

(No Model.)

3 Sheets—Sheet 1.

W. A. & S. WHITESEL.
CULTIVATOR.

No. 577,937.

Patented Mar. 2, 1897.

Fig. 1.

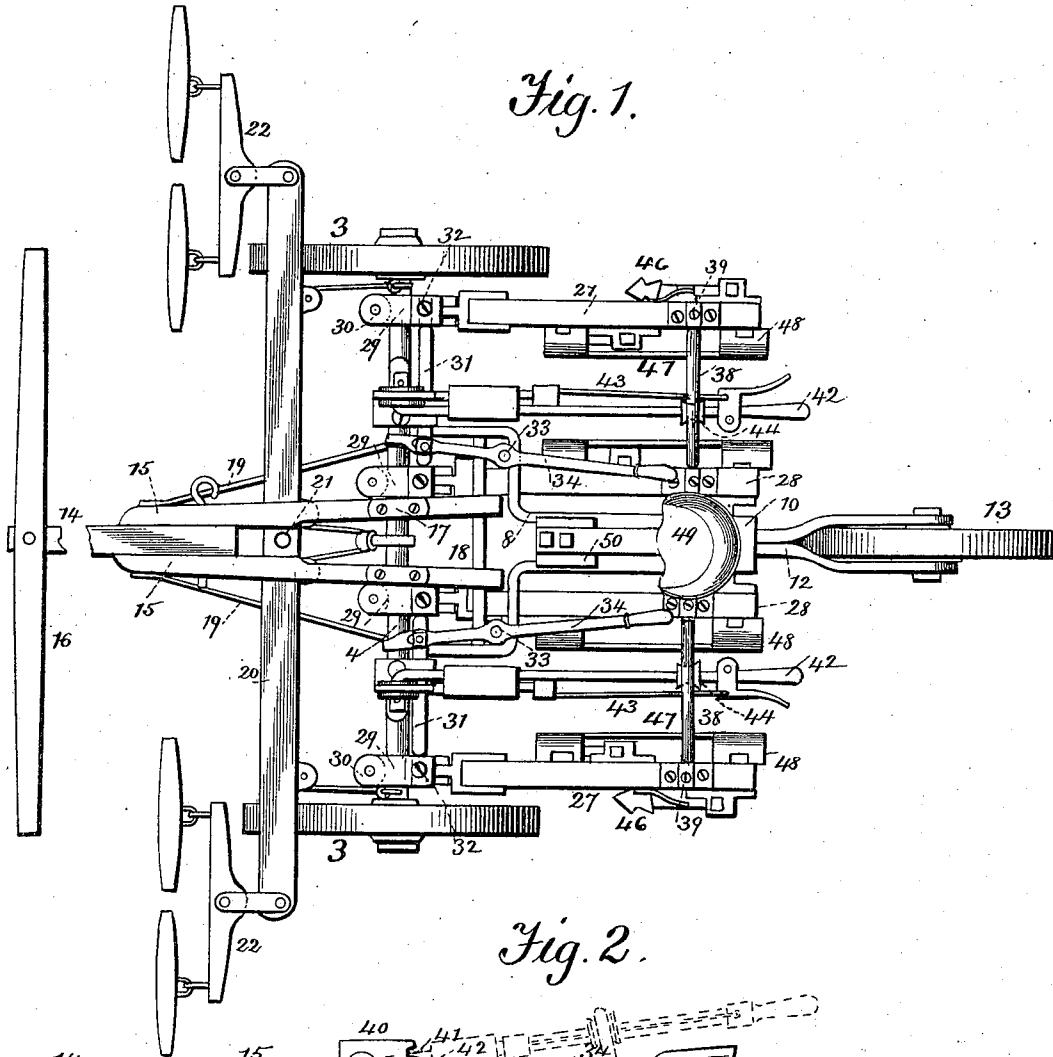
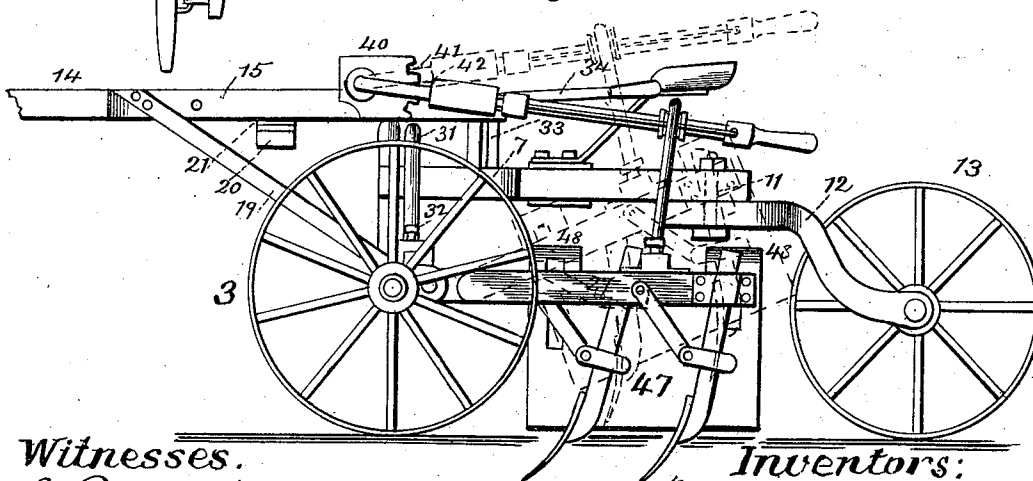


