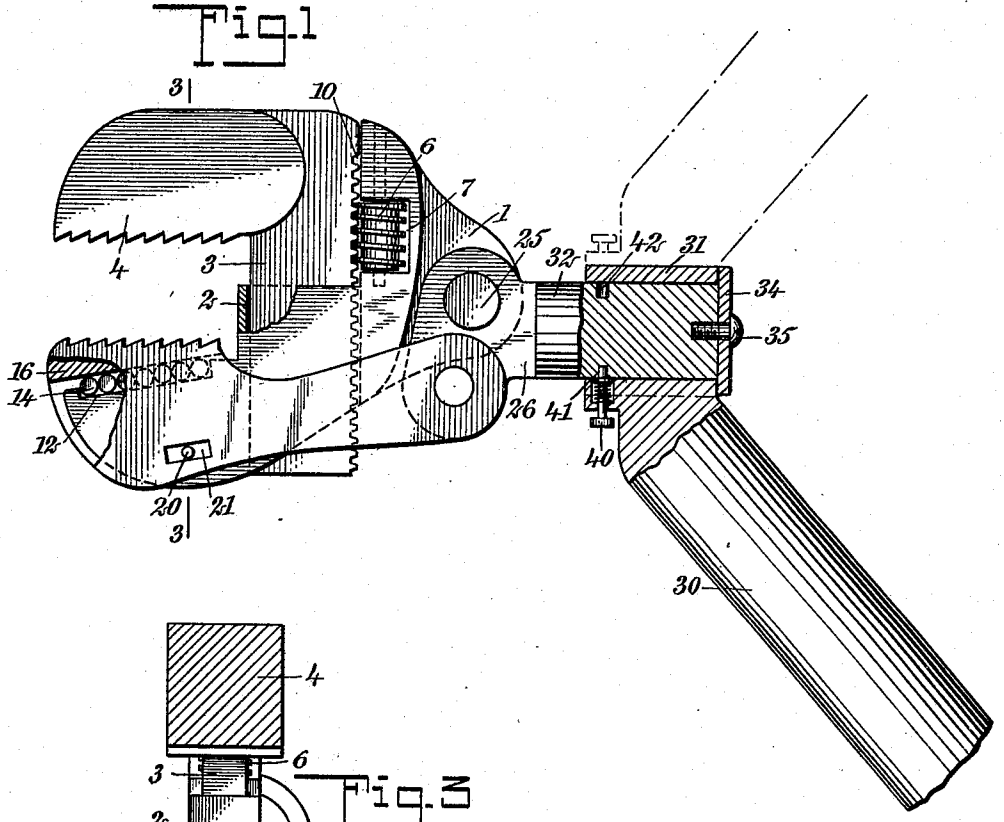
J. G. PATERSON.

WRENCH.

APPLICATION FILED OCT. 29, 1908.

924,269. **Patented June 8, 1909.**

Fig. 1



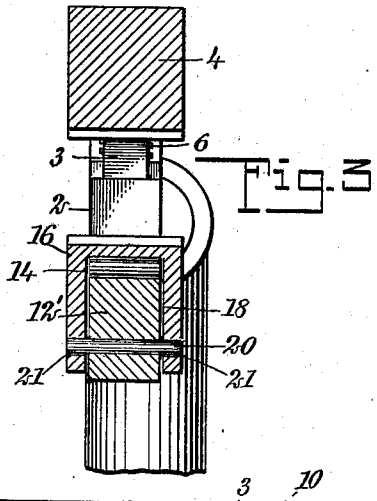


Fig. 3

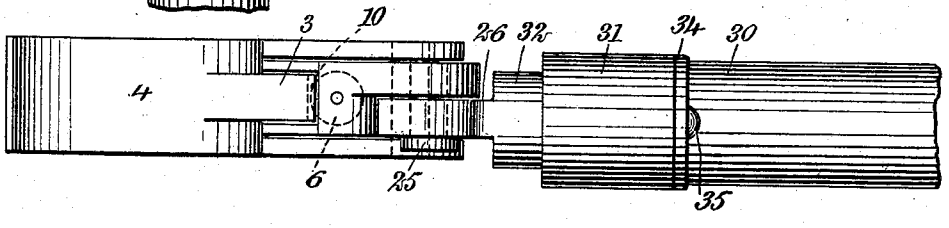


Fig. 2

WITNESSES

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WRENCH.

No. 924,269. Specification of Letters Patent. Patented June 8, 1909.

Application filed October 29, 1908. Serial No. 459,973.

