E. L. ERICKSON.

WRENCH.

APPLICATION FILED SEPT. 25, 1917.

1,254,587. Patented Jan. 22, 1918.

Fig. 1.

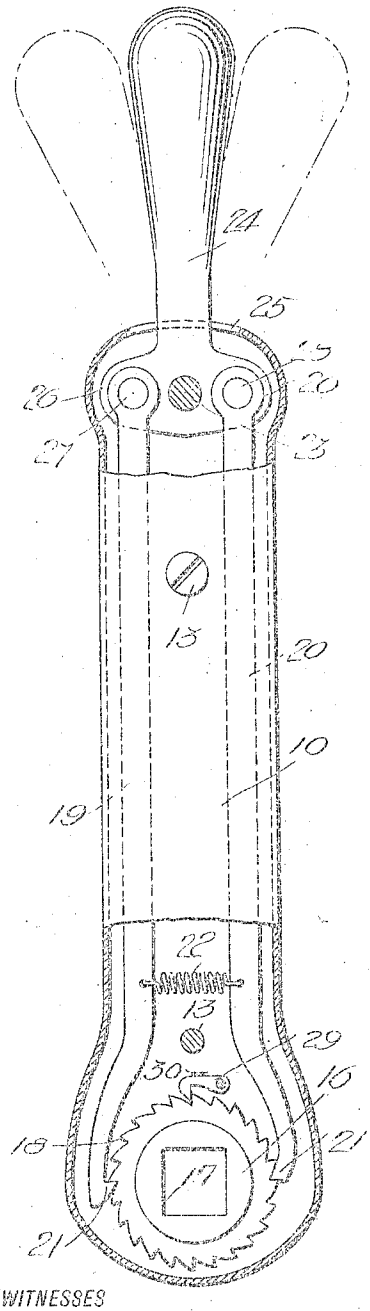
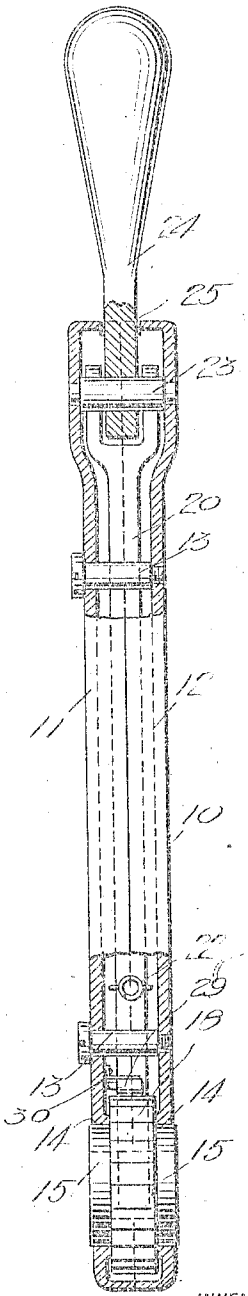


Fig. 2.



WITNESSES

Edw. Thorpe

Myron G. Clear

INVENTOR

Edwin L. Erickson

BY Munn & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

EDWIN L. ERICKSON, OF AITKIN, MINNESOTA.

WRENCH.

1,254,587. Specification of Letters Patent. Patented Jan. 22, 1918.

Application filed September 25, 1917. Serial No. 193,114.

To all whom it may concern:

Be it known that I, EDWIN L. ERICKSON, citizen of the United States, and resident of Aitkin, in the county of Aitkin and State of Minnesota, have invented a new and useful Improvement in Wrenches, of which the following is a specification.

My present invention relates generally to wrenches, and more particularly to ratchet wrenches, my object being the provision of a wrench of this type having novel actuating means whereby it may be utilized in spaces of small compass where the usual wrench would be unable to function.

To this end I provide a wrench having a handle which under ordinary circumstances may constitute the main source of leverage for the turning on or off of a nut, together with certain ratchet actuating connections extending longitudinally through the handle from the ratchet at one end, having a lever movable at the opposite end of the handle to actuate the ratchet independent of the handle in spaces of small compass where the latter cannot function.

In its more specific aspect, my invention resides in the features of construction, arrangement and operation to be now described with respect to the accompanying drawing, forming a part of this specification, wherein:

Figure 1 is a view partly in side elevation and partly in longitudinal section showing my improvements.

