

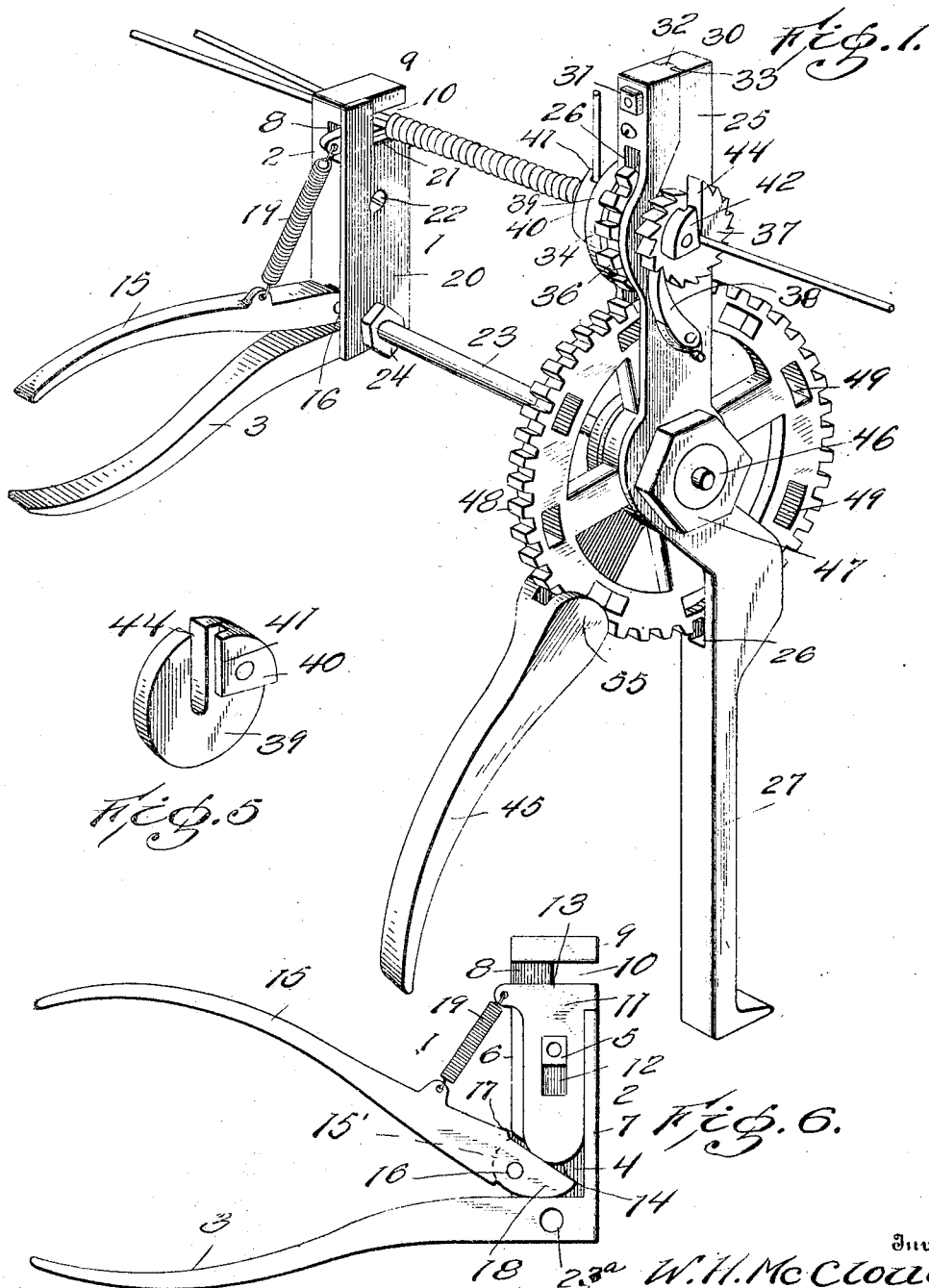
No. 827,552.

PATENTED JULY 31, 1906.

W. H. McCLOUD.
WIRE SPLICING TOOL.

APPLICATION FILED OCT. 2, 1905.

