

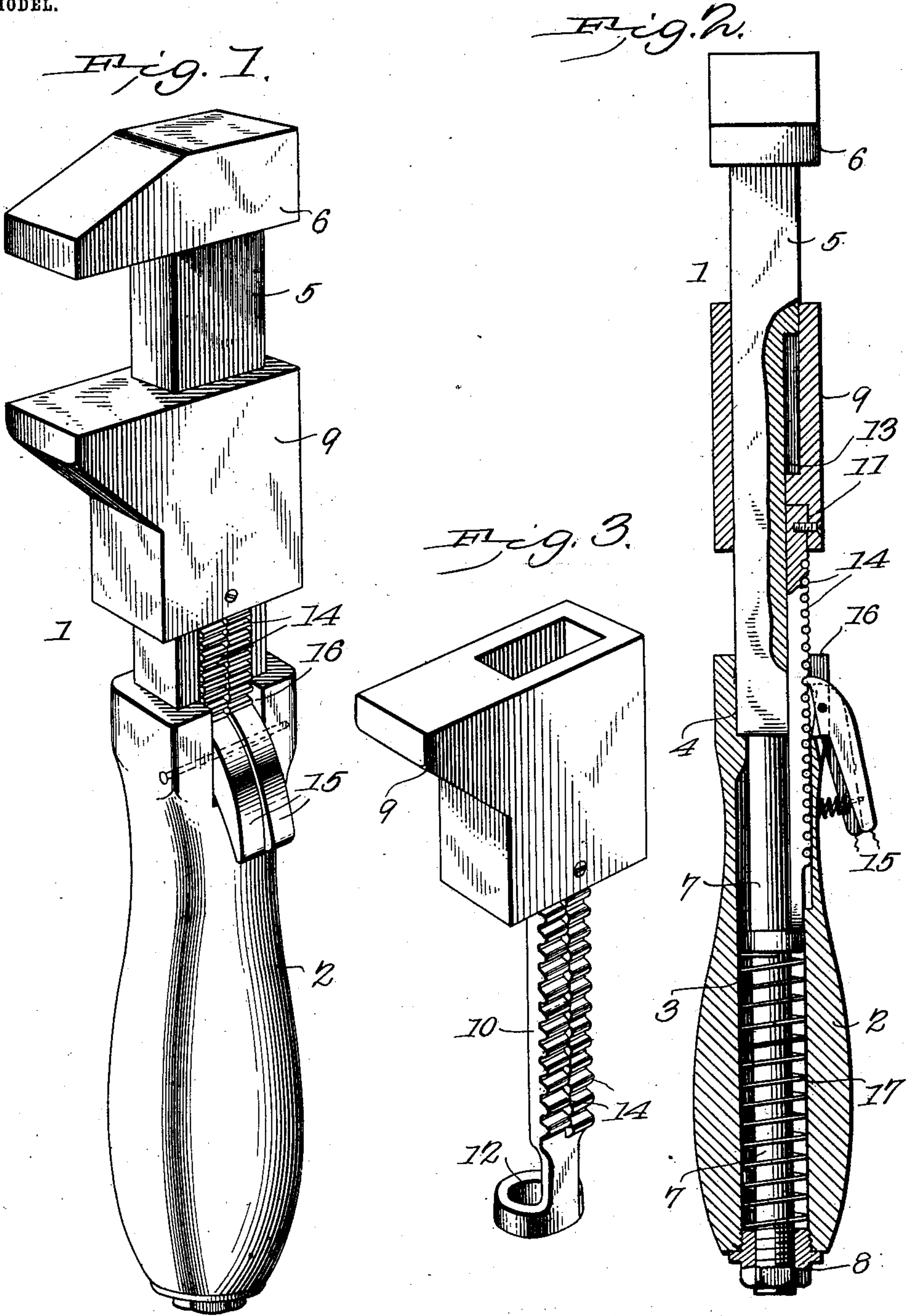
No. 749,167.

PATENTED JAN. 12, 1904.

W. E. CARTER.
WRENCH.

APPLICATION FILED SEPT. 24, 1903.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM E. CARTER, OF BAKER CITY, OREGON.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 749,167, dated January 12, 1904.

Application filed September 24, 1903. Serial No. 174,517. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. CARTER, a citizen of the United States, residing at Baker City, in the county of Baker and State of Oregon, have invented a new and useful Wrench, of which the following is a specification.

This invention relates to an improved nut or pipe wrench, and has for its object to provide a simple, inexpensive, and efficient device of this character capable of being quickly adjusted to accommodate different-sized taps or pipes, and by means of which the gripping action of the jaws may be accurately regulated without the employment of the usual threaded shank and adjusting-nut.

A further object of the invention is to provide the movable jaw of the wrench with a depending shank having a double row of adjusting notches or teeth formed thereon and arranged out of alinement with each other, and to provide a pair of spring-pawls adapted to alternately engage said teeth, a spring seated in the handle of the wrench causing the jaw to move forward, with a step-by-step motion, as the pawls are depressed.

