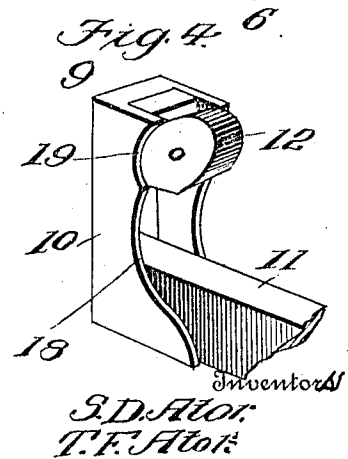
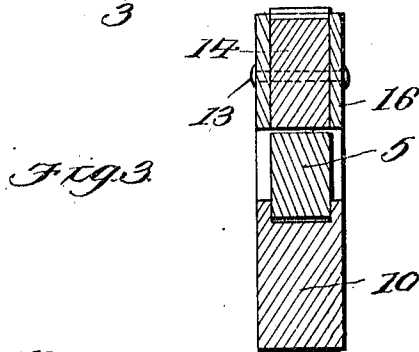
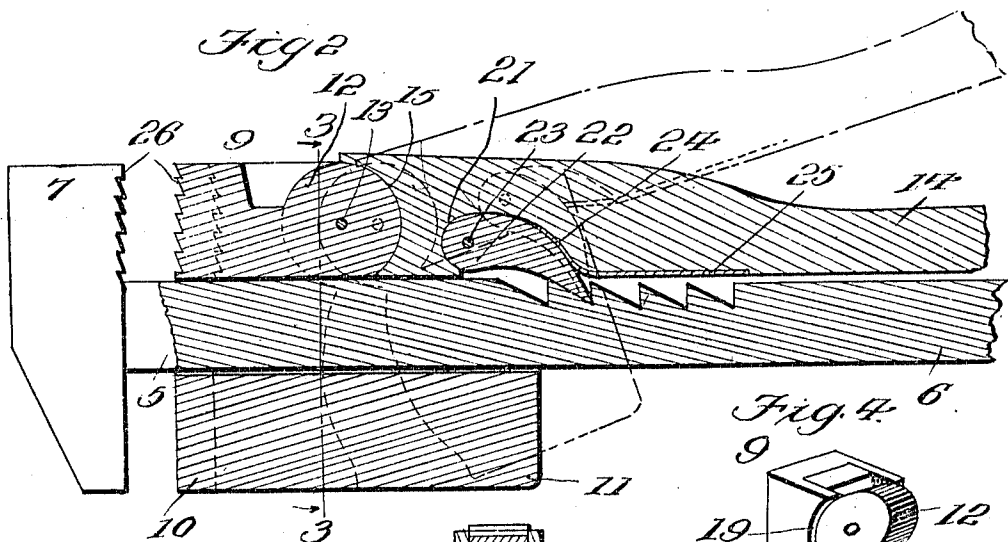
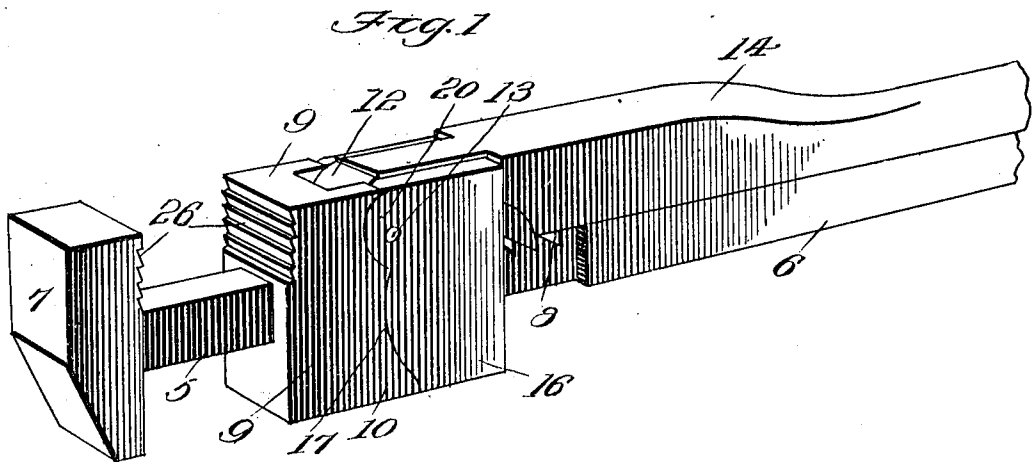


