March 9, 1954 J. MODIN 2,671,367

ANGULARLY ADJUSTABLE HANDLE FOR SOCKET WRENCHES

Filed March 5, 1953

Fig. 1.

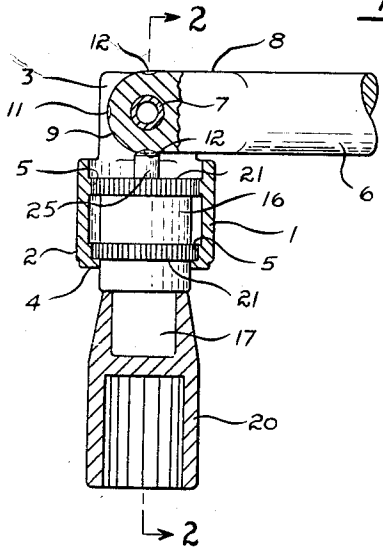


Fig. 2.

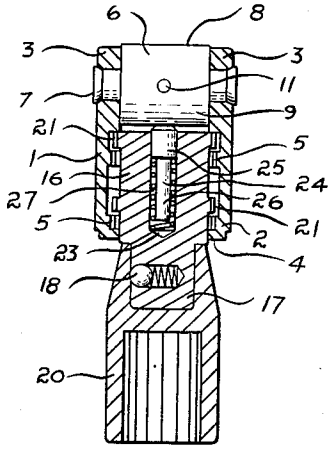
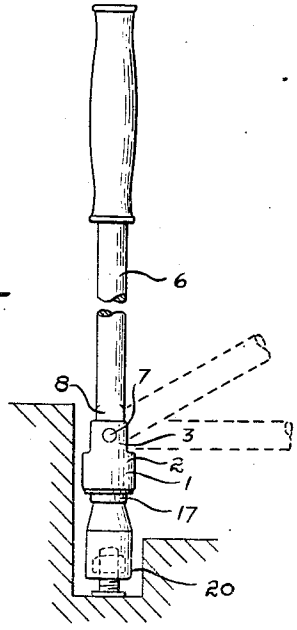


Fig. 3.



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ANGULARLY ADJUSTABLE HANDLE FOR SOCKET WRENCHES

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3 Claims. (Cl. 81—58.3)

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My invention relates to improvements in angularly adjustable handles for socket wrenches.

The objects of the present invention are to provide a wrench having spline connected drive and driven parts which are capable of being disconnected so as to permit free rotational movement of the wrench handle in either direction, and to provide spring means for normally holding the splines in engagement, which spring means are also adapted to hold the handle in a plurality of selected positions relative to the wrench.

Referring to the accompanying drawings:

Figure 1 is a part sectional view of the invention.

Figure 2 is a transverse sectional view taken on the line 2—2 of Figure 1 with the handle depressed and the spline elements disengaged.

Figure 3 is an elevational view, on a reduced scale, of the invention in use on a nut located in a recessed position.

In the drawings like characters of reference indicate corresponding parts in each figure.

The numeral 1 indicates generally a wrench having a cylindrical sleeve 2 which is provided on its upper rim with spaced upstanding lugs 3 and on its lower rim with an inwardly projecting flange 4. On its inner periphery the sleeve is provided with vertically spaced female spline rings 5. A handle 6 is hingedly connected by a pin 7 between the lugs 3 of the sleeve 2 and said handle has an end portion 8 which is square in cross section and is rounded as at 9. A centrally disposed indent 11 is provided on the rounded or hinged end 9 and spaced 90 degrees therefrom are similar indents 12.

Slidably mounted in the sleeve 2 is a cylindrical plug 16 having a squared end 17 which is fitted in the usual way with a spring pressed ball 18 for the attachment of a socket 20 or other work engaging tool. The plug 16 is provided with male spline flanges 21 which normally engage the spline rings 5 of the sleeve 2. A central recess 23 is formed in the upper end of the plug 16 and said recess is fitted with a plunger 24 having a head 25 and a stem 26. A spring 27 surrounds the stem 26 and is adapted to urge the plunger outwardly of the recess and into contact with the end 9 of the handle 6.

It will be noticed that with the plunger in abutment with the handle, the spring 27 also serves to hold the splines of the rings 5 and the flanges 21 in engagement so as to prevent relative rotation between the sleeve 2 and the plug 16.

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In normal use the wrench is operated with the handle 6 in the horizontal position as shown in Figure 1 and with the plunger 24 engaging one of the indents 12. If it is found desirable to swing the handle without disengaging the socket 20 from the nut, downward pressure is exerted upon the end of the handle to dispose the sleeve 2 in the position shown in Figure 2, so that the splines are disengaged and the sleeve may be freely rocked in either direction.

When used to remove a nut located in an inaccessible place, such as is shown in Figure 3, the handle may be raised from the horizontal position to an angle convenient for loosening the nut upon its thread and then be operated to back off the nut while in the vertical position, with the plunger engaging the indent 11. The same free spinning effect is obviously obtainable regardless of the angular disposition of the handle.

What I claim as my invention is:

1. In a socket wrench a sleeve having an internal spline ring, a handle having an end portion hingedly connected to one end of said sleeve, said end portion having spaced indents a plug slidably and rotatably mounted in said sleeve, said plug having a part extending from the sleeve and adapted for attachment to a wrench socket, said plug having a spline flange adapted to selectively engage the spline ring of the sleeve and a spring pressed plunger axially mounted in the plug and engaging the end portion of the handle, said plunger serving to hold the spline flange in engagement with the spline ring and being adapted to engage one of the indents to hold the handle in selected position relative to the sleeve.

2. In a socket wrench a cylindrical sleeve having an internal spline ring, said sleeve having spaced lugs on its upper rim, a handle having an end portion swingingly mounted between said lugs, said end portion having spaced indents a plug slidably mounted in said sleeve and having a lower part adapted for attachment to a wrench socket, said plug having a spline flange and a central recess, a plunger mounted in said recess, and a spring adapted to urge one end of the plunger into engagement with a selected indent and to normally hold the spline flange in engagement with the spline ring.

3. In a socket wrench a cylindrical sleeve having an internal spline ring, said sleeve having spaced lugs on its upper rim, a handle having a semi-circular end portion swingingly mounted between said lugs, said end portion having cir-

cumferentially spaced indents, a plug slidably mounted in said sleeve and having a lower part adapted for attachment to a wrench socket, said plug having a spline flange and a central recess, a plunger mounted in said recess, and a spring adapted to urge the plunger into contact with a selected one of the indents to hold the handle against swinging movement upon its hinge pin and to normally hold the spline flange in engagement with the spline ring.

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