

(No Model.)

W. H. MOHR.  
BIT HOLDER.

No. 589,608.

Patented Sept. 7, 1897.

Fig. 1.

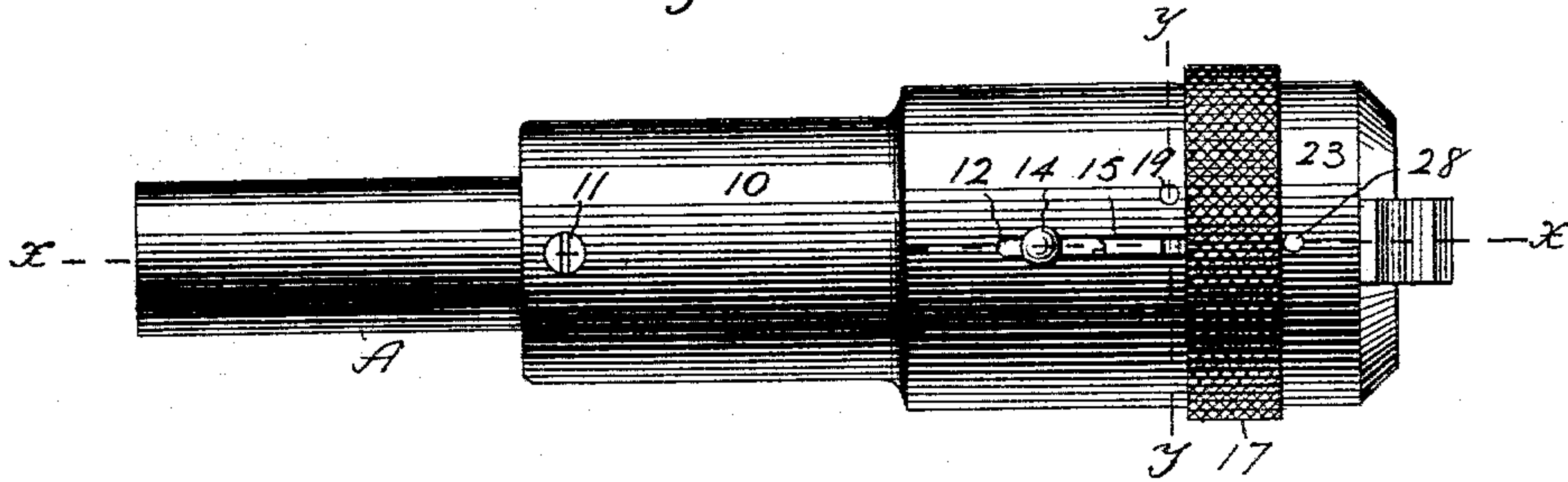


Fig. 2.

