No. 668,970. Patented Feb. 26, 1901.

E. J. BERRY.

WIRE STRETCHER.

(Application filed Oct. 5, 1900.)

(No Model.)

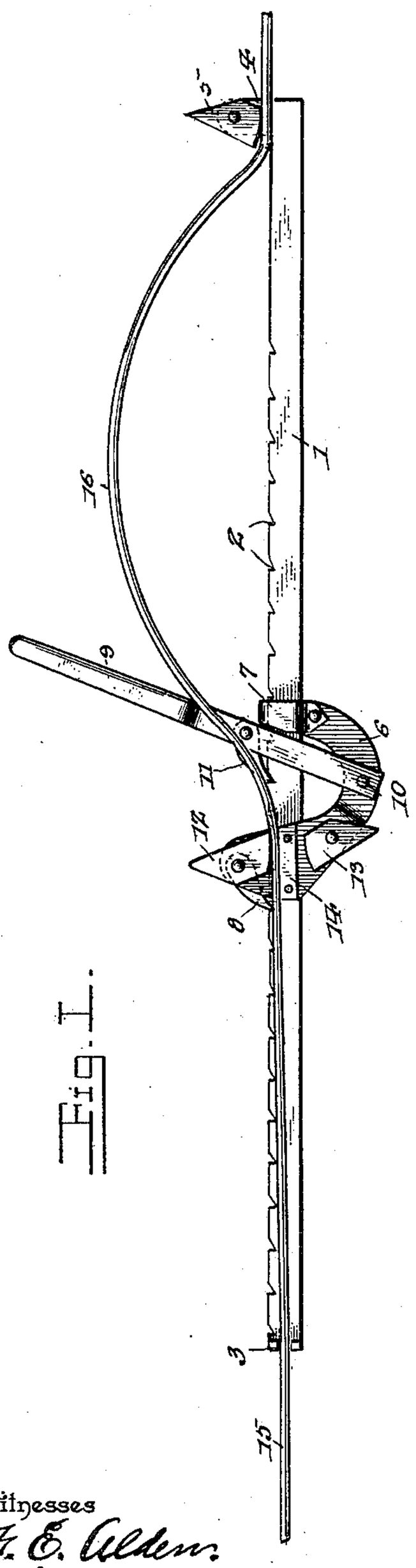

Fig. 1.

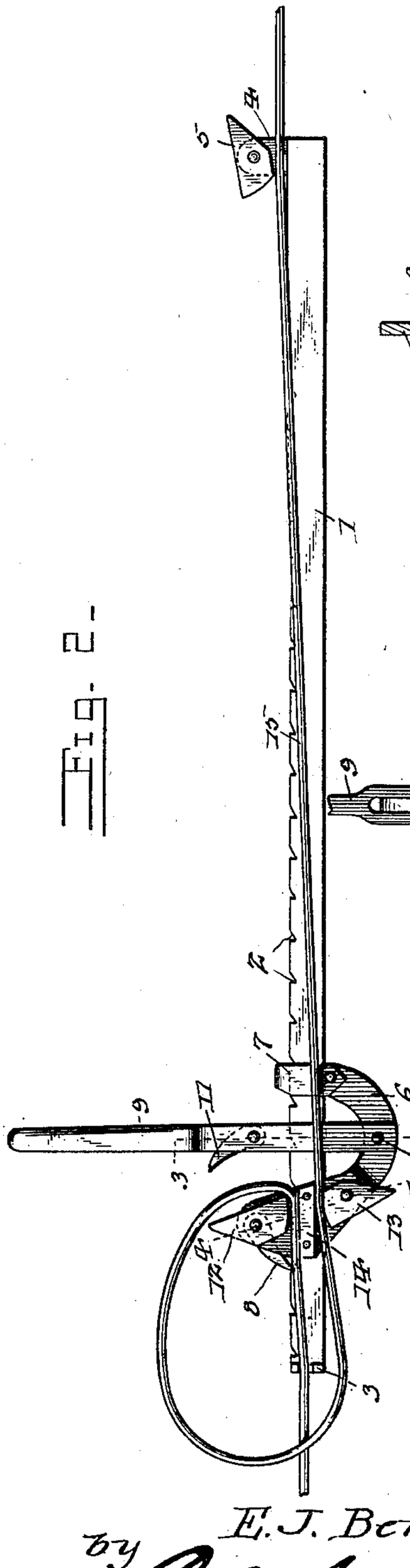

Fig. 2.

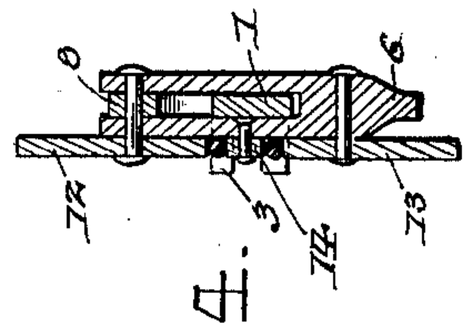

Fig. 4.

