

No. 715,597.

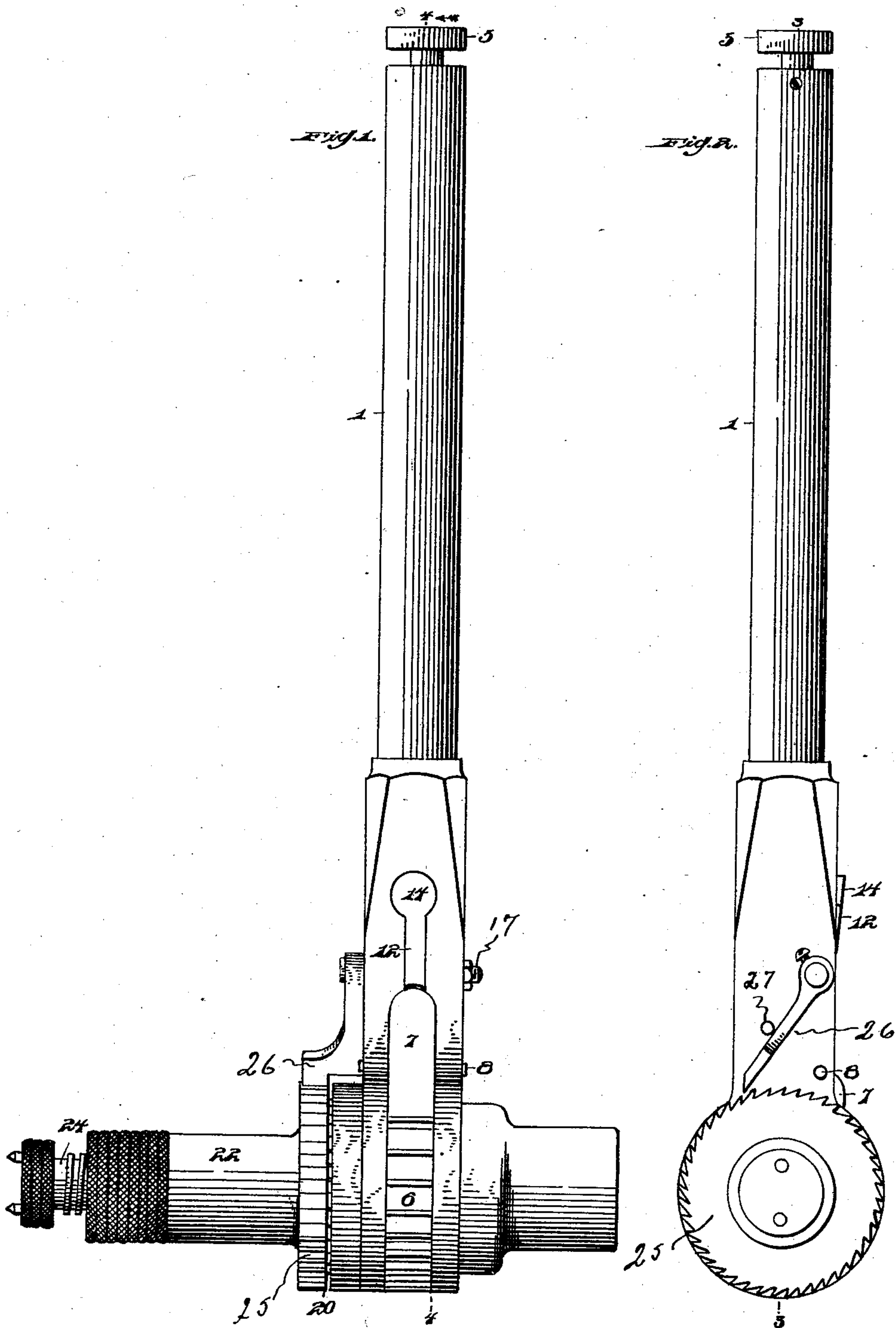
Patented Dec. 9, 1902.

