

David Bradley

SUCCESSORS TO
FURST & BRADLEY
MFG CO

MFG CO

CHICAGO, ILL.



MANUFACTURERS OF

PLOWS, CULTIVATORS, RAKES, & C.

About Hardened Shares & Shovels.

OUR WARRANTY.

We warrant our hardened shares and shovels to be well made, from first-class material, and to be properly shaped and tempered, when they leave the factory.

WE DO NOT WARRANT

Hardened shares or shovels against breakage except when it occurs from a flaw or other manifest defect; nor will we be responsible for the scouring of hardened shares, or for the proper running of plows from which they have been taken, after the said shares have been in a blacksmith's forge outside of our factory. Neither will we hold ourselves responsible for the scouring or proper shape or suction of hardened shovels, after they have been sharpened or set elsewhere than at our factory; consequently we cannot receive such shares or shovels in exchange for new ones, or for credit in account.

How to Sharpen Hardened Shares or Shovels.

New hardened shares and shovels are drawn as thin as it is safe to make them, considering the usage they are liable to meet with in handling and in transportation. They can be brought down to a sharper edge by grinding the under side of them on a grindstone, using water. A dry stone might draw the temper. If they become so blunt after a while that grinding will not give them as sharp an edge as is wanted, they can then be heated and drawn out. To do this right but a small portion of the point or of the edge of the share should be heated at one time—as much only as can be hammered out before it cools—and repeat the operation until the entire edge and point have been gone over. Heat the steel to a cherry red—never more; or, if it gets hotter, let it cool to a dark cherry color before hammering. Be careful to keep the body of the share or shovel as cool as possible, by putting moist earth or wet rags upon it, so as not to draw the temper except on the extreme edge which is to be heated and hammered.

For use in hard or sticky ground the point and the

cutting edge near the point should be set somewhat lower than "regular" set, in order to give it more suction; on the contrary, if to be used in light, mellow or soft ground, it can be set about straight or flat, as plows incline to go much deeper in soft than in hard ground.

Having drawn out the point and cutting edge, and properly shaped them with reference to suction, it should then be re-tempered, to do which they must be heated *uniformly* at one time. Heat the share to a dark cherry red, and plunge it into water for a moment, or until it has been partially cooled. Don't cool it too much. There should be heat enough left in it to "draw the temper" until the extreme point and cutting edge turns to a dark straw or purple color, at which stage it should be cooled off entirely.

How to Put On Hardened Shares.

Remove the old share as follows: Take out the rear bolt *first*, then the one next to it, and so on, removing the one in the landside part of the share *lastly*. Now see that the number stamped in the steel on the under side of the *old* share is the *same* as on the *new* one. In putting on the new share, reverse the order of proceeding by putting bolt in the landside part *first*. If the bolt holes in the share do not match those in the plow sufficiently close to allow the bolts to go in without injuring the threads (which occasionally happens), loosen the nuts on the moldboard bolts a few turns; and, if necessary, the nuts of the bolts that hold the iron landside to the beam or standard. It may be necessary, also, to use a steel drift (which is a piece of $\frac{3}{8}$ round steel tapered at one end,) which can be driven through the holes in the share and joining parts until they come into position so the bolts will pass through. When bolts are all in, put on the nuts and give a turn or two at a time to each one, it being better to gradually tighten them all round, rather than to tighten each one separately, as it brings the joints together better, which on a steel plow should go together on a slight strain. Be careful when using the drift, as the hardened steel is liable to break.

"SWINGBEAM" SULKY PLOW.

(See cut on opposite page.)

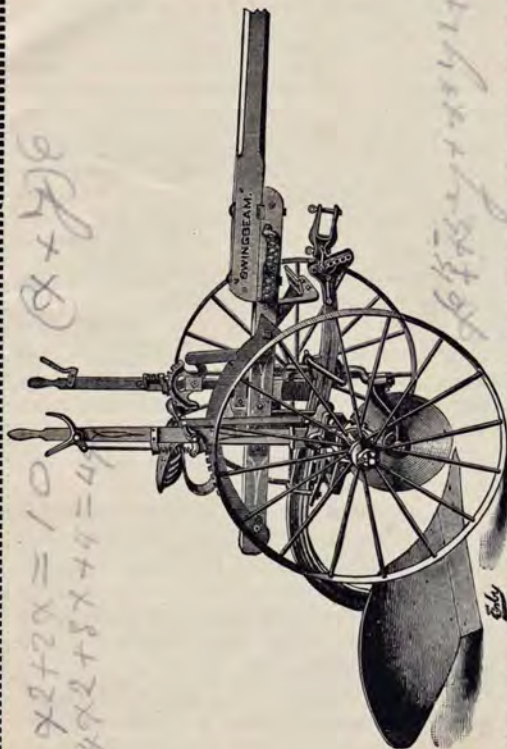
THIS Sulky was first placed upon the market in 1883, having been originally made by us to supply a demand for a plow with a positive "horse-lift." It grew in favor to such an extent that last year we adopted it exclusively. Its record for 1885 added a host to its previous admirers. The plow, as the name indicates, swings sideways on the bail, so that, when turning corners, it is not necessary to raise the plow out of the ground. This feature is much liked by those who plow square lands. It is, however, so arranged that the operator can lock the plow, to prevent swinging, when so desired. A single movement of the hand throws the dog in lock, and the plow is brought out of the ground by the power of the team, without further effort on the part of the operator. The wrought frame is, owing to the manner of its construction, very strong, and calculated to stand any strain which it should be put to. The wheels are our Trussed Suspension Steel wheels, made on an entirely new principle, which makes them very strong and durable, at the same time light. See description of them on page 24. We put the "Boss" Colter and O. K. Beam Clamp on this Sulky Plow. It is the finest colter in use, as thousands will testify. We use the same three-horse equalizer on this as was used on the Friction Attachment Sulky, which is the most perfect equalizer of draft that can be made.

In conclusion, will say that the Swingbeam Sulky is light, strong and durable. The quality of work done by it is owing, greatly of course, to the bottoms, which are the well-known "Garden City Clipper," which, for perfect shape and uniform temper, cannot be equaled. All of the sizes and styles of steel, chilled or combination bottoms, heretofore used on our Sulkies, can be used on this. The changing of one bottom for another can be made in a very few minutes.

CTS.

SWINGBEAM SULKY PLOW,

WITH POSITIVE HORSE-LIFT.



We attach a 15-inch "Boss" Colter to this Sulky, unless otherwise ordered.

(For description, see opposite page.)

GARDEN CITY GANG PLOW,

WITH FLEXIBLE POLE.

THE Gang Plow represented on opposite page has been manufactured by us for several years, and in all sections of this and other countries where they have been sold, the greatest satisfaction is invariably expressed. Unlike experimental machines, it has been perfected from year to year, and any weak points that may have been developed in practical use have been strengthened until it is the most complete implement of its kind in existence.

The work done by this Gang excels any plowing that can possibly be done with a hand plow. It will do good work where the ground is so hard that a hand plow can not work. It works splendidly in trashy ground without clogging. It has a BRAKE ATTACHMENT for lifting the plows out of the ground, which we prefer on Gangs, they being heavier than Sulkies. With this device they are handled with the greatest ease.

We have added a Lever, by which the pole is moved to the right or left, for the purpose of giving the plow more or less width of furrow, as may be desired. It can be operated by the driver while the plow is in motion. For plowing around circular corners, or curved furrows of irregularly shaped lands, it works to perfection.

We also make a *jointed* Pole, which allows a free up and down play of same, and does away with any pressure upon the horses' necks that might otherwise occur in plowing over uneven surfaces. They are guaranteed to do as good work as can possibly be done by any gang plow in existence.

"GARDEN CITY" GANG PLOW.
IRON FRAME.

(For description, see opposite page.)



● COMMON RIGGED PRAIRIE BREAKER. — SIZES, 10 TO 20 INCHES.

Hereafter all of our *Slip-Share Breakers* will have the landside part of the share *welded on*, instead of turned down, and will be called the "Bradley" to distinguish them from the "Peacemaker." The share is quite broad and nearly flat, which improves its cutting quite abruptly. These breakers are not as bold as some other styles, and consequently draw much easier than those of the ordinary type. The mold-board is beautifully shaped, and may be turned into a furrow slice perfectly flat with the exception of a few inches at the tip, which is slightly curved. It is intended for breaking up original prairie, and may be used with two to three inches, for which it is especially strong, the timber being the best of quality and the standard timber highly braced. The cut above shows a Breaker "commonly rigged," as we call it, except an extra share, which always goes with it. With a gauge wheel on and a rolling collar instead of the one shown, it would be an "extra rigged" Breaker.

"GARDEN CITY CLIPPER"

OLD GROUND OR STUBBLE, AND STUBBLE AND
SOD PLOWS.

On pages 10 and 11 are representations of our Old Ground Plows made with the improved tapering landside, showing a mold-board view of the wood beam and a landside view of the steel beam plow. The steel parts are made from rolled sheets of cast steel, made expressly for us, and susceptible, under our process, of a very high temper. The mold-boards, shares and landsides are all tempered. In addition to superior hardness, our plows are so perfectly shaped that they scour in soils where all others have failed. The mold-boards are high—which prevents the dirt from falling back into the furrow—and are wide in the throat or "waist," which carries the dirt well up, covering all weeds and stubble perfectly, also leaving a wide, open furrow.

