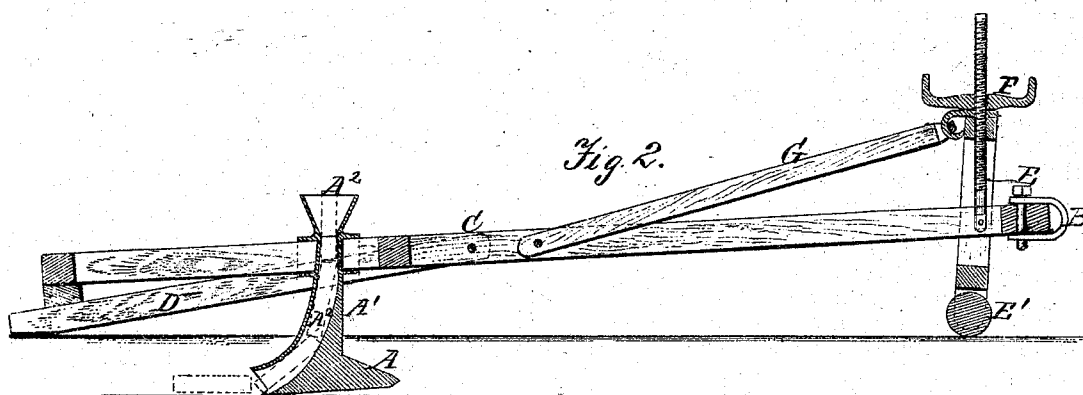
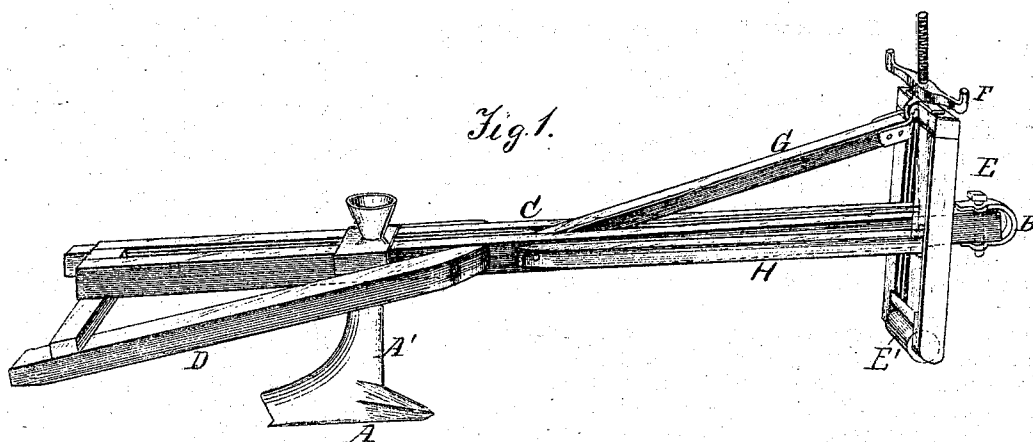


James I. Mettler.
Ditcher and Tile Layer.

117441

PATENTED JUL 25 1871



Witnesses.
A. Ruppert
J. H. Mettler

James I. Mettler
 Inventor.
Wm. Holloway & Co.
 Civil Engrs.

UNITED STATES PATENT OFFICE.

JAMES I. METTLER, OF MENDOTA, ILLINOIS.

IMPROVEMENT IN COMBINED DITCHERS AND PIPE-LAYERS.

Specification forming part of Letters Patent No. 117,441, dated July 25, 1871.

To all whom it may concern:

Be it known that I, JAMES I. METTLER, of Mendota, county of La Salle and State of Illinois, have invented a new and useful Combined Ditcher and Tile-Layer; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawing making part of this specification, in which—

Figure 1 is a perspective view, and Fig. 2 is a central vertical section through the machine.

The same letters are employed in all the figures in the designation of the same parts.

This invention relates to an improvement in machines for draining land and, at the same time, depositing tiles in the opening made in the earth; and my invention consists in constructing the mole and stem to which it is attached with a tubular duct passing through both the stem and mole, by means of which sections of tile placed in the top of the duct may pass downward and be deposited in the hole made by the mole, and immediately in rear of the mole.

In this machine the mole A, suspended on the stem A¹, is dragged through the ground by power applied to the front end of the frame at B. The mole in passing through the ground compresses the earth so as to leave behind it a hole of its own size and shape. In the machines heretofore used reliance has been had on the mere compression of the earth as being sufficient to keep upon the drain, but in many cases this will not be the case, and then ditches must be dug by hand in order that the tile may be deposited, after which the ditch is filled up. My purpose is to combine these two operations by my machine. And to this end a duct, A², is formed in the stem and mole, and so curved that short sections of

tile constantly fed into a hopper at the top of the duct may, as the mole progresses, be deposited behind it in the hole left in the ground by the passage of the mole. By this means, at one operation, I am enabled to make the ditch and to lay the tile therein. The stem A¹ of the mole is secured to the parallel pieces of the frame C. The rear end of the frame is supported upon the triangular timbers D, which serve to maintain the mole and stem in a line perpendicular to the face of the ground. This frame may be made vertically-adjustable by means of set-screws to control the depth of the mole. The front end of the frame is supported upon the vertical frame E and roller E'. The height of the frame and depth of the mole are regulated by means of the set-screw F, by means of which the front end of the frame may be raised or lowered at will. The vertical frame E and frame C are connected by means of the hinged braces G and H, which permit the adjustment of the frame C and, consequently, of the depth of the mole in the earth.

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

The mole A and stem A¹, constructed with a tubular duct, A², passing through both and opening at the rear of the mole, by means of which tile may be deposited in the hole made by the mole and immediately in rear thereof, substantially as set forth.

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

JAMES I. METTLER.

Witnesses:

OTIS S. WHITE,
DANIEL Y. LOWD.