E. BROWN.

WRENCH.

APPLICATION FILED APR. 14, 1921.

1,406,531. **Patented Feb. 14, 1922.**

Fig. 1.

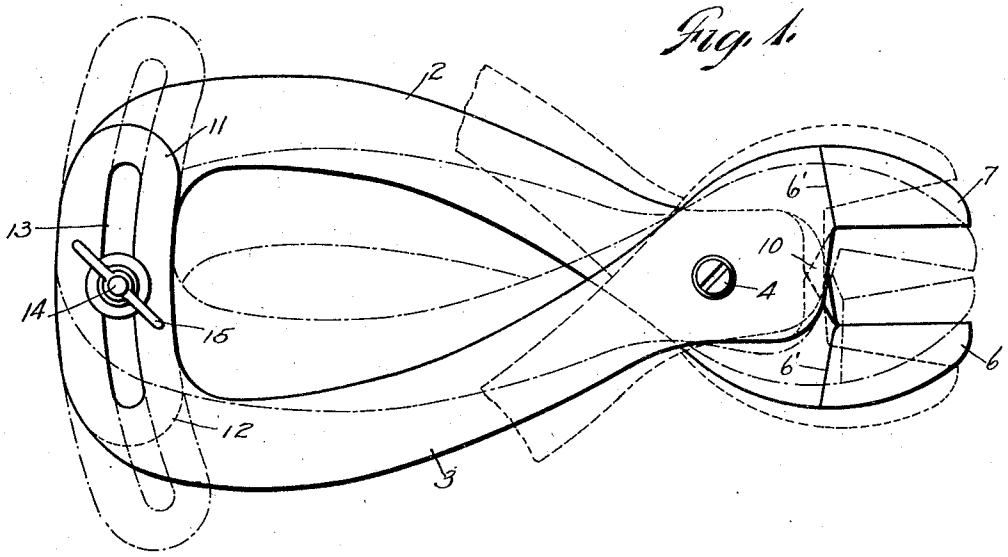


Fig. 2.

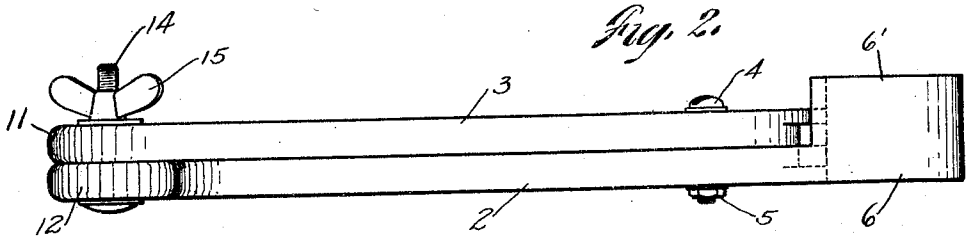


Fig. 3.

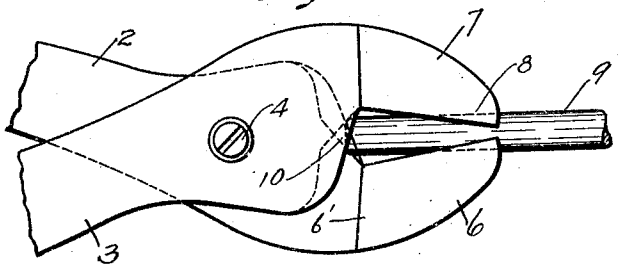
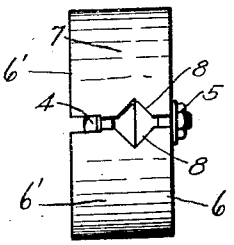


Fig. 4.



INVENTOR

Edward Brown

BY

Thurston Sutherland

ATTORNEY

UNITED STATES PATENT OFFICE.

EDWARD BROWN, OF HARTFORD, CONNECTICUT.

WRENCH.

1,406,531. Specification of Letters Patent. Patented Feb. 14, 1922.

Application filed April 14, 1921. Serial No. 461,220.

To all whom it may concern:

Be it known that EDWARD BROWN, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, has invented certain new and useful Improvements in Wrenches, of which the following is a specification.

This invention relates to wrenches. I should state that this title is adopted somewhat for convenience because the article can be used for other purposes such for instance as pliers or as a handle or manipulating portion for various kinds of implements. I have a number of objects in view among them being the provision of an implement of the character identified, which is capable of inexpensive construction and which can be readily and easily operated to change its adjustments, and what is most important can be held positively against accidental movement in an adjusted position and virtually locked in such relation.

In the drawings accompanying and forming part of the present specification, I have shown in detail one of the several forms of embodiment of the invention which to enable those skilled in the art to practice the same will be set forth fully in the following description. I may depart therefrom in a number of respects within the scope of the invention defined by the claims following said description.

Referring to said drawings:

Figure 1 is a plan view of a tool involving the invention, the dotted lines showing different adjustments.

Fig. 2 is a side elevation of the tool as seen for instance from below in Fig. 1.

Fig. 3 is a view corresponding to Fig. 1 of the wrench with a shank of a tool in locked relation between the jaws thereof.

