S. SCHLANGEN.

HOSE TIE WRENCH.

APPLICATION FILED SEPT. 20, 1909.

1,012,282. Patented Dec. 19, 1911.

Fig. 4.

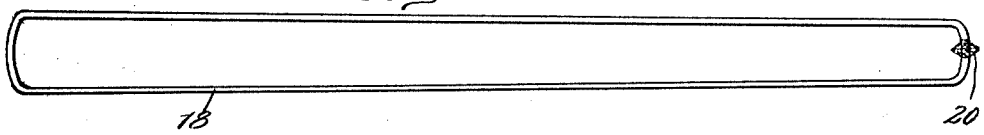


Fig. 1.

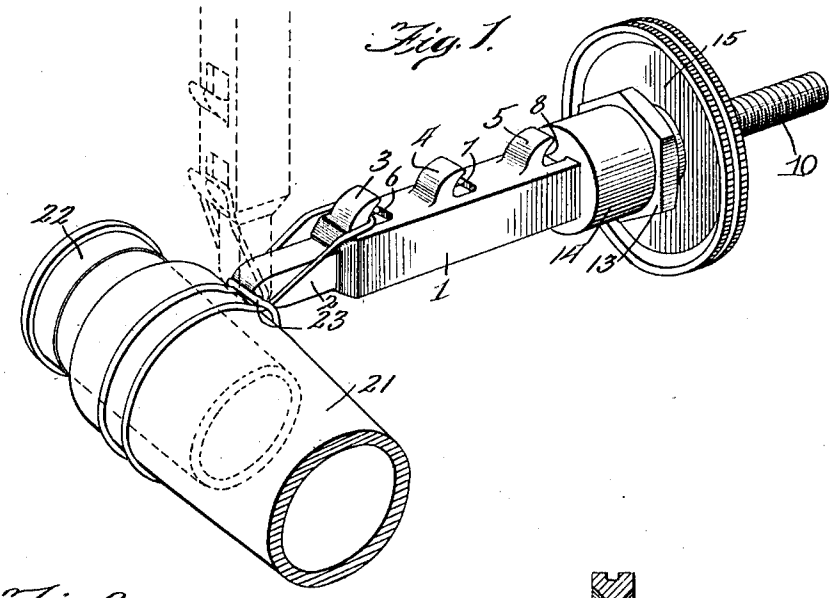


Fig. 2.

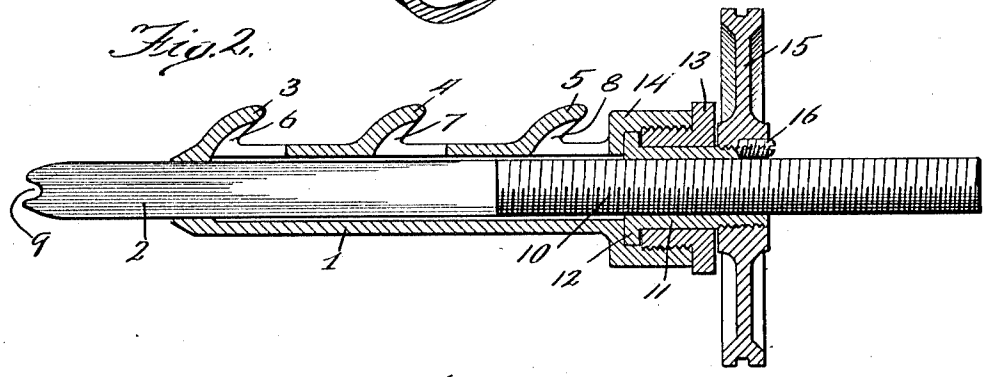
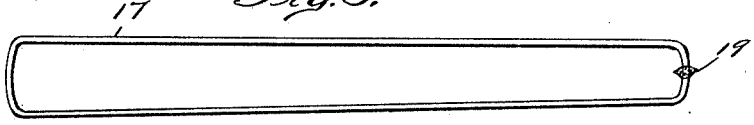


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

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HOSE-TIE WRENCH.

1,012,282. Specification of Letters Patent. Patented Dec. 19, 1911.

Application filed September 20, 1909. Serial No. 518,489.

To all whom it may concern:

Be it known that I, SIMON SCHLANGEN, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Hose-Tie Wrenches, of which the following is a specification.

This invention relates to hose tie wrenches and has for its object to provide an improved device of this nature which is simply and durably constructed and efficient in use.

Other and more specific objects will appear in the following specification and be more particularly pointed out in the claims, reference being had to the accompanying sheet of drawings, showing an exemplification of the invention.

In the drawings, Figure 1 is a perspective view illustrating the method of manipulating my improved device. Fig. 2 is a longitudinal section of the wrench. Fig. 3 is a plan view of one of the welded wire loops used in connection with this invention. Fig. 4 is a plan view of a similar welded loop of larger size.

