</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No.</td>
</tr>
<tr>
<td>B-101</td>
<td>10 ft. 0 in.</td>
<td>Folding</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No.</td>
</tr>
<tr>
<td>B-102</td>
<td>10 ft. 0 in.</td>
<td>Folding</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No.</td>
</tr>
<tr>
<td>B-103</td>
<td>10 ft. 0 in.</td>
<td>Folding</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No.</td>
</tr>
<tr>
<td>B-104</td>
<td>10 ft. 0 in.</td>
<td>Folding</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No.</td>
</tr>
</tbody>
</table>

* Standard for Grain Territory.

All Weber Boxes have riveted bottom sills. All Weber Boxes (except N-1) have hooked-over strap bolts and extended rear sill with side braces. All 10 ft. 6 in. Weber Boxes have foot boards and link rods. All Buckeye Boxes have straight rods only. All Buckeye Boxes have riveted bottom sills, hooked-over strap bolts and extended rear sill with side braces.

Extra Equipment

High back spring seat. Attachable foot board. Line holder. Tool box. Triple top box 10 ft. 6 in. long, 10 in. or 12 in. deep with grain cleats. Boot end attachment for wagon box. Bow staples.

Weber One-Horse Farm Wagons and Gears

<table>
<thead>
<tr>
<th>Series No.</th>
<th>Size</th>
<th>Cap. Lb.</th>
<th>Wagon Box—No Seat</th>
<th>Tires</th>
<th>Tires</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-330</td>
<td>Light Wagon</td>
<td>1,000</td>
<td>7 ft. 6 in. x 14 in. x 38 in.</td>
<td>1½ x ½</td>
<td>1½ x ½</td>
</tr>
<tr>
<td>N-331</td>
<td>Light Wagon</td>
<td>1,000</td>
<td>7 ft. 6 in. x 14 in. x 38 in.</td>
<td>1½ x ½</td>
<td>1½ x ½</td>
</tr>
<tr>
<td>N-330</td>
<td>Light Gear</td>
<td>1,000</td>
<td>7 ft. 6 in. x 14 in. x 38 in.</td>
<td>1½ x ½</td>
<td>1½ x ½</td>
</tr>
<tr>
<td>N-332</td>
<td>Med. Wagon</td>
<td>1,500</td>
<td>9 ft. 6 in. x 14 in. x 38 in.</td>
<td>1½ x ½</td>
<td>2 x ½</td>
</tr>
<tr>
<td>N-333</td>
<td>Med. Wagon</td>
<td>1,500</td>
<td>9 ft. 6 in. x 14 in. x 38 in.</td>
<td>1½ x ½</td>
<td>2 x ½</td>
</tr>
<tr>
<td>N-332</td>
<td>Med. Gear</td>
<td>1,500</td>
<td>9 ft. 6 in. x 14 in. x 38 in.</td>
<td>1½ x ½</td>
<td>2 x ½</td>
</tr>
</tbody>
</table>

Extra Equipment

High back spring seat. Pole (no trees) in place of shanks. Trees and yoke for pole. Brake No. 2, No. 4, or No. 6. Bent heel shafts in place of straight heel. Pair bent heel shafts as extra. Pair straight heel shafts as extra.

One-Horse Wagon Boxes

N-30—7 ft. 6 in. long, 14 in. deep, having board end. 38 in. wide, no seat. N-31—7 ft. 6 in. long, 14 in. deep, having board end. 42 in. wide, no seat. N-32—9 ft. long, 14 in. deep, having board end. 38 in. wide, no seat.
To the man who is considering the purchase of a farm wagon, the name "Weber" is an assurance of satisfaction. It is the identification mark of quality backed by over ninety years of farm wagon manufacturing experience.

Where requirements demand a strong, light-draft wagon for hard use over all kinds of roads and under all kinds of farm conditions, no other wagon will meet the needs as successfully as the Weber. You can confidently welcome comparisons with all other wagons of its price and class.

Invite your customers to inspect a Weber wagon carefully. Call attention to the thoroughly seasoned A-grade wood stock in the wheels, axles, reach, and tongue. Don't fail to mention the wheels, for in Weber wheels only the finest oak and hickory is used, thoroughly air-seasoned and kiln-dried before making up into wagon parts. The hubs and rims are made of A-grade oak and the steel tire and hub bands are placed on the rims by hydraulic pressure. Weber farm gears and boxes are built to give the most satisfactory service over a long period of years and can be supplied in various capacities and sizes to meet practically every hauling need. An investment in a farm wagon can be made doubly profitable by selecting a Weber.

**Weber No. 335 Heavy One-Horse Wagon**

Illust. 5—Weber No. 335 heavy one-horse Wagon, supplied with either shafts or pole. A wagon specially designed for the Indian trade.

**Specifications**

<table>
<thead>
<tr>
<th>Component</th>
<th>Dimensions (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Axles</td>
<td>2 3/4 x 3 3/4</td>
</tr>
<tr>
<td>Bolsters</td>
<td>2 3/4 x 4</td>
</tr>
<tr>
<td>Reach</td>
<td>1 1/2 x 3 3/4</td>
</tr>
<tr>
<td>Hounds</td>
<td>1 1/2 x 2 3/4</td>
</tr>
<tr>
<td>Sand Board</td>
<td>2 1/4 x 3</td>
</tr>
<tr>
<td>Tongue</td>
<td>2 3/4 x 3 3/4</td>
</tr>
<tr>
<td>Sway Bar</td>
<td>1 1/2 x 2 3/4</td>
</tr>
<tr>
<td>Skain</td>
<td>2 1/2 x 8</td>
</tr>
</tbody>
</table>

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Weber and Buckeye Wagon Boxes

Illustr. 7—Weber two-horse wagon box supplied in 9 ft. 6 in., 10 ft., 10 ft. 6 in., and 12 ft. lengths. Depths of boxes range from 18 in. to 28 in. Folding or board end-gates, grain cleats, reinforced bottom, binder rods, and center box chains, are regular equipment. Foot boards regular on 10 ft. 6 in. boxes, 26 in. and 28 in. depth. All 10 ft. 6 in. boxes have link rods at rear end.

