

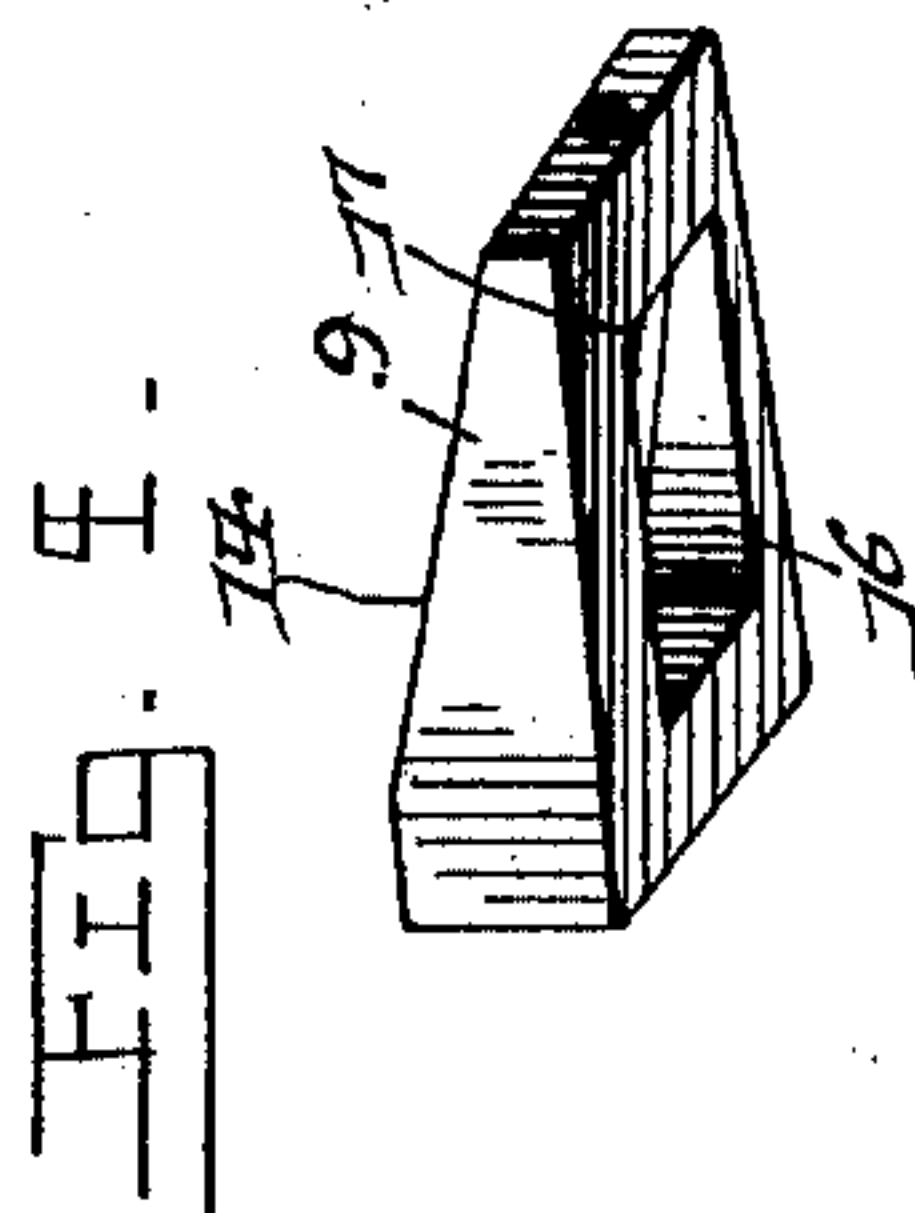
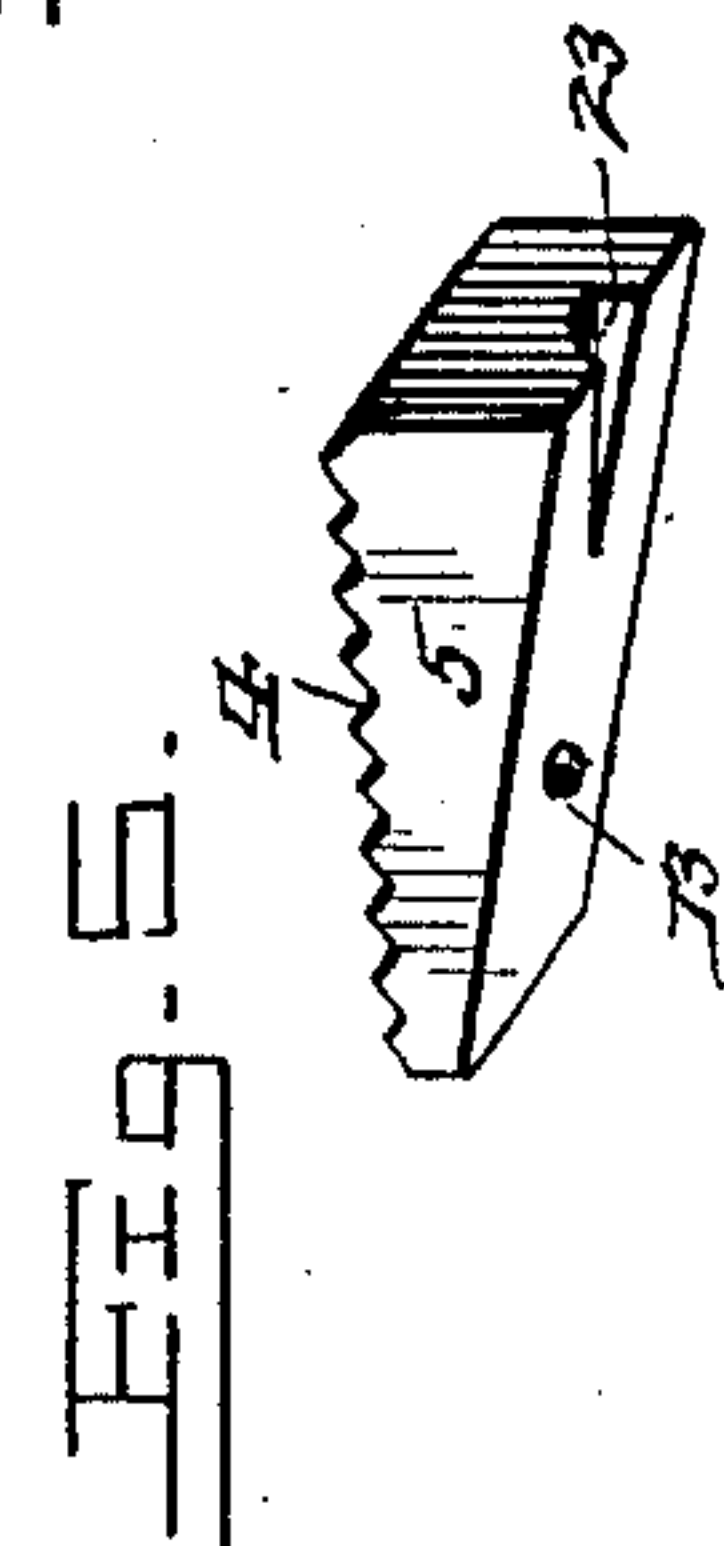