Referring more particularly to the drawings, the exemplification of this invention shown therein comprises in general two relatively movable members, each of said members being provided with wire engaging means adapting them to engage opposite ends of a closed wire loop. According to the present embodiment of this invention exemplified in the drawings, said members consist of a socket member 1, which may be of any suitable cross section but which is preferably constructed rectangular in cross section to provide simple and efficient means for reciprocably mounting a bolt 2, which is made rectangular in shape to correspond to the socket 1. In order to provide the socket member with suitable wire engaging means disposed at suitable intervals to adapt the device to be used with loops in different lengths, the socket member 1 is provided with a series of projections 3, 4, and 5, which are preferably formed integral with the socket member 1 and inclined thereto to provide a substantially hook-shaped conformation to said projections. Said hooks 3, 4 and 5 are provided with recesses 6, 7 and 8, whereby said hooks are adapted to engage the welded ends of the steel loops to be hereinafter referred to. The movably mounted bolt 2 is, in the present embodiment, slidably mounted within the socket member 1, and is provided with a notch or groove 9 preferably in the end thereof to adapt it to engage a wire in such manner as to permit it to be swung about the said wire as on a pivot. Said bolt is further provided throughout a portion of its length with screw threads 10 which are preferably arranged at the end of said bolt opposite to that containing the notch 9. In order to provide suitable means for imparting a relative adjustment between the members 1 and 2, a sleeve 11 is threaded to the threaded portion 10 of the bolt, said sleeve being preferably provided with a flange 12 by means of which it is rotatably mounted in the end of the socket member 1. In order to permit said sleeve 12 to be rotated while at the same time holding it against axial movement, a gland 13 is threaded into the end socket 14 of the member 1, said gland projecting just far enough into the socket 14 to permit a free rotation of the sleeve 12. A simple and efficient means for rotating the sleeve 12 for imparting an end-wise movement to the bolt 2, consists of a hand wheel 15 which may be rigidly secured to said sleeve in any suitable manner. Preferably, however, the hand wheel 15 is connected by screw threads with the sleeve 11, being keyed thereto by means of a grub 16 by which means when the hand wheel 15 is rotated, the desired adjustment between the members is imparted.

Referring to Figs. 3 and 4, two specimens of elongated wire loops 17 and 18, are provided by taking pieces of steel wire and welding the ends thereof as shown at 19 and 20, the welds forming as usual small protuberances at the welded points. It is for the purpose of accommodating these welds that the recesses 6, 7 and 8 are provided in the hooked projections 3, 4 and 5 of the member 1.

Referring now to Fig. 1, the operation of the device will be clearly understood. When it is desired to secure the end 21 of a section of hose to a hose coupling member 22, said hose end 21 is drawn over the tapered portion of said coupling member in the usual manner, after which an endless steel loop, such as 17 and 18, of a suitable length to pass around the circumference of the hose end, is bent by hand into approximately the position illustrated in full lines in Fig. 1. The welded end having been

passed through the end of the loop, said welded end is passed over one of the hooked projections 3, 4 or 5, whichever may correspond the nearest with the positions of the loop ends. The notch 9 having next been applied to the loop end 23, as shown in Fig. 1, the hand wheel 15 is rotated to force the projections on the member 1 away from the notch 9 in the member 2, thereby causing the welded end of the loop to be drawn taut through the end 23. As soon as the wire loop has been drawn to the desired degree of tautness, the wrench is swung about the end 23 of the wire loop as a pivot into the position indicated in dotted lines in Fig. 1, after which the wrench may be removed and the welded end of the loop cut off preparatory to forcing the loose ends of the wire down against the hose to lock the loop in its adjusted position. The provision of recesses 6, 7 and 8 in the hooked projections 3, 4, and 5 is of importance in a device of this kind inasmuch as the provision of this feature enables the use of a welded steel link which may be made of much greater strength than the usual copper link whose free ends are brazed together.

What I claim is—

1. In a device for the purpose described, the combination with a square tubular socket provided with integral hooks projecting therefrom, said socket being provided with an enlarged threaded end, a gland threaded in said enlarged end, a sleeve rotatably mounted in said gland and having a flange interposed between said gland and said enlarged end, a square bolt reciprocably engaging the square end of said socket, the other end of said bolt being threaded to said sleeve, and means for rotating said sleeve to reciprocate the bolt through said socket.

2. In a device of the character described, the combination with a socket provided with hooked projections, a bolt provided with a notch and reciprocably mounted in said socket, said bolt being provided with a threaded end, a sleeve threaded on said threaded end, said sleeve being rotatably mounted on said socket, means holding said sleeve against axial movement, and means for rotating said sleeve.

3. In a device for making hose tie connections with a welded elongated wire loop, the combination of a member provided with a notch in one end adapting said member to be swung about one end of said loop as a pivot, a second member provided with a projection for engaging the welded end of said loop, said projection being recessed to accommodate the weld, and means for imparting a relative adjustment to said members.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 26th day of August A. D. 1909.

SIMON SCHLANGEN.

Witnesses:

FRANCIS A. HOPKINS,

M. W. CANTWELL.