Illustr. 6—Buckeye Wagon Box, supplied in sizes 26 in. and 28 in. deep, 10 ft. 6 in. long. Furnished regularly with folding endgate, two binder rods on each side, angle iron grain cleats, seven cross sills, reinforced bottom over front and rear bolster, inside box chains, foot board, and line holder.

Keystone and Monarch Farm Trucks

Keystone Farm Truck

The Keystone is a high-grade farm truck with an established reputation for quality. Standard track 56 in., wide track 60 in.; the 60 in. wide track can be supplied with bolster stakes set 38 in. apart. The front hounds are made of angle steel reinforced with wood and can also be furnished with an all-wood front hound. Drop tongue, cast skeins, clipped gears, trussed axles, and hound side braces, supplied as regular equipment; slip tongue at extra charge. Bolsters have 11 in. stakes with loose stake rings. Hound shafts can be supplied in place of tongue and 11 1/2 ft. or 13 1/2 ft. reach instead of regular reach. Gear or wagon box brakes, trees, yoke and chains supplied at extra cost.

Wood wheels, 32 in. x 36 in. or 36 in. x 40 in., with 3 in. x 3 1/2 in., 3 in. x 4 1/2 in., or 4 in. x 5 1/2 in. tires. Steel wheels, both front and rear, have 16 spokes, hot-riveted in tire and hub. Sizes, 28 in. x 32 in. or 32 in. x 36 in. with 4 in. or 6 in. x 5 1/2 in. tires.

Monarch Farm Truck

The Monarch farm truck is a popular, serviceable medium-priced truck that has been on the market since 1908. The man who selects a Monarch farm truck is assured of satisfactory, long-life performance. Standard track, 56 in.; wide track, 60 in. Drop tongue, cast skeins, wood front hound or angle steel round front hound, clipped gears, 11 in. bolster stakes supplied as regular equipment. Wood or steel wheels. Wood wheels are practical for heavy hauling, particularly on hard-surface roads. Brakes, trees, yoke and chains supplied extra. Long reach and hound shafts are optional.

Wood wheels, 32 in. x 36 in. or 36 in. x 40 in., with 3 in. x 3 1/2 in., 3 in. x 4 1/2 in., or 4 in. x 5 1/2 in. tires. Steel wheels, both front and rear, have 16 spokes, hot-riveted in tire and hub. Sizes, 28 in. x 32 in. or 32 in. x 36 in. with 4 in. or 6 in. x 5 1/2 in. tires.
Sterling Wagon Boxes

Illust. 11—Sterling Two-Piece Side Wagon Box with seven oak cross sills, oak cleats, four hold-down rods, folding rear endgate, grain cleats, and anti-spreading chains. Sides are tongued and grooved gumwood and ironed on top.

Illust. 10—Sterling One-Piece Side Wagon Box with five oak cross sills, oak cleats, and folding rear endgate. Sides are tongued and grooved gumwood and ironed on top.

Long Leaf Pitch Yellow Pine Bottoms, Edge Grain and No. 1-B or Better

Sterling One-Piece Side Wagon Boxes. Built in sizes 38 in. wide x 26 in. deep x 10 ft. 6 in. long; 38 in. wide x 28 in. deep x 10 ft. 6 in. long; 42 in. wide x 24 in. deep x 10 ft. 6 in. long, and 42 in. wide x 26 in. deep x 10 ft. 6 in. long. Approximate weight, 340 pounds.

Sterling Two-Piece Side Wagon Boxes. Built in sizes 38 in. wide x 26 in. deep x 10 ft. 6 in. long; 38 in. wide x 28 in. deep x 10 ft. 6 in. long; 42 in. wide x 24 in. deep x 10 ft. 6 in. long; 42 in. wide x 26 in. deep x 10 ft. 6 in. long; 38 in. wide x 26 in. deep x 12 ft. long, and 42 in. wide x 24 in. deep x 12 ft. long. Approximate weight, 370 pounds.

Sterling Cotton Wagon Boxes. Built in sizes 38 in. wide x 32 in. deep x 11 ft. 6 in. long; 42 in. wide x 32 in. deep x 11 ft. 6 in. long, and 42 in. wide x 32 in. deep x 12 ft. long. Approximate weight, 450 pounds.

Sterling Wagon Boxes with Tip-Tops. Built in sizes 38 in. wide x 10 in. deep x 10 ft. 6 in. long; 38 in. wide x 10 in. deep x 11 ft. 6 in. long; 38 in. wide x 10 in. deep x 12 ft. long; 42 in. wide x 10 in. deep x 10 ft. 6 in. long; 42 in. wide x 10 in. deep x 11 ft. 6 in. long, and 42 in. wide x 10 in. deep x 12 ft. long. Approximate weight of Tip-Top Box, 10 ft. 6 in. long; 80 pounds.

Illust. 12—Sterling Cotton Wagon Box. The lower box is 2 in. x 8 in., heavily ironed on top. The top section, ironed on top, is 24 in. deep. Equipped with three endgate rods at front and rear. Four heavy oak stakes on each side fit firmly into steel stake pockets. Sides are gumwood.