2 SHEETS—SHEET 1



Witnesses
J. R. Thomas
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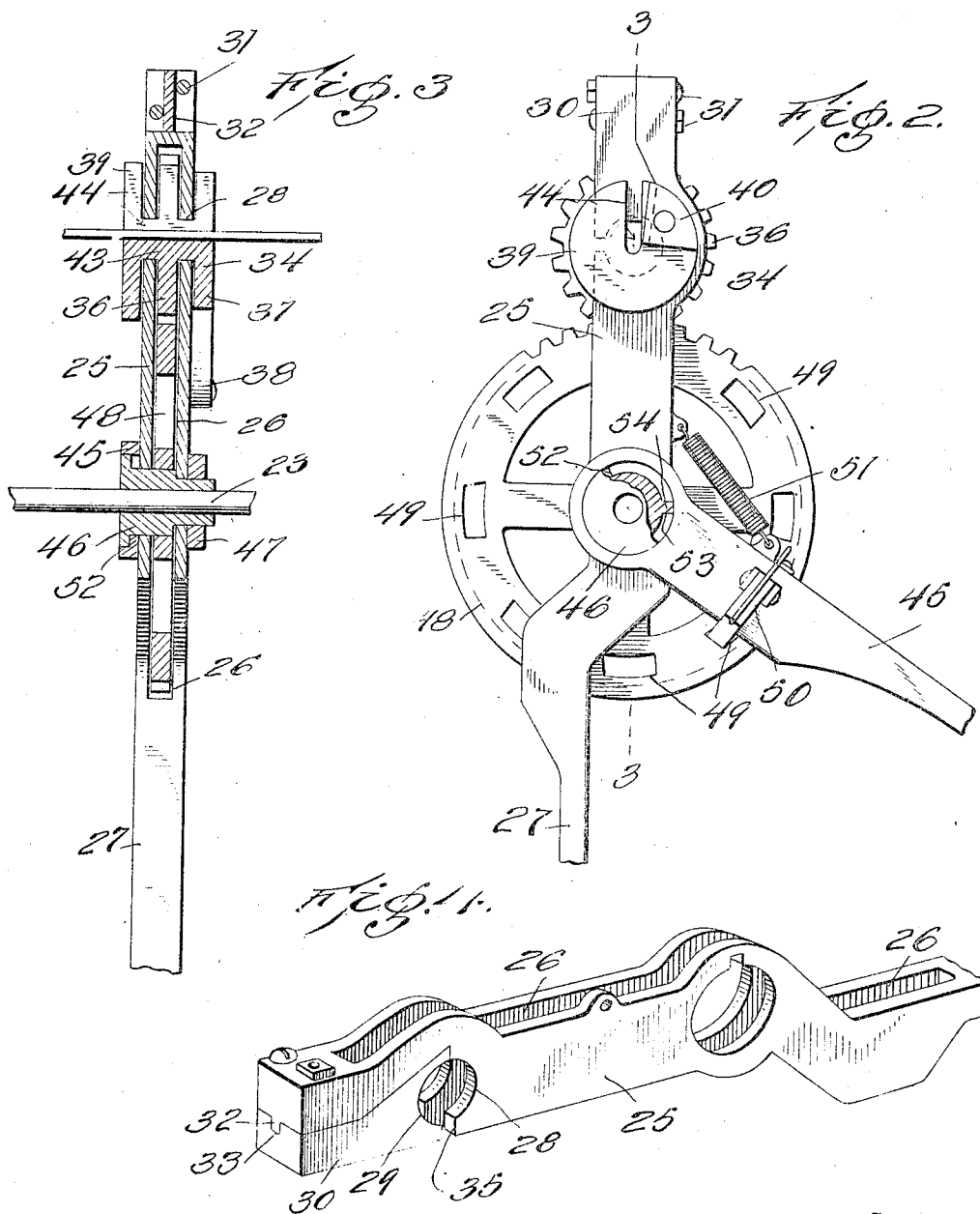
W. H. McCLOUD
Attorney

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G. R. Thomas
C. H. Clark

Inventor
W. H. McCLOUD

By

C. H. Jones
Attorney

UNITED STATES PATENT OFFICE.

WILLIAM H. McCLOUD, OF DUNKIRK, OHIO.

WIRE-SPlicing TOOL.

No 827,552.

Specification of Letters Patent.

Patented July 31, 1906.

Application filed October 2, 1905. Serial No. 230,993.

To all whom it may concern:

Be it known that I, WILLIAM H. McCLOUD, a citizen of the United States, residing at Dunkirk, in the county of Hardin and State of Ohio, have invented new and useful Improvements in Wire-Splicing Tools, of which the following is a specification.

My invention relates to a tool used in connection with the construction of wire fences, and more particularly to the class known as "wire-splicers," in which the tool is operated to splice the ends of two wires together, to secure the stay-wire to the strand-wires, or to twist the free end of the strand-wire upon itself after being passed around or through a post, and has for its object to provide a device of this character that is simple in construction and easy of operation and one which will accomplish the result desired in a rapid and efficient manner.

A further object is to provide a tool of this character which will permit of the twisting or splicing of the strand-wires of a fence that are arranged very close together.

With these ends in view the invention consists in the novel construction and arrangement of parts, which will be hereinafter fully described and claimed.

