(No Model.)

G. H. PACKWOOD.

BIT STOCK.

No. 323,198. Patented July 28, 1885.

Fig. 1.

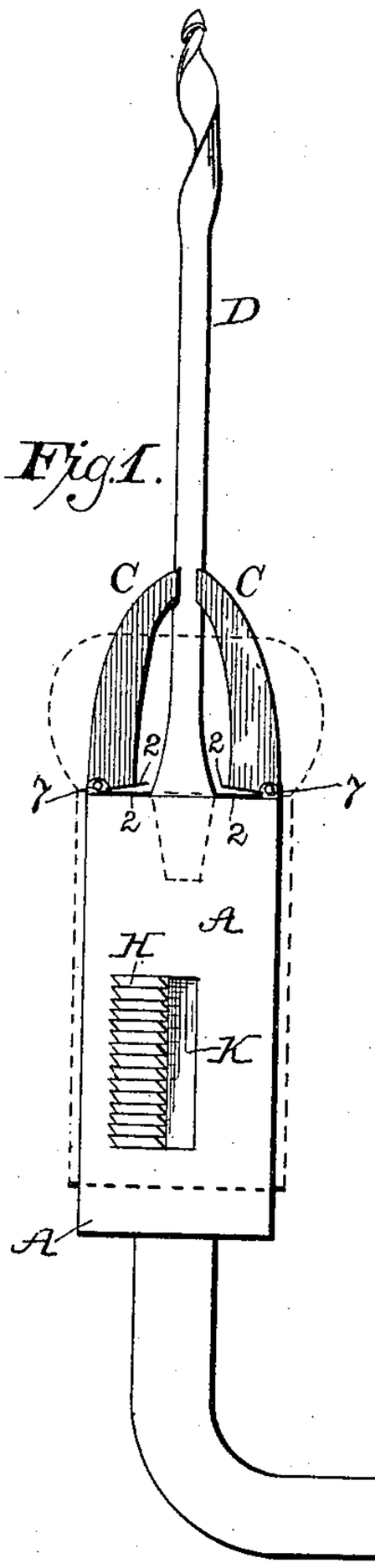


Fig. 2.

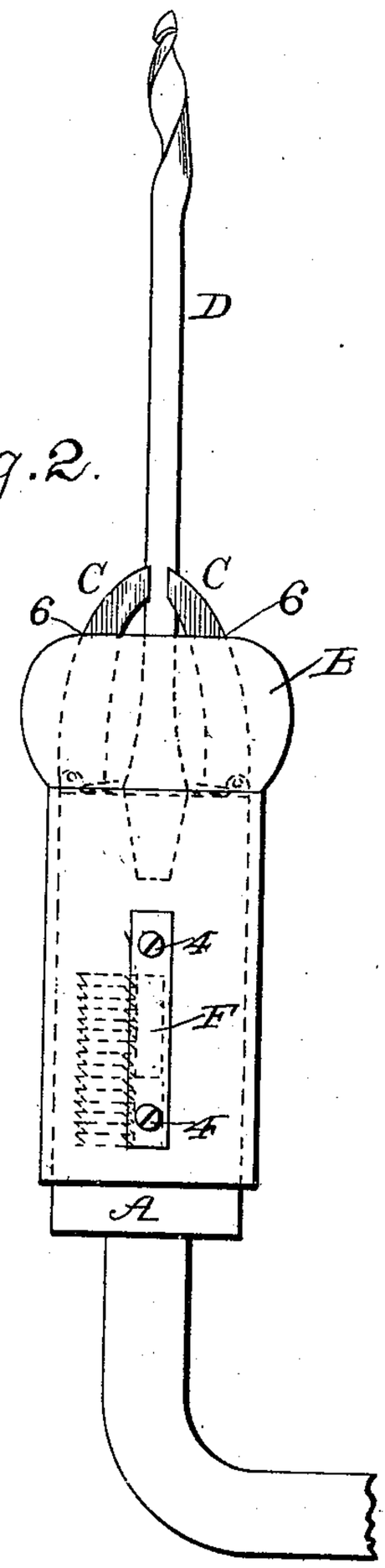


Fig. 3.

