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RIDING *CULTIVATORS*

X-BROKEN-X,

HUDSON and

DIAMOND.

CHARLES H. CHILDS & CO.,

UTICA, N Y.

NOTICE.

We present in this circular four varieties of Wheel Cultivators, viz:

THE X - BROKEN - X

*With reversible steel points
and various attachments*

THE X - BROKEN - X

With spring steel teeth

THE "HUDSON"

With reversible steel teeth

THE "DIAMOND"

*With reversible steel teeth
and various attachments*

**MADE ON THE BROKEN
OR PIVOTED AXLE
PRINCIPLE.**

**MADE ON THE INDEPEND-
ENT TOOTH PRINCIPLE.**

We will endeavor to describe the chief features and uses of each; but recognizing the fact that we cannot cover all special points and particular uses, we request correspondence and inquiry, and we promise to all our best and promptest attention.

WE USE EVERY CARE IN THE SELECTION OF THE MATERIALS, THE CONSTRUCTION AND FINISH, to produce an honest every-day tool without clap-trap or humbug, and as a natural result our Cultivators have met with the most extraordinary success. We doubt if any manufacturing concern has ever had the good fortune to place so many high-priced Cultivators on the market without one serious word of complaint, even on settlement day.

TO ANYONE DESIRING TESTIMONIALS WE WILL GIVE REFERENCES TO PARTIES SELLING OR USING OUR CULTIVATORS IN THEIR IMMEDIATE VICINITY, OR AS NEAR THERE AS POSSIBLE.

Charles H. Childs & Co.

UTICA, N. Y., January 2, 1892.

ANY ONE AT ALL INTERESTED IN IMPROVED AND LABOR-
SAVING METHODS OF CULTIVATION, WILL FIND THE TIME
CONSUMED BY READING WHAT WE HAVE TO SAY BY NO
MEANS WASTED. WE HAVE ENDEAVORED TO BE AS BRIEF
AS POSSIBLE, AND TO WASTE THE TIME OF NO ONE WHO
GRANTS US A HEARING, BY ENLARGING ON UNIMPORTANT
POINTS.

In our circular of 1891, we gave the first place to the "Hudson" cultivator, and regarding the "X-Broken-X" Cultivator we spoke as follows:

"This is the first season for this Cultivator, and while we tested it thoroughly in the field last Fall, we know how mistakes are liable to crop out where least expected; we believe it is all right in every respect and a vast improvement on the "Hudson," but we shall manufacture only a limited quantity for this season's trade, and know how it sells before we push the sale of the 'X-Broken-X' Cultivator."

The practical trial of a much larger quantity than we at first intended putting in the field during the season of 1891, *proved it to be, without exception, THE BEST CULTIVATOR IN THE MARKET, so we give it first place in our catalogue this year.*

In general construction the "X-Broken-X" and the "Hudson" are alike, differing only in details, as we will endeavor to explain hereafter; and the points wherein these Cultivators differ from all others are the broken and reversible axle and the adjustable spring tension, THEIR COMBINATION AND APPLICATION.

OF WHAT USE IS THE BROKEN AXLE?

It simply allows the employment of THE WHEELS to GUIDE THE IMPLEMENT. *The broken axle is the tiller and the wheels the rudder of this Cultivator.* If you will look at almost any other riding Cultivator you will see attached to each gang of plows a stirrup or loop, and know that the plowman with either foot in these stirrups must by brute force push and pull the hoes to and from the crop he is cultivating, or around obstacles he wishes to avoid, and by brute force compensate for deviations from a straight line either in his team or in the crop row. If he is plowing on a steep side hill, his strength must constantly be exerted to overcome the natural tendency of the gangs to sag down hill. Look at any Riding Cultivator you please, and you will find two ways and only two ways of guiding

the plows ; first by changing the course of the team, which is slow and uncertain ; and second, by the power of the legs and feet applied directly to the gangs themselves. Here is where the trouble has been with Riding Cultivators ; in any except large, clear and level fields, they have been extremely hard and tiresome to handle. The muscles of the legs and feet are not designed for pulling or hauling, and a weight which can with the utmost ease be carried in the hands, will soon exhaust you if tied to your feet. If you do not believe this tie a twenty pound weight to each ankle and see how far and fast you can go. Then try with the same weights in your hands and mark the difference. *Now the gangs of a Cultivator to have strength must have weight, and their strength will be found nearly in exact proportion with their weight.* Various devices have been resorted to for reducing or compensating for the weight, and the best of these is the independent tooth principle, as in our "Diamond" Cultivator. But whatever the device, be it by springs or chains, or independent teeth, more or less work is there for the feet and the feet only to do. On all Cultivators, except ours, the strength of the Cultivator and the labor required to work it are both practically in direct proportion to the weight of the gangs, and the stronger your cultivator the harder the work.