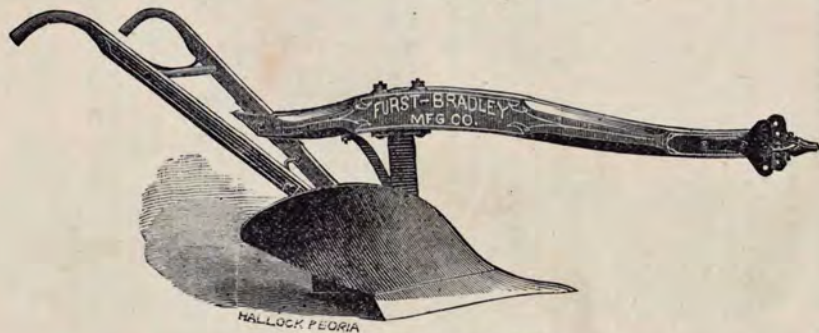
On page 16 is shown our Stubble and Sod Plow, which has a steel tapering landside. The mold-board, share and landside are tempered.

Plows with low landsides—which will be found in our Price List under the heads of "Long Bar Share Plows," "Missouri Clipper," and "Wood Standard Brush Plows," and which are illustrated on pages 12, 13 and 14 of this pamphlet—have hard rolled cast steel, untempered shares, welded to low landsides, with the exception of "Missouri Clipper" Plows, shown on page 13, which have tempered shares.

Plows cutting 14 inches and over have a three-horse clevis, also braces back of the standards.

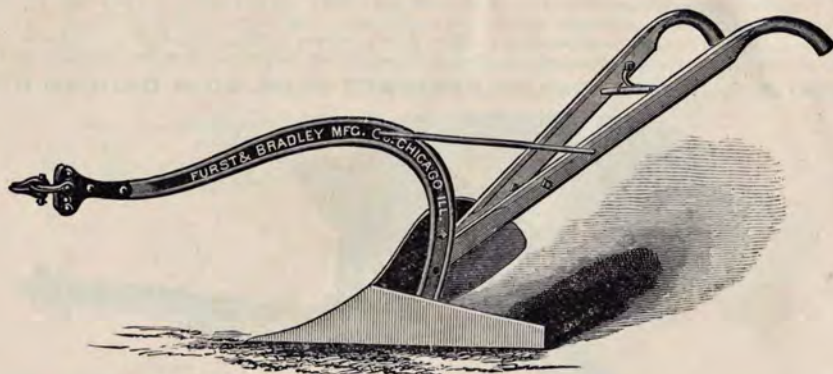
The timber is the very toughest oak that we can buy, and the plows are finished in first-class style, every joint being perfect.

Using *only* the best materials, employing our own exclusive processes, and machinery of our own invention, especially adapted to our business, we are able, with long experience, to produce a grade of goods unequaled in any country for their uniformity and effectiveness.



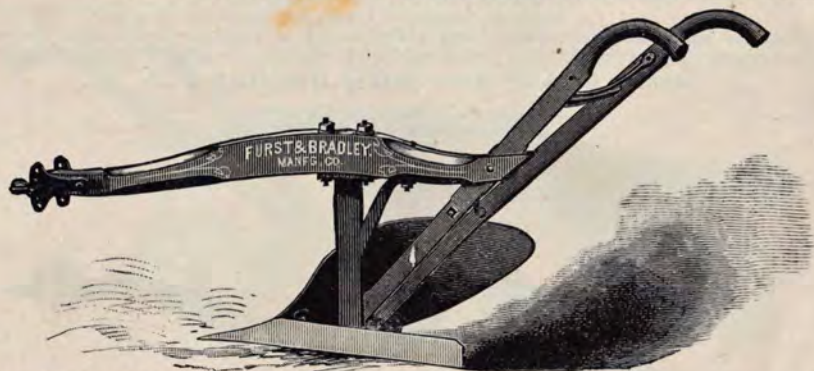
OLD GROUND PLOW.

This is a mold-board view of wood beam Stubble, or Old Ground Plow. The landside view of steel beam plow on next page will show the steel tapering landside as used on this plow; also our way of attaching the handles, which prevents clogging. All wood beams on Old Ground Plows are *adjustable*. Three-horse clevises are put on all stubble plows cutting 14 inches or over. With these clevises, either two or three horses can be used. For further description, see page 9.



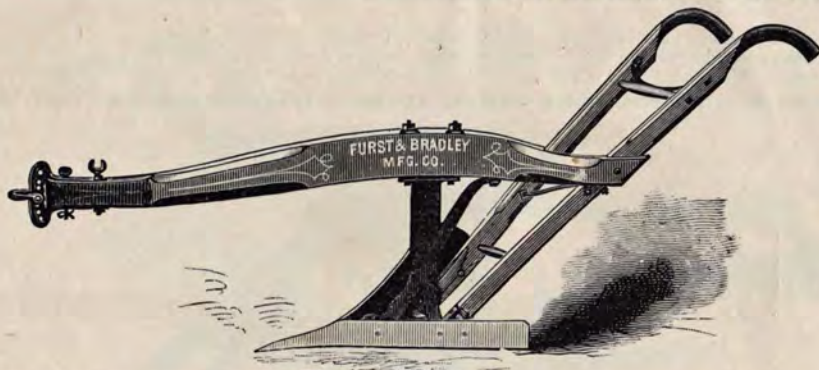
OLD GROUND PLOW.—SIZES, 12 TO 16 INCHES.

This illustration gives a landside view of our Steel Beam Old Ground Plow, showing the taper landside, and the way we attach handles, which prevents clogging. It is identical, in quality, shape and construction with plow shown on page 10, except the beam, standard, and brace rod. For further description, see page 9.



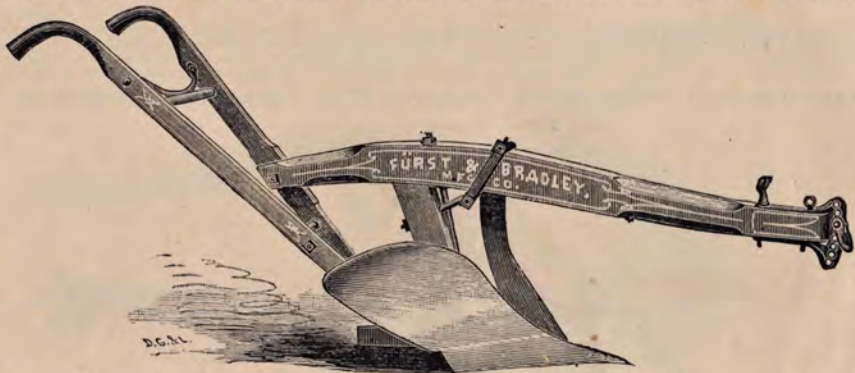
OLD GROUND PLOW WITH LONG-BAR SHARE.—SIZES, 11 TO 16 INCHES.

This plow is wooded precisely the same as, and is identical in shape with plows shown on pages 10 and 11, excepting the landside and share. The share on this plow is made of hard rolled, untempered steel, to which is welded the long-bar low landside. It is for same general use as our other Old Ground Plows, but the welding of the landside to the share makes it somewhat stronger, and well adapted for use in stony and timber land. For further description, see page 9.



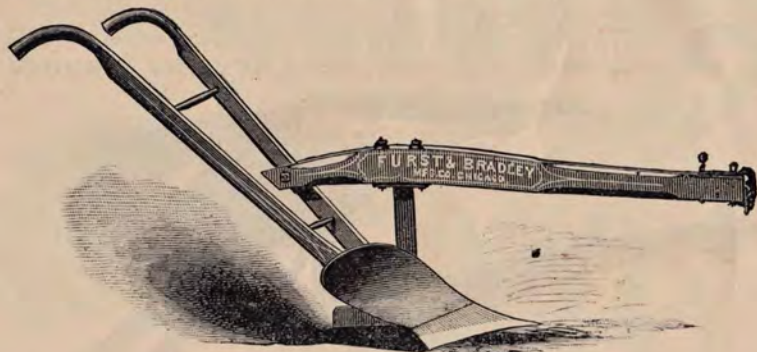
"MISSOURI CLIPPER."—OLD GROUND PLOW.—SIZES, 10 TO 14 INCHES.

This style of plow derives its name from having been originally made for a certain trade, or section of country, in Missouri. It differs from our regular style Old Ground Plow in having an extra heavy long-bar landside welded to a tempered share, and a strong standard, heavily braced, top and bottom, for stony or timbered land. There is also a slight difference in the way we attach landside handle, as the cut shows. The 14-inch plow has a three-horse clevis. For further description, see page 9.



OLD GROUND BRUSH PLOW—WOOD STANDARD.—SIZES, 7 TO 16 INCHES.

This is a long-bar share plow with same shaped mold-board as our regular Old Ground Plow, but is strongly built with wood standard, for timber and stony land, or heavy plowing. When so wanted we put wrought iron strap under the beam; it passes through the wooden standard, as shown in cut. Also attach Quincy Cutter, as shown in cut, when desired. For further description, see page 9.



CORN PLOW.—SIZES, 7 TO 10 INCHES.

These plows are made of cast steel, with *hardened* mold-board. They are adapted for light plowing, for cultivation of crops, and for hilling up.



STUBBLE AND SOD PLOW.—SIZES, 12, 13, 14 AND 16 INCHES.

