

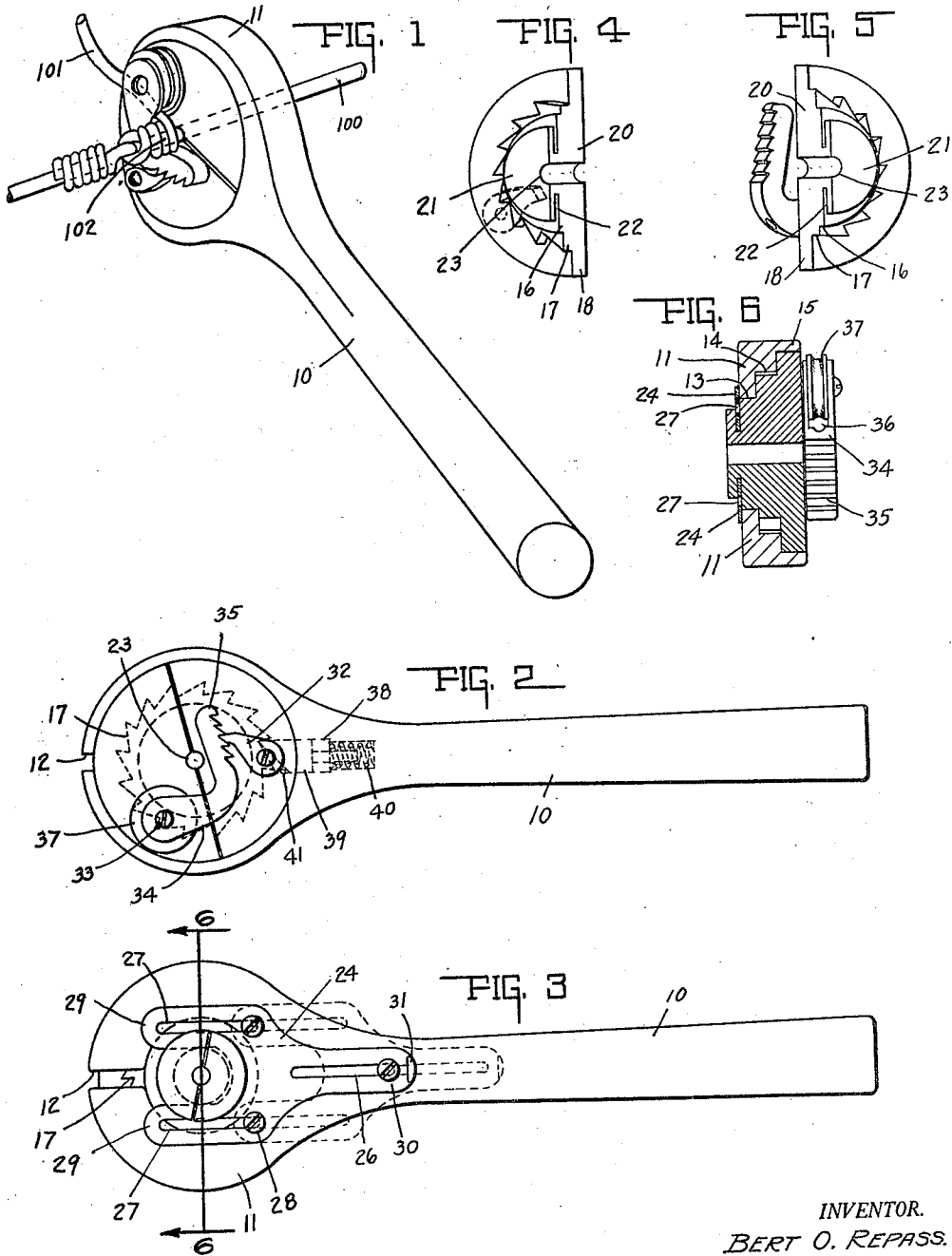
Jan. 22, 1924.

1,481,432

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WIRE SPLICING TOOL

Filed Feb. 12, 1923



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WIRE-SPLICING TOOL.