The Hudson and X-Broken-X Cultivators have, we believe the heaviest and strongest gangs in the market, yet they are as easily guided as a boat is by its rudder. Our broken axle is a positive guide, mechanically applied, easily operated and always reliable.

OF WHAT USE IS THE SPRING TENSION ?

It secures a practically AUTOMATIC and LEVEL LINE OF DRAFT for the teeth at any depth required. It does not fix the depth the teeth shall cut, that is a point covered by other adjustments common to many other Cultivators, but it does insure that if you set the machine to plow one inch deep, it will plow practically one inch deep all the time. If your ground is hard it will force the teeth to stay at any depth you desire—yet if the ground is mellow the teeth will not bury themselves.

Taken together, these two principles, as applied in our Cultivators, cover completely both the vertical and lateral actions of the Cultivator.

TRACK.

Both the Hudson and X-Broken-X Cultivator we furnish regularly in two widths of track, viz. : Narrow, 3 feet 8 inches ; broad, 4 feet. We are also making this year the X-Broken-X, with extra narrow track, 3 feet 4 inches, adjustable to 3 feet 8 inches, and extra broad tread, 4 feet, adjustable to 4 feet 4 inches.

WHAT THE X BROKEN X AND HUDSON CULTIVATORS WILL DO.

THEY WILL OBEY the slightest movement of the rider's feet, and go right or left, regardless of the horses.

THEY WILL CULTIVATE CROOKED ROWS or straight rows, dodge end hills and obstacles, cut across corners or turn a larger circle than the team.

THEY WILL KEEP RIGHT UP to the rows on side hills without sagging or leg labor.

THEY WILL CHANGE from light cut to heavy cut, or from heavy cut to light cut, positively and quickly without stopping the team and under the guidance of the rider's right hand only.

THEY WILL CULTIVATE EVENLY at any depth they are set, their teeth held to their work, not by the operator's muscle, but by iron and steel.

THEY WILL OBEY A BOY as well as a man, and under skillful handling perform marvelously close and accurate work, and reduce to the minimum the necessity for hand hoeing.

THEY WILL MARK ROWS, ridge, cover, harrow, pulverize and cultivate all with half the labor and twice the speed of any Hand Cultivator ever made.

THEY WILL CULTIVATE ALL ROW OR HILL CROPS, and as the rear teeth will cultivate outside of the wheels, they have a special value for working up close to rows in hop yards, peach and orange orchards, vineyards and nurseries.

THEY ARE BUSINESS BICYCLES FROM BEGINNING TO END, have no "fancy fixings" about them to look pretty and get out of order. *They know how to cultivate thoroughly, and neither know or want to know anything else.* For this purpose they are strong, able and effective servants and assistants to their master, and *the more their master studies them the more they will do for him.*

THEY WILL BALANCE PERFECTLY whether used as riding or walking Cultivators. Riding after a while becomes as tiresome as walking. The operator can change at will and be comfortable, all the variation in the tool being made by simply unhooking the swingletrees and rehooking in another hole, a few seconds' work. These Cultivators properly adjusted will never gall the horses' necks.

FEATURES OF THE X-BROKEN-X CULTIVATOR.

1st. A DIRECT AND WIDELY ADJUSTABLE RANGE OF DRAFT, which permits its use as either a riding or walking Cultivator, without fear of galling the necks of the team. This adjustment is obtained :

- (a) By a series of holes in the whiffletree-rod, to either of which the singletrees can be attached.
- (b) By notches in the clevis.
- (c) By slots in the teeth standards.
- (d) By slots in wooden break-pin sleeves.

Thus for either deep or shallow plowing the cultivator will run level.

2d. Every farmer who has used a Wheel Cultivator, knows that the wheel-rims will pick up more or less soil, a portion of which will fall on the hub, and some work its way inside the box. This cuts and wears away the axle, and sooner or later the wheels get "wabbly" and the machine "shaky." Manufacturers try to keep the dirt out by the use of overhanging washers or sand caps. We do the same, but go a step beyond, and give a duplicate set of axles, in other words, *each of our Cultivators has four axles, instead of two, and the axle life of our machine is just twice that of any other.* Our axle is a straight piece of round-rolled steel, 19 inches long, with a linch-pin hole bored in each end, midway between which it is riveted firmly in the axle cone (fig 8, page 15). The outer half, then, is the axle, and the inner half the stirrup-lever. When the axle-half is worn, remove the bolt holding the stirrups and switch them to the worn ends, reverse the axles and cones (right to left and left to right) and then the old axles become stirrup-levers, and the former stirrup-levers are transposed into new axles. Further still, when both ends are worn, the axles can be replaced at slight expense. When this is considered in connection with the fact, that our wheel-boxes are movable, and can also be renewed at slight expense, it will be seen we effect a great saving and that there is no excuse on the score of expense for a farmer working with a wabbly or shaky tool.