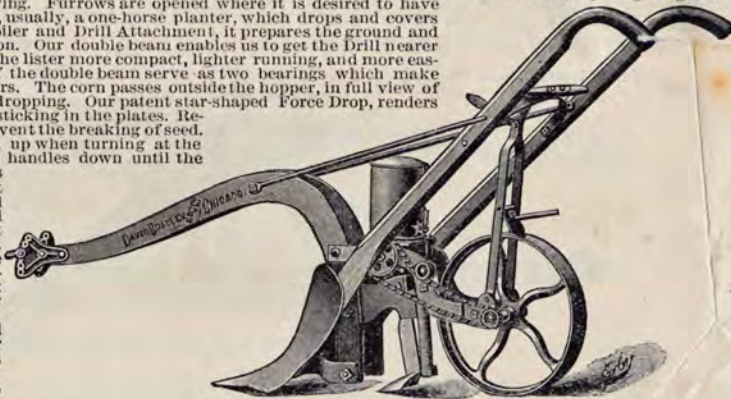
These plows, as the name indicates, are intended to do old ground as well as tame sod plowing. They are a medium between the more bold or abrupt old ground plow and the long, slow-turning breaker. They work nicely in old ground, being preferred by some to the regular Stubble Plow, and turn tame sod, such as blue grass, timothy or clover, admirably. They are numbered 19½, 20½, 21 and 77. We make them with steel beam, also. The numbers of the steel beam plows of this style are 519½, 520½, 521 and 577.

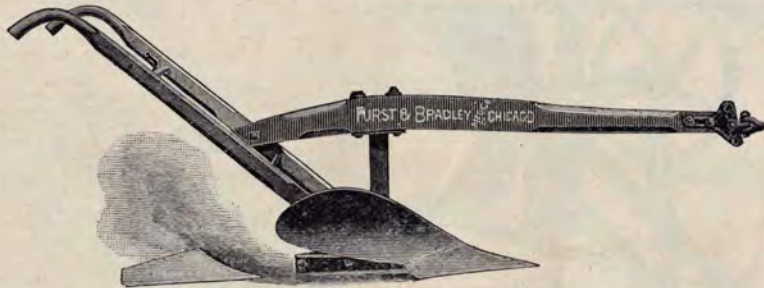
IRON BEAM LISTER WITH DRILL ATTACHMENT.

The attachments can be removed, leaving only the double mold-board or Listing Plow, which can be thus used for hilling up crops, excavating ditches for irrigating purposes, etc. By attaching the Subsoller it can be used for preparing old ground for seeding, without other plowing. Furrows are opened where it is desired to have the rows of corn; then follows, usually, a one-horse planter, which drops and covers the seed. By adding the Subsoller and Drill Attachment, it prepares the ground and plants the corn at one operation. Our double beam enables us to get the Drill nearer the mold-board, which makes the lister more compact, lighter running, and more easily handled. The lower ends of the double beam serve as two bearings which make the plow run steadier than others. The corn passes outside the hopper, in full view of the operator, before and while dropping. Our patent star-shaped Force Drop, renders "skips" impossible from corn sticking in the plates. Recent improvements entirely prevent the breaking of seed. The drive wheel can be locked up when turning at the end of furrows by pressing the handles down until the lock-lever is thrown back. As now improved no dirt can get into seed spout. Subsoller and seed spout are adjustable up and down. We furnish either a flat faced or V shaped drive wheel. The drive wheel supports have been strengthened and the castings made stationary, the slack of the chain being taken up by an adjustable tightener.

Extra plates can be furnished at slight additional cost, for planting sugar cane seed, broom corn seed, beans and peas.

We make a wood beam Lister, with or without subsol attachment, but the drill cannot be attached to it.





"GARDEN CITY SOUTHERN CLIPPER" PLOW.—BLACKLAND SERIES.

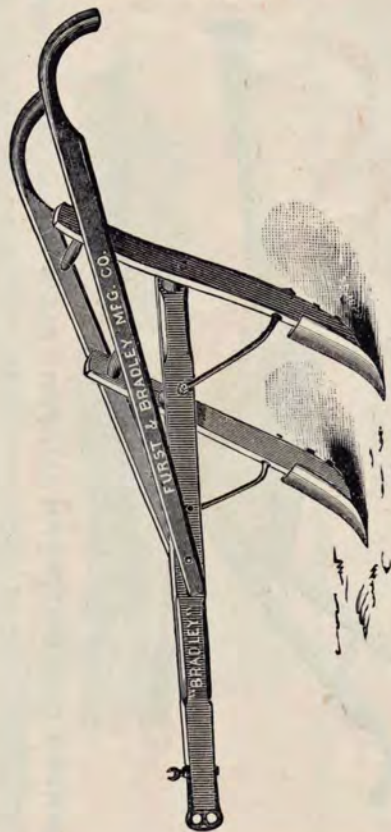
This cut represents our Nos. T71, T81, T91 and T101 improved "Garden City Southern Clipper." They are especially made and adapted for the black lands of Texas, with sharp cutting angles, and formed in the best possible shape for shedding the dirt. We attach plows of the same shape to our Gang and Sulky Plows, for use in the black lands of Texas and other Southern States. They have hardened cast steel mold-boards and shares. We also make them with steel beams.



"GARDEN CITY SOUTHERN CLIPPER" PLOW.—SANDY LAND SERIES.

The above cut represents the shape and style of our Nos. 79, X80, X82, X84 and X86, Garden City Southern Clippers. They are adapted for plowing and cultivating in all kinds of soil in Texas and Southern States, but more especially for loamy and sandy ground. The mold-boards and shares are made of cast steel and hardened. The beams are adjustable. We make them with steel beams also.

**WOOD BEAM DOUBLE SHOVEL PLOW,
WITH CONVEX SHOVELS.**



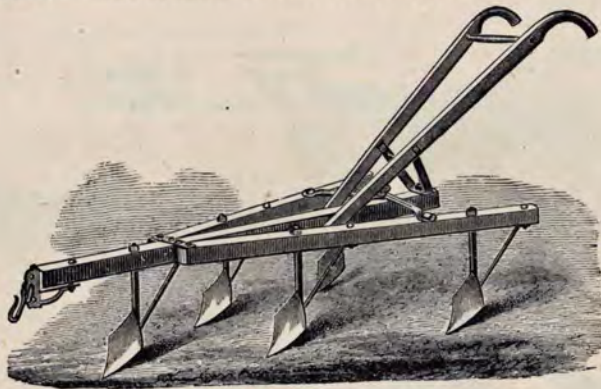
The above cut represents our Wood Beam Double Shovel Plow. We make one with iron beam; also one with combination beam, i. e. wood center with iron shanks.

WOOD BEAM SINGLE SHOVEL PLOW.

CONVEX SHOVEL.

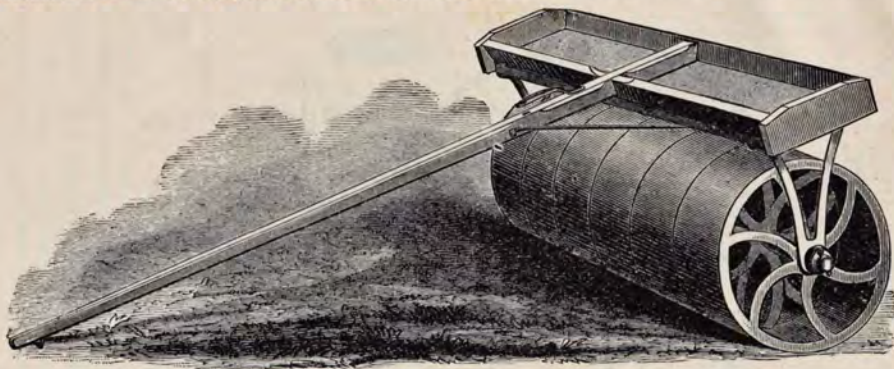


We furnish this Shovel Plow with an 11 or 13 inch cast steel shovel blade, whichever may be desired. It is a splendid implement for cultivating corn, potatoes, and many other crops grown in rows, especially such as need hilling up for last cultivation. We also make one with iron beam.



• FIVE-TOOTH CULTIVATOR.

This cultivator can be set to different widths, and makes a very useful implement for cultivating corn, cotton, hops, potatoes, etc. The blades are made of cast steel, are diamond-shaped, and are attached to a wrought iron shank with brace. When one point is worn out, the blades can be reversed and the other point used.



FIELD ROLLER.

The above cut represents our Iron Field Roller, with six sections, each section one foot in length. We make two sizes—one 20 and the other 30 inches in diameter. We also make Two Section Rollers, 24 and 36 inches in diameter, with cast iron heads covered with wood.

N. B.—We make Lawn Rollers to order, 16, 20 and 30 inches in diameter. Can furnish castings for any of the above rollers on notice.

THE "BRADLEY" TRUSSED SUSPENSION STEEL WHEEL.



The only wheel in the world made on this principle. Much stronger than any other, without being heavier. The above cut illustrates our PATENT TRUSSED SUSPENSION STEEL WHEEL. THE SPOKES ARE DRAWN FROM THE RIM TOWARDS THE CENTER BY MEANS OF OUR PATENT COMPRESSIBLE HUB, the outer portion of which is made in eight longitudinal sections. (See cut.)

Through each end of said sections is a countersunk hole, into which goes one end of a spoke, which is then upset so it cannot pull out; these

sections are then compressed closely against the inner portion of the hub by means of a nut having a beveled flange operating over and upon the beveled or conical ends of the hub sections.

The hub is therefore *suspended* from the rim on the same principle as a trussed suspension bridge, so that the load is carried from the *top* of the wheel instead of depending on the stiffness of the spokes to support it from underneath. When the load is supported from beneath the hub, the spokes are liable, in the case of steel wheels, to push through the rim or to *bend*, which allows the rim to give way, and ruins the wheel, of course. Wheels having their spokes cast solidly into the hub can not be satisfactorily repaired, if bent or broken, consequently the entire wheel is a total loss, to replace which is quite expensive, while with our wheel should one of the spokes break it can be repaired or replaced by any blacksmith.

