H. C. ENGLISH.

Ratchet-Drill.

No. 167,392. Patented Sept. 7, 1875.

Fig. 4.

Fig. 5.

Fig. 6.

Fig. 1.

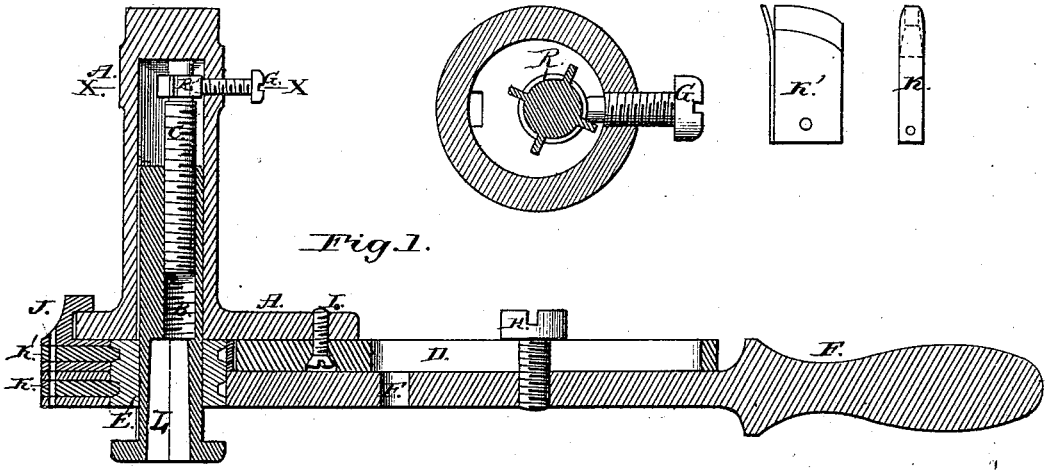


Fig. 2.

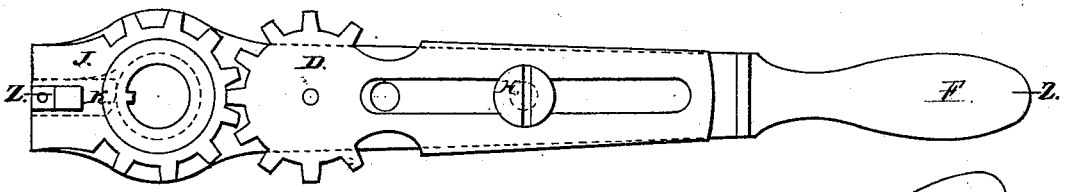
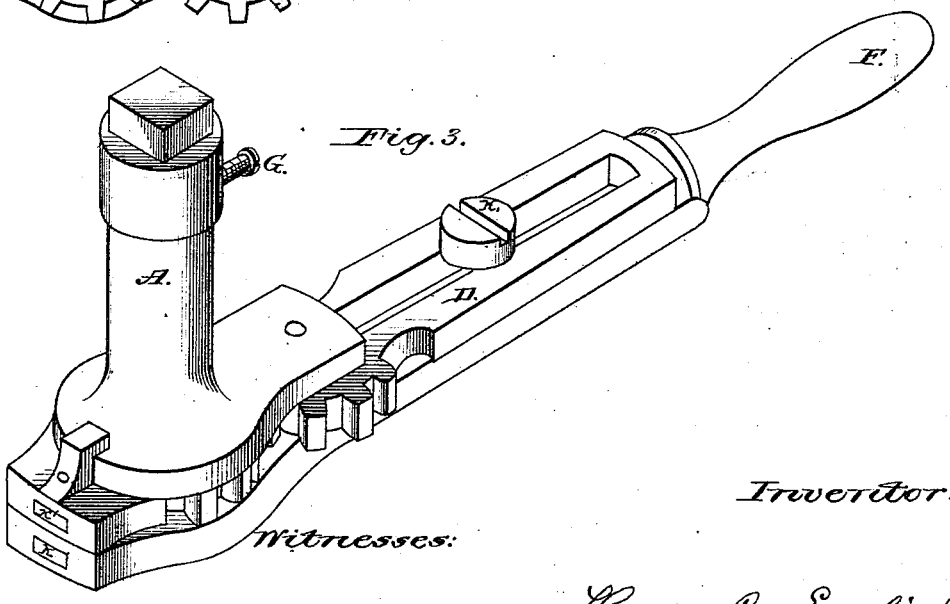


Fig. 3.



Witnesses:

Edwd W Taylor

George Dyson

Inventor:

Henry C. English.

UNITED STATES PATENT OFFICE.

HENRY C. ENGLISH, OF WILMINGTON, DELAWARE.

IMPROVEMENT IN RATCHET-DRILLS.

Specification forming part of Letters Patent No. **167,392**, dated September 7, 1875; application filed May 4, 1875.

To all whom it may concern:

Be it known that I, HENRY C. ENGLISH, of Wilmington, Delaware, have invented a Double-Cut, Self-Feed, Noiseless Ratchet-Drill, of which the following is a specification:

The object of my invention is to increase the work of ratchet-drills.

Reference being had to the drawings, A is a hollow cap, which holds the spindle B, the lower part of which is formed with a tool-socket, L, the feed-regulating bolt G, and short arm D, which operates the grooved wheel E, and is operated upon by the hand-lever F, converting reciprocating into rotary motion. The spindle B has the hole for feed-bolt C out of center, and thereby, in its rotations, causes the feed-bolt to strike the feed-regulating bolt G, which holds it for a time, according to the depth it is inserted, and, being adjustable, feeds the drill into the work with any speed desired. It is also grooved, to hold the feather in wheel E. The head R of feed-bolt C is toothed. D is a short arm, slotted for the reception of bolt H, which is secured in hand-lever F. It is also pivoted at I. The end of short arm D is the segment of a toothed wheel, and meshes into the piece J. The piece J surrounds the grooved wheel E, as also does an end of hand-lever F, both of which are slotted in the ends, and have tongues K′ K pivoted therein, which tongues fit the grooves in the wheel E, and are kept in place by springs. The wheel E has one groove or more, into which the tongues K′ K wedge alternately, and carry the drill around continually. G is the feed-regulating bolt.

To operate, secure the cap A, grasp the hand-lever F, and, in pulling it forward, the tongue K in lever F wedges itself tightly into a groove in wheel E, causing the spindle to rotate. In pushing the lever F back the tongue is loosened. The short arm D is pushed back at the end, near the hand, by the bolt H, which is secured in hand-lever F. The said arm, being pivoted at I, gives the other end of the arm a forward movement, and being meshed into the piece J, holding the tongue K′, it is wedged into a groove in wheel E, and is carried around as before, converting reciprocating into rotary motion. The teeth of feed-bolt C, having central and eccentric rotations, engage with the obstruction G at regular intervals.

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

1. The combination, substantially as herein shown and described, of the hand-lever F, slotted lever D, toothed at its lower end, geared piece J, grooved wheel E, and tool-holding spindle B.

2. The combination, substantially as herein shown and described, of the grooved wheel E, pawls K K′, geared piece J, levers F D, spindle B, with the hole for the reception of the feed-screw out of center, feed-screw C, provided with toothed head R, regulating-bolt G, and cap A.

HENRY C. ENGLISH.

Witnesses:
HENRY ENGLISH,
WILLIAM J. ROBB.