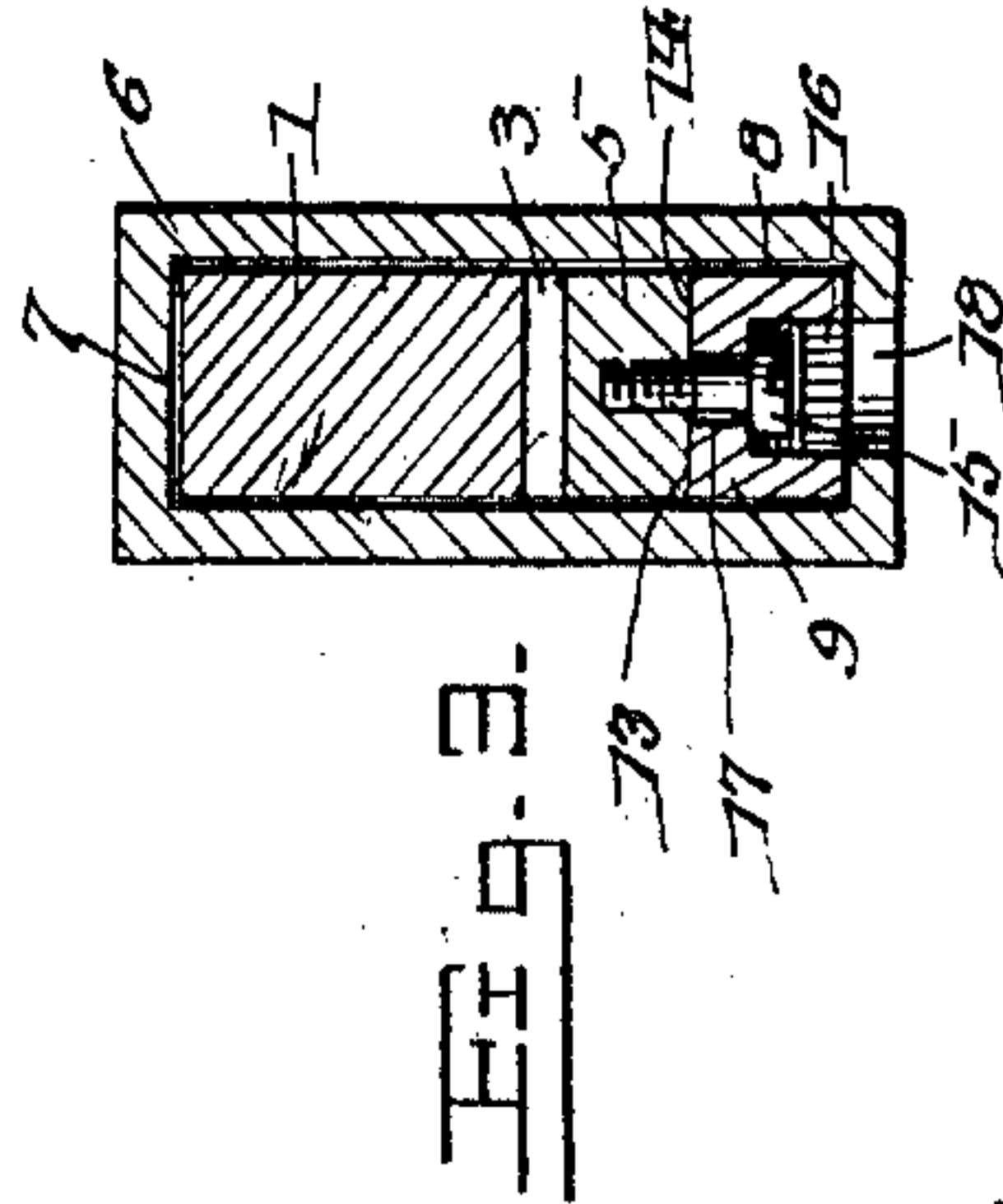
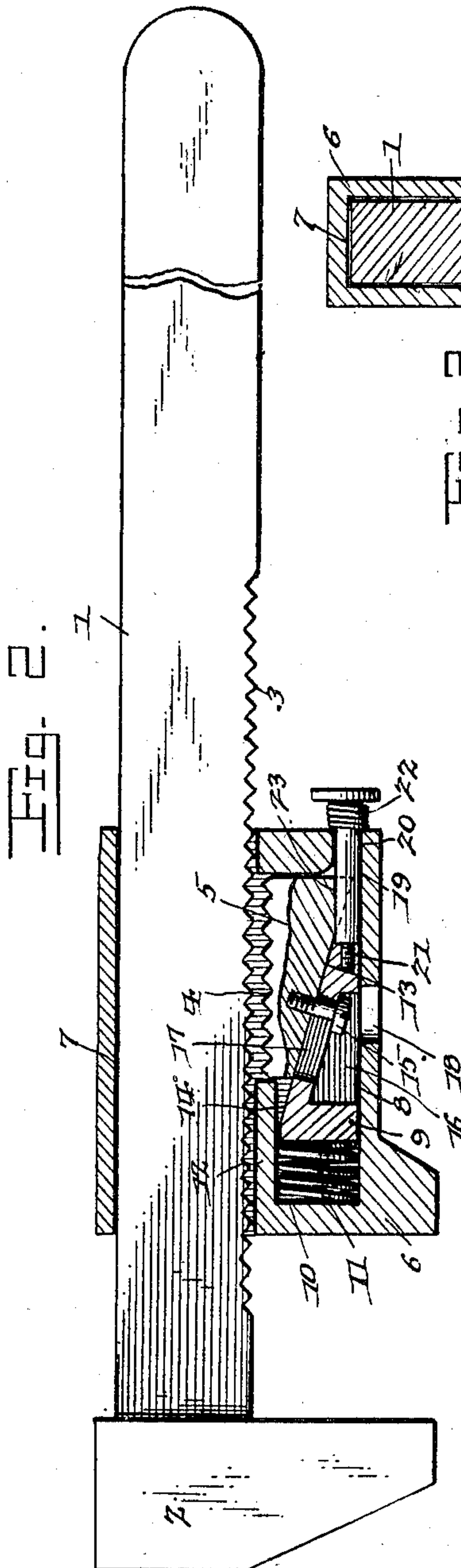