Application filed February 12, 1923. Serial No. 618,638.

To all whom it may concern:

Be it known that I, BERT O. REPASS, a citizen of the United States, and a resident of Carmel, county of Hamilton, and State of Indiana, have invented a certain new and useful Wire-Splicing Tool; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like numerals refer to like parts.

This invention relates to a wire twisting, coiling or splicing device.

The chief object of the invention is to provide a simple and manually operable device for twisting, coiling or splicing a wire end around a straight wire, and is particularly adapted for operation upon a stationarily or rigidly secured wire and in positions where complete rotation of the device about the rigid wire is impossible.

The chief feature of the invention consists in the particular construction of the parts of the foregoing device and the arrangement of the same, whereby a device of the character described may be more economically produced than heretofore has been possible, and which device likewise is adjustable to the sizes of the wire operated upon by said device, whereby a tight coil or twist is secured.

The full nature of the invention will be understood from the accompanying drawings and the following description and claims.

In the drawings, Fig. 1 is a perspective view of the manually operable wire twister embodying the features of the invention and showing the same associated with one form of wire coil. Fig. 2 is a side elevational view of the device. Fig. 3 is another side elevational view of the device and is taken from the opposite side of that shown in Fig. 2. Fig. 4 is a perspective view of one-half of the removable unitary member. Fig. 5 is a similar view of the complementary and other half and associated parts. Fig. 6 is a transverse sectional view of the associated parts taken on the line 6—6 of Fig. 3 and in the direction of the arrows.

In the drawings 10 indicates a unitary handle which carries a cylindrical head 11 integral therewith, and said head is provided with a diametral slot 12 of sufficient

width to receive the largest size of commercial fencing wire. The head 11 is shown centrally apertured, and particularly in Fig. 6 there is illustrated three superposed and enlarged chambered portions, to-wit, 13, 14 and 15, all of which are concentric with each other. Positioned in the chamber 13 is a bearing portion 16, while positioned in the chamber portion 14 is a ratchet portion 17, and positioned in the chamber 15 is a bearing portion 18. It will be observed from Figs. 4 and 5 that the parts or portions 16, 17 and 18 are integral and that said parts form a body portion 20 substantially semi-circular in form. Herein both halves or semi-circular constructions are identical. Herein said body portion is extended at 21 and is provided with a semi-annular groove 22 for a purpose hereinafter to be described. Axially positioned with respect to the concentric portions 21, 16, 17 and 18 is a semi-circular opening 23, the same forming a central wire receiving opening.

The means for retaining the two semi-circular parts within the head portion 11 of the handle constitutes a Y-shaped slide or yoke 24, each arm of which is longitudinally apertured, as at 26 and 27. The head portion 11 is provided with three retaining pins herein shown in the form of screw bolts 28, and these pins align the Y-shaped retainer 24 and slidably support the same adjacent said head portion 11. The outer ends 29 of the Y-shaped retainer are receivable by the groove portions 22 of the semi-circular parts, and thus are adapted to retain said parts within the head portion. The Y-shaped retainer 24 upon the intermediate leg 30 is provided with an upturned portion 31 for a finger grip to permit the retainer to be readily reciprocated upon the pins into and out of locking engagement with the semi-circular parts.

Upon one of the semi-circular parts and upon the portion 18 thereof, there is pivotally supported a dog 32. Upon the other semi-circular part and upon the portion 18 thereof, there is pivotally supported at 33 a slotted arm having a toothed portion 35 and a slotted portion 36. The slotted portion 36 is adapted to receive a pivotal support and grooved pulley 37. The toothed portion 35 of the pivotally supported arm

is adapted to be engaged by the dog 32 and the position of said dog determines the distance between the pivotally supported arm 34 and the central opening formed by the semi-circular openings 23.

