"IF IT'S A FLYING DUTCHMAN IT'S BEST"

There are those who contend that the phrase, "made of best material," has been so overworked that it is no longer potent as a conveyor of the meaning intended.

It may be true that the term has been so generally and loosely employed that it has come to be held lightly by many, but when truthfully used, as all advertising statements should be, and are by honest manufacturers of honest goods, it means more to the purchaser than is usually recognized.

There is no material entering into the construction of a farm tool that cannot be had in grades ranging from the practically worthless to that of the very highest possible quality.

The poorer grades are susceptible of just as fine finish as the better grades, and when polished, painted, varnished, erected and viewed on a sample floor may have every indication of lasting efficiency.

No one not an expert can discover the spuriousness, and even he may have to resort to the sledge and drill to satisfy himself beyond doubt.

The quality of material is an important factor in determining the first cost of a tool.

It is the measure of the life of the implement.

The difference in material in two similar machines may make it necessary for the dealer to ask five dollars more for one than the other.

The dearer machine is almost certain to last twice as long as the cheaper and cost proportionately less for repairs.

Mr. Harvey Warner, Ulysses, Nebraska, wrote us the other day:

> I have two Flying Dutchman plows. One I bought fifteen years ago; it is a good old plow yet. It has plowed about fifteen hundred acres of soil.

We wrote Mr. Warner asking how much he had spent for repairs in those fifteen years:

> During the fifteen years I have bought three new shares and a boxing for the hind wheel. The plow is all right yet and ready to plow fifty acres in the spring.

We do not claim to have an absolute monopoly of plow-building ability.

There are other manufacturers, no doubt, who can make a single plow, or even a hundred plows, that will be fully up to our high standard, but our broad and well grounded claim is that the total output of no factory in the line is so uniformly excellent and dependable as that bearing the Flying Dutchman brand.

Best obtainable material and rigid inspection are the explanation.

The first any builder can buy if he is willing to pay the price; the second is sustained effort, a resolute determination that every tool turned out shall be as uniform in value as gold coins from the mint, making it a question of business policy and personal pride.

The policy, and the pride taken in distinction, are the farmer's assurance that when selecting Moline Plow Company goods he is discriminating between legal tender and promises to pay.

In every line of industry preponderance of public opinion places some person or firm in the lead.

This selection is made by virtue of achievement and general success and is universally well deserved.

Prestige is acquired by continued demonstration of ability.

The shrewd investor in farm tools will purchase those made standard by common approval.

It is good judgment to buy the brand that has a reputation to maintain.

When looking for quality look for the Flying Dutchman trade mark.

"Made of best material" means something in the factories of the Moline Plow Company.

It is impossible to show our complete line in a book of this size. We have been obliged to limit the number to one or two of each class, but you will please bear in mind, we build Stalk Cutters, Stubble Diggers, Walking and Riding Plows, Disc Plows, Tooth and Disc Harrows, Cotton and Corn Planters, Listers and Drills, Shovel and Disc Cultivators, Lister Cultivators, Beet Seeders, Cultivators and Pullers in great variety of styles.

We are prepared to meet the requirements of the farmer no matter what his special preference may be.

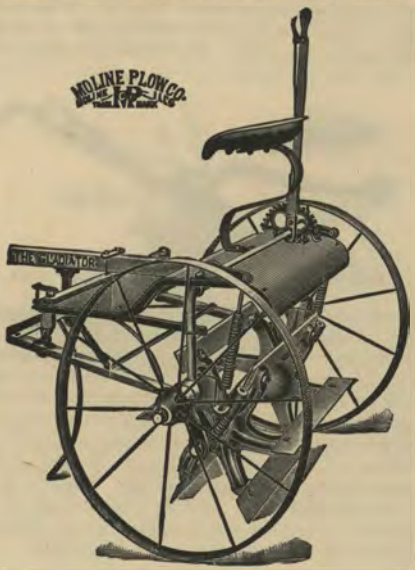
If you wish to buy a tool not shown in this book we would like to have you call on our nearest agent and talk the matter over, write to us direct, or to our nearest branch house.

MOLINE PLOW COMPANY, MOLINE, ILLINOIS

Makers of the Famous Moline Plows and Other Flying Dutchman Farm Tools, Mandt Wagons and Bob Sleds, Henney Buggies, Light Running National Manure Spreader, Freeport Carriage Co. Vehicles and Monitor Drills

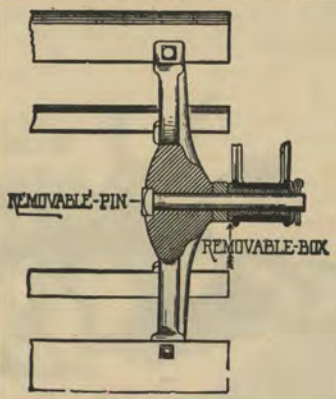
GLADIATOR STALK CUTTER

THE frame is of double angle steel and the castings of malleable iron—strength and lightness. The knife heads are made in crank-hinged bearings.



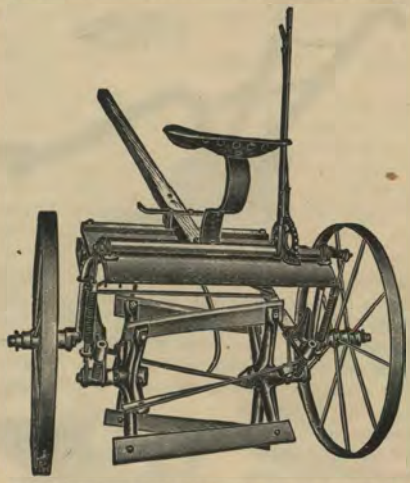
SINGLE ROW GLADIATOR

Springs are connected to these bearings, which give proper action to the knives. The Gladiator does not do its work by main strength and awkwardness, like some horse-killing machines that depend upon their



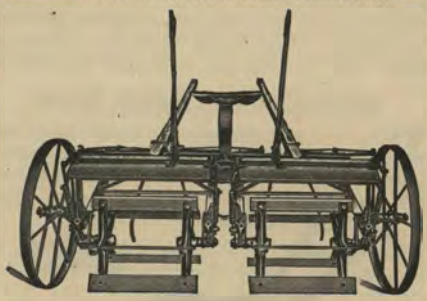
immense weight, but by the nice arrangement of its patented spring connections has a short chopping stroke that makes a clean cut, and the heads have sufficient weight to cause the knives to do their work under all conditions of soil. This feature, in connection with the S-shape seat spring, makes the Gladiator **a remarkably easy riding cutter.**

The seat is mounted on a spring that is well adapted for this kind of tool, and with the springs below reduces the disagreeable jolting which the operator generally gets. The pole runs back to and is fastened to the axle, and securely bolted to the top of the frame, and the lower frame—to which the horses are attached, has a strong swivel connection to the top frame.



GLADIATOR WITH SPIRAL KNIVES. THESE KNIVES ARE FURNISHED ON SIX AND SEVEN KNIFE MACHINES WHEN SO ORDERED

The small cut shows a section through the head, with the removable spindles and the removable boxes. This is a feature of greatest importance to stalk cutters, as, to replace a worn head is quite an expense, while with the Gladiator, it is done at small cost.



DOUBLE ROW GLADIATOR

The double row Gladiator possesses all the valuable points of the single row. It has two heads, cuts two rows at a time with three horses, and does the work as well as the single row. Each half of the machine is independent of the other and has its own lever with which to throw the weight of the operator and machine on the knives, or one head can be raised while the other is at work. Drag hooks are held to the ground by the draft of the team, and are raised when the **knives are raised—two patented superiorities.**

BLUE BIRD SERIES

THIS plow is made very strong and substantial. It it is intended for a general purpose plow, working equally well in sod or stubble. It is an excellent implement for use where diversified crops are put in, for plowing in cotton and tobacco lands and may be

BLUE BIRD SERIES PLOW

used in timber land to good advantage. The Blue Bird is built on a heavy pressed steel frog, or block, which constitutes the frame to which the share, moldboard, landside, steel beam and standard for wood beam are bolted, making it very strong. It is made with a medium landside, the inside of heavy chilled iron, the outside of crucible steel, with a chilled "slip-heel" which is removable, and can be replaced at a small cost. The moldboard is heavily shinned. The moldboard is made either solid or soft center steel. The share is of crucible cast steel and has a heavy duck-bill point, and EXTRA share can be furnished either of crucible steel or chilled cast iron. Made wood and steel beam, right and left hand.

NEBRASKA CLIPPER PLOW

THIS plow was built especially for the loose, fluffy soils of Nebraska and northern Iowa, where it has met with great success and is a general favorite. It is recommended for any locality where this charac-

NEBRASKA CLIPPER PLOW

ter of soil is encountered. It has soft center, hardened steel moldboard, share and landside. Right hand and steel beam only. Can be furnished with either medium or low landside. Built 14, 16 and 18-inch.

MOLINE SCOTCH CLIPPER OR "C" SERIES PLOW

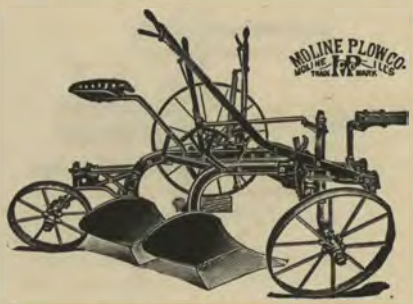
THIS Scotch Clipper series of plows is equipped with high and long moldboards, especially adapted to general purpose work. The turn of the moldboard is long and easy so that the furrows are lapped with perfect regularity. The beams are made extra

MOLINE SCOTCH CLIPPER OR "C" SERIES PLOW

heavy and every care is taken to make these plows perfect. Right and left hand. All wood beam plows are made with index beam. The high landside will be found a great improvement over the medium landside when used for deep plowing in clay or where there are small cobblestones, gravel or weeds. Has cast landside shoe for the protection of the landside and operates to advantage in keeping the plow to land. It is chilled very hard at back end, insuring long wear. When worn out it may be replaced at a trifling cost, thus saving the expense of an entire new landside. These plows are made wood and steel beam, right and left hand.

GOOD ENOUGH GANG PLOW

THE Good Enough Gang was designed to supply a durable and thoroughly reliable gang plow at a moderate cost. A plow that would be in the gang class what the world-famous Good Enough Sulky is to the sulky class. The success of the effort is attested



GOOD ENOUGH GANG PLOW

by the great demand for them in sections where they have been introduced. The front furrow wheel is set obliquely and is connected with a steering lever. No other gang plow is provided with this feature. The plow can be operated either with or without pole. Made right and left hand.

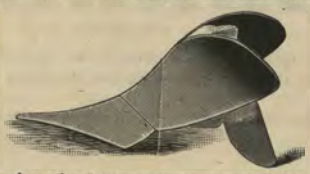
GOOD ENOUGH SULKY.

WOULDN'T it set you to thinking a little if thirty thousand farmers should come to you and say "the Good Enough sulky is the best plow on earth for the money?" We sold that many, in round numbers, last year. Think what that means. Five hundred car loads. A solid train nearly four miles long. In single file, with teams attached, the plows would make

GOOD ENOUGH SULKY PLOW.

a parade about ninety miles long. It would require twenty-three hours for it to pass a given point. Such testimony should be convincing.

The Good Enough is an extremely simple plow. The quality of its work cannot be excelled by any plow at any price. Will plow any soil that can be plowed with a moldboard plow. It has the desirable features of high priced sulky plows without the complicated construction of the very high lift type. The land axle has a yielding spring—uneven ground does not affect depth of furrow. Turns square corners either right or left. The landing lever and swinging clevis permit the operator to change the land of the plow instantly without stopping his team or leaving the seat. Bottoms of different sizes can be fitted to the same beam. Furrows of different widths can be turned with the same bottom. Made both right and left hand. Sizes from ten to eighteen inches. Bottoms for every condition of soil. Wheels have removable hub boxes, dust proof and oil tight. Breaker or middle breaker bottom can be used in place of regular bottom. Moldboard soft center hardened steel, double shin; share soft center hardened steel; landside soft center hardened steel. There is not an ounce of inferior material in this plow. It couldn't be better if it cost twice as much. It's simplicity makes the low price, its adaptability makes the high value. Pole attachment furnished **with the Good Enough at a small extra cost.**



"C" PLOW, STEEL BEAM.

ONE of our men was out in the country the other day visiting a farmer. The conversation drifted to agricultural tools. The farmer said:

"What is your price for a walking plow?"

"What kind of a plow?" inquired the man.

"A sixteen-inch walking plow," replied the farmer.

"What kind of a sixteen-inch walking plow?" persisted the man.

"Why, I don't know," the farmer answered, "is there a difference?"

There is a difference, a big difference. You can't compare values by sizes. The man went on to explain the difference. He mentioned the solid and soft center bottoms; the high, medium and low landsides; the single, upset and double shins; the reinforced shares; the beaded landsides; the cast slip heels; the frogs; the bracing; the quality of the material. All these things have a bearing on the cost of a plow. They have a marked influence on the lasting qualities of the tool.

The Moline Plow Company makes a great variety of walking plows. Shapes for every condition and styles for every preference. The one shown in the

C SERIES, OR SCOTCH CLIPPER.

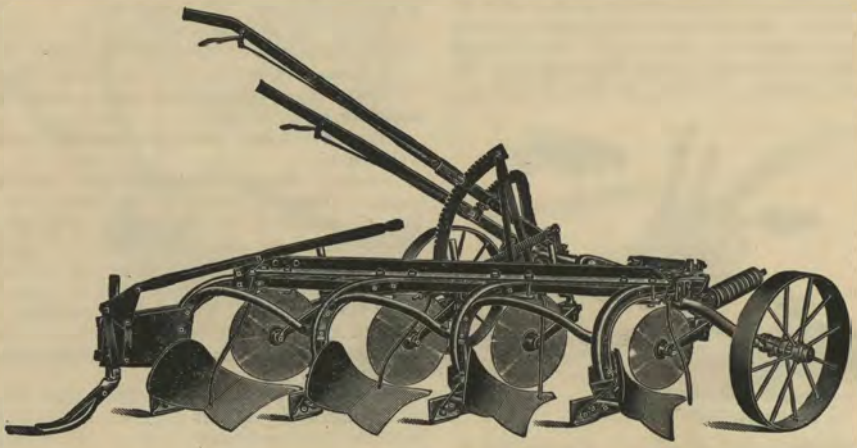
picture above is our "C Series," or "Scotch Clipper." They are especially serviceable in sod or heavy stubble and for deep plowing. The beam is extra heavy, is curved high in the throat and will not choke in weedy land. The moldboard is soft center hardened steel, double shinned; share, soft center hardened steel; landside, soft center hardened steel, medium. Made both wood and steel beam. "Moline Plows and other Flying Dutchman farm tools" have long been recognized as THE standard. Design, material, workmanship, inspection, and determination to excel made them so and will continue to keep them so.

