

C. E. COOK.  
 TOOL FOR TWISTING WIRE JOINTS.  
 APPLICATION FILED JUNE 1, 1908.

919,323.

Patented Apr. 27, 1909.

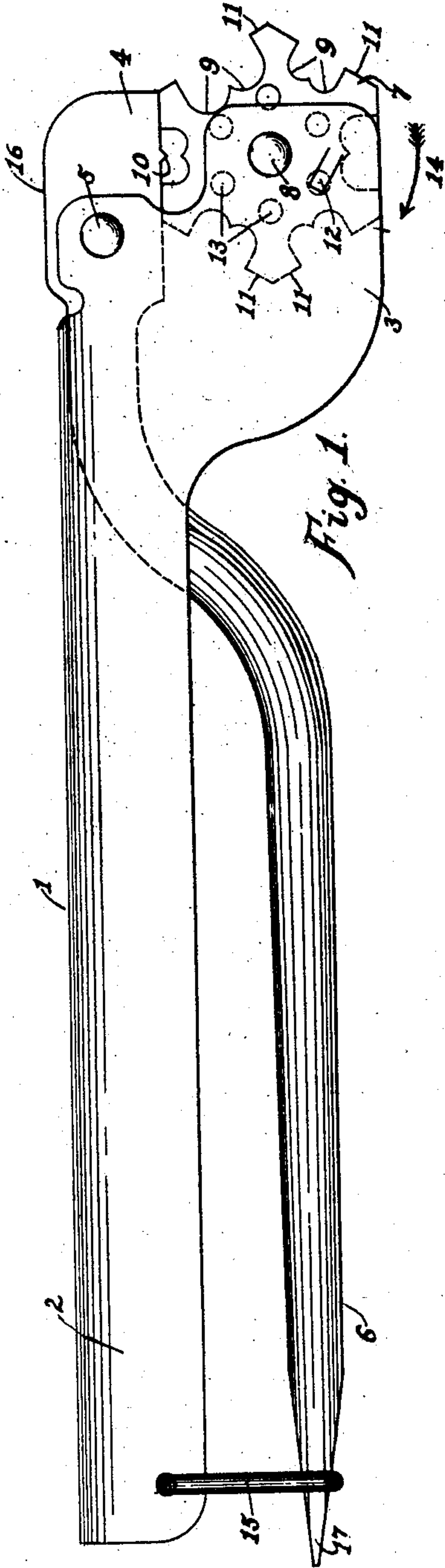


Fig. 1.

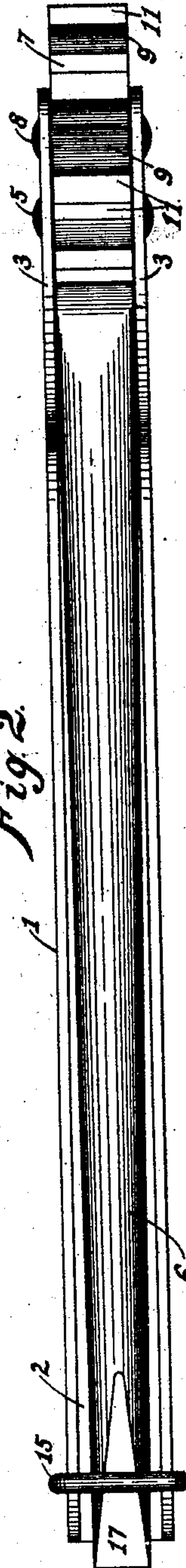


Fig. 2.

WITNESSES:

*R. G. Parker.*  
*J. H. Thompson.*

INVENTOR:

*Clarence E. Cook*  
 BY *Frederick R. Parker*  
 ATTORNEY.



# UNITED STATES PATENT OFFICE.

CLARENCE E. COOK, OF CHICAGO, ILLINOIS, ASSIGNOR TO FRANK B. COOK, OF CHICAGO, ILLINOIS.

## TOOL FOR TWISTING WIRE-JOINTS.

No. 919,323.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed June 1, 1908. Serial No. 435,986.

