N. B. Lewis,

Ditching Machine.

No. 94,901. Patented Sept 14 1869.

Fig. 2.

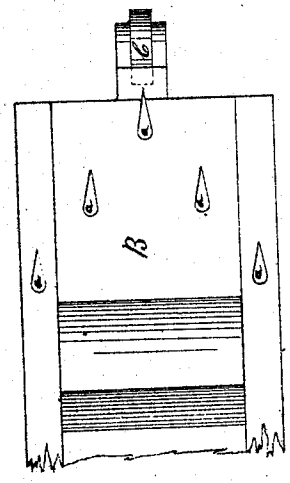


Fig. 1.

Witnesses

James P. Graves

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NATHANIEL B. LEWIS, OF HOPEWELL, NEW YORK.

Letters Patent No. 94,901, *dated September* 14, 1869.

IMPROVED DITCHING-MACHINE.

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

To all whom it may concern:

Be it known that I, NATHANIEL B. LEWIS, of Hopewell, in the county of Ontario, and State of New York, have invented a new and valuable Improvement in Machines for Making Ditches, Sluices, &c.; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a longitudinal sectional view of my invention.

Figure 2 is a detail.

My invention relates to ditching-machines; and

It consists mainly in the construction and novel arrangement of devices by which ditches may be rapidly and effectively made of any proper depth by horse or other suitable motive-power.

The letter A of the drawings represents the main frame or body of my ditcher fashioned somewhat in the form of a carpenter's plane.

It is usually constructed of two firm plank side pieces, with a front plank between them, as shown on fig. 2, marked letter B, the centre and the rear end being united by the means hereinafter described.

The letter C represents a roller affixed to the front end of the machine.

The letters *a* represent a series of plows arranged in a diagonal position, as shown on fig. 2, the two outer or rear plows being attached to the side pieces of the frame and intended to serve as the means for marking and forming the sides of the ditch.

The letter D represents a plane or scoop arranged in the frame like the bit of a carpenter's plane.

There is an opening or throat-way at the front of this scoop represented by the letter E.

This opening or throat-way is intended for the passage of the earth upward, as hereinafter mentioned.

The scoop D rests upon a block, marked G on the drawings, and which is held in place by suitable screws passing through the sides of the frame.

The letter H represents a roller arranged in the sides of the frame, and letter K a roller in the handles of the machine.

These rollers serve as a portion of the means by which the endless travelling platform is operated, as hereinafter mentioned.

The letter N represents a driving-wheel intended for running along the surface of the ground or bottom of the ditch.

It is arranged on a shaft, *c*, that rests and rotates in suitable journals in the sides of the machine-frame

The letter *e* represents a barrel-pinion affixed to the shaft *c*, as shown; and the letter *s* is a band connecting the pinion *c* with the roller H.

The letter R represents an endless travelling platform or elevator arranged to operate over the rollers H and K.

The letters *v* are buckets affixed to the travelling platform R, and are intended for use in conveying the earth upward thereon.

The letter T represents an apron or chute arranged upon the frame and connected with the handles, as shown, which serves as means for conducting the excavated earth from the rear end of platform R to the sides of the ditch.

It is constructed of one plate or more, rounded or pointed upward at the middle thereof, so as to form inclined shelves, for the purpose mentioned.

My handles are represented by the letter U. They are respectively hinged to the sides of the frame, as shown at *d*, and are adjustable upon the curved rods *y*, at different heights, at the operator's will.

This method of adjustment serves to make the handles accessible from the surface of the ground without regard to the depth of the machine in the ditch.

To operate my device, the machine is drawn back and forth in the same track. The earth is plowed and pulverized by the plows *a*, and the sides of the ditch marked out. The earth thus pulverized is then passed upward upon the travelling platform and emptied upon the apron, from whence it is conducted to the sides of the ditch.

It will readily be observed that the platform and apron are elevated at will by the elevation of the handles, and thereby the apron always kept above the top of the ditch.

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

The scoop D, rollers H and K, travelling-platform R, apron T, adjustable handles U, and driving-wheel and pinion, as described, when constructed and arranged to operate substantially as and for the purposes specified.

In testimony that I claim the above, I have hereunto subscribed my name, in the presence of two witnesses.

NATHANIEL B. LEWIS.

Witnesses:

THOS. A. WEAKLEY,

JOHN LEWIS.