J. PETTERSON.
RATCHET DRILL.

(Application filed Sept. 3, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:

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Inventor
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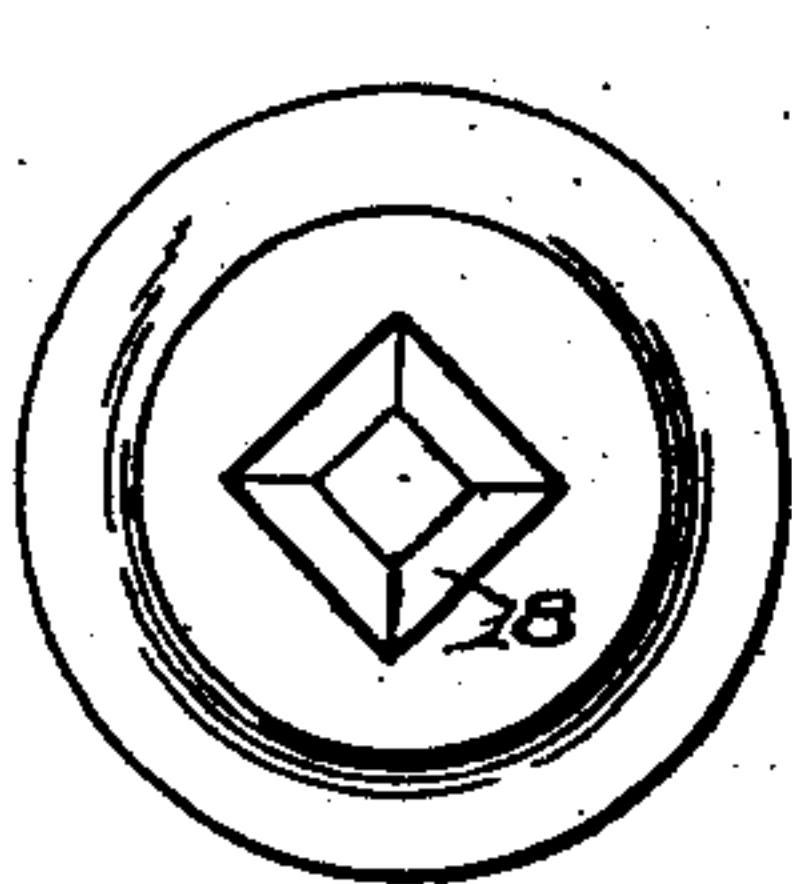
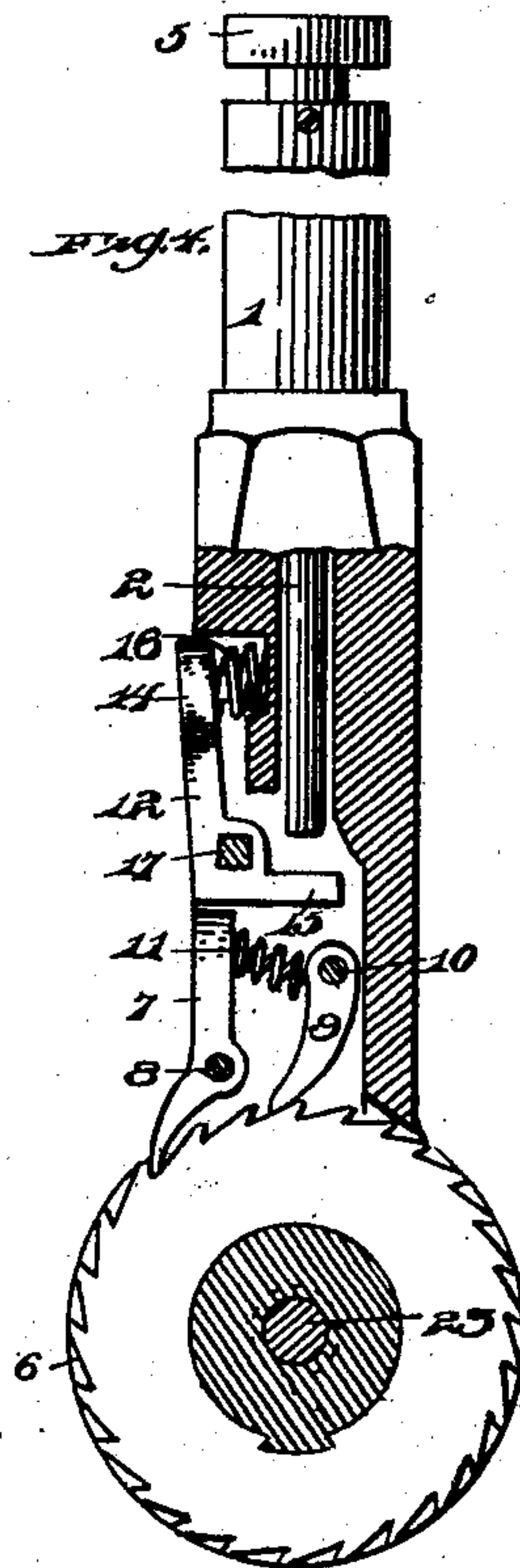
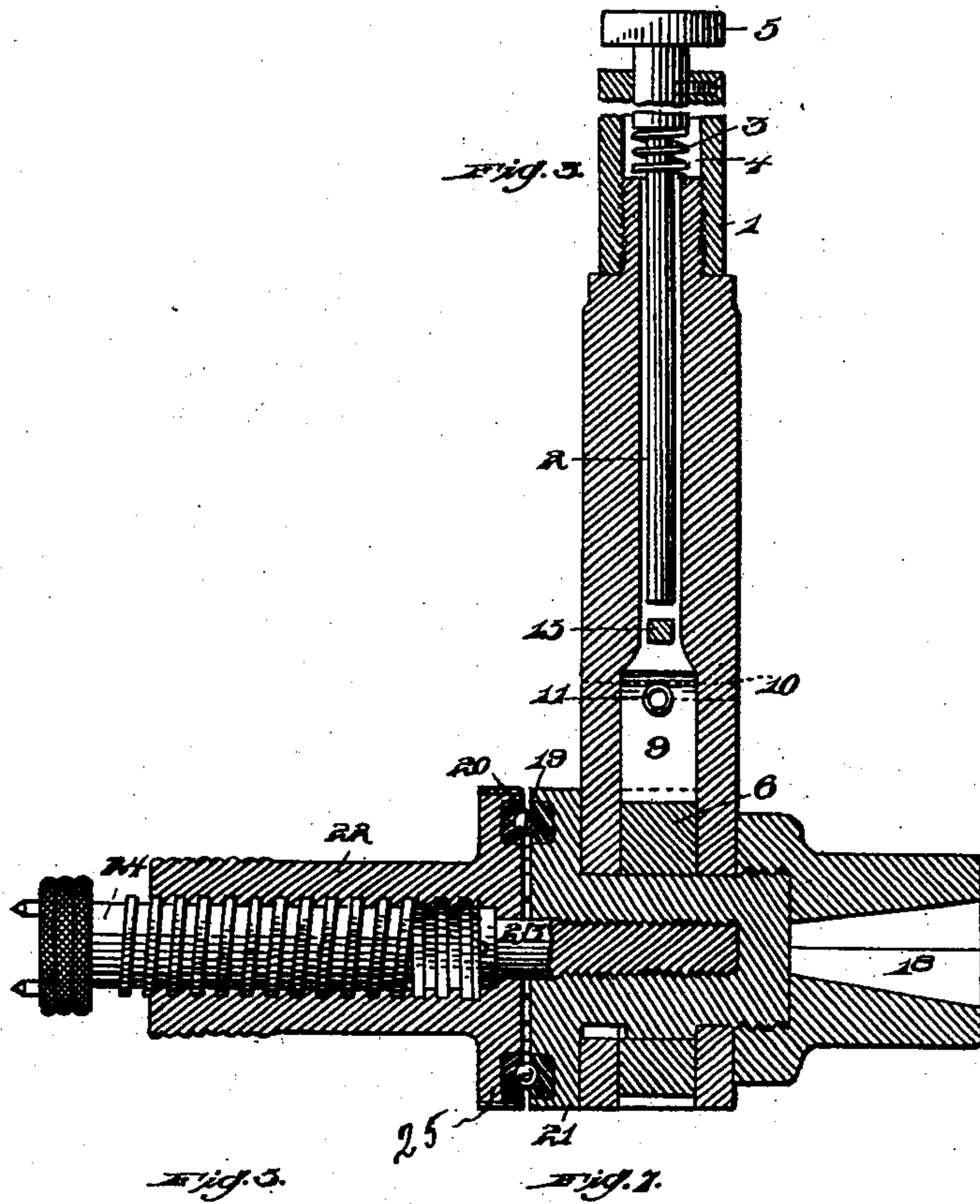