It can be readily understood that a spoke—say $\frac{3}{8}$ inch in diameter—will hold a weight by suspension from above many times greater than one which it could support on its ends from below; it follows, therefore, that our wheel can be made lighter, and at the same time be very much stronger, than those built in the ordinary way.

Our wheel is also TRUSSED SIDEWAYS by means of the tension on the spokes produced by the compression of the hub as above mentioned. As our spokes are set staggered, *i. e.*, each alternate spoke is fastened to opposite ends of the hub sections and drawn tightly towards the center, it forms a perfect truss. If you take a common wooden wheel and lay it on its side, with the rim resting on bearings at opposite points, and place a weight upon the hub, you will see that it depends entirely upon the lateral strength or *stiffness* of the spokes to support the weight, while with our PATENT TRUSSED SUSPENSION STEEL WHEEL in the same position, the weight is supported by the strength of the spokes *lengthwise*.

OUR PATENT STEEL WHEEL will be put on all of our Sulky Plows, and on our Cultivators and Sulky Hay Rakes, when wanted.

EXPLANATION OF SPRING ATTACHMENT AND COUPLING.

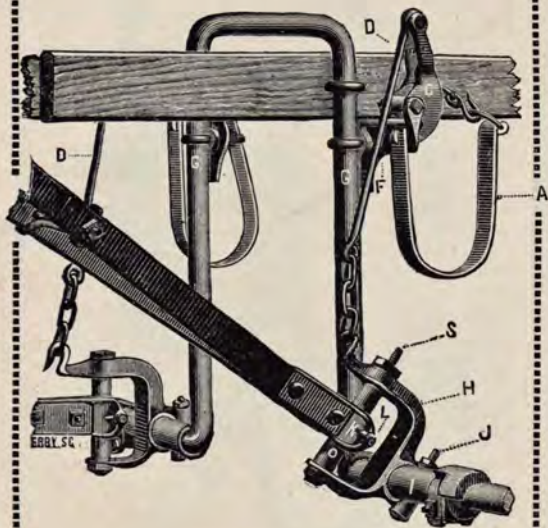
(Shown on opposite page.)

SECURED to the upright part of the arch (G) is a short arm or bracket (F), to the upper edge of which is pivoted the swinging lever (C). The spring (A) is U shaped, having one of its ends bolted to the lower edge of the arm (F). The other or free end, is formed into an eye, and is attached to the swinging lever (C) by means of a hook and links, as shown in cut. From the upper end of the lever as shown in cut, a connecting rod (D) extends downward to a hook formed upon the upper part of the coupling jaw (H). In adjusting for different depths the coupling head (K) is simply moved up or down upon the vertical sleeve (O), and the spring connection (D) being attached to the coupling jaw only, need not be disturbed. The links shown at the lower end of the rod (D) are for the purpose of providing the necessary slack when it is desirable to hook up the beams.

The operation of the spring is as follows: When the beam is down and the shovels are at work, the lever (C) is brought to a horizontal position, and the free end of the spring (A) is drawn back toward the arm (F). When the device is in this position the line of connection from the spring to the lever (C) is brought down near the pivot, thus greatly reducing the power of the spring to turn the lever on its pivot, even though the spring has at the time nearly its utmost tension; the connection (D) to the coupling jaw (H), however, is at its best point of leverage in relation to the swinging lever (C), thus affording the beam in this position such perfect control over the spring that the shovels will plow down into dead furrows and other inequalities, and follow the shape of the ground generally, with very little assistance from the operator. When it is desired to raise the plows from the ground a slight elevation of the plows allows the lever (C) to swing upward and forward on its pivot, thereby increasing the leverage of the spring, and diminishing the leverage of the beam until at a certain point the spring obtains sufficient advantage over the beam to automatically complete the operation of lifting and holding the plow up.

The coupling consists of a sleeve (I) free to turn upon the axle part of the arch, with coupling jaw (H) secured to it in any desired position by means of the clamping bolt (J). At the upper extremity of the jaw is formed a hook, to which is attached the rod (D) connecting with the spring lever. Also the sleeve (O) free to turn upon the vertical bolt (S); and the coupling head (K) on beam, secured by means of the clamping bolt (L) to the sleeve (O). By means of this coupling the beam may be raised or lowered, or moved transversely on the axle, thus providing for any necessary adjustment.

PATENT SPRING ATTACHMENT, AND IMPROVED COUPLING ON WALKING CULTIVATOR.



(For description, see opposite page.)

"BRADLEY" WALKING CULTIVATOR.

THE cut on next page illustrates our Iron Beam Walking Cultivator, with spring attachment and improved couplings, for cultivating corn, cotton, potatoes, or anything grown in rows far enough apart to admit of its use. The frame is made of wrought iron, thoroughly braced in such a manner as to make it very strong, and at the same time very light. Single tongues are attached to this frame when wanted, in place of the double tongue shown in cut. Wood Beam Plows can also be attached in place of Iron Beam when preferred, they being interchangeable.

They can be gauged to plow any desired depth. The spring attachment is so constructed that when the Plows are working in the ground the springs affect them least, allowing them to run naturally, with just sufficient lift to bring them back to their proper position after being forced down by the hand for the purpose of cultivating in dead furrows or other low places. As you commence raising the plows out of the ground, the springs immediately begin to gain an advantage over them, until (when partly up) they have gained sufficient to raise the plows to the full height, *without further assistance*, and to hold them there until you wish to put them in the ground again, which can be done by simply bringing them part way down with the hand, the plows will then have gained an advantage over the springs sufficient to go the remainder of the way of their own weight. They are much used for cultivating fallow ground, for which purpose a fifth or center shovel is attached. It then moves and cultivates all the surface over which it passes. It is also well adapted for putting in small grain, giving the soil a more vigorous stirring than a harrow. They are provided with Reversible Shovels, Break-pin Attachments, and other improvements.

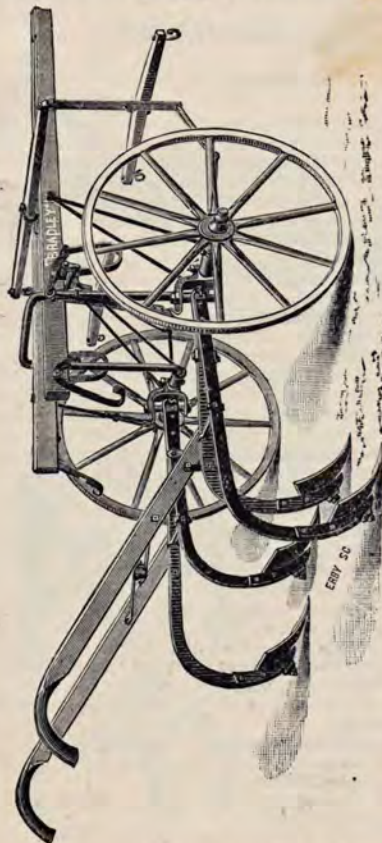
The blocks on the shovels are steel, fastened on with bolts, so they can be taken off if necessary.

The material used in the construction of these cultivators is of the very best quality and finished in excellent style.

We improved it in 1882 by making the arch higher and the beams longer, and by making a radical change in the spring. Also made other improvements, making it by far the most desirable cultivator in the market for effective work and ease of handling.

For description of springs and couplings, see pages 26 and 27.

"BRADLEY" IRON BEAM WALKING CULTIVATOR.



(For description, see opposite page.)

THE "DUPLEX" ADJUSTABLE ARCH CULTIVATOR.

(See cut on opposite page)

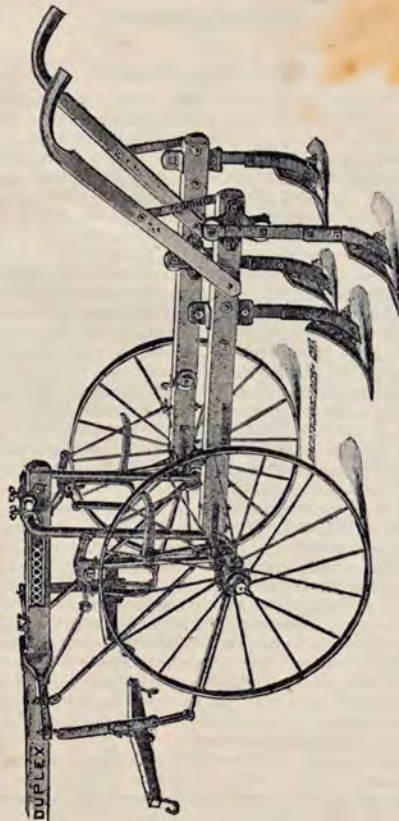
THE adjustability of the arch as to width enables the operator to change the distance between the gangs or plows to accommodate them to the requirements of crops planted or sown at different distances apart. Another advantage is that each section or half of the arch with its attached plow, works forward and back independently of the other, obliging each horse to do its share of the work ; besides, the pole is not swayed to the right or to the left when one horse gets a little in advance of the other as is generally the case with cultivators not having the adjustable arch.