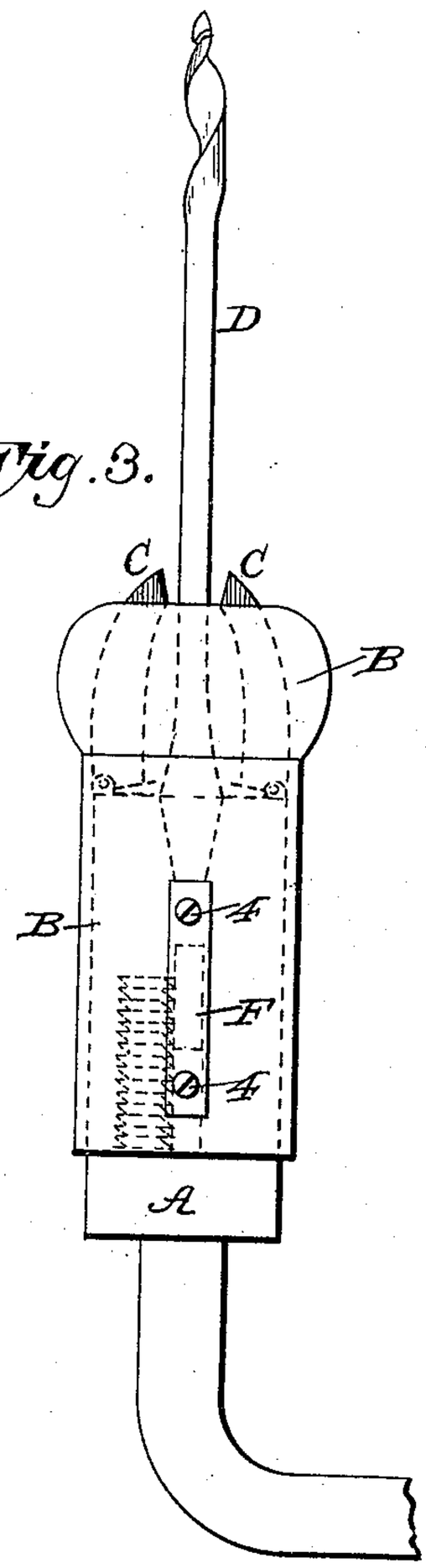


Fig. 4.

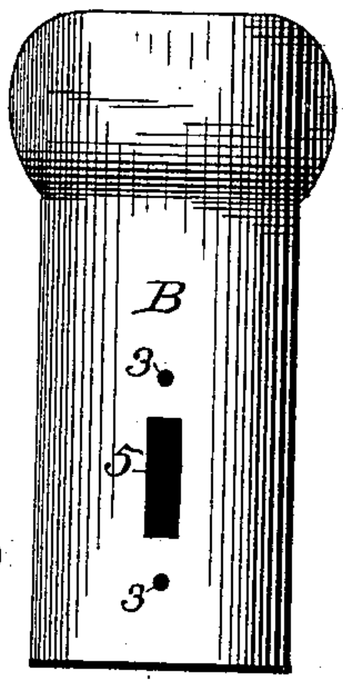


Fig. 5.

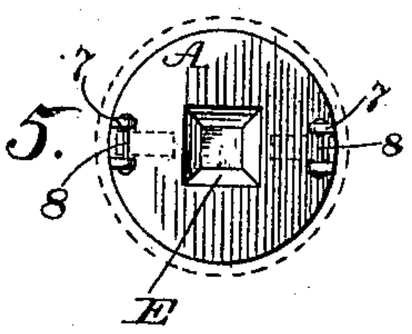
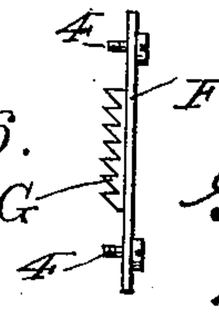


Fig. 6.



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UNITED STATES PATENT OFFICE.

GEORGE HORATIO PACKWOOD, OF TAMPA, FLORIDA.

BIT-STOCK.

SPECIFICATION forming part of Letters Patent No. 323,198, dated July 28, 1885.

Application filed February 19, 1885. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. PACKWOOD, a citizen of the United States, and a resident of Tampa, county of Hillsborough, and State of Florida, have invented a new and useful Improvement in Bit-Stocks, of which the following is a specification.

The object of my invention is to provide a simple and effective means for inserting a bit into the brace, holding it firmly in position, and for quickly removing it when no longer needed. I secure this object by constructing a bit-stock having at the end of its shank a center piece rigidly connected therewith, a socket formed in said piece for holding the base of the bit, clamping-jaws hinged to the bit end of the center piece and opened and closed by a sleeve having a longitudinal movement upon said center piece, and a locking device to secure the bit firmly in position, as will be more fully set forth hereinafter.