S. D. & T. F. ATOR.
WRENCH.
APPLICATION FILED DEC. 18, 1909.

956,924.

Patented May 3, 1910.



Witnesses
W. T. Woodson,
J. M. Fallon.

By

S. D. Ator,
T. F. Ator,
Attorneys.

UNITED STATES PATENT OFFICE.

SIDNEY D. ATOR AND THOMAS F. ATOR, OF PLENTYWOOD, MONTANA.

WRENCH.

956,924.

Specification of Letters Patent.

Patented May 3, 1910.

Application filed December 18, 1909. Serial No. 533,843.

To all whom it may concern:

Be it known that we, SIDNEY D. ATOR and THOMAS F. ATOR, citizens of the United States, both residing at Plentywood, in the county of Valley and State of Montana, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

This invention relates to wrenches and has for its object the provision of a strong, durable and thoroughly efficient tool of this character, which will effectually grip and retain a nut between the jaws thereof when positioning said nut on or removing the nut from a securing bolt, axle or other support.

A further object is to provide a quick acting wrench, the construction of which is such that after the movable jaw has been adjusted longitudinally of the shank for contact with a nut or other object and the operating lever is swung in the direction of said shank, a further longitudinal movement will be imparted to the sliding jaw, thus to cause the latter to firmly grip the nut.

A still further object of the invention is generally to improve this class of devices so as to increase their utility, durability and efficiency, as well as to reduce the cost of manufacture.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a perspective view of a wrench constructed in accordance with our invention; Fig. 2 is a longitudinal sectional view of the same; Fig. 3 is a transverse sectional view taken on the line 3—3 of Fig. 2. Fig. 4 is a detail perspective view of the movable jaw detached.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The improved wrench forming the subject matter of the present invention comprises a shank 5 having one end thereof formed with

an operating handle 6 and its other end provided with a fixed jaw 7, the inner face of the shank being formed with teeth or serrations 8, as shown.

Slidably mounted on the shank 5, is a movable jaw 9, having spaced side plates 10 embracing the shank 8 and provided at one edge thereof with a longitudinally disposed extension 11 adapted to bear against the adjacent smooth face of said shank, thus to assist in guiding the sliding jaw when adjusted longitudinally of the shank.

Formed on that edge of the sliding jaw opposite the extension 11, is a substantially circular head 12 to which is pivotally connected at 13, an operating lever 14, there being a segmental socket 15 formed in the pivoted end of the lever for the reception of the head 12, as shown.

Secured to or formed integral with the pivoted end of the operating lever 14, are spaced guide plates 16, which latter embrace the shank 5 and bear against the extension 11 of the movable jaw 9. The upper edges of the guide plates 16 are curved or rounded at 17 to conform to the correspondingly curved edges 18 of the side plates 10, said curved edges 18, by engagement with the curved edges 17 of the guide plates 16, forming stops to limit the pivotal movement of the operating lever 14. The side plates 10 of the movable jaw are also provided with substantially circular recesses or depressions 19 adapted to receive correspondingly shaped ears 20 on the guide plates 16 of the operating lever 14, thus to permit pivotal movement of the operating lever without binding or wedging action between the parts.

It will be noted that the walls of the depressions 19 and ears 20 are disposed concentric with the pivot 13 in order to permit free pivotal movement of the operating lever.