Fig. 2.



Witnesses.

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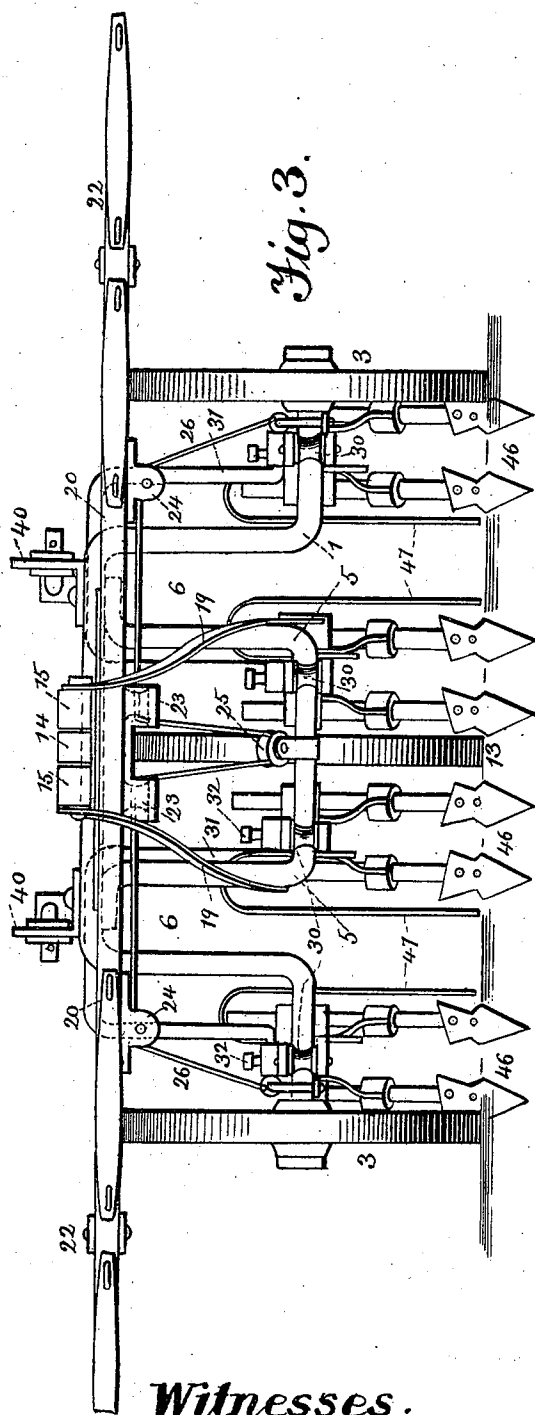


Fig. 3.

