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1,441,183.

A. E. SILVER.
WRENCH.
FILED APR. 8, 1921.

Fig. 1.

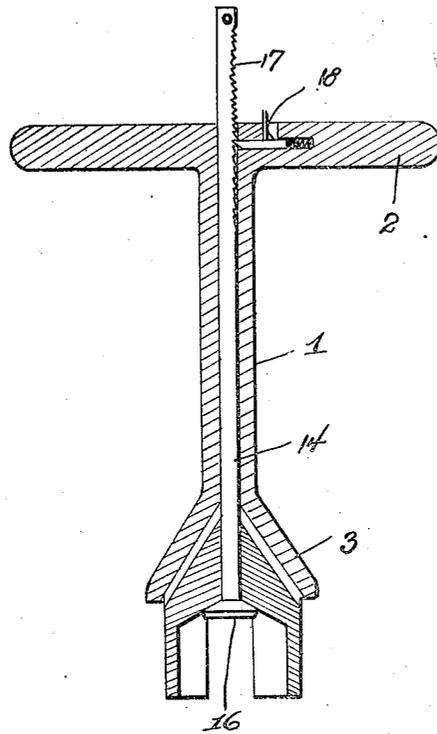


Fig. 2.

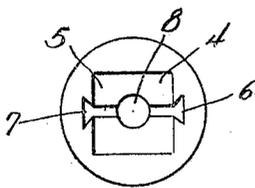
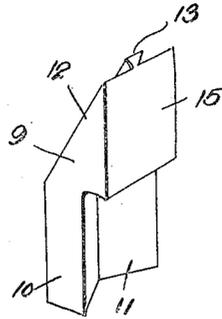


Fig. 3.



Inventor.

Albert E. Silver.

UNITED STATES PATENT OFFICE.

ALBERT E. SILVER, OF FAIRHAVEN, MASSACHUSETTS.

WRENCH.

Application filed April 8, 1921. Serial No. 459,551.

To all whom it may concern:

Be it known that I, ALBERT E. SILVER, a citizen of the United States, residing at Fairhaven, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in a Wrench, of which the following is a specification.

This invention relates to socket wrenches and more particularly to an improved type of wrench adapted to be applied to nuts or the heads of screws in a manner that will permit the nut to be readily loosened or the screw to be easily withdrawn.

One of the objects of the invention is to provide adjustable jaws adapted to be moved in tight contact with the nut or screw head so that when the wrench is actuated the gripping jaws will not be disengaged from the nut or screw head.

Other objects will appear upon consideration of the following detail description and accompanying drawings, wherein:—

Figure 1 is a longitudinal section through the wrench constructed in accordance with my invention,

Figure 2 is an end view of the socket for receiving the jaws, and

Figure 3 is a perspective view of one of the jaws.

Referring to the drawing by numerals, the sleeve 1 is of any desired length and is provided with a handle 2 which is preferably in the form of a cross bar adapted to provide handles which may be conveniently gripped by the operator. The lower end of the sleeve 1 is flared outwardly to provide a tapered retaining member 3 the interior of which is provided with an opening having inclined walls 4 and 5. The walls are provided with dove tailed grooves 6 and 7 and these extend along the inclined surfaces of the walls and in direct communication with the longitudinally extending opening 8 in the sleeve 1. A pair of gripping jaws 9 are provided, and each consists of the gripping members 10 having V-shaped recesses 11 whereby they may conveniently grip the irregular faces of a nut or screw head. The top portions of the jaws are each provided with inclined walls 12 conforming to the angular walls 12 of the socket 3 and a rib 13 is provided on the in-

clined surfaces 12 to be fitted into the dove-tailed grooves 5 and 6 as shown in Fig. 1.

An operating rod 14 is extended centrally through the opening in the sleeve 1 and downwardly between the vertical faces 15 of the jaws and is equipped with a head 16 which is adapted to engage the jaws so that when the operating rod 14 is drawn upwardly the jaws will be also drawn upwardly and the inclined faces will follow the inclined faces of the socket so that the jaws may be adjusted toward and away from each other. The upper end of the operating rod 14 is provided with screw threads or notches 17 adapted to be engaged by a manually operated pawl 18 whereby the operating rod may be held in its adjusted position after the jaws have been drawn upwardly to tightly engage the nut.

When the jaws are in engagement with the nut it will be obvious that the handles 2 may be turned to impart the necessary turning movement of the nut or screw head so that the nut may be removed from the bolt or the screw head turned to remove the screw from its position.

What is claimed is:—

A wrench comprising a sleeve having a cross-handle formed on the upper end of same, an operating rod having ratchet teeth on one side extending centrally through the sleeve, a manually operated pawl positioned within said handle and adapted to engage the ratchet teeth of the operating rod to maintain said rod in an adjusted position, a socket on the lower end of the sleeve provided with interior angular walls, each wall being provided with a dove-tailed groove, gripping jaws having angular portions extending into the said socket, the angular faces of said jaws being in engagement with said angular walls of the socket, each angular face on each jaw being equipped with the ribs fitted into the said dove-tailed groove whereby longitudinal adjustment of the said jaws may be made, the said operating rod being connected to the jaws.

In testimony whereof, I have affixed my signature in the presence of two witnesses.

ALBERT E. SILVER.

Witnesses:

HAROLD RIMMER,
THOMAS W. ALLISTON.