

J. T. WERTZ.
WIRE NIPPER AND TWISTER.
APPLICATION FILED FEB. 5, 1914

1,120,575.

Patented Dec. 8, 1914.

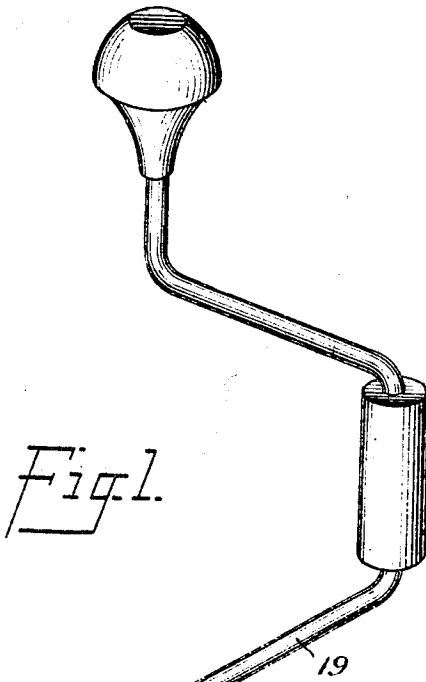


Fig. 1.

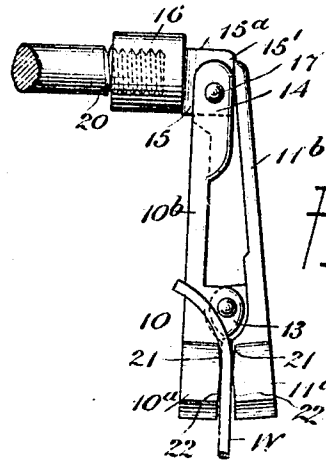


Fig. 2.

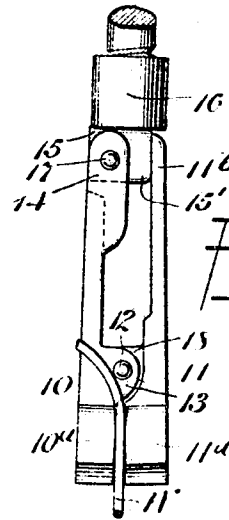


Fig. 3.

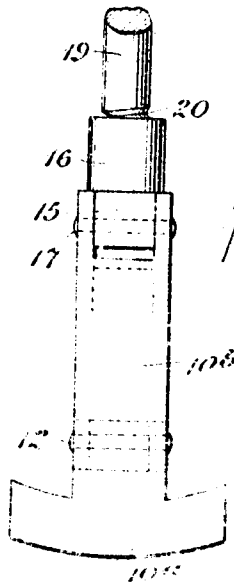
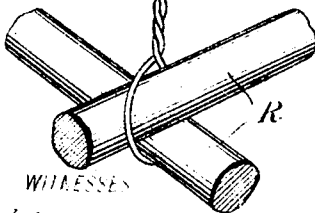


Fig. 4.



WIRE

George A. Blume.
Geo. L. Beebe.

John E. Wertz,
Attorney at Law.

UNITED STATES PATENT OFFICE.

JOHN T. WERTZ, OF NEW YORK, N. Y.

WIRE NIPPER AND TWISTER.

1,100,575.

Specification of Letters Patent.

Patented Dec. 8, 1914.

Application filed February 5, 1914. Serial No. 816,727.

To all whom it may concern:

Be it known that I, JOHN T. WERTZ, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Wire Nipper and Twister, of which the following is a full, clear, and exact description.

10 This invention relates to metal working tools and has particular reference to means for gripping and twisting wires such, for instance, as are used for fastening together reinforcement means for concrete structures, 15 although the use of the device is not to be regarded as being limited to the means as herein stated.

Among the particular objects of the invention is to provide a nipper and twister 20 for securing wires which is of a more easily controlled nature with respect to the connection to and disconnection from the wire, and also with respect to the rapid and powerful rotation of the device for the purpose 25 of twisting the wire, than other devices now commonly used for these purposes.

A further object of the invention is to provide a wire nipper and twister adapted to readily adapt itself to various gages or 30 thicknesses of wires without requiring any adjustment of the parts.

The foregoing and other objects of the invention will hereinafter be more fully described and claimed and illustrated in the 35 drawings forming a part of this specification in which like characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a perspective view showing 40 my improvement in operation; Fig. 2 is a side elevation of the device in the position the several parts assume when being connected to the wire to be twisted; Fig. 3 is a similar view showing the handle brought 45 into operating position and the jaws gripped upon the wire; and Fig. 4 is a rear elevation of the stationary jaw together with the hub in the position shown in Fig. 3.