The operation of the device heretofore described is as follows: The retainer 24 is retracted and the two semi-circular parts are removed from the head portion 11. The head portion thereupon is passed across the stationary or rigid wire 100, the latter passing through the slot 12. Subsequently, the two semi-circular halves hereinbefore described are positioned together so as to encircle the wire 100 and then the encircling semi-circular portions and the head are brought together and the retainer member 24 is projected into locking engagement. The free end 101 of the wire 100 is then bent so as to extend substantially radially of the wire 100 and is passed through the slot 36 in the slotted arm 34. Rotational movement of the handle 10 about the wire 100 in a counterclockwise direction, reference being had to Fig. 1, causes the wire end 101 to engage upon the pulley 37. Subsequent rotation of the handle causes the free end of the wire to be wrapped around the stationary portion of the wire, and in said wrapping movement the coils 102 thereof are retained in tight engagement with the wire 100 by reason of the engagement with the inner face of the toothed end 35 of the arm 34. When the diameter of the wire 100 is relatively large, the dog 32 engages the outermost tooth or may ride free of said teeth. When the wire is of very small diameter, the dog 32 engages the innermost tooth, or that closest to the pivotal support, thereby bringing the inner face of the free end of the arm closer to the opening 23.

In certain cases, it is impossible to completely revolve the handle 10 about the wire 100, and for this situation the ratchet 17 is provided. The handle portion 10, as shown clearly in Fig. 2, is slotted diametrically with respect to the head portion 11 at 38, and positioned in said slot is a detent or spring-pressed pawl 39 associated with a spring 40. The pawl 39 is adapted to engage the teeth 17 and permit overrunning movement in a clockwise direction but prevent independent movement in the counterclockwise direction, or in the winding direction. Such a construction is well understood in the art, but herein the simplicity of such a construction is the feature thereof, since a portion of the bearing surface of the semi-circular parts is cut away to form a ratchet, and the handle provides a socket for the detent. The outward movement of the detent 39 is limited by the pin 41, which prevents the detent from becoming lost.

It is to be noted from the foregoing con-

struction that the handle may be of malleable iron or cast iron. The retainer member 24 may be a single strip of sheet metal and the similar semi-circular parts may be die cast, or of cast metal. It is further to be noted that a simple reciprocatory movement of the retainer member suffices to lock and unlock the several parts. The construction is such that the retainer is not detachable from the handle and the workmen need only watch the handle and the two semi-circular parts to which the other parts are all secured.

The invention claimed is:

1. A device of the character described comprising a wire mount including a handle portion, an arm pivotally and eccentrically mounted upon the wire mount and having its free end toothed, and a pawl engaging said toothed surface of said arm and adapted to maintain the arm in the adjusted and tilted position, substantially as described.
2. A device of the character described comprising a wire mount including a handle portion, a slotted arm pivotally and eccentrically mounted upon the wire mount and having its free end toothed, a pawl engaging said toothed surface of said arm and adapted to maintain the arm in the adjusted and tilted position, substantially as described, and a pulley positioned in said slot for engaging the free end of the wire.
3. In a device of the character described, the combination of a unitary handle and head portion having superposed concentric communicating chambers formed therein, a plurality of complementary wire mount forming members seatable in said chambers and having a portion projecting there-through, and a reciprocatory member slidably mounted on said handle for locking said complementary wire mount forming members to the handle.
4. In a device of the character described, the combination of a unitary handle and head portion having superposed concentric communicating chambers formed therein, a plurality of complementary wire mount forming members seatable in said chambers and having a portion projecting there-through, a reciprocatory member slidably mounted on said handle for locking said complementary wire mount forming members to the handle, and coiling means upon the wire mount forming members and oppositely positioned from said retaining means.
5. In a device of the character described, the combination of a unitary handle and head portion having superimposed concentric communicating chambers formed therein, a yieldingly mounted dog mounted in said head portion and projecting into one of said chambers, a plurality of com-

plementary wire mount forming members forming means upon said complementary
seatable in said chambers and having a por- wire mount forming members and upon the
tion of their periphery toothed to form a opposite side from said securing means. 10
ratchet for engagement by said yieldingly
5 mounted dog, means upon one side of the In witness whereof, I have hereunto affixed
head portion for securing said wire mount my signature.
forming members in said handle, and coil

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