Dec. 7, 1954 R. J. RAWLINGS ET AL 2,696,134

SLIDABLE INNER JAW WRENCH

Filed Oct. 5, 1953

Fig. 1

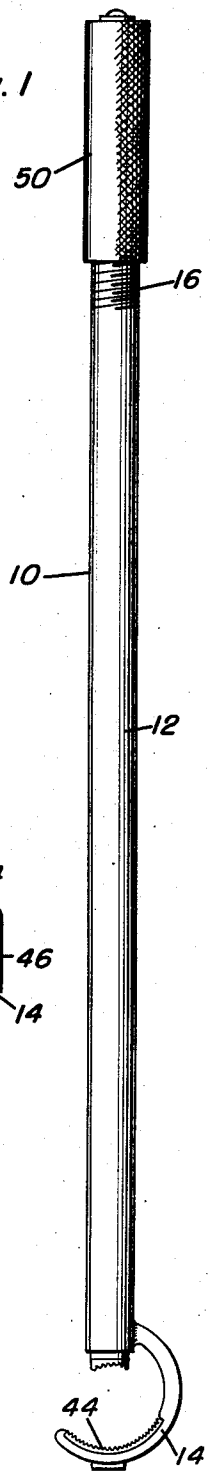


Fig. 2

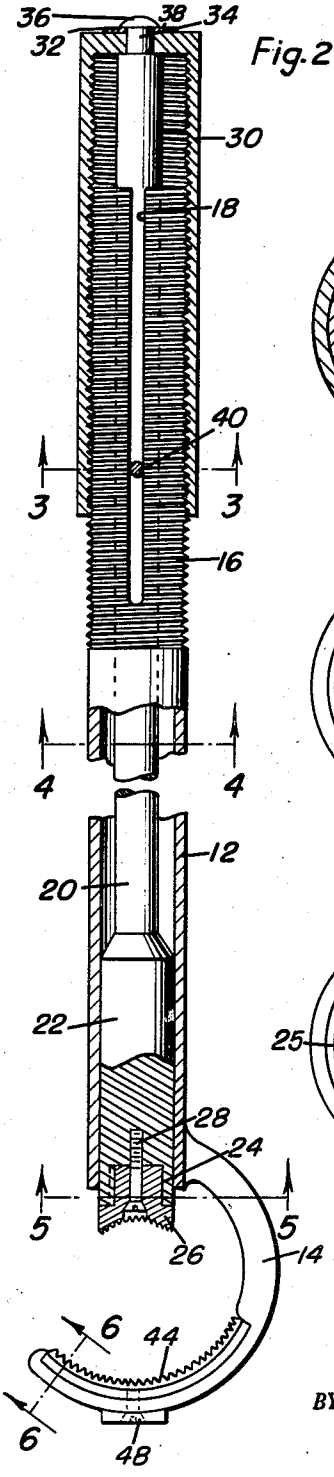


Fig. 3

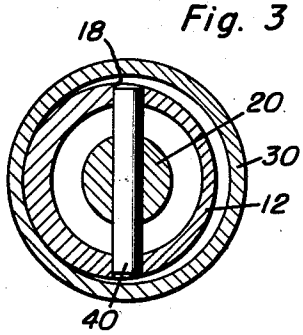


Fig. 4

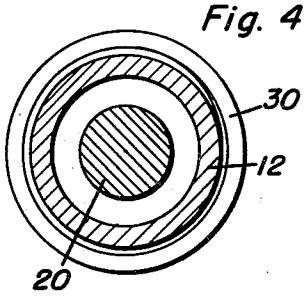


Fig. 5

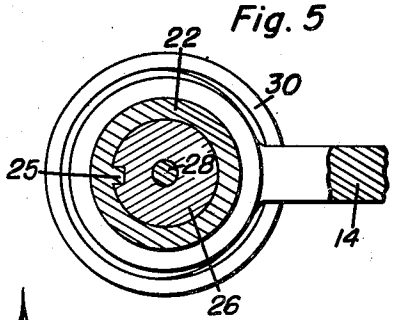
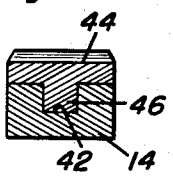


Fig. 6



Roy J. Rawlings
Roy J. Nye
INVENTORS

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

United States Patent Office

2,696,134

Patented Dec. 7, 1954

2,696,134

SLIDABLE INNER JAW WRENCH

Ray J. Rawlings and Roy J. Nye, Prosser, Wash.

Application October 5, 1953, Serial No. 384,227

2 Claims. (Cl. 81—164)

This invention relates to a concrete form tie wrench and more specifically provides an elongated wrench for holding tie bolts between wooden forms while the tie bolts are being secured to the forms.

An object of this invention is to provide a concrete form tie wrench which has a pair of bolt gripping jaws and an operating handle remote from said jaws wherein the jaws may be moved to a gripping position at a point remote from said jaws.

Another object of this invention is to provide a concrete form tie wrench having arcuate jaws with work gripping teeth thereon.