The several parts of the device may be 50 made of any suitable materials, and the relative sizes and proportions, as well as the general design of the mechanism, may be varied to a considerable extent without departing from the spirit of the invention 55 hereinafter more fully set forth and specifically claimed.

Referring more particularly to the drawings for a specific description of one preferred form of the invention, I show at 10 and 11 a pair of relatively movable jaws 60 pivoted together at 12 for a comparatively slight movement for the purpose of gripping a wire or the like indicated at W, said wire being shown in the form of a loop passing around a plurality of crossed reinforcement rods R. Each of the jaws is substantially T-shaped, having a head and a shank 65 on opposite sides of the pivot. The jaw 10 (which may be regarded as stationary with relation to the jaw 11) is provided, therefore, with a head 10^a and a shank 10^b. It 70 also includes a pair of spaced lugs 13 adjacent the pivot 12 and a pair of ears 14 at the end of the shank opposite the head. These ears are spaced from each other in 75 parallel planes and receive between them a substantially rectangular lug 15 of a handle hub 16. A pivot 17 passes through the ears 14 and a hole adjacent one corner of the lug 15. The other or movable jaw 11 is provided 80 with a head 11^a and a shank 11^b. A lug 18 of the jaw 11 extends between the lugs 13 of the other jaw and constitutes the means of connection with the pivot 12 around 85 which the movable jaw is caused to be swung forcibly by means of the lug 15 of the handle. The shank 11^b is strong and stiff enough to insure the desired grip upon the wire, but by making it slightly flexible the tool 90 is adaptable for wires of different gage without requiring any adjustment of the device. The pivot 17 passing through the lug 15 close to the lower rear corner thereof provides a shoulder 15' adapted to act as a cam 95 upon the extreme end of the shank 11^b of the movable jaw when the handle is swung through an angle of substantially 90 degrees from the position shown in Fig. 2 to that shown in the other figures. The pivot, however, being close to the lower edge of the 100 lug, the cam effect is not materially reduced while the handle is moving finally into the operating position of Fig. 3. The face of the shank 11^b, however, acting upon the flat front face 15^a of the lug 15 constitutes a 105 temporary lock whereby the tool is maintained in gripping engagement with the wire during the manipulation or while the twisting is taking place.

Any suitable handle may be connected to 110 the hub 16 whereby it may be swung around the pivot 17 and subsequently rotated for the

purpose of twisting the wires. As a convenient and satisfactory form of handle I show a sort of brace 19 having threaded engagement with the hub 16 as shown at 20.

5 The inner or adjacent faces of the heads 10^a and 11^a of the jaws may be formed in any suitable manner for effective gripping of the wire, and I prefer to form each of the faces with a pair of facets 21 and 22 each
10 pair of facets meeting each other in a flat or obtuse angle and thereby the grip on the wire is increased. The heads furthermore, as seen from the front or rear, are preferably drawn in arcs of circles having their
15 center within the shanks and thereby the operation of the tool is made more satisfactory than if the T-heads were straight. The shank 10^b of the stationary jaw, together with its ears 14, is sufficiently strong and
20 stiff to withstand the necessary torsional strains to which the tool is subjected in practice, and the movable jaw being held in locking position by the hub 16 and its lug 15, the two loose ends of the wire which are
25 nipped by the tool are held firmly in position until the twisting is finished, and then by swinging the handle through the angle of 90 degrees again, or in a reverse direction from that above described, the tool is readily
30 removed from the work ready for application to another wire.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

35 1. In a device of the character set forth,

the combination of a pair of T-shaped gripping jaws, each jaw including a head and a shank, means pivotally connecting the jaws together on an axis substantially parallel to the heads, a hub pivoted to one of the jaws 40 on an axis parallel to the first-mentioned pivot and remote from its head, said hub including a cam member through which the pivot extends, and means to move the hub through an angle around its pivot to cause 45 said cam member to act upon the opposite jaw for the purpose of gripping the work.

2. In a device of the character set forth, the combination of a pair of jaws, each of substantially T-shape and including a head 50 and a shank, a pivot connecting the jaws together for slight relative movement, said pivot being close to and substantially parallel to the heads, a cam member connected to the end of the shank of one jaw opposite 55 its head, the cam pivot being parallel to the pivot for the jaws, said cam cooperating with the free end of the opposite jaw, and a handle connected to said cam member to cause its movement to effect the gripping 60 action of the device and rotation of the jaws after gripping the work.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN T. WERTZ.

Witnesses:

GEO. L. BEELER,
PHILIP D. ROLLHAUS.