(No Model.)

D. UNTHANK.

Two Horse Cultivator.

No. 243,090. Patented June 21, 1881.

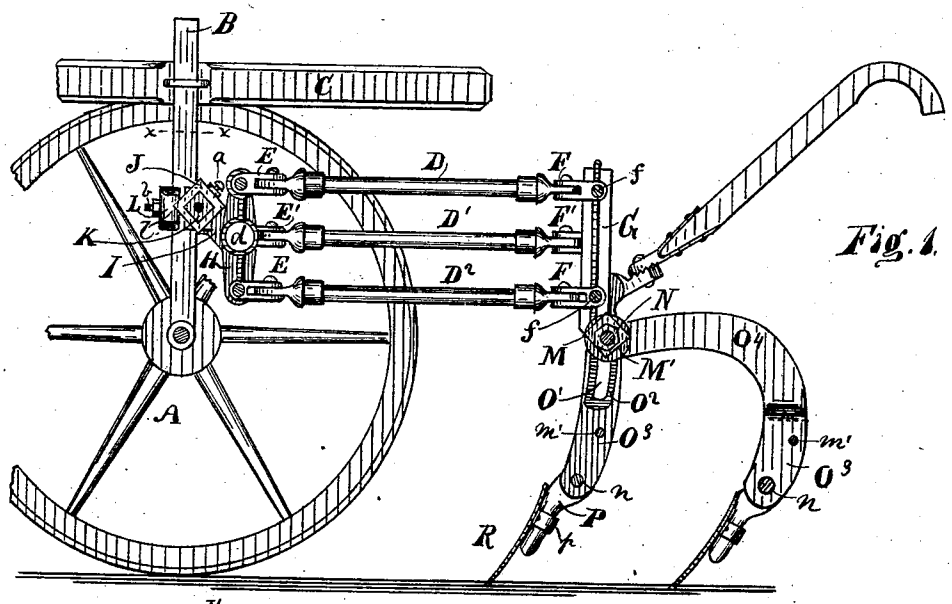


Fig. 1.

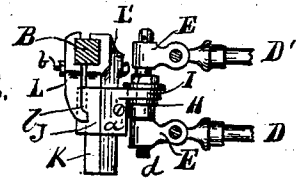


Fig. 2.

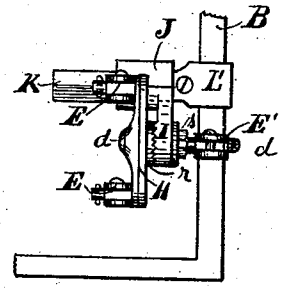


Fig. 3.

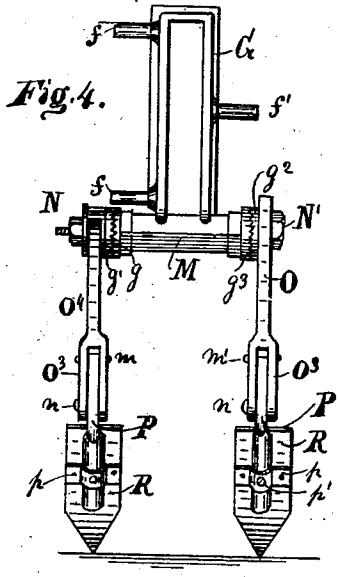


Fig. 4.

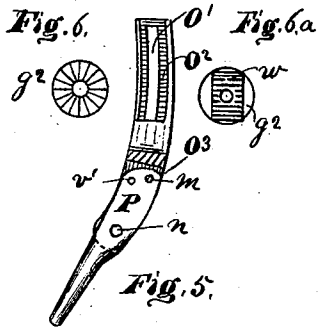


Fig. 5.

Fig. 6.

Fig. 6a

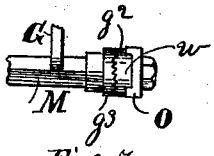


Fig. 7.

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UNITED STATES PATENT OFFICE.

DANIEL UNTHANK, OF SPICELAND, INDIANA.

TWO-HORSE CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 243,090, dated June 21, 1881.

Application filed January 22, 1881. (No model.)

To all whom it may concern:

Be it known that I, DANIEL UNTHANK, a citizen of the United States, residing at Spiceland, in the county of Henry and State of Indiana, have invented certain new and useful Improvements in Adjustable Two-Horse Cultivators, of which the following is a specification.

My invention relates to improvements on my patent for improvement in adjustable two-horse cultivators, No. 222,550, granted December 9, 1879, in which parallel bars provided with double-jointed couplings at each end operate in conjunction with the frame to which the plow-standards are attached, and with a vertical bar attached to the axle.