Fig. 4 is an elevation as seen for instance from the right in Figs. 1, 2 and 3.

Like characters refer to like parts throughout the several views.

The wrench involves in its makeup two main members which can be related to each other in any one of several different ways. Generally they are pivoted together. At their forward or head ends they are equipped with jaws usually integral with the respective main or carrying members. The levers are usually crossed and where they cross are pivotally united by a suitable pivot forward of which are the jaws which are customarily integral with the respective levers. The tail or outer end portions of the levers are preferably furnished with extensions or lugs which are generally in superimposed relation and with which clamping means of a suitable nature is associated so that the lugs when desired may be clamped rigidly together to maintain positively an adjustment of the jaws. The jaws can therefore be locked closed to tightly hold an article such as a nut of any size within the span of the jaws. The jaws can also be locked in positive engagement with tools of various kinds such as screw-drivers, gimlets and chisels. The article can also be used as a valve lifter and is especially advantageous when applying or removing nuts which is of particular advantage when the nut is in a difficult position.

The wrench comprises in its makeup two carrying or main members, and the levers 2 and 3 answer satisfactorily in this particular. These levers cross and where they cross they are pivotally united as by the pivot or stud 4 which may consist of a screw furnished with a removable nut 5. The levers 2 and 3 forward of their point of connection are furnished with heads 6 and 7 which when closed to the full extent nearly abut at their free ends. The jaws have on their inner sides the recesses or apertures 8 which register or match as shown for instance in Fig. 4 in order to receive the shank or body of an implement or tool 9 the butt end of which fits the pocket 10 formed in the base portions of the jaws or heads 6 and 7 as shown for example in Fig. 3. This prevents any wabbling motion of the tool 9 while it is being turned or moved longitudinally to either of which motions it may in practice be subjected.

The rear or tail ends of the crossed levers 2 and 3 are furnished with lugs or extensions 11 and 12 which are superimposed and which fit flatwise against each other as shown for example in Fig. 1. Said lugs or extensions have in them longitudinally extending slots 13 which coincide and which are formed on arcs concentric with the axis of the pivot 4. The slots conform in shape to that of the lugs or extensions 11 and 12.

Fitted in the registering slots 13 is a thumb screw 14 the head of which engages against what is shown as the under side of the lug or extension 11 the screw 14 as illustrated having in threaded engagement with it the winged thumb nut 15.

In Fig. 1 the full lines show the wrench as locked in an adjusted position at which time the thumb nut 15 is set and binds substantially against the upper lug or extension 11 the head of the screw 14 bearing equally substantially against the under surface of the lug or extension 11 by reason of which the heads or jaws 6 and 7 cannot be accidentally opened or closed. By loosening the thumb nut the jaws can be moved toward or from each other by the contraction or expansion of the levers 2 and 3 as shown by the dotted lines in Fig. 1 and when the changed adjusted position is obtained it can be maintained by tightening the nut 15.

In Fig. 3 I have shown how the shank of a tool which may be of any suitable kind can be firmly clamped between the jaws or heads 6 and 7 and the relation positively held by setting the nut 15.

It will be seen that the jaws 6 and 11 have lateral offsets as 6′ by reason of which there is between the outer faces of the offsets and the adjacent faces of the cross levers 2 and 3, space in which the fingers of a hand can be situated when the jaws are employed for instance for removing nuts generally in inaccessible places.

What I claim is:

1. A wrench of the class described comprising two crossed levers pivoted to each other for adjustment and having jaws at one side of the pivot, the levers having inwardly extending overlapping contacting lugs at the opposite side of the pivot, and means carried by both of the lugs, for locking the levers in an adjusted position.

2. A wrench of the class described comprising two crossed levers pivoted to each other for adjustment and having jaws at their free ends, the levers at their tail portions having inwardly extending overlapping lugs furnished with slots, and a thumb-screw extending through the slots and the head of which engages one of the lugs, the screw having a nut to engage against the other lug.

3. A wrench of the class described comprising two crossed levers pivoted to each other for adjustment and having jaws at their free ends, the levers at their tail portions having inwardly extending overlapping lugs furnished with slots, and a thumb-screw extending through the slots and the head of which engages one of the lugs, the screw having a nut to engage the other lug, the jaws having lateral offset portions which extend outward beyond the outer sides of the levers.

4. A wrench of the class described comprising two crossed levers pivoted to each other for adjustment and having jaws at their forward ends, the levers back of the pivot having overlapping lugs furnished with slots which are formed on arcs concentric with the axis of the pivot, and a thumb-screw extending through the slots and the head of which engages one of the lugs, the screw having a nut to engage against the other lug.

5. A wrench of the class described comprising two crossed levers pivoted to each other for adjustment and having jaws at their forward ends, the levers back of the pivot having overlapping lugs furnished with slots which are formed on arcs concentric with the axis of the pivot, and a thumb-screw extending through the slots and the head of which engages one of the lugs, the screw having a nut to engage against the other lug, the jaws having recesses which coincide to receive the butt portion of a tool between the jaws.

In testimony whereof I affix my signature.

EDWARD BROWN.

Witnesses:

ELSIE M. RABENSTEIN,

HEATH SUTHERLAND.