R. J. JONES & F. H. CUNNINGHAM.

WRENCH.

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Fig. 1.

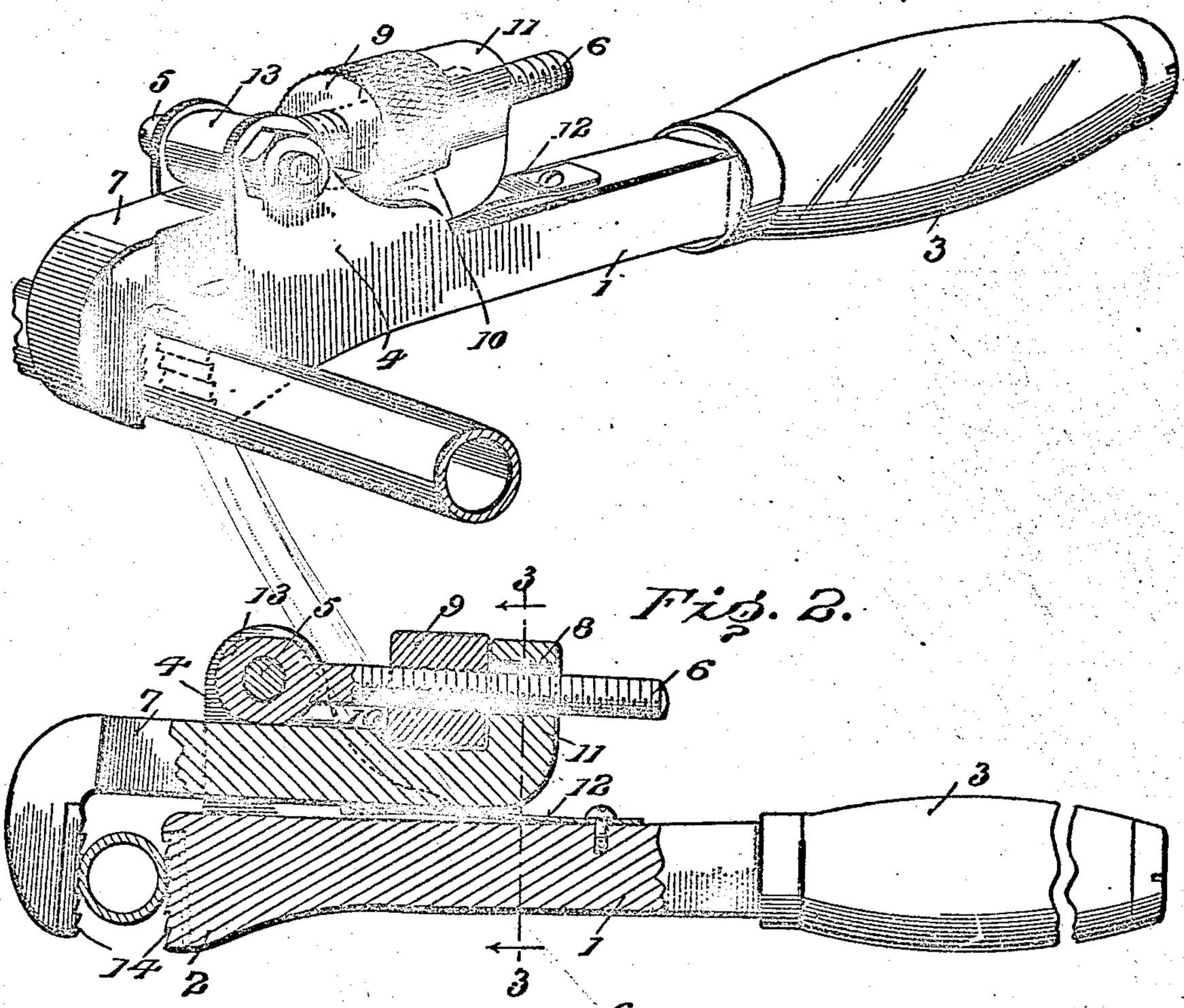
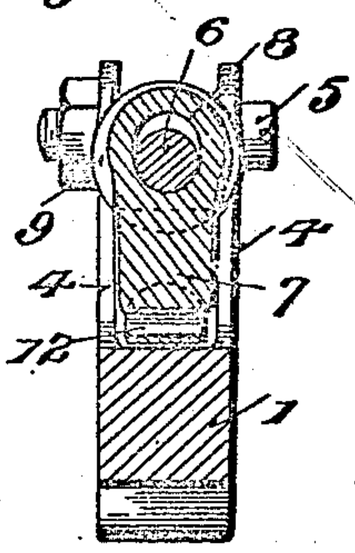



Fig. 2.