3rd. A CURVED HANDLE, coming about waist high, enables the operator to easily guide the machine WHEN USED AS A WALKING CULTIVATOR.

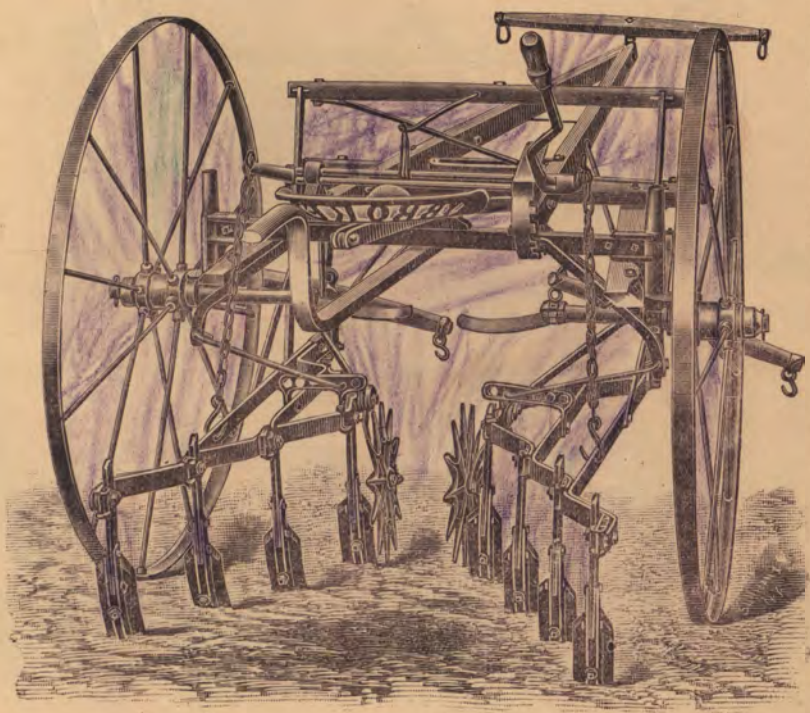
4th. THE GANGS OF DRAG BARS are so trussed, bolted and braced as to be ABSOLUTELY STRONG AND POSITIVE, AND WARPING OR TWISTING out of shape is PRACTICALLY IMPOSSIBLE.

5th. THE DRAG BAR AT THE END, where the rear tooth is attached, and where the most leverage comes, IS DOUBLE, obviating any question of the drag-bar straightening out or bending even in the most difficult soil.

6th. Four reversible 3-inch teeth to a gang go regularly, but the gangs are so arranged that larger teeth and less of them can be used if it is so desired, or that various arrangements such as we illustrate can be applied to advantage for deep tilling, shallow weeding, fallowing, hilling, seeding, &c., &c.

7th. ADJUSTABLE HILLING MOULDBOARDS.—The steel mouldboards are so arranged with malleable backs, that they will swivel in all directions, enabling the operator to obtain almost any desired result, deep or shallow furrows, with little or much ground to or from the plant as desired.

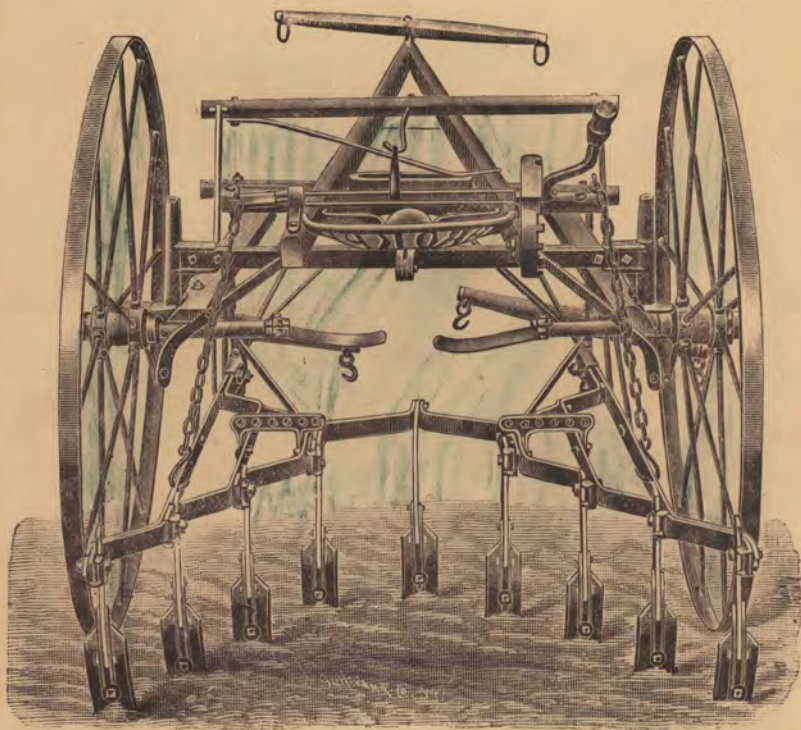
8th. THE MATERIALS USED IN THE CONSTRUCTION ARE THE BEST quality steel, wrought cast and malleable irons, and second-growth ash lumber.