The DUPLEX embodies several improvements in adjustable arch cultivators, which an experience of three years in their manufacture has suggested. As now made we are confident that nothing in the market can equal them. For 1886 we shall use the same springs on them as on our "Bradley" Walking Cultivator which have stood the test of years, with an ever-increasing popularity. See cut and description of spring on pages 26 and 27. The uprights to which the springs are attached are always perpendicular, so that the action of the springs is uniform, without regard to the position of the arch. We make these Cultivators with combination or with iron beam plows; also furnish steel or wood wheels, as wanted. We also make rolling colter shields, mold-board shovels and sweeps which can be used on it. By using mold-board shovels, excellent work can be done ridging up for cotton or for other crops, and for hilling up potatoes and similar crops they work splendidly. Irrigating trenches can be quickly and easily made by putting the plows close together and turning the mold-board shovels to throw the dirt outward. The shovel shanks are adjustable for more or less suction, and the shovels can be set to throw the dirt to or from the crop.

Considering the adjustability of the arch, and the variety of shovel shapes which can be attached to the shanks the DUPLEX covers a wide range of work.

Full directions for setting up and operating them accompany each implement.

THE "DUPLEX" ADJUSTABLE ARCH CULTIVATOR.



(For description, see opposite page.)

THE "CHICAGO" COMBINED CULTIVATOR.

IMPROVED FOR 1886.

(See cut on opposite page.)

IN 1885 we lengthened the beams, placing the wrought arch to which the plows attach; further forward than before. Long beams run more steadily and handle easier than the shorter ones; besides, they keep the shovels nearer at right angles with the rows when the plows are moved sideways. We have also made some changes for the season of 1886. By reference to cut it will be seen that we have changed the Levers and Lever Racks, by adding hand latches and ratchets. We have also changed the shank blocks and manner of attaching same so they will not cut or split the beams. Our shovel shank is also changed to flat instead of round iron, and we now use steel sleeves on the shanks, with breakpin; also blocks on the shovels by means of which the shovels can be turned sideways to throw the dirt to or from crops. The suction of the shovels can be changed by moving the lower end of the shanks forward for less and backward for more. There are three notches in the lower projection of the shank casting into which a tit on the lower shank washer fits, and by means thereof the pitch of the shank and shovel can be changed as above mentioned to suit the kind and condition of soil.

The seat is adjustable to suit persons of different weights and lengths of limb, and is supported by a double wrought iron seat-raiser or support, made so the operator can see between the arms to dodge the corn or whatever crop is being cultivated. We have strengthened it by using heavier steel so it is now amply strong to support any person. The frame is of wood with iron Axle Arms, as shown in cut, making an arch sufficiently high to clear corn without injury, as long as it needs cultivating. The cast axle arms have been strengthened, also the wrought plow coupler and coupler castings.

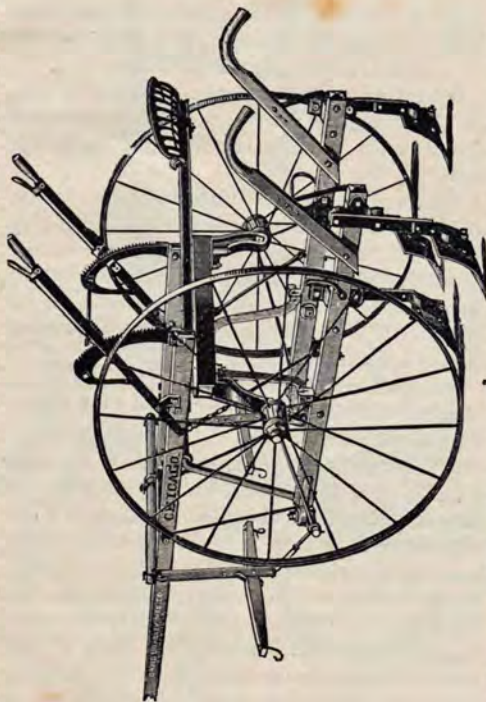
Our regular "Chicago" has wood wheels and is so shipped unless otherwise ordered. The cut shows it with steel wheels which we furnish when required.

When used as a Walking Cultivator, the whiffletrees are put at lowest point of hitch, to take the weight of pole off the horses' necks. With these adjustments it can be perfectly balanced, so that in turning, the pole does not fly up.

It works admirably in cultivating fallow ground, and in putting in small grain, by using a fifth or center shovel.

THE "CHICAGO" COMBINED CULTIVATOR.

IMPROVED FOR 1886



With Improved Levers, Lever Racks, Shovel Standards, Standard Blocks, Seat-Raiser and Axle Arms.

(For description, see opposite page.)

THE "VULCAN" COMBINED CULTIVATOR.

IMPROVED FOR 1886.

(See cut on opposite page.)

OUR "Vulcan" is the same in principle as our "Chicago" Cultivator. It differs, however, in the following-named particulars:

It has iron beams and frame, while the "Chicago" has straight wooden beams, with wrought iron shovel shanks, and a wooden frame, with iron axle arms.

The frame is made almost wholly of wrought iron, and is braced in such a way as to make it very strong; at the same time it is light, and, with our patent Suspension Steel Wheel, makes one of the finest looking and most salable implements in the market. Wood wheels are furnished in place of steel, when wanted.

Many of the features found in the "Vulcan" are identical with those of the "Chicago" Cultivator. We therefore refer you to our description of the "Chicago," on page 32, so far as it relates to lengthening of the Beams, and improvements in Levers, Racks, Seat, Plow Coupler, Coupler Castings and Axle Arms; also in relation to our way of attaching the whiffletrees when using it as a walking Cultivator, etc. We make special plows for the Vulcan having a shovel shank which is adjustable up and down, on the inner or short beam of each plow. These make fine attachments for cultivating listed corn or any crop grown in trenches or on ridges, as the inner shovels can be raised or lowered to suit the trench or ridge, as the case may be. This device is not shown in cut, as we only furnish them when specially ordered.

THE "VULCAN" COMBINED CULTIVATOR, WITH OUR PATENT STEEL WHEEL.

IMPROVED FOR 1886.



(See description on opposite page.)

"BRADLEY" IMPROVED
TONGUELESS CULTIVATOR,

WITH AUTOMATIC DRAG-BAR AND CHANGEABLE
COUPLING.

(PATENTED.)

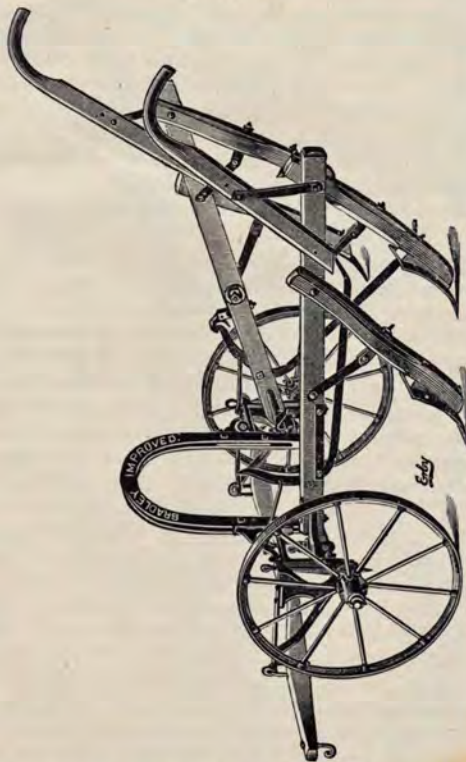
(See cut on opposite page.)

ITS construction embraces the well-known principle of the caster wheel, which is now pretty generally adopted, and which overcomes the tendency of cultivators *without* them to run out of the line of draft when one horse gets ahead of the other. We made several important improvements in this cultivator for the season of 1885, amongst which was the strengthening of the arch, so that it is amply strong under all circumstances. It is a double wrought arch, so constructed as to combine lightness with great strength. The Plow Beams were shortened, making them lighter and easier to handle. We also changed the curve of the shovels so as to throw more dirt to or from the corn. The Draw Arms are now made mostly of wrought iron, which reduces the weight and increases their strength.

A very valuable improvement is that of our Patent Automatic Drag-Bar, by means of which the plows are automatically caught and held up after having been raised to a given height. This is accomplished through the operation of a hook which catches upon the upper end of the drag-bar, as shown in cut. As the plows are lowered to their work, the drag-bars are automatically raised to a position directly under the plow-beams. (See cut, which shows one of them in that position.) The couplings have been changed for 1886, so that the distance between the plow-beams can be varied. This enables the operator, when cultivating young corn, to get his shovels close to the plant and at the same time have the plows draw in line. The desired depth of cultivation is got by changing the pitch of the Shovel and Standard, which can be done by means of our adjustable standard-brace socket.

"BRADLEY" IMPROVED
TONGUELESS CULTIVATOR,

WITH AUTOMATIC DRAG-BAR AND CHANGEABLE
COUPLING.



(For description, see opposite page.)

"BRADLEY" SULKY RAKE.

HAND-DUMP No. 1.

THE illustration on next page shows our No. 1 two-horse Hand-Dump Sulky Rake. It is the same as our one-horse rake, except that it has a pole instead of shafts. A farmer having one of these could have both pole and shafts for it, and use it with one or two horses, as suited his convenience.

These rakes are very convenient when changing from mowing to raking, as the same team can be hitched to rake without having to separate them. In bunching up, the horses straddle the windrow.

We continue to use in this rake the double coil, cast steel, spring-tempered teeth, which we have used for years, believing them to be the most durable and elastic of any manufactured. The twenty inches of tempered spring-steel in the coil, in addition to the spring of the tooth itself, gives extraordinary elasticity and strength to the teeth, rendering them greatly superior for raking on rough ground or for heavy work, such as raking cornstalks, bunching up, etc. The cleaner-head is firmly bolted to the rear ends of the shafts, which extend back of the axle eight or nine inches; this enables us to use snort cleaner teeth, which are not liable to break in bunching up. The shafts are strongly braced to cross-piece, and the rake, in all its parts, is thoroughly and well made.