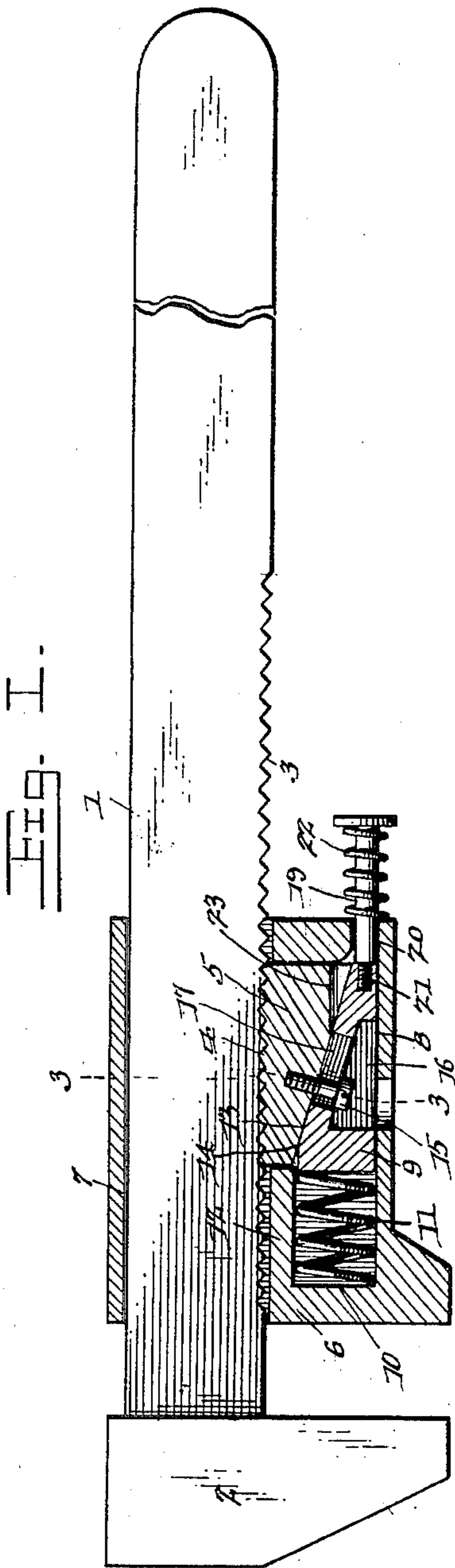
No. 681,591.