IX - BROKEN - X CULTIVATOR,

With 8 Reversible 3-inch Steel Teeth, and Star Fenders for Level Cultivation.

Shipping Weight, about 350 lbs.



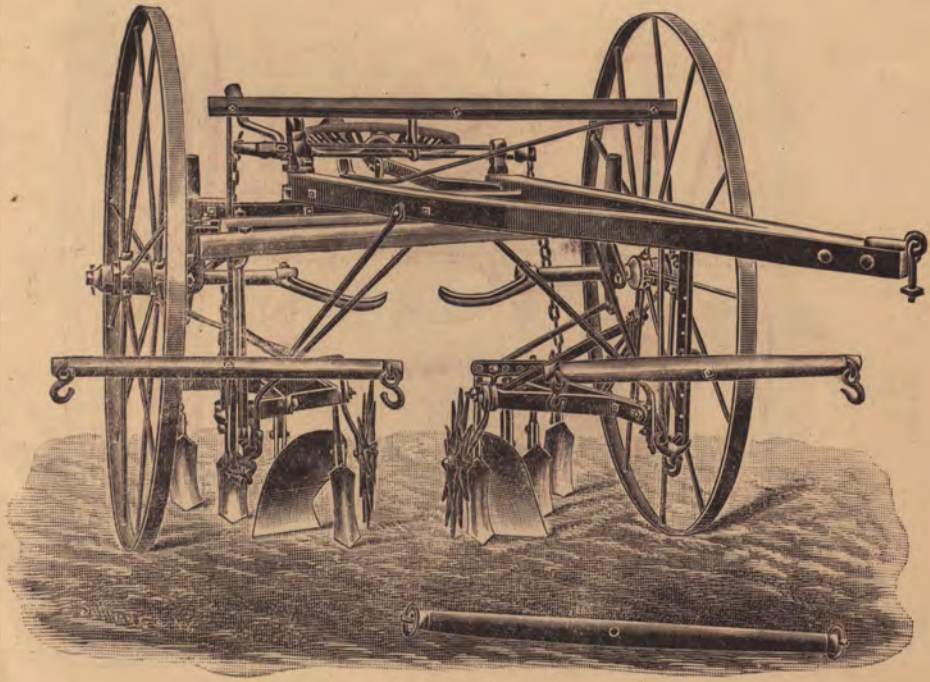
X - BROKEN - X CULTIVATOR,

With 9 Reversible 3-inch Steel Teeth, as used for pulverizing fallow ground, subduing quack grass, seeding, etc.

Shipping Weight, about 360 lbs.

NOTE.—When using the Cultivator in this shape, take out the spreader-hooks.

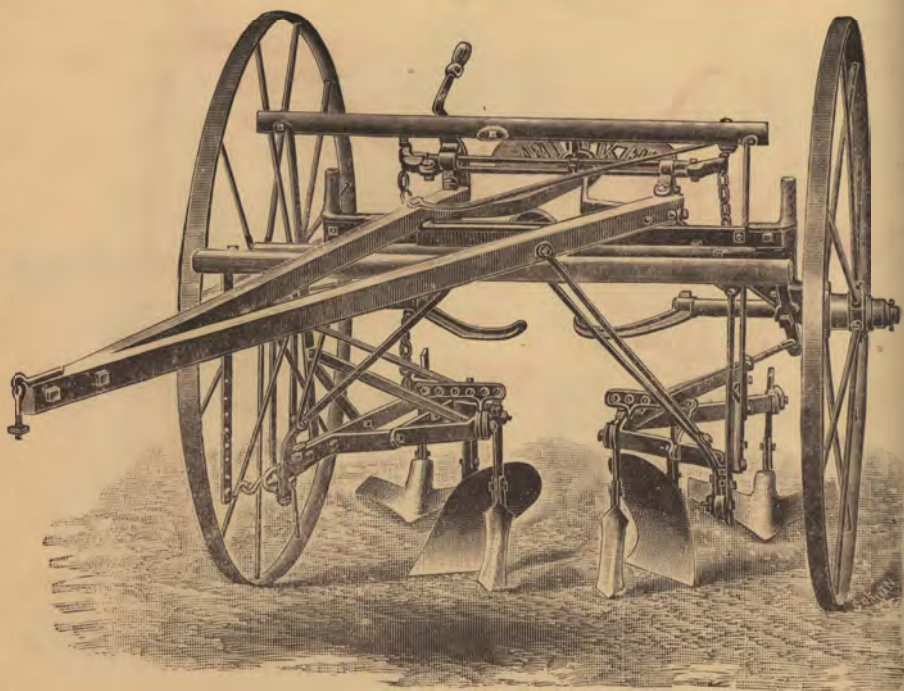
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X - BROKEN - X CULTIVATOR,

With 4 Reversible 3-inch Steel Teeth, 2 Hilling Mouldboards, 2 Reversible 2-inch Steel Teeth and Star Fenders. For working close to and hilling row crops.