LOOK FOR THE MARK.

DO not buy plow shares, lister shares, cultivator shovels and other parts for our tools made by people who employ cheap help, use inferior material and have no interest in the working qualities of the tool which they pretend to fit, when for the same or less money you can buy the genuine article, made of the best material obtainable, by skilled workmen and guaranteed to fit; made by the company that manufactures the tools and has a direct interest in the satisfaction they give.

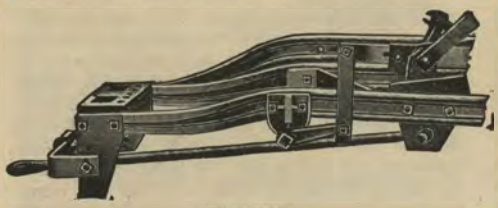
Our plow shares and lister shares all have M. P. Co. die-stamped on the under side. They can be identified by this mark. Look for it when buying plow or lister shares; it is your protection. Shares without this mark, offered for our plows or listers, are imitations, inferior, and will not be satisfactory.

FLYING DUTCHMAN ENGINE GANG



TWO INCH AXLES, MOLDBOARDS DOUBLE BRACED, SOLID LANDSIDE BAR.

THESE plows are made in three and four plow gangs, 12 and 14-inch. The smaller size is to accommodate farmers having engines of limited capacity. They are made of the best materials and well braced. Built for long service. They are perfectly balanced on the wheels, affording uniform support to the plows. Wheels have broad tires. Plows can be leveled instantly while in motion, by means of combination levers—one movement of the large raising lever operates both wheels and raises the plow out of the ground. The depth of the furrows may be changed while the plow is in motion. Notice in illustration the splendid bracing of the beams. Flat blaces fit into the channel of the beams; an inch and a quarter round brace supports the beams lower down, and an angle iron rail is clamped over the top of the beams. These braces tie the plows rigidly together and make the back of gang very stiff. The raising levers are long and extra heavy. The ratchets are of steel. They have a long radius, which reduces the strain on the spring pin and the wear on the ratchet. It doesn't require two men to get these plows in and out of the ground.



THE HITCH

The hitch consists of a draft rod, adjustable at the clevis, which attaches to the strongest part of the plow and a large compression spring. This spring relieves both engine and plow of the dead shock when striking an obstruction, or when starting the engine with plows in the ground. Square corners can be turned with plows either in or out of the ground. They are provided with a heel lift that enables the operator to raise the back end of the gang while turning corners or when upon the road. This shoe meets the requirement better than a wheel. It serves as a drag and does not permit the plow to run at random over the road or field like a wheel usually does. A riding attachment can be furnished when ordered. Better or more durable plows for use with traction engines cannot be found in the market.

THE SPRING

If interested in engine plowing just drop us a card and we will send you printed matter more fully describing this tool

ROTARY DUTCHMAN DISC PLOW

ALL frame parts are made of steel, heavily braced. Axles are of heavy hard steel. The scrapers are held in place by a device superior to that found on disc plows of any other make. Rear axle has lever for raising and lowering. This will be found of great advantage where the plow is used in different soils. In easy reach of the operator is a lever for raising and lowering front furrow wheel. Also a guiding lever, which is very necssary for doing good work. The land wheel is provided with a yielding spring, also an assisting raising spring. The wheels have cast V shaped rims, and long removable bearing boxes provided with sand caps to protect bearings from sand and grit. The hitch consists of a broad platform clevis which is adjustable up, down and sidewise. These gang disc plows have had the advantage of experience and tests, are the latest in improvements, the

most perfect in shape and most effective for work. Instead of being anchored into the ground with a subsoiler or similar contrivance that is used on some disc plows, and which makes them of tremendous draft, the Rotary Dutchman is held to its work through the combined influences of properly built frame, correct hitch, and true set of discs. The discs are set at just the right angle to handle the soil most effectively, and with the assistance of the adjustable scrapers, turn the ground and leave it in such good condition that harrowing is often unnecessary. In all gang disc plows the great trouble has been to get bearings that would stand the work. The New Rotary Dutchman has bearings that positively overcome this difficulty. The Rotary Dutchman is made in two, three and four discs. The three disc can be converted into a two disc, and the four into a three. These plows are used for traction engine plowing very largely and have no equals for this work.

SOUTHERN CHIEF DISC PLOW

THIS plow is made entirely of steel, malleable and cast iron. It is well braced, strong and easily controlled. Made in two, three and four furrow. A farmer having a two furrow can make a three furrow by securing the extra parts. The three furrow can be converted into a two furrow by removing the center section and attaching the rear section in its place. The four furrow is also easily changed to a two or three furrow. The lever rods slide through adjustable connections, always keeping lever and operator in the same relative positions. The location of seat, wheels and hitch are right, giving good penetrating power and permitting of turning freely to either right or left. The front wheel is under control at all times and the plow can be steered at will. All levers are convenient for the operator and easy to control in raising or lowering plow and for guiding purposes. The width of cut can be changed without disturbing

SOUTHERN CHIEF DISC PLOW

the connections between the frame parts. A valuable and important feature is the disc adjustment by which the discs can be set at any angle required by the condition of the soil or the work desired. The bearings are long and made of chilled cast iron, insuring wearing qualities. The foot trip for rear wheel allows the plow to turn either way, and also serves as a raising lever when it is desired to raise the plow for transportation. The raising levers are assisted by large coil springs. The method of raising and lowering front furrow wheel is a source of delight to the operator. It does away with the inconvenient lever in general use; which is usually too long on a two-plow and too short on a three-plow. The elasticity of the springboard hitch relieves the plow of dead strain and severe shock. Attention is called to the manner of attaching this hitch to the main frame, also to the construction of this end of the frame and the direct connections of the other parts. This plow is simple without sacrifice of strength, and the quality of its work cannot be excelled by any disc plow at any price.

NORTH TEXAS MIDDLE BREAKER

ALTHOUGH called the "North Texas" it is in general use all through the south wherever middle breakers are in demand, and has made for itself the reputation of being the best for any soil. It is

NORTH TEXAS MIDDLE BREAKER

constructed with steel rudder, with guiding knife connected, each being adjustable independently of the other. Moldboards made either hard or solid and well braced. Frog is made of malleable iron and very heavy. Has high, heavy steel beam. Share has heavy steel point welded underneath for wear and strength. **Made 8, 10, 12, 14 and 16-inch.**

PURITAN LISTER AND DRILL

THE Puritan Combined Lister and Drill is an implement possessing many exclusive and valuable features. The bottom is made of the finest soft center hardened steel, and will scour in the most obstinate soil. The beam has the same graceful shape and is of the same material as our best standard plows. A shield, or extension, is fastened above the moldboard to prevent corn stalks or trash from passing over the same and interfering with the operating wheels. The handles are made of light steel, well braced, with hollow, malleable ends, and are adjustable both as to height and length. The Puritan is provided with a floating seed box, which is attached in such a manner as to allow the drill and covering shovels to act independently ot each other and also of the plow, which insures an even depth of planting, and even amount of covering. The lever by which the seeder is raised is a very simple and convenient device. To raise or lower the seeder the lever is simply thrown over center. The covering shovels are small, well shaped shovel plows, and are adjustable up and down or at any desired angle, and made with break pin. Any one of three subsoilers can be furnished. These are shown in the cut. No. 1 is the regular subsoiler; No. 2 is the same as is used on the Western Belle Riding Lister. All three of these are excellent attachments. The seed spout is furnished with a small steel shovel, which when worn can easily be replaced at small expense. It follows directly after the subsoiler and always plants the corn in finely pulverized soil. The upper part of seed tube is made funnel shape, which admits of the operator watching the corn drop into same at all times. The wheels operate on the dropping mechanism direct, which is the best dropping device ever invented. The distance between the kernels is regulated by dropping plates having different numbers of holes.

PURITAN LISTER AND DRILL

Three of these plates, arranged to drop about 14, 16 and 20 inches apart, are furnished with each drill. Our plates are made with holes of proper size to accommodate the size of kernels commonly planted, but if any planter has extra large kerneled corn he should first try it in the field, and if he finds that any of the kernels do not go through readily, he should take a round file and enlarge the holes in the plate he intends to use (making them a little oblong) until he finds that the kernels go through without difficulty or danger of failing to drop regularly. The illustration shows right wheel removed for the purpose of giving an unobstructed view of the working parts of the tool.

The Puritan can be furnished as a one-horse drill, the extra parts required being a pair of handles, gauge wheel, two straps and the clevis which are easily attached and furnished at small cost.

ROTARY GOOD ENOUGH DISC PLOW

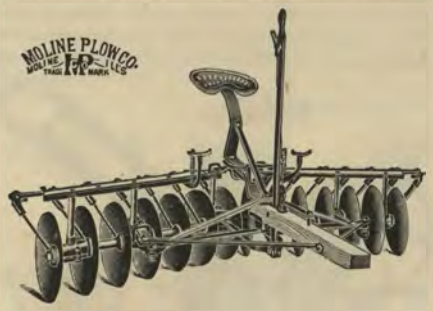
THE general construction of the Rotary Good Enough is extremely simple, and this, combined with great strength and ample facility for adjustment, makes it an ideal disc plow. The beam is mounted

ROTARY GOOD ENOUGH DISC PLOW

on a carriage or cross frame composed of a pair of heavy steel bars, to which it is secured by an adjustable "saddle block." The land wheel and front furrow wheel are attached to the ends of the cross frame. The axle of the front furrow wheel has a sliding connection with the cross frame for regulating it in plowing at various depths. It can be raised and adjusted by means ot the large raising lever. This axle is also provided with a large pivotal casting at the top, connected with the guiding lever by a long steel rod. This lever is within easy reach of the operator's right hand and enables him to guide the plow accurately and suit it to the nature of the ground and the gait of the team, and can also be used to facilitate the turning of corners. The land lever has both a lifting spring and a yielding cushion spring, the latter allowing the plow to always maintain its level on uneven ground or when crossing ridges or furrows. The disc is twenty-six inches in diameter, made of the finest steel, and will keep to its work under all conditions without the necessity of a subsoiler or other attachment in the rear. The disc bearings are of new and improved design. The disc scraper is adjustable. The plow has a "dial hitch," which is adjustable up and down and horizontally. It is capable of giving wide variation to the line of draft. The plow can be set for cutting furrows of various widths. It can at the same time be adjusted so as to cause the wheels to run in direct line of draft, this feature being absolutely necessary in plowing in different kinds of soil.

SINGLE LEVER ECONOMY.

WE didn't originate the disc harrow. The idea came from the Japanese. They used a crude tool of this type so long ago that the exact date of its origin cannot be traced, but it is estimated to be about one thousand years before Christ. The honor of priority belongs to them, but the credit for its highest perfection is ours. We do not hesitate to assert that the Economy Disc Harrow has not an equal in the market, and in this statement are corroborated by the expert judgment of thousands upon thousands of the most particular and exacting farmers of this and other



ECONOMY DISC HARROW.

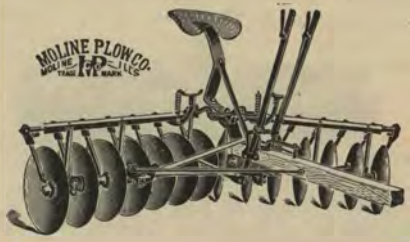
countries. This popularity was not attained by accident. Such success can be achieved by nothing but merit, actual demonstration of better work in the field under the varying conditions that confront the average farmer. In heavy corn stalks the Economy will show more black dirt than any of them.

The line of draft is right. The horses are not choked by a low hitch, neither are their necks made sore by a high hitch. The seat is so placed that there is almost perfect balance. We have seen the Economy run all around a rough field without the use of a neckyoke at all. The man who values his horses appreciates this.

The frame bars are of high carbon steel, as stiff and hard as can be worked in a blacksmith shop. The discs are heavy, with long, sharp bevel, nicely polished and sharpened. The spools have a large face that acts as a brace for center of disc and prevents breakage in rough work. The harrow has great flexibility and readily adapts itself to uneven ground. One section may override obstructions or dip into dead furrows without affecting the work of the other section. The gangs cut a uniform depth their entire length. The bearings are of hard maple, with double surface to meet the end wear.

A patented spring device gives both inside and outside bearings an equal amount of end thrust. By using this device it is unnecessary to have any contact between the inner ends of disc gangs, thus insuring greater flexibility, less friction and lighter draft. The scrapers are the most satisfactory to be found on any disc harrow. The openings in the brackets are so shaped as to admit of the scraper bar being rocked back and forth with the foot levers, thus forcing the blades to sweep the entire face of the discs from center to edge. The scraper is always held firmly against the face of the disc.

The standards are made of steel pipe, which also serve as oil tubes. By placing a small quantity of cotton waste well down in the tube and then filling the tube with oil insures a constant supply of fine filtered oil. The waste holds the oil, preventing the supply entering the bearings more freely than necessary. With the round standards the harrow is less liable to clog than harrows with other styles of standards.



ECONOMY WITH DOUBLE LEVER.

The Economy is also made with double lever and where such an implement is in demand finds no superior.

The Economy is made in cut-out style for those who prefer a tool of that kind. It is of the same general construction as the regular Economy, the only difference being the cut-out discs, and scrapers adapted to use with that style of disc.

This harrow is made in various sizes, ranging from four to twelve feet. Can be equipped with either drill or broadcast seeder attachment.

THE ECONOMY TONGUE TRUCK.

DOUBLE LEVER ECONOMY WITH TONGUE TRUCK.

THE Economy Tongue Truck is a light, inexpensive and durable attachment that is highly indorsed by those preferring such equipment. The axle is made of fine steel of high carbon. The wheels are cast and have chilled hubs, which makes a hard, smooth bearing. They have a flange that causes them to hold to the ground without any side slipping, thus overcoming an objection often raised to wheels with smooth tires.

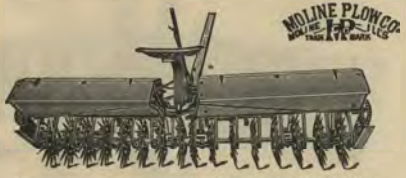
We build for this harrow a simple and low priced attachment for transporting the harrow from field to field, or when upon the road. It costs but a trifle and saves wear and tear on the machine.

