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COMBINATION POLYGONAL WRENCH WITH ADJUSTABLY POSITIONED  
SOCKET AND RATCHET WRENCH  
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3,288,002

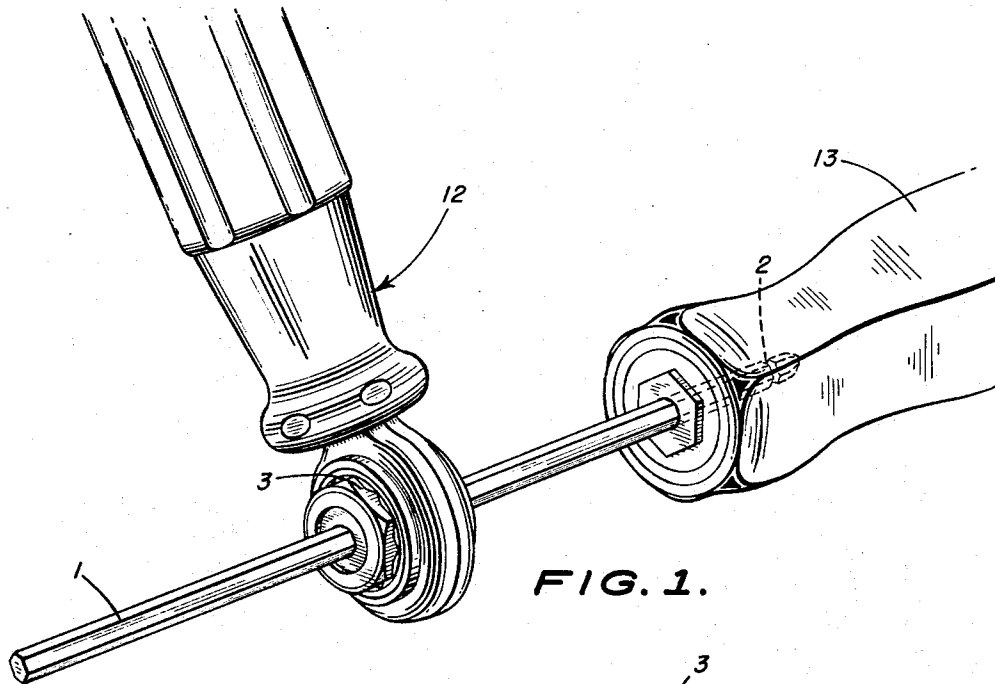


FIG. 1.

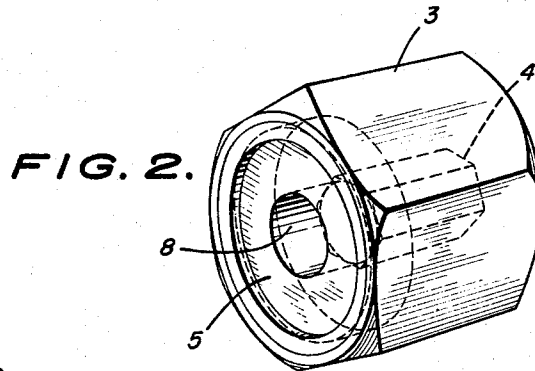


FIG. 2.

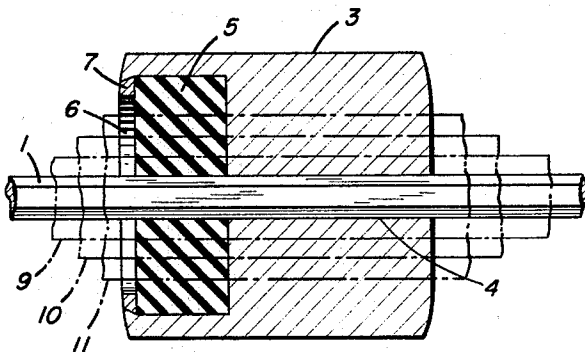


FIG. 3.

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**COMBINATION POLYGONAL WRENCH WITH ADJUSTABLY POSITIONED SOCKET AND RATCHET WRENCH**

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1 Claim. (Cl. 81—71)

The present invention relates to an arrangement on polygonal wrenches with angular or not-round cross section intended, by its end, to be brought into engagement with screw heads or nut members in order to rotate them.