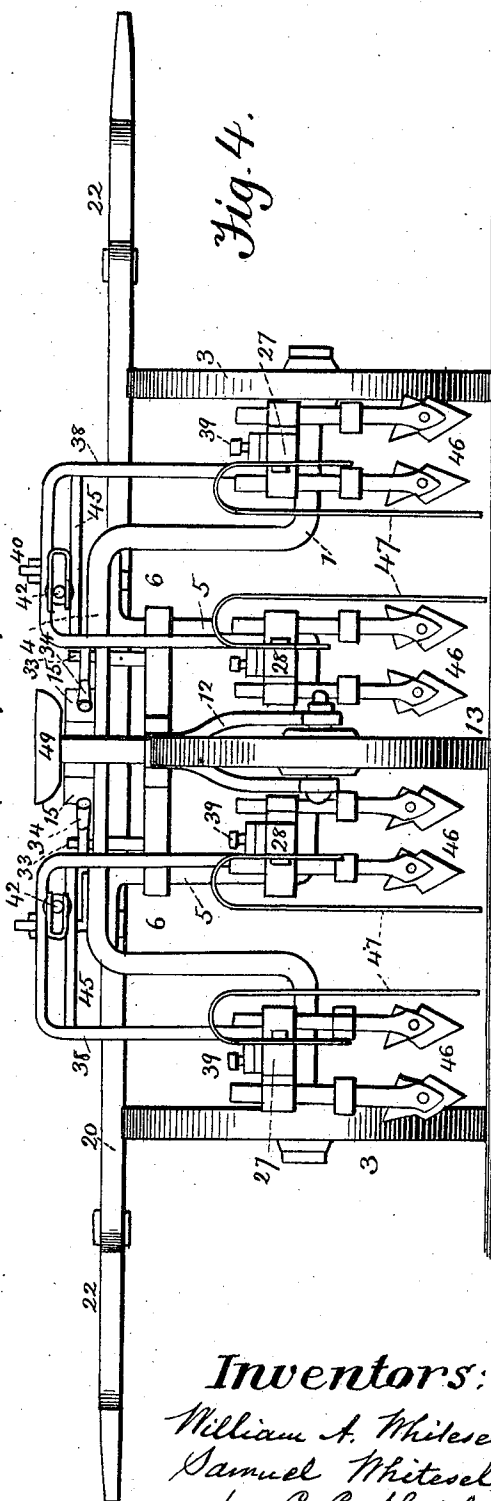


Fig. 4.

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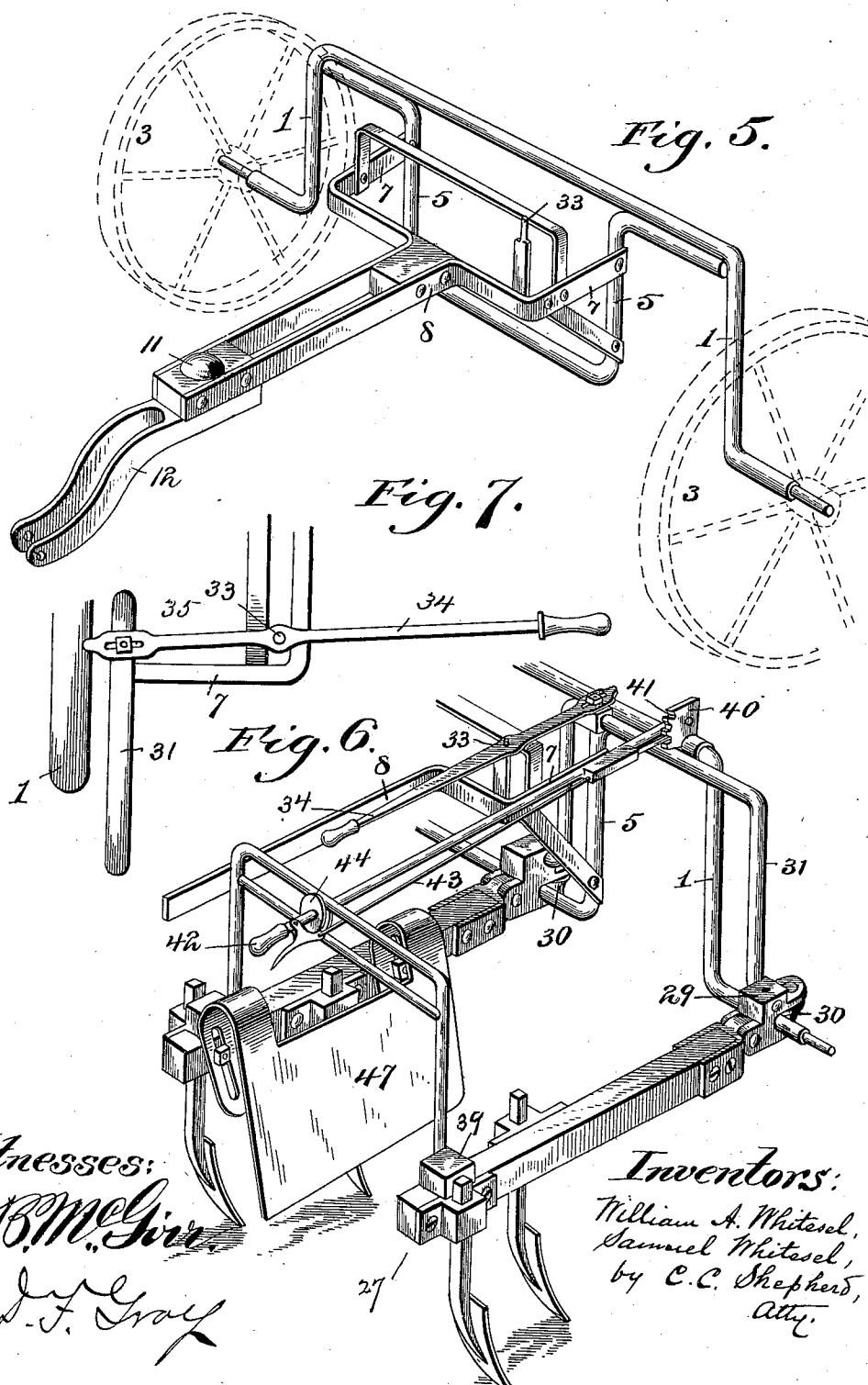
(No Model.)

