

B. W. WHITWORTH.
 DEVICE FOR FORMING LOOPS IN WIRES.
 APPLICATION FILED JAN. 18, 1915.

1,151,639.

Patented Aug. 31, 1915.
 2 SHEETS—SHEET 1.

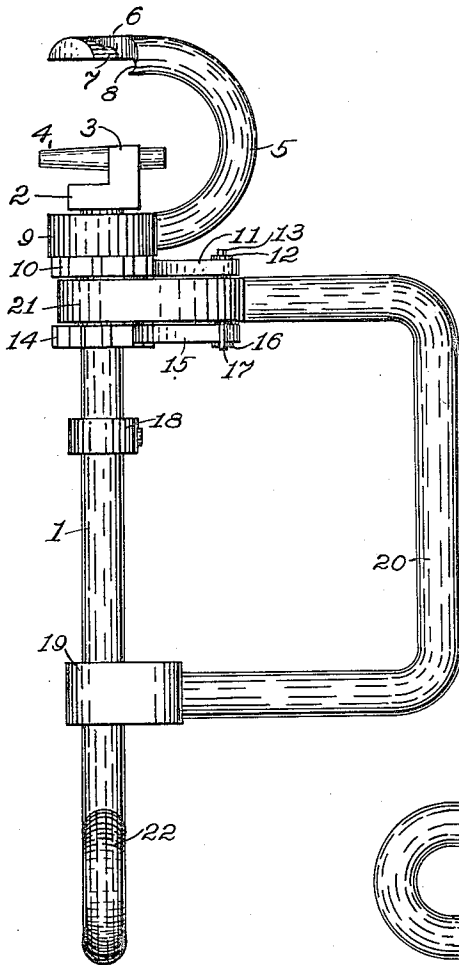


Fig. 1.

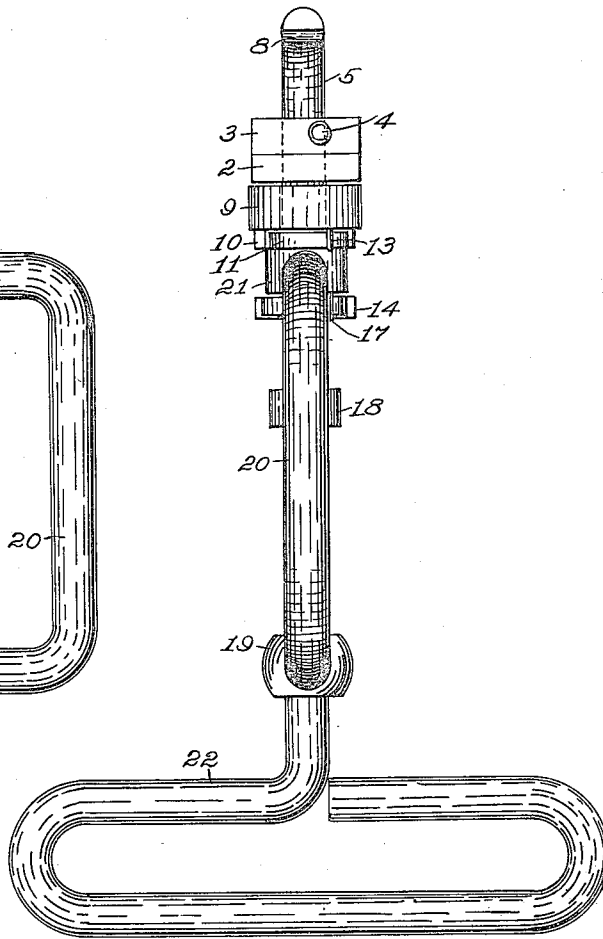


Fig. 2.

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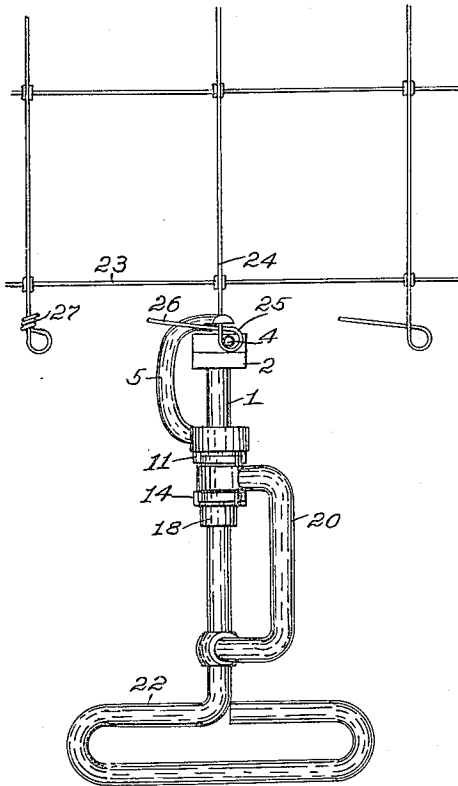


Fig. 3.