Illust. 13—Sterling Wagon Box with Tip-Top. Equipped with two hold-down rod hooks on each side. Sides ironed on top. Four double oak cleats on each side. Sides, gumwood.

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Rugged Steel Axle

The Weber steel axle, rotary skein gear contains features that appeal to the man who is in search of an exceptionally rugged wagon for hauling heavy loads. It is also an unusually light-draft gear.

Each axle is a solid piece of steel clipped to a wood cushion just below the bolster on a rear gear, and the "C," which is machined on both the inside and outside surfaces. Lastly, the regular skein box "B" in the hub of the wheel, which is machined inside, is slipped over the sleeve. This entire assembly is held on the spindle by the nut "D."

The skein is free to turn on the sleeve, and the sleeve on the spindle, so that perfect freedom of movement and very light draft are secured. Half way between the ends of the sleeve "C" is a large grease pocket. This pocket holds enough grease to run for long periods without re-greasing.

Exceptionally Light Draft

Exceptionally light draft is secured by the use of the rotary skein shown assembled in Illust. 15, and in detail in Illust. 16. Both ends of the steel axle are turned and polished to form spindles as shown at "A." Over this spindle is placed the sleeve "B." The sand board on the front gear. This feature increases the load carrying capacity far beyond that of any wood axle.

Specifications

<table>
<thead>
<tr>
<th>Size</th>
<th>Spindle</th>
<th>Capacity</th>
<th>For Other Specifications See Contract</th>
<th>Approximate Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium 1 Horse</td>
<td>1 1/4 in. x 7 in.</td>
<td>1,800 lb.</td>
<td>Same as N-332</td>
<td>Add 30 lb. to N-332</td>
</tr>
<tr>
<td>Medium 2 Horse</td>
<td>1 1/2 in. x 9 in.</td>
<td>4,000 lb.</td>
<td>Same as N-23</td>
<td>Add 80 lb. to N-23</td>
</tr>
<tr>
<td>Standard 2 Horse</td>
<td>2 in. x 10 in.</td>
<td>5,500 lb.</td>
<td>Same as N-24</td>
<td>Add 90 lb. to N-24</td>
</tr>
</tbody>
</table>
McCormick-Deering Manure Spreader No. 4-A

The McCormick-Deering manure spreader No. 4-A is all-steel throughout; steel bracings, steel box, steel wheels and a strong steel frame. The large, galvanized, rust-resisting, nonwarping, copperized, heavy-gauge steel box has a capacity of 60 to 70 bushels. The low box makes it easy to load by hand or from a litter carrier.

All-Steel Construction Throughout

Steel Shields Protect Mechanism

The all-steel sides at the rear keep the spreading mechanism in perfect alignment. The main driving chain raising device and feed mechanism is protected by steel shields.

Saw-Tooth, Non-Wrapping Beater

The upper saw-tooth, non-wrapping beater levels the load as the manure is fed into the lower spike-tooth beater where it is torn to bits. The widespread spiral completes the job by shredding the manure and spreading it on the ground thick or thin according to the notch in which the drag apron feed lever is set.

Eight Roller Bearings

The McCormick-Deering is light in draft. Two horses can haul capacity loads all day long. Eight roller bearings, two on the axle, two on the saw-tooth beater, two on the spike tooth beater, and two on the widespread spiral shaft provide easy running and assure long life for this machine.

Regular Equipment

Two-horse hitch. Alemite lubricating gun.

Extra Equipment


Specifications

<table>
<thead>
<tr>
<th>Width of Spread</th>
<th>Capacity</th>
<th>Turning Radius</th>
<th>No. of Alemite Fittings</th>
<th>Shipping Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 ft. 7 in.</td>
<td>60 to 70 bu.</td>
<td>9 ft. 6 in.</td>
<td>16</td>
<td>1540 lb.</td>
</tr>
</tbody>
</table>

Steel Shields Protect Mechanism

The all-steel sides at the rear keep the spreading mechanism in perfect alignment. The main driving chain raising device and feed mechanism is protected by steel shields.

Saw-Tooth, Non-Wrapping Beater

The upper saw-tooth, non-wrapping beater levels the load as the manure is fed into the lower spike-tooth beater where it is torn to bits. The widespread spiral completes the job by shredding the manure and spreading it on the ground thick or thin according to the notch in which the drag apron feed lever is set.

Eight Roller Bearings

The McCormick-Deering is light in draft. Two horses can haul capacity loads all day long. Eight roller bearings, two on the axle, two on the saw-tooth beater, two on the spike tooth beater, and two on the widespread spiral shaft provide easy running and assure long life for this machine.

Regular Equipment

Two-horse hitch. Alemite lubricating gun.

Extra Equipment


Specifications

<table>
<thead>
<tr>
<th>Width of Spread</th>
<th>Capacity</th>
<th>Turning Radius</th>
<th>No. of Alemite Fittings</th>
<th>Shipping Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 ft. 7 in.</td>
<td>60 to 70 bu.</td>
<td>9 ft. 6 in.</td>
<td>16</td>
<td>1540 lb.</td>
</tr>
</tbody>
</table>

Short Turning Radius

The turning radius of the McCormick-Deering is approximately 9 feet 6 inches and its narrow width overall permits ready passage through average barn doors and field gates. There are sixteen (Alemite) fittings which provide an adequate system of lubrication to all moving parts.
Brake Attachment

For use in hilly sections an efficient brake attachment for the McCormick-Deering all-steel manure spreader No. 4-A is supplied as extra equipment. (See Illust. 3.) Illust. 5 shows the front right side of the McCormick-Deering spreader with brake lever quadrant (A) and brake lever (B). The feed lever quadrant (C) and feed lever (D) are supplied as regular equipment. The drag apron chain tightener (E) takes the slack out of the chain and eliminates excessive wear and breakage.