Our lever can now be attached in two ways, so that for dumping you can arrange it either to pull or push. We avoid a positive dead-lock for holding this rake head down, as being objectionable, for several reasons; but our lever approaches it so nearly that the mere weight of the operator's foot is all that is necessary to hold the head to its work in the heaviest raking. It is finished in fine style, and made of the very best material. When properly used, we guarantee satisfaction.

"BRADLEY" SULKY RAKE—HAND-DUMP.

For two horses (For description, see opposite page.)



THE "BRADLEY NO. 2" HAND-DUMP SULKY HAY RAKE.

(See cut on opposite page.)

IT is the CHEAPEST SULKY HAY RAKE in the market for the price. It is simple in its construction, therefore not at all likely to get out of order.

THE TEETH are firmly held to their work, when raking, by a locking device in combination with the hand lever, which remains locked until it is desired to dump the rake.

TO DUMP it, the hand lever is pressed slightly upward, which throws it out of lock; after which an easy forward pressure upon the lever completes the operation, aided by the weight of the driver.

THE MATERIAL USED IN THIS RAKE is of the same quality as that which we put in our other rakes, viz: the best that can be procured, and it is finished in first-class style.

THE SET OF THE TEETH can be changed quickly to suit the kind of raking which is to be done by simply removing a bolt and lengthening or shortening the connection between the axle and the hand lever.

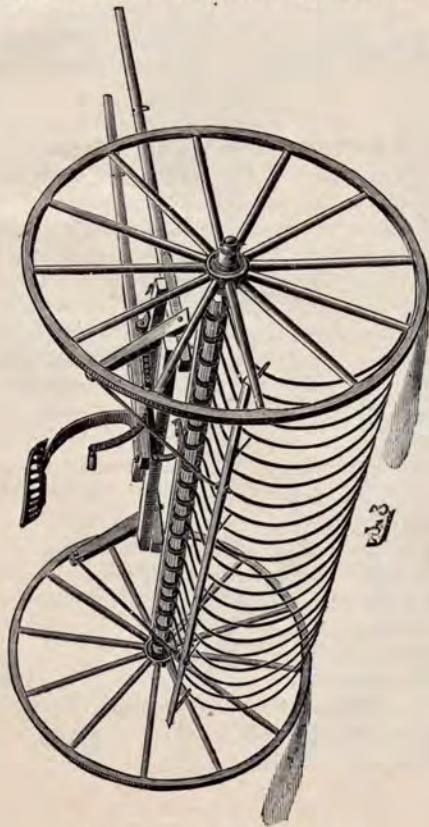
THE TEETH ARE CAST STEEL, TEMPERED IN OIL, and are thoroughly tested at the factory, and again by us before putting them in the rake. This rigid inspection is evidence that the teeth put in these rakes will be without flaw or defect. Having a spring temper, they do not bend out of shape, but return to their original position when the pressure is removed.

IT IS EASILY OPERATED.

Any boy or girl who can manage a team can handle it.

We attach a pole, instead of shafts, at a slight additional cost, when it is desired to use two horses.

THE "BRADLEY NO. 2" HAND-DUMP SULKY HAY RAKE, WITH LOCK-LEVER AND OVERHANGING CLEANER.

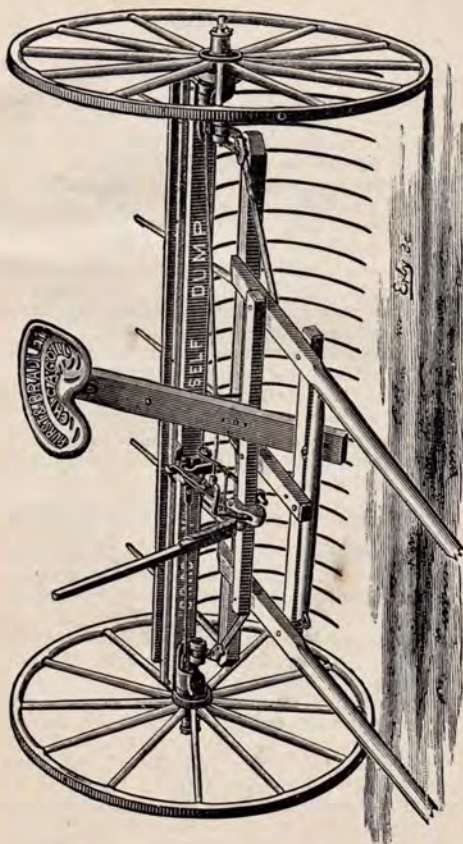


(For description, see opposite page.)

"BRADLEY" SELF-DUMP RAKE.

THE cut on next page illustrates our Self-Dump Horse Hay Rake. It has the strongest and most durable dumping device of any rake made. It dumps from both wheels, and is entirely free from all side draft or jerking. It can also be dumped on a corner without cramping the rake. It is made of the best material and nicely finished. The shafts are stiffened with forged iron braces which connect with the axle a few inches from the end, thereby preventing lateral motion and increasing the strength of the rake. Any boy or girl who can drive a horse is strong enough to operate it. It has twenty spring steel teeth, tempered in oil, which are given a very thorough test for quality and strength before they are put into the rake. Each tooth is independent, and can be quickly replaced in case of breakage, which with our teeth rarely occurs. In heavy raking the teeth can be held to the ground by the weight of the operator's foot on the lever, which is held nearly in lock as the foot rests upon it, but is relieved immediately upon the foot being taken off. Whenever desired, it can be used as a hand lever rake, and as such, cannot be excelled. By simply taking out a bolt, the teeth can be raised or lowered to suit the raking, whether it be stubble-fields, corn-fields or meadows. We make them with pole for those who wish to use two horses.

"BRADLEY" SELF-DUMP RAKE.



(For description, see opposite page.)

SULKY-RAKE TEETH.

(See cut on next page.)

No. 1 was used in rakes in 1862 and 1863; it is a *round double coil wire* tooth.

No. 2 was used in part of rakes made in 1864, and is a *single oval coil steel* tooth. This we cannot furnish, but the No. 4 can be used in its stead, or we can furnish the *single coil wire* tooth.

No. 3 was also used for part of rakes made in 1864, and is a *double oval coil wire* tooth, 6 inches longer than any used since that date.

No. 4 was used in rakes made in 1865, 1866 and 1867, and is a *double oval coil wire* tooth, shorter than No. 3.

No. 5 was used in 1868 and 1869, and is a *double oval coil cast steel* tooth.

No. 6 was used in 1870 and 1871, and is a *double oval coil cast steel* tooth with end turned up.

No. 7 has been used since 1871, and is a *double round coil cast steel* tooth, with end turned up.

No. 13 is used on our No. 2 Hand-Dump Rake, which we first made in 1884. It is a *round double coil cast steel* tooth.

The Following are Self-Dump Rake Teeth:

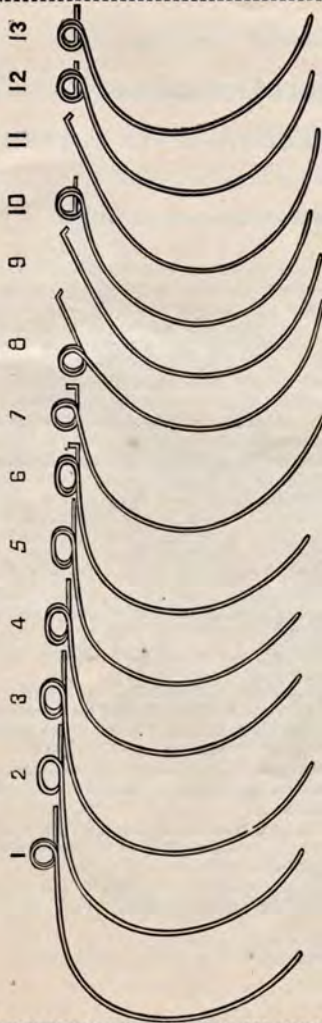
No. 8 was used on our Friction Dump Rake made in 1877, 1878, 1879, 1880 and 1881, and is a *round double coil cast steel* tooth, with end turned sideways.

No. 9 was used on our Improved Friction Dump Rake made in 1882, and is a *straight cast steel* tooth, with end turned sideways.

No. 10 was used on our Improved Friction Dump Rake made in 1882, and is a *round double coil cast steel* tooth.

No. 11 is used on our "Bradley" Self-Dump Rake, which we began to make in 1883, and is a *straight cast steel* tooth, with end turned sideways.

No. 12, is also used on our "Bradley" Self-Dump Sulky Rake beginning with 1883, and is a *round double coil cast steel* tooth.



SULKY RAKE TEETH.

The above cut shows the kinds of teeth we have used in our Sulky Rakes at different times, and numbered for convenience in ordering. For description, see opposite page. Always order by number.

"BRADLEY" IMPROVED COTTON AND CORN-STALK CUTTER

(DOUBLE AND SINGLE ROW),

WITH COMBINATION SPRING HINGE,

Which is an entirely new feature in Stalk Cutters, and which we have fully covered by patents. Its effect is to produce a rebound of the cylinder frame after having been raised by the cylinder knives operating against the stalks on the ground. This rebound chops the stalks much more effectually than can be done when the knives are brought down merely by the weight of the cylinder head and frame.

The cylinder is covered, to prevent any accident from falling upon or against the knives, and the cover serves as a box into which additional weight can be put, should the condition of the stalks or ground require it. We have also put a platform on the upper frame to prevent any possible accident to the driver from falling in front of the knives.