That my invention may be seen and fully understood by others, reference will be had to the following specification and accompanying drawings, in which—

Figure 1 is a perspective view of my device in operative position, showing two wires partially spliced. Fig. 2 is a side elevation of my splicing-tool, partly broken away to show axial section. Fig. 3 is a longitudinal sectional view on the plan indicated by line 3 3 of Fig. 2. Fig. 4 represents a perspective detail, showing frame of the tool with parts removed. Fig. 5 is a detail view showing one end of the wire-twisting device. Fig. 6 shows a side elevation of the wire-gripping device with plate removed.

Like numerals of reference are used to indicate like and corresponding parts in each of the several figures of the drawings.

Referring to the drawings, the numeral 1 represents my improved wire-clamp, the main portion or part 2 of which is provided at its lower extremity and at a right angle thereto with a handle 3 and has formed in its side a recess 4, having therein a lug or raised portion 5, provided with a screw-threaded opening. Flanges 6 and 7, forming said recess, have their upper ends terminating in

cut-away portion 8, forming an overhanging abutment 9 and an opening 10. The opposite end of the flange 6 is also cut away, forming an opening 17. The plunger 11 is provided with a longitudinal slot 12, a flattened head portion 13, and a rounded lower end 14 and is adapted to slide in recess 4. The lever or handle 15 is pivoted at 16 to a projection 15', formed at opening 17 of part 2. The substantially triangular-shaped head 18 of said handle is adapted to bear upon the rounded lower end 14 of the plunger 11. The said handle 15 is connected with the plunger 11 by means of a spiral spring 19, which normally keeps the handle 15 in a raised position and the said plunger retracted within the recess 4. The part 2 is provided with a cover or plate 20, covering recess 4, which has a cut-away portion 21 and is held in place by means of a screw 22 passing into the screw-threaded opening in lug 5. The screw-threaded end of the cylindrical shaft or rod 23, which is provided with an integral nut 24, is removably secured in a screw-threaded opening 23^a in part 2 of the gripping device. The function of this gripping device and rod will be hereinafter described.

The main frame or standard 25 of my wire-splicer has an elongated open slot 26 for nearly its entire length and is provided with an offset handle 27. Near the upper end of said slot, and in a cut-away portion of the said standard, bearings 28 are formed, which coincide with bearings 29 on the keeper 30. The said keeper is bifurcated half its length and is secured in the before-mentioned cut-away portion of the standard by means of bolts 31, being held against lateral movement by means of a groove 33, formed in its inner face, into which fits a tongue 32, formed on the corresponding face of the standard. An opening 35, Fig. 4, is formed between the lower end of said keeper and the standard, for a purpose hereinafter described.

The wire-twister 34 consists of a central toothed wheel 36, a ratchet-wheel 37, which has connected with it a spring-pawl 38, pivoted to the standard 25, and designed to overcome the backward spring of the wire being twisted, and a wire-twisting wheel 39, which has secured to its outer face a projection or stud 40, provided with a flange 41 for holding the end of the wire being twisted. A similar stud 42 to that just described is also secured to the ratchet-wheel 37. The wheels of the said wire-twisting device are

formed integral with or mounted on an axle or hub 43 a sufficient distance apart to permit the central wheel 36 to work in the slot 26, while the wheels 37 and 39 work on the outside of the standard 25, the axle or hub 43 of the wheels working in the bearings 28 and 29 of the standard 25 and keeper 30. The axle and wheels of the wire-twister are preferably formed in one piece and are provided with an axial longitudinal opening or groove 44 for the reception of the strand-wire or wire around which another wire is to be twisted, as hereinafter described.

The operating-handle 45 is pivotally secured to the outside of the standard 25 by means of a flanged tubular bolt 46, which passes through an opening formed in the end of said handle and through the standard 25 and is secured on the opposite side of said standard by means of nut 47.

The toothed main driving-wheel 48 is pivotally secured in the slot 26 of the standard 25 by means of the tubular bolt 46, on which it is journaled, and engages the toothed wheel 36 of the wire-twister. A series of apertures 49 are formed near the periphery of said wheel 48, and a spring-pressed pawl 50 is pivoted to the handle 45, which by engaging said apertures when the operating-handle 45 is depressed rotates the wheel 48. A coiled spring 51 is secured to said handle and standard, which serves to keep the handle normally raised and ready for engagement with the next aperture 49 in said wheel 48. A partial flange 52 is formed in the inner periphery of the opening in the pivoted end of the operating-handle 45 for the purpose of securing said handle to the standard by means of the tubular bolt 46, while the broken-away end 53 of said flange abuts against a stop 54, formed on the tubular bolt 46, and prevents said handle from being carried too far, by the action of spring 51, from the handle 27 for easy manipulation by the thumb of the operator.

An offset guide-flange or guard 55, Fig. 1, is formed on the operating-handle 45, in which the edge of the wheel 48 moves and which serves to hold said handle against lateral movement.

