

Aug. 7, 1923.

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F. L. HAGGARDT

SOCKET WRENCH

Filed April 1, 1922

Fig. 1.

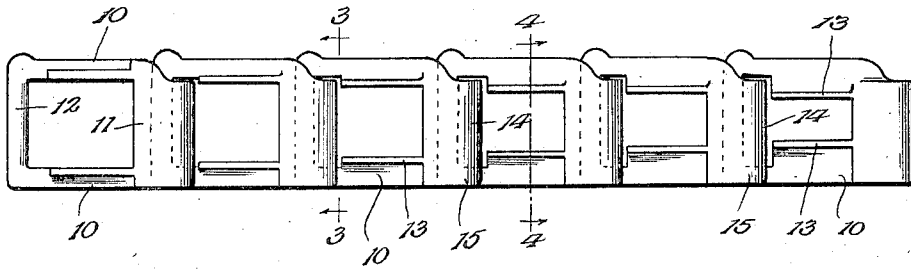


Fig. 2.

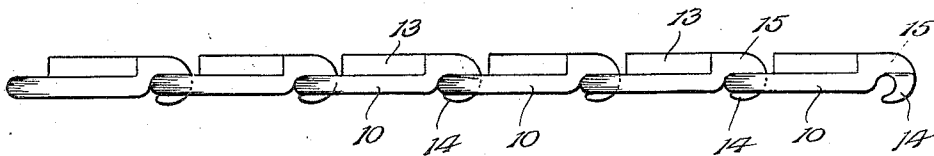


Fig. 3.

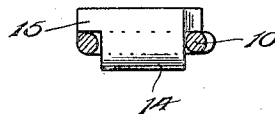


Fig. 5.

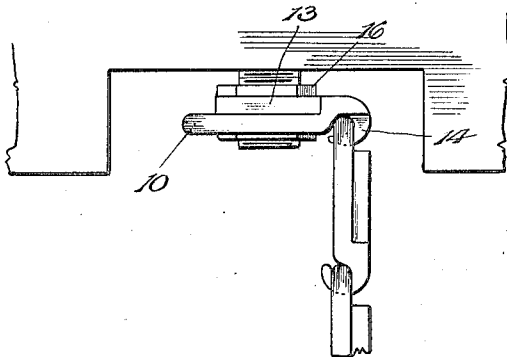
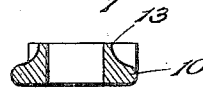


Fig. 4.



Inventor

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By

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# UNITED STATES PATENT OFFICE.

FRED L. HAGGARDT, OF TWIN FALLS, IDAHO.

## SOCKET WRENCH.

Application filed April 1, 1922. Serial No. 548,742.

*To all whom it may concern:*

Be it known that I, FRED L. HAGGARDT, citizen of the United States, residing at Twin Falls, in the county of Twin Falls and State of Idaho, have invented certain new and useful Improvements in Socket Wrenches, of which the following is a specification.

This invention relates to an improved socket wrench and seeks, as one of its principal objects, to provide a device of this character especially adapted for use in places difficult of access.

The invention has a further object to provide a wrench including a plurality of socket links mating to provide a chain which may be flexed to meet the conditions of use of the wrench and wherein the links will rigidly coact when the chain is swung so that the chain may be operated for turning a nut.

And the invention has as a still further object to provide a wrench wherein the several socket links of the wrench will be of graduated dimensions so that the wrench will thus be adapted for a wide range of use.

Other and incidental objects will appear hereinafter.

In the drawings:

Figure 1 is a plan view of my improved wrench,

Figure 2 is an edge elevation of the device,

Figure 3 is a sectional view on the line 3—3 of Figure 1, looking in the direction of the arrows,

Figure 4 is a sectional view on the line 4—4 of Figure 1, looking in the direction of the arrows, and

Figure 5 is a fragmentary elevation showing the wrench in use.

Referring now more particularly to the drawing, it will be seen that my improved wrench is in the nature of a chain made up of a plurality of mating oblong socket links each comprising spaced parallel side members 10 integrally joined by end members 11 and 12 respectively. As best shown in detail in Figure 4, the side members 10 of each of the links are formed at their upper sides with upstanding longitudinally directed flanges 13 so that the side members of the links thus provide jaws having relatively wide and flat confronting faces and,

as will be observed upon reference to Figure 1, the spacing between the jaws of the several links is gradually increased to fit different sized nuts so that the wrench will thus be adapted for a correspondingly wide range of use. Extending from the end members 11 of the links are longitudinally directed down-turned hooks 14 detachably engaging the end members 12 for swingingly connecting the links. These hooks are integrally formed on the links and at corresponding sides of said links the back portions thereof are, as best shown in Figure 3, widened to provide stop lugs 15 overhanging corresponding side members 10 of the links. Thus, the chain may be freely flexed in one direction while the stop lugs 15 will coact with said side members of the links for limiting the flexing movement of the chain in the opposite direction, the lugs being adapted to rigidly lock the links in alinement so that the chain may be manipulated as a rigid structure.

As will now be readily understood in view of the foregoing, any one of the socket links of the device may, as shown in Figure 5, be engaged with a nut, as conventionally illustrated at 16, when the chain may be swung for rotating the nut and should the nut be located in a position difficult of access, the chain may be flexed to clear any adjacent obstruction. When not in use, the chain may be compactly folded so that the device may be readily carried about while, by adding additional links to the chain or detaching some of the links therefrom, to thereby increase or decrease the length of the chain, the leverage of the wrench may be varied. I accordingly provide a particularly simple and effective construction for the purpose set forth and a socket wrench which will be found particularly efficient in practical use.

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

1. A socket wrench including a plurality of links comprising side and end members, the side members being formed with upstanding flanges to provide jaws and corresponding end members of the links being formed with hooks engaging opposite end members of the links pivotally connecting the links to form a chain, the back portions of said hooks being widened to provide stop

lugs to coact with one of the side members of each of the links for limiting the links in alinement.

2. In a socket wrench, the combination of  
5 a plurality of socket links each comprising side and end members, corresponding end members of the links being formed with hooks engaging opposite corresponding  
10 end members of said links pivotally connecting the links, and the back portions of said hooks being widened laterally to define  
15 stop lugs overlapping corresponding side members limiting the links in alinement, and upstanding flanges formed on the side lower faces for engagement with the upper longitudinal faces of said side members limiting the links, in alinement forming a rigid tool.

3. In a socket wrench, the combination

of a plurality of socket links each comprising side and end members, corresponding  
20 end members of the links being formed with hooks engaging opposite corresponding end members of said links pivotally connecting the links, and the back portions of  
25 said hooks being widened laterally to define stop lugs overlapping corresponding side members of the links for engagement with the upper longitudinal faces of said side members limiting the links in alinement,  
30 and upstanding flanges formed on the side members of each of the links forming confronting jaws.

In testimony whereof I affix my signature.

FRED L. HAGGARDT. [L. s.]