MOLINE ALFALFA RENOVATOR

TO keep an alfalfa field in good condition it must be cultivated at least once each season. The most successful and experienced growers cultivate after each cutting. The latter practice is growing in favor as alfalfa raisers progress in knowledge and become better acquainted with the peculiarities of the plant and the conditions and treatment that produce the best results.

MOLINE ALFALFA RENOVATOR

Unlike many grasses the alfalfa plant has no creeping roots. It becomes thicker on the ground by increasing the size of the crown, which means to add more growing stalks or branches to the top of the plant. The crowns grow to such size that the sod becomes very compact, causing the plants to die out in spots, and permitting weeds to gain a foothold in the field. The remedy for this condition, as well as a preventive, is thorough cultivation with some tool that will split the crowns vertically. Formerly disc harrows were used for this purpose, but as alfalfa ground is frequently dry and hard the harrows lacked sufficient penetration to accomplish the desired result. To overcome this difficulty we use pointed teeth instead of discs. This arrangement is so successful that alfalfa growers adopt it upon sight. It has proved to be just the tool for the work.



MOLINE ALFALFA RENOVATOR, WITH SEEDER ATTACHMENT

The Moline Alfalfa Renovator has a greater penetration than any similar tool built. This penetration is secured by the peculiar slant given the teeth. By means of the center lever the gangs can be set at any desired angle. The toothed heads are provided with scrapers to prevent the accumulation of trash. The frame bars are stiff and hard. Has pipe standards that serve as oil tubes. Should it be desired to add more weight, provision has been made for carrying sacks of soil.

The seeder attachment with which this tool can be equipped at a slight additional charge has a thoroughly reliable force feed and can be regulated to plant from four to thirty-two pounds of seed per acre. This attachment is used for the original planting, or for reseeding the thin places when renovating an old field. It can be thrown in or out of gear at pleasure when the renovator is in motion. Larger yields are secured where this tool is used and sickly fields are rejuvenated and made to produce luxuriantly.

NEW LULU RUNNER COTTON AND CORN PLANTER

THE New Lulu Runner Cotton and Corn Planter is a neat, compact, closely coupled tool, free from knuckle joints and counter-shafts. The seed shaft is driven by gears from the main wheel. These gears are well enclosed to exclude dirt. The shaft runs direct from the driving wheel to the seeding device, doing away with knuckle joints and counter shafts common in other makes of this type of planter. This not only simplifies the planter, but makes it more durable and less liable to get out of order.

NEW LULU RUNNER COTTON AND CORN PLANTER

The corn and cotton feed is the well known Moline King Cotton style, which is familiar to most planters, and has never failed to give satisfaction under any circumstances or conditions.

The seed can is large and is provided with agitators to prevent the cotton seed from banking. An important feature of these agitators is that they will not break or crush the seed. The feed is changed by simply sliding gate at back of can. To change from cotton to corn feed, all that is necessary is to take out agitator and put in corn cut-off, which is easily and quickly done.

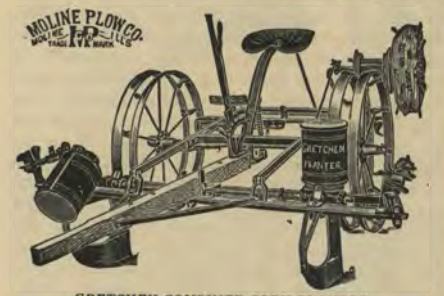
Corn can be planted from eight to forty inches apart as follows:

2-hole plate plants two kernels every 40 inches
3-hole plate plants two kernels every 26 inches
4-hole plate plants two kernels every 20 inches
10-hole plate plants one kernel every 8 inches
A pindar plate can also be furnished.

The runner opens the furrow and sweeps the surface before the seed is deposited. The blades cover the seed and the press wheel completes the seed bed. The press wheel is operated by a lever and ratchet, by means of which it may be set high or low, as desired. It may be raised entirely from the ground, or set so low that it will carry the runner and covering blades clear of the ground when on the road. It may be used as an open wheel by removing the steel band. The planter can be thrown in and out of gear by the hand or foot as desired.

GRETCHEN COMBINED CORN PLANTER.

THE Gretchen can be operated both as a hill drop and drill drop planter. It meets the demand for a thoroughly reliable combined planter. No expense has been spared to make it a first class machine in every detail. It has a neat, strong steel front and back, and is easily adjusted from 3 feet 4 inches to 3 feet 6 inches, 3 feet 8 inches and 3 feet 10 inches in width. It can be equipped with either split, flat or concave wheels. The seed boxes are hinged, and when thrown forward for the purpose of changing plates the driving dogs follow—always remaining in their proper places. Three different sizes of hill drop plates are furnished, having holes $\frac{9}{16}$-inch, $\frac{1}{2}\frac{3}{2}$ and $\frac{7}{8}$-inch respectively. There are also three sizes of oval-hole hill drop plates. The cut-off and knocker

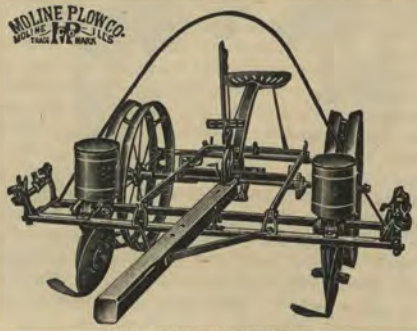


GRETCHEN COMBINED CORN PLANTER.

are combined, operating as a stop to prevent the seed plates turning backward either from the jar of the planter or the backward motion of the driving dogs. The valve is very simple. There is but one valve and it acts as both upper and lower valve. The corn has a straight, unobstructed drop. In most planters when desiring to change from hill to drill drop some part of the valve has to be removed, or some complicated adjustment is necessary, which is troublesome at best and often very difficult for a person not a planter expert. With our simple valve all that is necessary is to give a nut a half-turn and the valve is set. This is done from the outside of the shank and there is no possibility of making a mistake. The action of the valve is such that the upper valve is always closed before the corn is delivered from the seed plate, making it impossible to get more than one hill at a time. This is not true of all planters when the knot on the wire moves the check fork very slowly, as it often does when near the end of the row. The corn is held at such position at the lower valve as to drop all the kernels at once. There is no scattering, just a clean drop all together. The runners have a graceful, easy curve, and will not gather trash. The check heads have a rear sheave which holds down the wire, compelling the check fork to always make a full stroke. The wire is securely held by the sheaves on all sides and cannot possibly slip out in hilly ground. The driving shaft, to which the check forks and driving dogs are attached, is hexagonal, making it impossible for such parts to slip. The pole is adjustable on both bars of the front frame to accommodate high or low teams. The raising lever is in the center of the planter, and when running loose may be manipulated with the foot if desired. It has a balancing spring, which may be adjusted to make the planter "float" easily at any desired depth when running with loose lever. The foot drop is simple and convenient and operates perfectly. Hooks are provided to hang the marker on when turning around. The axle has a detachable chilled bearing. The Gretchen is furnished regularly complete with check rower and drill, 30-inch wheels, new automatic reel and disc marker.

GRETCHEN DISC PLANTER.

THE Gretchen Disc Planter can also be operated both as a hill drop and drill drop planter. Farmers who are using it claim that it is one-third lighter draft than any runner planter, that it is easier to drive a straight row, and that corn stalks or other trash cannot clog it, as the discs either cut their way through or roll over obstructions. It has been used in fields so wet that a runner planter could not be operated at all. The disc equipment is the only difference between this planter and the regular Gretchen. In the arrangement of the discs the Gretchen differs from any other disc planter. One disc is placed a little ahead of the other, the front disc overlapping the rear disc at the front edge. This arrangement causes the discs to cut out a clean furrow and practically does away with the V-shaped ridge in the center. The bearings are chilled, making them extra hard, and the spindle is removable and can be replaced without the expense of an entire new shank.



GRETCHEN DISC PLANTER.

Moline Plow Company, Moline, Illinois.

Gentlemen: We received the Gretchen Disc Planters ordered on the 12th and 13th. We wired you twice later for more planters and received them promptly, and prompt delivery at this time is important.

The Gretchen Disc Planter is all right. It is decidedly the best thing out in the way of a Corn Planter. The price is right and the customers are well pleased.

TYRO SUPPLY COMPANY, Tyro, Kansas.

WESTERN BELLE RIDING LISTER AND DRILL.

THE Western Belle Lister and Drill is without question the most practical and efficient tool of its kind in the market. The view presented in this illustration shows the left moldboard removed, for the purpose of giving a clear view of the subsoiler, lower seed tube and cutter in front of subsoiler. The device for turning the seed plates consists of a square shaft and

WESTERN BELLE RIDING LISTER AND DRILL.

a long square sleeve, to each end of which are gears. The shaft is turned by a large gear attached to the axle. These gears are always in full mesh and are well protected from dust and weeds by a band which encloses them. Can be furnished with chain drive if desired. A clutch near the operating gear is automatically thrown out when the implement is raised out of the ground and stops the action of the seed plates. The axle is so constructed that the wheels can be set either wide or narrow. The change is made very easily. Chilled bearings are used on all parts subject to wear, and by patented devices the bearings for boxes are so constructed that there can be no binding no matter what position the lister is in. The dropping mechanism has the reputation of being the best made. The distance between kernels is regulated by dropping plates having different numbers of holes. Three of these plates and one blank plate are furnished with each machine, as follows:

One 6-hole plate, ⅝-in. hole, drops about 18 in. apart.
One 7-hole plate, ⅝-in. hole, drops about 15 in. apart.
One 8-hole plate, ⅝-in. hole, drops about 13 in. apart.

The lister can be equipped with edge-drop device, or a combination corn and cotton device, without extra charge, if specified for in ordering. The seed tube is provided with an additional tube placed in such position that the seed will always fall on loose pulverized soil. The tube can quickly be removed if it is desired to have the seed fall on the bottom of the furrow. This is a valuable feature not contained in any other tool of this kind. The covering shovels will not clog. They can be set deep or shallow, wide or narrow and at any angle. If desired disc coverers can be furnished instead of shovels at small extra cost. The lifting spring enables the operator to raise the plow out of the ground either when the lister is in motion or stopped, with scarcely an effort. The seed box is hinged and can be turned over and plates changed without removing the corn. A cutter is furnished and can be attached to the frog to operate in front of the subsoiler for the purpose of cutting roots or "bull grass."

TRI-BELLE LISTER AND DRILL

THE Tri Belle Lister and Drill is merely an evolution of the successful and popular Western Belle Riding Lister and Drill. The Tri-Belle embodies all the good points of the Western Belle and presents some valuable features not found in other three-wheeled listers. The operator sits back of the seed box and is enabled to watch the working of the machine. The seed tube is open, and the grain, after being released from the seed box, passes in plain view of the operator. The lifting spring enables the operator to raise the plow out of the ground, either when the lister is in motion or stopped, with scarcely an effort. This spring also holds the tongue and neckyoke up and adds to the traction of the front wheels. When the plow is in the ground the rear wheel is locked, but it is released automatically and becomes a free caster when the plow is raised. The perfection with which this wheel works will be a revelation to the person who has experimented with the ordinary three-wheeled lister. When the plow is raised the wheel is unlocked, allowing the lister to be turned in either direction without the rear wheel interfering. Should it become necessary to back the lister this wheel will take care of itself. When in the ground, the wheel being locked, holds the lister perfectly steady, not allowing it to

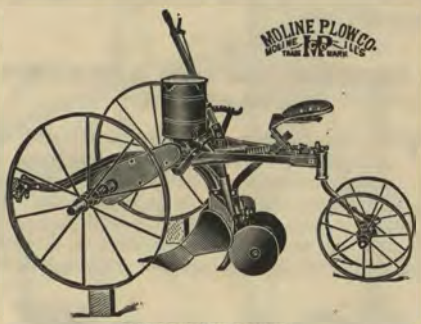
TRI-BELLE LISTER AND DRILL. FURNISHED WITH CHAIN DRIVE WHEN ORDERED.

sheer off to either side, as many other three-wheeled listers do. Instead of using a single rear wheel as found on most listers, the Tri-Belle has two staggered wheels that may be adjusted to suit conditions. When ground is not wet or sticky, wheels may be set close together to press soil to the seed, but when the soil is sticky and the wheels pick up the seed, they may be reversed on spindle, which will cause them to travel outside of the center and avoid all possibility of picking up the seed.

EASY MONEY LISTER.

WHEN a man secures a bargain it is generally referred to as "easy money." That is where this lister gets its name. Nowhere can the farmer get so much lister value for so small an investment.

The Easy Money is as strong as any lister made and weighs less. This desirable combination not



EASY MONEY LISTER.

only makes a machine of extremely light draft, but supplies the farmer with a first class lister at a very moderate cost.

It has a chain drive and but one chain is used. This runs directly from the driving wheel to the seed shaft and is so arranged that the distance between the two sprocket wheels is always the same when raising or lowering lister. This keeps the chain at the same tension all the time. On other machines of this kind the chain is usually tight in one position and loose in another.

There is no extra lever to operate or other mechanism to bother with in order to stop the planting device when the bottom is raised. Raising the bottom stops the planting automatically.

It will be noticed by a glance at the cut that there is a shield above moldboards to prevent anything from working over and interfering with the covering device. There is ample clearance at this point and trash will not gather under the beam.

Two lifting springs are used, one on each side, which not only make a very easy lift, but do away with the side strain that one spring gives. These springs are covered with sheet steel tubes to prevent dirt from getting in between the coils and interfering with the working of the springs.

The steel bar extending from the back of the bottom up to the frame holds the bottom steady in its proper position in the ground and assists in raising the covering device when the lister is raised. This bar is adjustable to give the lister any suction desired.

Many listers of this class give much trouble on account of upsetting when turning around. The Easy Money is extremely close coupled and can be turned when in the ground without danger of upsetting. There is good clearance between the moldboards and wheels when in operation.

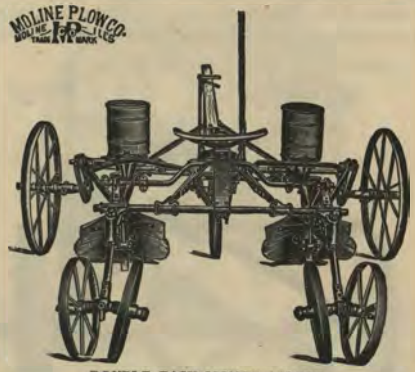
When the lister is in operation the rear wheel is locked, but when the lister is raised this wheel is free to caster. This is accomplished by the very simple manner of mounting the rear axle in the tail block and requires no pawl and ratchet with complicated connection with the raising lever.

