

J. H. SULLIVAN.  
WIRE HOLDING MEANS FOR WRENCHES.  
APPLICATION FILED MAY 28, 1910.

986,954.

Patented Mar. 14, 1911.

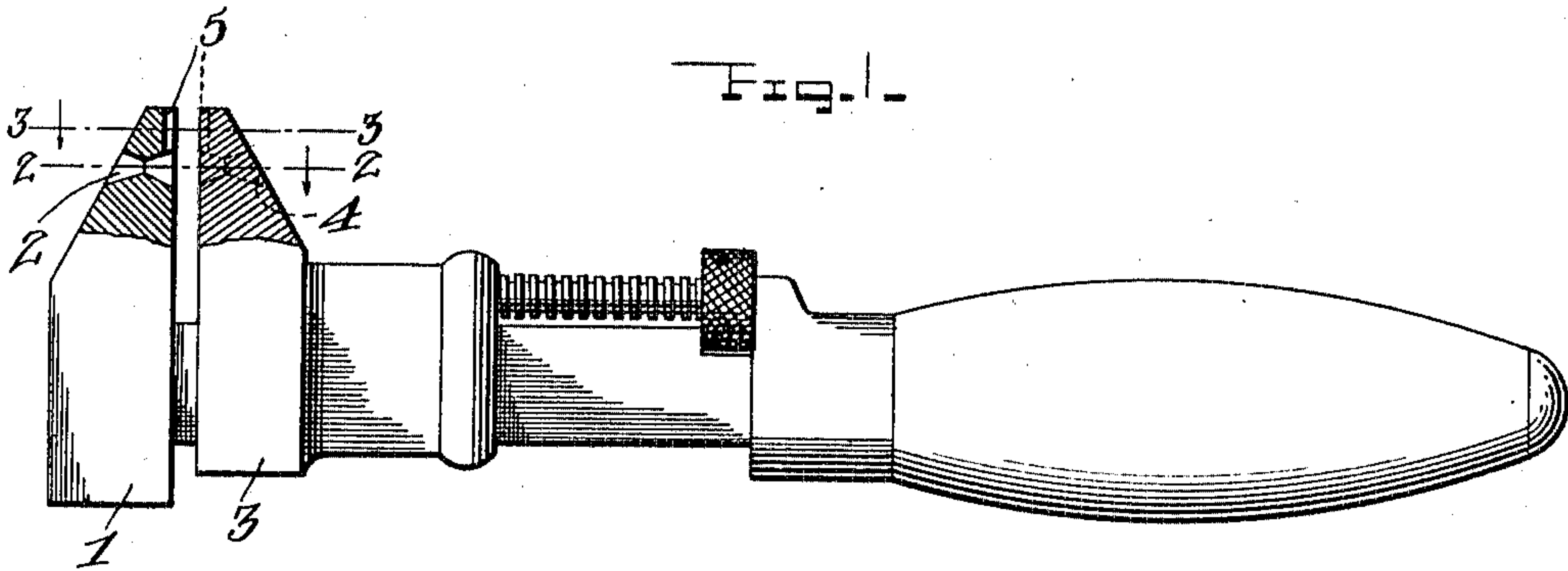


Fig. 2.

