P. G. WATKINS.

WRENCH.

APPLICATION FILED APR. 27, 1918.

1,284,506.

Patented Nov. 12, 1918.

2 SHEETS—SHEET 1.

Fig. 1.

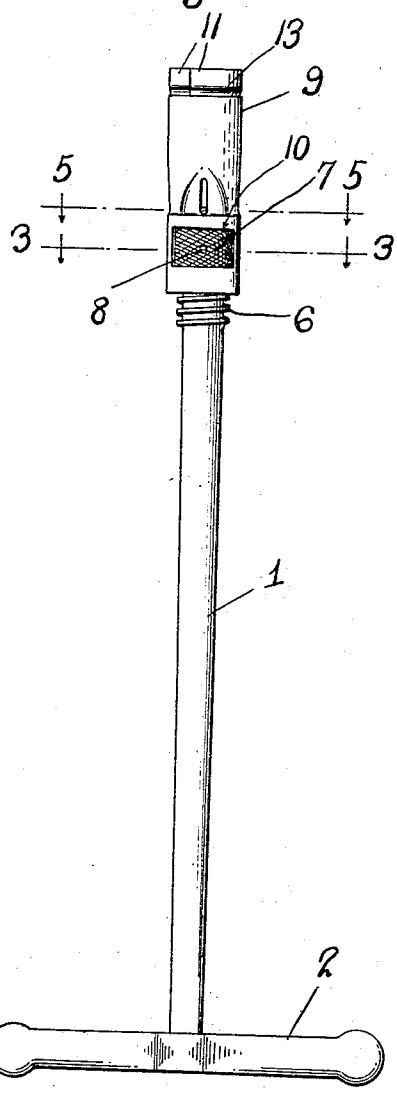


Fig. 2.

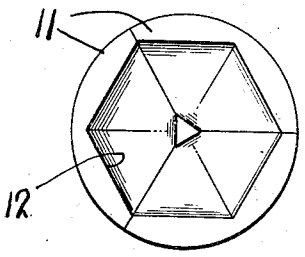
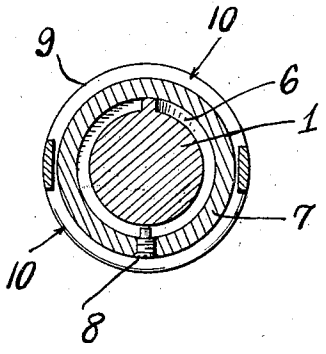


Fig. 3.



Witness
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2 SHEETS—SHEET 2.

Fig. 4.

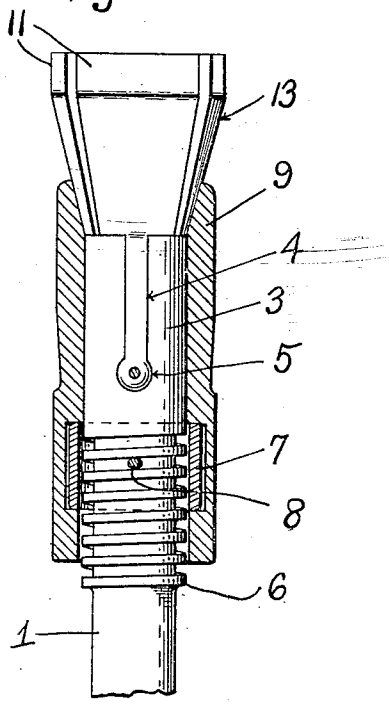


Fig. 5.

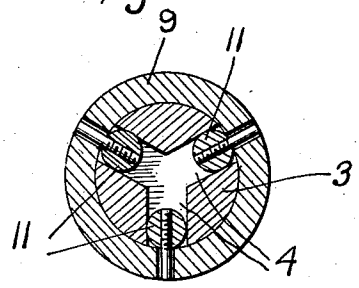


Fig. 7.

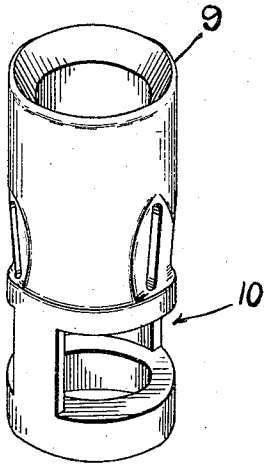
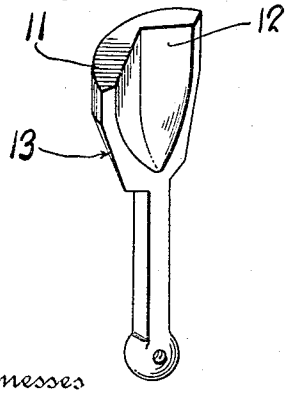


Fig. 6.



Witnesses

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UNITED STATES PATENT OFFICE.

PERCY G. WATKINS, OF VENTURA, CALIFORNIA.

WRENCH.

1,284,506. Specification of Letters Patent. Patented Nov. 12, 1918.

Application filed April 27, 1918. Serial No. 231,164.

To all whom it may concern:

Be it known that I, PERCY G. WATKINS, a citizen of the United States, residing at Ventura, in the county of Ventura and State of California, have invented new and useful Improvements in Wrenches, of which the following is a specification.

This invention relates to wrenches and it consists in the novel features hereinafter described and claimed.

