2 Sheets—Sheet 1.

T. P. S. WEEMS.
Cultivator.

No. 202,079. **Patented April 2, 1878.**

Fig. 1.

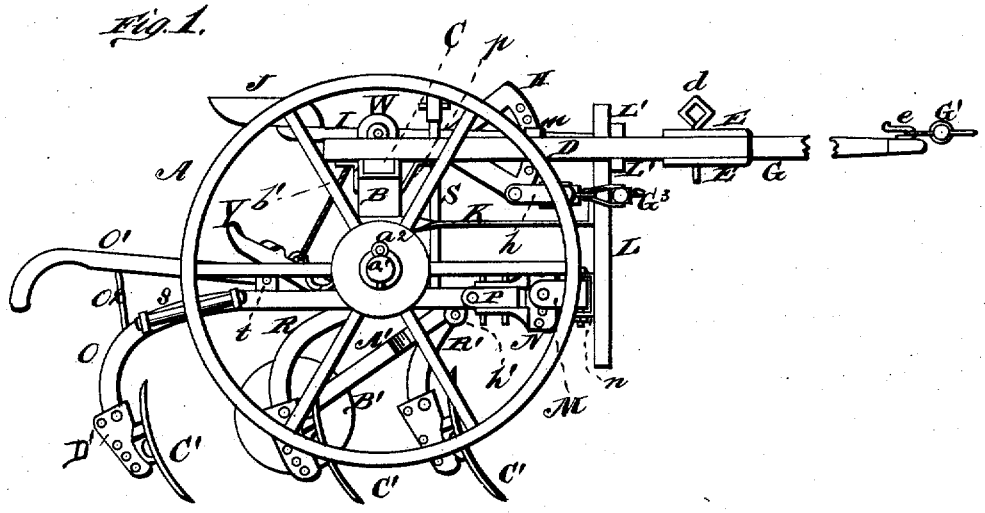
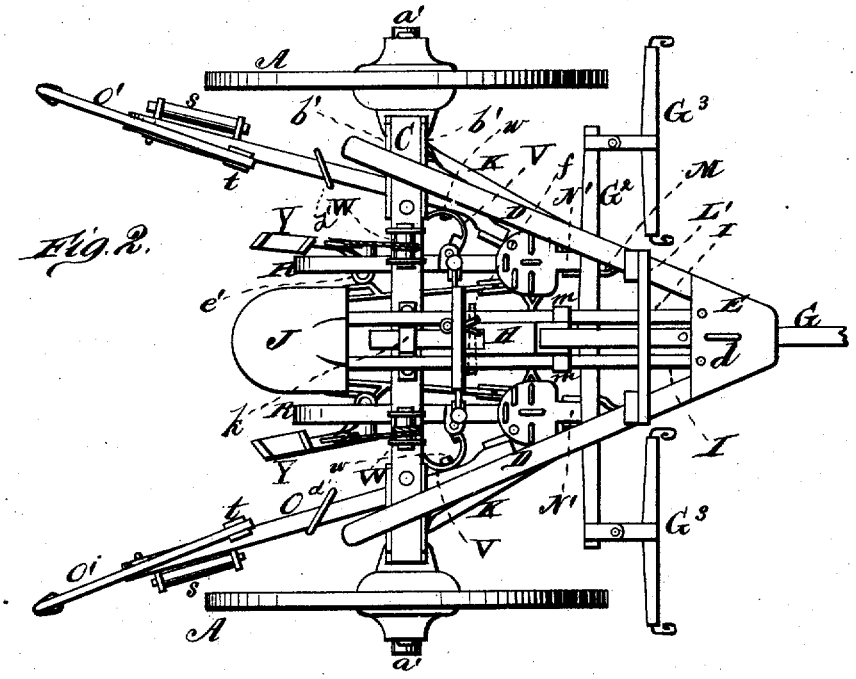


Fig. 2.



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2 Sheets—Sheet 2.