Fig. 3.

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# UNITED STATES PATENT OFFICE.

RICHARD J. JONES AND FRANK H. CUNNINGHAM, OF SEBRING, OHIO.

## WRENCH.

No. 898,896. Specification of Letters Patent. Patented Sept. 15, 1908.

Application filed April 16, 1907. Serial No. 368,540.

*To all whom it may concern:*

Be it known that we, RICHARD J. JONES and FRANK H. CUNNINGHAM, citizens of the United States, residing at Sebring, in the county of Mahoning and State of Ohio, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

The invention relates more particularly to wrenches for pipes, tubes. nuts and the like.

Objects of the invention are to enhance the utility of devices of the character stated by causing the jaws to take a firmer hold upon the object to which the tool may be applied, and providing a construction wherein there is little or no strain on the threads of the adjusting screw.

To these and other ends the invention resides in the improvements referred to and defined in the appended claims.

The nature, characteristic features and scope of the invention will be more clearly understood from the following detailed description, taken in connection with the accompanying drawings, forming a part hereof, wherein—

Figure 1, is a perspective view of a wrench embodying features of the invention. Fig. 2 is a view of the wrench principally in longitudinal section; and Fig. 3, is a section on line 3—3 of Fig. 2.

The bar or shank 1, of the wrench is provided at its inner end with a fixed jaw or head 2, and at its other end with a suitable hand piece 3. The bar or shank 1, is preferably a forging and is formed or provided near its head with cheek-pieces 4, which accommodate a stud or fulcrum pin 5, on which the adjusting screw 6, is mounted so as to have some rocking movement.

7, represents the movable jaw and as shown it is bored at 8, to permit the passage of the screw 6, on which it slides. Referring to Fig. 3, it will be observed that the opening 8, is larger than is necessary for the passage of the screw. This is advantageous in that it provides for some lost motion thus enabling the jaws not to respond as promptly as they otherwise would to the action of the screw.

9, represents the usual adjusting nut. The nut 9, is carried by and engages the threads on the screw 6. The jaw 7, is recessed at 10, and the nut 9, takes into said recess and one side bears against one of the walls thereof and on the other side bears against the upturned part or lug 11, through which the screw passes. Thus it follows that the jaw 6, will move in one or the other direction according to the adjustment of the nut 9.

12, is the usual spring interposed between the wrench bar and the movable jaw and tending to direct the latter towards the complementary fixed jaw.

Referring to Fig. 2, which shows the tool applied, it will be observed that the shank of the movable jaw abuts against the boss 13, of the screw, which relieves the strain on said jaw.

In practice we contemplate making the toothed surfaces of the jaws in the form of hardened tool steel inserts 14, which makes for economy.

Having described the nature and objects of the invention, what we claim as new and desire to secure by Letters Patent is:—

1. A wrench comprising a shank or bar having a fixed head or jaw and a rocking or pivotal screw, a movable jaw interposed between said fixed jaw and the fulcrumed part of the screw and slidably mounted on said screw, and a nut adapted to advance or retract said movable jaw, substantially as specified.

2. A wrench comprising a shank or bar provided with a fixed head or jaw, cheek pieces projecting from said bar and having a fulcrum pin or stud, a screw mounted on said stud, a movable jaw interposed between said fixed jaw and the fulcrumed part of the screw and having a lug bored to permit the passage of said screw and slidable on said screw, and a nut carried by the screw and adapted to advance or retract the movable jaw, substantially as specified.

3. A wrench comprising fixed and movable jaws, a rocker fulcrumed on the fixed jaw, said movable jaw being interposed between the fixed jaw and the fulcrumed part of the rocker and adapted to bear against said fulcrumed part when under working strain, and means carried by the rocker for advancing or retracting the movable jaw, substantially as specified.

4. A wrench comprising fixed and movable jaws, a screw fulcrumed on the fixed jaw, said movable jaw being interposed between said fixed jaw and the fulcrumed part of the screw, adapted to bear on the fulcrumed part of the screw and having a lug slidably mounted on the screw with a recess adjacent said lug, and a nut carried by the screw and en-

gaging said recess, whereby the movable jaw is caused to respond to adjustments of the nut, substantially as specified.

5. A wrench comprising a shank or bar having a fixed head or jaw and a rocking or pivotal screw, a recessed movable jaw interposed between the fixed jaw and the fulcrumed part of the rocker or screw and slidably mounted on said screw, a nut carried by said screw and penetrating said recess, whereby the jaw is caused to respond to adjustments of the nut and a spring interposed between said jaws, substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

RICHARD J. JONES.
FRANK H. CUNNINGHAM.

Witnesses:
FRANK SHUMAN,
JOSEPH SHUMAN.