

(No Model.)

2 Sheets—Sheet 1.

J. H. FROST.
ROTARY PLOW.

No. 569,630.

Patented Oct. 20, 1896.

Fig. 1.

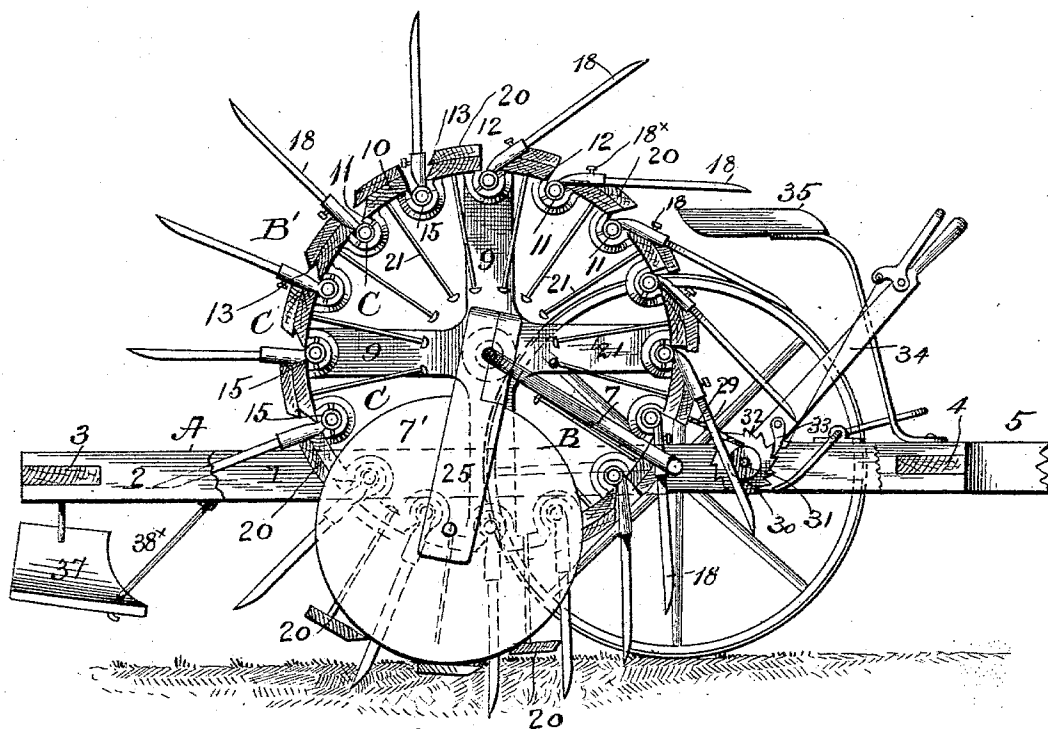
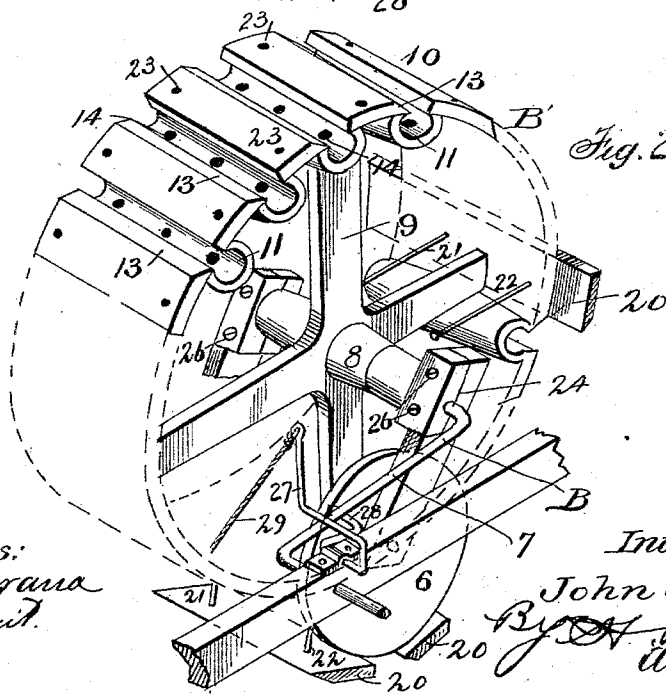


Fig. 2.