In operation the gripping-tool is held in the left hand of the operator, and the wire or wires to be twisted or spliced are firmly secured in the opening formed under the overhanging abutment 9 by depressing the handle 15. The free end of the wire to be twisted is then raised at a right angle to the strand-wire. The splicing-tool is then taken in the right hand, and by depressing the handle 45 the pawl 50 comes into engagement with one of the apertures 49 in the wheel 48, rotating said wheel, which in turn revolves the toothed central wheel 36 of the wire-twister and brings the elongated slot 44 in line with the opening 35 in the standard. The splicer

is next brought in connection with the gripping or clamping tool by passing the opening in the tubular bolt 46 over the shaft 23, secured to the said clamping-tool, which connection serves to hold the splicing-tool in a fixed position with relation to the wire being twisted. The slot in the wire-twister will then be in alinement with the strand-wire, over which it is passed, and by sliding the splicing-tool along the shaft 23 until it is close to the gripper and reciprocating the handle of the splicer the wire is caught in the flange 41 of the wire-twisting wheel, and by continued reciprocation of the handle 45 the said wire is twisted around the strand-wire until the end is reached, the splicer sliding automatically along the rod 23 as the wire is twisted. The slot in the wire-twister is then again brought into alinement with the opening in the standard and the splicer released from the strand-wire. The clamping device is also released from the wires, and the end of the unspliced wire turned at a right angle, and the same operation is gone through as previously described.

It will be noted that the machine is kept stationary during the operation of twisting or splicing the wires, the handle only being operated. This feature is a decided advantage in fence-building, as it is desired in many styles of close-woven fences to secure strand and stay wires and also strand-wires to posts where the said wires are only an inch or so apart, which operation could not be accomplished with a machine in which the device is operated as an entirety. By means of the large toothed wheel 48 the operation of twisting is rapidly accomplished without the expenditure of much physical force.

Changes in the form, proportion, size, and minor details of construction within the scope of the appended claims may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A wire-splicing tool having two members, one of said members being adapted to securely grasp the wires to be spliced, while the other member is operated to splice said wires, and a connection between said members whereby the latter is held in a movable position with relation to the former and to the wires being spliced, substantially as described.

2. A wire-splicing tool and clamp for same, the said clamp having a plunger and an operating-lever therefor and a coiled-spring connection therebetween, and a shaft or rod projecting from said clamp for connection with the said splicing-tool, substantially as described.

3. In combination with a wire-splicing

tool, a wire-clamping device having a projecting connection-rod for the wire-splicer, the said splicer consisting of a slotted standard provided with a handle, and having mounted therein a large toothed wheel adapted to engage and revolve a pinion-bearing, axially-slotted wire-twister also mounted in said slotted standard, and an operating-handle for said large toothed wheel, substantially as described.

4. In a wire-splicing tool, the combination with a standard having a handle and a slotted portion, of a pivoted toothed drive-wheel mounted in said slotted portion, a wire-twister consisting of a central toothed pinion, a ratchet-wheel and a wire-twisting wheel, mounted on or formed integral with an axle which works in bearings formed in said standard, and mounted with the central wheel in said slot to engage said drive-wheel and the end wheels outside of said standard, said wheels and axle having a longitudinal groove or slot adapted to register with an opening formed in said standard, and an operating-handle for said drive-wheel, substantially as set forth.

5. In a wire-splicing tool, the combination with a standard having a handle and slotted portion, a wire-twister mounted in bearings formed in said standard, the said twister having a central toothed wheel, a ratchet-wheel, and a wire-twisting wheel having a flanged projection secured thereto, of a pivoted toothed drive-wheel mounted in said slot and

having formed in its face, adjacent the periphery thereof, a series of openings, and an operating-handle pivoted axially with said drive-wheel and provided with a spring-actuated pawl adapted to enter said openings and revolve said wheel, substantially as set forth.

6. In a wire-splicer consisting of two members, a wire-clamping device having a side-wise-projecting rod, and a wire-splicing tool adapted to be connected with said rod, and consisting of a slotted standard provided with a handle, a wire-twisting device working in bearings formed in said standard and consisting of a central wheel and a wheel on each side of and connected to said central wheel, flanged wire-holders secured to said side wheels, a toothed drive-wheel pivoted in said slotted standard and in engagement with said wire-twister, an operating-handle for said drive-wheel centrally pivoted with relation thereto by means of a flanged tubular bolt, a partial flange on the inner periphery of the opening in the head of said operating-handle, a stop on said tubular bolt for limiting the upward movement of said handle, and a spring connection between the handle and the standard.

In testimony whereof I affix my signature in presence of two subscribing witnesses.

WILLIAM H. McCLOUD.

Witnesses:

JESSE J. WILCOX,

WILL ROPP.