May 22, 1945. G. FLOWER 2,376,764

ADJUSTABLE BOX WRENCH

Filed Aug. 13, 1943 2 Sheets-Sheet 1

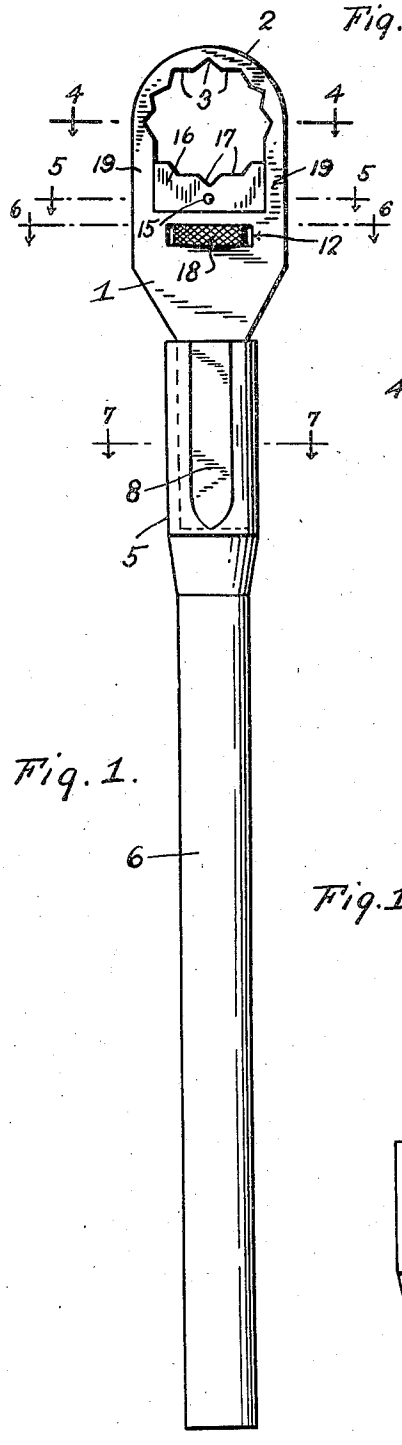


Fig. 1.

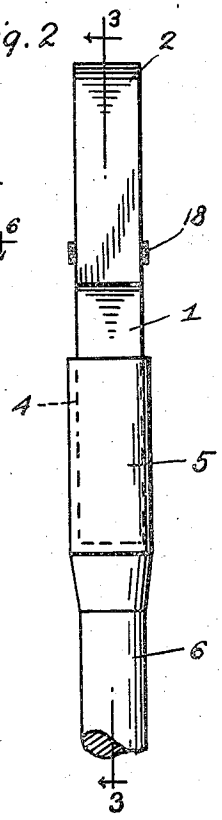


Fig. 2

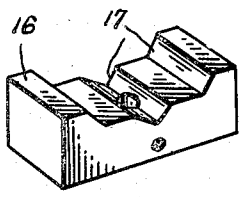


Fig. 8.

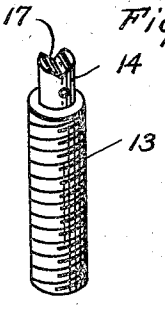


Fig. 9.



Fig. 10.

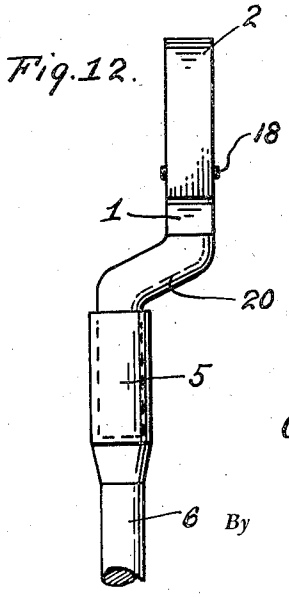


Fig. 12.

Inventor

George F Flower

By Clarence A O'Brien and Harvey B. Jacobson

Attorneys

May 22, 1945. G. FLOWER 2,376,764

ADJUSTABLE BOX WRENCH

Filed Aug. 13, 1943 2 Sheets-Sheet 2

Fig. 3.