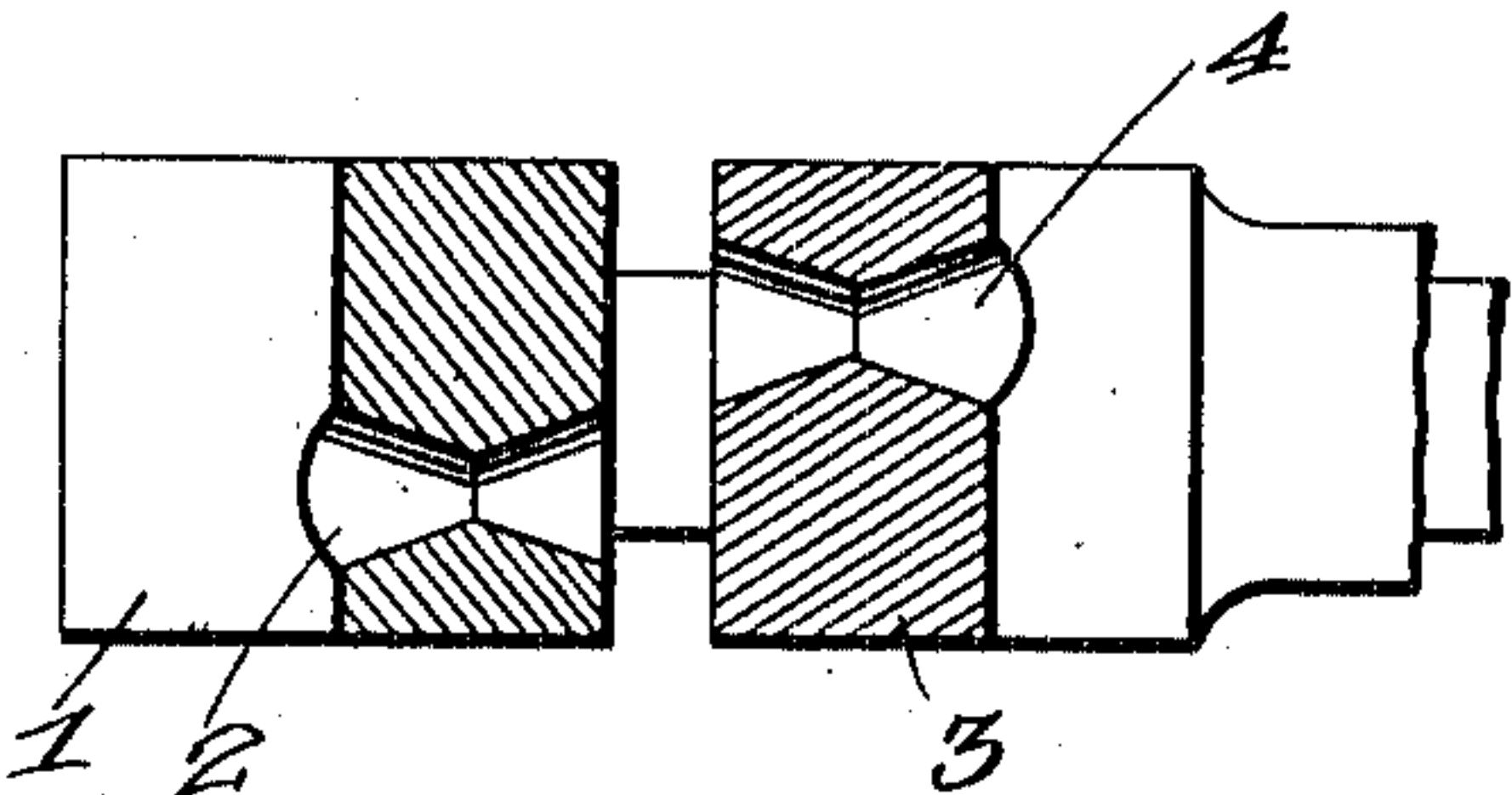


Fig. 3.

