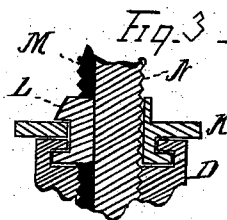
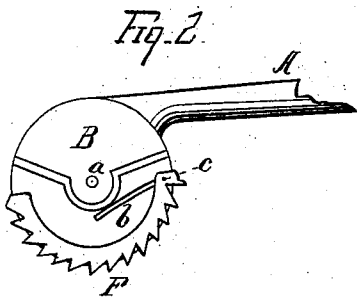
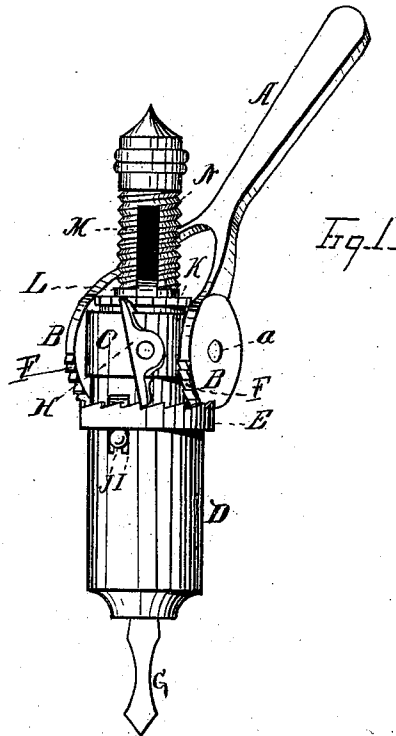


H. R. WAY.
RATCHET-DRILL.

No. 173,145.

Patented Feb. 8, 1876.



WITNESSES

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HENRY R. WAY, OF HALIFAX, NOVA SCOTIA.

IMPROVEMENT IN RATCHET-DRILLS.

Specification forming part of Letters Patent No. **173,145**, dated February 8, 1876; application filed September 27, 1875.

To all whom it may concern:

Be it known that I, HENRY ROBERT WAY, of the city of Halifax, in the county of Halifax and Province of Nova Scotia, have invented certain new and useful Improvements in Ratchet-Drill Holders or Braces; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

Figure 1 is a perspective view. Fig. 2 is a plan of the ratchet-segments. Fig. 3 is a central section of feed-screw, rag-wheel, top of drill-holder, and clamp securing the same.

A is a forked handle, by which the machine is operated, said handle terminating in the circular forms B B, which are attached by screws *a a* to a band, C, fitting loosely upon the drill-holder D, and kept in proper position by the ends of screws *a a* passing through the band C, and fitting into a groove formed upon and surrounding the surface of the holder D. E is a circular ratchet-collar firmly secured upon the said holder D.

The forms B B are provided with recesses, into which are secured the ratchet-segments F F, as shown in Fig. 2. The spring *b*, secured to the ratchet-segment, insures its proper action upon the collar E. The ratchet-segments are secured by pin *c*, at opposite ends from each other, or reversed position, in the forms B B. Thus, while the handle is operated in either direction, one of the segments only will be imparting motion to the collar, the other segment, at its free end, slipping over until the handle is reversed, and by thus acting alternately produce a continuous rotary motion to the collar E, the holder D, and drill G.

My invention further relates to and consists of a self-feeding arrangement for producing and maintaining the proper pressure upon the drill when in operation. A dog or lever, H, is pivoted at its center to band C, and an

adjustable slide, I, is secured by a set-screw, J, to the holder D. At each revolution of the holder the upper end of the slide I is brought in contact with the end of the lever H, carrying it forward, causing the opposite end to engage in and operate the rag-wheel K.

As shown in Fig. 1, the rag-wheel K revolves upon the top of the holder D, and is attached to it by the clamp L. Part of said clamp also projects into a groove, M, in feed-screw N, the lower end of which works in a threaded recess provided in the holder D.

When in operation, the feed-screw N and rag-wheel K revolve with the holder in the same direction until acted upon by the lever H, which checks and produces a slight reverse motion, thus causing it to unscrew and lengthen just in proportion as the drill G sinks into the object being bored.

A fast or slow feed is obtained by raising or lowering the slide I, thus causing it to act for a longer or shorter time upon the end of lever H, producing a proportionate motion to the rag-wheel K and feed-screw N.

Having thus described my invention, what I claim is—

1. In a ratchet-drill holder, the forked handle A, terminating in forms B B, secured to a band, C, the spring ratchet-segments F F, attached to said forms, in combination with ratchet-collar E and drill-holder D, revolving in band C, substantially in the manner described, as and for the purposes hereinbefore set forth.

2. The grooved feed-screw N and clamp L, in combination with the rag-wheel K, dog H, attached to band C, and slide I, substantially as herein shown and described.

In testimony that I claim the foregoing, I have hereunto set my hand this 2d day of April, 1875.

HENRY R. WAY.

Witnesses:

CHAS. I. PITMAR,
GEORGE TRACEY.