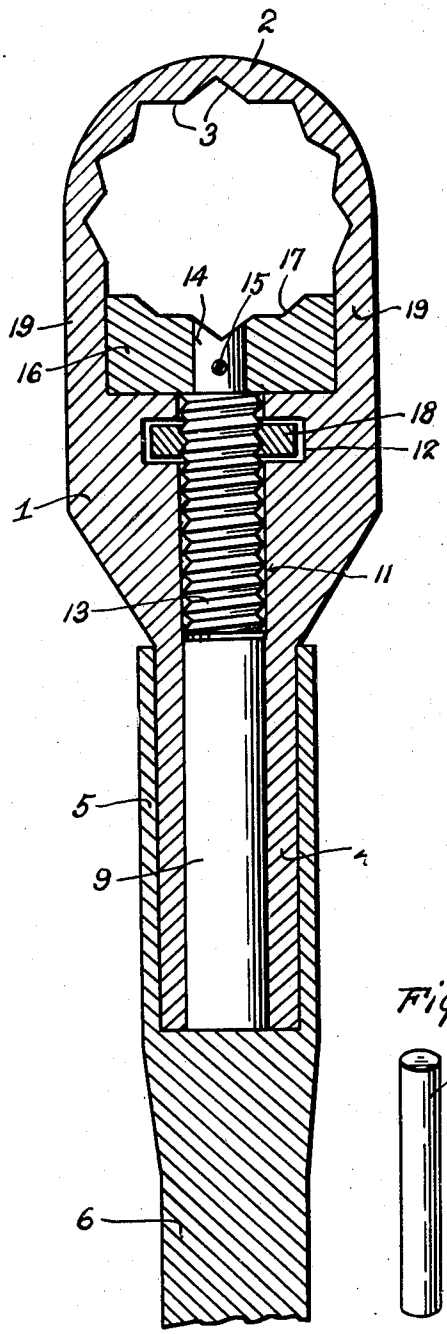


Fig. 4.

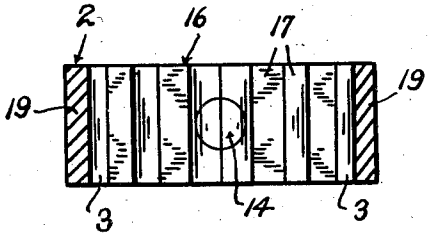


Fig. 5.

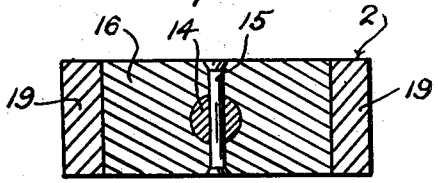


Fig. 6

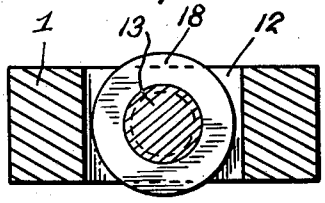


Fig. 7.

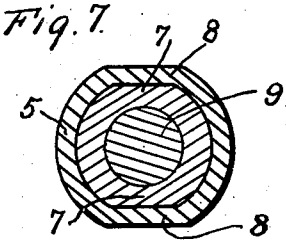


Fig. 11.

Inventor

George Flower

By Clarence A. O'Brien and Harvey B. Jacobson

Attorneys

Patented May 22, 1945 2,376,764

UNITED STATES PATENT OFFICE

2,376,764

ADJUSTABLE BOX WRENCH

George Flower, Sparrows Point, Md.

Application August 13, 1943, Serial No. 498,469

1 Claim. (Cl. 81—166)

The present invention relates to new and useful improvements in box wrenches, and has for its primary object to provide, in a manner as hereinafter set forth, a tool of this type which is adapted to be expeditionsly adjusted to receive and firmly grip different sizes and types of nuts, bolt heads, cap, and set screws, et cetera.

Other objects of the invention are to provide an adjustable box wrench of the aforementioned character which will be comparatively simple in construction, strong, durable, highly efficient and reliable in use, compact, and which may be manufactured at low cost.

All of the foregoing, and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views, and wherein:

Figure 1 is an elevational view of a wrench constructed in accordance with the present invention.

Figure 2 is an elevational view of a portion of the tool, taken at right angles to Figure 1.