To all whom it may concern:

Be it known that I, JOHN GIBB PATERSON, a citizen of the United States, and a resident of Los Angeles, in the county of Los Angeles and State of California, have invented a new and Improved Wrench, of which the following is a full, clear, and exact description.

This invention relates to an improvement in wrenches.

An object of the invention is to provide a wedge adjustment for taking up the lost motion between a nut and the jaws of the wrench, thereby precluding the possibility of the jaws slipping upon the nut so as to round the corners between the faces of the nut.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a side elevation of the wrench with parts broken away and in section; Fig. 2 is a plan view; and Fig. 3 is a vertical section taken on the line 3—3 in Fig. 1.

In said drawings, the head 1 of the wrench is provided with a socket 2 within which a stem 3 of the jaw 4 is adapted to slide. The jaw 4 may be adjusted by means of a worm 6 rotatably mounted in a recess 7 in the head 1 and engaging teeth 10 upon the stem 3.

The head 1 is provided with an inclined surface 12 which may be hardened and forms the bottom of a recess to receive the pins or rollers 14. Resting upon the rollers 14 is a pivoted jaw 16 formed with a recess 18, in its under side, to receive the projecting portion 12′ of the head 1. In order to prevent the jaw 16 from becoming detached from the head 1, a pin 20 is passed through said head and enters slots 21 formed in the jaw 16.

Pivoted to the head 1 by means of a pin 25 is a stem 26 to which stem is also pivotally attached the jaw 16.

As shown in the present embodiment of my invention, the jaws 4 and 16 are provided with teeth which adapt them for use in connection with pipe wrenches. It is to be understood that my invention is not thus limited, for it is obvious that plain-faced jaws may be used instead, whereby the wrench can be employed for turning nuts.

A convenient form of wrench handle is shown comprising a rod 30 formed with a socket 31 at one end, which fits a cylindrical portion 32 of the stem 26. Said socket is maintained in position by means of a plate 34 secured to the end of the stem 32 by means of a screw 35. In order that the wrench handle may be reversible, I provide a spring-pressed plunger 40 adapted to enter recesses 41 and 42 in the portion 32 of the stem 26. It will be noted that the handle 30 is at an angle to the head and jaws of the wrench, and that by reversing its position, as shown in dotted lines in Fig. 1, the wrench becomes in effect like the so-called S-wrench; that is, the handle may be moved to one side or the other to avoid obstacles and allow the jaws to apply to an object and turn.

In operation, it will be understood that the jaw 4 is rigid, although adjustable by means of the worm 6 and rack teeth 10. In the operation of turning a nut or a pipe, the jaw 16 will move up or down with respect to the incline 12, depending upon the direction in which the wrench handle is being moved. This incline acts as a shim or wedge to take up all lost motion between the jaws of the wrench and the article to be turned.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A wrench, comprising a head, a rigid jaw, an incline on said head, a swinging jaw mounted to move over said incline, and a handle pivoted to said head and to said swinging jaw, whereby the latter may be moved over said incline.

2. A wrench, comprising a head, an adjustable jaw, an incline on said head, a swinging jaw mounted to move over said incline, and a handle pivotally connected to said head and to said swinging jaw for moving the latter over said incline.

3. A wrench, comprising a head provided with an incline, a rigid jaw, a swinging jaw, anti-friction means between said swinging jaw and incline, and means connected to said head and swinging jaw for moving the latter over said incline.

4. A wrench, comprising a head provided with an incline, a rigid jaw, a pivoted jaw, anti-friction means between said pivoted jaw and incline, and means connected to said head and pivoted jaw for moving the latter over said incline.

5. A wrench, comprising a head having a socket formed therein, a jaw having a stem slidably mounted in said socket, means for adjusting said jaw, an incline on said head, a swinging jaw mounted to move over said incline, and a handle pivoted to said head and to said swinging jaw.

6. A wrench comprising a head having a socket formed therein, a jaw having a stem slidably mounted in said socket, means for adjusting said jaw, an incline on said head, a swinging jaw, anti-friction means between said swinging jaw and incline, and a handle pivoted to said head and to said swinging jaw.

7. A wrench, comprising a head, a rigid jaw, a movable jaw, a stem pivoted to said head and to said movable jaw, a handle, and means whereby said handle may be reversibly secured to said stem.

8. A wrench, comprising a head, a rigid jaw, a swinging jaw, a cylindrical stem pivoted to said head and to said swinging jaw, a handle mounted on said stem, and means whereby said handle may be reversibly held upon said stem.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN GIBB PATERSON.

Witnesses:
HANNAH JESMER,
Mrs. F. E. DAVIS.