Feb. 10, 1925. 1,526,150

H. JETTÉ

RATCHET SOCKET WRENCH OR THE LIKE

Filed Sept. 15, 1923

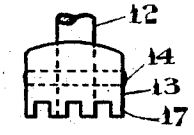


FIG. 2

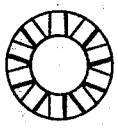


FIG. 3

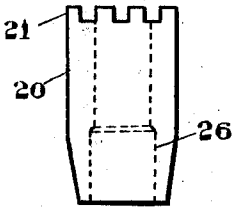


FIG. 4



FIG. 5

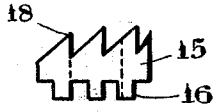


FIG. 6

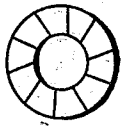


FIG. 9

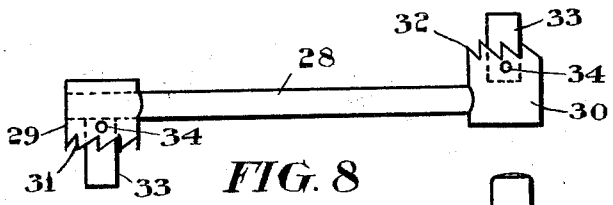


FIG. 8

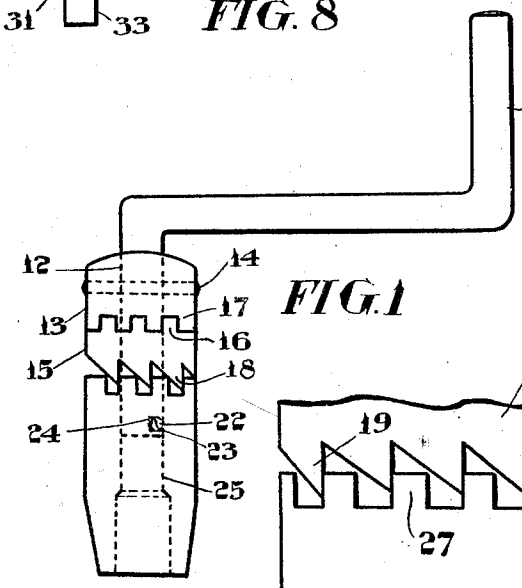


FIG. 1

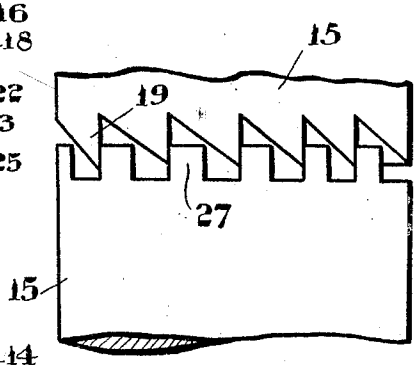


FIG. 7

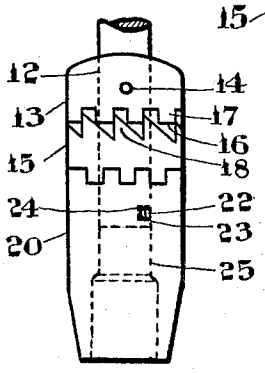


FIG. 10

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UNITED STATES PATENT OFFICE.

HOMER JETTÉ, OF ROXTON POND, QUEBEC, CANADA.

RATCHET SOCKET WRENCH OR THE LIKE.

Application filed September 15, 1923. Serial No. 662,869.

To all whom it may concern:

Be it known that I, HOMER JETTÉ, a subject of the King of Great Britain, and resident of Roxton Pond, in the Province of Quebec and Dominion of Canada, have invented certain new and useful Improvements in Ratchet Socket Wrenches or the like, of which the following is a full, clear, and exact description.

This invention relates to new and useful improvements in ratchet socket wrenches or the like, and the object of the invention is to provide a simple and easily operated tool which will be efficient in operation and cover a variety of uses.

Another object is to provide a tool of this character which will reduce the number of parts necessary for right and left hand ratchet operation.

A further object is to provide a tool which will be compact and easily operated in confined spaces such as corners or the like.

In my invention, I provide a tool in which a right or left hand ratchet toothed portion is adapted to engage with a square-toothed socket which may be adapted to fit a nut, drill holding chuck, reamer or such like tool.

In the drawings;—

Fig. 1 shows the tool assembled for a left-hand driven socket.

Fig. 2 is an elevation of a square-toothed clutch for operation of the device.

Fig. 3 is a plan view of Fig. 2.

Fig. 4 is an elevation of a socket adapted for engagement with a nut.

Fig. 5 is an elevation of an extension sleeve adapted for left-hand driving.

Fig. 6 is an elevation of an extension sleeve adapted for right-hand driving.

