C. B. ROSE.

BIT-STOCK.

No. 192,018. Patented June 12, 1877.

Fig. 1.

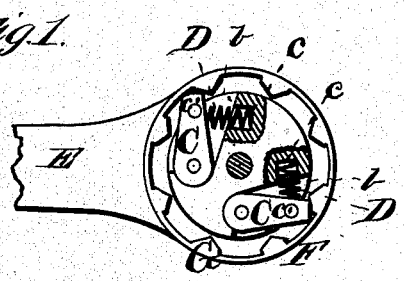


Fig. 2.

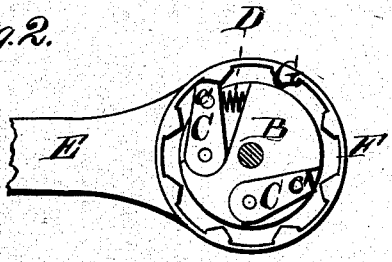


Fig. 3.

Fig. 4.

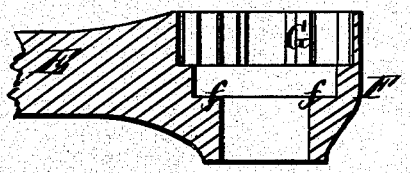


Fig. 6

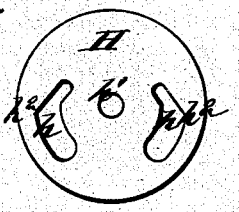
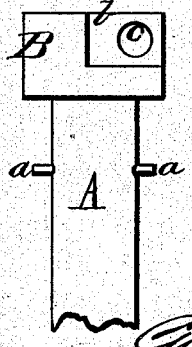


Fig. 7.

Fig. 5.



WITNESSES

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CLEMENS B. ROSE, OF MILLER'S FALLS, MASSACHUSETTS; BOWDOIN S. PARKER, ADMINISTRATOR.

IMPROVEMENT IN BIT-STOCKS.

Specification forming part of Letters Patent No. **192,018**, dated June 12, 1877; application filed October 28, 1876.

To all whom it may concern:

Re it known that I, CLEMENS B. ROSE, of Miller's Falls, in the county of Franklin and State of Massachusetts, have invented a new and valuable Improvement in Bit-Stocks; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a plan view, part section; and Fig. 2 is a plan view of the same. Fig. 3 is a detail view. Fig. 4 is a longitudinal vertical sectional view of my ratchet for bit-stocks; and Figs. 5, 6, and 7 are detail views thereof.

This invention relates to bit-stocks for ratchet-drills and braces; and it consists in certain improvements therein, as will be hereinafter more fully set forth.

In the annexed drawings, A designates a stock or shaft, which is adapted to receive in its lower end any form of bit or similar tool, and B designates a cylindrical head or block formed on the upper end of said stock, as shown in Fig. 5. Said head or block is recessed on its sides at *b b*, to allow the inward and outward movement of pawls or dogs C C, which are pivoted by their rear ends to the bottom of said recesses, so as to be capable of vibrating inward and outward. In said disk, in the larger side of each one of said recesses, is a small socket, *c*, which receives one end of a helical spring, D, that operates to force outward the free end of one of said pawls or dogs C C. The shape of said recesses *b b* and sockets *c c* and the arrangement of the parts above described are shown in Fig. 1.

E designates the handle of a ratchet-drill, which terminates in an annular ratchet-casing, F. Said casing is cup-shaped, with a perforated bottom, so as to surround the head or block B, the upper end of stock A and the pawls or dogs C C conforming accurately to the shapes of said parts and the positions assumed when in operation. Said annular casing is prevented from slipping down upon stock A by means of short pins or studs *a a*, projecting from said stock at the point reached by the lower edge of said casing. Said casing is also prevented from slipping off the upper end of said stock by means of shoulders *f f* on the inside of said casing, which shoulders catch under said head or block B. The construction of said ratchet-casing F is distinctly shown in Fig. 4.

G G in Figs. 1, 2, and 4 designate ratchet-teeth or lugs formed on the inner surface of casing F, at the top thereof, and adapted to engage with one or the other, or both, of said dogs or pawls C C when the latter are thrown into position for such engagement. One of said pawls, when interlocking with one of teeth G, causes stock A to turn with handle E as one piece when the said handle is turned to the right, while allowing said handle and casing F to turn freely upon said stock A and disk B in the opposite direction. The other pawl or dog in like manner locks the said devices together when turned to the left, but leaves stock A stationary when handle E is turned to the right. When both of said pawls C C are turned outward the devices are locked together, whichever way the said handle is turned. Each one of ratchet-teeth or lugs G faces both ways, so as to engage with either one of said dogs C.

Each one of said dogs or lugs is provided on top, near its outer end, with a pin or stud, *c'*, shown distinctly in Fig. 3. These studs or pins *c' c'* enter cam slots or recesses *h h* in the under side of a regulating cap or shield, H, which is secured to the top of disk B by means of a screw, or its equivalent, passing down through a central perforation, h^1, in said shield. Said shield serves both to protect the pawl and ratchet devices hereinbefore described and to throw out of engagement either one of said pawls. This is effected by turning said regulating-shield to the right or left, as the case may be. By so turning it the material of said shield H on the outer side h^2 of one of said slots or recesses *h* will press against one of said pins, and thus force inward one of said pivoted dogs. By turning said shield the other way the other pawl or dog will be similarly operated on. This operation is produced by the peculiar shape of the slots or recesses *h*, each one of which is nar-

row at one end and broad at the other, the above-mentioned narrowing being effected by extending the material of shield H inward from the outer side of said slot, and at one end thereof. Shield H is circumferentially milled at H′, as shown in Fig. 7, for the purpose of enabling said shield to be easily turned by the fingers. Fig. 6 shows the form of recesses or slots *h h* above described.

E may be, instead of a straight ratchet-drill handle, the crank of a crank-brace. Any other form of brace or its equivalent may be used with the devices hereinbefore described.

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

Recessed disk B, in combination with pivoted dogs or pawls C C, having pins *c′ c′*, and springs D D, substantially as set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

CLEMENS B. ROSE.

Witnesses:
C. P. WRIGHT,
W. H. BRIZZELL.