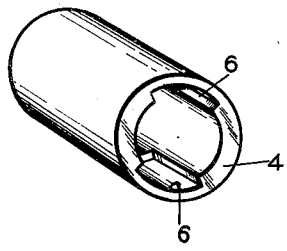
April 17, 1951 M. OREY ET AL 2,549,515

WRENCH HAVING PIVOTED HANDLE AND REMOVABLE SOCKET

Filed April 26, 1948

Fig 2



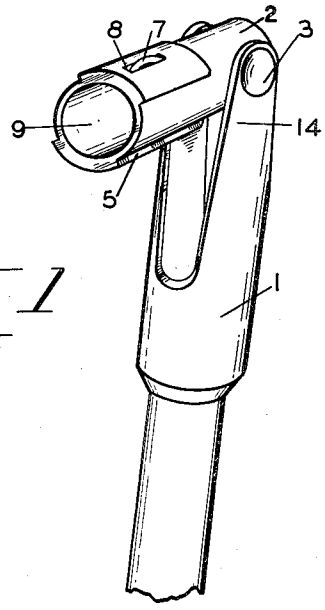


Fig 1

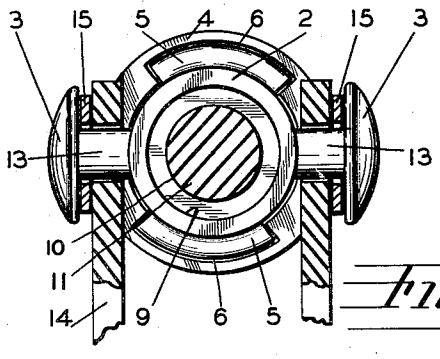


Fig 4

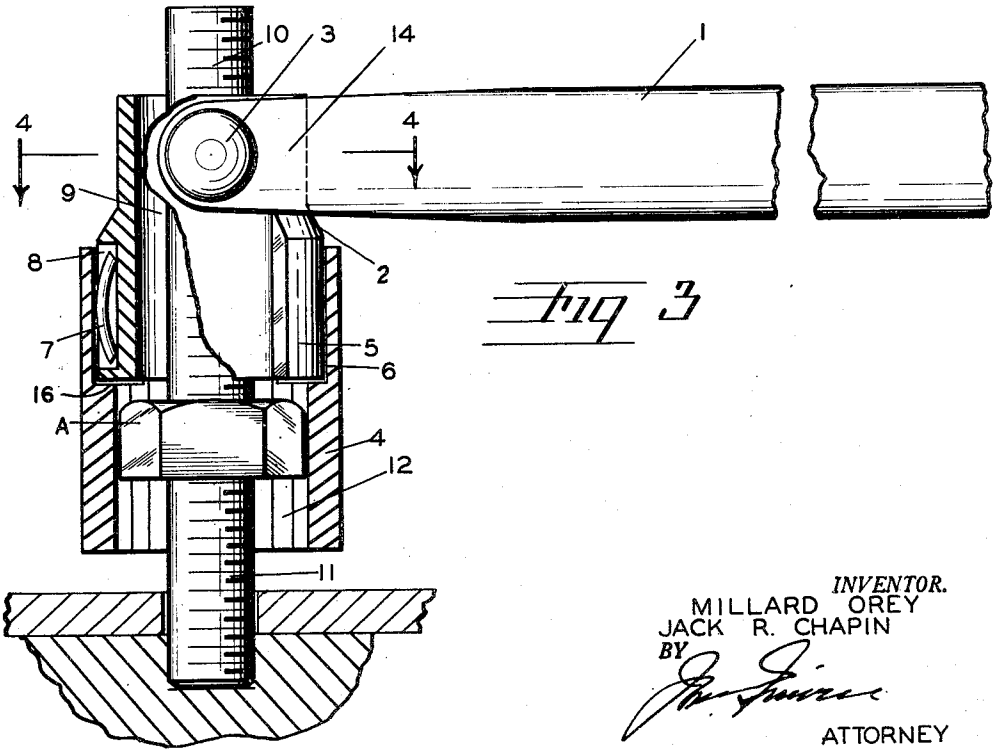


Fig 3

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WRENCH HAVING PIVOTED HANDLE AND REMOVABLE SOCKET

Millard Orey and Jack R. Chapin, Salem, Oreg.

