

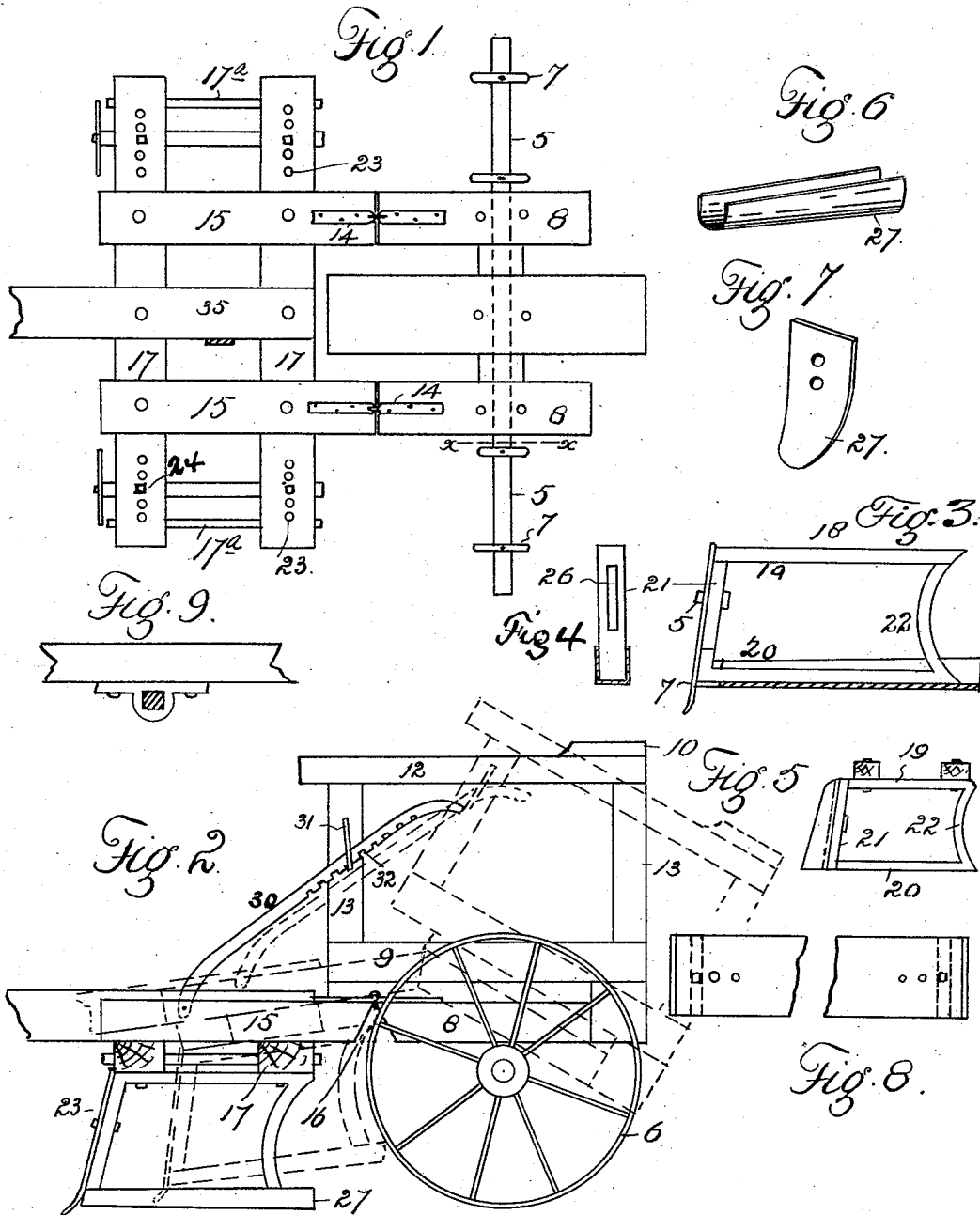
(No Model.)

