

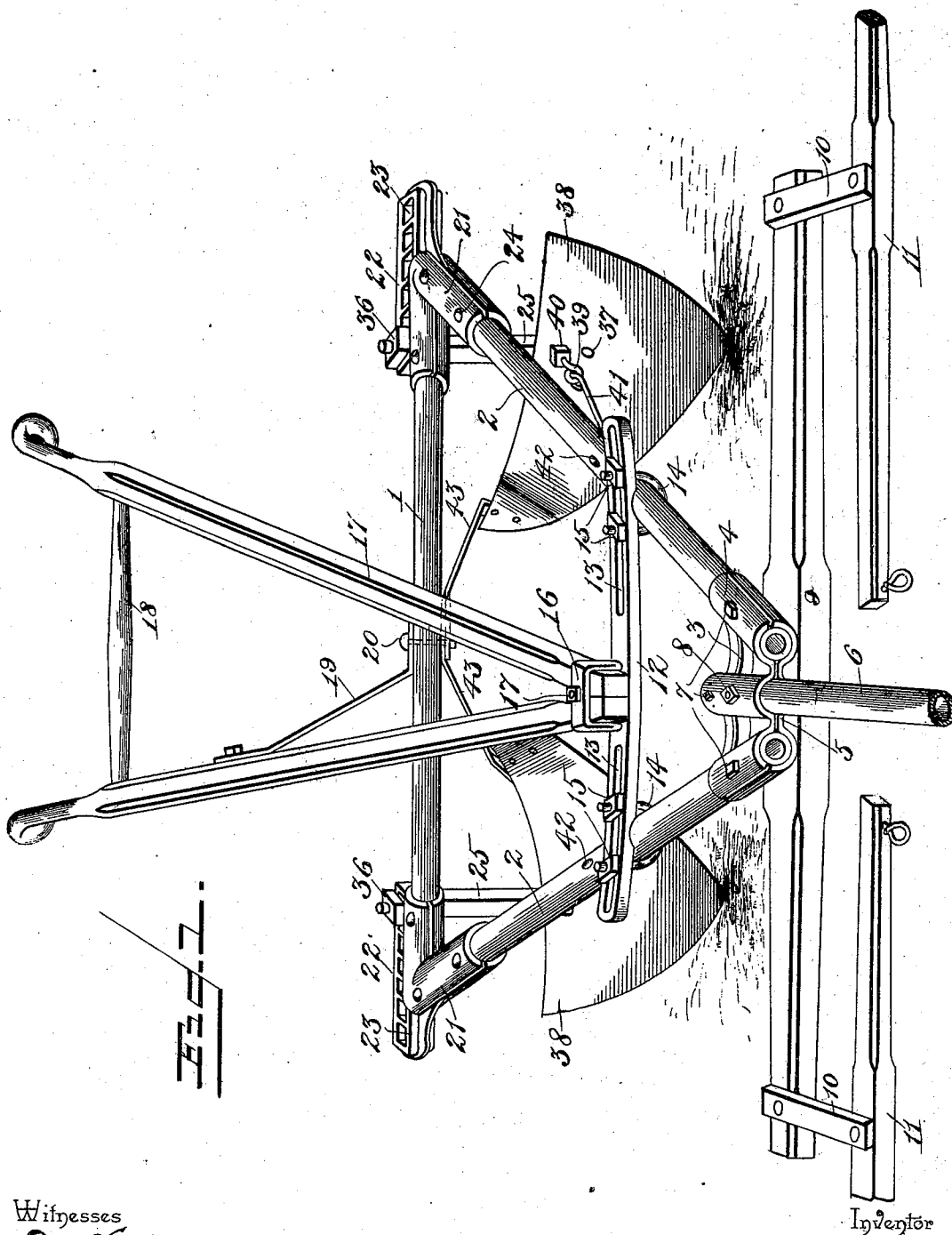
(No Model.)

2 Sheets—Sheet 1.

R. S. BUCH.
CULTIVATOR.

No. 502,171.

Patented July 25, 1893.



