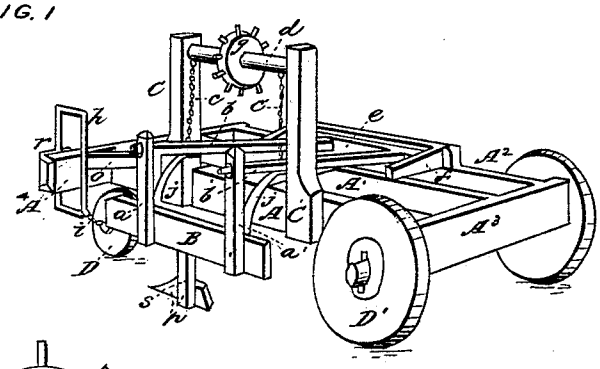
H. VANNATTA.

Ditching Machine.

No. 108,217. Patented Oct. 11, 1870.

FIG. 1



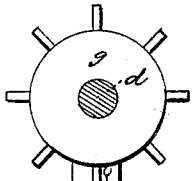


FIG. 2

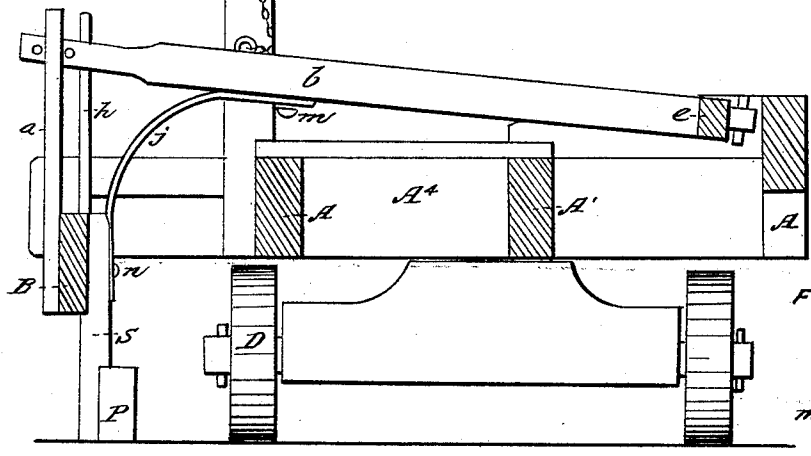


FIG. 3

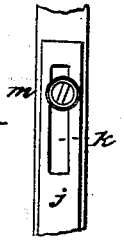
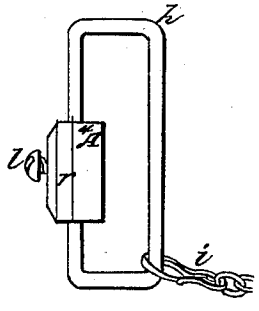


FIG. 4



WITNESSES:

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HENRY VANNATTA, OF JEFFERSON, ILLINOIS.

Letters Patent No. 108,217, dated October 11, 1870.

IMPROVEMENT IN DITCHING-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

I, HENRY VANNATTA, of the town of Jefferson, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Ditching-Machines, of which the following is a full description, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a perspective.

Figure 2, a vertical transverse section.

Figures 3 and 4 details.

My improvements are designed to be used in ditching-machines having endless aprons to carry the dirt from the plow to the outside or rear of the machine; but, as my improvements do not affect the apron, or parts operating it, they are not shown in this application.

The plow-beam, in the ditching-machines mentioned, can be raised or lowered only to a very limited extent, rendering it impossible to run the wheels in the bottom of the ditch, and, at the same time, run the plow in the bank at the side of the ditch, if the same be more than a few inches deep.

The object of my invention is to obviate this objection, and, at the same time, so construct the parts that the plow can be readily adjusted to operate in different positions, and adapt itself to inequalities.

In the drawing—

A A^1 A^2 A^3 A^4 represent the frame of the machine, which frame is mounted on wheels, and is constructed in the usual manner, except that A^4 on one side extends out beyond the other parts of the frame, far enough to bring the end in a line with the plow-beam B, which is located so far from A of the frame that the plowshare and mold-board will not hit A when the plow is raised.

The plow *p* is secured to a standard, *s*, fastened to the beam B.

To the beam B are secured two upright bars or pieces, *a a'*, each having an oblong hole near the top, to receive one end of the bars *b b'*, the other ends passing through the longitudinal bar *e*, which is pivoted in a bearing, *f*, at each end, which bearings are secured to the frame in any suitable manner.

These bars *b b'* do not fit tightly at either end.

j j are two strong braces, of iron, one end of which is fastened to B, the other ends to *b b'* respectively.

The ends secured to *b b'* are each provided with a slot, *k*, fig. 3, to permit the adjustment of the plow.

C C' represent two posts, secured to A, near the tops of which are bearings for the shaft *d*, on which is a wheel, *g*.

c c' are chains, connecting *b b'* to *d*.

A bent iron, *h*, is connected to the end of A^4, by means of a block, *r*, which is bolted to the beam.

This iron *h* can be moved vertically, and is secured in any desired position by means of the set-screw *l*.

The plow-beam is connected with the iron *h* by means of a chain, *i*.

In the drawing the machine is represented on level ground.

If the operator desires to run the inner wheels D in the ditch, plowing at the same time along the bank, the plow must be raised, which is done by means of the wheel *g*. When raised, it can be held up by pins, or any suitable means, until the machine has been brought to its proper position, and then must be let down, the chains *c* being left loose.

The standards *a a'* and the braces *j j* are not rigidly fastened to the beam B, but a little play is admitted, to facilitate the adjustment of the plow to different positions, which can be easily done by changing the position of the upper ends of the braces *j j*, by means of the bolt *m* and slot *k*, throwing the plow out or in, as may be necessary.

As the bars *b b'* are not rigidly attached at either end, and the standards *a a'* and braces *j j* are not rigidly attached to beam B, one end of the beam B may be depressed, and the other elevated at the same time, while the machine is in operation, so that the plow can more readily pass over obstructions.

Ditching-machines similar, in many respects, to mine have been heretofore made, but the plow-beam has been always located so near to the beam A of the frame that the mold-board, when the plow is elevated, strikes against A, preventing the raising of the plow, except a very little, and the plow-beam has hitherto been placed between stationary vertical supports, the lower ends being but a short distance above the ground, also preventing the plow from operating except in shallow ditches.

The chain *i* can slide up and down the iron *h* as the beam B is raised and lowered.

The line of draft is adjusted according to the position of the plow relatively to the frame, by raising or lowering the iron *h*.

A brace, *o*, strengthens the projecting end of A^4.

If necessary, to keep the plow in a vertical position, the upper ends of the standards *a a'* can be thrown inward upon the bars *b b'*, the standards being held in place by means of pins passing through *b b'*.

The bars *a a'* might be hinged directly to the frame, and the beam may be raised and lowered by other devices than that shown and described.

The plow is drawn by the chain *i*, connected to the beam A^4 by means of the iron *h*.

Having thus fully described my invention,

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

The combination and arrangement of the beam B, standards *a*, hinged bars *b*, windlass C and *d*, and frame A, provided with an extended front beam, A^4, with the adjustable frame *h*, chains or rod *i*, and a plow, substantially as and for the purposes specified.

HENRY VANNATTA.

Witnesses:
E. A. WEST,
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