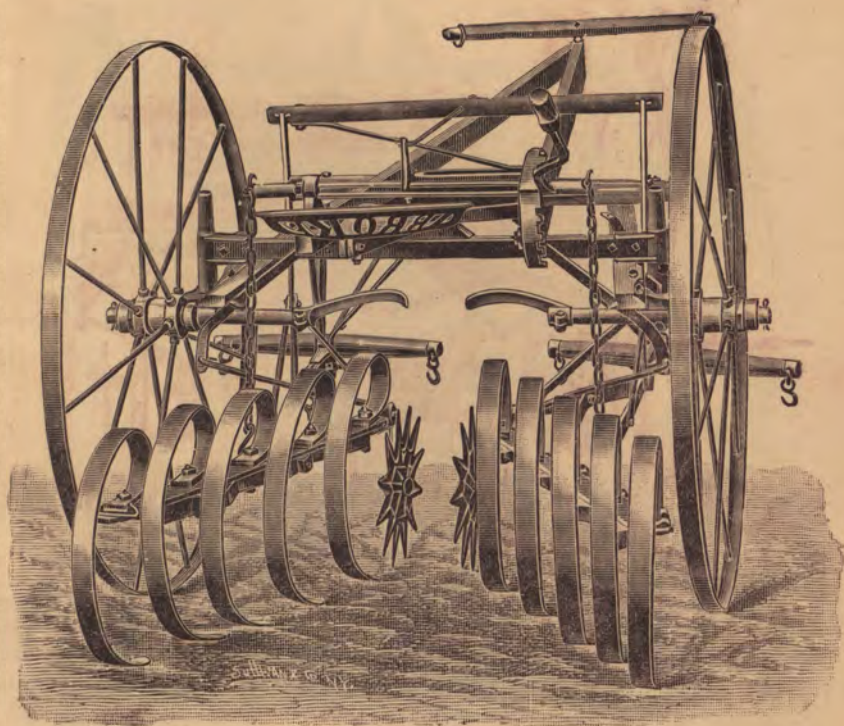
Shipping Weight, about 360 lbs.



X - BROKEN - X CULTIVATOR,

With 2 12-inch Steel Sweeps, 2 Adjustable Steel Mouldboards, and
2 Reversible 2-inch Steel Teeth. For stirring close up to
rows, hilling and cutting weeds between the rows.

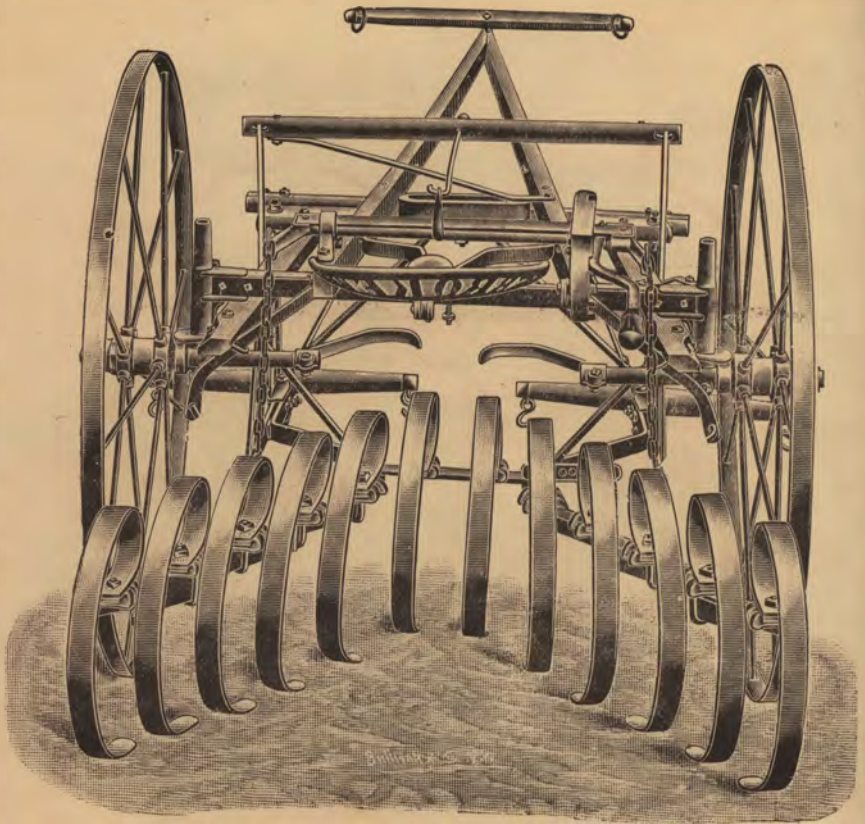
Shipping Weight, about 350 lbs.



