

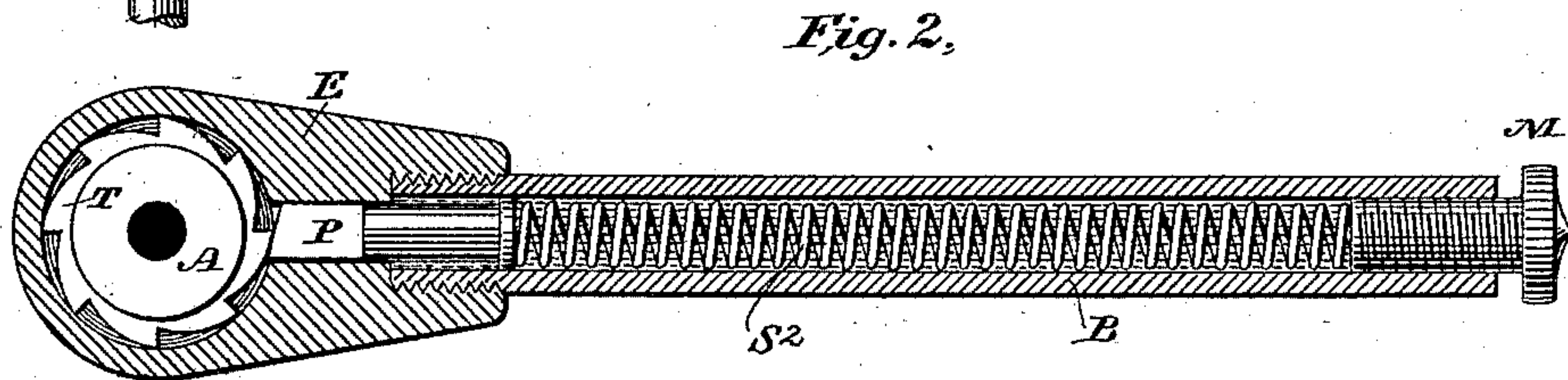
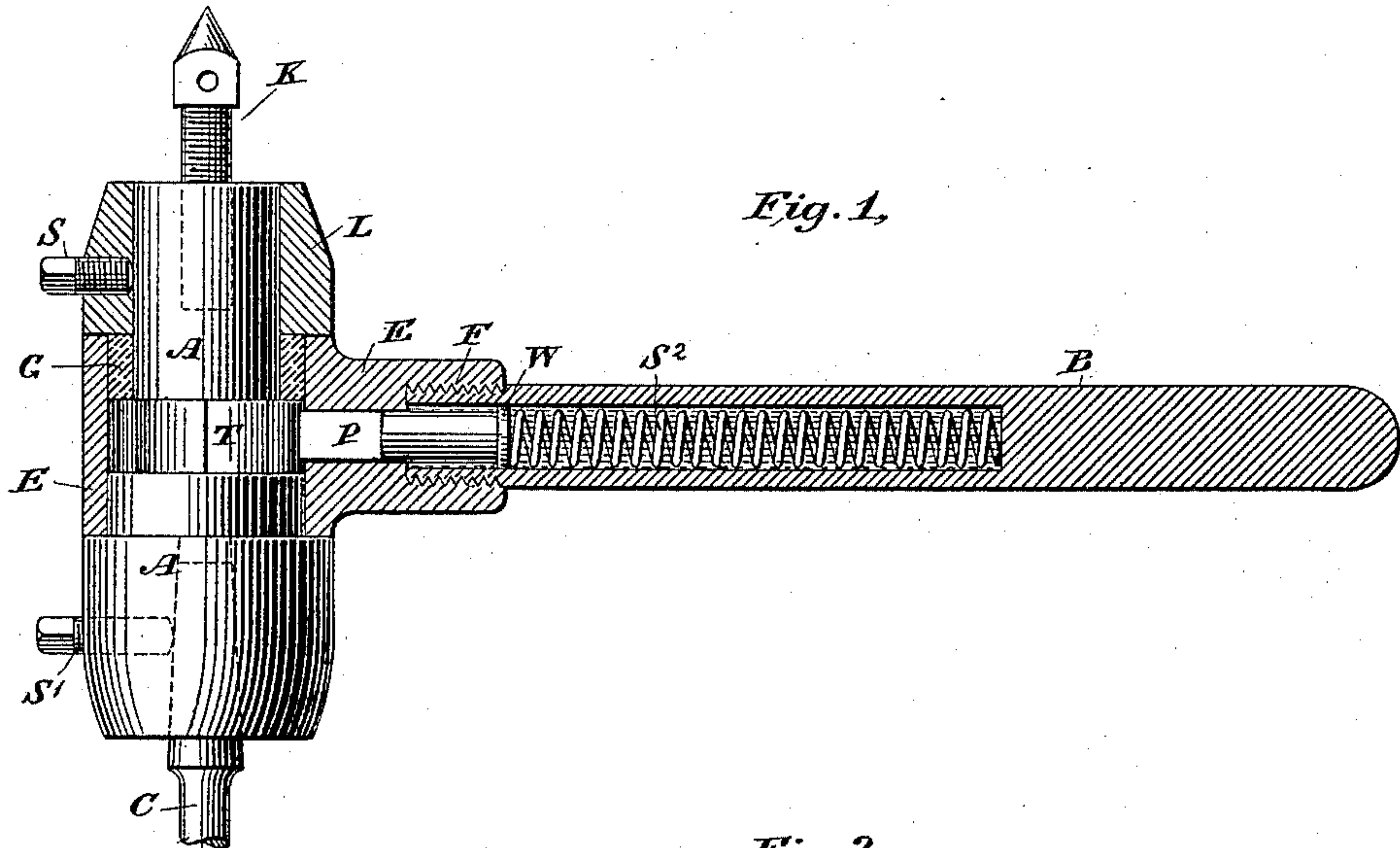
(No Model.)