Endgate Attachment for Semi-Liquid Manure

The endgate attachment illustrated below is furnished as extra equipment for the McCormick-Deering all-steel manure spreader No. 4-A. This attachment is used when hauling semi-liquid manure to the fields and can be raised or lowered from the seat while the spreader is in operation. A good quality of rope with three steel rings permits the driver to raise the endgate to any desired height. A spreader box rear pan for catching the semi-liquid manure is also supplied as extra equipment.

Lime-Spreading Attachment

The Easy Way to Spread Lime

Spreading lime with a lime-spreading attachment built especially for the McCormick-Deering all-steel manure spreader No. 4-A is an economical time and labor-saving operation. This lime-spreading attachment is easy to install and just as easy to operate. There are two revolving disks with fins set, side by side underneath the rear end of the spreader bottom. When the spreader is in motion the disks rotate and spread the lime toward the rear and sides—an approximate spread of 12 feet. The steel retarder rack included as part of this attachment is placed at the rear of the spreader, and helps to break up the lime before it is dropped on the disks below. The endgate is equipped with hangers which slip over the top of the steel retarder rack and holds the endgate in place while the lime is being hauled to the field.
McCormick-Deering Power Manure Spreader

A Large Capacity Power Spreader

Here is a big-capacity spreader for the power farmer. The entire mechanism is operated by tractor power through the power take-off. The two main wheels are extra wide and serve merely to carry the load; the front end of the spreader is supported on the tractor drawbar. This close hook-up enables the operator to make short turns which are so essential when working around the barns and yards. The spreader will pass through any door or gate wide enough to accommodate the Farmall tractor.

Direct power-drive from the tractor engine provides smooth, steady operation of both apron and beaters, assuring an even spread of manure finely shredded by the rapidly revolving beaters. Three speed ranges are provided for the drag apron, which, combined with the various tractor speeds, make it possible to distribute manure in any quantity desired. The raising jack as shown in Illust. 8 enables one man to couple the loaded spreader to the tractor. All gears and drive chains are protected by steel shields. The drive chains are heavy-duty roller type. Extra wide wheels prevent cutting into the ground and a slip clutch on the drive shaft eliminates breakage of parts should foreign material be loaded into the spreader.

The large box holds approximately 150 bushels of manure, yet the whole machine weighs but little more than a regular 2-horse spreader. The big-capacity box enables a man to accomplish considerably more work in a day than is possible with a smaller machine.

Regular Equipment as Ordered

<table>
<thead>
<tr>
<th>Order Number</th>
<th>Name of Equipment</th>
<th>Kind of Tractors</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZMA-162</td>
<td>Hitch and connections</td>
<td>10-20, 15-30</td>
</tr>
<tr>
<td>ZMA-163</td>
<td>Hitch and connections</td>
<td>Farmall-20</td>
</tr>
<tr>
<td>ZMA-178</td>
<td>Hitch and connections</td>
<td>Farmall 30</td>
</tr>
<tr>
<td>ZMA-200</td>
<td>Hitch and connections</td>
<td>T-20</td>
</tr>
</tbody>
</table>

Extra Equipment

Lime-spreading attachment.

Specifications

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Size of Box</th>
<th>Ground to Top of Box</th>
<th>Upper Beater Speed</th>
<th>Lower Beater Speed</th>
<th>Diam. Wheels</th>
<th>Face of Wheels</th>
<th>Approx. Ship. Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>130 to 150 bu.</td>
<td>24½ x 52 x 134 in.</td>
<td>45 in.</td>
<td>152 r.p.m.</td>
<td>430 r.p.m.</td>
<td>36 in.</td>
<td>9 in.</td>
<td>2000 lb.</td>
</tr>
</tbody>
</table>

Illust. 8—Front end showing speed regulating lever, front drive chain, slip clutch on drive shaft, and raising jack, (1) Front endgate, (2) Front chain shield and slip clutch, (3) Feed lever crank, (4) Feed rod on lever crank, (5) Main drive chain sprocket shield.

Illust. 9—Rear end with steel shields removed. Note the saw-tooth spiral beaters and the deflector over the upper beater. (1) Lower spiral, (2) Upper inside shield between side plate and side board, (3) Upper spiral sprocket, (4) Spiral drive chain, (5) Chain tightener, (6) Upper spiral deflector.

Feb. 1935
McCormick-Deering Endgate Lime Spreader

Illust. 1—Close-up of McCormick-Deering Endgate Lime Spreader. Notice the simple but sturdy construction of this machine and how easily it can be fastened to the wagon box.

Simple, Durable, Convenient

The endgate lime spreader is quality-built throughout. It will stand up under hard usage and will serve efficiently under almost all spreading conditions.

The essential features of the endgate lime spreader are simplicity, durability, wide sowing range and a non-clog feed. The extreme simplicity of the McCormick-Deering appeals to the user. It means long life at exceptionally low operating cost. It means lighter weight and lighter draft without sacrificing needed strength.