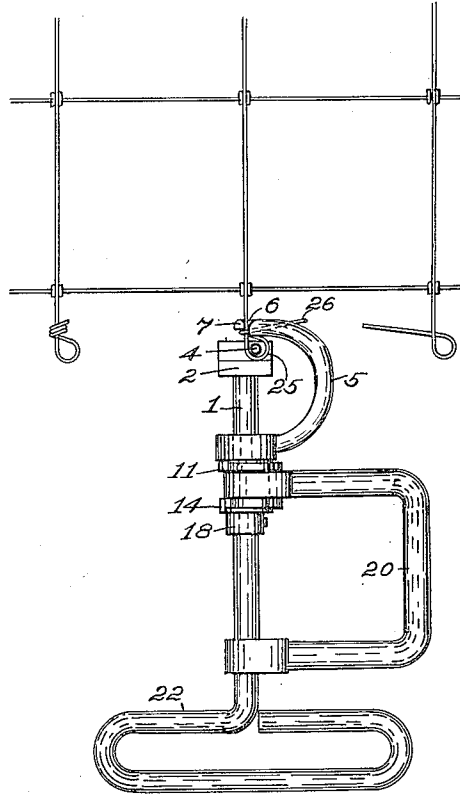


Fig. 4.

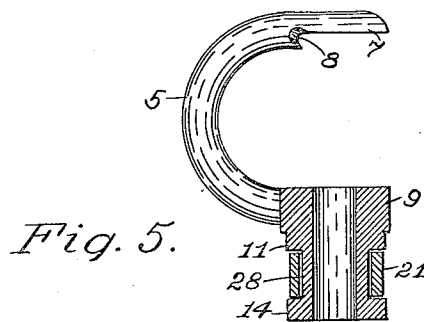


Fig. 5.

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UNITED STATES PATENT OFFICE.

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DEVICE FOR FORMING LOOPS IN WIRES.

1,151,639.

Specification of Letters Patent.

Patented Aug. 31, 1915.

Application filed January 18, 1915. Serial No. 2,942.

To all whom it may concern:

Be it known that I, BEVILL W. WHITWORTH, a citizen of the United States of America, and a resident of Cedar Falls, Blackhawk county, Iowa, have invented certain new and useful Improvements in Devices for Forming Loops in Wires, of which the following is a specification.

My invention relates to improvements in wire-working devices, and the object of my improvement is to furnish a tool for conveniently and rapidly forming secured loops in the ends of wires.

This object I have accomplished by the means which are hereinafter described and claimed, and which are illustrated in the accompanying drawings, in which:

Figure 1 is a side elevation of my said improved wire working device in one position, and Fig. 2 is a plan view of said device with its parts in a different position and relation. Fig. 3 is a reduced plan view of said device with its clutch-parts engaged with a wire loop and end preparatory to being used to twist the wire end about the main body of the wire, the wire being a portion of a netted structure of which a fragment is shown. Fig. 4 is a like view of said device and said wire structure, showing the clutch parts of the device in another position after effecting a single twist of the wire end about the main part of the wire. Fig. 5 is a detail view of one of the clutch parts of the device, with parts shown in section.

Similar numerals of reference denote corresponding parts throughout the several views.

My wire working tool is particularly used for securing loops in wire ends, where such loops have been formed in a netted wire structure, such as wires connecting the stiles of a gate, but may be employed for any use to which it may be put, by linemen, wire workers or others, and equivalents of its parts or slight departures from their size or form may be employed without departing from the essential scope and principles of this invention.

Referring first to Figs. 1 and 2, the numeral 1 denotes a cylindrical rod having at one end the loop-shaped handle 22 and at the other end a block 2 fixed thereon. The block 2 has an offset part 3 provided with a pin 4 extending from it a little to one side of the axis extended of said rod.

The numeral 9 denotes a sleeve rotatably mounted on said rod 1 and slidable thereon between said block 2 and a collar or ring-shaped stop 18 fixedly mounted on the rod.

