

No. 765,095.

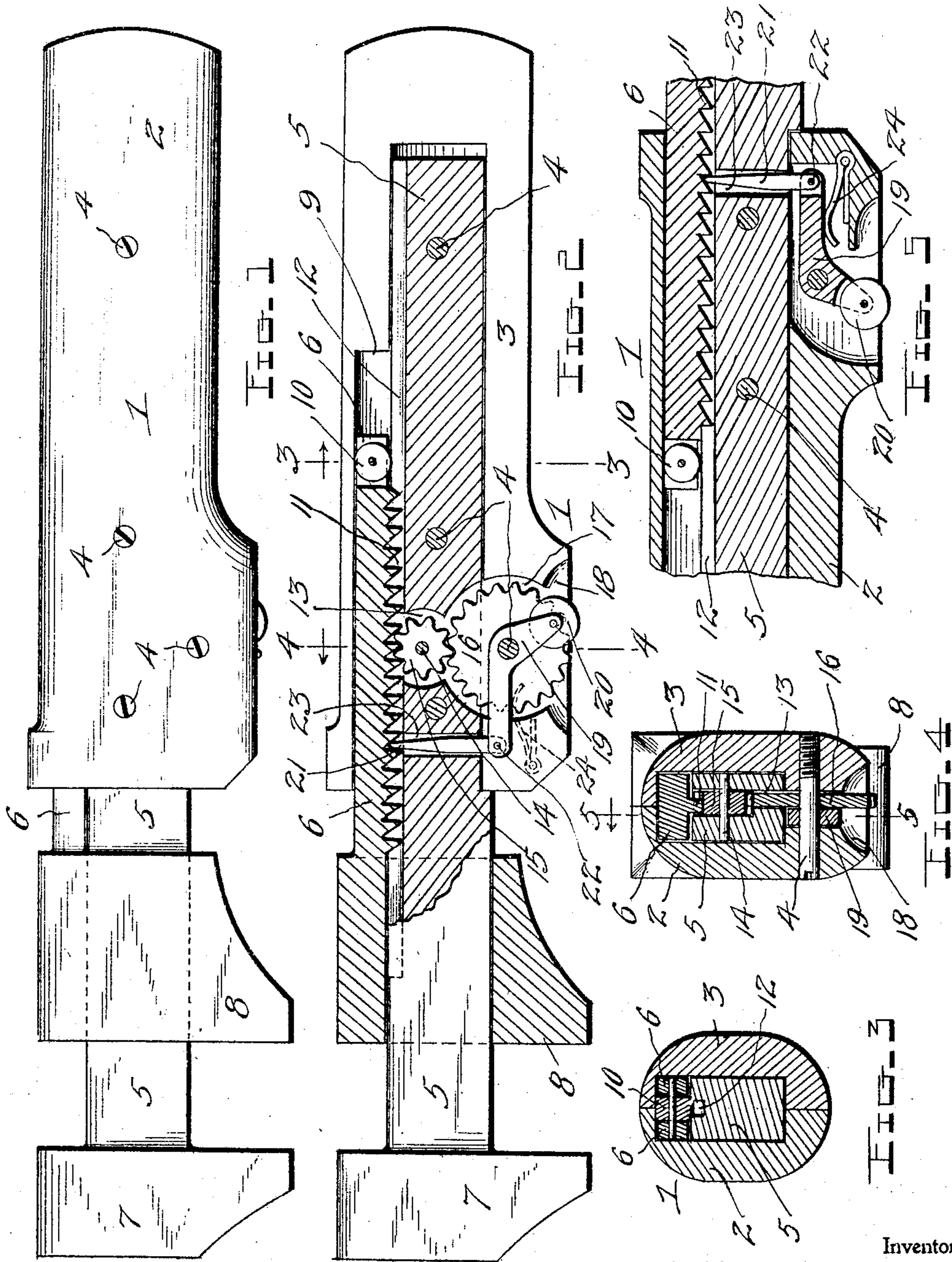
PATENTED JULY 12, 1904.

M. J. McDERMOTT.

WRENCH.

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NO MODEL.



Witnesses

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WRENCH.

SPECIFICATION forming part of Letters Patent No. 765,095, dated July 12, 1904.

Application filed March 24, 1904. Serial No. 199,780. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL J. McDERMOTT, a citizen of the United States, residing at Salubria, in the county of Washington and State of Idaho, have invented certain new and useful Improvements in Wrenches; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-
 10 pertains to make and use the same.

This invention relates to improvements in wrenches of the sliding-jaw type, and has for its object to provide simple and effective means adjustable by the thumb or finger of the grip-
 15 ping-hand of the operator to advance or retract the movable jaw and lock the same in adjusted position.