Fig. 4.

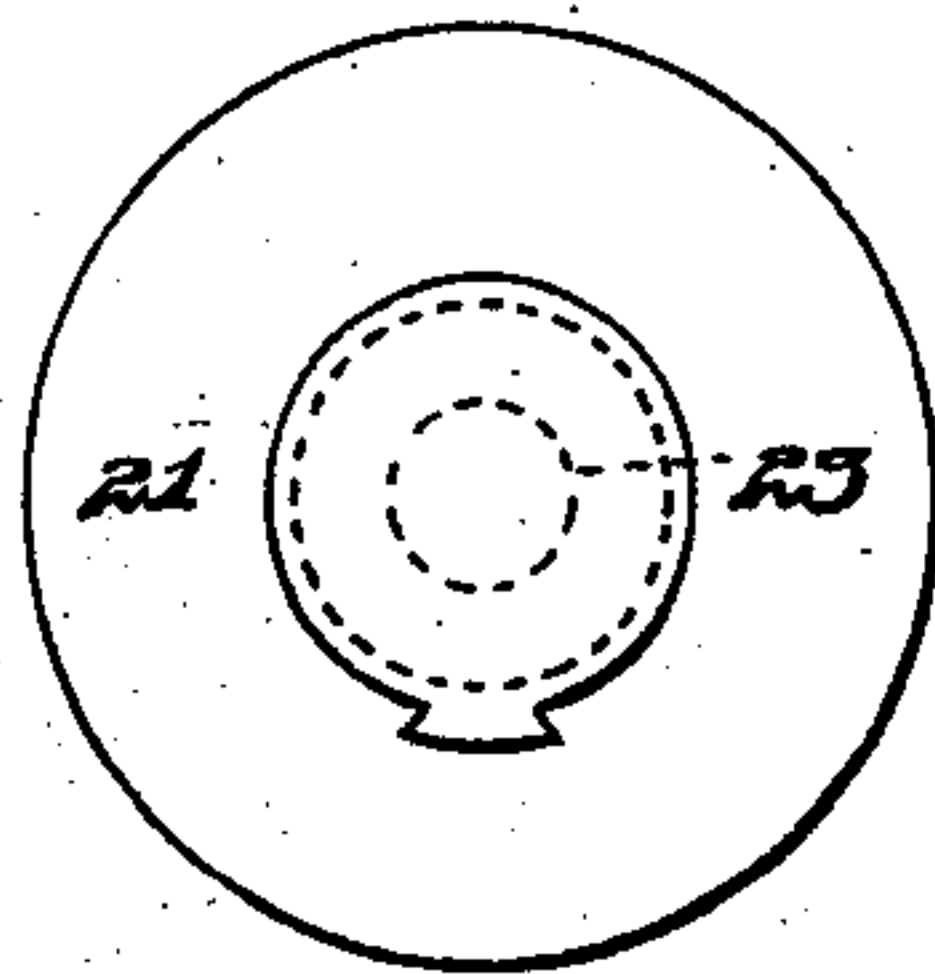


Fig. 5.