Said sleeve has a cylindrical diminished medial part 28, upon which is rotatably mounted the orificed block 21 on a U-shaped bar or handle 20, the other leg of said handle having a like orificed block or part 19 which is mounted rotatably on the rod 1. Upon the sleeve 9 are integral reversed sets of ratchet-teeth 10 and 14, which are movably engaged by the pawls 11 and 15 respectively mounted on the block 21 of the handle 20, the pawls having their movements limited by the stop pins 13 and 17 also mounted on the block. The pawls do not engage at the same time, however, when the handle is swung while inclined to the vertical, for one pawl will then hang free while the other works, and this arrangement permits the use of the tool either left- or right-handed.

The sleeve 9 has an integral U-shaped extension member 5 on one side, whose extremity or tip is beveled at the end and undercut at 6 to form a hook 7, the tip also being diminished in thickness under and adjacent to said hook by flattening or otherwise to provide a jaw or clutch-tip 8 which is obliquely troughed, as indicated in said Fig. 5.

The inner angle of the hook 7 is alined with the axis of the sleeve 9.

Referring to Figs. 3 and 4, in Fig. 3 is shown a fragment of a netted wire construction formed of relatively large meshed wires 23 and 24, secured together at their crossing-points, and such as is used to connect the front and rear stiles of a farm gate. My improved tool is employed to twist the end of a wire 24 about itself, after the loop 25 has been first formed in the wire end 26 by other means. In said Fig. 3, said loop and wire end is mounted upon the tool parts to be operated upon, by passing the pin 4 through the loop 25 to cause the latter to overlie the part 3 and be between said pin and the main part of the block 2, so that the wire 24 is alined with the axis of the tool at the inner side of the pin 4. The tip of the member 5 is then brought up to have the wire 24 seated in the angle 6 of the hook 7 while the wire-end 26 is seated in the clutch seat or inclined groove 8. The handle 20

may then be moved to actuate one of the ratchets on the sleeve 9, which will rotate the member 5, and cause its clutching means 8 to twist the wire-end 26 about the wire 24 into fastening coils 27 as shown in said Fig. 3.

The device saves much time in fastening the loops, preparatory to securing the latter to hook-bolts or other securing-means on a stile or other structure.

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

1. A device for forming loops in wires, comprising a body having means thereon for holding a loop in a crossed wire-end in a fixed position, and a rotatable clutch-member mounted on said body having a terminal hook adapted to be mounted about the main body of the wire and also a grooved clutch-seat for the wire-end of the loop, said member being rotatable to coil the wire-end about the main body of the wire adjacent to said loop, and means for rotating said clutch-member.

2. A device for forming loops in wires, comprising means for holding a loop in a crossed wire-end in a fixed position, a rotatable body having a terminal hook adapted to be mounted about the main body of the wire and also a grooved clutch-seat for the wire-end of the loop, said member being rotatable to coil the wire-end about the main body of the wire adjacent to said loop, said rotatable body having ratchet-teeth thereon, a handle rotatably mounted adjacent to said ratchet-teeth, and a pawl mounted on said handle and operatively engaging said ratchet teeth.

3. A device for forming loops in wires, comprising means for holding a loop in a crossed wire-end in a fixed position, a rotatable body having a terminal hook adapted to be mounted about the main body of the wire, and also a grooved clutch-seat for the wire-end of the loop, said member being

rotatable to coil the wire-end about the main body of the wire adjacent to said loop, said rotatable body having spaced reversed sets of ratchet-teeth thereon, a handle rotatably mounted between said sets of ratchet-teeth, and pawls mounted on opposite sides of said handle to detachably operatively engage said sets of ratchet-teeth.

4. A device for forming loops in wires, comprising means for holding a loop in a crossed wire-end in a fixed position, consisting of a rod having a fixed block on one end provided with an offset portion, a pin fixedly mounted on the offset portion of the block at a right angle to and a little to one side of the longitudinal center line of said rod, a stop on said rod, a body rotatably and slidably mounted on said rod between said block and said stop, said body having a curved arm projecting from one side with its tip formed into a hook whose interior hollow is in line with the axis of said body, said tip having an obliquely arranged groove adjacent to said hook, the hook adapted to seat the main part of the wire in line with the axis of said body, and said oblique groove adapted to clutch the wire-end to coil it about said main part adjacent to said loop when said body is rotated, said body having spaced reversed sets of ratchet-teeth thereon, a handle rotatably mounted on said body between said sets of ratchet-teeth, and pawls mounted on opposite sides of said handle to detachably operatively engage said sets of ratchet-teeth, the pin on said offset block-part being adapted to be inserted in the wire loop when the wire-end is engaged in the oblique groove and the main part of the wire seated in the hook on said tip.

Signed at Waterloo, Iowa, this 2nd day of January, 1915.

BEVILL W. WHITWORTH.

Witnesses:

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