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MACHINE FOR FORMING IRRIGATING LATERALS.

No. 478,034.

Patented June 28, 1892.



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MACHINE FOR FORMING IRRIGATING-LATERALS.

SPECIFICATION forming part of Letters Patent No. 478,034, dated June 28, 1892.

Application filed March 14, 1892. Serial No. 424,918. (No model.)

To all whom it may concern:

Be it known that I, ANDREW J. THOMPSON, a citizen of the United States of America, residing at Montrose, in the county of Montrose and State of Colorado, have invented certain new and useful Improvements in Machines for Forming Irrigating-Laterals; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to an improved agricultural implement specially designed for use in forming irrigating laterals or branches for the passage of water through fields in those sections where the natural atmospheric precipitations are insufficient to supply the demands of vegetation. To those familiar or conversant with irrigating methods it is understood that the water for use is taken from a main lateral, canal, or ditch through suitable head-gates and directed into the branch laterals or trenches formed at suitable intervals across the field to be supplied with water, whereby the water seeps into the ground and moistens the strip intervening the laterals.

The formation of these laterals or trenches is the primary object of my invention, though it may be advantageously and profitably employed in many and various other relations, as in the planting, cultivating, &c., of different crops.

To these ends my improved implement consists of the features, arrangements, and combinations hereinafter described and claimed.

The device will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment of the invention.

In the drawings, Figure 1 is a top or plan view of the machine, showing the frame-work. Fig. 2 is a side elevation of the same mounted upon wheels. Fig. 3 is a side view of the metal frame to which the shovel is attached. The shoe attached to the bottom of the frame is shown in longitudinal section. Fig. 4 is a front view of the same with the shovel removed. Fig. 5 is a detail view of this metal

frame on a small scale, showing the manner of attaching it to the supporting frame-work. Fig. 6 is a detail view in perspective of the shoe. Fig. 7 is a similar view of the shovel. Fig. 8 is a front view of a leveler, which may be attached to the metal frame in place of the shovels. Fig. 9 is a section taken on the line $x x$, Fig. 1, showing the manner of securing the movable frame to the axle.

Similar reference characters indicate corresponding parts or elements of the mechanism in the several views.

Let the numeral 5 designate the axle mounted on the wheels 6, which are laterally adjustable on the shaft by the use of set-collars 7. Upon this axle is secured a frame composed of side beams 8 8 and a central beam 9. Upon this latter beam is supported a suitable seat 10 for the driver or manager of the machine. As shown in the drawings, this seat is located or supported upon the rear extremity of a beam 12, having its extremities supported by standards 13, secured at the base to beam 9.

Attached to the forward extremities of beams 8 by means of hinges 14 are other beams 15, the hinged or adjacent extremities of the beams 8 and 15 being cut away or oppositely beveled, as shown at 16, to allow said beams to occupy the position shown by dotted lines in Fig. 2. Beams 15 are rigidly secured to transverse beams 17, to which are bolted the metal frames 18, composed of the parallel top and bottom bars 19 and 20, the inclined front bar 21, and the rear bar 22. Frames 18 are laterally adjustable on beams 17 by means of a series of openings 23, through which bolts 24 may be passed. Beams 17 are secured together by suitable transverse bolts 17^a. The front bar 21 of each frame 18 is provided with a slot 26 for the reception of the securing-bolts 25 for shovels 27. By means of slots 26 the shovels may be adjusted vertically, as may be desired, or as may be necessary to form the required depth of the lateral.

To the lower bar 20 of each frame 18 and in the rear of the shovel is secured the concavo-convex shoe 27, its forward extremity being narrow and made to engage bar 21, while it increases in size toward the rear. The object of this shoe is to clean out the trench roughly formed by the shovel and

smooth the walls sufficiently to form a water conduit for the purpose stated.

