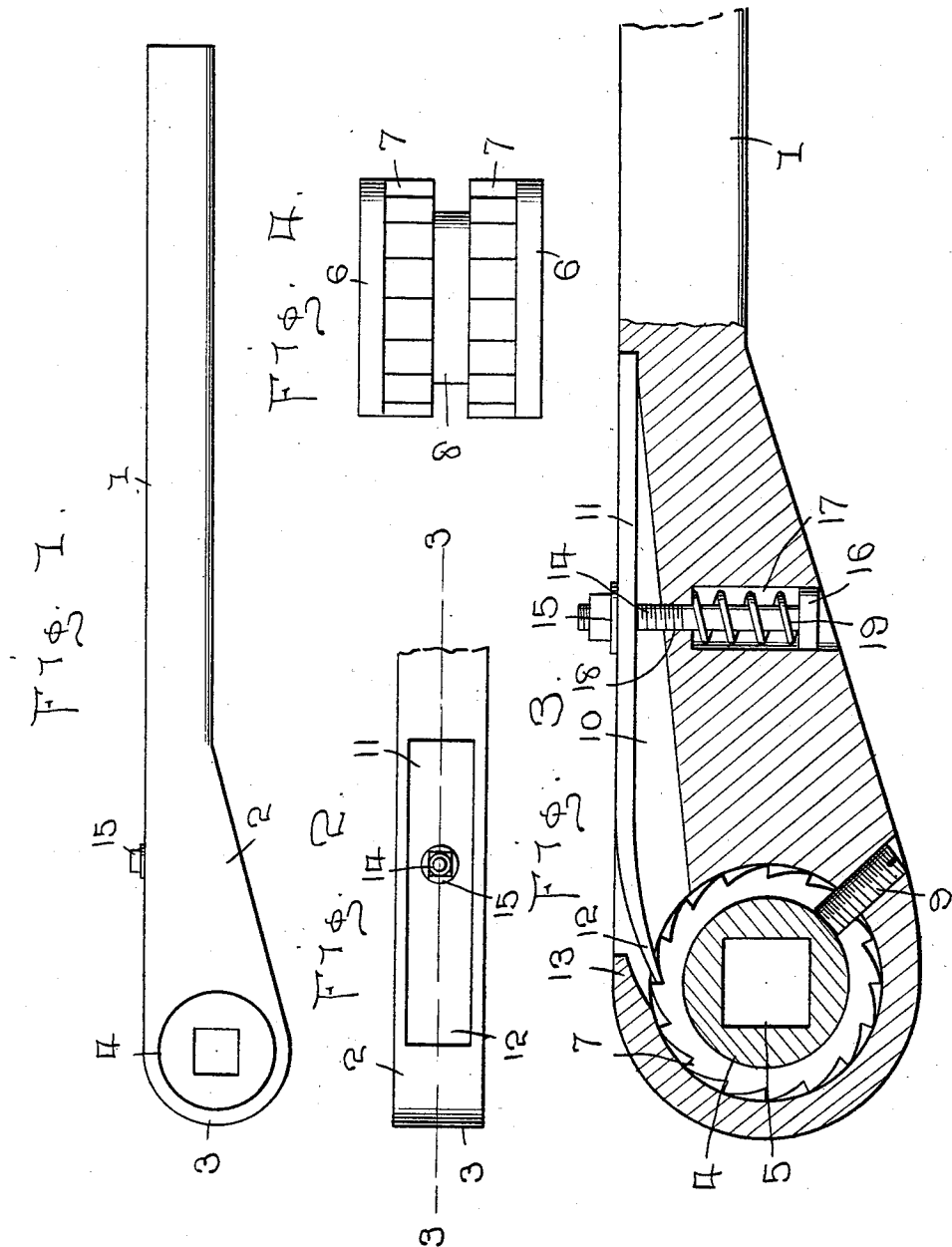


J. T. JONES.
WRENCH.
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1,013,174.

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WRENCH.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES THOMAS JONES, a citizen of the United States, residing at Brookwood, in the county of Tuscaloosa and State of Alabama, have invented certain new and useful Improvements in Wrenches; and I do hereby 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 appertains to make and use the same.

This invention relates to wrenches and more particularly to that class known as ratchet wrenches.

An object of the invention is to devise a ratchet wrench which will be quick and positive in action and which will be strong and durable.

Another object is to provide a wrench of this character which will be protected from dust and dirt, and, another object is to provide a wrench of this character which will be so constructed and the parts so connected that they will be held by one another in proper position.

Other objects and advantages will be hereinafter set forth and pointed out in the specification and claims.

In the accompanying drawings which are made a part of this application, Figure 1 is a side elevational view of the wrench. Fig. 2 is a top plan view thereof, the handle being broken away. Fig. 3 is an enlarged longitudinal sectional view on the line 3—3 of Fig. 2, and, Fig. 4 is a detail view of the ratchet, also enlarged.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 is the handle of a wrench, upon which is integrally formed, or otherwise secured, the enlarged head 2 having the rounded end 3. Within the head 2 and adjacent the rounded end 3 thereof, is positioned the wrench 4, which is provided with the nut engaging opening 5 in its center, which may be square or any other shape to fit over a nut, and which may also be of any size desired.