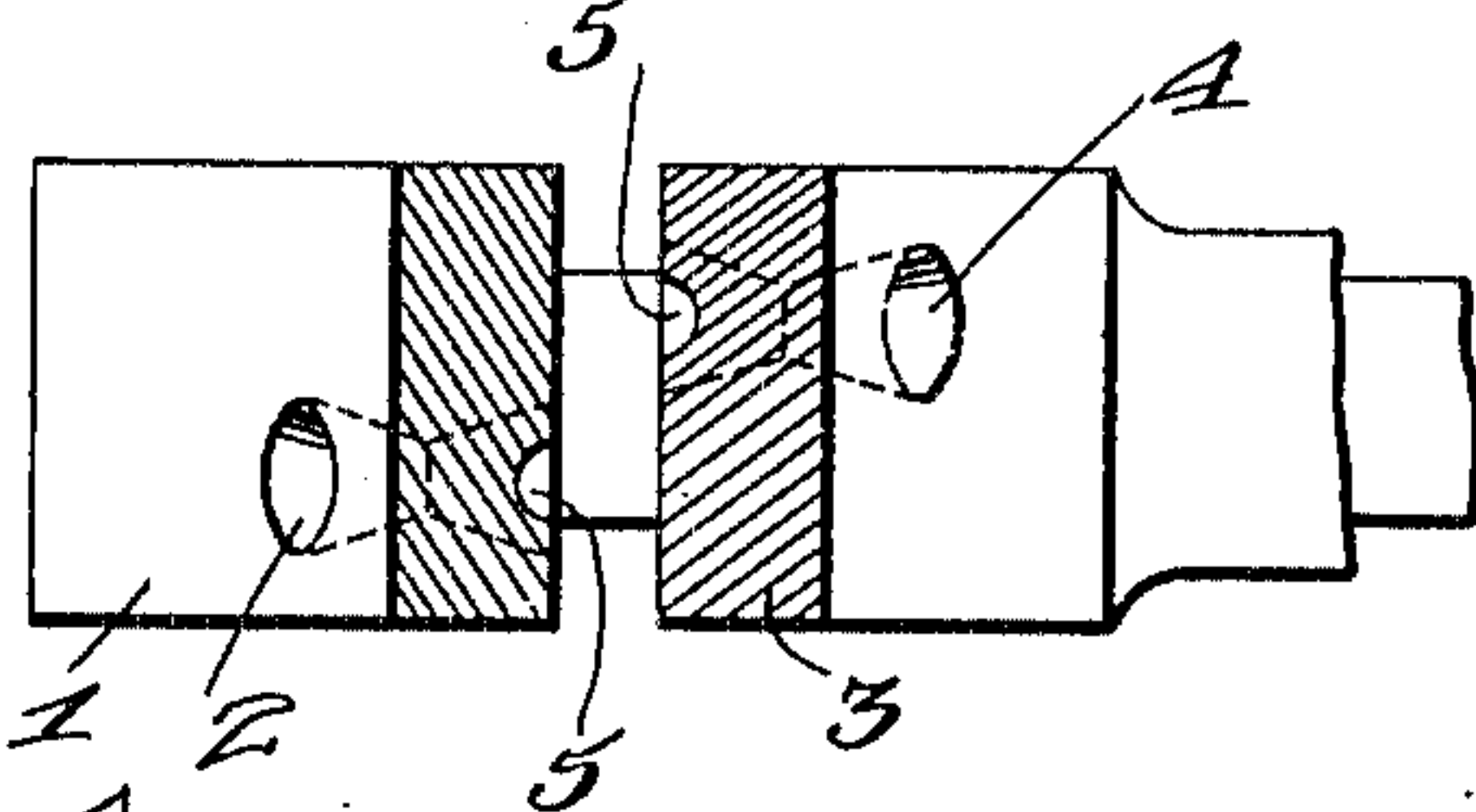


Fig. 4.

Fig. 5.