The seed can is made so that either corn or cotton may be planted.

The Easy Money has dust proof, long distance hub boxes, and can be equipped with either shovel or disc coverers as ordered.

DOUBLE EASY MONEY LISTER.

THE Double Easy Money Lister differs materially in construction from any tool for the purpose ever offered the farmer, and every difference is a decided advantage. Instead of being constructed with a heavy frame that adds useless weight and prevents flexibility, this lister has three wheels so



DOUBLE EASY MONEY LISTER.

connected that they adapt themselves to the uneven surface of the ground and do not affect the depth of plowing. On the common type of double lister with but two wheels the depth of plowing is seriously affected, by the uneven surface of the ground and the frame is on a constant strain.

Each seeding device is operated by its outside wheel, and both are thrown out of gear when bottoms are raised.

This machine is easier to operate than any other two-row lister manufactured. It is handled entirely from the driver's seat. No dismounting to regulate depth or make other adjustments. Does not require great space for turning at the ends—can be swung squarely around to either right or left. Both plows are raised by one motion of one lever. The second lever is merely to regulate the relative depth of the bottoms.

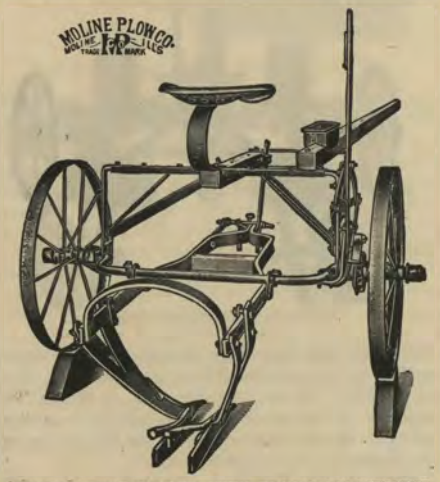
With this lister one man can plant one hundred acres in a week, and with our Lay By Two-Row Lister Cultivator can cultivate it in about half that time. It isn't hard to figure the profit to the farmer when he multiplies his man power by two in this way.

MOLINE BEET PULLER

THE Moline Beet Puller is an implement which will impress the practical beet raiser with its simplicity and efficiency in drawing the beets from the ground without the possibility of cutting, bruising or otherwise injuring them. The pullers, or diggers, on

MOLINE BEET PULLER

the Moline Beet Puller are strongly shaped, with an easy, downward curve and a straight runner, which permits of the implement being operated without strain at any part, and with ease both to the team and driver.



MOLINE BEET PULLER, WITH RIDING ATTACHMENT

These diggers are provided with chilled points, which add materially to the life of the implement and are a great saving in the matter of repairs. They are detachable and can be taken off and replaced by any farmer without the aid of a blacksmith or other mechanic. These points are an important feature of this tool. The depth at which it is desired to run the digger can be regulated both by the gauge wheels and clevis. With the exception of the handles and the middle brace block this implement is built enirely of steel. Notice chilled shins on standards in illustration. These chilled shins prevent standards from wearing and becoming weak. They are held by wooden pins, and can be replaced with little trouble or expense. No implement could be lighter, simpler or more easily handled than the Moline Beet Puller. Is equipped with lifting rods shown in cut. These rods are adjustable. Can also be equipped with rolling coulters, which are an advantage when the tops are unusually heavy.

The riding attachment shown here can be used on any of our pullers without drilling additional holes, so the beet grower who is using our walking puller can easily equip it with riding attachment by ordering the necessary parts.

DUCHESS COTTON AND CORN PLANTER

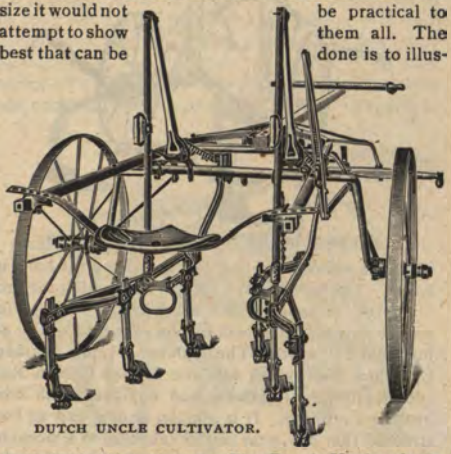
THE Duchess is made of high grade steel and malleable iron. Has a heavy steel frame. It is correctly balanced on the wheels and the hitch is so arranged that there is no neck weight. The bottom is always level when raised or lowered. Bottom can be raised when planter is at work—this is a decided advantage over other makes and

DUCHESS COTTON AND CORN PLANTER

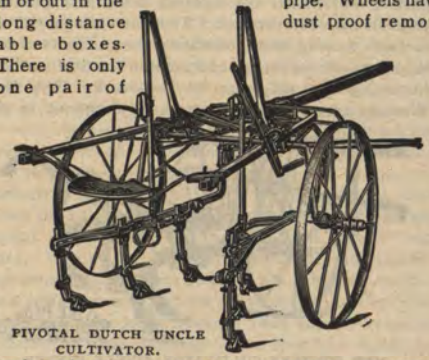
can be accomplished only by our arrangement of lifting device. The wheels are high and strong and the distance between them may be varied to suit the nature of the work. Any shape of sweep can be used, and by the adjustment of the foot piece can be set at just the right angle for perfect results. The variation in styles of shapes and sweeps used makes the adjustment of foot piece of vital consideration in any planter. The Duchess has five adjustments, giving great variation in pitch from highest to lowest point, while the intermediate adjustments permit of changing the pitch to work any bottom at the angle desired. Can be used without sweep or middle-breaker, simply as a planter. The covering shovels are raised and lowered by means of an independent foot lever conveniently arranged. This is a very desirable feature, as the shovels can be raised independently of the middle-breaker while the planter is in operation, thus clearing them of any trash that may have gathered around them. Axle is made of 1⅜-inch high carbon steel, and runs in chilled bearings that are practically indestructible. Can flat break, throw out middles, or break up trenches between rows. Can plant on top of the ridge or in the bottom of the trench—all changes for this scope of work can be made with one lever while going along.

DUTCH UNCLE CULTIVATOR.

THE Moline Plow Company manufactures all told, thirty-nine different styles of cultivators, while the different kinds of beams that can be used with them runs up into the hundreds. In a book of this size it would not be practical to attempt to show them all. The best that can be done is to illustrate the leading classes. The Dutch Uncle, shown above, is an old-time favorite in the corn belt, and grows in popularity with each succeeding season. Simplicity is the keynote of its construction, as a glance at the picture will show. There is but one lever on this cultivator and it is used to balance the frame for operators of any weight. This lever operates directly on each end of axle, which relieves axle of considerable strain. The cultivator is adjustable in width. The adjustment is made by sliding the axle ends in or out in the pipe. Wheels have long distance dust proof removable boxes. There is only one pair of springs, but they answer a three-fold purpose; they lift the gangs clear up, they provide a yielding spring in case of a dead furrow, and also allow of keeping shovels at an even depth although the wheels run over an obstruction. The spring has an adjustable stop block which can be set to run the shovels at any desired depth. Cultivator is all steel except the pole and singletrees. The evener is steel and the main frame is made of square steel pipe. It has all the **advantages of a hammock seat without the disadvantages**, for the seat trap is held from swinging back by its proper connection to the frame. Another good feature of this cultivator is that while at work in the field the gangs can be raised, lowered and guided entirely with the feet, and when work is finished they can be thrown up, where they will remain while transporting the machine. The Pivotal Dutch Uncle is built especially for use in hilly ground. The shifting lever may be used as a loose lever by swinging the latch on lever over center, or to hold cultivator on a side hill may be set to either side as conditions require.



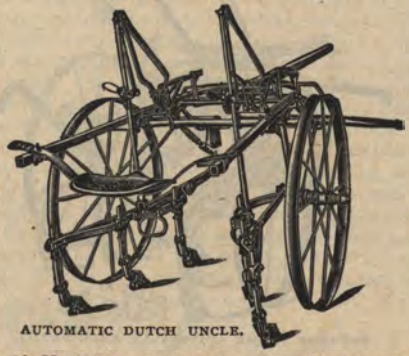
DUTCH UNCLE CULTIVATOR.



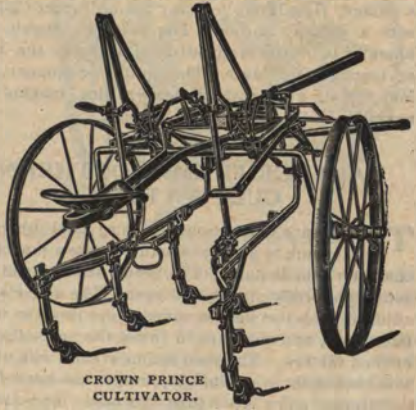
PIVOTAL DUTCH UNCLE CULTIVATOR.

AUTOMATIC DUTCH UNCLE AND CROWN PRINCE CULTIVATORS.

THE Automatic Dutch Uncle and Crown Prince are exactly alike with the exception that the Crown Prince has straddle instead of hammock seat. Both contain the valuable features of the regular Dutch Uncle, the only notable difference being that operating the balancing lever automatically raises both beams. However, either beam may be raised independently of the other, or both beams may be raised without using the balancing lever. These are important features. With most cultivators of this class it is necessary to operate the balancing lever **every time it is desired to raise the beams.**



AUTOMATIC DUTCH UNCLE.



CROWN PRINCE CULTIVATOR.

BALANCE FRAME ADJUSTABLE AXLE DANDY CULTIVATOR.

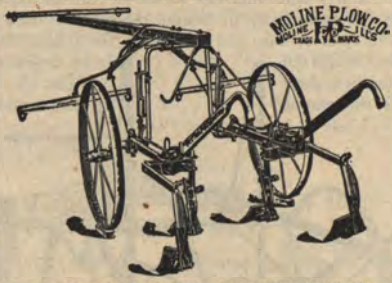
THE Balance Frame Adjustable Axle Dandy is the latest addition to the well known and highly successful line of Dandy Cultivators, and presents some especially valuable features. It has a long, easily operated balancing lever mounted on a rock-shaft at the forward part of the frame. The lever controls both ends of the axle in one movement, thus giving the axle a brace on each side. It is adjustable in width to fifty-two inches. This adjustment is made simply by loosening a set screw and sliding the axle to the width desired. The one and one-quarter inch steel pipe through which the inside ends of the axle pass adds great strength to the frame. The wheels are forty inches high and have long distance perfectly dust proof boxes. The large chamber inside of the

BALANCE FRAME ADJUSTABLE AXLE DANDY.

wheel box will hold enough hard oil for a two thousand mile run. The seat bar is adjustable in height. It has a joint by means of which the seat may be folded forward when it is desired to use the cultivator as a walker. The lifting rod may be used either rigid or with a yielding spring. The foot lifts enable the operator to lift the beams without dropping the lines or touching the lever. The spring equipment and foot lifts do away with all heavy lifting, making the operation of the cultivator boy's work.

BALANCE FRAME SOUTHERN CULTIVATOR.

THE Balance Frame Southern is an ideal cultivator and is sure to give satisfaction where a tool of its character is in demand. The beams are long and the action uniformly steady and even. The shovels are adjustable on the sleeves, either up or down to regulate depth, and sideways to throw the soil either to or from the row. The steel double evener, with which this implement is equipped, prevents one horse from performing more labor than the other, and always keeps the wheels parallel, the cultivator drawing squarely whether the horses pull evenly or not. The arch is constructed of two pieces, each piece being bent of one solid bar of high carbon steel, and are shaped so that they set the wheels back of the coupling, for the purpose of balancing heavy gangs. This prevents the tongue from rising when in operation or

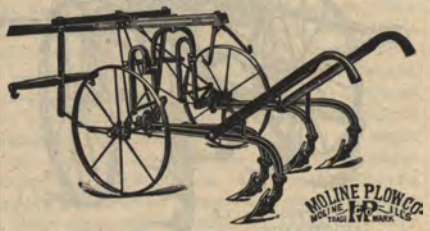


BALANCE FRAME SOUTHERN CULTIVATOR.

when the entire weight of the gangs is on the hang up hooks. The ends of the two pieces forming the arch "lap over" or pass by each other in a double bearing tongue casting, thus making an easy and quick adjustment for width. The Balance Frame Southern Cultivator is provided with the famous Golden Rule compressible coil springs, and equipped with cone bearing couplings. It is simple, strong, and so constructed that any wear can be taken up in a moment. This cultivator can be equipped with either of twelve different styles of gangs. Has dust proof, long distance axles.

NEW WESTERN CULTIVATOR.
SINGLE EVENER.

THE New Western has for years been the leading walking cultivator throughout the corn belt. It is made of the best materials—light, yet strong, and its general construction is intended to insure the most perfect work with the lightest draft and greatest possible ease of operation. The flat springs with adjustable tension, while obviating the necessity of lifting shovels from the ground, lighten the draft without impairing the efficiency of the work. The New Western can be operated by a boy without in the



NEW WESTERN CULTIVATOR, SINGLE EVENER.

least overtaxing his strength. With the new draft device the shovels may be forced into the ground to any required depth without any effort on the part of the driver. The cone bearing coupling is adjustable in every way A center shovel can be attached for putting in small grain. Steel double evener can be furnished when desired. The cultivators are equipped with long distance hub boxes. Can also be furnished with adjustable arch.

EASTERN DANDY CULTIVATOR.