Witnesses

E. H. Stewart,

W. S. Duval

Roy S. Buch,

By his Attorneys,

C. A. Snow & Co.

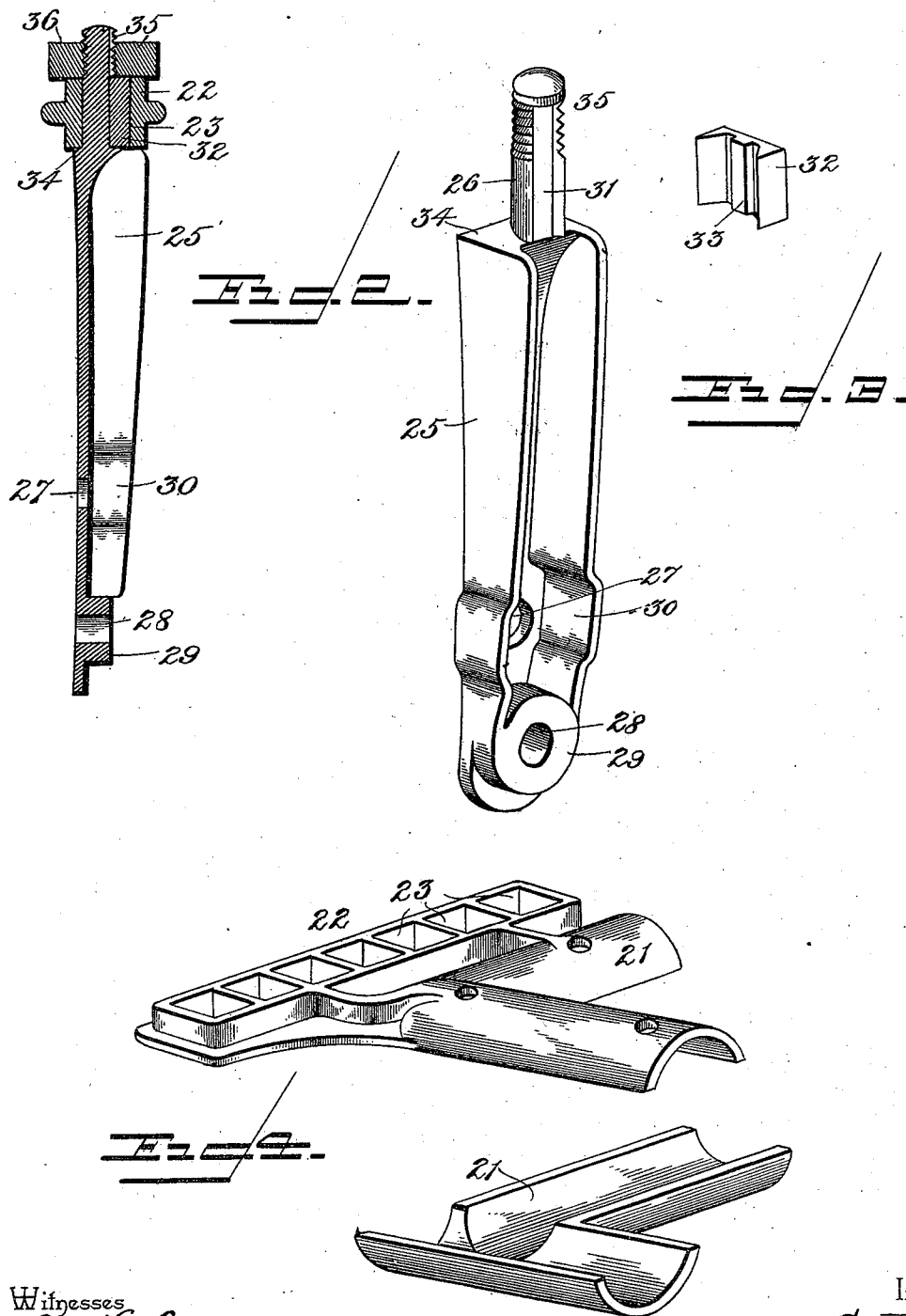
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CULTIVATOR.

No. 502,171.

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Witnesses

E. H. Stewart.

M. S. Dwyer.

By *h. s.* Attorneys,

Inventor
Royer S. Buch

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

ROYER S. BUCH, OF ELIZABETHTOWN, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO JOHN H. BUCH, OF SAME PLACE.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 502,171, dated July 25, 1893.