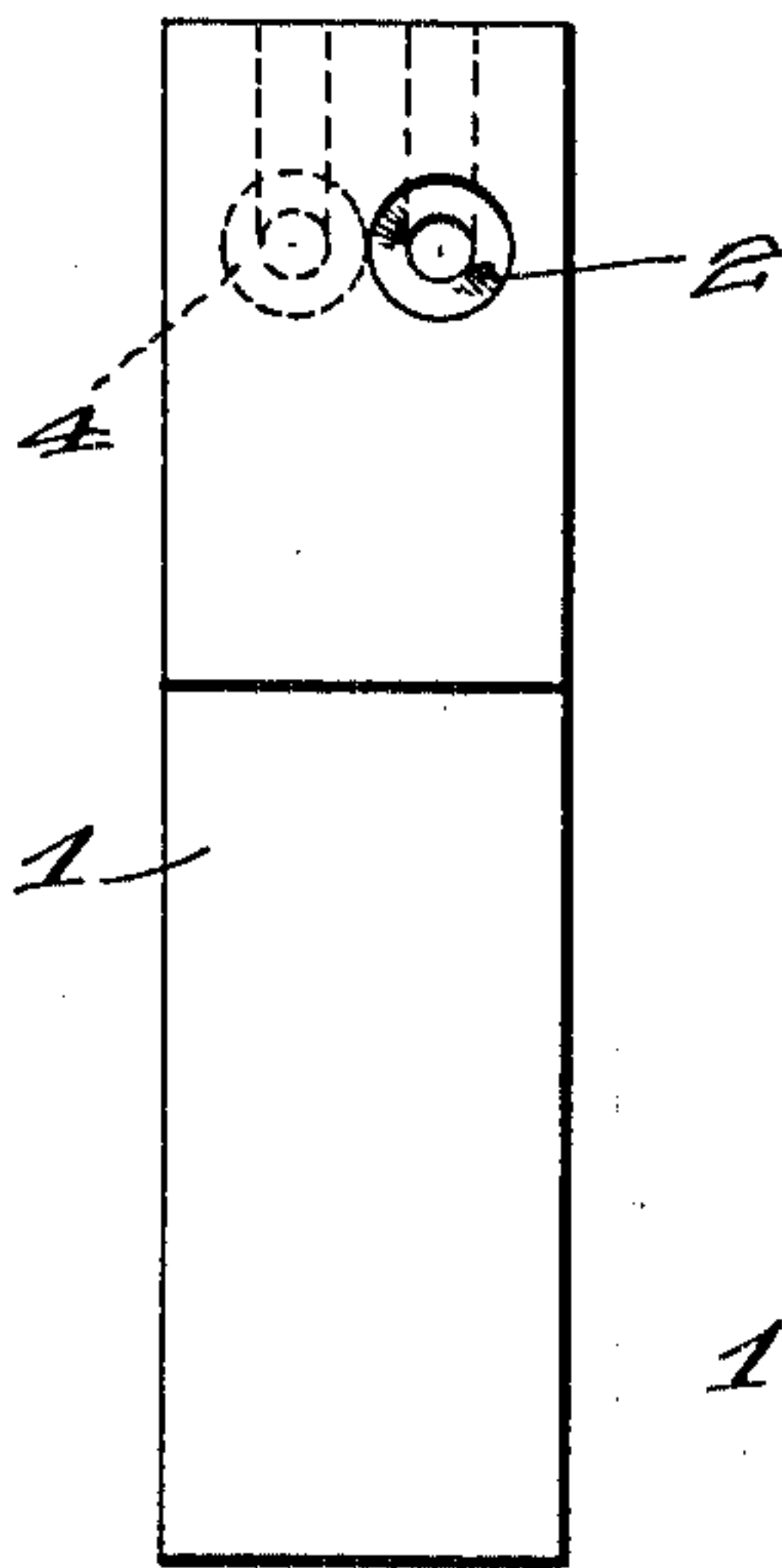
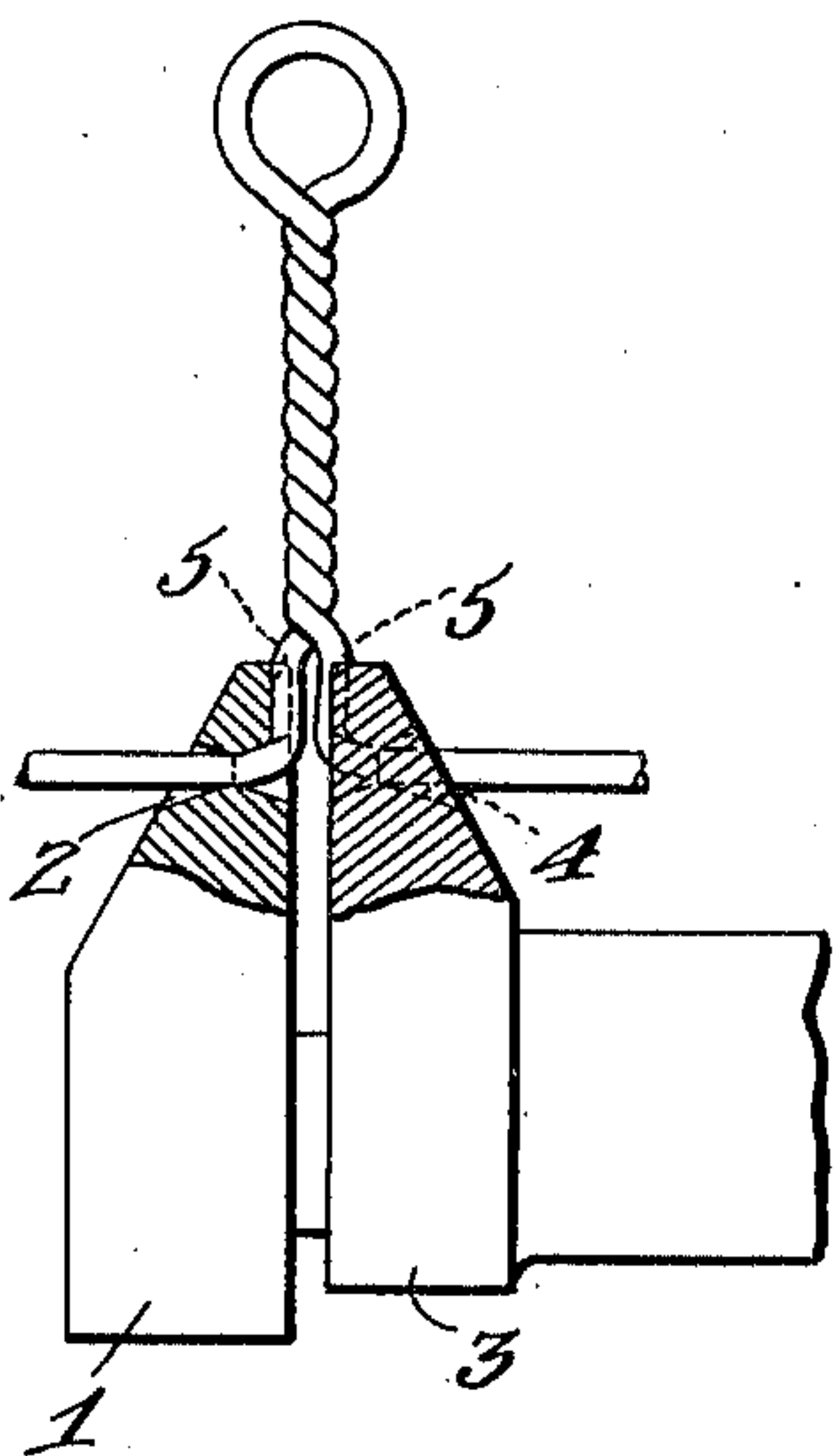