*To all whom it may concern:*

Be it known that I, CLARENCE E. COOK, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Tool for Twisting Wire-Joints, of which the following is a specification, reference being had to the accompanying drawings, illustrating same.

My invention relates to a device for making wire joints, either between a pair of bare wires or between a wire-joint sleeve and a pair of wires inserted therein.

The principal objects of my invention are to provide a tool for twisting wire joints which will firmly hold the wires, or the wires and the sleeve, to be connected, and not spring apart during the operation of twisting the joint; to provide such a device which may be readily and easily applied to the wires or the sleeve to be twisted; to provide such a device which may be used for twisting several sizes of wires or sleeves and in which the leverage on the clamping jaws is practically the same for all of the different sizes; to provide such a device which does not injure the galvanizing on the wire that is being twisted, or the tinning on iron wire-joint sleeves; and to provide simplicity of construction, lightness, and cheapness of manufacture in such a device.

Other objects will be apparent from the following specification.

In the drawings, Figure 1 is a side elevation of the preferred form of the device of the present invention; and Fig. 2 is a bottom view of Fig. 1.

Like characters refer to like parts in the several figures.

The tool of this invention comprises a trough-like portion 1 preferably formed as shown from a single piece of sheet metal to provide a handle portion 2 and a pair of side portions 3 3. Between the side portions 3 3 is pivoted a clamping member 4, at 5, having a handle portion 6 thereon adapted to be gripped in the hand with the handle portion 2 to force the clamping jaw 4 against its mate, as will be hereinafter described. Between the side portions 3 3 is also pivoted a wheel 7, at 8, having a number of flat faces 11 11 on the exterior portion thereof, each adapted to cooperate with the clamping jaw 4 when the wheel 7 is turned to the proper position. Each of the flat faces 11 11 on the

wheel 7 is provided with a double groove 9 therein shaped to receive and fit a pair of wires or a wire-joint sleeve, the grooves 9 9 in the various faces being of different sizes, preferably as shown, to accommodate various sizes of wires and wire-joint sleeves.

On the clamping jaw 4 is provided a projecting portion 10 extending across the jaw 4 and adapted to fit in between the wires to be twisted, or to press against the wire-joint sleeve between the wires therein, to properly hold the wires or the sleeve and thus firmly clamp the same in place while being twisted.

On at least one of the side portions 3 3 is provided a tongue 12 formed out of the material of the portion 3 and projecting inwardly so as to fit in any one of the depressions 13 13 provided in the wheel 7 to hold the latter in the proper position relatively to the jaw 4 when the wheel 7 is turned so that the proper sized double groove 9 registers with the clamping jaw 4. Thus it will be seen that the wheel 7 can be readily set so as to permit the use of any of the various double grooves 9 9 thereof, and locked in this position as long as it is desired to use one size of double groove 9. By the arrangement 12 13, the wheel 7 in being set relatively to the jaw 4 must be turned in the direction of arrow 14, because tongue portion 12 prevents wheel 7 from turning in the opposite direction. The tongue portion 12 is formed in this manner so that when the jaws 4 and 11 are opened and the tool is placed over the wires or sleeve, the wheel 7 will not turn out of position due to pushing on the handle portions 2 and 6 before the jaw 4 is closed down on the jaw 11.

With the tool of this present invention the wires to be twisted enter between the clamping jaws from the end of the tool opposite the handle portions.

When it is desired to twist a wire joint a pair of the tools shown in the drawings of this invention are used, one at each end of the joint to be twisted, each having its handle portions 2 and 6 spread apart until the wires or the end of the wire-joint sleeve can be inserted into the double groove 9 between the jaws 4 and 11. When the wires or the sleeve are thus inserted into the double groove 9 the handle portions 2 and 6 are squeezed together, which tightly clamps the wires or the sleeve in the double groove 9, the handle portion 6 being then locked rela-



