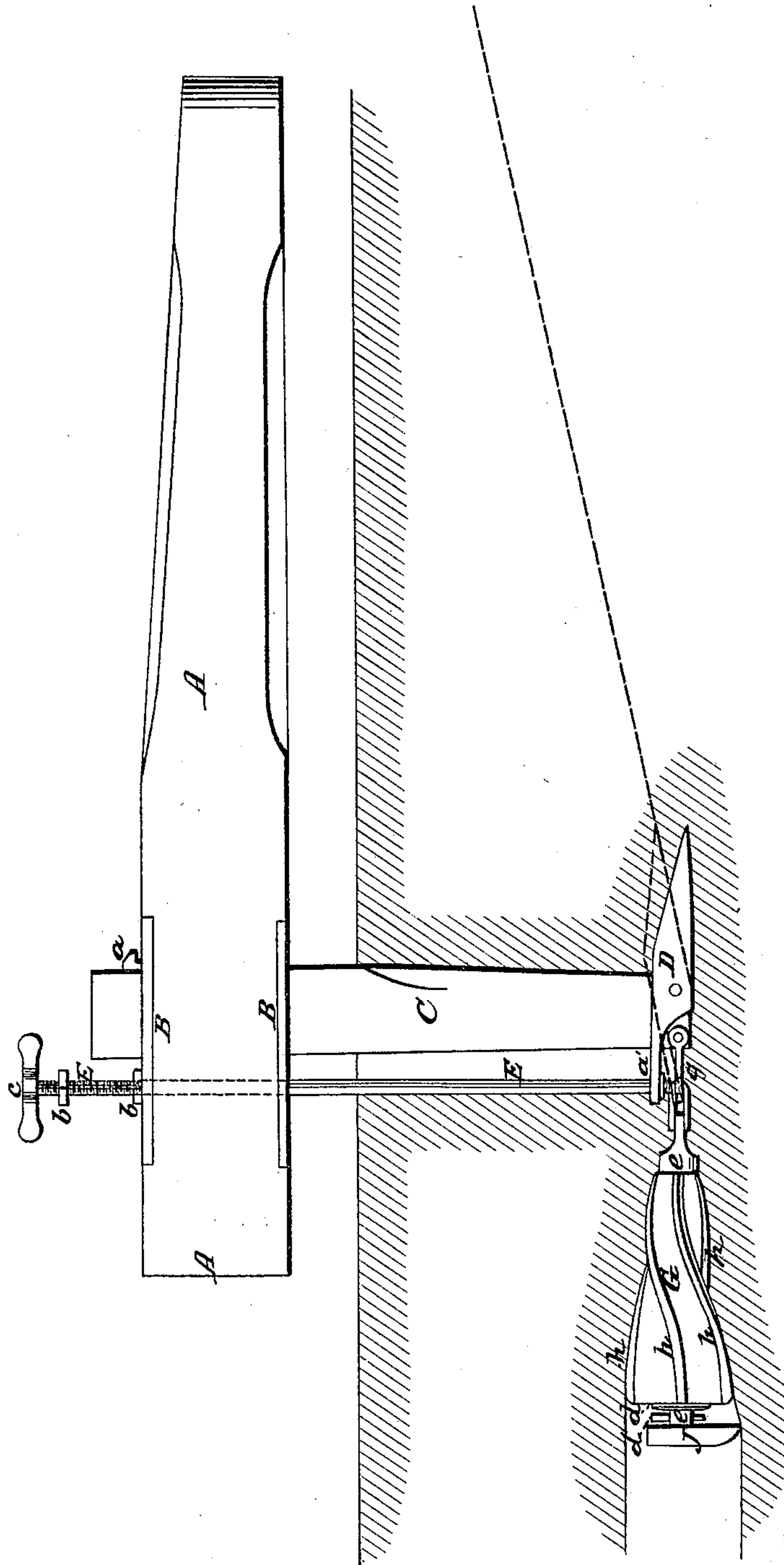


I. HODGSON.

Mole-Plow.

No. 29,269.

Patented July 24. 1860.



Witnesses:

J. W. Coombs
R. S. Spencer

Inventor:

Isaiah Hodgson
per Munn & Co
Attys.

UNITED STATES PATENT OFFICE.

ISAIAH HODGSON, OF NEW MICHIGAN, ILLINOIS.

IMPROVED MOLE-DITCHING MACHINE.

Specification forming part of Letters Patent No. 29,269, dated July 24, 1860.

To all whom it may concern:

Be it known that I, ISAIAH HODGSON, of New Michigan, in the county of Livingston and State of Illinois, have invented a new and useful Improvement in Mole-Ditching Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, forming a part of this specification.

The figure represents a side elevation of my improved machine in operation, the same being shown with the revolving conical mole attached in rear of the shoe for directing the movement of the machine through the ground. This figure also shows (in red lines) the direction the shoe would take toward the surface of the ground when set at the angle indicated.

To enable those skilled in the art to fully understand my invention, I will proceed to describe its construction and operation.

In the drawing, A represents a beam made of any suitable length and strength, having two stay-plates, B B, secured near its rear end to both top and bottom surface and recessed into the beam, as clearly shown by the drawing. Through this beam and through the stay-plates passes a standard, C, the front edge of which is a knife-edge, thus making it serve as a colter. This colter passes perpendicularly through the beam, and is fixed to any desirable position by a key, *a*.

D is a shoe, made flat on its bottom end, somewhat in the shape of a wedge, with a portion, *a'*, projecting out from behind, forming a heel, to which is attached a guide-screw, E. This shoe is pivoted to the lower end of the colter C, so as to move freely on its point. The screw-rod E is placed behind the colter and extends up parallel with it, and is tapped through female screws in the plates B B, and furnished with a jack-nut, *b*, and a handle, *c*, which, by turning, the heel of the shoe will be raised or depressed. This operation may be performed while the shoe is in the ground.

The jack or reverse nut *b* serves to set the screw-bar at any desired point by preventing it from turning when the nut is brought down on the plate.

Following in rear of the shoe D is a revolving mole, G, that turns on a shaft, *e*, which shaft is attached by links *g* to the back end of the colter C. The mole G is secured to the shaft by a metal washer, *d*, and pin *d'*. It is made conical, and its surface has projecting from it several spiral ribs, *h*, which gradually decrease in size from the large to the small end. These spiral ribs, acting upon the earth as the machine proceeds, give a rotary motion to the mole, so that it will leave the walls of the channel in a nice, smooth, and packed condition; but the drain thus made, owing to the compactness of its walls, would resist the ingress of the water; but in my improvement this difficulty is obviated.

In rear of the mole G and hanging down from the end of the shaft *e* is a two-pronged scraper, J, which loosens the clay in the bottom of the channel, and thus allows the water a free passage into the drain.

From this description it will be readily understood that the shoe can be set so as to sink it deeper into the ground or to entirely withdraw it from the ground, and by this adjustment a channel of an even grade may be formed on uneven ground. The spiral ribs on the mole will entirely close up the opening made by the colter by virtue of their revolving motion, as described.

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

The combination of the scraper J and shaft *e* with the revolving mole G and colter C, as and for the purpose herein shown and described.

ISAIAH HODGSON.

Witnesses:

AARON CONNER,
I. McINTOSH.