The invention is illustrated in the accompanying drawings, in which—

20 Figure 1 is a side elevation of a wrench embodying my invention. Fig. 2 is a vertical longitudinal section of the same. Figs. 3 and 4 are transverse sections taken, respectively, on the lines 3 3 and 4 4 of Fig. 2; and Fig. 5
 25 is a detail longitudinal section on line 5 5 of Fig. 4 looking toward the pawl-spring.

Referring to the drawings, 1 represents the handle of the wrench, composed of longitudinally-divided sections 2 and 3, secured together
 30 by transverse screws, bolts, or analogous fastening devices 4. The meeting faces of the sections 2 and 3 are recessed to form a chamber and guideway to receive the shanks 5 and 6 of the fixed and movable jaws 7 and 8, the
 35 said shank of the fixed jaw being immovably secured in position with the sections of the handle by the said screws or fastening devices 4. In the upper portion of the chamber or recess slides the shank 6 of the movable jaw,
 40 which is adapted to abut against a stop 9, formed by one of the outer end walls of said recess to limit the rearward movement of said jaw. The said shank 6 carries at its rear end a friction-roller 10, which engages the upper
 45 surface of the shank 5 and the upper wall of the chamber or recess and guides said shank 6 in a true path, and depending from the shank 6 is a rack-bar 11, which fits and slides in a longitudinal slot 12, formed in the shank

5. The shank 5 is also provided with a ver- 50 tical slot 13, across which projects a pin 14, on which is journaled a pinion 15, which engages the rack. This pinion meshes with a spur-wheel 16, which projects up into said slot 13 and occupies a chamber formed by re- 55 cesses 17. The lower edge of the gear 16 also projects downward into cut-out spaces or recesses 18, opening to the exterior through the bottom of the handle, the walls of said cut-out spaces being beveled to enlarge the same 60 and to admit of the thumb or the finger of the gripping-hand of the operator being inserted therein to turn the gear 16, and thus communicate motion to the pinion 14 and rack-bar to slide the jaw 8. By this construction it will 65 be seen that the sliding jaw may be conveniently manipulated by that hand of the operator which holds the wrench, leaving the other hand free to hold the object to be gripped or perform other work. 70

In order to lock the movable jaw in ad-justed position, I provide means to engage the rack-bar and adapted to be operated by the thumb or finger actuating the gear 16. As shown, the gear 16 is journaled to rotate 75 upon one of the fastening devices 4, and on this fastening device is also mounted a bell-crank lever 19, one arm of which carries a rotary disk 20 and the other arm thereof a dog or pawl 21, the latter being pivoted thereto, 80 as at 22, and working vertically in a slot 23, arranged in advance of the slot 13, so that by the rocking movement of said bell-crank lever said dog or pawl may be thrown into and out of engagement with the rack. 85

The disk 20 forms a rolling finger-piece which normally or when the pawl is in en- gagement with the rack occupies a position alongside the gear 16 and is exposed at the 90 recesses 18, so that the thumb or finger of the operator may simultaneously engage said disk and gear and adjust the bell-crank to retract the pawl and then turn the gear in either di- rection to advance or retract the movable jaw, as will be readily understood. The pawl or 95 dog is normally held in engagement with the rack by a pressure-spring 24, carried by one of the handle-sections, said spring exerting

pressure on the forward arm of the bell-crank lever to normally urge the same upward. When upward and rearward pressure is brought to bear on the disk 20, the bell-crank
5 will be tilted or rocked against the pressure of said spring and will retract the dog, thus leaving the sliding jaw free to move.

From the foregoing description, taken in connection with the accompanying drawings,
10 the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be
15 resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—
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1. A wrench comprising a fixed jaw, a sliding jaw provided with a rack, gearing engaging said rack to adjust the jaw, and a dog or pawl to engage the rack to fix the sliding
25 jaw in adjusted position, substantially as described.

2. In a wrench of the character described,

the combination of a handle, a sliding jaw provided with a rack, a pinion upon the handle engaging said rack, an actuating-gear
30 upon the handle meshing with said pinion, said gear being exposed for operation, a dog or pawl adapted to engage said rack, and an actuating device arranged in proximity to said
35 actuating-gear to adjust said dog or pawl, substantially as described.

3. In a wrench of the character described, the combination of a handle, a stationary jaw, a sliding jaw provided with a rack-bar, a pinion engaging the rack-bar, an actuating-gear
40 meshing with said pinion, a dog or pawl adapted to engage the rack-bar, a bell-crank lever for actuating the dog, and means engaging the bell-crank lever to normally hold
45 the dog in locking position.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

MICHAEL J. ^{his} × McDERMOTT.
mark

Witnesses:

R. S. WILKIE,
JOHN DARNALL.