The cylinder can be easily raised by the operator as he sits in his seat, and is held up by a self-locking device attached to the lever, until ready to lower it again.

The cylinder-heads are sufficiently strong to stand the roughest usage, and the knives are of cast steel, and can be kept sharp by grinding or filing, the former being preferable.

The seat is supported by a steel spring, making it easy riding for the driver.

We put on high wheels with wooden hubs, which turn on iron spindles, making the draft light. We also furnish steel wheels when wanted, but they are not interchangeable with the wood wheel.

The machine is so evenly balanced and the springs so arranged that there is no jerking on the horses' necks, and none is felt by the driver.

We also make a Double Row Stalk Cutter, which is arranged for three horses. It has the same style spring and is identical in principle with the other.

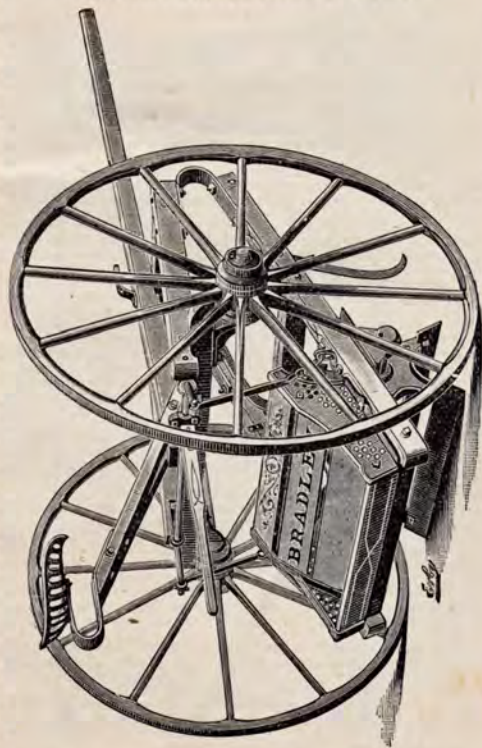
As now constructed, the levers are hung behind the axle, and are at one side, and out of the way of the driver.

(See cut on opposite page.)

"BRADLEY" IMPROVED COTTON AND CORN-STALK CUTTER

(DOUBLE AND SINGLE ROW),

WITH COMBINATION SPRING HINGE.



The above cut shows our Single Row Stalk Cutter.

(For description, see opposite page.)

PACKER IMPROVED PORTABLE UPRIGHT HORSE-POWER.

(See cut on opposite page.)

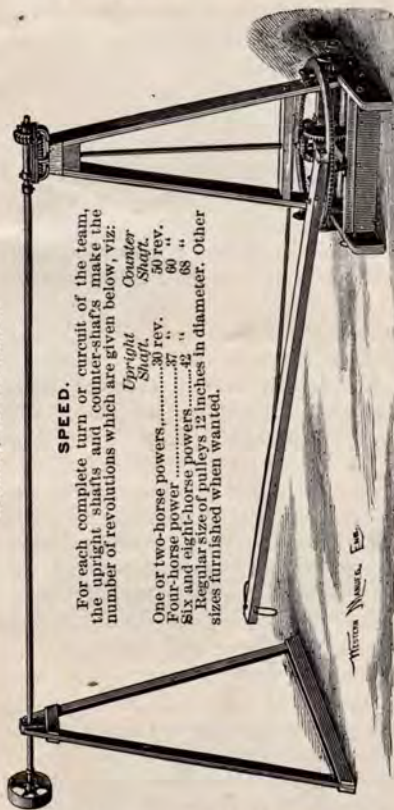
PORTABILITY and an elevated tumbling-rod are very desirable points in a horse-power. It is estimated that when horses have to pass over the tumbling-rod each time they make a circuit, it causes them to slacken their draft, which results in a loss of fifteen per cent of the horse-power employed, besides causing an unsteady motion of the machinery driven, and further, a low or down tumbling-rod is dangerous to persons working in its vicinity.

In horse-powers having overhead tumbling-rods, as heretofore constructed, the gearing has been placed some distance above the horses, and nearly or quite on the plane of the tumbling-rod. This construction puts the gearing so high as to require lateral bracing and support, and in such frame or building, is feasible, and such powers are used *only when attached to some permanently located frame.*

The defects of other powers are all overcome by the improved manner of construction of the Packer Upright Horse-Power, a pretty good idea of which can be got by referring to cut on opposite page. It is as its name indicates, a portable power, which can be moved from place to place as circumstances may require. It can be quickly and easily set up. The tumbling-rod or shaft can be adjusted to any position of the machinery to be driven, without moving or otherwise changing the position of the power, which is a very great advantage in running threshers, corn shellers, saws, and other machinery, as it often occurs that the material to be operated upon is at different angles to such power, and it is necessary to change the machinery to such different angles, and to be able to adjust the tumbling-rod to such altered position of the machinery without changing the position of the power, is a great saving of time and labor. Again, this is a combined belt or tight gear power, without any change other than to place a pulley on the tumbling-rod or shaft, and belt to the machinery to be driven, a feature not found in any other horse-power, and adapts it as a power to drive all classes of machinery where horse-power is used. Tumbling-rods or shafts may be extended in opposite directions from the power to operate two or more machines at the same time, such as corn-shellers, pumps, or any class of machinery to be driven by horse-power.

This power is well adapted for grain warehouses, the speed being such as not to require the use of large and expensive pulleys on the line shaft, to give the necessary amount of speed. Again, the vertical or upright shaft may be extended to any desired height, so that lines of counter-shafts may be driven from it by means of bevel gears at each story of a warehouse having any number of stories, a feature not found in any other horse-power.

PACKER IMPROVED PORTABLE UPRIGHT HORSE POWER, WITH TUMBLING-ROD OVERHEAD.



We make one, two, four, six and eight-horse powers. The four, six and eight-horse powers mounted, when so wanted.

SPEED.

For each complete turn or circuit of the team, the upright shaft makes the following number of revolutions which are given below, viz:

Upright Shaft	30 rev.
Quarter Shaft	50 "
Four-horse power	37 "
Six and eight-horse powers	42 "
Regular size of pulleys 12 inches in diameter. Other sizes furnished when wanted.	68 "

For running Corn-Shellers, Feed Mills, Cider Mills, Wood Saws, Elevators, etc., etc.

(For description, see opposite page.)

This is a HORSE POWER and JACK combined. You don't have to buy a Jack extra when you buy these Powers.

"FURST & BRADLEY"
ADJUSTABLE HARROW.

THIS Harrow, illustrated on opposite page, consists of one, two, three, or more sections, each section five feet wide. Sections are held in position by attachments suited to the purpose. They consist of five seasoned white-oak bars, octagonal in shape and $2\frac{3}{4}$ inches in diameter. The teeth are steel, $\frac{1}{2}$ inch square, and 9 inches long. Half-inch teeth are preferable, because of their superior cutting properties and tendency to keep sharp much longer than a tooth of larger body. They are sufficiently strong for all ordinary purposes. A ten-foot harrow contains eighty teeth, or one tooth to every inch and a half of surface covered.

The harrow is made either rigid or flexible, by means of joints between the bars (as shown in cut) and a movable bolt and nut operating in a slot, which bolt when slipped one way allows the joint to play, and *stops* the play when slipped the other way. The draught is on both ends of the bolt by which the joint is held together, insuring greatest strength and durability. (Patented.) When drawing the harrow one way, the teeth slant back; drawing it the other way, they stand straight down. The top of the tooth bar is cut down the thickness of the casting passing through the slot, a cast iron cap is placed on top, also one on the under side of the bar, and the whole tightly bolted together. (Patented.) All that is necessary to change the position of the teeth, is to transfer the draught from one end of the harrow to the other. Each section works independently of the others. In gardens, orchards, or other grounds where a wide harrow cannot be worked, the harrow can be divided and a single section used.

"FURST & BRADLEY"
ADJUSTABLE
HARROW.



PATENTED
NOVEMBER 19, 1879.

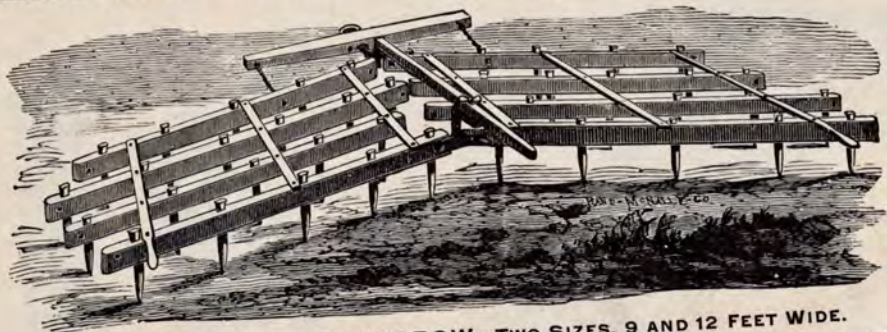
Represents full-sized Harrow with
teeth slanting.



A single section with teeth straight.



Folded ready for shipment or storage when not in use.



