(No Model.)

J. T. PEDERSEN.

RATCHET DRILL STOCK.

No. 386,261. Patented July 17, 1888.

Fig. 1.

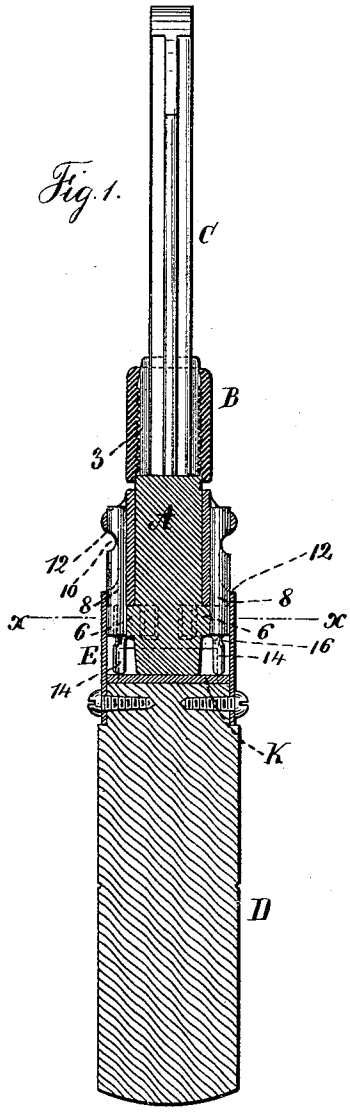


Fig. 4.

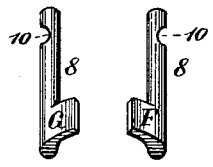


Fig. 5.



Fig. 3.

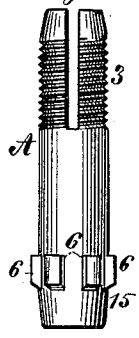
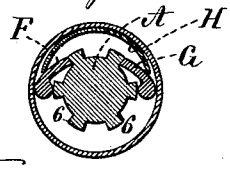


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHANNES TH. PEDERSEN, OF BROOKLYN, NEW YORK.

RATCHET-DRILL STOCK.

SPECIFICATION forming part of Letters Patent No. 386,261, dated July 17, 1888.

Application filed August 16, 1887. Serial No. 247,065. (No model.)

To all whom it may concern:

Be it known that I, JOHANNES TH. PEDERSEN, of Brooklyn, E. D., in the county of Kings and State of New York, have invented an Improvement in Ratchet-Drill Stocks, of which the following is a specification.

Ratchet-drill stocks have been made containing a ratchet with pawls acting in opposite directions and moved by springs, and one pawl has been thrown out of action to allow the other pawl to rotate the tool-holder, or both pawls have been thrown into action to hold the tool-holder and stock rigidly together. The same objects are accomplished in my present improvements; but in order to render the parts very strong and compact I provide for moving either pawl and its axis endwise of the axis, so that by pressing upon the axis of the pawl and sliding the same endwise the pawl is carried into contact with the teeth or moved away from the teeth, so as not to touch the same.

In the drawings, Figure 1 is a longitudinal section of the ratchet-drill, the axis of the pawls being in elevation. Fig. 2 is a sectional plan below the line *x x*. Fig. 3 is a detached elevation of the tool-holder, upon which are the ratchet-teeth. Fig. 4 is a perspective view of the two pawls, and Fig. 5 a perspective view of the spring.

The tool-holder A is shown as split open at one end and having a screw-thread at 3, upon which the sleeve B is screwed to form a chuck, and C represents a screw-driver or other tool; but the chuck for holding the tool and the tool itself may be of any desired character.

At D, I have represented a wooden handle; but my improved ratchet devices for the tool-holder may be applied upon a brace or upon a lathe or receive its rotation from any suitable source.

At the end of the handle or holder D is a tubular stock, E, through which the tool-holder A passes, and the bore or opening within this tubular stock is enlarged, so as to contain the teeth 6 upon the tool-holder A, and also the pawls F G and spring H, and by preference there is a metal plate, K, at the end of the handle D, against which the inner end of the tool-holder A rests, as in Fig. 1.

The stock E is perforated longitudinally for the reception of the shafts or axes 8 of the pawls F and G. These axes are cylindrical and formed with or permanently attached to the respective pawls, and there is an offset, head, or notch at 10 upon each axis, by which the thumb or finger can be applied in moving the axis and the pawl endwise of the axes, the stock E being turned off or slotted at 12, to give access to the axes of the respective pawls.

The spring H is preferably a bow with parallel projecting ends and edges 14, the bow being placed within the cylindrical recess or bore of the stock E, and the parallel ends 14 of the spring bear against the backs of the respective pawls F G, to throw the ends of those pawls toward the cylindrical portion of the tool-holder A, and the distance at 15 between the ends of the teeth 6 and the end of the tool-holder A is greater than the width of the respective pawls, so that when either pawl is moved endwise of its axis by the thumb or finger applied to the axis the end of the pawl may be brought against the cylindrical portion 15 of the tool-holder, where there are no teeth for the pawl to act against; thence this pawl will be inoperative; but either or both pawls can be kept with their ends in contact with the teeth 6 upon the tool-holder A. When both pawls are in contact with the respective teeth 6, as seen in Fig. 2, the tool-holder will be blocked and held firmly in the handle and can be turned either way thereby. When one pawl is thrown out of action, the tool-holder will be revolved by the other pawl in one direction by oscillating the handle, and when the first-named pawl is brought into action and the other thrown out the tool holder will be revolved the other way.

By my improvement the pawls and axis can be made very strong and they occupy but little space, and either one or both can be brought into or out of action.

It is preferable to form upon the middle of each edge 14 of the spring H a slight bow or projection at 16, so that either pawl passing endwise by the same will be held sufficiently by this projection to prevent the pawl slipping accidentally into a different position while the tool is in use.

I claim as my invention—

1. The combination, with the tool-holder having ratchet-teeth thereon, of a stock surrounding the same, and pawls having cylin-

drical axes, from which the pawls project laterally in opposite directions, the cylindrical axis being parallel to the axis of the tool-holder and capable of movement endwise to bring the pawl into or out of action, substantially as set forth.

2. The combination, in a ratchet-drill, of a tool-holder having teeth thereon, two separate pawls, each having a cylindrical axis, from which the pawl projects laterally, a stock surrounding the tool-holder and having a separate hole for the reception of each pawl-axis and a space in which the pawl may be moved laterally and in the direction of its axis, and a bow-spring to press the oppositely-acting pawls toward the teeth, substantially as set forth.

3. The combination, with the tool-holder having teeth upon its surface, of a stock surrounding the tool-holder and having a cylindrical recess, and the pawls standing in opposite directions and having cylindrical axes received into holes in the stock, and an arched spring within the stock and acting against the pawls, and having the parallel edges 14 and projections 16, for the purposes and substantially as set forth.

Signed by me this 11th day of August, A. D. 1887.

JOHANNES TH. PEDERSEN.

Witnesses:
GEO. T. PINCKNEY,
WILLIAM G. MOTT.