G. FLETCHER.

RATCHET DRILL.

No. 395,774.

Patented Jan. 8, 1889.



Witnesses,
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UNITED STATES PATENT OFFICE.

GEORGE FLETCHER, OF BROOKLYN, NEW YORK.

RATCHET-DRILL.

SPECIFICATION forming part of Letters Patent No. 395,774, dated January 8, 1889.

Application filed September 22, 1888. Serial No. 286,060. (No model.)

To all whom it may concern:

Be it known that I, GEORGE FLETCHER, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have made a new and useful Invention in Ratchet-Drills or Analogous Implements or Tools, of which the following is a specification.

My invention relates particularly to a novel form of ratchet-drill designed for hand use; and its objects are, first, to provide a ratchet-operating drill which shall be automatically self-oiling; second, to so arrange the parts of this improved device as to cheapen and simplify its construction, and, third, to provide means for adjusting the action of the ratchet mechanism. I accomplish these objects by the combination of parts hereinafter described, and particularly pointed out in the claims which follow this specification.

My invention will be fully understood by referring to the accompanying drawings, in which like letters of reference, wherever used, represent like parts.

Figure 1 is a longitudinal sectional view showing the several parts of my improved device; and Fig. 2 is a similar sectional view of a modified form of handle, showing the pawl and adjustment devices.

A is the body or main stem of the drill-holder, made of a single piece of metal having two shoulders—one for bearing the pawl-sustaining yoke E and the other for supporting the collars G and L, the latter being held in place by a set-screw, S; or, if desired, the upper shank of A may be made screw-threaded and the collar L provided with the usual female screw for adjusting said collar in position.

K is the usual feeding-screw, and C the drill or tool to be manipulated, a screw, S', being provided to hold said tool in place. The pawl-bearing yoke E fits snugly over the shank of A and carries a pawl, P, adapted to take in the teeth T, as shown. This pawl is held in position in the yoke E and handle B by a spring, S, acting against a washer, W, and the inner end of the handle B.

The handle B is screw-threaded at F into the yoke E.

The main stem or body A is made of a single piece of metal, and is cast, the upper shoulder constituting the ends of the teeth T, said teeth being cast at the same time.

In ratchet-drills as heretofore constructed it has been customary to cast the drill-holding stem solid, and then cut the teeth T with a tool; but with my improved stem I make the stem with the teeth complete in the act of casting, the pattern being of such shape, as will be seen, that it may be drawn from the sand-mold, and at the same time leave the mold for the teeth. The handle B, which holds the spring S, is hollow to admit oil, and thereby provides for self-oiling as the ratchet is operated. It may be filled with cotton or other waste, if desired, to better retain the oil. As the pawl is driven back and forth in drilling oil creeps out upon the face of the ratchet-teeth and keeps them constantly lubricated.

In Fig. 2 I have shown a modified form of handle, in which I provide a thumb-screw, M, for adjusting the pressure of the pawl P upon the ratchet-teeth as it and they wear away. The opening at the end of the handle may also be used to insert the oil, if desired.

The collar G fits like a sleeve against the upper shoulder of the stem A, and collar L in turn fits snugly upon it, so as to leave the pawl-collar E free to turn when the handle B is carried back and forth, as in the usual manner with hand ratchet-drills.

I do not limit myself to the use of this improved ratchet-actuated apparatus for drills, as it is obvious it may be used for many analogous purposes—as in pipe and other wrenches—or in any place where it is desired to convert reciprocating motion into rotary motion through the agency of ratchet mechanism.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. A ratchet-drill having the drill-holder A, with two shoulders and ratchet-teeth, T, the yoke E, embracing the stem of the holder and on the lower shoulder, the collar G on upper shoulder and between the yoke and stem, the collar L, secured to holder and above the yoke, the pawl P in opening in the yoke, the hollow handle B, secured to the yoke, and with

the spring S therein bearing against the pawl P, said parts being combined substantially as described.

5 2. A ratchet-drill having a holder with ratchet-teeth, a yoke embracing said holder and having a pawl in an opening, a collar intermediate of the yoke and stem of holder, a collar secured to the holder and retaining the

yoke in place, a spring bearing against the pawl, said parts being combined substantially as described. 10

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