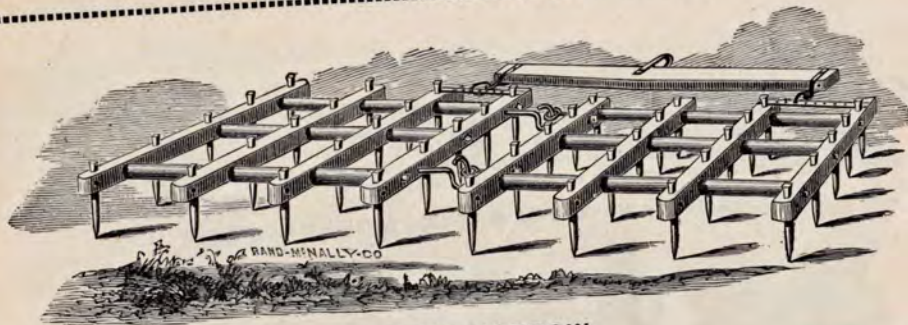
FRIEDEMANN PATENT HARROW.—TWO SIZES, 9 AND 12 FEET WIDE.

This implement has been thoroughly tested, and found to possess superior advantages. The manner in which the two halves are connected allows either side to play several inches above or below the other, at the center, by which it readily conforms to uneven surfaces, such as dead furrows, etc. It is light and strong, easily handled, will not upset in turning, is easily cleared from trash, works splendidly in cornstalks, and does its work thoroughly. No danger of injuring the horses' heels. You can raise the center as well as the sides. They have $\frac{1}{2}$ -inch steel teeth.



"ECLIPSE" HARROW.—MADE WITH TWO OR THREE SECTIONS.

This can be used as a two or three section harrow, although the cut shows three sections. Each section is composed of four bars with five $\frac{1}{2}$ -inch teeth in each bar, making twenty teeth to a section. The bars are braced by cross-slats, which are bolted (not nailed as some are) to the tooth-bars, thereby firmly and substantially holding them together. The sections work independently of each other, and will readily conform to uneven surfaces, such as dead furrows, etc., and can easily be raised to clear them from trash. A section cuts four feet in width, making our two-section harrow eight feet, and the three-section twelve feet wide.



SCOTCH HARROW.

Scotch Harrows are all about alike in principle, but there is a very great difference in the *value* of the various productions, consisting mainly in quality of material and workmanship.

We make ours with good tough oak bars for holding the teeth, having turned wooden spools between them. These spools are bored lengthwise, and have iron rods running through them and through the bars the entire width of each section or half of the harrow at three different places, which bolt them solidly together. A harrow made in this way will last as long as three made in the ordinary way. They are finished in first-class style. The teeth are $\frac{1}{2}$ -inch steel.



ROAD SCRAPER.

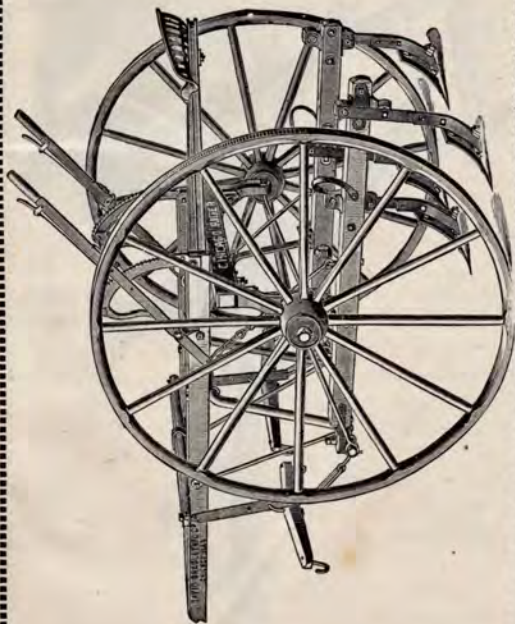
We make this style scraper with steel bottom, one size only—34 inches in width. They are used for all kinds of grading and railroad work. We also make a very heavy Railroad Plow for grading work. We attach chain balls, as shown in cut, or stiff rod balls, as may be desired.

"CHICAGO RIDER" CULTIVATOR, WITH HIGH WOOD HUB WHEELS.

THIS implement is substantially made, nicely finished and easily operated. It has high wooden wheels with wood hub, but we furnish them with steel wheels when so desired; it will be necessary, however, to state that steel wheels are wanted when ordering the cultivators, as they are not interchangeable with wood wheels. By reference to cut it will be seen that the plow beams are quite long, without extending so far back as to raise hard. We accomplish this by putting the bail to which the plows couple further forward than formerly; in this way we secure a *well balanced* cultivator with long beams, which are better than shorter ones, as they handle easier and keep the shovels nearer at right angles with the line of draft when the plows are swung sideways. The depth of plowing is regulated, and the plows are raised by levers connected with them by chains, as shown in cut. Foot-treadles are also attached when wanted, although not shown in cut. The shovel shanks are adjustable forward and back, to change the *pitch* of the shovels, which changes the suction; the shovels are also adjustable sideways on the steel sleeves, to throw dirt to or from the crop. The steel sleeves are fastened to the lower end of the shanks, and are supplied with breakpins, which give way when the shovels strike an obstruction, thus saving the shovels from breakage. The whiffletrees can be hitched high or low, which secures a proper balance of the cultivator under the differing conditions of height of team and weight of driver.

Any one wanting a riding cultivator will find ours first-class in every respect.

"CHICAGO RIDER" CULTIVATOR, WITH HIGH WOOD HUB WHEELS.



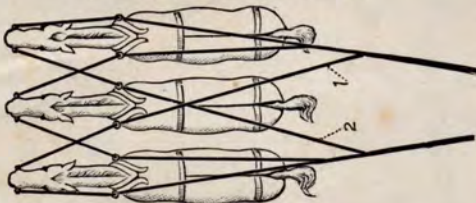
Steel wheels are furnished instead of wood, when so wanted

(For description, see opposite page.)

DOUBLE DIAMOND PLOWS.



This implement consists of two 7-inch long-bar share plows (right and left) specially wooded and coupled together. They are used for cultivating and hilling up corn, ~~especially~~ ^{especially} in raising a ridge, ~~to~~ ^{to} turn the dirt to or ~~part~~ ^{part} can
ours first-class in every respect.

DIRECTIONS FOR ARRANGING LINES
FOR THREE HORSES.

The above cut shows how to arrange lines for three horses. When so arranged the horses are under better control than when using a jockey stick. Figures 1 and 2 indicate the extra lines that are to be added to a common pair, to make lines for three horses.

$$3 \times 16 = 48$$

$$\frac{3}{2} \times \frac{3}{2} = \frac{9}{4}$$

$$9 \times 3 = 27$$

$$\frac{27}{4} = 6 \frac{3}{4}$$

$$4 \overline{) 29 \text{ (31)}} \\ \underline{24} \quad 5$$

$$407 \div 24 = 16 \frac{23}{24}$$

$$16 \times 24 = 384$$

$$407 - 384 = 23$$

$$135 \overline{) 392}$$

$$250 \quad 592 \div 20 = 29 \frac{12}{20}$$

$$243 \overline{) 46}$$

$$2 \overline{) 46} \\ \underline{4} \quad 2$$

DAVID BRADLEY MFG. CO.

1886.

☀	S	M	T	W	T	F	S	☀	S	M	T	W	T	F	S
Jan'y	....	....	....	....	....	1	2	July	....	....	....	....	1	2	3
	3	4	5	6	7	8	9		4	5	6	7	8	9	10
	10	11	12	13	14	15	16		11	12	13	14	15	16	17
	17	18	19	20	21	22	23		18	19	20	21	22	23	24
	24	25	26	27	28	29	30		25	26	27	28	29	30	31
	31
Feb'y	....	1	2	3	4	5	6	August	1	2	3	4	5	6	7
	7	8	9	10	11	12	13		8	9	10	11	12	13	14
	14	15	16	17	18	19	20		15	16	17	18	19	20	21
	21	22	23	24	25	26	27		22	23	24	25	26	27	28
	28	....	....	....	....	....	....		29	30	31	....	....	....	....

March	....	1	2	3	4	5	6	Sept'r	....	....	....	1	2	3	4
	7	8	9	10	11	12	13		5	6	7	8	9	10	11
	14	15	16	17	18	19	20		12	13	14	15	16	17	18
	21	22	23	24	25	26	27		19	20	21	22	23	24	25
	28	29	30	31	....	....	....		26	27	28	29	30	....	....

April	....	....	....	....	1	2	3	October	....	....	....	....	....	1	2
	4	5	6	7	8	9	10		3	4	5	6	7	8	9
	11	12	13	14	15	16	17		10	11	12	13	14	15	16
	18	19	20	21	22	23	24		17	18	19	20	21	22	23
	25	26	27	28	29	30	....		24	25	26	27	28	29	30
	....	....	....	....	....	....	....		31	....	....	....	....	....	....
May	....	....	....	....	....	....	1	Nobem.	....	1	2	3	4	5	6
	2	3	4	5	6	7	8		7	8	9	10	11	12	13
	9	10	11	12	13	14	15		14	15	16	17	18	19	20
	16	17	18	19	20	21	22		21	22	23	24	25	26	27
	23	24	25	26	27	28	29		28	29	30	....	....	....	....
	30	31	....	....	....	....	....		....	....	....	....	....	....	....
June	....	....	1	2	3	4	5	Decem.	....	....	....	1	2	3	4
	6	7	8	9	10	11	12		5	6	7	8	9	10	11
	13	14	15	16	17	18	19		12	13	14	15	16	17	18
	20	21	22	23	24	25	26		19	20	21	22	23	24	25
	27	28	29	30	....	....	....		26	27	28	29	30	31	....

CHICAGO, ILL.

PRESENTED BY
J. L. BEALL
Greenville, Texas,

—DEALERS IN—

DAVID BRADLEY MFG. CO.'S
CELEBRATED
"GARDEN CITY CLIPPER" PLOWS,
AND OTHER
AGRICULTURAL IMPLEMENTS.

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