X - BROKEN - X CULTIVATOR,

With Spring Tooth Attachment and Star Fenders. For level cultivation.

Shipping Weight, about 380 lbs.

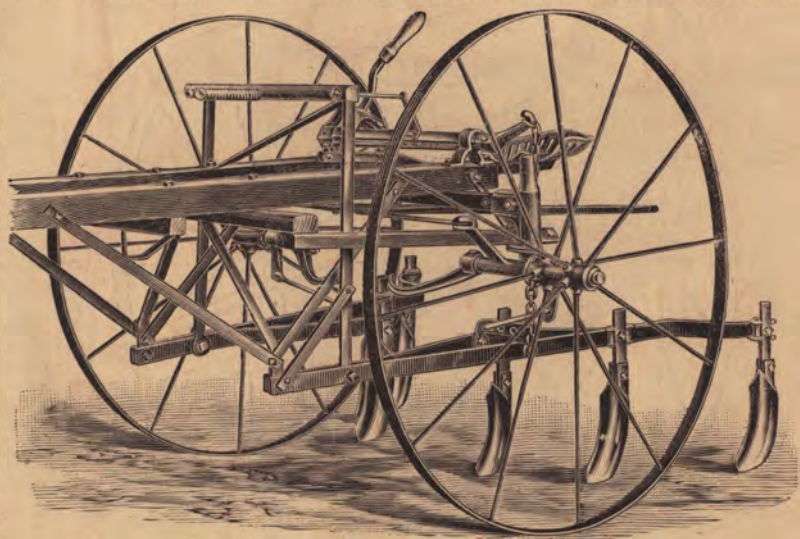


X - BROKEN - X CULTIVATOR,

With Spring Tooth Attachment for use as a Harrow, Pulverizer for subduing quack grass, seeding, etc.

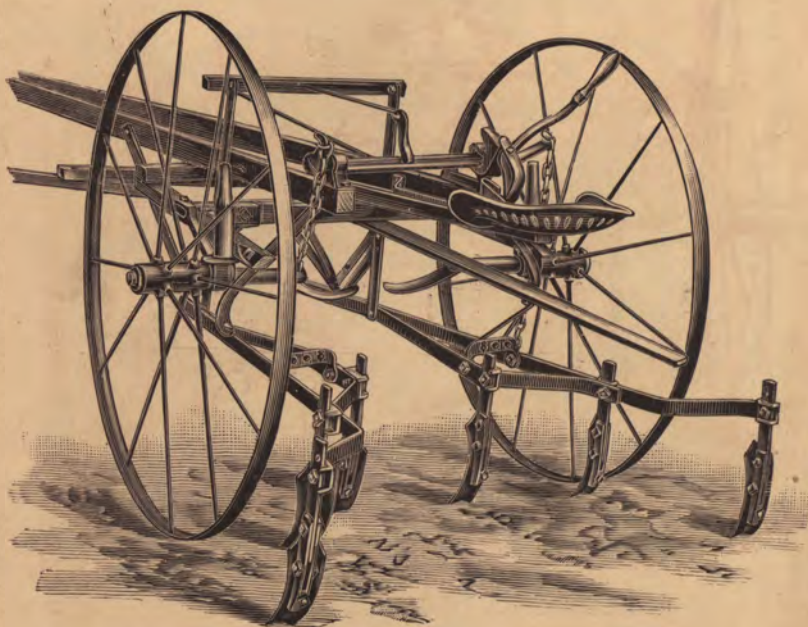
Shipping weight, about 400 lbs.

NOTE.—When using the Cultivator for this shape, take out the spreader-hooks.