Fig. 7 is an enlarged view of a left-hand driven connection.

Fig. 8 shows one modification of the device in which a combined right and left hand racket sleeve is securely attached to a rod.

Fig. 9 is a plan view of the ratchet teeth.

Fig. 10 is a modification of Fig. 1.

Referring more particularly to the drawings, 11 designates an operating handle, which may be a brace stock or the like. Securely attached to the stock extension 12 is the square-toothed clutch 13, which is held in position by means of the pin 14 passing through it and the extension rod 12. Figure 2 shows a detail of the square tooth clutch. Slidably mounted on the rod is the clutch extension 15, which is provided with a plurality of square teeth 16 on one end adapted to engage with the square teeth 17 of the clutch 13. The other end of the extension may be provided with right hand ratchet teeth 18, as shown in Figure 6, or left hand ratchet teeth, as shown in detail in Figure 5 and in assembly in Figure 1. The socket 20 shown in Figure 4 is provided with a plurality of square teeth 21 at one end adapted to engage with the vertical sides of the ratchet teeth in the extensions or, if a positive drive in both directions is required, the socket 20 may be attached directly to the clutch 13, the square teeth of which are adapted to fit the square teeth 21 of the clutch, which is slidably mounted on the extension 12. The extension 12 may be made long enough to provide a centering means for the extension and the socket and may be provided with a ball 22 and a spring 23 contained in a recess 24, so that the said ball will frictionally engage with the wall of the bore 25 of the socket. In Figure 4, I have shown a socket with a recess 26 adapted for engagement with a square nut, but this recess may be modified to suit a variety of tools, such as reamers, drill sockets or the like. The top of a drill chuck may also be formed with square teeth, as shown in Figure 7, and designated 27. In Figure 8, a modification of the device is shown, in which a bar 28 is provided with a head at each end, designated 29 and 30 respectively, the head 29 being provided with a plurality of right hand ratchet teeth 31 and the head 30 being provided with a plurality of left hand ratchet saw teeth 32, both adapted to engage with the vertical sides of the sockets. Extensions 33 may be securely attached to the heads 29 and 30 by the pins 34. These extensions are provided for centering the engaging socket, and may be provided with any standard frictional holding means, such as the ball and spring arrangement shown in Figure 1.

The operation of the device is as follows: When the device is used as a positive drive in both directions, the socket is fitted direct to the clutch. When the wrench is used for the left hand positive drive, only the extension is fitted to the clutch and the socket is adapted to engage with the clutch extension 15, as shown in Figure 1. When

the apparatus is used for right hand positive drive, the extension with teeth, as shown in Figure 6, is used between the socket and the clutch. In the modification shown in Figure 8, the handle is provided with heads, one having a plurality of right hand teeth and the other having a plurality of left hand teeth, so that by using the same socket and reversing the handle right or left hand positive drives may be accomplished.

Slight modifications may be made in the device without departing from the spirit of the invention. This type of ratchet connection may be used on spanners, reamers, drilling chucks or the like and the type of handle may be made in the form of a brace, a straight bar, a right angled bar or the like.

Having thus described my invention, what I claim is;—

1. In a ratchet socket wrench or the like, a handle having a head with a plurality of ratchet teeth formed therein, a socket having a plurality of square teeth adapted to engage with the sides of the ratchet teeth, and means to center the socket with respect to the head.

2. A device according to claim 1, in which the handle is provided with heads at each end, one head being provided with right-hand ratchet teeth and the other being provided with left-hand ratchet teeth.

3. In a ratchet socket wrench or the like, a handle, a two-part head, one part of the head being secured to the handle and provided with square clutch teeth, the second part of the head being slidably mounted and provided with square teeth at one end adapted to engage with the square teeth of the fixed part of the head, the other end of the second part being provided with ratchet teeth, a socket having square teeth at one end adapted to engage with the ratchet teeth of the head, and means to center the socket and the second part of the head.

4. A device according to claim 3, having frictional means in the centering means adapted to engage with the holder to hold the ratchet-toothed part of the head and the socket in position.

5. In a ratchet socket wrench, a handle, a two-part head on said handle, one part of said head being fixed to the handle and provided with square clutch teeth, the other part of the head being slidably mounted on the handle and provided with square teeth at one end adapted to engage with the square teeth of the fixed portion of the head and the other end being provided with ratchet teeth, a socket having square teeth at one end adapted to engage with the ratchet teeth when ratchet motion is required or with the square teeth of the fixed portion of the head when direct motion is required, means for centering the socket and sliding portion of the head, and spring-controlled frictional means in the centering means adapted to engage with the socket to hold the same in position.

In witness whereof, I have hereunto set my hand.

HOMER JETTÉ.