Application filed March 31, 1893. Serial No. 468,437. (No model.)

To all whom it may concern:

Be it known that I, ROYER S. BUCH, a citizen of the United States, residing at Elizabethtown, in the county of Lancaster and State of Pennsylvania, have invented a new and useful Cultivator, of which the following is a specification.

My invention relates to improvements in cultivators; the objects in view being to provide a cultivator whose frame-work is constructed partly of gas or water-pipe suitably connected by wrought metal joints or connections; to provide means for adjusting the shovels or scraper blades of the cultivator whereby they are adapted to operate at and upon the opposite sides of a furrow, and to provide means for adjusting the handles laterally upon the frame, whereby the operator following the cultivator need not be required to travel or walk in the furrows.

With these and various other objects in view the invention consists in certain other novel features of construction hereinafter specified and particularly pointed out in the claims.

Referring to the drawings—Figure 1 is a perspective view of a cultivator constructed in accordance with my invention. Fig. 2 is a vertical sectional view of one of the shovel-carrying standards. Fig. 3 is a detail in perspective of one of said standards and a locking key employed in connection with the same. Fig. 4 is a detail in perspective of the angular clamp and standard-supporting bracket employed at the rear angles of the frame.

Like numerals of reference indicate like parts in all the figures of the drawings.

In practicing my invention I construct a triangular frame, the same consisting of the rear pipe 1 and the opposite side pipes 2. The side pipes 2 converge to form the front angle of a triangle and have their front ends embraced by a pair of clamping-plates 3 formed of wrought-iron. These clamping-plates 3 are provided at their ends with semi-circular clamping-portions 4 that receive the pipes 2, and at their centers, the semi-circular clamping-portions 5 that receive the rear end of a draft tongue 6, which may or may not be also constructed of a pipe. Through the clamping sections 4 and 5, clamping-bolts

7 are passed, whereby these parts are all secured in position.

Pivoted by means of a bolt 8 to the central portion of the clamping-section 5 and to the tongue 6 is the double-tree 9, and to the ends of the same are attached by links 10 the single-trees 11, of usual construction.

A cross-bar 12 surmounts the side pipes 2, and the ends of the cross-bar are provided with longitudinal slots 13 through which extend the terminals of the pair of inverted U-shaped clips 14, having nuts 15 at their extremities above the bar 12. It will be seen that the bar 12 may be adjusted longitudinally upon the side pipes 2 and secured at any point of its adjustment by means of the aforesaid nuts 15.

An inverted U-shaped clevis 16 is located upon the bar 12 at the center thereof, and inserted into the clevis are the front converging ends of a pair of handle-bars 17, which extend upward and rearward from the clevis to points in rear of the frame. A single bolt passes down through the clevis and between the handle-bars whereby they are wedged in position. The rear ends of the handle-bars are connected by means of a transverse rung 18, and said bars are supported or braced by a pair of inclined braces 19, whose intermediate portions rest upon the rear pipe 1 of the frame and are pivoted thereto through the medium of the bolt 20. The bar 12, it will be observed, is curved concentric with the pivot bolt 20 so that by loosening the nuts 15 of the clips 14 and moving said bar to the right or left, the handles of the rear ends of the handle-bars 17 are disposed either to the right or the left of the center of the machine and thus the operator is enabled to follow the machine without walking in the furrow, at the sides of which shovels, hereinafter mentioned, are operating.

The rear ends of the side pipes 2 are connected to the opposite ends of the rear pipe 1 by means of angular clamping sections 21, said clamping-sections being composed of two U-shaped members whose inner sides are concaved to fit the pipes. The upper section 21, of each clamp, is provided at its rear side with a horizontal bracket 22, and the same has formed therein at intervals, square open-

ings 23. Bolts 24 serve as means for securing the clamping-sections upon the pipes, 1 and 2.