T. P. S. WEEMS.

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Fig. 3.

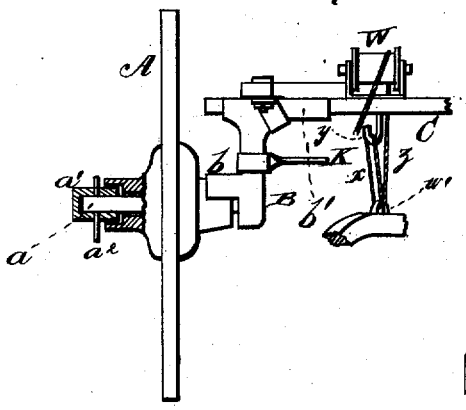


Fig. 4.

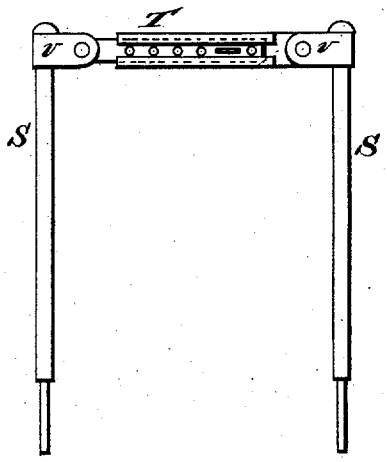


Fig. 5.

Fig. 6.

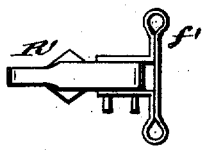


Fig. 7.

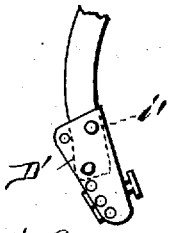


Fig. 8.

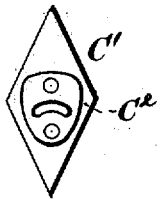
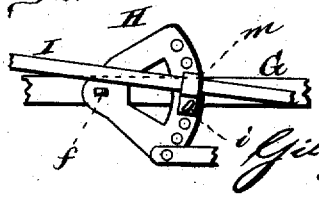


Fig. 9.



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UNITED STATES PATENT OFFICE.

THADEUS P. S. WEEMS, OF YOUNGERS, MISSOURI.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **202,079**, dated April 2, 1878; application filed December 8, 1877.

To all whom it may concern:

Be it known that I, THADEUS PEMBROKE SUMERSET WEEMS, of Youngers, in the county of Boone and State of Missouri, have invented a new and valuable Improvement in Cultivators; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a side view of my cultivator. Fig. 2 is a plan view; and Figs. 3, 4, 5, 6, 7, 8, and 9 are detail views thereof.

The nature of my invention consists in certain improvements in a cultivator, as will be hereinafter more fully set forth, and pointed out in the claims.

The annexed drawings, to which reference is made, fully illustrate my invention.

A A represent the wheels, of any suitable size, placed upon spindles *a a*. On the end of each spindle is a thimble-shaped tap, a^1, fastened by a pin or key, a^2, to hold the wheel on the spindle, and also act as a retainer of the oil. The spindle *a* projects from the lower end of an L-shaped arm, B, and above the spindle is a curved flange, *b*, acting as a sand-band to prevent dust and dirt from entering into the inner end of the wheel-hub. The upper horizontal part of the arm B has side flanges *b' b'* projecting upward from it, and between these flanges lies the end of the axle C, which is secured to the two spindle-arms by means of bolts, and can easily be removed for extension or contraction.

D D are the hounds, which extend from the axle C forward of the wheels, making it convenient for shipping. The hounds D run angularly, coming near together at their front ends, where they are connected by top and bottom plates E E, forming a square hole for the insertion of the tongue G. The plates E have different holes for adjusting the hounds at various angles, as may be desired.

d is a wrench, the handle of which is used as a coupling-pin to fasten the tongue between the plates E E. This wrench is made to fit all the taps used in the cultivator, so that the farmer has at all times in the field a tool convenient for adjusting the various parts of the machine.