Patented Aug. 27, 1901.

M. D. TILLMAN.
WRENCH.

(Application filed Feb. 8, 1901.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

MARSHALL DAYTON TILLMAN, OF WABASH, INDIANA.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 681,591, dated August 27, 1901.

Application filed February 8, 1901. Serial No. 46,553. (No model.)

To all whom it may concern:

Be it known that I, MARSHALL DAYTON TILLMAN, a citizen of the United States, residing at Wabash, in the county of Wabash and State of Indiana, have invented a new and useful Wrench, of which the following is a specification.

The invention relates to improvements in wrenches.

The object of the present invention is to improve the construction of wrenches and to provide a simple, inexpensive, and efficient one which will be strong and durable and which will be capable of being readily operated to free the movable jaw from the shank to permit the wrench to be quickly adjusted to a nut or other object.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a longitudinal sectional view of a wrench constructed in accordance with this invention, the movable jaw being interlocked with the shank. Fig. 2 is a similar view, the parts being arranged to permit the movable jaw to slide freely on the shank. Fig. 3 is a transverse sectional view on the line 3 3 of Fig. 1. Fig. 4 is a detail view of the outer longitudinally-movable wedge. Fig. 5 is a similar view of the inner laterally-movable shank-engaging wedge.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a shank or bar rigidly connected at its outer end with a stationary jaw 2 and provided at its inner longitudinal edge with teeth 3, forming a ratchet and adapted to be engaged by corresponding teeth 4 of an inner laterally-movable wedge or pawl 5 of a sliding jaw 6. The sliding jaw is adapted to move longitudinally of the shank 1 to arrange it the desired distance from the stationary jaw for properly engaging a nut or other object. The movable jaw 6 is provided with a longitudinal opening 7 to receive the shank 1, and its front portion 8 forms a casing for the reception of the shank-engaging wedge or pawl 5 and a longitudinally-movable actuating-wedge 9. The upper portion of the movable