The wrench 4 is provided with the circular outer surface 6 near its opposite flat sides to engage the wall of a correspondingly shaped opening through the head 2, said opening extending from side to side.

The wrench 4 is provided with the ratchet

teeth 7 upon its periphery, said teeth beginning inwardly of the smooth rounded edges 6 and being flush with said edges 6. The teeth 7 are interrupted or cut away at their central portions to form the circumferential groove 8 in the ratchet or wrench 4 for the reception of the inner end of the guiding and retaining screw 9, which is secured within the head 2 in the threaded opening at an angle to the handle 1, as will be readily seen by referring to Fig. 3. This screw is adjusted within this opening to present its inner end in the circumferential groove 8 of the wrench 4 and guide the wrench and prevent all sidewise movement of said wrench.

Within the upper face of the head 2 is the channel 10 which extends longitudinally of the head 2 and gradually deepens toward the circular opening within which the wrench 4 is positioned, said channel extending to and communicating with this opening. Within the channel 10 is loosely positioned the curved ratchet teeth engaging bar 11, which is flat throughout its length and just wide enough to fit snugly within the channel 10. The lower or slightly downwardly curved end 12 of the bar 11 is adapted for engagement with the teeth 7 upon both sides of the circumferential groove 8 and extends below the wrench and bar protecting projection 13 of the head 2, which projection extends into the channel 10 and closes the upper portion of this end of said channel.

Extending upwardly through the head 2 and projecting through the bar 11 about midway its length, is the bolt 14, which has suitable nuts and washers 15 upon its upper end above the bar 11 to hold the latter in position within the channel 10. The head 16 of the bolt 14 works within the large slot 17 which extends from the under face of the head 2 to within a short distance of the channel 10, where it communicates with the small opening 18 in said head and thereby connects with the channel 10 to allow the bolt 14 to pass therethrough and through the bar 11, as previously stated. Between the head 16 and the upper end of the slot 17 is the tension spring 19, which has one end resting against the head 16, while its opposite end presses upon the upper end of the slot 17. This spring tends to resiliently hold the ratchet engaging end 12 of the bar

11 in engagement with the teeth 7 of the wrench and prevent casual displacement of these parts in relation to one another.

It will be understood that the wrench 4 may be provided with a central opening 5 of any shape or dimension to accommodate different nuts, bolt heads, etc., upon which this wrench is to be used.

It will be seen that as the wrench is applied and rotated in the proper direction, the bar 11 will be engaged against one of the teeth 17 and thereby force the wrench to rotate, carrying with it the nut or other device with which it is engaged, and as the wrench is rotated in the opposite direction, the end 12 of the bar 11 will ride over the teeth 7, while the wrench 4 is stationary until the handle 1 and head 2 are again brought to a standstill, giving the bar 11 a fresh hold upon the wrench 4, when the handle 1 may be again turned in the proper direction to further rotate the wrench 4. It will thus be seen that no matter what position the head 2 and handle 1 assume while the wrench 4 is engaged with the device to be turned, the tension spring 19 will serve to retain the engaging end 12 of the bar 11 resiliently engaged with the teeth 7 at all times regardless of the direction in which the handle 1 is rotated. It will also be apparent that the guiding and retaining screw 9 will serve to guide the wrench 4 in the proper direction and to prevent any sidewise or transverse movement of said wrench independently of the head 2. It will also cause the beveled circular edges 6 of the wrench to engage against the surface of the circular opening in the head 2, within which the wrench is positioned and prevent wear upon the teeth 7 by contact with and pressure against the said circular surface of the wrench opening in the head 2.

It will thus be seen that I have provided

a ratchet wrench of extremely simple construction and one which will be easy to manipulate and positive in operation.

What I claim is:

1. A tool comprising a head provided with a circular transverse opening, a ratchet wrench rotatably mounted in said opening, said head being provided upon one surface thereof with a longitudinally extending inclined channel, said channel being deeper adjacent to said transverse opening than at its other extremity, said channel merging into said transverse opening, said head also being provided on the opposite side from the channel with a transverse slot, said slot being at right angles to said channel, a locking bar in said channel, and means in said slot and secured to said bar for normally retaining said bar in engagement with said ratchet wrench.

2. A tool comprising a head, a ratchet wrench rotatably mounted therein, a locking bar extending longitudinally of said head and engaging said wrench, said head being provided with a transversely extending large slot and a small opening communicating therewith, a bolt in said slot and extending through said opening and having one end secured to said locking bar, a guiding head at the other end of said bolt for engaging the wall of said slot, and a spring engaging said bolt between said head and the inner end of said slot for normally retaining said bar in engagement with said wrench.

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

JAMES THOMAS JONES.

Witnesses:

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C. K. COTTRELL.