With modern polygonal wrenches, which essentially take the form of bars having the usual hexagonal section, it is often impossible when tensioning screws or nuts in positions which are inaccessible, to rotate the polygonal wrench by its associated shaft, hand grip or the like.

The object of the invention is now to produce a means by which the polygonal wrench can be caused to rotate by the use of suitable wrenches, e.g. a ratchet wrench, in various displacement positions along the polygonal wrench.

In accordance herewith the invention is characterized essentially in that a socket, with angular or not-round surface contours, which fits a wrench, preferably a ratchet wrench, is displaceably, but not rotatably, mounted on the polygonal wrench.

The invention will be further described below with reference to the attached drawing.

FIGURE 1 shows, in perspective, a polygonal wrench in combination with a suitable hand grip, a socket mounted on the wrench and a ratchet wrench engaging the socket.

FIGURE 2 shows, also in perspective, the socket arrangement according to the invention in a larger scale.

FIGURE 3 is a longitudinal section of FIGURE 2 showing a portion of the socket in relation to said arrangement.

In the drawing, reference numeral 1 designates a polygonal wrench of substantially known construction having hexagonal section. This tool is intended, in a known manner, to be inserted, and fastened into a suitable hand grip 13, for which fastening a suitable groove 2 is arranged. A socket or the like 3 is positioned along the polygonal wrench, said socket having the form of a hexagonal nut but which may have any angular or non-round section either regular or irregular.

This socket 3 is displaceable along the tool 1 and can, in accordance with the invention, by means of friction, be retained in required adjusted positions on the tool but is, on the other hand, not rotatable in relation to the tool 1.

The construction of the socket 3 is best evident from FIGURE 2 where a through-going hole 4, having hexagonal cross section, fits, with a suitable sliding fit, onto the polygonal wrench 1 so that the socket 3, in accordance with that which is stated above, can be displaced along the polygonal wrench 1 but is not rotatable in relation to said polygonal wrench. So as to render possible a frictional locking of the socket in arbitrary positions along the tool 1 a friction ring 5 is attached in one end of said socket 3, which may consist of a flexible material such as rubber, plastic or the like. Said ring may be glued into a corresponding recess but, as is best evident from FIGURE 3, the ring can be placed in the groove 6 in the one end of the socket and retained in

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position by a suitable locking ring 7 or the like. By suitably dimensioning the hole 8 it can be arranged so that the socket, by sufficiently adapting the friction, is retained in arbitrary displacing positions along the polygonal wrench but despite this can be moved relatively easily along said polygonal wrench 1 on applying a light pressure of the hand. Similar sockets could be produced for various dimensions of polygonal wrenches which are indicated by the numerals 9, 10, 11 in FIGURE 3.

Thereby it is presumed of course that the hole 4 has correspondingly large dimensions and furthermore that the larger the hole of the friction ring 5 the larger the dimension of the polygonal wrench.

Because, in this way, an engagement position with a relatively large lever is obtained, which can be displaced along the polygonal wrench, it is easy to rotate the polygonal wrench 1, by means of an adjustable polygonal wrench, a special wrench or preferably a ratchet wrench 12, i.e. such a wrench that is formed with a ratchet pawl or the like, in such cases when working with the polygonal wrench in positions which are inaccessible where it is impossible to serve the said polygonal wrench with the ordinary hand grip.

Although the drawing shows hexagonal cross sections for the surface section of the socket as well as for the through-going hole the invention is not restricted hereto but the contours and sections, respectively, of these can be not-round or have any required angular section regular as well as irregular.

The invention is not limited to the embodiments shown in the figures but can be modified in any required manner within the scope of the attached claim.

What is claimed is:

The combination of a polygonal wrench having a non-circular cross section and intended for use in rotating screws, nuts, and the like with a socket member having a hole passing concentrically therethrough along the longitudinal axis thereof, the cross section of said hole corresponding substantially with the peripheral contour of said polygonal wrench, a recess in one end of said socket adjacent said hole, a friction ring of flexible material secured to said socket within said recess and substantially concentric therewith, said ring having an opening with a diameter less than the largest diameter of the socket hole so the socket is retained in arbitrarily displaced positions along the polygonal wrench while remaining relatively longitudinally displaceable therealong, said socket having an outer peripheral surface of non-circular contour, and a ratchet wrench having an inner peripheral surface which corresponds to the outer peripheral surface of said socket.

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