Seated in a socket 21 in the pivoted end of the operating lever, is an actuating pawl 22 adapted to engage the teeth 8 on the shank for the purpose of forcing the movable jaw in contact with a nut or other object when the operating lever is moved in the direction of the handle 6.

The inner end of the actuating pawl 22 is housed between and pivotally connected with the guide plates 16 of the lever, by means of a transverse pin 23, while the free end thereof projects beyond the lower edges of the plates 16 and is normally and yieldably held in position to engage the teeth 8 by means of

a leaf spring 24. One end of the leaf spring 24 is preferably seated in a countersunk portion 25 in the operating lever 14, while the free end of said spring bears against the curved face of the locking pawl 22. Thus it will be seen that after the movable jaw is adjusted longitudinally of the shank 5 into engagement with a nut and the operating lever 14 is swung laterally in the direction of the handle 6, the active or free end of the pawl 22 will engage the teeth 8, and a further inward movement imparted to the operating lever will cause the pawl to move the sliding jaw longitudinally of the shank, thus to firmly grip the nut and prevent accidental slipping thereof when positioning said nut on or removing the nut from a securing bolt, axle or other support.

That portion of the fixed jaw 7 and sliding jaw 9 extending on one side of the shank 5 is preferably serrated to present a roughened surface 26, while the ends of the fixed and movable jaws projecting on the opposite sides of the shank are smooth and unobstructed so as not to scar or otherwise mutilate the object being operated upon.

It will here be noted that the pivot pins 13 and 23 are so disposed with relation to each other that when the lever 14 is swung inwardly on its pivotal axis 13 in the direction of the handle 6, the free end of the pawl 23 will exert a downward pressure on the adjacent tooth 8 and thus force the movable jaw in the direction of and against the nut or other object held between the jaws of the wrench so as positively to grip said nut, as before stated.

The wrench may be made in different shapes and nickled, japanned or otherwise coated so as to protect the same from the deleterious action of the elements.

Having thus described the invention, what is claimed as new is:

1. A wrench including a shank having a fixed jaw and provided with teeth, a movable jaw slidably mounted on the shank and having one edge thereof provided with a longitudinal extension bearing against the adjacent face of the shank and its other edge formed with a circular head, there being stop shoulders formed on the movable jaw,

an operating lever pivotally mounted on the movable jaw and provided with a socket for the reception of said head, spaced plates carried by the operating lever and embracing the shank and extension of the sliding jaw for engagement with the stop shoulders on the latter, and a spring pressed pawl pivotally mounted on the operating lever between the guide plates thereof for engagement with the teeth on the shank.

2. A wrench including a shank having a fixed jaw and provided with teeth, a movable jaw slidably mounted on the shank, an operating lever pivotally mounted on the movable jaw and provided with spaced rigid guide plates embracing the shank, there being a socket formed in the operating lever, a pawl pivotally mounted in the socket of the operating lever and having its free end projecting beyond the lower edges of the guide plates for engagement with the teeth on the shank, and a spring secured to the operating lever and extending within the socket for engagement with the adjacent face of the pawl.

3. A wrench including a shank having a fixed jaw and provided with spaced teeth, a movable jaw slidably mounted on the shank and having one edge thereof provided with a longitudinal extension adapted to bear against one side of the shank and its other edge formed with a substantially circular head, an operating lever pivotally mounted on the sliding jaw and provided with a socket for the reception of the head, spaced guide plates carried by the operating lever and embracing the shank for engagement with the extension of the sliding plate, and a spring pressed pawl carried by the locking lever and adapted to engage the teeth on the shank for forcing the movable jaw in the direction of the fixed jaw when the operating lever is actuated.

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

SIDNEY D. ATOR. [L. S.]
TOM. F. ATOR. [L. S.]

Witnesses:

CHARLES E. STEWART,
ADOLPH RIBA.