B. H. SKELLY.

RATCHET WRENCH.

APPLICATION FILED DEC. 19, 1918.

1,318,811. Patented Oct. 14, 1919.

Fig. 1

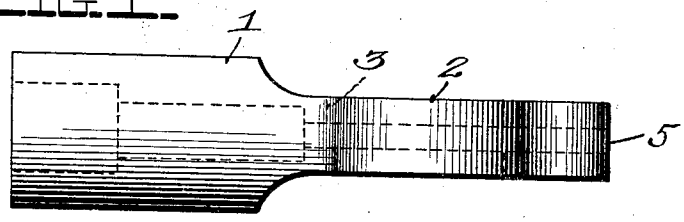


Fig. 2

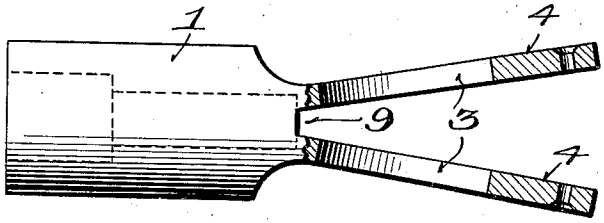


Fig. 3

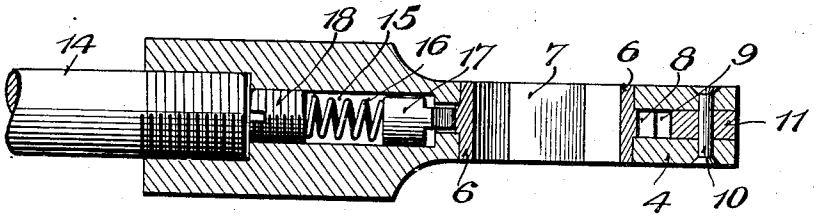


Fig. 4

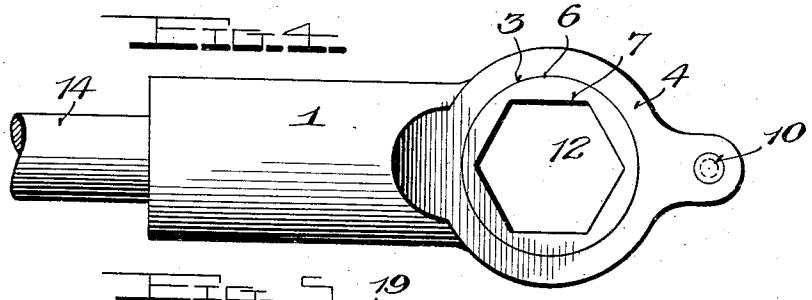
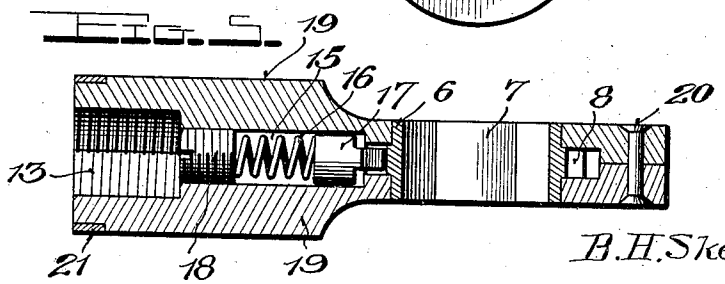


Fig. 5



Inventor

B. H. Skelly

By

Attorney

UNITED STATES PATENT OFFICE.

BERNARD H. SKELLY, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO THE SMITH & EGGE MFG. CO., OF BRIDGEPORT, CONNECTICUT, A CORPORATION OF CONNECTICUT.

RATCHET-WRENCH.

1,318,811. Specification of Letters Patent. Patented Oct. 14, 1919.

Application filed December 19, 1918. Serial No. 267,474.