A further object of this invention is to provide a concrete form tie wrench which may be used when the tie bolts are inaccessible between adjacent form sides.

Yet another object of this invention is to provide a concrete form tie wrench which is simple in construction, easy to manipulate, efficient in operation and inexpensive to manufacture.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a top plan view of the wrench of this invention;

Figure 2 is a longitudinal, plan section taken substantially along the center line of the wrench of Figure 1 showing the structural detail thereof;

Figure 3 is a transverse, vertical section taken substantially along section line 3—3 of Figure 2 showing details of the slidable pin;

Figure 4 is a transverse, vertical section taken substantially along section line 4—4 of Figure 2 showing details of the relationship between the components of the wrench;

Figure 5 is a transverse, vertical section taken substantially along section line 5—5 of Figure 2 showing details of the jaw attaching key; and

Figure 6 is a transverse, vertical section taken substantially along section line 6—6 of Figure 2 showing details of the outer jaw keying means.

Referring now specifically to the drawings, it will be seen that the numeral **10** generally designates the concrete form tie wrench of this invention including an elongated tubular member **12** having an arcuate jaw **14** secured to the side of the elongated tubular member **12** at one end thereof and projecting across the open end of the tubular member **12** in spaced relation thereto. The opposite end of the tubular member **12** is provided with an externally threaded portion **16** having a pair of transversely extending elongated slots **18** extending to the remote end of the tubular member **12**. Slidably mounted in the tubular member **12** is an elongated rod member **20** having a bearing portion **22** at one end thereof which closely fits the inner surface of the tubular member **12**. At the end of the rod **20** adjacent the jaw **14** is a bore **24** having a projecting elongated key **25** extending inwardly along one side thereof and a jaw member **26** having a projecting portion received in the bore **24** and having a keyway engaging the key **25**. A screw threaded member **28** is inserted through a suitable bore in the jaw **26** for engaging an internally threaded bore in the end of the rod **20**. At the opposite end of the elongated rod **20** is rotatably secured an elongated and internally

threaded handle member **30**. The closed end of the handle member **30** is provided with a bore **32** receiving a projecting portion **34** of the rod member **20** and the extreme end of the projecting portion **34** is riveted over as indicated by the numeral **36**. A friction washer **38** is positioned between the riveted portion **36** and the tubular handle **30**. A transverse pin **40** is positioned in the rod **20** and extends into the slots **18** in the tubular member **12** adjacent the lower extremity of of the tubular handle member **30** thereby precluding relative rotation between the rod member **20** and the tubular member **12**. The arcuate jaw **14** is provided with an arcuate keyway **42** and an arcuate toothed member **44** is secured to the keyway **42** by a suitable key **46** and a screw **48** extending therethrough for securing the toothed member **44** to the arcuate jaw **14**.

It will also be noted that the inner jaw **26** is arcuate in shape and is provided with teeth forming grooves on the surface facing the arcuate jaw **14**. It will be noted that the exterior surface of the tubular handle member **30** is knurled as indicated by the numeral **50** thereby providing an efficient gripping portion for manipulating the jaws **26** and **14** in relation to each other.

The operation of the device will be readily understood. The elongated tubular member **12** is inserted between adjacent form walls and the jaws **26** and **14** are gripped around a tie bolt by manipulation of the handle member **30** thereby moving the jaws relative to each other as desired. The transverse pin **40** maintains the jaws **14** and **26** in aligned position, and the gripping teeth on the jaws **26** and **14** provide an efficient and non-slipping grip for the tie bolts or the portions to be gripped. This device is especially useful in securing tie bolts and spreader bolts to concrete forms wherein reinforcing rods are placed between adjacent concrete form side walls thereby forming the concrete forms with an inaccessible interior opening. Obviously, the jaws have removable tape portions such as indicated by the numeral **44** thereby providing a renewable gripping portion or a different shaped gripping portion as may be desired. The wrench of this invention should be elongated in such a manner that inaccessible spots may be easily reached and by proper manipulation of the jaws and the handle member the device may be utilized in fastening and unfastening bolts or tie members in a most convenient and efficient manner.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claims.

What is claimed as new is as follows:

1. A concrete form tie wrench comprising an elongated tubular member having a jaw member at one end thereof and an externally threaded portion at the other end, a rod member longitudinally slidable in said tubular member, a jaw on said rod member in opposition to said jaw member, and means for moving said jaws in relation to each other.

2. The structure as defined in claim 1 wherein said tubular member is provided with an elongated slot and said rod member is provided with a projecting pin slidable in said slot wherein said rod member is non-rotatively slidable in said tubular member thereby maintaining said jaws in alignment.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
284,904	Rose	Sept. 11, 1883
421,892	Barber et al.	Feb. 25, 1890
2,389,933	Rober	Nov. 27, 1945
2,526,167	Sparks	Oct. 17, 1950

FOREIGN PATENTS

Number	Country	Date
978	Great Britain	of 1880