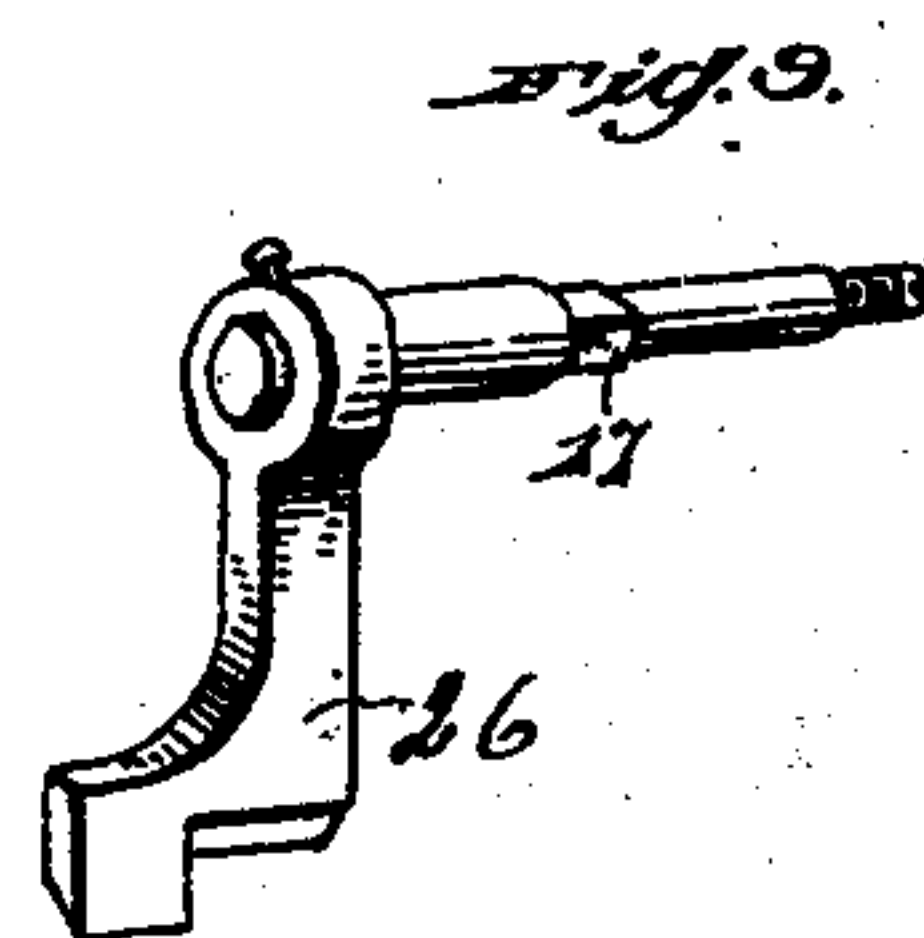
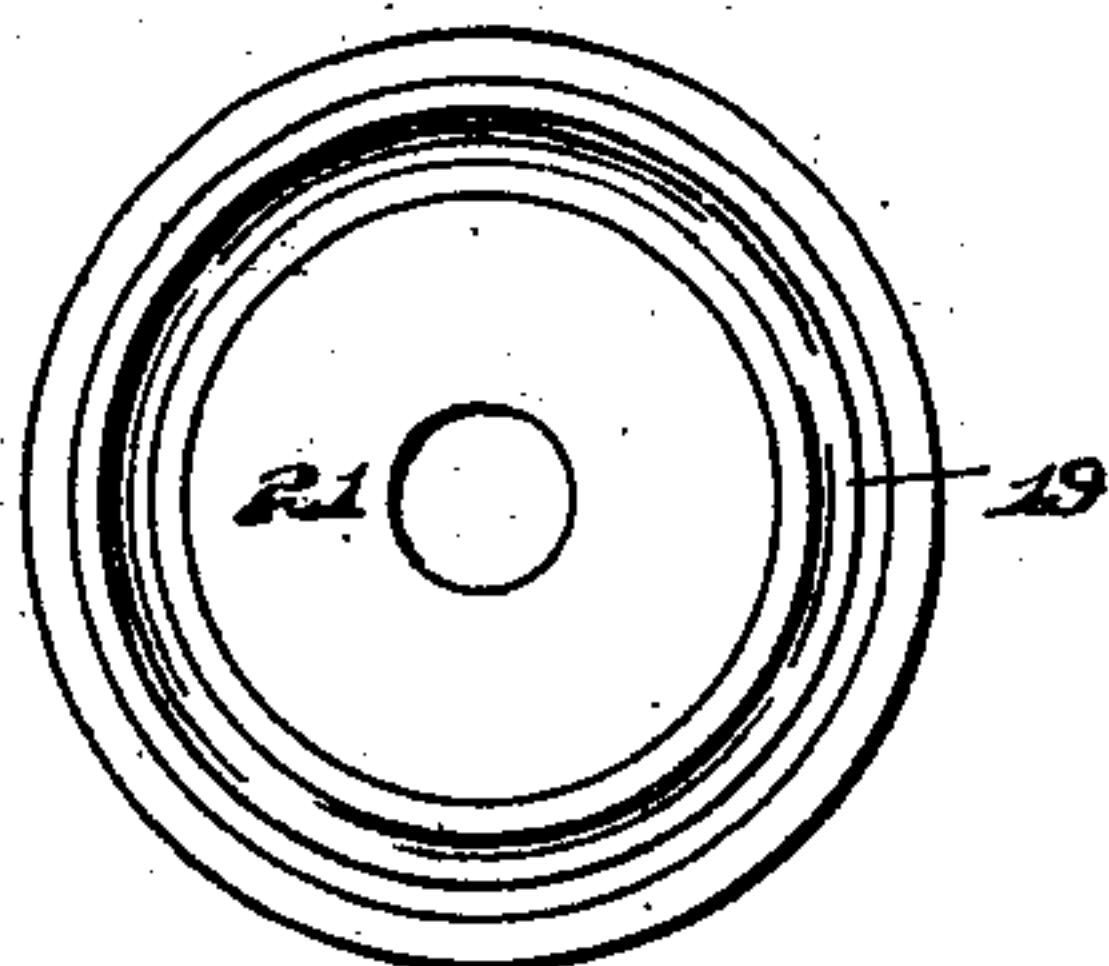