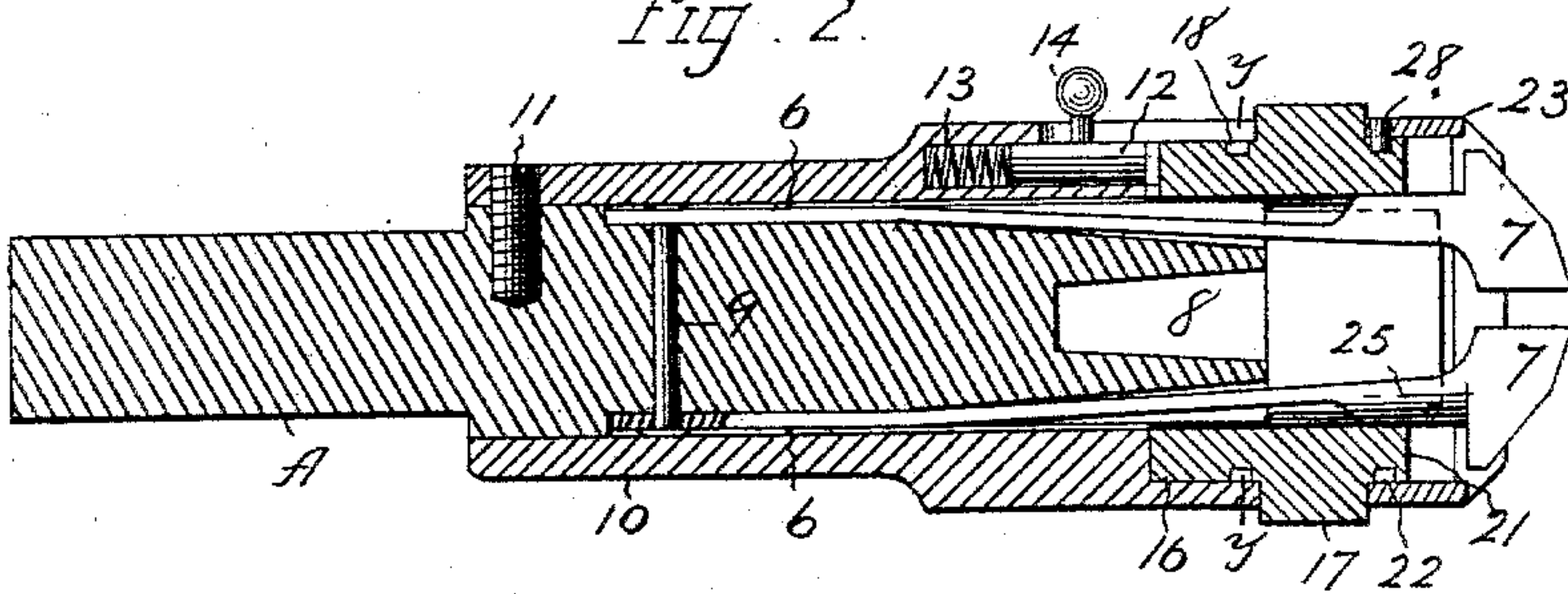


Fig. 3.

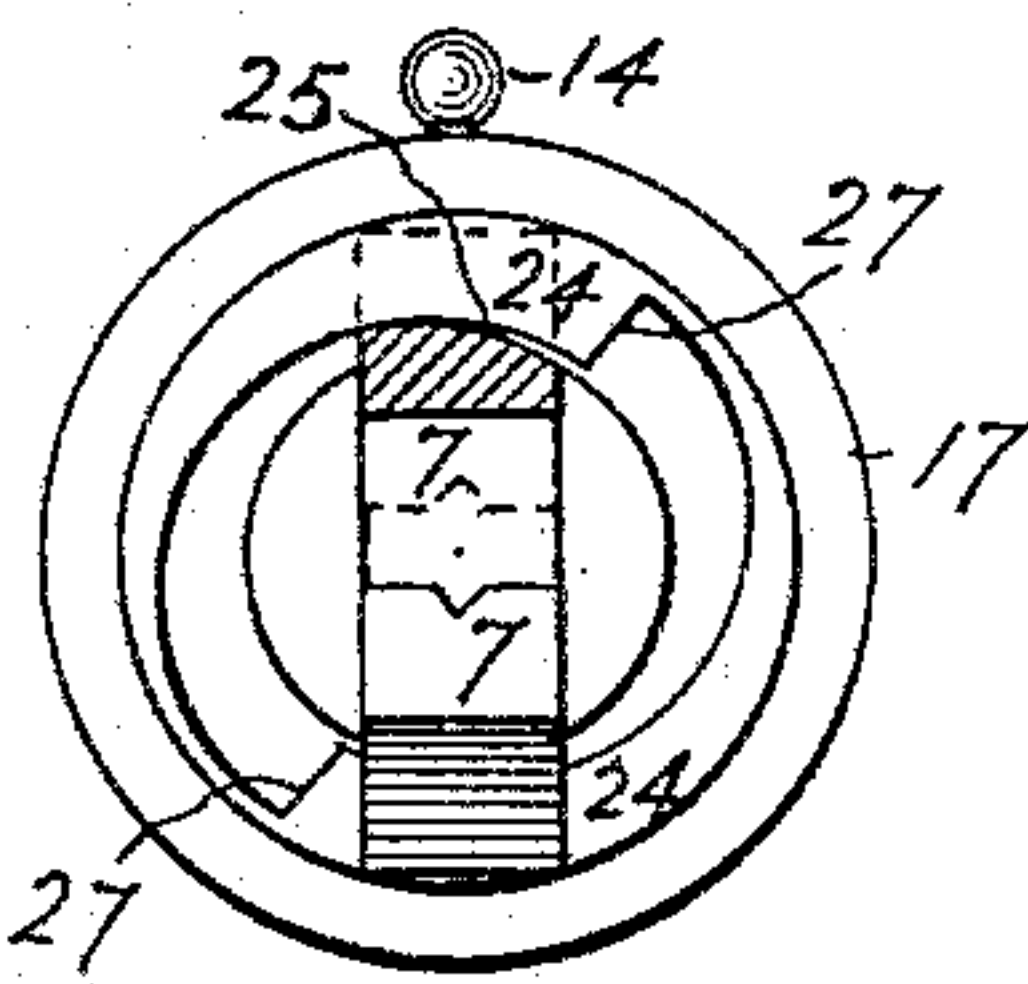


Fig. 4.