To all whom it may concern:

Be it known that I, BERNARD H. SKELLY, a citizen of the United States, residing at the city of Bridgeport, county of Fairfield, State of Connecticut, have invented certain new and useful Improvements in Ratchet-Wrenches; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain new and useful improvements in a ratchet wrench, and it has for its principal object to provide an improved structure of a stronger and more durable character.

Tools of this type have heretofore been manufactured but owing to their weak and flimsy construction they have been found impractical because when the wrench is subjected to a considerable strain the parts readily give away and fail to function.

In the present construction the body of the wrench is cast to provide a strong rigid holder for the rotatable ratchet-equipped head. Advantage is also taken of the cast body for housing a spring projected pawl which is coöperable with the head, all the parts conjointly forming a ratchet wrench of practical construction and durability.

In the drawing:

Figure 1 is an elevation of body casting in its initial shape;

Fig. 2 is a similar view of the body whose jaw-end has been milled out and the opposing jaws sprung apart for the reception of the rotatable head;

Fig. 3 is a longitudinal section through the completed wrench;

Fig. 4 is a plan view of the same; and

Fig. 5 is a longitudinal section through a modified wrench construction.

In carrying out the invention, the body 1 of the wrench is cast substantially in the shape as depicted in Fig. 1 providing a jaw end 2 through which extends an opening 3. The jaw end is then divided into a pair of apertured arms or jaws 4, by milling out the portion included between the dotted lines 5 of Fig. 1, subsequent to which the jaws are spread or sprung apart, as in Fig. 2, whereby the hubs 6 of the work embracing and operating head 7 may easily be disposed in their journal bearings provided by smoothly reaming out the opening 3.

This head is equipped with a peripheral ratchet 8 that operates in the space 9 between the jaws, which latter after the head is positioned therebetween, are forced again into parallelism and secured together at their outer portions by a rivet 10 and an interposed sustaining spacing block 11. The axial opening 12 through the rotatable head and its hubs is shaped to fit the work which, in the present embodiment, is of hexagonal design.

The opposite end of body 1 is bored to provide a handle-receiving socket 13 which is preferably screw threaded for connection with the handle 14.

The inner end of the socket is counterbored through to the milling cut or space 9 to form a chamber 15 in which is housed a spring 16 and a slidable pawl 17. The operative end of the pawl is slightly flattened to substantially conform to and fit the inner end portion of said milling cut 9 whereby said pawl is prevented from turning. The coiled spring 16 is retained in place by a screw plug 18 which is threaded in the outer end of the chamber or counterbore 15.

In the modified construction the casting is made in two sections or halves 19 which may then be machine finished. Each half or section is formed with a hub journal so that in assembling the parts the head may be placed in position between the halves and the latter brought together and secured at their outer portions by a rivet 20. The socketed end is bound by an encircling ring 21 flush with the outer surface of the body and firmly uniting the parts together. The pawl and its associated spring and screw plug are now positioned in the composite chamber in which connection it will be noted that each section is formed with a pair of recesses to combine with the recesses in the companion section in forming the handle socket and the pawl chamber.

In both embodiments of the invention the ratchet head is journaled at each end in a firm and rigid bearing that is integrally united to the body and braced from the companion bearing at their outer portions so as to produce a strong and durable wrench.

By reason of the particular formation of the body and its relation with the head, the wearing strain imposed upon the wrench when in use does not tend to spread or derange the parts.

What is claimed is:

A wrench comprising a cast body having spaced integral jaws on one end and its opposite end formed with a handle-receiving socket which is counterbored to provide a chamber, said chamber having a slot through its bottom leading to the space between the jaws, a ratchet head disposed between and journaled in the jaws, and a spring pressed cylindrical pawl slidable in the chamber and having its active end reduced and flattened to operate in and project through the bottom slot for coöperating with the ratchet, said flattened end coacting with the sides of the slot to hold the pawl against rotation in its chamber and forming shoulders on the pawl to engage with the bottom of the chamber and thereby prevent displacement of said pawl from the latter.

In testimony whereof I affix my signature.

BERNARD H. SKELLY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."