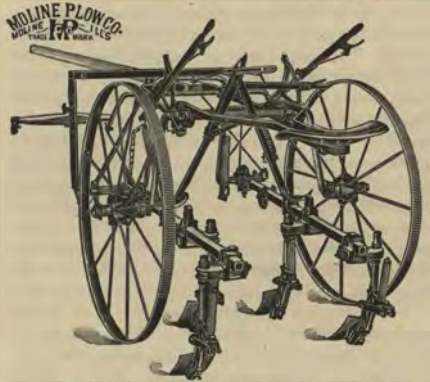
THE farmer who prefers a foot guide cultivator will find no tool of this class on the market that can be compared to the Eastern Dandy. It has distinct and apparent advantages that not only contribute to the long life of the machine but make it very convenient and unquestionably the easiest and most satisfactory to operate, while the quality of its work cannot be excelled. It has balance frame, adjustable axle, and long distance, dust proof boxes. Beams are

EASTERN DANDY CULTIVATOR.

extra long, making them extremely easy to guide, as well as giving ample room for trash to pass between the shovels. The foot levers are within easy reach and afford a comfortable position for the operator. These levers are operated by merely pushing the feet forward, or pulling them backward, as the case may be, which is a great improvement over the side or spreading movement. By the forward and backward movement the power is applied in an easy and natural manner, gives greatest leverage, and does not tire the operator. In most cultivators of this type, when turning at the ends of the rows, the operator is compelled to raise the beams, one at a time, and then adjust the balancing lever. This makes three operations, and as the driver has but one free hand, it is very inconvenient. The Eastern Dandy is so arranged that when the balancing lever is operated both beams are raised. This is done with the right hand. Simple and easy. Raising the beams in this way with the balancing lever in no manner changes the depth of cultivation and the beams require no adjusting for depth, as when they are again lowered they resume work at exactly the same depth as before they were raised by the balancing lever. In other words, after the operator has once adjusted the beams to the desired depth of cultivation they require no attention. This means that the Eastern Dandy is controlled by one motion of one lever, while other cultivators require the handling of three levers. Each beam has an independent lever for use when for any reason it is desired to operate one beam at a time. The beams are held to their work by means of pressure springs and the draft of the team.

NEW TEXAS DANDY COMBINED CULTIVATOR.

THE New Texas Dandy is in every particular a first class implement and its many new and desirable features must at once impress the practical farmer. It was built especially to meet the peculiar conditions found in the South. It has a steel frame; is provided with balancing adjustment to accommodate operators of different weight. The lifting levers work on a fine tooth ratchet, which makes very close adjustment. It is also provided with compensation springs. An important feature of the New Texas Dandy is the adjustable axle. By means of this adjustment the distance between the wheels may be easily increased or decreased. The value of this device will be readily appreciated by farmers who diversify their crops and of necessity have to cultivate rows of different width. All that is necessary to make the adjustment is to loosen the two set-screws in the collars, draw out or push in the axles to desired width and tighten screws again. The seat bar is hinged, and may be laid forward when used as a walking cultivator. The automatic spring trip used on this cultivator is a very desirable feature in stumpy land. It prevents breaking shovels and saves the labor of making and the annoyance of carrying wooden break pins. The spring trip is provided with an up and down adjustment. Shanks are made of one and a quarter-inch round steel and have lateral adjustments on the beam. The shanks may also be raised and lowered. The shanks and blocks may be moved along the pipe to any position desired; they may be

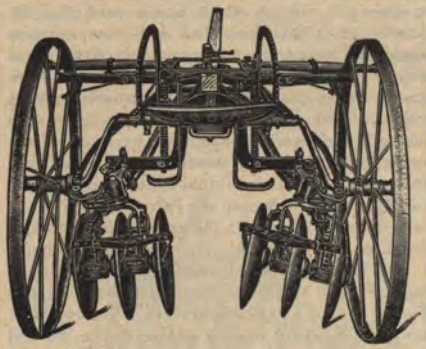


NEW TEXAS DANDY COMBINED CULTIVATOR.

set close together on the beam or placed far apart. The shank blocks are locked in position by means of a wedge-bolt, and the shank is fastened with a welded eye-bolt clamp. The square pipe has but one hole and that is at the front end These features give ease of adjustment, strength and simplicity. In addition to the gang described in the foregoing the Texas Dandy can be furnished with parallel spring trip adjustable shanks, rigid standard, two five and two nine-inch wing shovels; pipe beams rigid standard spring trip and parallel adjustable break-pin shanks.

NEW CAPTAIN KIDD FOOT-GUIDE DISC CULTIVATOR.

THIS cultivator, being constructed almost entirely of steel, admits of the frame being very light without any sacrifice of strength. The operator is given a clear view of his work, and the implement presents a neat appearance. The frame is attached to the pole on a pivot, enabling the operator by means of the convenient foot levers to swing the

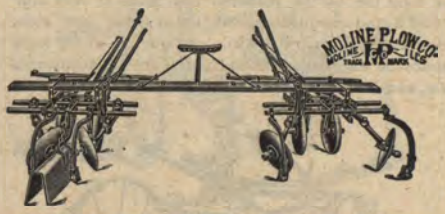


NEW CAPTAIN KIDD FOOT-GUIDE DISC CULTIVATOR.

cultivator either to the right or left to cultivate hills not planted in direct line. Hills out of the row are easily cultivated around without cutting or destroying any of the stalks. The frame is made rigid at pleasure. The Captain Kidd is easily controlled and quickly adjusted for cultivating at any depth required. The soil can be thrown up to the corn and all the surface pulverized without in any way disturbing the growing roots. The gangs can be worked close up to the plant without danger of cutting it. They are adjustable and can be set to or from the rows and at any angle for hilling up or laying by corn, or for cultivating listed corn. They are held in the ground by the weight of the frame and the driver, assisted by pressure springs which can be adjusted to give any weight on the gangs that is desired, adapting the cultivator to all conditions of soil and permitting the cultivation of corn when the ground is hard and dry. The scrapers are held to the discs by spring pressure. When not desiring to use them they can be thrown from the discs by a foot lever and are automatically locked in that position and can be applied to or thrown from the discs as often as desired without stopping the team. The shields are long and are adjustable in width. The axle is also adjustable. Leveling blades can be attached and are useful in many ways. They effectually crush the clods and leave the ground smooth and even. The arms are made of spring steel, are adjustable and can be placed at almost any angle.

SUPREME LISTER CULTIVATOR.

THE wheels used on the Supreme Lister Cultivator are of pressed steel, disc shape. This shape causes them to stick to the trenches without any tendency to climb. They have chilled hub bearings and run on a one-inch spindle, which gives strength and a large wearing surface. The screw caps on the wheel and disc hubs are dust proof and oil tight. These parts are oiled by filling the cap with hard oil and screwing it up, thus forcing the oil through the bearings.



SUPREME TWO-ROW LISTER CULTIVATOR.

All adjustments as to width are accomplished by changing the various parts on the square shafts. The discs may be set at any desired angle by means of the corrugated adjustment nearest the disc; the discs may also be tilted by mean of the round sleeve adjustment. The shields are one long piece, arched, and will prevent the plants from being covered. The seat plank always holds each cultivator level, still permitting it to move from side to side with perfect ease. The wheels and disc arms have independent lever connections. The wheels are mounted on one square shaft, and the discs on another, giving the entire length of the pipe for disc adjustment. The shovels may be raised or lowered with the independent levers, but when the discs are raised out of the ground the shovels are also raised.

Raising the machine out of the ground automatically balances the weight of the operator. This is a very important feature and accomplished in a simple manner. The cut of the cultivator shows one side set for first cultivation and the other for second. The combination of the various parts is such that the forward motion of the cultivator assists materially in raising it out of the ground. The raising levers stand at an angle that places them in convenient reach of the operator. The discs are 16 inches in diameter.

SUPREME ONE-ROW LISTER CULTIVATOR.

This machine is, in reality, a single section of our popular two-row machine, and is as efficient. Farmers using a single-row lister cultivator will find the Supreme without a superior.

LAY BY LISTER CULTIVATOR.

THE "Lay By" is built to meet the demand that has arisen for a two-row lister cultivator that will do the work that heretofore has required two machines to accomplish. Growers of listed corn have found it necessary to use two cultivators: a lister cultivator for first and second cultivations, and, on account of the height of the corn, a higher machine for finishing the crop. The Lay By does away with one machine. No other cultivator is required. It handles the corn from start to finish and does the best work all the time.

LAY BY LISTER CULTIVATOR.

Provision has been made in its construction for all necessary or desirable adjustment; it is easily controlled and has strength to spare.

While the plants are small and in the bottom of the trench, the cultivator is set close as shown in left hand side of the accompanying picture. In this position the discs and shovels cultivate the sides and bottoms of the trenches. The plants are well protected by the closed top shields.

As the plants increase their growth it is necessary to keep the weeds down and at the same time throw some of the soil from the banks into the trenches close to the corn. This is accomplished by reversing the discs, setting them, generally, as shown in right hand side of picture. After this operation the ground is almost level and the ordinary lister cultivator is useless as the trench is gone, leaving nothing to guide the machine, and besides, the corn at this stage is too high for the common type of lister cultivator. For these reasons the Lay By is built high and provided with wheel guide, making it easy to control in the level field after the trenches have been destroyed. It also adjusts itself to the unevenness of the rows. The frames, or wheel standards, are adjustable, so that they can be narrowed to fit the different size trenches, and can be widened, or set apart, when the trenches are gone. When laying by corn, the discs throw the soil up to the plants, while the shovels cultivate the centers, leaving the field in perfect condition.

The frames can be adjusted by simply turning the adjusting rod under the frames. It is not necessary to take the entire cultivator apart and rebuild it in the field. The value of this feature should not be underestimated.

It has a wheel guide, the only effective means of guiding a cultivator of this style.

Levers are within easy reach of the operator.

It has an independent lever to operate the shovels.

It has a yoke between beams to keep the beams from spreading or coming together. This is another feature of the utmost importance, as a disc and shovel both set to throw the soil the same way exert considerable power and unless connected by a yoke it will be impossible to hold them in place.

The draft draws the beams into the ground.

Discs, shovels and shields are raised by the operation of one lever. Springs makes this easy.

The clearance is as great as on the ordinary cultivator.

THE GREAT SNAKES SINGLE-ROW DISC LISTER CULTIVATOR.

THIS implement is a model of simplicity in its general construction, and in its adaptability to the cultivation of listed corn. The front or sled portion is strongly built and consists of two independent runners, shod with steel, and having top boards with bevel boards underneath to brace them. The latter

GREAT SNAKES SINGLE-ROW DISC LISTER CULTIVATOR.

are protected with a covering of sheet steel, which is an important feature in the makeup of the sled, and adds materially to its strength and durability.

The discs in each gang are graduated in size from center to outside, being 10, 11 and 12 inches respectively. This in connection with the angular set of the disc shafts, tends to thoroughly pulverize the soil and throw it toward the center of the furrow. By means of a corrugated malleable connection the gangs can be set at different angles for any desired depth of cultivation, which is a new and important feature on implements of this class. A heavy steel arch connects the gangs with the runners. The depth of the discs is controlled by means of the lever and long ratchet. They can be raised clear of the ground when necessary for transportation. The boxes or bearings of the discs are made of hard iron, and mounted on a steel shaft.

The shields are extra long. They are attached to the runners and are entirely independent of the disc gangs. They are connected with the disc arch by a light chain, and can be raised or lowered with the discs or hooked up if desired and not used. They are of such size and shape as to effectually protect the young corn from possible injury in cultivation.

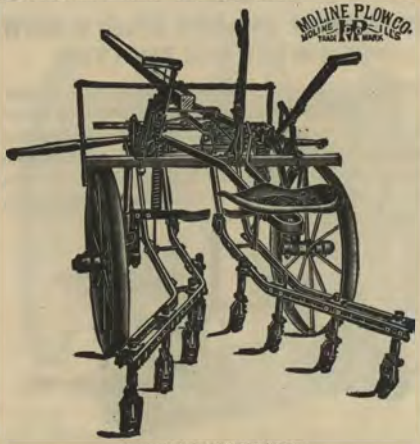
MOLINE PLOW CO., Moline, Illinois.

Dear Sirs. I am well pleased with your plows. I got one of your Sulky Plows that you call the "Good Enough." I got it four years ago and have tried it in all kinds of soil where other plows failed to scour, but the Good Enough went through wherever I went. I am well satisfied with the plows and recommend them to anyone who needs a plow. Sincerely yours,

REINHARD FAUST, Humphrey, Neb.

MICHIGAN CULTIVATOR.

THE Michigan Cultivator is built especially for localities where narrow row crops are grown, such as beans, potatoes and tobacco. It can be narrowed down to cultivate rows planted as close as twenty-eight inches, and with our exclusive and special style of beam will still give plenty of room between the beam and wheel. By a glance at the rear view of



MICHIGAN CULTIVATOR.

the cultivator, as shown by above cut, it will be seen that the beams are entireley different and far superior to any other on the market. The ordinary 8-shovel beams found on other makes of cultivators are of the diagonal style, with shovels in a straight line from inside to outside. This style of beam, cultivating rows planted twenty-eight inches apart, throws the last or outside shovel close up to the outside row and makes a trench close to the plants, which under all conditions is harmful to the crop. And besides, if there are clods and trash in the field they will be rolled along from one shovel to the other, and finally lodged against the plant row. With our style of beam the third shovel works close to the outside row and makes a trench that is filled by the fourth shovel in the rear and to the inside. The last shovel always leaves a trench, but our beam is so built that the trench comes near the center of the row. By this arrangement of shovels clods and trash instead of being left along the plant row will be thrown to the center between rows. The beams are of the rigid style, slidably mounted on a cross-bar on the frame, and by means of the center lever can be instantly widened or narrowed while the cultivator is in operation. The hitch is such that the draft holds the beams to the ground.

It is a well known fact that a short beam that is attached to a coupling, capable of swinging from side to side, does not cultivate the same amount of soil at all times. When the beam is swung in the shovels come closer together and often line up back of the front shovel, and when swung outward the distance between the shovels becomes so great that much of the soil is uncultivated. The beams on the Michigan Cultivator do not have the swinging motion, but are drawn straight ahead and always cultivate the same amount of soil. By means of the foot lever both beams may be shifted bodily from side to side as desired, accomplishing the same result as the swinging coupling without the objections mentioned.

Our guiding device is a very neat and thoroughly reliable pivot axle in combination with an arrangement for shifting both beams to the same side that the wheels are turned, thus making the guide very effective.

MOLINE KNOCKER POTATO DIGGER

THE Moline Knocker Potato Digger is adapted to all soils. The blade, which can be furnished either solid or soft center steel, is slightly concave, and the fingers have a shaking motion which frees the potatoes from the soil and leaves them clean and sound on top of the ground. The trash fender clears away

MOLINE KNOCKER POTATO DIGGER

the weeds and vines which would otherwise clog up at the foot of the beam. The digger is complete with trash fender and fore carriage. The Moline Knocker Potato Digger is a high grade, efficient tool at small cost, and a labor saver that will pay for itself in one season. Thousands of them in use and endorsed by every farmer who has given them a trial. The Moline Knocker Potato Digger is equipped with fore carriage as shown in illustration. This carriage is built of steel and is strong and substantial. The wheels may be adjusted up and down for various depths of digging. The carriage causes the digger to mantain an even depth in rough ground, and makes it easy for young boys to handle without overtaxing their strength.