The tongue G passes between the plates E E and the front ends of the hounds D D, and its rear end passes through a segmental-shaped clevis, H, to which the double-tree is connected. This clevis has a series of holes for adjusting the double-tree up or down. When in a raised position it is suitable for riding, as the weight on the seat counteracts the weight on the horses' necks. When lowered it is suitable for walking, and can be adjusted to any sized team.

The tongue G has two holes where it passes through the plates E, for coupling to the same by the wrench *d*. The rear hole is to be used when the clevis is lowered, so as to give the double-tree ample play, and the front hole gives it sufficient play when raised, so that there can be no mistake made in adjusting the tongue if the point-hook *e* is turned up in position for the neck-yoke G^1.

The rear end of the segmental clevis H is connected to the tongue by a pin, *f*, as shown, and on its lower front end is attached a loop, *h*, to which the double-tree G^2 is connected. The extreme rear end of the tongue G rests in a square loop, *k*, on top of the axle C, which allows it to slide backward or forward when the wrench *d* is removed for the proper adjustment of the tongue.

To the front of the clevis are attached two square loops, *m m*, by means of the front adjusting-pin *i*, which passes through either set of the series of holes in the clevis and through a hole in the tongue. Through the loops *m m* pass the bars I I, which support the seat J, the front ends of said bars being inserted between the plates E E on opposite sides of the tongue. The loops *m m* and seat-supporting bars I I may be adjusted to suit any sized person.

K represents a brace running directly from the lower end of the spindle-arm B close to the hub of the wheel, nearly parallel with the hound, and attached to an upright, L, on the inside of the hound, and supported by two cross-bars, L' L', running parallel to each other across the top and bottom of the hounds.

To the lower end of each upright L, below

the brace, is attached a half-square socket, *n*, for the attachment of the clevis for the plow-beams. The brace K, running directly from the spindle to the upright, gives great support, and also gives ample room or play for the double-tree G^2 and the single-trees G^3.

The rear ends of the hounds D are attached to the axle with strap-iron *p*, running from the hounds in front of the axle under and attached to the same by bolts passing through the straps, axle, and hounds, and spindle-arms, making them all fast together.

In each socket *n* is hinged a loop, M, by means of a pin running parallel with the upright, thus giving the loop a right and left hinge motion. In the other end of the loop is attached a clevis, N, formed with an upright bar, N′, at the front. In this bar is a series of holes for adjusting the plow up and down, so as to go deep or shallow, as may be desired. The clevis N has a square mortise or opening for attaching the plow-beams, with five holes arranged in a semicircle, and one center hole through its jaws for pivot-pins.

O is the long plow-beam, attached to the clevis N by a small clevis, P, which gives the beam a right and left and up and down motion, if required. This beam O extends back just far enough to allow the plow to play behind the wheel. At the point where this beam comes in contact with the wheel it is provided with a revolving rub-iron, *s*, which prevents the rising of the plow when the beam comes in contact with the wheel. This revolving rub-iron consists simply of an elongated roller mounted in suitable bearings attached to the side of the beam. It makes no difference, when turning, if the plows are down; turn as short as desired, and the rub-irons simply revolve until straight again. The beam O has also a half-open clip, *t*, for the handle O^1, and a supporting-bar, O^2, with hole at each end for adjustment of the handle. When the handle is taken off, the bar O^2 folds in the open clip *t*, putting it out of the way.

R is the short plow-beam connected to the clevis N, and extending back just under the axle. The two beams O and R form the gang on one side. The beam R has an upright, S, which extends up in front of the axle above the hounds, and provided at its upper end with a swiveled clip, *v*, the two clips *v v* being connected by an extensible cross-bar, T. This bar is for extending or contracting the two gangs and holding them at any required distance apart, especially when plowing small plants, and the plows are turned to throw the earth from the plants, thereby preventing them pressing or running against the plants and tearing them up by the roots.