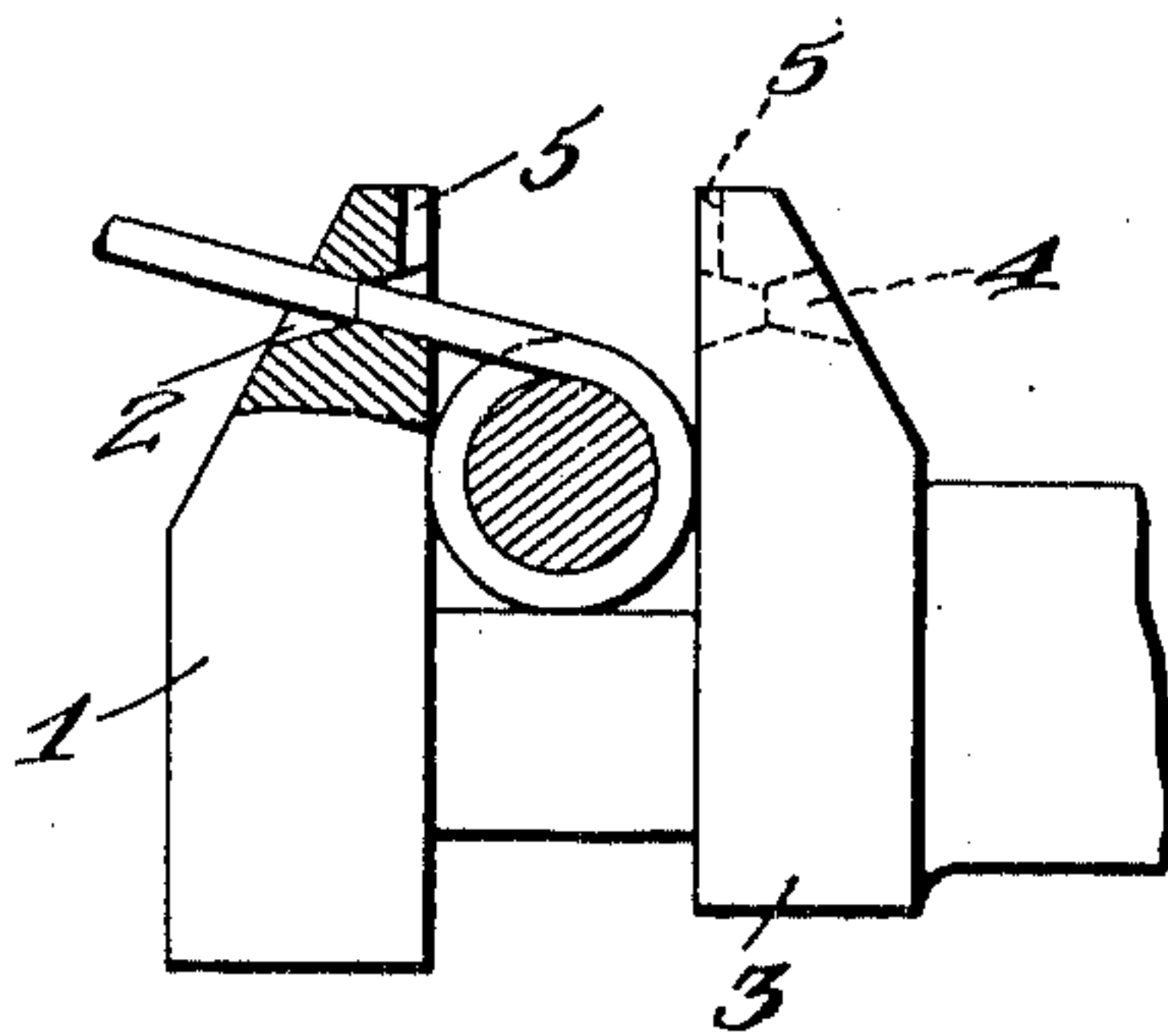