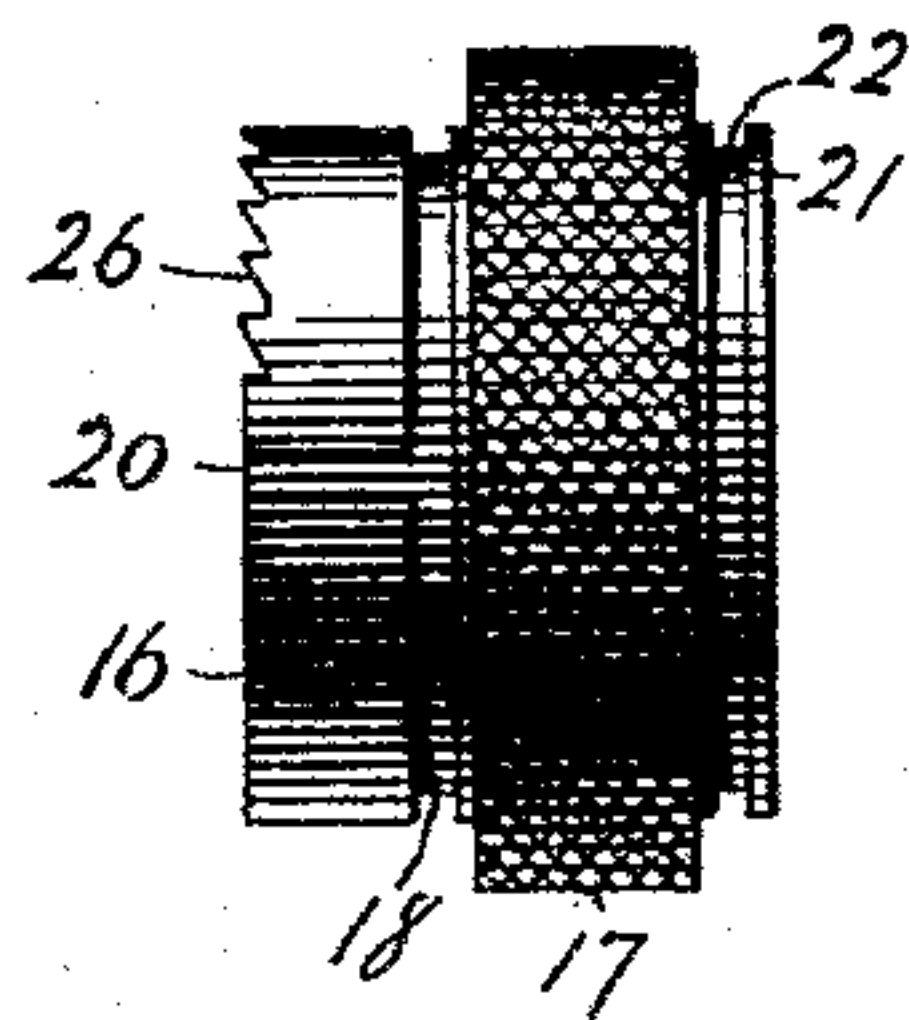