Specifications

<table>
<thead>
<tr>
<th>Width of Spread</th>
<th>Description</th>
<th>Shipping Weight</th>
<th>Regular Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 ft.</td>
<td>Endgate lime spreader</td>
<td>210 lb.</td>
<td>Chain and sprocket wheel for 44-in. wagon wheel. Special sprockets for smaller and larger wagon wheels can be supplied.</td>
</tr>
</tbody>
</table>

Extra Equipment—Quantity lever attachment.

Easy to Operate

The McCormick-Deering endgate lime spreader is built in one size only, weighs 210 pounds and is driven by a chain from the main driving sprocket which is fastened securely by clip and hook bolts to the wagon spokes. A lever on the left hand side is provided so the operator can throw it in or out of gear as desired.

The endgate lime spreader can be adjusted to fit any 30 to 40-inch box in double-quick time. It slips easily between the endgate cleats without the boring of holes to fasten it.

The hopper fits flush with the wagon box bottom, so the pulverized lime need not be lifted while shoveling but is simply pushed into the hopper.

There are two revolving disks with fins about 20 inches from the ground which distribute the lime evenly over a strip approximately 15 feet wide. The shield extending down from the end of the wagon box, below the revolving disks, assists in protecting the spread from being affected by wind, cornstalks, or other obstructions in the field.

Illust. 2—Spreading lime becomes a pleasure, not a task, when a McCormick-Deering is used. The lime is pushed, not lifted into the hopper.

Feb. 1935
McCormick-Deering Lime Sower

Strong and Reliable

A big, strong and reliable implement for spreading lime on sour soils. It is the most practical machine of its kind because it broadcasts lime close to the ground where the wind has no chance to blow it away. Strongly bolted hopper has a capacity of 8 bushels and 2 additional bushels in the screen. Steel wheels are 44 in. high with 4-in. tread. Agitator feed is in two sections driven from each end. An agitator located above the agitator feed prevents bridging.

Spreads Any Desired Quantity

By means of the various adjustments it is possible to spread from 42 to 3435 quarts per acre of ground lime rock, and from 137 to 3200 quarts of hydrated lime. Easy to set feed for the desired quantity by changing lever stop. A wire screen is part of the regular equipment to keep large lumps from clogging the feed openings. Gear shifting lever at each end permits spreading of half circuits.

Specifications

<table>
<thead>
<tr>
<th>SIZE</th>
<th>DESCRIPTION</th>
<th>SHIPPING WEIGHT</th>
<th>REG. EQUIPMENT</th>
<th>EXTRA EQUIPMENT</th>
</tr>
</thead>
</table>

Feb. 1935
McCormick-Deering Fertilizer Distributor

Vibrator Type with Cast Iron Wheel

Easily Adjusted

The McCormick-Deering fertilizer distributors shown on this page do not depend upon knocks and jolts for their distributing efficiency, and the device for distributing the fertilizer is positive in operation and can be easily adjusted by means of a feed control lever on the right handle of the machine. The hopper is made of wood reinforced at the top corners and is held solid by two steel frame bars on each side. The reciprocating chute or hopper bottom is mounted by means of L-shape plates, upon bolts through the links, pivoted at their upper ends to the steel frame bars that hold the hopper in place.

At one side of the frame the bolt passing through the link also passes through a reciprocating bar which is moved forward by blows received by the tappet which penetrates the teeth on the cast iron agitator wheel. This feature causes a vibration which forces the fertilizer from the chute and hopper into the discharge spout. The constant vibration assures a steady flow of fertilizer.

Extra Equipment

Disk hillier attachment for No. 10.

Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Hopper Capacity</th>
<th>Shipping Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fertilizer distributor No. 2</td>
<td>40 lb.</td>
<td>76 lb.</td>
</tr>
<tr>
<td>Fertilizer distributor No. 10</td>
<td>75 lb.</td>
<td>93 lb.</td>
</tr>
</tbody>
</table>

The No. 2 and No. 10 fertilizer distributors will distribute from 100 to 2,000 pounds of fertilizer per acre, depending upon the kind of fertilizer used.

Illust. 2—The McCormick-Deering No. 10 Fertilizer Distributor has a larger hopper capacity than the No. 2 but the feeding mechanism is similar. The vibrator wheel is in front and is equipped with two covering shovels in the rear, both being adjustable in and out. A disk hillier attachment is supplied as extra equipment.
McCormick-Deering Fertilizer Distributor

Two Sizes—7 and 9-foot

Distribute Fertilizer Evenly

McCormick-Deering fertilizer distributors are very popular in this country and abroad, wherever commercial fertilizers are extensively used. The machines are well known for their sturdy construction, light draft, simple adjustments, ease of cleaning, thorough pulverization, and accuracy of distribution. They will distribute evenly, all kinds of commercial fertilizer, in quantities ranging from 10 to 2350 lb. to the acre. No more economical machine can be found. They are built in two sizes, 7 and 9-ft.

Positive and Uniform Distribution

Even if the fertilizer becomes sticky and hard to handle, the force-feed feature which is incorporated in the McCormick-Deering assures even and positive distribution. The distributing parts can be taken apart, cleaned, and reassembled in less than ten minutes. The "easy-clean" feature prevents unnecessary mixing of different fertilizers and avoids corrosion by encouraging the operator to clean the machine after each operation. Bottoms are lead-coated and all oil holes have capped oilers to keep bearings clean.

Patented Feed Device

The feeding device is unusual and exclusive. It comprises two hopper bottoms with openings set in staggered relation to each other and with two perforated feed plates between. These extend the entire length of the box and travel between the upper and lower hoppers, with a reciprocating movement transmitted by pitmans and driving links. The two crank wheels are placed at different angles on the shaft which assures that there is always a plate in action and consequently uniform distribution.