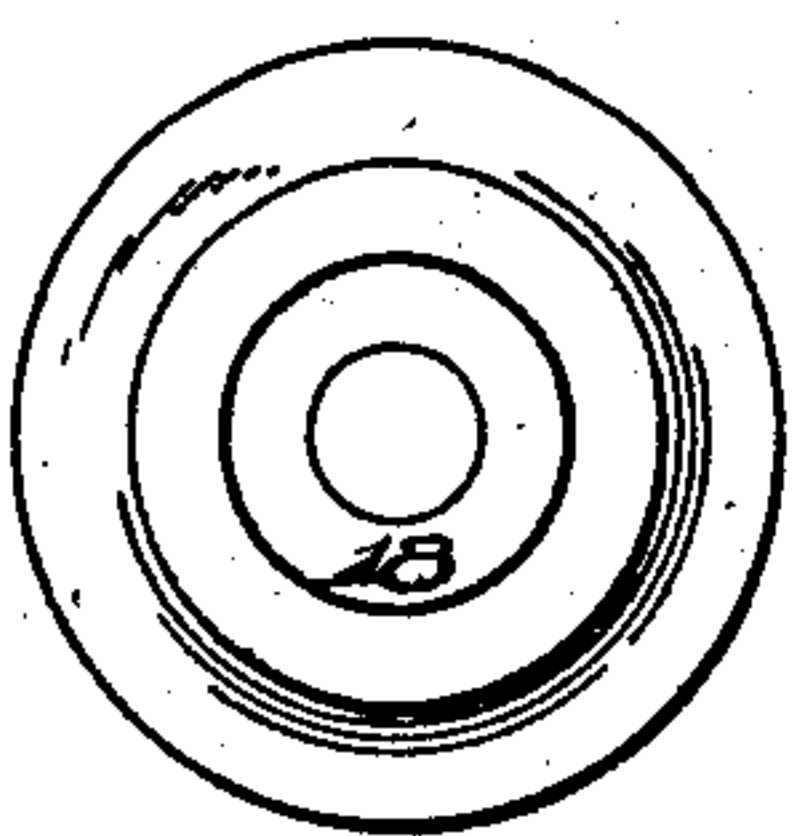
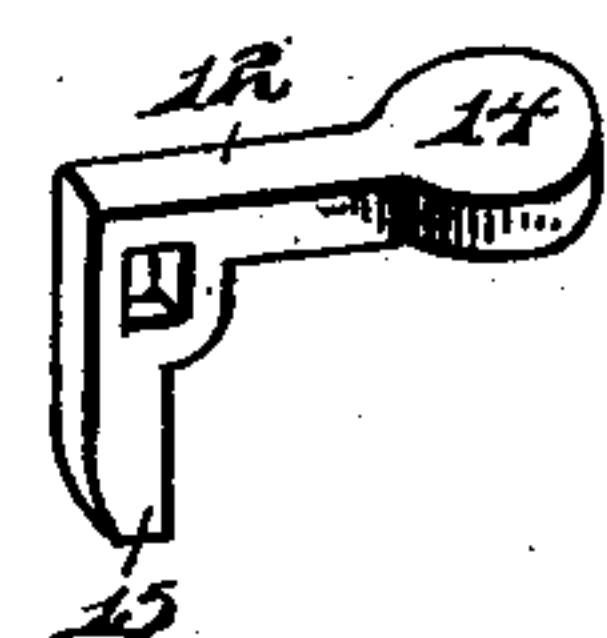


