G. D. ARMSTRONG.

NUT AND BOLT HOLDING WRENCH.

APPLICATION FILED OCT. 12, 1917.

1,270,766. Patented July 2, 1918.

Fig. 1

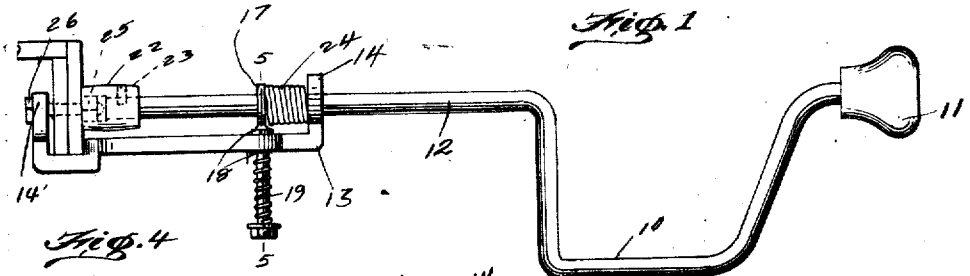


Fig. 4

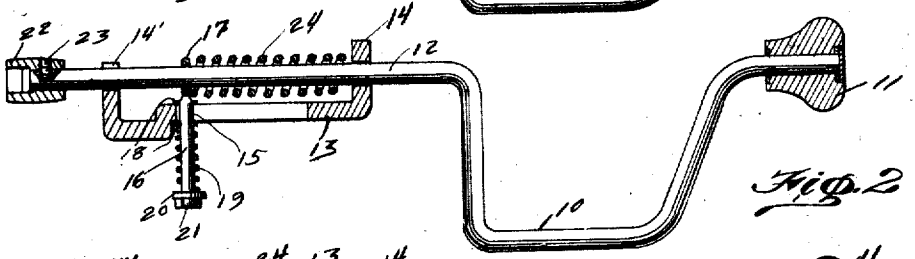


Fig. 2

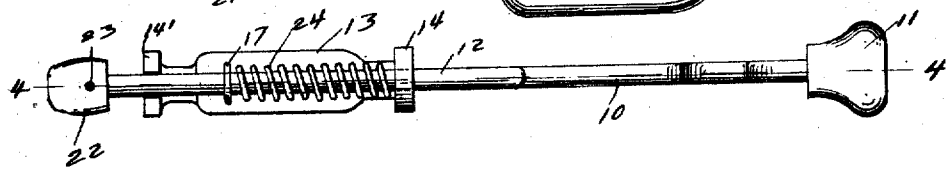


Fig. 3

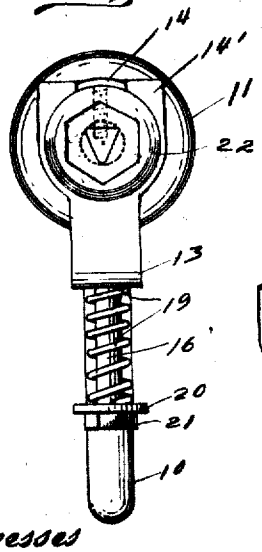


Fig. 6

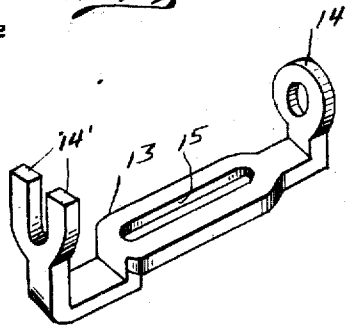
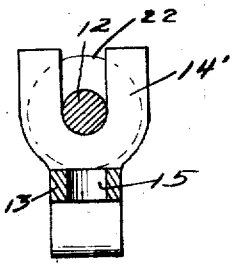


Fig. 5



Witnesses

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GEORGE D. ARMSTRONG, OF GUTHRIE CENTER, IOWA.

NUT AND BOLT HOLDING WRENCH.

1,270,766. Specification of Letters Patent. Patented July 2, 1918.

Application filed October 12, 1917. Serial No. 196,209.