An agitator feeder in the upper hopper pushes the fertilizer through openings into the lower hopper where it is finally ejected by the reciprocating feed plates. Two pressure rods hold the agitator feeder firmly in position.

One of the noteworthy features of this feed device is the thorough pulverization given to the fertilizer, so that it is distributed evenly and in the finest possible condition available for plant food.

Regular Equipment

Thills. Combined windshield and scattering boards.

Extra Equipment

Combined thills and pole. Tractor hitch.

Specifications

<table>
<thead>
<tr>
<th>Size</th>
<th>Hopper Capacity</th>
<th>Distributing Capacity per Acre (Lime)</th>
<th>Shipping Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 ft</td>
<td>6¼ bu.</td>
<td>10 to 2350 lb.</td>
<td>655 lb.</td>
</tr>
<tr>
<td>9 ft</td>
<td>8½ bu.</td>
<td>10 to 2350 lb.</td>
<td>729 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Cane Mills

The Old Red Mill

The Old Red Mill handles all varieties of cane and is made in sizes ranging from light one-horse to heavy two-horse. It is strong, light running, and splendidly finished.

Rolls

The rolls are of finest cast iron, free from "pinholes" or flaws of any kind. Flanges on the large rolls keep the small rolls in place, and the cane between the rolls.

Shafts are accurately turned, made of high-quality steel and securely keyed to the rolls. A malleable guide knife adjusts itself to the rolls and keeps the cane going in the right direction.

Gears

Gears are cast from machine-cut patterns. They are connected with the rolls by clutches.

Bearing

The roll shaft bearings have separate brass bushings which can be replaced economically when worn out. Hard steel set screws adjust the bearings to take up lost motion due to wear.

Regular Equipment

Feed box, sloping lever cap, wrench and oil can. Fluted feed roll.

Extra Equipment

Straight or angle cap instead of sloping.

Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Power Required</th>
<th>Size Large Roll</th>
<th>Size Small Roll</th>
<th>Weight</th>
<th>Capacity</th>
<th>Evap. To Use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Diameter</td>
<td>Length</td>
<td>Diameter</td>
<td>Length</td>
<td></td>
</tr>
<tr>
<td>111</td>
<td>One-horse</td>
<td>10 in.</td>
<td>5 in.</td>
<td>5 in.</td>
<td>5 in.</td>
<td>386 lb.</td>
</tr>
<tr>
<td>112</td>
<td>One-horse hvy.</td>
<td>12 in.</td>
<td>6 in.</td>
<td>6 in.</td>
<td>6 in.</td>
<td>556 lb.</td>
</tr>
<tr>
<td>113</td>
<td>Two-horse</td>
<td>14 in.</td>
<td>7 in.</td>
<td>7 in.</td>
<td>7 in.</td>
<td>866 lb.</td>
</tr>
<tr>
<td>114</td>
<td>Two-horse hvy.</td>
<td>16 in.</td>
<td>8 in.</td>
<td>8 in.</td>
<td>8 in.</td>
<td>1145 lb.</td>
</tr>
</tbody>
</table>

Feb. 1935
McCormick-Deering Cane Mill—No. 144-A

Illust. 4—The No. 144-A double-geared, three-roll, belt power Cane Mill. Gear covers are furnished but are left off here for better illustration.

A Simple Double-Geared Mill

This is the oldest of the McCormick-Deering belt power mills. It is very simple in design but very strong and of good capacity. It is double-geared. The rolls are of the finest cast iron, free from "pinholes" or flaws of any kind. The rolls are securely keyed to the shaft with steel keys.

A heavy juice pan on the mill delivers the juice to the side of the mill. All the gears are covered by sheet steel guards to prevent anyone from being caught in the gearing.

Bearings

The roll-shaft bearings have separate brass bushings which can be replaced economically when worn out.

The drive shaft and countershaft are accurately set in babbitted boxes and supplied with oil by waste boxes on the bearing caps.

Gears

The gears are made from machine-cut patterns and are very carefully meshed, which accounts in part for the small amount of power to work this mill to capacity. The gears are fastened to the shaft by means of close fitting steel keys. The shafts are made of high-quality steel accurately finished. The mill is mounted on heavy skids, which form a rigid foundation, and make it easy to set the mill.

Regular Equipment

Feed table. Safety gear covers. Fluted feed roll.

Extra Equipment

Bagasse carrier not furnished for No. 44 mills. 24, 30 or 42-in. pulley, 6-inch face. Juice pump.

Specifications

<table>
<thead>
<tr>
<th>Number</th>
<th>Diam.</th>
<th>Length</th>
<th>Horse Power</th>
<th>Type of Engine</th>
<th>Pulley Recommended</th>
<th>R. P. M.</th>
<th>Diameter of Pulley</th>
<th>Capacity of Juice</th>
<th>Weight</th>
</tr>
</thead>
</table>
| 144-A  | 9 in. | 9 in.  | 5.19 H.P.   | 6 in.          | 550                | 30 in.  | 6 in. face        | 175 gals.        | 1264 lb.

NOTE: Engine data given for convenience. Engine not included with mill. Speeds figured for grinding 30 ft. of cane per minute.

Feb. 1935
McCormick-Deering Cane Mills
Nos. 145-A and 171

Illustr. 5—No. 145-A double-geared belt power Cane Mill.

Horizontal Three-Roll Mills
Nos. 145-A and 171 mills are horizontal, 3-roll power mills built on heavy, cast-iron bed plates, which minimize friction by holding every shaft and shaft bearing in exact alignment under strain of heaviest work. The housings are the same in design as regular sugarhouse mills and equally as strong in proportion to their capacity. All joints are planed to exact fit.