A still further object is to provide a wrench the relative disposition of the several parts being such as to permit the movable jaw to automatically return to the closed position after being released, so as to effect a quick adjustment when desired.

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, it being understood that various changes in form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

In the accompanying drawings, Figure 1 is a perspective view of a wrench constructed in accordance with my invention. Fig 2 is a vertical sectional view of the same, and Fig. 3 is a perspective view of the movable jaw detached.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates the wrench, provided with a handle 2, formed of wood, metal, or other suitable material having a longitudinal recess 3 formed therein, communicating with a squared socket 4, adapted to receive the correspondingly squared shank 5, of a fixed jaw 6. The shank 5 is provided with a reduced extension 7, which fits within the recess 3 in the handle, a nut 8 engaging the threaded end thereof and serving to rigidly secure the fixed jaw within said handle. Slidably mounted on the squared shank 5 of the fixed jaw 6, is a movable jaw 9, provided with a rack-bar 10, one end of which fits within a socket 11 in the movable jaw, the opposite end of said bar being bent at right angles and provided with an opening 12, adapted to receive the reduced extension 7 of the fixed jaw. The rack-bar 10 slides within a longitudinal groove or channel 13 in the squared shank 5, said rack-bar being provided with a double row of notches or teeth 14, arranged out of alinement with each other and adapted to be alternately engaged by a pair of spring-pawls 15, pivoted within a recess 16, in the wrench-handle. A preferably coiled spring 17 is mounted on the reduced extension 7 of the fixed jaw 6, one end thereof resting against the nut 8 and the opposite end of the spring bearing against the angular extension of the rack-bar and serving to automatically feed the movable jaw forward, with a step-by-step movement, as the spring-pawls are alternately depressed. The spring-pawls 15 not only regulate the feed of the movable jaw, but also lock said jaw in its adjusted position, effectually preventing any backward movement of the same until both of said pawls have been disengaged from the rack-bar.

In practice, the wrench is adjusted by depressing the pawls 15 and forcing the jaw 9 backward against the tension of the spring 17 a distance approximately equal to the diameter of the tap or pipe to be operated upon, and said pawls released. The gripping action of the jaws 6 and 9 may now be regulated by alternately depressing the pawls 15, which causes the spring to feed the movable jaw forward, with a step-by-step movement, until the tap or other object is firmly grasped between said jaws. The wrench may be quickly

adjusted to accommodate taps or pipes of small diameter by depressing both pawls simultaneously, the action of the spring forcing the movable jaw forward and in contact with the tap or other object as soon as the rack-bar is released.

It will be observed by having the double row of teeth on the rack-bar arranged in staggered relation to each other the pawls engage said teeth one at a time and permit but a relatively small forward movement of the sliding jaw when either one of said pawls are depressed, thereby enabling the gripping action of the jaws to be regulated to a nicety.

From the foregoing description it will be seen I have provided an exceedingly simple, durable, and effective wrench having a wide range of adjustment and which may be conveniently and expeditiously manipulated and used wherever a nut or pipe wrench is to be employed.

Having thus described the invention, what I claim, and desire to secure by Letters Patent, is—

1. A wrench including a fixed and a movable jaw, means for automatically feeding the movable jaw, and alternately operable checking devices for limiting the operation of the feeding means.

2. A wrench including a fixed and a movable jaw, means for automatically feeding the movable jaw, a rack-bar provided with staggered notches or teeth carried by said jaw, and a pair of checking devices adapted to alternately engage the teeth on the rack-bar for limiting the operation of the feeding means.

3. A wrench including a fixed and a movable jaw, means for automatically feeding the movable jaw, a rack-bar carried by the movable jaw and sliding within a groove or channel in the fixed jaw, and a pair of pawls adapted to alternately engage the rack-bar for limiting the operation of the feeding means.

4. A wrench including a fixed and a movable jaw, a spring carried by the fixed jaw and arranged within the handle of the wrench for automatically feeding the movable jaw, a rack-bar provided with staggered notches or teeth secured to the movable jaw, and a pair of spring-pawls adapted to alternately engage the teeth on the rack-bar for limiting the movement of said movable jaw.

5. A wrench including a handle provided with a longitudinal groove or recess, a fixed jaw having a reduced extension fitting within said recess, a movable jaw slidably mounted on the fixed jaw, a rack-bar secured to said jaw and having its free end slidably mounted on the reduced extension of the fixed jaw, a spring mounted on the reduced extension for automatically feeding the movable jaw, and a pair of spring-pawls adapted to alternately engage the rack-bar for limiting the movement of the movable jaw.

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

WILLIAM E. CARTER.

Witnesses:

C. E. JOHNSON,
L. CRABILL.