Figure 1 represents a perspective elevation of the center piece and clamping-jaws, showing the longitudinal groove in the center piece and the segmental rack leading therefrom. Fig. 2 represents a perspective elevation of the device, showing the sleeve in position, the plate carrying the toothed rack thereon, and the upper portion of the clamping-jaws. Fig. 3 represents the brace with the clamping-jaws open, showing the position of the sleeve when the bit is to be inserted or removed. Fig. 4 represents the sleeve, showing the slot through which the toothed rack is carried, and which locks the jaws by engaging with the threads of the segmental rack formed on the center piece. Fig. 5 represents an end view of the center piece drawn on line *x x* of Fig. 2. Fig. 6 represents a side view of the toothed rack carried by the sleeve through the slot shown in Fig. 4.

Like letters and figures indicate like parts.

A is the center piece having bit-sockets formed therein, as shown in Fig. 5, and indicated by dotted lines in Figs. 1, 2, 3.

B is the sleeve, which has a longitudinal movement along the groove or recess K in center piece A. This movement controls the opening and closing of the clamping-jaws C C. Each jaw has a spring, 2, the tendency of which is to throw open the jaws when the pressure of the sleeve is removed by moving it toward the bit end of the center piece. The jaws are closed against the bit D by the reverse movement of the sleeve B. In Fig. 2 the sleeve has been pressed to its lowest point, its pressure against the jaws being indicated at 6 6. When in this position less than a quarter-turn of the sleeve to the left locks the jaws by causing toothed rack G, connected through slot 5 to the sleeve B by means of plate F, to engage with the segmental rack H. The position of the sleeve when the clamping-jaws are open is shown in Fig. 3.

3 3 of Fig. 4 are the threaded openings for screws 4 4, which hold plate F, having on its under side toothed rack G in position upon the sleeve.

7 7 of Fig. 5 are the lugs upon the center piece, to which the clamping-jaws are pivoted by pins 8.

The springs 2 2 may be varied in location and form, their function being to expand the jaws the moment the sleeve-pressure is removed therefrom.

The longitudinal groove K should be of sufficient depth and width to allow of free play to the toothed rack G, which moves therein. The threads of rack G and H should be slightly oblique, so as to tighten the hold of the jaws upon the bit when they are caused to interlock. To facilitate this locking movement the ends of the threads at the point of engagement should be brought to a sharp edge, so as to present the minimum of obstruction when the slight turn of the sleeve for the purpose of locking the jaws is made.

The mode of operating my device is as follows: The sleeve B is pressed up so as to allow the jaws to open, as shown in Fig. 3. The bit is then inserted, its shouldered end resting firmly in socket E. The sleeve is then drawn down until the jaws close upon the bit, as shown in Fig. 2. A slight turn of the sleeve to the left locks the jaws and completes the operation.

To unlock requires a slight turn of the sleeve to the right until rack G enters the longitudinal groove K. Then the upward movement of the sleeve permits the jaws to open, as in Fig. 3, and the bit can be removed.

It will be seen that I save time and do away

with unnecessary friction by substituting the longitudinal movement of the sleeve for the old rotary movement produced by a screw. This construction lessens the liability of binding due to unequal expansion or contraction, and secures a firm seat for the bit and a strong hold of the clamping-jaws thereon.

The sleeve may be removed from the center piece by unscrewing the plate F, which holds the toothed rack G in the longitudinal groove K.

What I claim as new and of my invention, and for which I ask Letters Patent of the United States, is—

1. In a bit-stock, the combination of a center piece provided with a longitudinal recess, K, and a segmental threaded rack, H, communicating therewith, as described, sleeve B, carrying on its inner surface one or more teeth projecting inwardly to engage with the threaded rack and adjustably or rigidly connected with said sleeve, and clamping-jaws C C, operated through the longitudinal and partially-rotating movement of the sleeve, substantially as set forth and described.

2. In a bit-stock, the combination of clamping-jaws C C, having spring 2 2, center piece A, to which said jaws are pivoted at their base, said center piece having thereon a longitudinal recess, K, and segmental threaded rack H, communicating therewith, as shown and described, sleeve B, fitting over said center piece and bearing with the inner edge of its upper opening against the sloping backs of the clamping-jaws, engaging teeth G, projecting inwardly into recess K through slot 5 in said sleeve, whereby the clamping-jaws are opened and closed by the longitudinal movement of the sleeve and locked by a partial turn thereof, substantially as set forth and described.

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