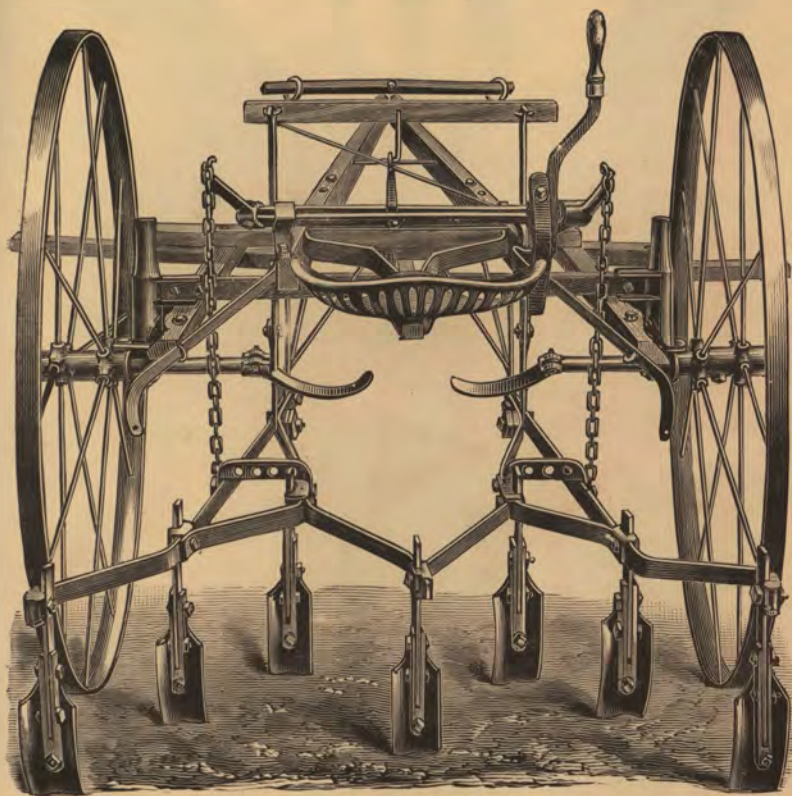
HUDSON CULTIVATOR.

Front View—with 6 Reversible $3\frac{1}{2}$ -inch Steel Teeth.
Shipping Weight, about 340 lbs.



HUDSON CULTIVATOR,

Rear View—with 6 Reversible $3\frac{1}{2}$ -inch Steel Teeth.



HUDSON CULTIVATOR,

With 7 Reversible $3\frac{1}{2}$ -inch Steel Teeth. For pulverizing, subduing
quack grass, seeding, etc.

Shipping Weight, about 360 lbs.

NOTE.—When using the Cultivator in this shape, take out the
spreader-hooks.



EXTRA PARTS AND REPAIRS
 —FOR—
X-BROKEN-X CULTIVATOR,

LIST OF EXTRAS FOR X-BROKEN-X and HUDSON CULTIVATORS.

<i>Cut number.</i>	<i>Price each.</i>
1. Seat	\$1 00
2. Star or Revolving Fender	50
3. Lifter Box and Handle Ratchet	1 50
4. Lifter Box, left hand	50
5. Lifter Hook, left hand	50
6. Lifter Hook, right hand	75
7. Stirrup	50
8. Axle Cone	1 50
9. Axle Socket	1 00
10. Tool Box	50
11. Pressure Rod Lever	25
12. Star Fender Arm and Axle Bushing	40
13 and 14. Star Fender Ratchets	10
15. Wheel Washer, outside	15
16. " " inside	10
17. Standard Clip	10
18. Pole Tip and Neck Yoke Bolt	50
19. Drag Bar Spreader	40
20. Singletree End and Hook	15
21. Neck Yoke End and Ring	20
22. Walking Attachment Clip	15
23. Wrench	25
24. Spring Tooth Clip, left	15
25. " " right	15
26. " " centre	15
27. Spreader Hook	35
28 and 29. Hilling Mouldboards	75
30, 31 and 32. Reversible Steel Teeth; various sizes, 1, 1½, 2, 2½, 3, 3½ and 4 inches	20 to 35
33, 34, 35 and 36. Steel Sweeps, 8 to 16 inches	40 to 75
37. Tooth Standard and Brake Pin Sleeve	60
38. Hilling Standard and Brake Pin Sleeve	60
39. Seat Rest	10
40. Drag Bar Clevis, front	25
41. " " rear	25
42. " " bushing	10
43. Pressure Spring	25
Wheels	4 00
Drag Bars	5 00
Neck Yoke, complete	1 00
Singletrees, "	75
Tongue, each side wood only	2 00
Axle, reversible	80
Wheel Box	60

THE DIAMOND CULTIVATOR.

This tool will commend itself especially to Farmers whose land is fairly level and in a good state of cultivation. It is, without exception, the best Cultivator ever put on the market for truck farming.

It is simple in construction, strong, and very effective and satisfactory in work.

ADVANTAGES.

1st. INDEPENDENT TEETH.—We can describe them best by referring to the illustration on page 20 of this circular.

It will be seen that attached to the outside drag bars on each side are two reversible teeth and a hilling mouldboard, and that these *outside gangs depend for their guidance on the course of the team.* Inside and next the row on either side is a reversible tooth, with a loop or stirrup over it, and connected to the front cross-bar of the cultivator by an iron rod. THESE TWO TEETH HAVE A PERFECTLY FREE AND INDEPENDENT MOVEMENT, both vertical and lateral. Left to themselves they follow lines parallel with the outside gangs, but the driver sitting with his feet in the stirrups can guide one or both, sidewise to or from a plant, or raise either or both over an obstruction. The outside gangs are placed a sufficient distance from the crop row to avoid any danger of tearing out or damaging the plants, and the close cultivation is done by the independent inside teeth, directly and absolutely under the guidance of the operator himself. The handle or lever is so arranged that it will lift the teeth as the operator may desire.