tively to the handle portion 2 by a link 15 which is carried by the handle portion 2 and slipped over the end of the handle portion 6 into a small groove across the outer surface 5 of the end of the handle portion 6, preferably as shown. When both of the tools are thus secured to the wires or to the sleeve to be twisted, they are then twisted in opposite directions until the joint is twisted sufficiently, generally  $3\frac{1}{2}$  turns where wire-joint sleeves are used. In twisting the joint any force from the latter tending to spread the jaws 4 and 11 apart has very little effect in separating these jaws because the joint is 15 very close to the pivots 5 and 8 and not very much out of a plane including the longitudinal axis of the pivot 5 perpendicular to the plane including the engaging surfaces of the jaws 4 and 11, the joint being in a plane including the longitudinal axis of the pivot 8 20 perpendicular to the plane including the engaging surfaces of the jaws 4 and 11. This is true for each of the faces 11 11 of the wheel 7, that is, for any of the various sizes of 25 wires or sleeves which can be twisted by the tool.

On the jaw portion 4 is provided a head 16 shaped and adapted to be used as a hammer. The end of the handle portion 6 is formed as 30 at 17 to be used as a screw driver. This screw driver portion 17 projects out beyond the end of the handle 2 and can therefore be used as a screw driver either when the handle portions 2 and 6 are locked together or are 35 separated. The hammer 16 and the screw driver 17 are found to be very useful, especially in the absence of various other tools.

The double grooves 9 9 and the clamping surface of the jaw 4 are preferably made 40 smooth so as not to injure the galvanizing or the tinning on the surface of the wires or sleeve being twisted. The side edges of the grooves 9 9 and of the clamping surface of the jaw 4, may be rounded off if desired so 45 as not to indent the wires or the sleeve at the corner portions of the clamping jaws.

I wish it to be understood that the wheel 7 may have any number of faces 11 11 desired, such as 6, 8, or any other number.

50 I do not wish to limit this invention to the exact details of construction herein shown, as various modifications in such a device may be made without departing from the scope of the appended claims.

55 What I claim as my invention is:

1. A tool for twisting wire joints, comprising a trough-like portion formed of sheet metal, a wheel pivoted between the side portions of the trough-like portion, a clamping 60 jaw pivoted between the side portions of the trough-like portion, a series of grooves in the

wheel adapted to fit various sizes of wires or sleeves to be twisted and each adapted to register with the said clamping jaw for clamping the wires or sleeves in the said 65 grooves, and a pair of handle portions for clamping the said clamping jaw to the wheel, substantially as described.

2. A tool for twisting wire joints, comprising a wheel having a plurality of faces 70 grooved to fit various sizes of wires or sleeves to be twisted, a clamping jaw adapted to cooperate with the various faces of the wheel, and means for clamping the jaw to the wheel for purposes substantially as described. 75

3. A tool for twisting wire joints, comprising a wheel having a plurality of faces grooved to fit various sizes of wires or sleeves to be twisted, a clamping jaw 80 adapted to cooperate with the various faces of the wheel, means for clamping the jaw to the wheel as desired, the wheel being adapted to be set so that any of the said faces thereof may be used with the clamping 85 jaw, and means for locking the wheel in set position.

4. A tool for twisting wire joints, comprising a rotary member having its exterior portion formed to fit various sizes of wires 90 or sleeves to be twisted, a clamping jaw adapted to cooperate with the rotary member, and means for clamping the clamping jaw to the rotary member in various positions, for purposes substantially as described. 95

5. A tool for twisting wire joints, comprising a rotary member having its exterior portion formed to fit various sizes of wires or sleeves to be twisted, a clamping jaw adapted to cooperate with the rotary member, means for clamping the clamping jaw to the rotary member in various positions as desired, and means for locking the rotary member in said various positions relatively 100 to the clamping jaw. 105

6. In a tool for twisting wire joints, comprising a pair of clamping jaws suitably pivoted to be clamped together and adapted to fit various sizes of wires or sleeves, mechanism whereby all of the various sizes 110 of wires or sleeves to be twisted may be clamped between the said jaws at the same position relatively to the said pivot.

As inventor of the foregoing I hereunto subscribe my name in the presence of two 115 subscribing witnesses, this 29th day of May, 1908.

CLARENCE E. COOK.

Witnesses:

FREDERICK R. PARKER,  
JNO. F. TOMPKINS.