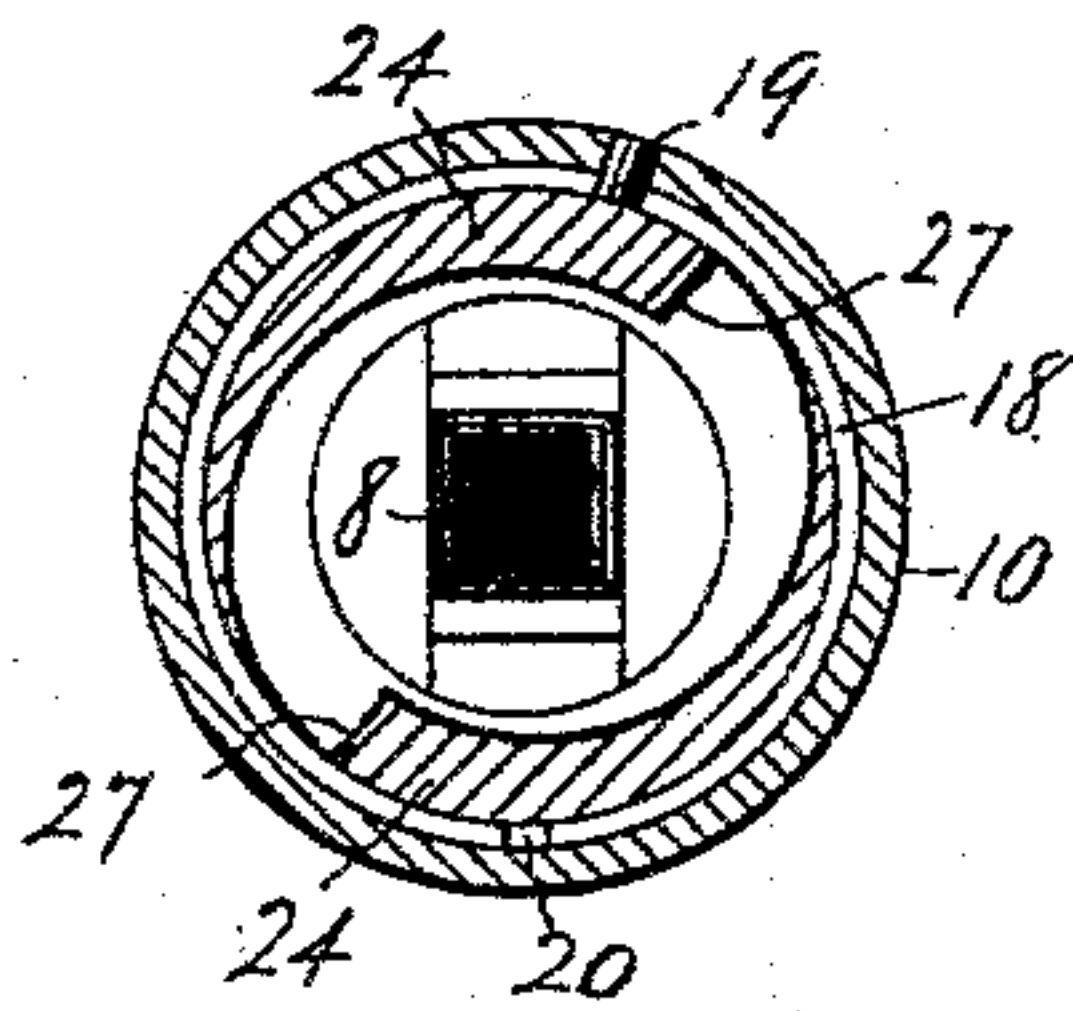


