Nov. 17, 1925.

1,561,812

E. B. WHITE

WRENCH

Filed March 19, 1924

Fig. 1.

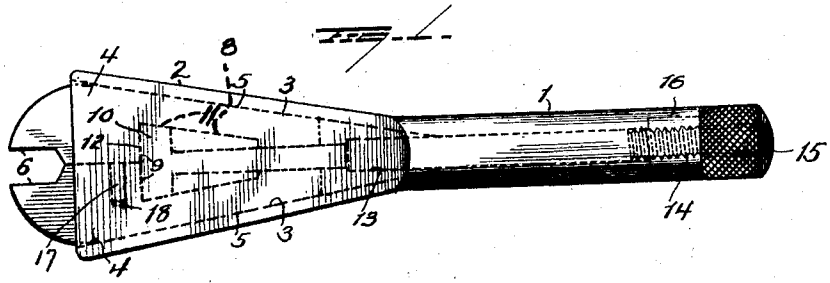


Fig. 2.

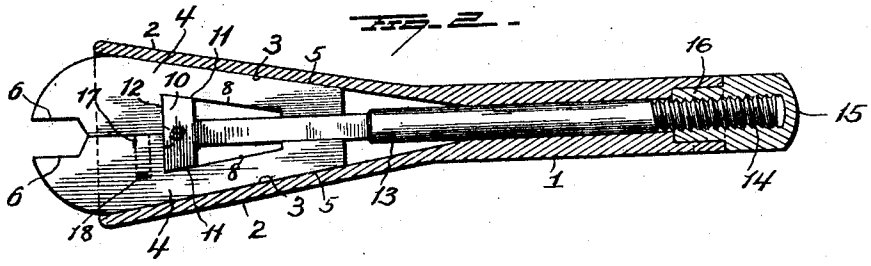


Fig. 3.

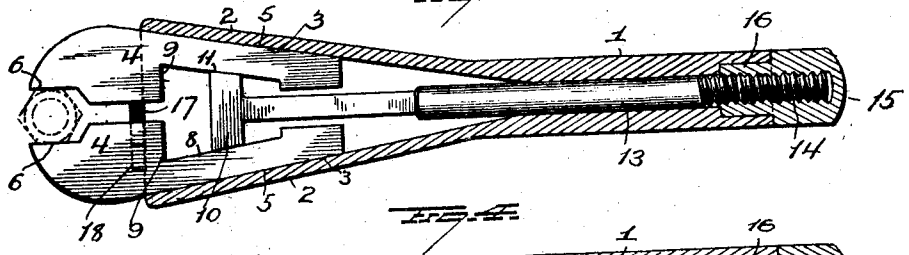


Fig. 4.

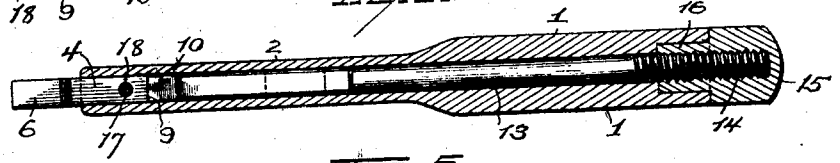
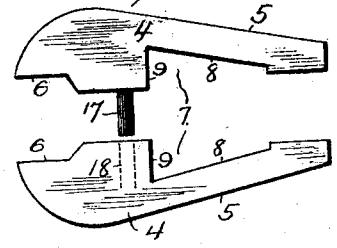


Fig. 5.



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Patented Nov. 17, 1925. 1,561,812

UNITED STATES PATENT OFFICE.

EBER B. WHITE, OF SOUTH BEND, INDIANA.

WRENCH.

Application filed March 19, 1924. Serial No. 700,292.

To all whom it may concern:

Be it known that I, EBER B. WHITE, a citizen of the United States, and resident of South Bend, in the county of Saint Joseph and State of Indiana, 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 improvements in wrenches, and more particularly to that type which may be termed "end wrenches," one object of the invention being to provide an "end" wrench which shall be capable of easy and quick adjustment within a considerable range, which shall provide means to positively lock the jaws in the positions to which they may be adjusted, and which shall insure the parallel relations of the gripping faces of the jaws at all times.