Application April 26, 1948, Serial No. 23,256

1 Claim. (Cl. 81—121)

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This invention relates to socket wrenches and is particularly adapted to wrenches having a swing handle.

In the use of socket wrenches, particularly those with swing handles, it has heretofore been necessary to provide a series of wrenches each having different sizes and types of sockets for use with different nuts or the like. Obviously, this is expensive and cumbersome, particularly if the tools are to be transported in a kit.

It is, therefore, the principal object of the present invention to provide a socket wrench construction, particularly of the swing handle type, having great versatility of use and which is adaptable for use with any desired type or size of nut-like member.

It is another object of the invention to provide a socket wrench, particularly of the swing handle type, adapted for cooperation with a removable socket member which may be one of a variety of types and sizes.

It is a further object of the invention to provide a socket wrench construction that comprises simplicity of organization, economy of construction, and efficiency in operation.

While we have adapted our invention particularly to swing drive socket wrenches, it is also admirably adapted to the drive fittings of ratchet wrenches and so forth.

Referring to the drawings:

Figure 1 is the swing end of a handle of a swing socket wrench showing the swing drive member at right angles to the handle.

Figure 2 is a socket adapted to fit the swing drive member of the handle.

Figure 3 is an enlarged detail view of the handle, the swing drive member having a socket associated therewith and being applied to a nut on a relatively long bolt illustrating the bolt passing through the swing drive member.

Figure 4 is a plan detail sectional view taken on line 4—4 of Figure 3 through the handle and the swing drive member. This view is rotated on the drawing ninety degrees from that shown in Figure 3.

Referring more specifically to the drawings:

Our new and improved wrench consists of a handle 1 pivotally connected to a swing drive member 2 at 3. The swing drive member 2 is adapted to be inserted in a standard socket 4, as best illustrated in Figures 3 and 4. The swing drive member has spline keys 5 formed on its outer periphery to cooperate with spline slots or keyways 6 formed within the rear ends of the sockets 4 and terminating in shoulders 16.

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A spring 7 may be embedded within a cut-out portion 8 of the key 5 and is adapted to cause a friction fit between the swing drive member 2 and the socket 4, best illustrated in Figures 1 and 3. We do not wish to be limited to the type of interconnections between the swing member 2 and the socket 4, as any approved method could be employed connecting these two elements together.

Our invention consists in a longitudinal bore or opening 9 running through the swing member 2, which is adapted to receive an end 10 of a bolt 11, permitting the socket to revolve the nut A about said bolt in either tightening or loosening the same. Heretofore, the swing drive member was made up of a solid unit. Therefore, the length of bolt that could be operated on was determined by the depth of the nut receiving chamber 12 of the socket 4, but as stated above with our improved swing drive member the bolt can extend up through the same indefinitely, still permitting the handle of the wrench to be swung to either side in the operation of the socket, giving the advantages of a swing type socket wrench.

The handle is pivoted to outwardly extending stub shafts 13 by a bifurcated end 14 of the handle 1, best illustrated in Figure 4. There are various methods of pivotally mounting the swing drive member to the handle 1, and we do not wish to be limited to any particular form. Swing washers 15 maintain a working fit between the swing drive member and the handle 1 so that this member will remain at a fixed adjusted position until forcibly revolved within the bifurcated end of the handle.

The swing drive member is adapted to receive various size sockets within a given range of sockets, the principle being admirably adapted to any size of bolt. The smaller the bolt, the smaller will be the swing drive member 2 and its handle and vice versa, the larger the bolts being worked upon the larger will be the swing drive member 2 and its associated handle, but in all cases the drive member has a bore or opening therethrough through which the end of the bolt can pass and permit the swinging of the handle in the operation of the socket.

What we claim is:

A socket wrench, comprising a handle having a bifurcated end, a sleeve open throughout its length and pivotally mounted at its inner end between said bifurcations, so as to be swingable about a transverse axis; a plurality of longitudinally extending keys circumferentially

spaced on the outside of said sleeve, longitudinal slots formed in said keys, resilient elements mounted in the longitudinal slots, a wrench socket sleeve open throughout its length and mounted on the outer end of the first-mentioned sleeve, the inside of said wrench socket sleeve having a plurality of complementary keyway slots to receive the keys and resilient elements so as to hold said sleeves together, and the keyway slots terminating in interior shoulders against which the keys on said first-mentioned sleeve abut.

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