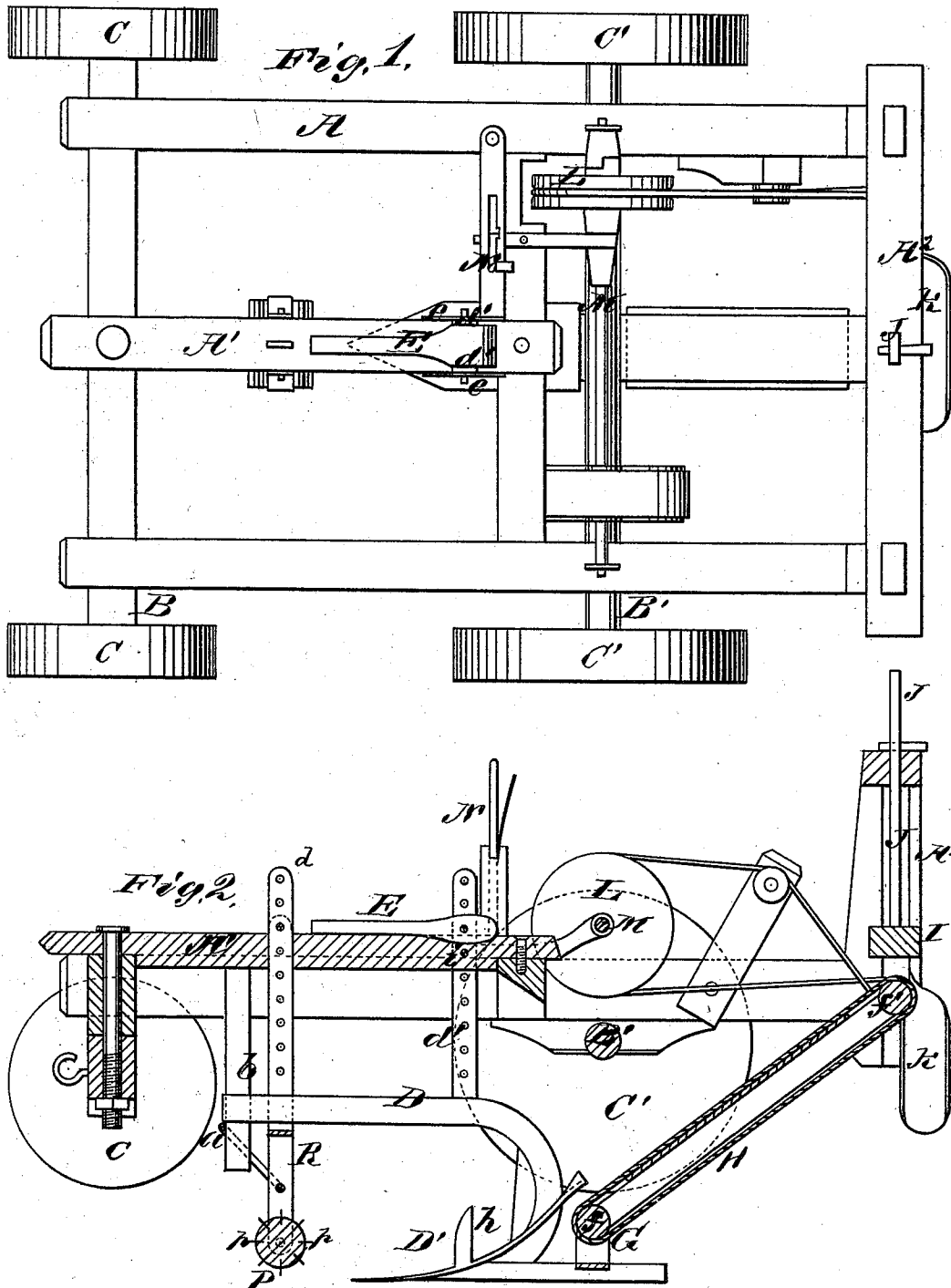


L. C. JOHNSON & W. L. WEST.

DITCHING-MACHINE.

No. 176,640.

Patented April 25, 1876.



WITNESSES

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LEWIS C. JOHNSON AND WILLIAM L. WEST, OF MARTINSVILLE, OHIO.

IMPROVEMENT IN DITCHING-MACHINES.

Specification forming part of Letters Patent No. **176,640**, dated April 25, 1876; application filed March 25, 1876.

To all whom it may concern:

Be it known that we, LEWIS C. JOHNSON and WM. L. WEST, of Martinsville, in the county of Clinton and State of Ohio, have invented a new and valuable Improvement in Ditching-Machines; and we 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 representation of a plan view of our ditching-machine, and Fig. 2 is a longitudinal vertical sectional view of the same.

The nature of our invention consists in the construction and arrangement of a ditching-machine, as will be hereinafter more fully set forth.

In the annexed drawings, A represents the frame of the machine, mounted upon front and rear axles B B', with wheels C C' and C' C' respectively.

Under the center-beam A¹ of the frame is suspended the plow-beam D, with plow D' secured thereto. At the front end of the plow-beam D is a loop or socket, *a*, which surrounds a shaft or bar, *b*, depending from the beam A¹.

From near the front end of the plow-beam D extends a perforated bar, *d*, up through a mortise in the beam A¹, and from the rear portion of said plow-beam extend two similar perforated bars, *d' d'*, through loops *e* at the side of the beam A¹, said perforated bars being all held at any desired height by pins *i i*.

For adjusting the plow an eccentric lever, E, is pivoted above the beam A¹ between the bars *d' d'*, as shown. By this lever working against the top of the beam A¹ the plow can easily be raised, as required.

From the lower end of the plow-beam D extends a shoe, G, on top of which is mounted a roller, *f*. Around this roller passes an

endless apron, H, which also passes around a roller, *f'*, mounted under a beam, I, in an upright frame, A², at the rear end of the main frame. This beam has its ends in grooves in the side pieces of the frame A², and is adjusted up or down, to regulate the apron so as to correspond with the adjustment of the plow. The beam I is held by a perforated bar, J, passing upward from it and through a mortise in the top bar of the frame A². To this beam is also attached an inclined conductor, K, as shown.

The plow, with its cutters *h*, as shown, cuts the earth and delivers it on the apron, which carries it up into the spout or conductor K, and this delivers it at the side of the ditch.

The apron H in a full-sized machine will be composed of a series of buckets connected together, and it is run by belt from a pulley, L, on a counter-shaft, M, and this shaft is rotated by belt from the axle B'.

The pulley L on the counter-shaft M is movable thereon by means of a lever, N, so as to be thrown in and out of gear, as required. Instead of belts and pulleys, suitable gearing may be arranged for operating the apron.

P represents a rolling colter, with blades *p*, mounted in a frame, R, and adjustably connected to the beam A¹ in front of the plow.

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

In a ditching-machine, the combination of the plow-beam D, with loop *a*, the bar *b*, beam A¹, perforated bars *d d'*, and eccentric lever E, substantially as and for the purpose set forth.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

LEWIS C. JOHNSON.
WILLIAM L. WEST.

Witnesses:

ISMA TROTH,
AMAZIAH GARNER.