Fig. 8.

Fig. 9.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN PETTERSON, OF STEUBENVILLE, OHIO.

RATCHET-DRILL.

SPECIFICATION forming part of Letters Patent No. 715,597, dated December 9, 1902.

Application filed September 3, 1901. Serial No. 74,222. (No model.)

To all whom it may concern:

Be it known that I, JOHN PETTERSON, a citizen of the United States, residing at Steubenville, in the county of Jefferson and State of Ohio, have invented a new and useful Improvement in Ratchet-Drills, of which improvement the following is a specification.

This invention relates to certain new and useful improvements in wrenches, and more particularly to double-ratchet wrenches.

This invention has for its object the provision of novel means whereby a wrench may be easily manipulated and the wrench placed in a locked position; furthermore, provide novel means that will automatically release the same and permit the wrench being turned.

My invention further aims to construct a wrench of the above-described character that will be extremely simple in construction, strong, durable, comparatively inexpensive to manufacture, and highly efficient in its operation.

With the above and other objects in view the invention consists in the novel combination and arrangement of parts to be hereinafter more fully described, and specifically pointed out in the claim.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference indicate corresponding parts throughout the several views, in which—

Figure 1 is a side elevation of my improved wrench. Fig. 2 is a front view thereof. Fig. 3 is a vertical sectional view taken on the line 3 3 of Fig. 2. Fig. 4 is a vertical sectional view taken on the line 4 4 of Fig. 1 looking in the direction of the arrow. Fig. 5 is a side view of the socket to receive the shank of the drill or bit. Fig. 6 is a modification of the same. Fig. 7 is a vertical sectional view of the socket. Fig. 8 is a plan view of the ball-race. Fig. 9 is a perspective view of the ratchet. Fig. 10 is a similar view of the locking-arm.

In the drawings the reference-numeral 1 indicates the hollow handle, and 2 represents a spring-pressed plunger slidingly secured therein, said plunger being encircled by a spiral spring 3, arranged in the seat 4 in the handle.

The reference - numeral 5 represents the head of the plunger.

The numeral 6 represents the ratchet, and 7 indicates a spring-pressed pawl, which is pivoted at 8 in the handle.

9 represents a pawl, which is pivoted at 10, said pawls 7 and 9 being connected by means of springs 11.

The reference-numeral 12 represents a locking-arm carrying a head 14 and an inward extension 15. In said head 14 is secured a spiral spring 16, which tends to normally retain the head outwardly from the handle. This locking-arm is secured at 17 to the shaft, the end of the plunger 2 engaging the inwardly-extending portion of the locking-arm, which will tend to throw the pawl 26 into engagement with the ratchet-wheel 25.

The reference - numeral 18 represents a tapered socket which is adapted to receive the shank of the drill or bit.

The reference-numeral 19 indicates a ball-race, and 20 indicates a series of ball-bearings arranged therein, said ball-race being arranged in a casing 21 of the wrench and a casing 22 of the feed, these parts being secured together by means of a threaded bolt 23.

The reference - numeral 24 indicates the feed.

About the enlarged inner end of the casing is a ratchet-wheel 25, the teeth of which are engaged by a pawl 26, mounted on and turning with the shaft 17. A stop 27 limits the outward throw of said pawl.

In operation the handle is actuated in the usual way, the pawls 7 and 9, engaging the teeth on the ratchet-wheel 6, causing the drill to be rotated when the handle is swung in one direction, said pawls turning idly when the pawl is swung in the opposite direction. When it is desired to feed the drill forward, the operator presses down on the head 5, which will cause the spring-actuated rod 2 to be driven longitudinally, and as the inner end of the latter comes in contact with the arm 15 of the lever 12 and bears upon the same with pressure said lever will be tilted, and with it the shaft 17, which in turn will throw the pawl 26 into one of the teeth of the ratchet-wheel 25.

The many advantages obtained by the use of my improved wrench will be readily ap-

parent from the foregoing description, taken in connection with the accompanying drawings.

It will be noted that various changes may be made in the details of construction without departing from the general spirit of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A ratchet-drill, comprising a drill-head, a ratchet-wheel mounted on, and rotating with a handle, a set of pawls carried thereby, and in engagement with the teeth of said ratchet, a feed and ratchet wheel 25 thereon, a rock-

shaft 17 mounted in the handle, a spring-pressed angle-lever 12 mounted on said shaft, a pawl 26, mounted on, and turning with the shaft 17, a spring-actuated rod 2, adapted to be forced against, and to tilt said lever, and cause said pawl 26 to be thrown into engagement with the teeth of said ratchet-wheel 25, as set forth.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JOHN PETTERSON.

In presence of—

JOHN GROETZINGER,
M. HUNTER.