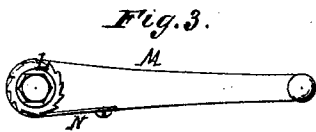
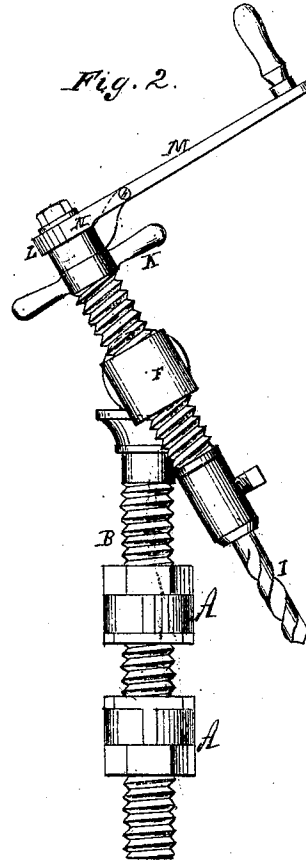
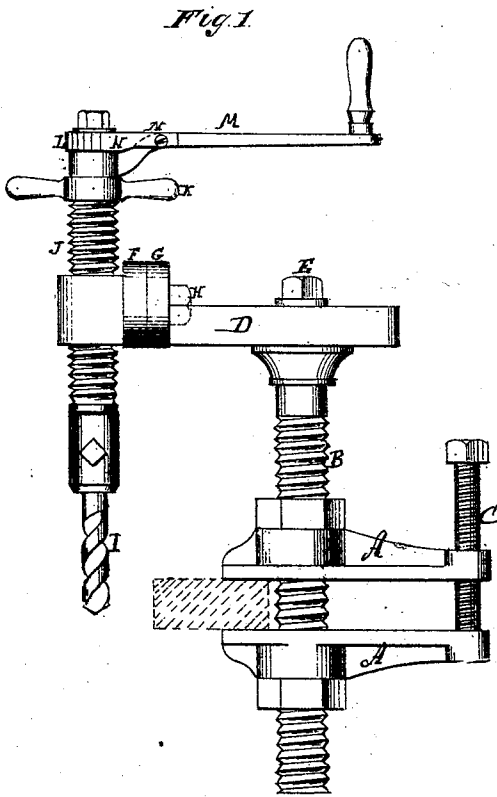


J. E. Hunter,

Drilling Metals,

No. 10,466.

Patented Apr. 5. 1870.



Witnesses:

Wm. F. Brooks
Edgar Tate

Inventor:

J. E. Hunter
PER *Wm. F. Brooks*
Attorneys.

United States Patent Office.

JAMES E. HUNTER, OF NORTH ADAMS, MASSACHUSETTS.

Letters Patent No. 101,466, dated April 5, 1870.

IMPROVED HAND DRILLING-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, JAMES E. HUNTER, of North Adams, in the county of Berkshire and State of Massachusetts, have invented a new and useful Improvement in Hand Drilling-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

This invention relates to hand drilling-machines, and consists in the construction and arrangement of certain parts, (specified in the claim,) whereby the drill-spindle may be adjusted in a horizontal and vertical plane, as hereinafter specified.

In the accompanying drawing—

Figure 1 represents a side view of the machine, showing the boring-drill standing parallel with the clamping-screw.

Figure 2 is a view of the machine showing the drill at an angle with the clamping-screw.

Figure 3 is a detached view of the crank and ratchet. Similar letters of reference indicate corresponding parts.

A A represent the jaws of the clamp.

B is the clamp-adjusting screw.

C is the fastening-screw of the jaw.

D is a slotted arm, which is adjustable on the end of the screw B, where it is fastened by means of the screw E.

F is the drill-head.

G is a disk on the end of the arm D.

The head F is adjustable on the disk G, and is fastened by the central screw H, so that the drill I may be turned at different angles to the clamping-screw B.

J is the feed-screw through the head F, which is turned by the handle K. This feed-screw is tubular, with the drill-spindle working through it in the ordinary manner.

L is a ratchet-wheel, which is fast on the drill-spindle.

M is a crank, to which is attached a spring-pawl, N, which engages with the teeth of the ratchet when the crank M is turned forward to revolve the drill in boring.

The crank turns backward readily around the spindle without revolving it.

By this arrangement it will be seen that the drill may be operated either by a ratchet intermitting motion or by a continuous motion, according to circumstances, or the motions may be used or changed one for the other, without changing or altering the crank, or retarding the work.

By this machine a hole may be drilled in almost any place or position, the combined motions adapting it to all the various purposes for which hand drilling-machines are used.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

The slotted arm D, provided with the disk G, in combination with the head F, screw H, feed-screw J, clamp-screws B and E, the handle M, ratchet L, and pawl N, substantially as and for the purpose specified.

JAS. E. HUNTER.

Witnesses:

H. W. N. COLE,

JAS. G. TAYLOR, JR.