WESTERN QUEEN BREAKER

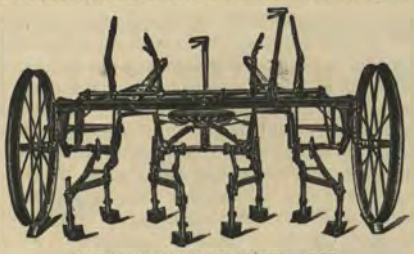
THE best and easiest running breaker ever brought into use. It has a long, tapering moldboard and flat share, making it of very light draft. Turns sod enirely over, leaving smooth surface for easy and thorough cultivation. It is equipped with extra share,

WESTERN QUEEN BREAKER

gauge wheel, rolling coulter and clevis; standard is double braced at bottom and has adjustable cap. Extra shares are duplicates, and it is not necessary, as with breakers usually, to have them fitted by a blacksmith.

DOUBLE DUTCHMAN CULTIVATOR.

CORN growers who have large acreage and feel the pinch of the scarcity of help are not slow to see the benefits that accrue to the owner of a first-class two-row cultivator. They realize that it does the work of two single row machines and does it just as



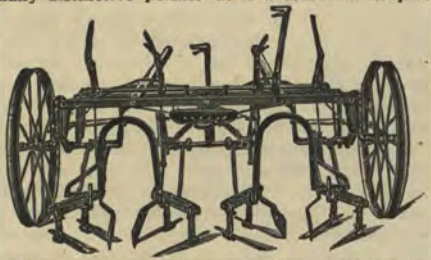
DOUBLE DUTCHMAN CULTIVATOR.

well; that it is as easy to operate as a single row and breaks down less corn; that it saves the expense of one man and one horse.

There are a number of features essential to a successful two-row cultivater.

1. It must be strong.
2. It must be light. Unnecessary weight is just that much extra wear upon the team and a waste of horse-flesh.
3. It must be compact and neat in order to secure the foregoing features.
4. It must be under perfect control of the operator at all times or the crop is liable to serious damage.
5. In order to be under perfect control it must be easy to operate, hence very sensitive to the operator's movements.
6. The operative parts must be conveniently arranged or cultivating will prove a tiresome job.
7. Must have independent adjustments for each beam.

All these necessary details are combined in the Double Dutchman in the most perfect form. It has many distinctive points. It is a combination pivot

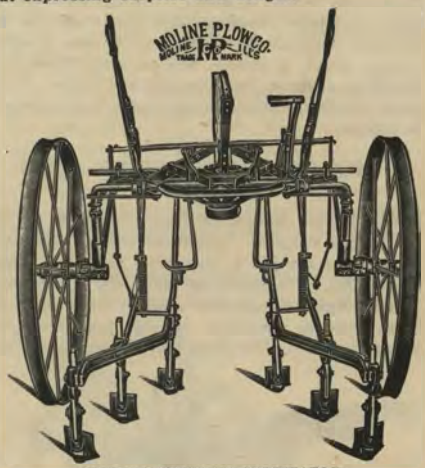


DOUBLE DUTCHMAN WITH SURFACE ATTACHMENT.

wheel and guiding beam cultivator. When the beams are shifted to either side the wheels also pivot and cause the cultivator to travel in the same direction. The beams are fastened rigidly to the arch and have a parallel motion when shifted sideways. They cultivate the same amount of soil all the time. The foot levers are convenient and will not tire the operator. In sections where listers are used the distance between rows often varies. The center lever is provided for this irregularity. With this lever all four beams are moved inwardly or outwardly as desired. Shovels may also be set to work any desired distance from the plants. Beams are connected by our patented adjustable yoke. The Double Dutchman is also furnished, when ordered, with surface attachment as shown in the foregoing cut.

SINGLE DUTCHMAN CULTIVATOR.

THE Single Dutchman is a one-row machine built along the lines of the Double Dutchman. It is astonishing what little effort is required to guide the cultivator, and marvelous what perfect work it does in crooked rows. It must be seen in the field to be fully appreciated. This is where it shows up to be advantage and no farmer can operate it without expressing surprise and delight.



SINGLE DUTCHMAN CULTIVATOR.

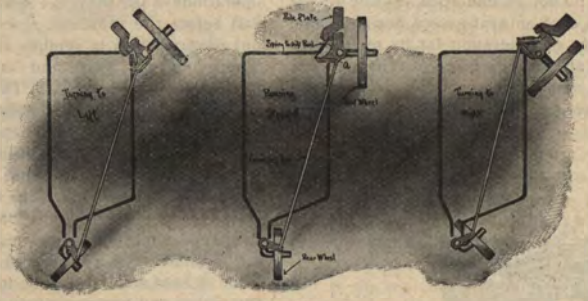
The foot levers are so conveniently arranged that they form a comfortable rest for the feet and do not tire the operator. The power is applied by an easy and natural motion of the leg, much more satisfactory than the up and down and spreading motion found on other cultivators. Another point in their favor is that they follow the direction of the cultivator and do not interfere with the plants. For instance, if it is desired to swing to the left to dodge a hill out of line, pressure is applied to the left foot lever, which swings to the left around the plant without touching it.

It is well known that the motion of the cultivator will help shift the wheels rearward to balance the cultivator, and on other makes requires considerable power to return the balance lever, but on the Dutchman a slight pressure on both foot levers assists in this operation. Beams are raised and cultivator balanced by one motion of one lever.

Wheels have concave tires and dust proof boxes. To oil the cultivator, remove the screw caps from ends of hub boxes, and fill with hard oil. In replacing them screw up tightly. This will force the oil through the entire bearing.

furrow wheel should run a little toward the land and the rear furrow wheel a little away from the land. The connecting rod device between these wheels is an improvement over that on other plows. It prevents the rear wheel from pushing forward on the rod and causing the pole to crowd the furrow horse. In the cut marked "running straight" it will be noticed that the front end is in position marked "a," directly back

The BEST EVER plows have a beam hitch. There has been in the past, considerable useless argument as to whether a beam or frame hitch is preferable. There is no ground for a difference of opinion on the subject. With a beam hitch the load is pulled from the point of greatest resistance, while with a frame hitch the power must be transmitted through the frame to the load.



No. 1

of the axle stem, thereby making it impossible for the rear wheel to push the pole to one side as it is on dead center. It is essential to hold the rear wheel always in the direct line of travel when the plow is in operation. While in position at "a" the rear wheel will not be affected by any little side swing of the pole. When making a turn to either right or left, as illustrated, the rear wheel acts as a caster wheel, pushing the rod to the opposite end of the slot, leaving it free to swing.

No. 2

When the team straightens up the pole also straightens the rear wheel and when again in operating position the spring forces the front end of rod back to the slot marked "a," directly in the rear of the axle stem.

The slotted hole on casting on front axle admits of adjusting the pole so that front furrow wheel may be set at any angle.

The front and rear furrow wheels run on inclined axles for three reasons: They receive all friction squarely on the axle bearing; can be held close up in the corner of the furrow, and will not climb the furrow wall, which a straight wheel is sure to do.

The BEST EVER plows are double bail style. The foot lift is very powerful and accomplishes more than any other, with less effort. When the plow is raised the frame is automatically leveled. This is a feature never before successfully accomplished on a foot lift plow and is a matter of convenience and great satisfaction to the operator. It is difficult to ride on a plow with foot operated lift when the seat does not level. With the BEST EVER, when the plow is raised out of the ground for turning, the foot in one motion does the raising and leveling, and leaves the operator in an easy and comfortable position, with both hands free to manage the horses. The foot lever for raising the plow is adjustable, and can be arranged to suit the operator. The adjusting bolt may be set so the plow cannot be locked in the ground. This is valuable when plowing where there are obstructions of any sort. The operator holds his foot lightly on the short lever where it is always in readiness to push it back when an obstruction causes the plow to rise.

The gang plow is provided with an assisting hand-raising lever. The ordinary plowman will find no occasion to use this, except when he may be walking. It was put on for the benefit of the boys who are too light to operate the foot lift.

Notice the manner in which the front furrow wheel bracket is attached to the frame. This not only gives strength to the frame, but holds the wheel always in the same position, making it impossible for the wheel to spread out and give the front plow on the gang any more than its proper cut.

Cut No. 3 gives a good idea of the great strength in the manner of bracing the beams on the gang.

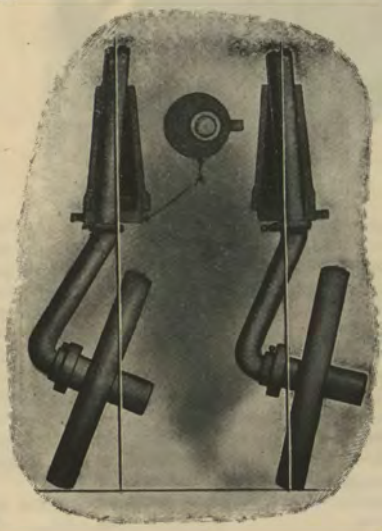
and also shows the steel frog and moldboard braces.

It is often desirable for various reasons to change the side set of the rear wheel. This, with BEST EVER

No. 3

plows, is a very simple operation, requiring but a few seconds. It is a accomplished by loosening the set screw and swinging the eccentric ring (marked "A" in cut No. 4) to the position desired. The cut indicates the scope of this adjustment.

The wheels have long distance, perfectly dust proof boxes.



No. 4

The clevis is so arranged that it will at all times hold the evener up level, greatly reducing the possibility of the traces becoming unhooked.

The plows are of beautiful design, are the limit of simplicity, have abundant strength, and do work with more ease and perfection than has ever been approached by similar plows. Made both right and left hand.

FROM THE HEART OF THE GANG PLOW COUNTRY.

FORBES & HONEYFORD,
DEALERS IN HARNESS AND FARM IMPLEMENTS.
BISBEE AND MYLO.

Bisbee, N. D., September 25, 1908.

Minnesota Moline Plow Co., Minneapolis, Minn.

Gentlemen: We have received several letters from our customers showing how well they like the New D W 14-inch Best Ever Gang Plow, and we are glad to say that every one of these farmers is of the very best class of farmers in this country. This New D W 14-inch Best Ever Gang Plow does the best work of any plow in this country. It is the easiest running plow in this neighberhood, turns the furrow better, covers the stubble all under, and we believe you should get the big end of the gang plow business wherever this plow is sold. Your shares alone should be one of the good reasons why every farmer should have a D W 14-inch Best Ever Gang. Enclosed find an order for car load of this plow which we must have shipped right away. Please rush this car.

Yours for business,
FORBES & HONEYFORD.

Bisbee, N. D., September, 1908.

Forbes & Honeyford, Bisbee, N. D.

Gentlemen: I want you to know that the New D W 14-inch Best Ever Gang Plow is all right and just as good as you claimed it to be. It turns the furrow perfectly, giving the best kind of work. Pulls easy and does perfect work. It covers all the stubble, making an even furrow. I would be glad to recommend it to anyone needing a gang plow.

Yours truly,
JOHN CHRISTENSEN.

Bisbee, N. D., September, 1908.

Forbes & Honeyford, Bisbee, N. D.

Gentlemen: I am using one of your D W 14-inch Best Ever Gang Plows and am pleased to say it is the best gang I have ever used; doing the best kind of work, easy handled and light draft. Am going to want another plow this fall; it will be the Best Ever.

Yours truly,
PAUL KUCK.

Bisbee, N. D., September, 1908.

Forbes & Honeyford, Bisbee, N. D.

Gentlemen: I am using one of your New Moline D W 14-inch Best Ever Gang Plows and am pleased to say that I like it; am satisfied it cannot be beat and recommend it to any of my neighbors wanting a plow. It runs light and does first class good work.

Yours truly,
J. W. DUNGAN.

Mylo, N. D., September, 1908.

Forbes & Honeyford, Mylo, N. D.

Gentlemen: I have used your New D W 14-inch Best Ever Gang Plow, and am free to say that it pulls lighter, turns a better furrow and does better work all around than the two other gangs I am using. I like the plow in every particular and would gladly recommend it to any farmer needing a gang plow. It's a dandy in a stony field. Yours truly,

W. A. SMALL.

MONITOR DOUBLE DISC DRILLS.
WHAT WE CLAIM FOR THEM.

1. That they are built of the best material, by skilled mechanics, on correct mechanical lines and every machine and all its parts are tested before leaving the factory.

2. That they are approximately one-third lighter draft than any other machine of equal size.

3. That they are the only drills that cannot be clogged either by mud, gumbo or adobe soil; or in weedy or cornstalk ground.

4. That they are the only drills that will put all the seed at the bottom of a clean wide furrow at an even depth in two rows and cover the same with a uniform amount of earth.

5. That they require one-fifth less seed to be used than is required by other machines.

6. That they have increased, and usually will increase, the yield of wheat from three to seven bushels per acre. (And other grains in proportion).

7. That wheat grown from seed sown by Monitor Disc Drills will grade higher and consequently bring a better price than if grown from seed sown by other styles of seeding machines.

8. That a Monitor Double Disc Drill will pay for itself in one season when 50 acres of wheat are put in by it, by its saving of seed, of team, and of help, and by increasing the yield and raising the grade.

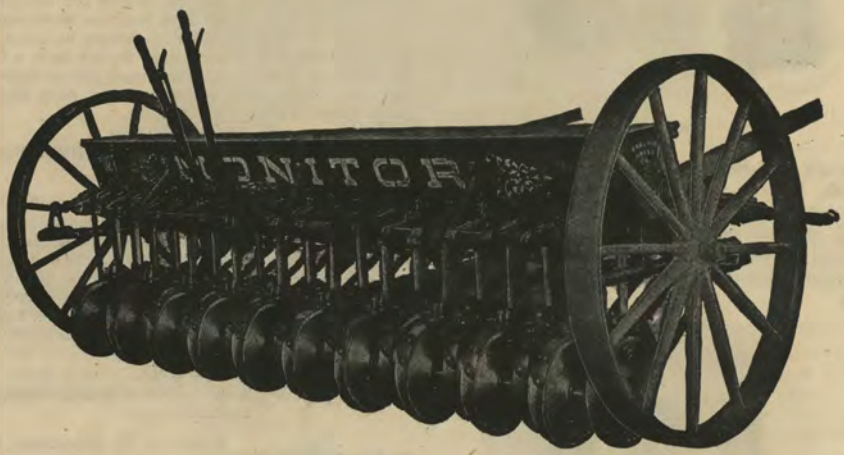
9. That they are the best drills on earth BECAUSE THEY PRODUCE THE BEST RESULTS.