Instead of shovels 27, a leveler 28 (shown in Fig. 8) may be employed. This leveler may be of any desired length. It should be secured to both frames 18 of the machine, one leveler taking the place of both shovels.

To the tongue 35 is pivoted one extremity of an adjusting-lever 30, the other extremity extending upward within reach of the user of the machine and supported in a suitable metal strap 31, which is secured to one of the standards 13 and engages notches 32, formed in the lever. By releasing this lever from engagement with the strap 31 the frame-work pivoted on the axle tips backward to the position shown by dotted lines in Fig. 2 and draws the frames 18 and their shovels out of the ground in a position for traveling when it is not desired to use the machine in the fields, or when for any reason it is desired to maintain the shovels above the surface of the ground.

From the foregoing description it is thought the use and operation of the machine will be readily understood. For alfalfa and fine grains and cereals the ground is first properly prepared and the seed sown. My improved machine is then employed to form the laterals for distributing the necessary water over the field. By means of the lateral adjustability of frames 18 with their shoes and shovels these distributing-laterals may be formed any desired distance apart. My improved machine is also employed for cleaning out these laterals after the crop is partially grown and the laterals have become partially filled. By reason of the vertical adjustability of the shovels on frames 18 these shovels may be so set as to enter the ground any desired depth. When used in connection with such crops as corn and potatoes and all crops planted in rows, the seed may be dropped into the trenches formed by the shovels in crossing the field in one direction and covered by running the machine across the field in the reverse direction, the shovels being made to run in proximity to the rows. By this means the laterals or trenches for irrigating purposes are formed and the ground left ready to turn on the water as soon as the seed is planted.

The machine will be found valuable as a potato-hiller, a general cultivator, and for other purposes where the stirring, leveling, or pulverizing of the soil is desired. It will be observed that the wheels 6 are laterally adjustable on the axle 5, being held in place by the set-collars 7. These wheels should be adjusted to correspond with the position of the depending metal frames 18, or so that they will roll in the trench or lateral formed by the shovels and shoes attached to these frames,

thus aiding in the work of perfecting the trenches for purposes of a water-conduit or irrigating-lateral. The face of the wheel may be made convex to correspond with the external face of the shoe, or it may be flat, as may be desired.

Having thus described my invention, what I claim is—

1. The combination, with the axle mounted upon wheels, of the rear frame supported thereon, the forward frame hinged to the rear frame, and suitable means for adjusting the two hinged frames, whereby the forward frame and its attachments are raised from the ground, substantially as described.

2. The combination, with the axle mounted upon wheels, of the rear frame supported thereon and secured thereto, the forward frame hinged to the rear frame, the depending metal frame 18, rigidly secured to the forward frame, and suitable means for adjusting the two hinged frames, so as to raise the forward frame and its attachments from the ground, substantially as described.

3. The combination of the pivoted rear frame, the axle, and the supporting-wheels, of the forward frame hinged thereto, the adjoining extremities of the framing-beams being oppositely beveled to permit movement, depending frames 18, secured to the forward frame and provided with shoes secured to their bottoms, and means for adjusting the hinged frames, consisting of a ratchet-arm pivoted to the tongue and engaging a catch secured to the rear frame, substantially as described.

4. The combination of the rear pivoted frame, suitably mounted, the forward frame hinged thereto, the depending frames 18, having shovels in front and concavo-convex shoes on the bottom, formed smallest in front and gradually increasing in size toward the rear, and means for relatively adjusting the two hinged frames, substantially as described.

5. The combination of the axle, wheels laterally adjustable thereon by means of set-collars, the rear frame secured to the axle, the front frame hinged to the rear frame, depending frames secured to the front supporting-frame and laterally adjustable thereon, and suitable attachments for the depending frames, whereby suitable irrigating-laterals may be formed, and means for adjusting the two hinged frames, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ANDREW J. THOMPSON.

Witnesses:

WM. MCCONNELL,
E. M. DOIG.