Witnesses:
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Inventor

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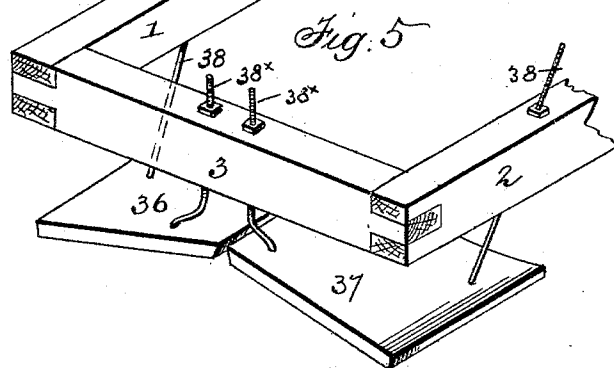
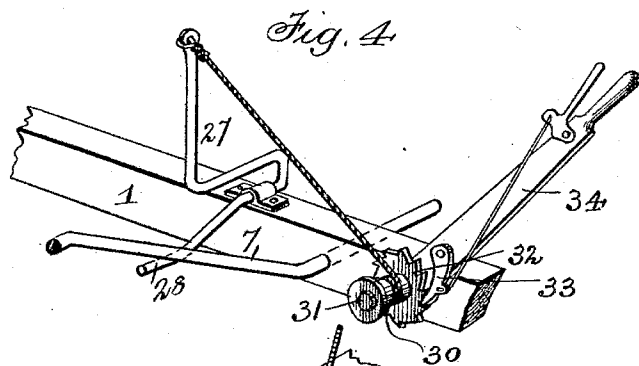
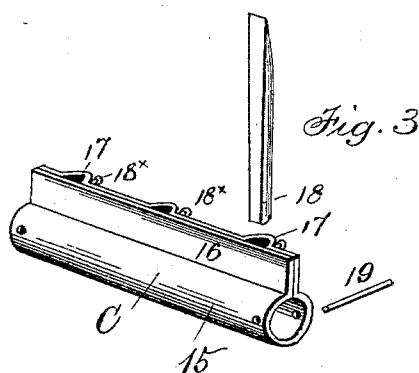
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2 Sheets—Sheet 2.

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Patented Oct. 20, 1896.

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Witnesses:

F. L. O'Grady.
A. J. Smith.

Inventor:

John H. Frost

By *H. R. [Signature]*
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UNITED STATES PATENT OFFICE.

JOHN HARLESS FROST, OF SIX MILE, ALABAMA.

ROTARY PLOW.

SPECIFICATION forming part of Letters Patent No. 569,630, dated October 20, 1896.

Application filed January 2, 1896. Serial No. 574,001. (No model.)

To all whom it may concern:

Be it known that I, JOHN HARLESS FROST, a citizen of the United States, residing at Six Mile, in the county of Bibb and State of Alabama, have invented certain new and useful Improvements in Rotary Plows; 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.

My invention relates to improvements in rotary plows intended for digging and tilling the soil; and the object is to provide a machine in the nature of a plow that will effect the purposes intended expeditiously, thoroughly, and at a minimum of power.

I effect the object and purpose designed by means of the construction and combination of elements, parts, and mechanisms illustrated in the accompanying drawings, wherein—

Figure 1 is a side view of the complete plow, one of the side rails of the frame and one wheel being removed to show the general construction. Fig. 2 is a detail perspective of the plow-wheel. Fig. 3 is a detail of one of the plow-heads removed from its seat and showing the means of securing the plow-teeth therein. Fig. 4 is a detail of the levers for raising the plow clear of the ground. Fig. 5 is a detail of the spreading-blades at the rear of the frame.

A designates a rectangular frame of such dimensions in length and breadth as to carry the mechanism mounted therein. The frame consists of parallel side pieces 1 2, suitably connected by end pieces 3 4, to the forward one of which the tongue 5 is suitably connected and secured.

B designates a crank-axle mounted on the spindles thereof and which also carries the wheels 6 7', substantially as shown in the drawings. The bail of the axle is made rather long, so as to admit a flow of large diameter, and thus increase the leverage exerted on the plows. On the bail 7 of the axle is journaled the hub or shaft 8 of the plow-wheel B, consisting of a substantial central disk 9, formed with a broad rim 10, in which are formed a determined number of transversely-arranged seats 11, in which the heads of the plows are seated and held so as to have

a limited rotation or oscillation therein. The rear wall 12 of the throat or opening of the seats approaches the vertical radius of the seat to serve as an abutting edge for the heads of the plows and brace them for turning further in backward direction, and the front edge of the opening is chamfered off, as at 13, to permit the plows to tilt or swing forward to shake off any adhering soil or substance. In the bottom of the seats 11 are formed a number of holes 14, in which the ends of the plow-teeth may extend when they are adjusted below the heads.

