H. C. HART.
Ratchet Bit-Stock.

No. 207,964. Patented Sept. 10, 1878.

Fig. 1.

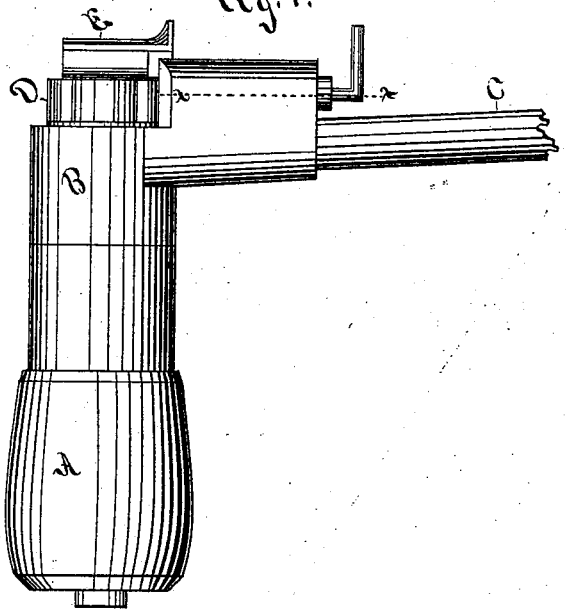


Fig. 2

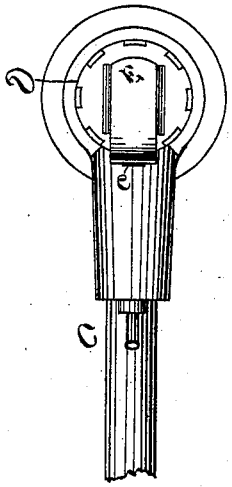
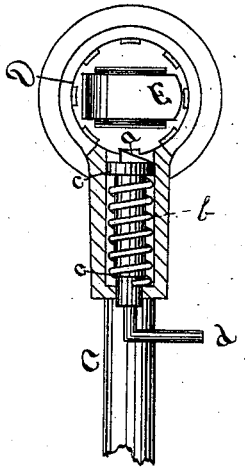


Fig. 3.



Witnesses
W. B. Thomson
Chas. E. Woodruff

Inventor
Hubert C. Hart
By James Shepard Atty.

UNITED STATES PATENT OFFICE.

HUBERT C. HART, OF UNIONVILLE, ASSIGNOR TO P. & F. CORBIN, OF NEW BRITAIN, CONNECTICUT.

IMPROVEMENT IN RATCHET BIT-STOCKS.

Specification forming part of Letters Patent No. **207,964**, dated September 10, 1878; application filed July 26, 1878.

To all whom it may concern:

Be it known that I, HUBERT C. HART, of Unionville, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Ratchet-Braces, of which the following is a specification:

Ratchet-braces having a ratchet wheel or wheels secured to the bit-holder and spring-pawls engaging said ratchet wheel or wheels are old and in great variety.

My invention consists of the brace-head and ratchet-wheel, in combination with a single reversible and spring-actuated pawl, adapted to reciprocate longitudinally, and also to rotate one-half of a revolution, and present its bevel and holding face to the ratchet-wheel, either as a right-hand or a left-hand pawl, as hereinafter described.

In the accompanying drawing, Figure 1 is a side elevation of the head of a ratchet-brace which embodies my invention. Fig. 2 is a plan view of the same, and Fig. 3 is a partial plan view and section on line *x x* of Fig. 1.

The bit-holder A may be of any ordinary construction. It is fitted so as to rotate in bearings within the head B of the brace C, and rigidly attached to its upper end is a ratchet-wheel, D, having straight-sided teeth, both sides of said teeth being the same.

In the upper part of the head B is a chamber extending at right angles to the axis of the ratchet-wheel D, within which chamber is a reciprocating pawl, *a*, and its spring *b*. The outer end of this pawl is beveled, while so much of one side as is directly opposite this bevel is straight, as shown in Fig. 3.

At or near each end of the pawl *a* are journals *c c*, which fit the journal-bearings formed by the walls of the chamber in the head, so that the pawl may reciprocate longitudinally, and also make one-half of a revolution. The spring *b* acts to continually throw the pawl toward the ratchet-wheel D.

At one end of the pawl, and projecting at right angles thereto, is a handle, *d*, the same being so located with reference to the bevel that when said handle is thrown to the right, as shown in Fig. 3, the nose of the pawl will be in position to properly engage the teeth of the ratchet-wheel, and in which position the device may be worked to drive the bit-holder in one direction, as in other ratchet-braces.

When desired to rotate the bit-holder in the opposite direction, it is only necessary to withdraw the pawl by pressing it endwise against the spring, and then throwing the handle to the left, thereby rotating the pawl one-half of a revolution, and reversing the bevel and holding face of the pawl, so as to present its straight side to the other side of the teeth in the ratchet-wheel.

When it is desired to fasten the bit-holder within the head for use as an ordinary brace, the slide E, which slides in a groove transversely to the axis of the bit-holder, may be brought opposite the notch *e* in the head B, and slid into the same to securely lock the parts together.

A small friction-spring may be placed under the slide E to prevent accidental displacement, or it may be fitted to slide snugly without a spring.

When the ratchet feature of the brace is to be used again, the slide must be withdrawn.

I am aware that a ratchet-brace has been made having both a right-handed and a left-handed pawl fitted in circular bearings, and having both a longitudinal and partial rotary movement, the latter being for the purpose of throwing the pawls into a position for fastening them away from the ratchet-wheel, and the same is hereby disclaimed.

I claim as my invention—

In a ratchet-brace, the brace-head and ratchet-wheel, in combination with a single reversible and spring-actuated pawl, adapted to reciprocate longitudinally, and also to rotate one-half of a revolution, and present its bevel and holding face to the ratchet-wheel, either as a right-hand or a left-hand pawl, substantially as described, and for the purpose specified.

HUBERT C. HART.

Witnesses:

CHARLES PECK,

E. L. PRIOR.