An object of the invention is to provide a wrench of simple and durable structure which may be easily and conveniently used upon nuts, or heads of bolts which are square, hexagonal or octagonal in shape, for the purpose of turning the same. With this object in view the wrench comprises a handle member provided with a head having along the said head longitudinally disposed grooves with enlargements provided at their inner ends. A thread is located exteriorly of the head beyond the inner ends of the grooves and a collar is provided with a pin which is received within the thread. A sleeve is slidably mounted upon the head and is provided at its opposite sides with openings through which the said collar may be inserted. The faces of the collar are adapted to bear against portions of the head at the opposite sides of the openings and the fingers of an operator may be inserted through the openings thus affording means for turning the collar upon the head of the handle member. Jaws are provided with shank portions which are loosely received in the grooves of the head and the said jaws are provided at their outer ends with faces or surfaces adapted to engage the edges of a nut or the head of a bolt. The outer surfaces of the said jaws are beveled or inclined and are adapted to be encountered by the end portion of the sleeve whereby the said jaws may be moved toward each other. The shanks of the jaws are provided at their inner ends with globular enlargements which are received in the enlargements of the grooves in the head whereby the jaws are restrained against longitudinal movement with relation to the head but may swing laterally with relation to the same as the sleeve is adjusted thereon.

In the accompanying drawing:—

Figure is a side elevation of the wrench.

Fig. 2 is an end view of the same.

Fig. 3 is a transverse sectional view of the same cut on the line 3—3 of Fig. 1.

Fig. 4 is a fragmentary longitudinal sectional view of the same.

Fig. 5 is a transverse sectional view of the same cut on the line 5—5 of Fig. 1.

Fig. 6 is a perspective view of one of the jaws of the wrench.

Fig. 7 is a similar view of a sleeve member used in the wrench structure.

The wrench comprises a handle member 1 which is provided at its outer end with a grip 2. The handle member 1 is provided at its opposite end with a head 3 having grooves 4 disposed longitudinally thereof and at the outer surface thereof. The grooves 4 at their inner ends merge into enlargements 5 which are substantially circular in side elevation. The head 3 is provided beyond the inner ends of the grooves 4 with a thread 6. A collar 7 surrounds the thread 6 and carries a pin 8 which enters the said thread. A sleeve 9 surrounds the head 3 and is provided at its opposite sides with openings 10 through which the collar 7 may be inserted whereby the opposite faces of the said collar will bear against portions of the sleeve 9 and consequently the said sleeve is compelled to move longitudinally of the head 3 when the collar 7 is turned around the thread 6 of the said head. Jaw members 11 are provided at the inner portions of their outer ends with surfaces 12 the said surfaces being disposed at obtuse angles with relation to each other. The surfaces 12 are adapted to fit against the sides of a nut or the head of a bolt. The exterior surfaces of the jaws 11 are inclined as at 13 and the surfaces are adapted to be engaged by the sleeve 9 as it is moved longitudinally along the head 3 whereby the jaw members 11 are moved toward each other and are caused to grip the nut or the head of the bolt. The shanks of the jaw members 11 are snugly received in the grooves 4 of the head 3 and the said shanks are provided at their inner ends with globular enlargements 14 which are received in the enlargements 5 at the inner ends of the grooves 4. Consequently it will be seen that the jaw members are restrained against longitudinal movement with relation to the head 3 but the said jaw members are free to swing transversely with relation to the head when the sleeve is at a retracted position with relation to the said jaw members.

From the foregoing description taken in conjunction with the accompanying drawing it will be seen that a wrench of simple and

durable structure is provided and that the parts may be easily and quickly manipulated to apply the jaws of the wrench to the sides of a nut or bolt head irrespective of the shape or contour of the said nut or head. In view of the fact that the sleeve is provided with openings through which the collar may be inserted in place in the sleeve the said openings afford ample room through which the fingers may be inserted in order to get at the collar to turn or rotate the same upon the head of the handle and thereby move the sleeve longitudinally of the said head.

Having described the invention what is claimed is:—

1. A wrench comprising a handle provided with a head having longitudinally disposed grooves provided at their inner ends with enlargements, there being provided upon the head beyond the inner ends of the said grooves a thread, a collar surrounding the thread and provided with a pin which enters the same, jaws having shanks which are received in the grooves and provided at their inner ends with globular enlargements which are received within the enlargements of the groove, said jaws being provided at their outer portions with inturned surfaces, a sleeve slidably mounted upon the head and adapted to engage the inclined surfaces of the jaws for the purpose of forcing the jaws toward each other, said sleeve being provided at its inner portion and at its opposite sides with openings through which the collar may be inserted in place in the sleeve and through which the fingers may be inserted for the purpose of rotating the collar.

2. A wrench comprising a handle provided at its end with a head having longitudinally disposed grooves provided at their inner ends with enlargements, there being provided upon the head beyond the inner ends of the grooves a thread, a collar surrounding the thread and carrying a pin which enters the thread, jaws having shanks which are loosely received in the grooves of the head, said shanks being provided at their inner ends with globular enlargements which are received within the enlargements at the inner ends of the grooves, said jaws being provided at their outer ends with angularly disposed nut engaging surfaces, the jaws being provided at their outer portions with inclined surfaces, a sleeve surrounding the head and adapted to engage the inclined surfaces of the jaws whereby the jaws are moved toward each other, the said sleeve being provided at its opposite sides with openings through which the collar may be inserted and through which the fingers of an operator may be inserted for the purpose of rotating the said collar.

In testimony whereof I affix my signature.

PERCY G. WATKINS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."