If a Monitor Double Disc Drill would PAY FOR ITSELF in one season in seeding 50 acres of wheat, by reason of the fact that it produced that much greater yield of wheat (or other grains in proportion), than could be produced by any other seeding machine in the world, it would be "producing results," wouldn't it? If it could do this it wouldn't be very good business for a farmer to buy some other machine just because it's a few dollars cheaper, would it?

"But can they really do this?" you ask. We stake our entire reputation on the answer: "Yes, they will and they have time and time again at all points of the compass."

Tens of thousands of farmers throughout the United States and foreign countries are using them; they are giving them the best of satisfaction, large crops; but many of them do not know just exactly how much better the results are than they would have been if they had used some other style or make of drill.

To get at the exact difference it is necessary to make detailed comparative tests, and this has been done many times in different states. We have never known or heard of any test being made that did not show that the seed sown by the Monitor Double Disc Drill produced considerably more per acre than any other machine in the trial. The amount of increase per acre varies with conditions and territories. The average increase is from 3 to 7 bushels per acre. In the semi-arid regions, where the land is irrigated, the increase is still greater: it has been as great as 28 bushels.



MONITOR DOUBLE DISC DRILLS ARE THE BEST.

Now, if you are interested, we will attempt to tell you HOW A MONITOR DOUBLE DISC DRILL is able to increase the yield FROM 3 TO 7 bushels per acre and pay for itself.

If you will examine the cuts, Figure XVIII, you will notice that the boot is made of one solid casting—the disc axles being a part of it. These axles are cone-shaped and set at such an angle as to bring the two discs, which have sharp beveled edges, tight together in front, and spread them about 2¼ inches apart in the rear and about 1½ inches apart at the bottom. The grain tube (3) passing through the boot at point 2, DROPS THE SEED IN FRONT of the disc axle so that as the seed falls the discs are revolving downward and thereby aid to deposit the seed at the bottom of the

furrow, the sides of the discs preventing dirt, trash and even water from getting to the bottom of the furrow before the seed does. Inasmuch as the discs start to spread apart between the front and bottom, a

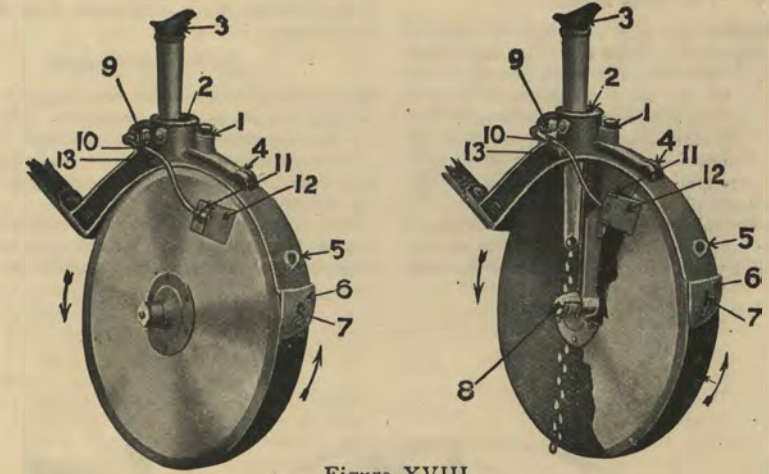


Figure XVIII.

ridge, as shown in above cut, is left at the bottom of the furrow; this ridge splits the fall of the seed and spreads it in two even rows about 1 inch apart, which gives it a better opportunity to stool, prevents crowding of roots and insures a stronger, healthier growth than when sown in single rows, as is the case with all other styles of furrow openers.

For the reason that nothing can get at the bottom of the furrow before the seed does, it is deposited at a uniform depth. The side walls and bottom of the furrow are rather hard, as distinguished from pulverized, inasmuch as the bottom has not been disturbed and the sides are compressed. This leaves a clean cut furrow that holds and gathers the moisture. The loose pulverized soil covers the seed evenly. Every fertile seed will sprout at the same time; this enables each sprout to help the other reach the earth's surface—the crop will grow evenly, withstand droughts, ripen at the same time, and produce the largest possible yield of the best, most even grade.

There is no other seeding machine that so deposits the seed. Seeders, hoe drills, shoe drills, single disc drills, and all other double disc drills deposit the seed at uneven depths, varying from the bottom of the furrow to the top. All other double disc drills drop the seed back of the axle with the upward turn of the discs. The earth commences to fall into the furrow just back of the center. As the seed falls, much of it hits against the side of the discs. The disc being on the upward turn will retard the fall of the seed. Some will stick to the muddy sides and be carried up to the inside scrapers and then drop on top of the ground for the birds to feast on. In fact, they deposit the seed from the bottom to the top of the furrow. That which is dropped on top of the ground and in the loose top soil may sprout quickly, but the least bit of dry, hot weather will kill it; some of it may struggle along for a while and then turn a sickly yellow and produce a few shriveled kernels, while that which is buried deeper will not be ripe when the rest is and if it is cut before it is ripe it will shrivel, the grade will be lowered, and consequently the price and value per bushel lessened.

THE DETAILS OF THE DISCS.

As the discs fit tight together in front and revolve they cut through trash of all kinds so that the seed falls on clean earth.

The Bearings.

The axles are chilled and do not wear out. The hub is not chilled. If either would wear out it would be the hub, which could be replaced at a nominal cost, but as a matter of fact the hub will last for many years.

The bearing is about as dust proof as a good watch. The hub being riveted to the disc allows no dust to pass between them. A bolt with a washer on either end passes through the axle at point 8, which holds the discs on the axles, then a pressed steel cap is

fastened over the end of the hub. This keeps the dust out and the oil in.

The Oiling Device.

The oil conduit runs from point 1 to the center of the axles and works to either end of the axle, where there is a small groove through which it works to the bearing; then the only way it can get out is to work up the bearing toward the inside of the disc, and there is the only place dust can get in, and then only as the wind blows it in between the back of the discs, but it cannot get into the bearing for the reason that the second the dust strikes the used oil it must go with it, —it can't go in while the oil is coming out. At point 1 the oil hole is rimmed out smooth and a cork stopper used because it will fit tight and not let the air in, which forms a vacuum, thereby holding the oil from running too fast. It will flow just freely enough to lubricate the bearings properly. One oiling will last a day.

The press rods are attached at point 4.

The covering chains are fastened at point 5.

The Inside Scrapers.

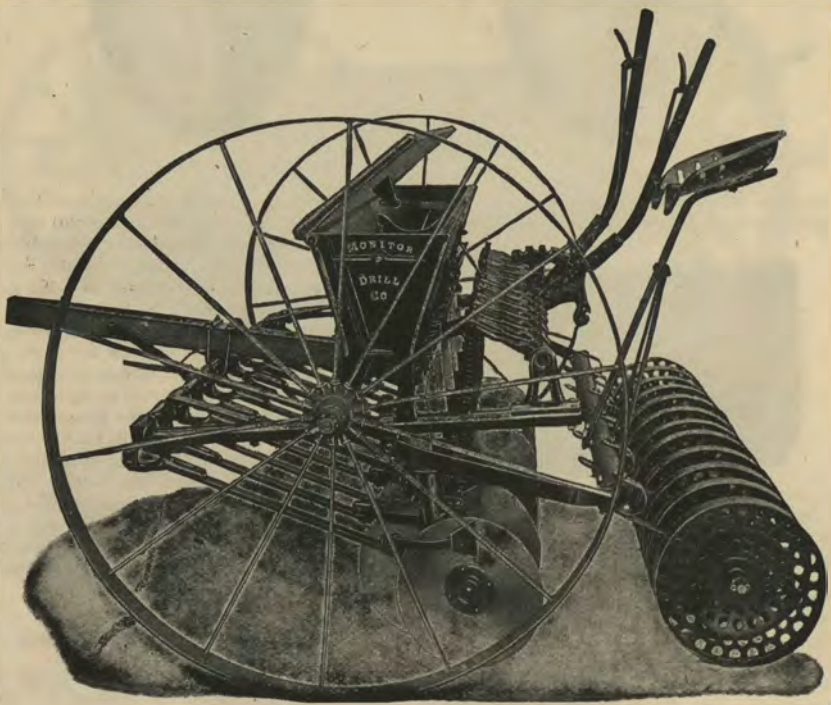
A tapering dished scraper (6) is fastened to the rear of the boot between the two discs by means of a machine screw passing through an oblong hole (7) in the scraper. By this means the scraper can be raised or lowered to fit the discs tightly or loosely as desired. It is adjustable. It keeps the inside of the discs perfectly clean.

The Outside Scrapers

Keep the discs so clean that they cannot be clogged by mud, gumbo, adobe or trashy soil. They can go and do their work right anywhere a team can travel.

There is a lug on the arm (10) which passes through a hole in a projection on the boot casting at point 13, which pivots the arms.

The scraper blades (12) fit into a malleable swivel (11) which is so fastened to the arm as to permit it to revolve on the arm without coming off—it can't lose



A STYLE "D" DRILL WITH "E" PRESS WHEELS.

off or be pulled off by corn stalks. Constant pressure against the revolving disc wears the inside of the scraping end of any scraper, and when it becomes so worn that it has a beveled edge it is almost useless in gumbo or adobe soil, especially if there are any small fibres or roots, as they work under the beveled edge and hold the scraper out from the disc so it cannot scrape and keep it clean, then it clogs. By having these scrapers swiveled they can be turned over without

removing anything, the scrapers on the whole machine can be reversed in a minute, when one side gets worn they can be turned over and the other side used until it gets worn down, and then it can be reversed again, and so on until the blade is worn out, and then you don't have to buy a whole new scraper, just remove the blade and insert a new one at a nominal cost. The front end of the arms are pushed apart by a coil spring which receives the inward projections on that end of the arms. These springs can be easily adjusted to increase or diminish the tension. This combination makes the scraper blade act on the arm as one's hand does on one's wrist. They are automatically adjustable. They follow the slightest jar of the discs and prevent anything from getting between the discs and scrapers, and still the pressure is such as to make the friction very small, We guarantee them to keep the discs clean in any soil under any conditions.

The draw bars are short, flat and straight; being attached to the discs flatwise, they have the full strength where it is most needed—not up or down—but sidewise, to keep the disc from getting out of alignment; they rigidly hold the discs in line. They are connected to clips on the frame by steel hangers and they will not break; malleable iron ones will.

The Press Wheels.

Farmers who are accustomed to using low down press drills, who have used the Monitor Double Disc Drill without any press wheels, claim that by reason of its way of depositing and covering the seed, the press wheels are unnecessary.

They claim they have gained better results with this drill, without press wheels, than with other machines with them. Read carefully the way the Double Disc deposits the seed. Without press wheels a much wider machine can be used with the same horse power —consequently the seeding is done in much less time.

However, we aim to give the farmer what he wants. We make the press wheels as well as the rest of the machine, to sell, but we know what our Double Discs will do and tell you in advance, so that you can save the price of the press wheel attachment if you want to.

Those Who Make a Study of the Science of Farming Should Know.

North Dakota Agricultural College,
North Dakota.

Monitor Drill Company, Fargo, North Dakota.

Gentlemen: We have been using your six-inch, twenty-two bar, double disc Monitor Drill on the college farm at the North Dakota Agricultural College this spring, for seeding the farm. I desire to say that the machine has given entire satisfaction. The grain is coming up nice and even and is looking splendid, which shows that the sowing has been uniform. We experienced no trouble from clogging of the discs, as the mud scrapers are amply able to keep the discs clean. From a dynamometer test we find that average draft of the machine while working under ordinary conditions with the scrapers on is 562 lbs. The maximum draft shown is 750 lbs., and the minimum 375 lbs. Yours truly, C. J. ZINTHEO,
Instructor in Agricultural Engineering.

South Dakota Agricultural College,
Experiment Station.
Brookings, South Dakota.

Monitor Drill Company, Minneapolis, Minnesota.

Gentlemen: It affords me pleasure to give you our experience with your double disc drill. We gave this drill a good test last spring. We run it on dry land and in mud, on breaking and in corn stalks. Its work in all conditions was entirely satisfactory. The grain sown with it comes up in two rows, as claimed for it, comes up quicker and more uniformly than grain sown with any other kind of furrow opener. I belive that the double disc is as great an advancement over the single disc as the single disc was over the shoe drill or the shoe drill over the hoe drill.

Yours truly, JOHN S. COLE, Agronomist.

Prof. H. C. Boley of the North Dakota Agricultural College, says:

"We have observed, other things being equal, that the first wheat seeded in the spring gives the BEST YIELD and the BEST GRADE. Make a good even seed bed with a good soil continuity from below upward, and bury the seed at an even or regular depth, so as to insure even devolopment of the crop."

If your dealer does not handle the Monitor, write us or the nearest branch house

HENNEY BUGGIES

FAMOUS FOR SERVICE, CELEBRATED FOR COMFORT, RENOWNED FOR STYLE

QUALITY

IS the watchword in our factories. That is the reason we dwell upon it in our advertisements. It is the foundation upon which we have built our business. It is the secret of the confidence the public has in our wares. It is our ambition to give our friends greater value for their money than they can obtain elsewhere. Read what L. H. Brannen, of Tama, Iowa, has to say:

Bought August 4, 1904, of Enright Bros. of Tama, Iowa, and put on the road immediately, a Henney Buggy which has run twenty-two and one-half miles per day for three and three-quarter years, on a mail route, averaging three hundred and seven days to the year, which gives a total of twenty-five thousand nine hundred and two miles, or PRACTICALLY ONCE 'ROUND THE WORLD. In this time not one cent was expended for repairs.

L. H. BRANNEN.

This testimonial came unsolicited from Mr. Brannen. After a severe test of nearly four years he felt so highly pleased with his Henney Bargain that he wanted to tell us about it.

High-Grade

Cabriolets, Surries, Stanhopes, Concords Top Buggies, Bike Wagons, Road Wagons Spring Wagons and Mountain Spring Work

THE PICTURE BELOW TELLS A STORY OF QUALITY THAT IS EVEN MORE WONDERFUL

THE ACCOMPANYING PICTURE shows Mr. C. C. Collins, of Grundy Center, Iowa, his home, his nineteen-year-old horse, and

TWENTY-SIX-YEAR-OLD HENNEY BUGGY.