To all whom it may concern:

Be it known that I, GEORGE D. ARMSTRONG, a citizen of the United States, residing at Guthrie Center, in the county of Guthrie, State of Iowa, have invented certain new and useful Improvements in Nut and Bolt Holding 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 particularly to wrenches for use on automobiles or other machines.

The principal object of the present invention is to provide a wrench by means of which bolts and nuts can be quickly and easily applied or removed.

Another object is to provide a wrench which is capable of holding either the bolt or the nut while the other is being turned into engagement therewith.

Another object of the present invention is to provide a device of this character which is capable of use in connection with bolts and nuts of different sizes and of different lengths.

Other objects and advantages will be apparent from the following description when taken in connection with the accompanying drawings.

In the drawing:

Figure 1 is a side elevation of a wrench made in accordance with my invention and shown in operative position with relation to a nut and bolt.

Fig. 2 is a top plan view of the device.

Fig. 3 is an end view of the same.

Fig. 4 is a vertical longitudinal sectional view taken on the line 4—4 of Fig. 2.

Fig. 5 is a vertical sectional view taken on the line 5—5 of Fig. 1, the bolt being removed.

Fig. 6 is a perspective view of the yoke member removed.

Referring particularly to the accompanying drawing 10 represents the U-frame of a brace which also includes a knob 11, forming the breast engaging member, and the shank 12, which is disposed in alinement with the portion which carries said knob. A yoke member 13 has the openings 14 in the arms thereof and through these openings is slidably disposed the before-mentioned shank 12. Formed vertically through the connecting portion of the yoke is an opening 15, and disposed through this opening is a bolt 16, the upper end of which is formed with an eye 17 through which the shank 12 also is disposed for slidable movement. A washer plate 18 is engaged on the bolt above and below the yoke, as clearly shown. On the lower end of the bolt there is disposed a washer plate and a removable nut, a coil spring 19 being engaged on the bolt between the washers below the yoke. The washer is shown at 20 and the nut at 21.

One of the openings in the yoke, designated by the numeral 14′ is in the form of an open-ended slot, and is formed for engagement with the angular head of a bolt or with the side faces of a nut. On the outer end of the shank 12 there is removably engaged a socket wrench 22, the same being held on the shank by means of the set screw 23. Engaged around the shank 12 and bearing with its opposite ends against the eye of the bolt 16 and the inner arm of the yoke, is a coil spring 24. It will be noted that the opening in the connecting portion of the yoke is in the form of an elongated slot so that the bolt 16 can slide therein as the yoke member is moved longitudinally on the shank 12.

In the operation of the device, the socket member is engaged with the head of the bolt 25, as seen in Fig. 1, and then the yoke member pulled so that the arm which has the slot 14′ is beyond the socket member. In this connection it is to be understood that there is sufficient play of the rod 12 in the opening of the arm 14 to permit the yoke to be rocked to move the arm 14′ outwardly beyond the member 22. This portion of the yoke is then engaged with the nut 26. The spring 24, being compressed when the yoke has been pulled, as herein-before mentioned, will tend to hold the outer arm of the yoke in firm positive engagement with the nut. The brace is then operated in the manner of the ordinary brace whereby the bolt will be screwed into the nut, while the nut is held against rotation. It will of course be understood that the unscrewing of the bolt can be as readily accomplished. Also, the socket member may be engaged with the nut and the arm of the yoke with the head of the bolt, whereby the nut will then be turned instead of the bolt, the bolt being firmly held from rotation.

The eye bolt serves the purpose of holding the yoke member against downward movement with respect to the shank, and especially the end which has the nut engaging portion 14'. The spring of this bolt effectively holds the bolt in proper position with respect to the yoke and the shank 12.

What is claimed is:

A wrench including a U-frame brace, a yoke member including a pair of arms, one of said arms being formed with an opening receiving the shank slidably therethrough, the other of said arms being formed with a wrench opening also receiving the shank therethrough, a bolt disposed through the yoke and slidably engaging with the shank, a socket member carried by the end of the shank, and resilient means for holding the shank and yoke in proper relation to each other.

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

GEORGE D. ARMSTRONG.

Witnesses:

P. E. Moore,

W. E. Baxter.