Rolls
Great care is taken in the mixing of the iron for the rolls and in the casting of the rolls. They are free from "pin-holes" or flaws of any kind. They are securely keyed to the shafts and are accurately turned and grooved to take hold of the cane and assure continuous feeding. Any roll can be removed without disturbing the others.
All necessary attachments for tightening the rolls or the drive and countershaft bearings are provided. All bolts that might have a tendency to work loose are provided with lock nuts.

Gears
Made from machine-cut patterns and accurately meshed. They are keyed to the shaft with steel keys. Steel guards cover all gearing. The speed of the gears and rolls is such that the mill is practically unchokable.

Bearsings
The bearing box in which the small roll shafts work can be adjusted in or out by means of set screws, which are prevented from working loose by jamb nuts.
The roll shaft bearings are fitted with brass bushings, which provide a very smooth bearing and can be replaced economically when worn. The countershaft boxes are babbitted and fitted with brass liners of varying thicknesses for adjusting to take up wear. All main bearings are provided with hard oilers. The pinions and the counter gearing have a bearing on each side.

Guide Knife
Easy means is provided for adjusting the guide knife to adapt it to any position of the rolls. The guide knife accelerates the flow of the juice from the mill. Juice-splashes on the feed side of the mill protect the operator and prevent waste.

Regular Equipment
Feed table and wrench. Fluted feed roll.

Extra Equipment
Bagasse carrier 5, 6, 8, 10 or 12-ft. Juice pump 24, 28 or 40-in. pulley, 6-in. face.

Specifications

<table>
<thead>
<tr>
<th>NUMBER</th>
<th>LARGE ROLL</th>
<th>SMALL ROLL</th>
<th>HORSEPOWER REQUIRED</th>
<th>PULLEY RECOMMENDED</th>
<th>R. P. M. MILL PULLEY</th>
<th>D. JUICE PER HOUR</th>
<th>NUMBER SHIP TO USE</th>
<th>WEIGHT LESS PULLEY</th>
</tr>
</thead>
<tbody>
<tr>
<td>145-A</td>
<td>9 9 6 9</td>
<td>5.11 6 5.91</td>
<td>28 in. D. x 40 in. D. x 6 H.P.</td>
<td>28 in. face</td>
<td>40 in. face</td>
<td>3 in. face</td>
<td>28 in. face</td>
<td>28 in. face</td>
</tr>
<tr>
<td>171</td>
<td>9 12 6 12</td>
<td>5.11 6 5.91</td>
<td>28 in. D. x 40 in. D. x 6 H.P.</td>
<td>28 in. face</td>
<td>40 in. face</td>
<td>3 in. face</td>
<td>28 in. face</td>
<td>28 in. face</td>
</tr>
</tbody>
</table>

NOTE: Engine data given for convenience. Engine not included with mill. Speeds figured for grinding 30 ft. of cane per minute.

Feb. 1935
McCormick-Deering Cane Mills—No. 192-A

Illust. 6—The No. 192-A Belt-Power Cane Mill. The feed table is furnished. The bagasse carrier can be furnished as an extra.

This is a Powerfully Built Mill
This is a heavily built mill, intended for those who grow a comparatively large acreage of cane. It is built on a heavy, cast-iron bed plate which holds all the working parts in rigid relation with each other, thereby preventing friction and making a light-running mill.

The Main Shaft has Three Bearings
The large roll and master gear shaft has three large bearings supplied with hard oil by compression grease cups. The tops of the boxes are fitted with thin plates of brass. Wear is bound to occur after continued usage, and by removing one of these brass plates, or shims, at a time, the bearings can be kept tight to prevent looseness. The bottoms of the gear shaft bearings are babbitted.

The Master Roll is 12 x 12 Inches
The master roll is 12 in. in diameter with 12-in. face, and equipped with flanges which project over the edges of the small rolls. This feature and the grooving of the rolls assure the proper feeding of the cane to the mill. The rolls are keyed to the shafts and cannot work loose. The small rolls can be adjusted to get the highest possible extraction. The roll-shaft bearings are equipped with removable brass bushings.

Adjustable Guide Knife
The guide knife can be adjusted as necessary. This adjustment is accomplished by means of a small hand wheel conveniently placed.

The gears are made from machine-cut patterns. The roll gears are keyed to the shaft with steel keys. The mill is double geared. All gears are covered with steel guards. Shaft bearings fitted with hard oilers.

Regular Equipment
Feed table. Fluted feed roll.

Extra Equipment
Bagasse carrier, 5, 6, 8, 10 or 12-ft. Juice pump. When ordering bagasse carrier or juice pump, specify mill for which wanted. 30-in. pulley, 8-in. face.

Specifications

<table>
<thead>
<tr>
<th>Number</th>
<th>Diameter</th>
<th>Length</th>
<th>Diameter</th>
<th>Length</th>
<th>Horse Power</th>
<th>Type M Engine</th>
<th>Pulley Recommended</th>
<th>R. P. M.</th>
<th>Mill Pulley</th>
</tr>
</thead>
<tbody>
<tr>
<td>192-A</td>
<td>12</td>
<td>12</td>
<td>8</td>
<td>12</td>
<td>7.65</td>
<td>10 h.p.</td>
<td>10 in. D. x 28 in. D. x 6 in. face</td>
<td>152</td>
<td>149</td>
</tr>
</tbody>
</table>

NOTE: Engine data given for convenience. Engine not included with mill. Speeds figured for grinding 30 ft. of cane per minute.