3 Sheets—Sheet 3.

W. A. & S. WHITESEL.
CULTIVATOR.

No. 577,937.

Patented Mar. 2, 1897.



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UNITED STATES PATENT OFFICE.

WILLIAM A. WHITESEL AND SAMUEL WHITESEL, OF SUMNER, NEBRASKA.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 577,937, dated March 2, 1897.

Application filed May 22, 1896. Serial No. 592,651. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM A. WHITESEL and SAMUEL WHITESEL, citizens of the United States, residing at Sumner, in the county of Dawson and State of Nebraska, have invented certain new and useful Improvements in Cultivators, of which the following is a specification.

The object of the invention is to produce a four-horse cultivator for cultivating corn and the like and adapted to tend two rows at the same time; and the invention consists in the details of construction and combination of parts hereinafter fully described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a top view of the cultivator; Fig. 2, a side elevation; Fig. 3, a front end elevation; Fig. 4, a rear end elevation; Fig. 5, a skeleton view of the supporting-frame in perspective, and Figs. 6 and 7 are views of detached details.

Similar numerals indicate similar parts in the respective figures.

1 represents the axle, bent to form the single arch 2, and 3 3 are the wheels on the ends of the axle. To the top horizontal portion 4 of the axle is bolted the depending U-shaped bar 5, thereby forming two arches 6 6 to straddle adjacent rows of plants. It is obvious that the axle itself might be bent to form the two arches; but the structure described is deemed preferable, as greater strength and rigidity are secured.

Extending rearwardly from the U-shaped bar 5 is a Y-shaped frame 7, consisting of two similar sections 8 8. These sections 8 8 are respectively bolted to the upper portions of the vertical arms of the U-shaped bar 5, and suitable braces 9 9 extend upwardly and rearwardly from the lower portions of the said vertical arms to the said sections 8 8. Between the rear ends of the sections 8 8 a block 10 is firmly secured, and this block forms a bearing for the pivot-pin 11 of the yoke 12, which carries the trailing wheel 13.

The parts so far described constitute the supporting-frame of the cultivator.

14 represents the tongue, pivoted at its rear end between two bars 15 15 and carrying at its front end the neck-yoke 16. The bars 15 are secured to the horizontal portion 4 of the axle 1 by means of clips 17. Their rear ends

are secured to an arched bar 18, the latter being secured to the frame 7. From the front ends of the bars 15 15 braces 19 19 extend downwardly and rearwardly to the lower portion of the U-shaped bar 5. The bars 15 15 are thus rigidly secured to the frame of the cultivator; but the tongue being pivoted is free to adjust itself to any unevenness in the ground, and thus avoids throwing undue strain on the necks of the horses.

20 is the draft-evener, pivoted midway of its length to a plate 21, secured to the bars 15 15 a short distance in advance of the axle. To each end of the evener is secured a double-tree 22, to which the horses are attached. In operation the tongue 14 extends between the two rows being cultivated. The two inside horses walk outside the said rows and the two outside horses between the adjacent rows on either side of those being cultivated. The trailing wheel 13 also travels between the rows being cultivated. The neck-yoke 16 is worked on the two inside horses.

23 23 represent two pulleys secured side by side to the under side of the draft-evener 20, midway of its length, and 24 24 are similar pulleys, also secured to the under side of the draft-evener to the right and left, respectively, of the pulleys 23. Another pulley 25 is secured to the lower horizontal portion of the U-shaped bar 5. A draft chain or cable 26 is secured at one end to the axle just inside one of the wheels 3 and then passed around one of the pulleys 24, thence to one of the pulleys 23, then around the pulley 25 and the other pulleys 23 and 24, and its other end secured to the opposite end of the axle just inside the other wheel 3.

27 27 represent the outer and 28 28 the inner shovel-beams. Each of these beams is hinged to a clip 29. The clips for the outer beams are supported on the axle 1 inside the draft-cable and the clips for the inner beams upon the lower horizontal portion of the U-shaped bar 5. Each clip 29 is free to have lateral movement upon its support and is provided at its front end with a friction-roller. The clip of each outer beam is connected to the clip of the adjacent inner beam by means of an arched bar 31, the ends of which are held in boxes on the clips by set-screws 32.