Figure 3 is a longitudinal sectional view, taken substantially on the line 3—3 of Figure 2.

Figures 4, 5, 6 and 7 are cross-sectional views, taken substantially on the lines 4—4, 5—5, 6—6 and 7—7, respectively, of Figure 1.

Figure 8 is a detail view in perspective of the slidable inner jaw.

Figure 9 is a detail view in perspective of the screw or threaded shank for adjusting the slidable inner jaw.

Figure 10 is a perspective view of an end portion of the handle.

Figure 11 is a detail view in perspective of the plug which is inserted in the tubular shank on the body of the wrench.

Figure 12 is an elevational view, showing a slight modification.

Referring now to the drawings in detail, it will be seen that reference numeral 1 designates a body of suitable metal. Formed integrally with the body 1 and projecting from one end thereof is a substantially U-shaped, stationary outer jaw 2 having substantially V-shaped grooves 3 therein for the reception of the corner portion of nuts, bolt heads, et cetera.

Projecting from the other end of the body 1 is an integral tubular shank 4. The shank 4 is engaged in a socket 5 on one end of a handle 6 for mounting the body 1 on said handle. The shank 4 and the socket 5 include coacting flat portions 7 and 8, respectively, for positively retaining the body 1 against rotation relative to the handle 6. A metallic plug or pin 9 is driven into the tubular shank 4 for strengthening same.

A bore 11 in the body 1 communicates with the tubular shank 4 and the interior of the jaw 2. The body 1 is further provided with a transverse opening 12 which communicates with the bore 11. A screw 13 is slidable in the bore 11. The screw 13 includes a smooth, reduced end portion 14 which projects into the jaw 2 and which has secured thereon through the medium of a pin 15 a slidably adjustable inner jaw 16. The jaw 16 is cooperable with the stationary outer jaw 2. The face of the jaw 16, also the forward end of the element 14, have formed therein substantially V-shaped grooves 17 for the reception of the corner portions of nuts, bolt heads, et cetera. A knurled nut 18 is threadedly mounted on the screw 13 and operable in the opening 12 for adjusting the slidable inner jaw 16 toward or away from the stationary outer jaw 2.

It is thought that the manner in which the tool is used will be readily apparent from a consideration of the foregoing. Briefly, the nut, bolt head, or other object to be gripped is engaged in the substantially U-shaped stationary outer jaw 2 of the wrench. The nut 18 is then turned for adjusting the slidable inner jaw 16 into engagement with the nut, bolt head, or the like. It will thus be seen that a box wrench has been provided which may be expeditiously and accurately adjusted. The ends of the adjustable inner jaw 16 are slidably engaged with the leg portions 19 of the substantially U-shaped stationary outer jaw 2 for preventing said inner jaw, together with the screw 13, from turning.

In the modification of Figure 12 of the drawings, an angular shank 20 is provided. This angular shank 20 offsets the handle 6 relative to the body 1 to permit a firm grip to be readily had on said handle when the tool is engaged with a nut or other object on a flat surface.

It is believed that the many advantages of an adjustable box wrench constructed in accordance with the present invention will be readily understood, and although preferred embodiments of the tool are as illustrated and described, it is to be understood that further modifications and changes in the details of construction may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:

A wrench of the character described com-

prising a metallic body, a tubular shank of non-circular cross-section integral with the body and adapted to be engaged in the socket of a handle for mounting the body on the handle, a substantially U-shaped, stationary outer jaw integral with the body, said body having a bore therein communicating with the tubular shank and with the interior of the outer jaw, an elongated cylindrical plug tightly fitted in the shank said body further having an opening therein communicating with the bore, a screw slidable in the bore and traversing the opening, said screw including a reduced, smooth end portion projecting into the stationary outer jaw, an inner jaw fixed on said reduced end portion of the screw and slidable in the stationary outer jaw, the first and second-named jaws and said reduced end portion of the screw being cooperable and having substantially V-shaped grooves therein for the reception of the corner portions of nuts and bolt heads, the inner jaw further including ends slidably engaged with the leg portions of the substantially U-shaped, stationary outer jaw, and a nut threadedly mounted on the screw and rotatable in the opening for adjusting the inner jaw toward and away from the outer jaw.

GEORGE FLOWER.