The objects of my improvements are, first, to provide a connection for the front end of the parallel rods with the vertical parts of an arched axle, for the purpose of raising, lowering, or giving a lateral adjustment to the front ends of the parallel bars, the rear ends of which are connected with the plow-standards; second, to provide the rear movable frames of the parallel rods with facilities for holding and supporting the plow-standards, and to permit the plow to be raised or lowered, or to change the pitch. These objects I accomplish by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation of the machine, partially in section, showing a side view of my improvements. Fig. 2 is a section taken at the line *x x* of Fig. 1, showing a top view of the connecting mechanism of the parallel rods and one vertical part of an arched axle. Fig. 3 is a section of the same, showing a rear elevation of Fig. 2. Fig. 4 is a rear elevation of the rear frame, to which the rear ends of the parallel rods are attached, also the plow-standards and their adjusting mechanism. Fig. 5 is a side view of the inner plow-standard, partially in section to show the arrangement of the break-pin bar of the shovel and the ratchet arrangement for adjusting the standard up or down on the rear frame. Fig. 6 shows one side view of the double-faced adjustable ratchet-plate. Fig. 6ª is the opposite side from that shown in Fig. 6. Fig. 7 represents a top view of a section of the rear frame with stationary ratchet, and the ratchet shown in Figs. 6 and 6ª as attached to the upper end of the inner plow-standard.

All parts of the machine, except the front connection of the parallel bars with the arch and the plow-standard connecting devices with the rear frame of the parallel rods, are the same as in my former patent alluded to, and are therefore not fully described nor broadly claimed in this application.

Similar letters refer to similar parts throughout the several views.

A represents one of the wheels, mounted on the spindles of the arched axle, (only one wheel being shown.) B is the arch of the axle. C is the rear end of the forked tongue.

The outside parallel rods, D D^2, and inner rod, D′, with the double-jointed end connections, F F′ F, with the plow-frame G, and double-jointed connections E E′ E, with the front bar, H, are the same as described in my patent alluded to, and operate in precisely the same manner.

The front bar, H, Fig. 3, is furnished with a radially-notched plate, *r*, firmly attached or cast on the bar H at one side, through the center of which the central stud-pin, *d*, passes. On the stud-pin *d*, next to the plate *r*, is the hub on the end of the arm I of the sleeve J. This hub has a corresponding radially-notched face to engage with the notched face of the plate *r*, and the bar H is adjusted on the hub of the sleeve J, and made fast by the nut *s* on the stud-pin *d*. Outside of the nut *s* on the stud-pin *d* the front joint, E′, of the parallel rod D′ is mounted. The sleeve J has a square hole through it for the square bar K of the rear clamp, L′, to operate in. The sleeve J is also provided with a set-screw, *a*, for the purpose of securing the sleeve on the bar K at any desired lateral adjustment.

The front clamp, L, is fitted to the front side of the upright part of the arch, and has a side projecting part, *l*, extending alongside of the sleeve J, and the end of the extended part *l* is provided with a notch to clamp over the front corner of the sleeve, as shown in Figs. 1 and 2. The clamps L and L′ are made fast to the upright parts of the arch, and are adjustable down or up. When adjusted up it decreases the draft on the horse's neck and facilitates the handling of the plows.

The rear frame, G, and its connection with the parallel rods are fully described in my former patent. My improvement is at the lower end of the frame. The lower part, M, is provided with a hole, which extends through it from end to end, and one end is furnished with a radially-grooved plate, g, and the other end with a similar plate, g^3, Fig. 4. Through the hole in the part M is inserted a bolt with head N′ at one end and nut N at the other.

The backward-curved plow-standard O^4 has on its front end a hub, with the face next to the radially-grooved plate g provided with a corresponding radially-grooved face, g', by means of which the standard O^4 may be adjusted in a curved manner either up or down on the bolt N N′.

The inner plow-standard, O, is nearly vertical, and its upper end is provided with a slot, O′, having recessed edges O^2, provided with parallel notches, as shown in Fig. 5.

The ratchet-plate, Figs. 6 and 6^a, has radial grooves on one side to engage with the radially-grooved plate g^3 on the end of the part M, and on its other side is a flat projecting part, w, to fit into the recess O^2 of the standard O. The face of this projecting part w is provided with parallel grooves and corresponding parallel ridges to fit into the notches formed in the recessed sides O^2 of the standard, by means of which the standard O may be adjusted up or down and made fast at any desired point. The forward and backward adjustment of the standard O is made by the radially-grooved parts g^3 and g^2, and both plow-standards are made fast to the ends of the part M by the bolt N N′, as shown in Fig. 4.

The break-pin bar P of the shovel R is made fast to the shovel by the band p and set-screw p'. The upper end of bar P is flat, and fits between the jaws O^3 of the plow-standard, where it is pivoted at n, and its upper end is provided with two holes, v', for the wooden pin m to be inserted in. The forks O^3 have but one hole for the pin m to be inserted in, and the front hole, v', of the bar P is to place the pin m in when it is desired to change the pitch of the shovel on the bar.

What I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the arch of a cultivator-axle, the bar H, having a radially-notched plate, r, at one side, the sleeve J, provided with a longitudinal square hole for the square bar K, and also provided with an arm, I, having a hub with radially-notched face to engage with the notched face r of the bar H, the clamp L′, with the square bar K attached, and the clamp L, all constructed and arranged to operate substantially as specified.

2. The rear plow-frame, G, having its lower end, M, cast hollow, and its ends provided with notched plates g g^3, combined with the notched hub g' of the plow-standard O^4, the ratchet g^2, with radial notches on one side and parallel notches on the projecting part w of the other side, and the plow-standard O, with slot O′, with recessed notched parts O^2, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

DANIEL UNTHANK.

Witnesses:
E. O. FRINK,
GEORGE H. RENNETT.