jaw 6 is provided with a socket 10, receiving a spring 11 of spiral form, and the said spring engages the upper or outer end of the longitudinally-movable wedge 9 and is adapted to move the same toward the inner end of the sliding jaw. The sliding jaw is also provided at the inner side of the socket 10 with a wall 12, extending longitudinally of it and terminating short of its center, to provide an open space for the shank-engaging wedge, which is located between the longitudinal wall 12 and the inner end of the sliding jaw. The shank-engaging wedge is provided at its inner face with the teeth 4, and the said inner face is arranged approximately parallel with the adjacent face of the shank. The other face 13 of the wedge 5 is arranged at an angle and is adapted to abut against the angularly-disposed inner face 14 of the wedge 9, which is connected slidably with the wedge 5 by means of a screw 15; but any other suitable fastening device may be employed for this purpose. The outer face of the longitudinally-movable wedge 9 is provided with a recess 16 to receive the head of the screw 15, and the inner portion of the longitudinally-movable wedge is provided with a longitudinal slot 17, located at the back of the recess and receiving the stem or shank of the screw, which engages a threaded socket of the wedge 5. By slidably connecting the wedges in this manner the shank-engaging wedge will be moved inward and outward laterally of the movable jaw when the other wedge is reciprocated longitudinally. The movable jaw is provided at its outer face with an opening 18, located opposite the head of the screw and adapted to permit the blade of a screw-driver to be readily introduced into the wrench for the purpose of engaging the screw 15. The wedge 9 is moved outward to the position illustrated in Fig. 2 of the accompanying drawings to withdraw the wedge 5 from the shank by means of a push-pin 19, extending through an aperture 20 of the inner end of the movable jaw and having its inner terminal threaded and engaging a threaded opening of the longitudinally-movable wedge 9. The inner threaded end of the push-pin is reduced to form a shoulder, and a coiled spring 22 is disposed on the outer portion of the push-pin and interposed between the head of

the same and the inner end of the movable jaw to actuate the wedge 9. When the push-pin is depressed, the wedge 5 is disengaged from the shank and the movable jaw is adapted to slide freely on the latter, and it may be quickly arranged in proper position for engaging a nut or other object. As soon as the push-pin is released the springs will automatically reciprocate the longitudinally-movable wedge 9 and carry the other wedge into engagement with the shank. When the wedge 5 is in engagement with the shank, the other wedge is interposed between it and the front wall of the movable jaw to provide a solid structure and to prevent the wedge 5 from accidentally slipping. The shank-engaging wedge is provided at its inner end with a groove 23, adapted to receive the push-pin and enabling the shank-engaging wedge to clear the same to prevent the push-pin from being subjected to any strain or pressure when the wrench is in use.

It will be seen that the wrench is exceedingly simple and inexpensive in construction, that it is adapted to be quickly adjusted to engage it with and disengage it from a nut or other object, and that it possesses great strength and durability and cannot become easily broken or otherwise get out of order. As the movable jaw is adapted to slide freely on the shank when the toothed wedge is out of engagement with the same the shank may, if desired, be provided with a suitable stop-pin for limiting the inward movement of the sliding jaw to prevent the same from accidentally leaving the shank.

What I claim is—

1. A wrench comprising a shank, a stationary jaw, a movable jaw, a laterally-movable shank-engaging wedge carried by the movable jaw, the longitudinally-movable wedge, and means for slidingly connecting the longitudinally-movable wedge with the shank-engaging wedge, whereby the latter is posi-

tively carried out of engagement with the shank by the former, substantially as described.

2. A wrench comprising a shank, a movable jaw, a laterally-movable shank-engaging wedge, a longitudinally-movable wedge slidingly connected with the shank-engaging wedge and adapted to move the same inward and outward, a spring for actuating the longitudinally-movable wedge to carry the other wedge into engagement with the shank, and a push-pin connected with the longitudinally-movable wedge, substantially as described.

3. A wrench comprising a shank, a movable jaw, a laterally-movable wedge, the longitudinally-movable wedge having a recess and provided with a longitudinal slot, a headed fastening device extending through the slot and mounted on the shank-engaging wedge, and having its head arranged within the said recess whereby the longitudinally-movable wedge is capable of positively moving the other wedge inward and outward, substantially as described.

4. A wrench comprising the toothed shank, the shank-engaging wedge provided with teeth and having a groove, the longitudinally-movable wedge slidingly connected with the shank-engaging wedge, the push-pin extending through one end of the movable jaw and connected with the longitudinally-movable wedge, a coiled spring mounted in the other end of the movable jaw and engaging the said longitudinally-movable wedge, and a spring disposed on the push-pin and engaging the same, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

MARSHALL DAYTON TILLMAN.

Witnesses:

LAWRENCE LEFFORGE,
ELISHA MILLS.