C designates the plow-heads, consisting of a round bar 15, of such a length as to extend across the plow-wheel, and formed with a flange 16 the length thereof, having keepers or sockets 17 formed thereon or made therein, in which the feet of the plow-teeth 18 are disposed, substantially as shown, and adjustably held and secured therein by means of setting screws or bolts 18^x, let through the metal of the flange. The plow-heads are secured in their seats, by means of pins or caps 19, against lateral displacement, and are prevented from falling out directly because of the contracted opening or throat-slot of the seats.

On the circumferential face of the wheel between the plows are arranged cleaning-plates 20, which have in each end a rod 21 22, which slide in holes 23 in the wheel-flange, substantially as shown, and serve to clean the dirt off the plows when they drop out by gravity or are drawn out by engagement with the adjustable wheel, hereinafter described.

On the bail of the axle, on opposite sides of the plow-wheel, are mounted two hangers 24 25, the heads of which are provided with set-screws 26, whereby the hangers may be secured at any angle desired in their relation to the plow-wheel and to throw out the cleaning plates or slats at any location desired.

To lift the plow when desired, I fulcrum a lever 27 on the frame and form the depending arm thereof with a hook 28, which engages with the arm of the axle-bail, so that when the lever is pulled forward by means of a connecting-cord 29, one end of which is secured to a sheave 30, the plow will be raised free from the ground. The sheave 30 is journaled on a stud 31 on the rail of the frame and pro-

vided with a ratchet 32, which is engaged by a pawl 33 on a lever 34, manipulated from the driver's seat 35, mounted at the forward part of the frame, substantially as shown.

5 On the rear of the frame are adjustably secured two spreading plates or shears 36 37, mounted on adjustable rods 38 38^x, whereby the plates may be set at any height or at any angle.

10 It will be perceived from the foregoing description, taken in connection with the drawings, that the seats in the plow-wheel and the plows arranged therein are so constructed that when the plow is at work the plows drop
15 down, so that the points enter the ground at the same distance apart, and as the plow revolves the teeth are forced straight down into the soil until the plow-wheel comes directly over it, when the plow-points are stopped
20 from turning further by lodgment against the rear edge of the seat in the wheel, and then the soil is prized and lifted loose. The power applied to the axle and the circumference of the plow-wheel act as a leverage, which
25 gives the requisite force to accomplish the purpose. The lengthened bail of the axle operates, in the first place, to permit the wheel to adjust itself to the surface on which it is working; second, to afford means for raising
30 the wheel free from the ground when desired through the manipulation of the lever.

A walking-plow may be built on the same principle as that shown except that the axle may be straight and the driver's seat and the
35 supporting-wheels removed.

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

1. In a rotary plow, the combination of the frame, the crank-axle mounted therein, a
40 plow-wheel journaled in the bail of the axle, and formed with circular seats across the face of the wheel, having slots opening into the seats, plow-teeth having a head-piece to fit
45 the seats in the wheel and arranged to have a limited oscillating movement therein, sliding cleaning-plates across the face of the wheel
50 having their ends projecting beyond the edges of the wheel, and wheels hung on opposite sides of the plow-wheel to push the cleaning-plates out.

2. In a rotary plow, the combination of the frame, the crank-axle mounted therein, a
plow-wheel journaled on the bail of the axle and having a broad rim formed with circular
55 seats extending across the perimeter, having slots opening therein with their rear edges formed to serve as stops against which the plows lodge and are held, and their front edges
60 chamfered to permit the plows to fall forward, plow-heads fitted to oscillate in the circular seats, plow-teeth adjustably secured in the
plow-heads, cleaning-slats disposed between
65 adjacent plows and provided with vertical rods at each end arranged to slide in guide-ways in the rim of the wheel, arms pivotally
hung on opposite sides of the plow-wheel, and
wheels journaled in the free ends of the arms
to engage the ends of the cleaning-slats and
70 push them outward.

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

JOHN HARLESS FROST.

Witnesses:

R. H. PRATT,
J. S. MOORE.