Fig. 2 is a similar view with the wrench turned 90 degrees with respect to Fig. 1.

Referring now to these figures, my invention contemplates the provision of a wrench including a hollow handle generally indicated at 10, and preferably in a pair of similar side sections 11 and 12, whose flanged edges, extending substantially entirely thereabout, are arranged to meet. Sections 11 and 12 of the handle 10 are rigidly connected by means of clamping screws indicated at 13 particularly in Fig. 2.

At its opposite end, the hollow handle 10 is slightly enlarged as shown, and the side sections 11 and 12 at one enlarged end are provided with bearings 14 for the cylindrical portions 15 of a nut engaging socket 16, the latter of which has a polygonal or otherwise shaped bore 17 adapting the same to the reception of a socket or nut or other member to be turned. Between its cylindrical portions by which it is journaled in the bearing opening 14 of the sides of the handle, the nut engaging socket 16 has an annular series of ratchet teeth 18, thus located between the sides 11 and 12 of the handle, and hence in the hollow of the handle.

Extending longitudinally through the handle are a pair of ratchet levers 19 and 20, each of which has a tooth engaging end 21, these ends of the levers engaging the ratchet teeth 18 of the socket 16 at diametrically opposite sides of the latter, as plainly seen in Fig. 1, the said levers 19 and 20 being preferably connected by a yielding spring member 22, at a point adjacent their tooth engaging ends in order to draw the latter into engagement with the ratchet 18 and maintain such engagement substantially at all times.

At its opposite enlarged end, the handle 10 has a transverse stud 23, extending through the inner end of a lever 24 which projects exteriorly beyond the adjacent end of the handle 10 substantially in the direction of the longitudinal axis of the handle. The lever 24 is movable independently of the handle 10 and for this purpose the latter has at its adjacent enlarged end, a transversely extending slot 25 in which a portion of the lever works during such movement. The lever 24 is also provided at its inner end with extensions 26 at diametrically opposite sides of its fulcrum 23 to which extensions the adjacent ends of the ratchet levers 19 and 20 are pivoted at 27 and 28, as most plainly seen in Fig. 1, in order that, with the handle stationary, the lever 24 may be moved back and forth as will be seen by a comparison of the full and broken lines in Fig. 1, so as to actuate the ratchet levers 19 and 20 and in turn rotate the nut engaging socket 16 in one direction.

It is obvious that the construction thus plainly described provides, under ordinary circumstances, for the use of the handle 10 as the main source of leverage for turning the nut engaging socket as usual, and that where a nut to be turned is located between adjacent parts such as for instance, the cylinders of a multi-cylinder engine, where it is impossible to move the handle 10 as usual, the lever 24 may be utilized as above described, for the rotation of the nut engaging socket, so as to avoid the necessity of having special tools, such as extension wrenches and the like for this purpose.

It is obvious that the improved tool here set forth may be made of various materials and, for convenience, may be formed in various lengths, and that as described, my invention provides a simple construction of great durability and effectiveness, and it is further obvious that a dog 29 or like device may be employed and controlled by a spring 30, to engage the ratchet teeth 18 for preventing the engaging socket 16 from rotating in one direction.

I claim:

1. A wrench comprising a hollow handle, a nut engaging socket journaled transversely through one end of the handle and having ratchet teeth around the same in the hollow of the handle, a pair of spaced levers extending longitudinally within the handle and having engaging ends in connection with the ratchet teeth at diametrically opposite sides of the said socket, and a lever fulcrumed in the opposite end of the handle and movable independently thereof, said last named lever having extensions at diametrically opposite sides of its fulcrum to which the opposite ends of said ratchet levers are pivoted.

2. A wrench comprising a hollow handle having a transversely slotted opening at one end and having spaced openings adjacent its opposite end, a nut engaging socket member journaled through the last named openings of the handle and having an annular series of ratchet teeth therearound within the hollow of the handle, ratchet engaging levers extending longitudinally through the handle and engaging diametrically opposite sides of the socket member at one end, and a lever fulcrumed at its opposite end within the opposite end of the handle, said lever projecting beyond the respective end of the handle in the general direction of the longitudinal axis of the latter and working in the slotted opening of the handle, and said lever being further provided with lateral extensions projecting at diametrically opposite sides of its fulcrum and to which the opposite ends of said ratchet levers are pivotally connected.

EDWIN L. ERICKSON.