Feb. 1935
McCormick-Deering Tractor Mowers
No. 20

For 10-20 and 15-30 Tractors

5, 6 and 7-ft. Cutting Widths

Wheeled Type Tractor Mower
The McCormick-Deering No. 20 is a wheeled type of tractor mower especially designed to be operated through the power take-off shaft of the 10-20 and 15-30 tractors. This feature assures uniform power under all cutting conditions, as the mower is independent of the traction of its ground wheels for operating power. There is ample power to cut tough, wiry hay, and with proper bar and knife equipment, brush can be cut.

Large Cutting Capacity
The No. 20 tractor mower is made in 5, 6 and 7-foot cutting widths. The travel of the tractor is much faster and more uniform than that of draft animals, therefore, the cutting capacity of the tractor mower is considerably greater than that of horse-drawn mowers of corresponding cutting widths. Under favorable conditions it is possible to cut as much as 25 acres a day with the 7-foot tractor mower. The tractor mower is free to swivel some distance back of the tractor drawbar. This permits turning practically square corners.

Sturdy Construction
The frame is made of heavy bar steel. The gears are cut steel, hardened, are fully enclosed, and run in oil. A slip clutch on the main driving shaft prevents breakage should the cutting mechanism become clogged. The pitman is of the automatic type, the clasps being held in contact with the knife head ball by spring pressure. This assures proper adjustment at all times—neither too tight nor too loose. The upper end of the pitman is connected to the pitman box by a tempered steel plate—strong and durable, yet sufficiently flexible to prevent binding of the pitman in its travel. Fittings are provided for high-pressure grease gun lubrication.

Regular Equipment
Draw brackets. Two flanged caster wheels. Steel guards. Two knives.

Special Equipment

Specifications

<table>
<thead>
<tr>
<th>Width of Cut</th>
<th>Description</th>
<th>Approximate Shipping Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-foot</td>
<td>No. 20 Tractor Mower</td>
<td>1005 lb.</td>
</tr>
<tr>
<td>6-foot</td>
<td>No. 20 Tractor Mower</td>
<td>1020 lb.</td>
</tr>
<tr>
<td>7-foot</td>
<td>No. 20 Tractor Mower</td>
<td>1035 lb.</td>
</tr>
</tbody>
</table>
McCormick-Deering Tractor Mowers

No. 112 Mower
For Tractors 1-12, O-12, W-12 and Fairway-12

Illust. 3—McCormick-Deering No. 112 Tractor Mower attached to the O-12 tractor. Note the location of the mower behind the tractor wheels—a position that permits the mower to follow closely the contour of the ground.

Direct-Connected Tractor Mower
The No. 112 tractor mower is designed for operation through the power take-off of McCormick-Deering 1-12, O-12, W-12, and Fairway-12 tractors. The mower is direct-connected to the tractor so that the two become a single, compact unit, easily controlled by the driver. Being operated directly from the tractor engine makes the mower independent of ground traction and assures a smooth, uniform flow of power for the heaviest kind of work.

High-Grade Construction
The No. 112 is a quality mower in every respect. The cutter bar is made of high-grade steel, oil tempered and shaped so as to resist sagging. Hardened steel wearing plates protect the bar from knife wear. The driving gears are accurately made, fully enclosed, and run in oil. The pitman connections are designed for heavy service and require no adjustments.

Safety Features
The driveshaft has a safety clutch which will slip and prevent breakage should the knife become clogged. If the cutter bar strikes an obstruction a safety spring device is released which permits the bar to swing back without damage to the working mechanism. It takes only a moment to reset the bar and go ahead.

Regular Equipment
Steel guards. Two knives.

Extra Equipment
Heavy-duty bars. Weed and brush bars.

Sector Clip. A sector clip is shipped with all No. 112 mowers. This clip should be attached to the throttle sector of O-12 and Fairway-12 tractors so as to limit the engine speed to 1400 r.p.m., which is the maximum engine speed at which the mower should be operated. The clip is not required with the W-12 tractor which has a maximum governed speed of 1400 r.p.m. The clip cannot be adapted to the I-12 tractor and care therefore must be taken to hand-throttle the engine to a speed not in excess of 1400 r.p.m. when the No. 112 mower is attached to the I-12 tractor.

Illustr. 4—The No. 112 mower and pneumatic-tired I-12 or O-12 tractor make an ideal combination for cutting weeds and grass along the shoulders of hard-surface highways. The No. 112 mower is suitable for field, highway and golf course mowing.

Specifications

<table>
<thead>
<tr>
<th>Width of Cut</th>
<th>Description</th>
<th>Approximate Shipping Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-foot</td>
<td>No. 112 Mower for O-12, W-12 and Fairway-12 Tractors</td>
<td>480 lb.</td>
</tr>
<tr>
<td>6-foot</td>
<td>No. 112 Mower for O-12, W-12 and Fairway-12 Tractors</td>
<td>495 lb.</td>
</tr>
<tr>
<td>7-foot</td>
<td>No. 112 Mower for O-12, W-12 and Fairway-12 Tractors</td>
<td>510 lb.</td>
</tr>
<tr>
<td>5-foot</td>
<td>No. 112 Mower for I-12 Tractor</td>
<td>500 lb.</td>
</tr>
<tr>
<td>6-foot</td>
<td>No. 112 Mower for I-12 Tractor</td>
<td>515 lb.</td>
</tr>
<tr>
<td>7-foot</td>
<td>No. 112 Mower for I-12 Tractor</td>
<td>530 lb.</td>
</tr>
</tbody>
</table>

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