Although when down the shovels are held firmly to their respective positions, either gang can be raised without removing the other by simply pressing down a treadle or foot-lever, hereinafter described.

To a clip on the inner side of each beam R is hinged a curved and longitudinally-slotted iron, V, which is fastened, by a T-bolt, *w*, to the beam O, for the purpose of spreading the gang so as to take all the row when wide, and also for lowering the back or outside shovel, thereby plowing the middles deep, which is required in many cases, instead of having to resort to the one-horse plow to accomplish what the cultivator should do.

On the top of the beam R, below the axle, is a staple, *w′*, connected, by a chain, *x*, with a hook, *y*, on the under side of the axle, to prevent the plows from going too deep, and causing them to run uniformly at any required depth. Another chain, *z*, runs also from the staple *w′* over a pulley, W, on the axle down to a treadle or foot-lever, Y, which is pivoted to the side of the short plow-beam R, and extends back from the same directly opposite a stirrup, *d′*, on the long plow-beam O.

The same bolt that holds the treadle Y to the beam R has a loop-head, *e′*, on the inner end between the two gangs, and is intended to be used for attaching a fifth plow, when needed, as an opener of the ridge for cotton or corn after the two front shovels have made the bed. This extra plow, marked R′, is constructed so as to run in front of the two gangs, as shown in the drawing, to act as a splitter of the middle for bedding, and also for plowing in small grain broadcast. This plow R′ is fastened to a stationary bar, *f′*, that runs across from one clevis, N, to the other, and said bar *f′* has perforated ears, between which the plow may be adjusted, so as to run and plow deep or shallow.

From each main clevis N on the inner side extends rearward an arm, A′, attached to it by a smaller clevis, *h′*, which is provided with a series of holes, so that the arm can be adjusted to any height required. On the rear end of this bar or arm is attached a revolving fender, B′, for preventing the earth from falling on small plants while plowing the first time. This revolving fender is self-cleaning. Instead of dragging all the trash that accidentally gets across the fenders, thereby destroying many of the young plants, it simply rolls over them without accumulating a particle.

C^1 C^1 represent the plows, made in diamond shape, with a point on each end, and with their peculiar attachments can be used as a left or right turning plow, or as a shovel, and reversed either end foremost, leaving always enough of the plow above the ground, at any depth that it may run, to convey the dirt with force, if required.

D′ is the shoe for connecting the plow to the beam, made of a piece of iron convex on its front, and sloping from top to bottom, and fastened to the beam in the center by a single pivot. The lower half holds the plow, while the upper half fits around the beam, allowing it to play forward and the shovel backward when coming in contact with roots or stumps, simply breaking a wooden pin, *i′*. There are

two holes for the adjustment of the shoe—the rear one for sandy land and the front one for stiff or black land.

Each plow C^1 has in the center, on its rear side, a concave centrally-slotted and circular plate or casting, C^2, and this is fastened, by a single bolt, to the shoe D′, whereby the plow may be adjusted to the right or left, as required.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the hounds D D and the perforated plates E E, forming a socket, with the longitudinally-adjustable tongue G, carrying a draft device, and the seat I J, the pin *d*, and axle C, substantially as shown and described.

2. The segmental adjustable perforated clevis H, provided with the loop *h*, in combination with the adjustable tongue G and double-tree G^2, for the purposes herein set forth.

3. The combination, with the tongue, of the adjustable clevis H, pin *i*, loops *m m*, and seat-supporting bars I I, substantially as and for the purposes herein set forth.

4. The combination of the plow-beams O and R and the curved slotted iron V, substantially as and for the purposes herein set forth.

5. The combination of the main clevis N, clevis *h*′, and adjustable arm A′, carrying the revolving fender B′, substantially as and for the purposes set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

THADEUS PEMBROKE SUMERSET WEEMS.

Witnesses:
B. F. FULLER,
W. H. JOHNSON.