Fig. 6.



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# UNITED STATES PATENT OFFICE.

JOHN H. SULLIVAN, OF GRAND RAPIDS, MICHIGAN.

WIRE-HOLDING MEANS FOR WRENCHES.

986,954.

Specification of Letters Patent.

Patented Mar. 14, 1911.

Application filed May 26, 1910. Serial No. 563,488.

*To all whom it may concern:*

Be it known that I, JOHN H. SULLIVAN, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Wire-Holding Means for 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 improvements in wire holding means for wrenches and similar tools.

One object of the invention is to provide a wrench or similar tool having formed therein wire receiving holes and grooves whereby the ends of wire may be securely held while being coiled, twisted or otherwise manipulated.

Another object is to construct a wrench for the purpose described without weakening or in any way interfering with the use of the same for other purposes.

With these and other objects in view the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings; Figure 1 is a side view partly in section of a wrench embodying my invention; Fig. 2 is an edge view of the wrench with the jaws in section as indicated on the line 2—2 of Fig. 1; Fig. 3 is a similar view on the line 3—3 of Fig. 1; Fig. 4 is an end view of the wrench showing the inner jaw in dotted lines; Figs. 5 and 6 are views showing the manner in which the wrench is used for twisting and for coiling wire.

In the present form of the invention the same is shown as being applied to a monkey wrench and the invention consists in providing the outer jaw 1 of the wrench with a longitudinally disposed hole or passage 2 and the inner jaw 3 with a hole or passage 4. The holes or passages 2 and 4 are formed near the outer ends of the jaws and are arranged slightly out of alinement as clearly shown in Fig. 2 of the drawings. After the holes have been formed through the jaws, their opposite ends are reamed out so that they will flare outwardly from their centers as clearly shown in Figs. 1 and 2 of the drawing. By thus forming the

holes or passages, the bearing surface of the walls thereof is reduced, thereby reducing the frictional engagement of the walls when the wire is drawn through the holes. The flared outer end of the holes also facilitates the engagement of the end of the wire therewith.

In addition to the holes or passages 2 and 4 I also provide the inner or working surface of the jaws with grooves 5 which communicate with the inner ends of the holes and open through the ends of the jaws as clearly shown in the drawings. The grooves 5 are provided to more securely hold the ends of the wire against lateral or rocking movement between the jaws when the latter are closed up into engagement therewith.

By forming a wrench in the manner described the ends of wire, when engaged with the holes or passages in the jaws of the wrench, will be securely held while the wrench is operated or the wire itself manipulated for the purpose of twisting, coiling or otherwise bending the wire.

In Fig. 5 of the drawings, the wire is shown as being held by the wrench for the purpose of twisting the ends or strands of the wire together, in which operation the opposite ends are engaged with the opposite holes in the jaws and either the wrench or the wire itself turned to form the desired twist.

In Fig. 6 of the drawings, the wire is shown as being held by the wrench for the purpose of coiling the wire around a mandrel or other object, and when so engaged one end of the wire is secured to the mandrel or otherwise held while the opposite end is drawn through the hole in one or the other of the jaws while the wrench or the mandrel is turned in the proper direction for coiling the wire around the latter.

While the invention is herein shown and described in connection with a monkey wrench it is obvious that the invention may be applied to other forms of wrenches or similar tools suitable for the purpose described.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the

principle or sacrificing any of the advantages of this invention as defined in the appended claims.

Having thus described my invention, what I claim is:

1. A wrench having wire receiving holes or passages extending through its jaws, said passages being arranged slightly out of alinement whereby the opposite ends of the  
10 wire may be engaged therewith and held for the purpose of twisting or otherwise manipulating the same.

2. A wrench having wire receiving holes or passages extending through its jaws, said  
15 passages being arranged out of alinement

and having their ends flared outwardly, and grooves formed in the inner or working surface of the jaws, said grooves communicating at their inner ends with the inner ends of the holes and having their outer  
20 ends opening through the outer ends of the jaws.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN H. SULLIVAN.

Witnesses:

FRED. S. TEMPLE,

GEORGE W. THOMPSON.

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

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