C. L. STEWART.

WRENCH.

APPLICATION FILED JULY 23, 1908.

917,904. Patented Apr. 13, 1909.

Fig. 1.

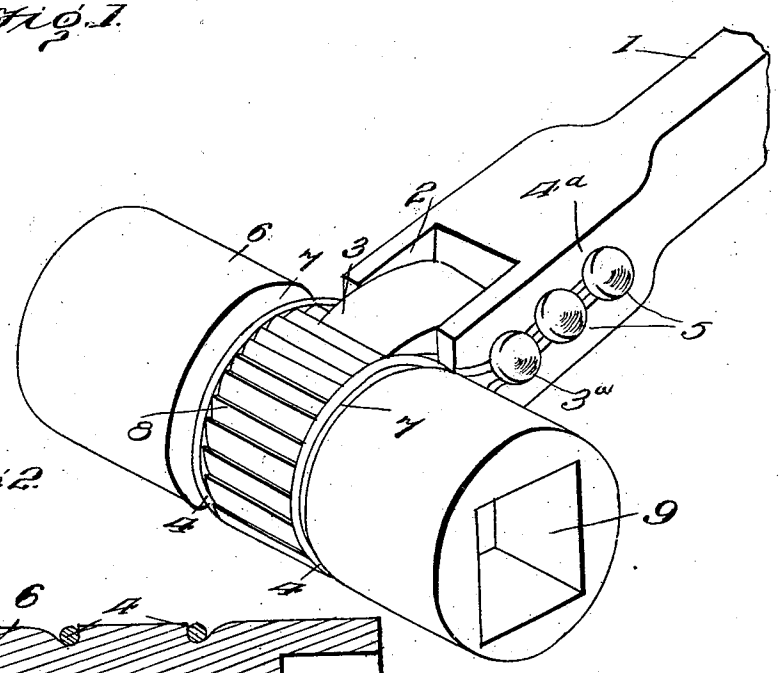


Fig. 2.

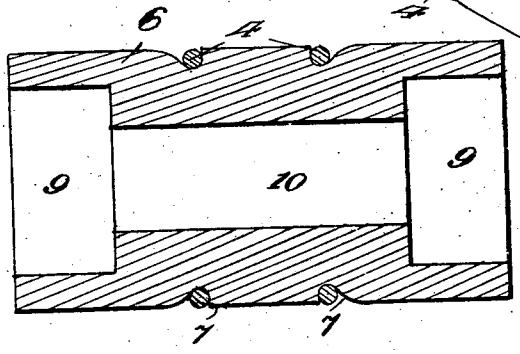


Fig. 4.

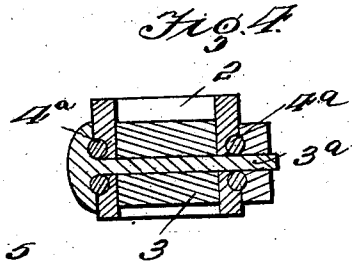
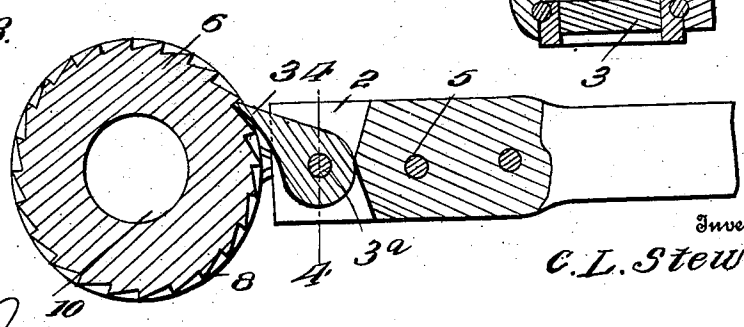


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

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WRENCH.

No. 917,904. Specification of Letters Patent. Patented April 13, 1909.

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To all whom it may concern:

Be it known that I, CHARLES L. STEWART, a citizen of the United States, residing at Lake Mills, in the county of Winnebago and State of Iowa, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

The present invention relates to certain new and useful improvements in ratchet wrenches, and the object of the invention is the provision of a wrench of this character which embodies a novel construction whereby a nut may be quickly applied to a bolt or removed therefrom.

The wrench is more particularly designed for railroad work and enables a rail joint to be quickly made or broken since the nuts may be either tightened or loosened without the necessity of removing the wrench therefrom.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a perspective view of a ratchet wrench constructed in accordance with the invention. Fig. 2 is a longitudinal sectional view through the head. Fig. 3 is a longitudinal sectional view through the center of the wrench. Fig. 4 is a transverse sectional view on the line 4—4 of Fig. 3.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawings, the numeral 1 designates the handle which may be of any approved construction and has one end thereof bifurcated at 2, a pawl 3 being pivoted between the arms of the bifurcation. Projecting beyond the bifurcated end of the handle are the rings 4, the said rings being provided with the tangs 4^a which are fitted against opposite sides of the handle and rigidly secured thereto by the bolts 5 or similar fastening means. It will also be observed that the bolt 3^a upon which the pawl 3 is pivoted passes through the tangs 4^a and aids in retaining the rings 4 in position. The head 6 has an approximately cylindrical formation and is provided upon its exterior with the spaced annular grooves 7 which loosely receive the rings 4. Between the grooves 7 are located the ratchet teeth 8 which are engaged by the pawl 3 so that an intermittent rotary motion is imparted to the head when the handle or lever 1 is reciprocated, the pawl slipping over the teeth when the handle is moved in one direction and engaging the teeth when the handle is moved in the opposite direction. The ends of the head 6 are provided with the sockets 9 which have a square or angular formation corresponding in size and shape to the nuts in connection with which the wrench is to be utilized. The two sockets 9 at opposite ends of the head are connected by an opening 10 which is designed to receive the end of the bolt upon which the nuts are being threaded. When it is desired to tighten the nuts the socket 9 at one end of the head is employed, while when it is desired to loosen the nuts the opposite socket is employed.

In the operation of the wrench it is merely necessary to place one of the sockets in engagement with the nut and then reciprocate the handle, the head 6 being thereby turned so as to tighten or loosen the nut as desired.

Having thus described the invention, what is claimed as new is:

In a ratchet wrench, the combination of a handle having one end thereof bifurcated, rings projecting beyond the bifurcated end of the handle and formed with tangs which extend along opposite sides of the handle, bolts for securing the tangs to the handle, a head provided with a nut engaging socket and also with a pair of annular grooves loosely receiving the rings, the portion of the head between the annular grooves being provided with ratchet teeth, a pawl arranged within the bifurcated end of the handle and serving to engage the ratchet teeth upon the head to turn the latter when the handle is reciprocated, and a bolt upon which the pawl is pivotally mounted, the said bolt also engaging the tangs upon the rings so as to aid in retaining the tangs in position against the handle.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES L. STEWART. [L. S.]

Witnesses:

OSCAR HORNER,

E. STEFFENSEN.