25 designates standards, of which there are 5 a pair, the said standards being preferably formed of angle iron and provided at their upper ends with reduced cylindrical tenons or studs 26. At their lower ends they are provided with openings 27 and 28, the latter 10 being formed in a boss 29, while around the former opening 27 the flange of the angle iron is spread, as shown at 30. The upper ends of the studs 26 of the standards 25 are passed through any one of the openings 23 in the two 15 horizontal brackets 22, and the said studs are provided at one side each with a longitudinal groove or recess 31. Metal keys 32 are movably fitted in these openings in which the studs 26 of the standards are inserted 20 and said keys are of a length and width adapting them to completely fill the openings with exception of those portions which are occupied by said studs. Each key is provided upon its inner face with a rib 33 which corre- 25 sponds to the groove 31 of the stud, adjacent to which it is located. By the formation of the studs upon the standards, shoulders 34 are produced at the lower ends or bases of the studs, and these take against the under 30 sides of the brackets 22. Above the brackets the studs are threaded, as indicated at 35, and nuts 36 are applied to said ends and serve to bind the shoulders against the brackets so that with the addition of the keys 32 the 35 standards are held immovable or rigid in position and depending from brackets. Of course, the standards may be removed and reinserted and secured in any one of the series of holes in each bracket so that the distance apart 40 of the standards may be regulated at will.

By means of heel-bolts 37, triangular shovel or scraper-blades 38 are secured to the stand- 45 ards, said heel-bolts passing through the openings 28 formed in the bosses 29, with which the standards are provided. Eye-bolts 39, having nuts 40, are passed through the upper openings 27 of the standards and through the shovels or scraper-blades 38, and links 41 are 50 connected to the eye-bolts at their front ends, and by means of bolts 42 are secured to the side pipes 2. Angular straps 43 are secured to the inner angles of the shovels or blades 38, extend inward toward each other under the rear pipe 1, overlap, and are connected by 55 means of the bolt 20 to the pipe 1. This completes the construction of the cultivator, whose operation is similar to those now in use, it being obvious that the blades or shovels are constructed to scrape the sides of a fur- 60 row, thus destroying the weeds accumulated thereon; that the adjustment for the shovels may be readily accomplished; that when adjusted the shovels are readily held, and finally, that the handles may be adjusted at the will 65 of the operator whereby he may walk at the side, instead of in the furrow, whose sides are being operated upon.

It is to be understood that changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention. 70

Having described my invention, what I claim is—

1. In a cultivator, the combination with a 75 triangular frame, of a transversely disposed curved bar mounted upon the side bars of the frame and provided with longitudinal slots near its ends, clips extending upwardly from the side-bars through the slots and pro- 80 vided with nuts, a pair of handle bars secured to the transverse bar, and a brace between the handle-bars and rear bar of the frame and pivoted to the latter, concentrically with relation to the curved bar substantially 85 as specified.

2. In a cultivator, the combination with the triangularly disposed pipes, of the clamping sections embracing the pipes and connecting the same, the bolts passed through the sec- 90 tions and pipes, the upper sections of the rear clamps being provided with horizontal brackets having a series of openings, standards removably mounted in the openings, and blades or shovels secured to the standards, substan- 95 tially as specified.

3. In a cultivator, the combination with the triangularly disposed pipes 1 and 2 secured at their front ends, the V-shaped clamping sections 21 securing the rear ends of the said 100 pipes to the rear pipe, bolts passing through the same, the brackets 22 having rectangular openings 23, the standards having the shoulders 34, reduced, threaded and grooved tenons 26 extending into the openings of the brack- 105 ets, the keys 32 having the ribs 33 fitting the grooves and located in the openings, and the nuts 36 threaded on the upper ends of the studs, substantially as specified.

4. In a cultivator, the combination with the 110 triangular frame, the clamping sections 21 having the brackets provided with openings, the standards 25 having the spread flange 30, openings 27 and 28, the latter formed in the boss 29, the stud 26 at the upper end of the 115 standard, and means for securing the same in the openings of the brackets, the triangular shovels 38, heel-bolts passing through the shovels and openings 28 of the standards, eye-bolts passing through the shovels and the 120 openings 27 of the standards, links 41 between the eye-bolts and side bars of the frame, the metal straps 43 secured to the inner angles of the shovels and overlapping each other under the rear bar of the same, and the bolt pass- 125 ing through the straps and said bar, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ROYER S. BUCH.

Witnesses:

D. M. ESHELMAN,
A. G. ZUG.