2d. ADJUSTABLE TRACK.—By referring again to the illustration a thimble or long washer will be noticed on the inner side of each wheel. If the linch-pin is taken out and the wheel and long

washer taken off, and the wheel then put on first next the arch, then the washer, and then the linch-pin replaced, a difference of 4 inches in the track will be made. Naturally, if both wheels are similarly changed, the track will be 8 inches narrower. Thus, a four-foot track can be reduced to a three-foot eight-inch or a three-foot four inch quickly and in the field, all without the use even of a wrench.

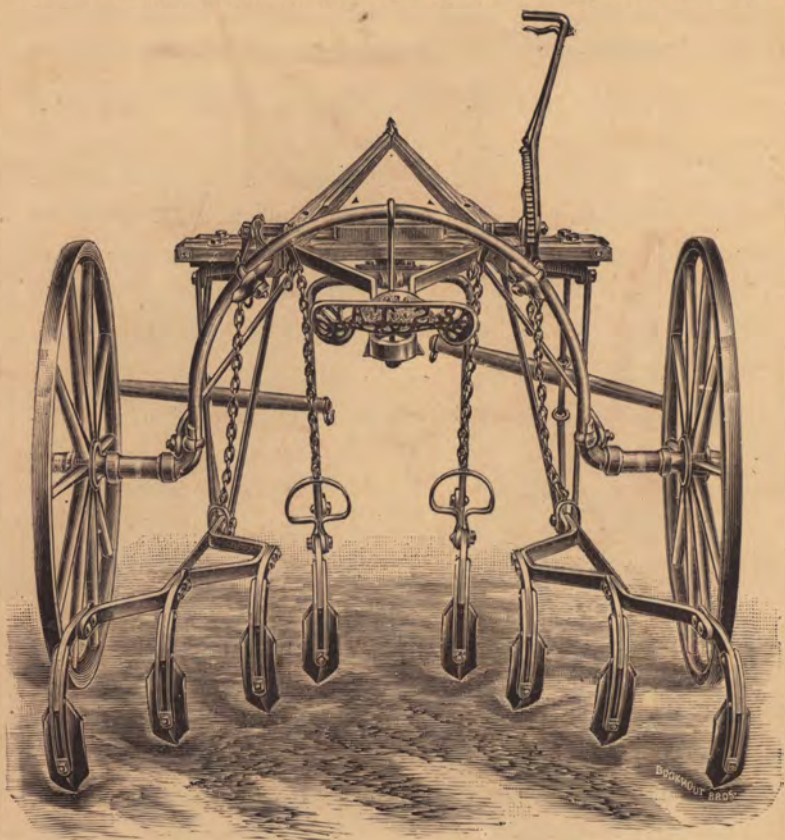
3rd. DIRECT HITCH.—By the use of a draft-rod connected at one end with the main gangs and at the other with a flat iron bar (having a series of holes, into any of which the singletrees can be hooked) running to the doubletree, the hitch is made direct, yet absolute in any variation. The device is simple, but sure, and in combination with the drag-bar ratchets will keep the teeth level in heavy or light soils. There are no springs or clap-trap devices to break or wear out.

4th. SIMPLICITY.—This Cultivator is absolutely free from complicated and cumbrous traps and other devices—any part can be removed and replaced, and any desired change made in the field by the use of the wrench which goes with each Cultivator. A farmer does not have to maintain a machine-shop to keep it in repair. There are but two plain spiral-springs in the whole machine, viz: one that presses the handle-ratchet bolt and the other on the independent tooth swivel.

5th. DURABILITY.—The axles and arch are one solid piece of steel, the wheels are steel with renewable boxes, the drag-bars and connections of wrought iron, the clips, break-pin sleeves and handles are of the best malleable iron, the seat is of cast iron and the timber second-growth ash. It will last a life-time.

6th. WORK.—It tills both sides of the row at one operation, and does it well. Used intelligently there is hardly a limit to its work. It can be used as a cultivator, a harrow, a plow, a double shovel or a marker, and changed from one to another purpose almost instantly.

We furnish Diamond Sr. Cultivators, broadest track, 4 feet; or we furnish Diamond Jr. Cultivators, broadest track, 3 feet 8 inches.



DIAMOND CULTIVATOR,

With 8 Reversible 3-inch Steel Teeth.

Shipping Weight, about 250 lbs.



DIAMOND CULTIVATOR,

With 4 Reversible 3-inch Steel Teeth, 2 Hillers and 2 Reversible
2-inch Steel Teeth.

Shipping Weight, about 250 lbs.



DIAMOND CULTIVATOR,

With Centre Tooth Attachment for pulverizing fallow ground, etc.
Shipping Weight, about 275 lbs.