A further object is to so construct a wrench of the type specified that the jaws shall be freely movable without means, such as a screw, to move them, to adjust said jaws to the size of a nut or bolt head on which it may be desired to use the wrench.

With these and other objects in view, the invention consists in certain novel features of construction and combinations of parts as hereinafter set forth and pointed out in the claim.

In the accompanying drawings,—

Figure 1 is a view in elevation showing a wrench embodying my improvements;

Fig. 2 is a sectional view with the jaws and locking member in elevation;

Fig. 3 is a view similar to Fig. 2 but showing a different adjustment of the jaws and the application of the latter to a nut.

Fig. 4 is a view in section taken at right angles to Fig. 2; and

Fig. 5 is a view showing the jaws.

The body portion of the wrench comprises a tubular handle member 1 and a forward tapering or wedge-shaped hollow head or member 2 in axial alinement therewith. The portion 2 of the wrench body may be integral with the tubular handle portion 1 and is flattened in appearance, providing opposed inner faces 3 which diverge forwardly from the tubular handle member 1.

The tapering portion 2 of the wrench body receives two jaws 4 having beveled or inclined edge portions 5 which engage the faces 3 in the flaring body member 2 and are capable of free sliding movement thereagainst. At their forward ends, the jaws are made with gripping faces 6 which are at all times parallel with each other and parallel with the longitudinal axis of the wrench. Each jaw is provided with a recess 7, one or the outer wall 8 of which is parallel with the inclined edge portion 5, and the other wall 9 of each recess 7 is disposed so as to be at right angles to the longitudinal axis of the wrench. The recesses 7 of the respective jaws so cooperate as to form a wedged-shape opening as clearly indicated in Figs. 1 and 2, and in this opening a portion of the locking means is located. The locking means above referred to comprises (in the embodiment of the invention shown in the drawing), a head 10 having beveled edges 11 parallel with the beveled or inclined walls 8 of the recesses in the jaws and an end face 12 to engage the end walls 9 in the respective jaws. The locking head 10 is carried by one end of a rod 13 which passes between the rear portions of the jaws and through the tubular portion 1 of the wrench body. The rod 13 has its rear portion threaded as at 14, and this threaded end of the rod enters an internally threaded nut 15, the latter being provided with a contracted portion 16 mounted in an enlargement of the bore of the tubular handle member 1, and the nut 15 is preferably nurled or roughened exteriorly to facilitate turning of the same by the user.

If desired, guiding means for the jaws relatively to each other may be provided and, as shown in the drawings, such guiding means may consist of a pin 17 fixed to one of the jaws and freely entering a socket 18 in the other jaw.

With my improvements, the jaws may be moved freely to any desired position of adjustment and should they be moved more than sufficient to take a nut between their gripping faces, pressure of the ends of the jaws against an object adjacent to the nut will cause the jaws to approach each other and grip the nut. In many instances it would not be necessary to lock the jaws in adjusted position where the wrench is used in the manner above explained. It is often desirable however that the jaws be locked in some particular adjustment and such locking is effected by the devices hereinbefore described for this purpose. It is apparent

that when the jaws shall have been set at the desired adjustment, slight movement of the head 10 will cause the jaws to be clamped against the inner inclined faces 3 of the body member 2. Such movement of the locking head may be readily effected by a slight turning of the nut 15. When it is desired to unlock the jaws, the nut 15 will be given an approximately quarter turn so that the clamping of the jaws against the inclined or diverging faces 3 of the body member 2 will be relieved and then the jaws may be moved freely to any desired adjustment.

Having fully described my invention what I claim as new and desire to secure by Letters-Patent, is:

A wrench comprising a handle member and a hollow body portion projecting from the handle member in axial alinement therewith, said body portion having opposite diverging sides, a pair of jaws having outer divergent sides slidably engaging the diverging sides of the body, the jaws being provided in their inner sides with recesses the outer walls of which are parallel with the outer walls of the jaws, a head disposed between the jaws and having beveled ends engaging against the outer walls of the recesses in the jaws, and means within the handle member for shifting the head between and longitudinally of the jaws whereby to clamp the jaws against the sides of the body.

In testimony whereof, I have signed this specification.

EBER B. WHITE.