Fig. 5.



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# UNITED STATES PATENT OFFICE.

WILLIAM H. MOHR, OF PLANTSVILLE, CONNECTICUT, ASSIGNOR OF ONE-HALF TO I. S. BAILEY, OF SAME PLACE.

## BIT-HOLDER.

SPECIFICATION forming part of Letters Patent No. 589,608, dated September 7, 1897.

Application filed March 16, 1897. Serial No. 627,825. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. MOHR, a citizen of the United States, residing at Plantsville, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Bit-Holders, of which the following is a specification.

My invention relates to improvements in quick-acting bit-holders; and the chief object of my invention is to provide a simple and efficient holder for bits in which the jaws may be closed by a partial rotation of the clamping-ring.

In the accompanying drawings, Figure 1 is a side elevation of my bit-holder. Fig. 2 is a central longitudinal section thereof on the line *xx* of Fig. 1. Fig. 3 is an end view thereof with one of the jaws in section and with the cap-ring removed. Fig. 4 is a detached side elevation of the clamping-ring, and Fig. 5 is a transverse section on the line *yy* of Figs. 1 and 2 with the holding-jaws removed.

The head A may be connected by its shank to any ordinary bit-stock. It is slotted longitudinally on two sides to receive the shanks 6 of the holding-jaws 7 and is also provided with a socket 8 to receive the end of the bit-shank. The shanks of the jaws are held from moving longitudinally by means of the pin 9, Fig. 2. A sleeve or collar 10 is slipped on the head A over the shanks of the jaws and secured thereon in any proper manner—as, for example, by the screw-pin 11. This sleeve or collar is also provided with a socket which incloses a sliding pawl 12, and a spring 13, said pawl being provided with a projecting operating-handle 14, that extends through the slot 15 of said sleeve. The front end of the sleeve or collar 10 is counterbored and receives within it the reduced inner end 16 of the clamping-ring 17, which surrounds the jaws 7 and head A a little back from the ends of said jaws. The central portion of this clamping-ring projects outwardly beyond the other parts and is provided with a knurled surface, as shown, as in analogous tools, to furnish a better grip for the hands. The reduced inner end 16 is provided with a holding-groove 18, into which a pin 19 in the sleeve 10 extends for the purpose of holding the clamping-sleeve 17 against longitudinal movement. In order to assemble

the parts after this pin is fixed in place in the sleeve 10, the reduced inner end 16 may be slotted upon one side at 20, as shown in Figs. 4 and 5, so that when the collar or sleeve 10 is slipped upon the head the pin may pass through said slot into the groove 18, after which said sleeve is partially rotated and secured in place. In order to make a better finish, I provide the holding-sleeve 17 with a short reduced outer end 21, having an annular groove 22, and place over the outer end of the jaws and in front of the main portion of the clamping-ring the slotted cap-ring 23, and secure the same in place by a pin 28, which extends into the groove 22 of the reduced outer end 21.

The interior of the clamping-ring 17 is provided with two cams 24, which embrace substantially half a circle each, as best shown in Fig. 3. These cams are designed to bear upon the outer side of the jaws 7 to force them together, and the corresponding part of each jaw is beveled, as at 25, Figs. 2 and 3. In said Fig. 3 one of the jaws is in section, and its larger contour is indicated by broken lines. The back or inner edge of the reduced inner end 16 on the cam-ring 17 is provided for a portion of its way with ratchet-teeth 26, Fig. 4, with which teeth the pawl 12 engages. In the drawings the jaws are represented as in a partially-closed position. In order to rotate the holding-sleeve in the direction to release the jaws, the pawl 12 is operated by its handle 14 to depress the spring and withdraw the pawl from the ratchet-teeth 26, when the sleeve can quickly be turned backward until the shoulders 27 at the ends of the cams 24 strike against the sides of the jaws. The jaws will spring open by reason of their elasticity. The shank of the bit may now be inserted between the jaws and into the socket 8, after which the holding-sleeve is rotated in the direction to force the cams 24 against the jaws and carry them into or a little beyond the position shown in Figs. 2 and 3. In making this movement of the clamping-sleeve the pawl will play back and forth, wiping the teeth of the ratchet, but need have no attention from the operator. The jaws will then clamp the round body of the bit in front of its squared shank



and firmly hold the bit in place. At the same time the jaws are operated by something less than half a turn of the clamping-ring, and by reason of being thus operated I term my device a "quick-acting bit-holder." Inasmuch as the clamping-ring 17 makes but about half a revolution, it is not necessary to form ratchet-teeth on the whole extent of the edge of the reduced inner end 16. The longitudinal groove 20 in the reduced inner end 16 is so located, as shown in Fig. 5, that in the ordinary operation of the clamping-ring the pin 19 will never be brought into a position to register with said longitudinal groove.

I do not wish to confine myself to the exact details of construction, but reserve the right to make such changes as may fairly fall within the spirit and scope of my invention.

I claim as my invention—

1. The herein-described bit-holder, consisting of the head, provided with spring-jaws and shank-receiving socket, the sleeve 10 inclosing the shanks of said jaws and fixed

on said head, and the cam-ring surrounding the said jaws and head and having a reduced inner end fitted to and rotating within the outer end of the said sleeve substantially as described.

2. The combination of the head having the shank-receiving socket 8, the spring-jaws 7 secured thereon, the clamping-ring having internal cams, and secured against longitudinal movement upon said head and also provided with ratchet-teeth on its inner end, the sleeve 10 inclosing the shanks of the said jaws and fixed on said head, and a spring-pawl in the outer end of the said sleeve for engaging the ratchet-teeth of the cam-ring, the engaging faces of the said ratchet-teeth and pawl being constructed for permitting the cam-ring to turn freely in the direction to tighten the jaws substantially as described.

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Witnesses:

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