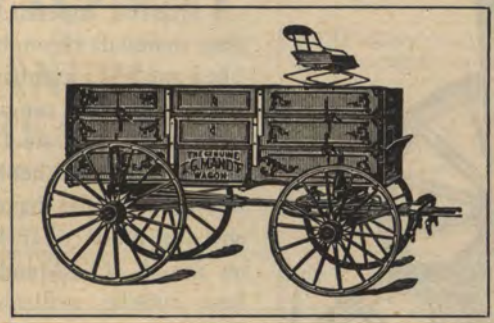
Mr. Collins is a horseman and says that on this account the buggy has had more than ordinary wear and tear. It has never been painted since he purchased it and is in remarkable condition. The top is an example of the durability of the "Henney welted seam." It is full leather and there isn't a thread broken. The body, body corners, seat risers, gear and wheels are in splendid condition. Mr. Collins informs us that the horse was broken to this buggy seventeen years ago as a two-year old.

MADE BY HENNEY BUGGY COMPANY, FREEPORT, ILLINOIS

BRANCH OF

MOLINE PLOW COMPANY, MOLINE, ILLINOIS

GENUINE T. G. MANDT



The Most Complete Wagon on the Face of the Earth

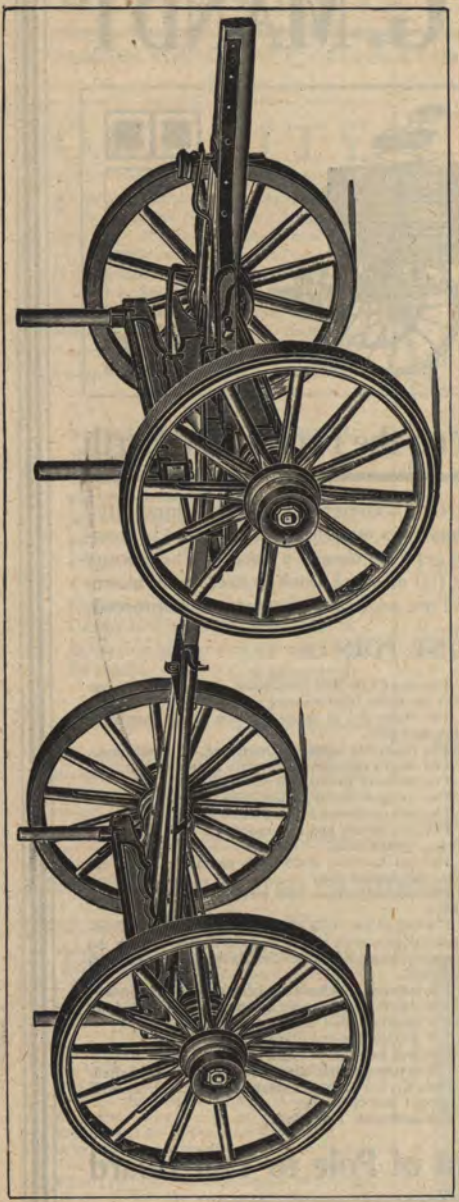
IT IS a very light running wagon and has great durability. The word "durability" should be kept constantly in mind when buying a wagon. Wagon value is measured by lasting qualities. Service is where you get your money's worth. The MANDT will outwear two ordinary wagons. Nothing but selected stock is used in its manufacture and all parts subject to wear and strain are protected, trussed and reinforced.

A FEW OF IT'S FINE POINTS:

It is manufactured from the very best and thoroughly seasoned materials.
It excels in good looks, finish and proportion.
It is the easiest running wagon in the world.
The gears, both front and hind, are clipped instead of bolted and have the T. G. MANDT patented circle-posts.
The skeins have a malleable dust and sand-proof collar.
The skeins have extra strong bell, are heavier on under side or wearing part.
The axles have our new improved flat steel truss.
Axles have braces from under side of skeins to hounds.
The wheels have black birch hubs and best of oak spokes.
The wheels have bent oak felloes, bolted and clipped joints, and have heavy tires.
The felloes are riveted at the side of each spoke.
The tongue cap is 34 inches long with a safety catch.
The tongue is steel stripped its entire length underneath.
The angle steel front hound is reinforced with wood, running from axles to end of hound.
The adjustable tongue spring.
The steel lock bolster plate.
The stakes are hollow steel with extension wooden stakes.
The front axle and sand-board are iron-plated, prevent the reach from wearing.
The front end of reach has iron plates forming a king bolt hole.
The reach has hardened, tempered, steel rub irons.
The steel extension reach plate with lock nut.
The MANDT patent grip nut wagon wrench.
The concave cut-under rub irons.
The self-centering box rod nuts.
The side boards and end boards all have hard wood cleats, riveted ends.
The box has steel grain strips on inside, cleats cut bias, anti-spread rods.
The sideboards have steel wearing plates for bolster stakes.
The boxes are made either with the improved Comstock endgate with iron plated sideboards, or with the shoveling-board endgate — has six box straps on each sideboard.
The bottoms have hardwood cleats on top of bolsters.
The center box straps are outside, supported by heavy double-bolted braces.
The double eccentric lever top box holders.
The seat has anti-rebound springs.
The seat spring with clipped centers instead of bolted.
The T. G. MANDT patent whiffletrees, evener, neckyoke and clevis.
The automatic brake lock.

Valuable Features from Point of Pole to Tail-Board

MADE BY MANDT WAGON COMPANY, STOUGHTON, WISCONSIN
BRANCH OF
MOLINE PLOW COMPANY, MOLINE, ILLINOIS



T. G. MANDT FARM TRUCK.

THE T. G. MANDT farm truck has no superior, is made of first-class materials throughout, elegantly finished and has a number of improvements, viz: Improved tongue cap-iron, steel stripped tongue, steel hound, improved hammer strap and hook, steel locked bolster plates; axles have steel truss, sand and dust proof collar skeins, same as used on the T. G. Mandt wagon; bolsters have tubular malleable bolster stakes. Bolster is ironed with malleable tubular socket. Any length stakes can be used. Bolsters have steel plates entire length between stakes.

Furnished with 10-inch steel bolster stake at a small additional charge, when so ordered.

The gears are clipped instead of bolted, thereby overcoming weakening of axles and sand-boards with large bolt holes; has clipped flat braces from under side of skeins to hounds which are stronger and superior to braces screwed into skeins. We use the angle steel front hounds in the construction of all our wagons, and same are reinforced with hardwood from axle to end of hounds, making this the par excellence of hounds used. They excel as to lightness and strength. End of hound is bent down so as not to cut into or wear evener. The new improved tongue spring is easily adjusted and relieves the weight of pole on horses' necks. Pole has a device by which tongue spring can be attached and detached in a moment.

MADE BY MANDT WAGON COMPANY, STOUGHTON, WISCONSIN
BRANCH OF
MOLINE PLOW COMPANY, MOLINE, ILLINOIS

LIGHT RUNNING NATIONAL

MANURE SPREADER

THE educational campaign that has been carried on during the past few years concerning fertilizers and fertilizing has done a world of good. A great many people who thought they understood the subject have learned something. There is not so much barnyard manure going to waste as there used to be. Larger yields are being recorded in consequence. There was a time when the average farmer allowed the manure to accumulate mountain high, and then at some convenient season would haul it to the field and fork it out in bunches, thinking he was spreading manure, when in fact, he was spreading the remains of

manure, and losing half its value at that. It has been learned that to get the fullest returns manure must be placed upon the land as soon as possible after it is made, and the still more important truth has been demonstrated that THE MANURE SPREADER DOUBLES MANURE VALUE. This is particularly true of the LIGHT RUNNING NATIONAL on account of its uniformly excellent work. It is claimed for the NATIONAL that it is the most modern, neatest, strongest, easiest handled, lightest running spreader made. These are strong claims but the spreader justifies them. It is constructed so that friction and wear are reduced to a minimum by roller bearings. It is a 75-bushel machine, still two good horses handle it anywhere. Works all kinds of manure. The beater cuts straight up and back on the manure and does not push against the load for a quarter turn of the beater. This is where many spreaders clog and get their heavy draft. Furnished with narrow track front wheels if desired; also steel wheels when so ordered. It takes a whole catalogue to illustrate and explain the many features of the LIGHT RUNNING NATIONAL. We would like to send you this book.

Ten-Year-Old Boy and Two Horses.

MR. W. B. HELMS,
Clintonville, Wisconsin.

Dear Sir: I wish to state that the National Spreader which I purchased from you a year ago last May has given me satisfaction far beyond my expectations.

I can say that it is absolutely the lightest draft two-horse machine and is the most desirable spreader I have ever seen. It has not cost me five cents worth of repairs during time I have used it. It spreads evenly and handles very easily.

My boy, ten years old, drove the spreader in field and did as well as a grown up man could.

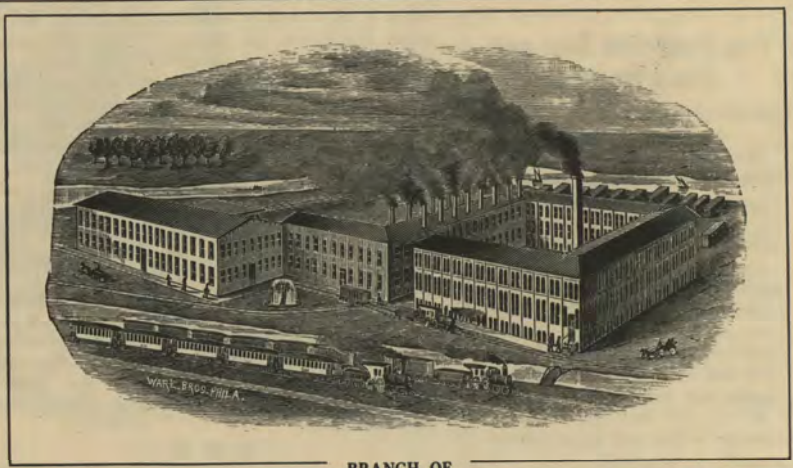
I am entirely satisfied.

Yours truly,
F. G. SCHOENIKE.

Made by Mandt Wagon Company, Stoughton, Wisconsin
Branch of
Moline Plow Company, Moline, Illinois

Rotary Dutchman Disc Plows at work in heavy sage brush. Farmers in Idaho and Utah say they can find no other make of disc plow that has sufficient strength for this class of work.

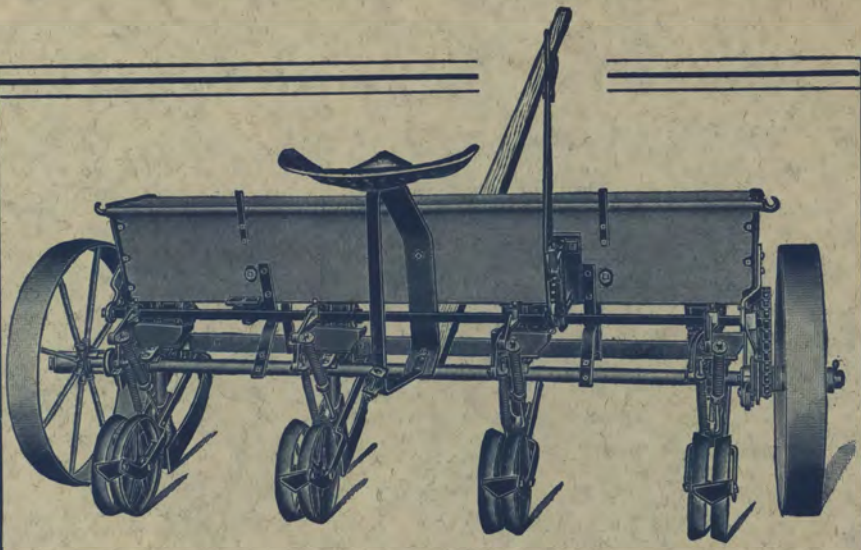
FREEPORT CARRIAGE COMPANY, FREEPORT, ILLINOIS



BRANCH OF

MOLINE PLOW COMPANY, MOLINE, ILLINOIS

WHERE WE MANUFACTURE OUR POPULAR LINE OF MEDIUM GRADE VEHICLES

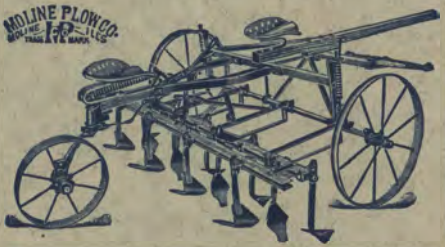


MOLINE FORCE FEED BEET SEEDER

THE MOLINE BEET SEEDER is a most popular implement in the great beet growing sections. It is an ideal machine. The four runners can be set to plant 18 or 20 inches apart, and can be regulated to a capacity of 15, 25 or 35 lbs. of seed per acre. The depth of planting is regulated without changing the pressure of the press wheels. Both runners and press wheels are raised with one movement of the lever. The compression of the springs can be increased by shifting the set screw collar. The seeder has a chain drive as shown in cut. The runners are made of steel and have skags on the heel to penetrate hard ground. They are independent of the press wheels in action, so that the latter may override an obstruction without raising the runners or affecting their action in the least. The back end of each runner has a sheet iron shield hinged on the runner shank to prevent soil from working in and obstructing the flow of seed. It often happens that when the team stops it swings to one side or the other, packing the soil in the runner and clogging it. The shield is effective in preventing this. The seed box is so constructed that the seed fills the entire box and it is not necessary to fill each compartment separately. Simply dump in the seed and sweep it over the full length of the box. The seat is so arranged that the weight of the operator is carried on the driving wheels, which add to the traction when working in loose soil. The seeder can be equipped with irrigating shovels when desired. They are furnished as extras.

MOLINE FOUR-ROW BEET CULTIVATOR

THE MOLINE FOUR-ROW BEET CULTIVATOR is a most substantial tool, stronger than like implements are usually made. The gang is raised by lever, and the raising movement unlocks the caster wheel. The gang is controlled by powerful foot levers, conveniently arranged. The Four-Row Cultivator is furnished with riding attachment regularly. This cultivator is of the double-bar style, giving wide range of adjustment for sweeps and shovels. This cultivator was a great favorite in beet growing sections last season, and is being ordered in increasing numbers for next year's use. We also make two-row cultivators. Ask for our special beet tool circulars. They fully describe the entire line. The four-row cultivator is equipped with a seat on rear end of pole for use when it is desired to have a driver.



MOLINE PLOW CO.
MOLINE TRADE MARK ILL'S

We Build Machinery for All Territories and Many Tools Not Shown in This Circular

MOLINE PLOW COMPANY, MOLINE, ILLINOIS

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