Extending upwardly from the frame 7 are

two posts 33 33, one on each side thereof, and on these posts are fulcrumed the levers 34 34. The front end of each lever is provided with an elongated opening 35, through which extend pins 36 36, rigidly secured to the respective arched bars 31, and the levers are held in position by nuts 37 on the ends of the pins 36 or other equivalent device. The rear ends of the levers 34 34 are within easy reach of the driver, and by operating said levers the two pairs of shovel-beams may be moved laterally toward or away from each other.

The rear end of each outer shovel-beam 27 is connected to the rear end of the adjacent inner beam 28 by an arched bar 38, the ends of said bars being secured in boxes on the plow-beams by set-screws 39. Bolted to the top horizontal portion of the axle 1, and near each end thereof, are angle-plates 40 40, and on the rear edges of said plates teeth 41 are formed. To each of these plates a lever 42 is pivoted at its forward end and is provided with the ordinary spring-latch 43, adapted to engage the teeth 41.

44 44 are grooved rollers, one being loosely mounted on each of the levers 42 to have free rotary and longitudinal movement thereon. These rollers are supported in tracks formed by the top horizontal portion of the arched bars 38 and rods 45, secured to said arched bars 38 parallel to the said top horizontal portion. By this construction the driver is enabled to elevate or depress the plow-beams and lock them in the desired position. Furthermore, the rollers 44 permit the rear ends of the beam to adjust themselves when their forward ends are shifted by the levers 34, for the draft will naturally tend to cause the rear ends of the beams to adjust themselves in line with the front ends. When the beams are elevated through the medium of the levers 42 42, the rollers 44 will slide along the levers, as indicated in dotted lines in the drawings.

46 46 represent the shovels, which may be attached to the beams in any desired manner.

47 47 are shields secured to the shovel-beams. These shields are designed to prevent injury to the plants by stones or heavy clods of dirt, which might otherwise be thrown against them by the shovels. The lower front corners of these shields are preferably rounded to enable them to more easily ride over obstructions. The arms 48 48 of the shields are slotted to permit the vertical adjustment of the shields relative to the beams.

49 is the driver's seat, supported on the block 50, which latter is preferably secured to the Y-shaped frame 7.

Having described our invention, we claim—
1. In a two-row cultivator, the arched axle

and the depending U-shaped bar secured thereto, combined with a Y-shaped frame bolted to the upper portion of said bar and extending rearwardly therefrom, a yoke pivoted to the rear end of the said frame, supporting-wheels on the axle and pivoted yoke, and braces extending from the lower portion of said bar to the frame, substantially as described.

2. In a two-row cultivator, the arched axle, the depending U-shaped bar secured thereto, the Y-shaped frame secured to the said depending bar, combined with an arched bar 18 secured to the said frame, bars 15 rigidly secured to the top horizontal portion of the axle and to the arched bar 18, and a tongue pivoted at its rear end between the bars 15, substantially as described.

3. In a two-row cultivator, the combination of the axle, bars 15 rigidly secured to the supporting-frame, the tongue pivoted at its rear end between said bars, a neck-yoke at its outer end, a draft-elevator pivoted midway of its length to the bars 15, doubletrees at each end of the draft-elevator, four pulleys on the draft-elevator arranged as described, a pulley on the supporting-frame, and a draft chain or cable passing around the pulleys and secured at its ends to the ends of the axle, substantially as described.

4. In a two-row cultivator, a double-arched axle and a frame secured thereto and extending rearwardly therefrom, combined with clips loosely supported on the lower horizontal portions of said axle, shovel-beams hinged to said clips, arched bars connecting the clip of each outer beam with that of the adjacent inner beam, a post extending upwardly from the said frame, a lever fulcrumed on the post and connected at its forward end to the arched bar, substantially as and for the purpose specified.

5. In a two-row cultivator, two pairs of shovel-beams hinged at their forward ends to the axle, combined with arched bars connecting the rear ends of the beams forming each pair, plates secured to the axle and having teeth formed therein, a lever pivoted to each of said plates and provided with a latch to engage the teeth, and a grooved roller loosely mounted on each lever and supported on a track formed in said arched bars, substantially as and for the purpose specified.

In testimony whereof we have hereunto set our hands and seals.

WILLIAM A. WHITESEL. [L. S.]
SAMUEL WHITESEL. [L. S.]

In presence of—
S. B. MONTGOMERY,
WALDO J. FLAGG.