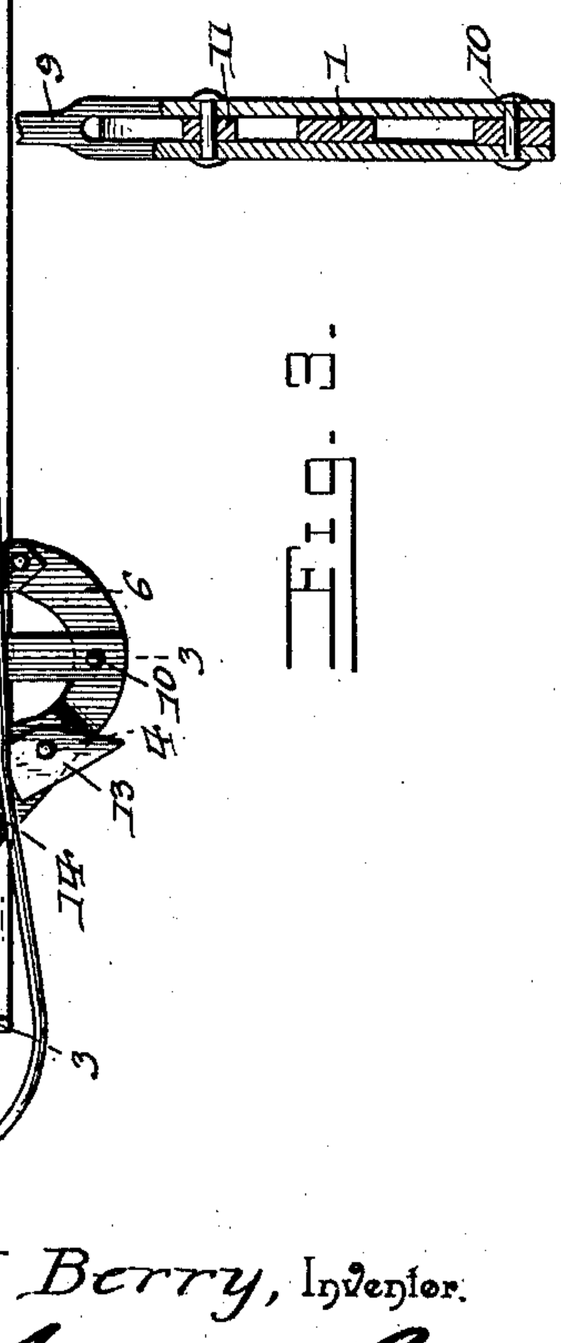

Fig. 3.

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UNITED STATES PATENT OFFICE.

EDDIE J. BERRY, OF FRANKLIN, KENTUCKY.

WIRE-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 668,970, dated February 26, 1901.

Application filed October 5, 1900. Serial No. 32,144. (No model.)

To all whom it may concern:

Be it known that I, EDDIE J. BERRY, a citizen of the United States, residing at Franklin, in the county of Simpson and State of Kentucky, have invented a new and useful Wire-Stretcher, of which the following is a specification.

This invention relates to wire-stretchers, and has for an object to provide an improved device of this character in the nature of a mid-wire take-up, and is especially designed for stretching telephone and other electric wires without interrupting the current passing therethrough. It is furthermore designed to provide improved means for holding the looped portion of the wire which has been stretched while the device is being adjusted to obtain a new grip upon the wire for further stretching thereof, and, finally, to provide for conveniently holding the opposite ends of adjacent wires while the same are being spliced without interrupting the electric current.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a side elevation of a wire-stretcher constructed in accordance with the present invention. Fig. 2 is a similar view showing the manner of obtaining a new grip upon the wire for further stretching thereof. Fig. 3 is a transverse sectional view taken on the line 3 3 of Fig. 2. Fig. 4 is a similar view taken on the line 4 4 of Fig. 2.

Corresponding parts are designated by like characters of reference in all of the figures of the drawings.

Referring to the drawings, 1 designates a straight metal bar having its upper edge provided with ratchet-teeth or notches 2. At one end of this bar there is provided a laterally-projecting slotted or bifurcated shoulder 3, forming a guide for the wire to be stretched, as will be hereinafter described. At the opposite end of the bar a projection or ear 4 rises from one side of the bar, and a wire-gripping cam 5 is pivoted to the inner side of the ear, so as to coöperate with the upper edge of the bar to bind a wire thereagainst. The wire-stretching member comprises a substantially U-shaped frame 6, which is pendent from the bar and has one end looped over the bar, as indicated at 7, so as to form a slidable connection therewith. The opposite end of the frame is bifurcated, so as to slidably receive the bar, as best shown in Fig. 4 of the drawings. A suitable ratchet-pawl 8 is mounted between the opposite sides of the bifurcated portion of the frame, so as to engage the ratchet-teeth of the rack-bar 1, and thereby hold the stretching member against rearward movement upon the bar. To move this stretching frame or member from the guide end of the bar toward the opposite end thereof, there is provided an upright lever 9, the lower end of which is bifurcated, so as to straddle the bar and the intermediate portion of the frame 6, to which it is fulcrumed by means of a suitable pivot-pin 10. The bifurcated portion of the lever extends a suitable distance above the bar, and mounted therein is a ratchet-pawl 11, which projects at the rear side of the lever or toward the ratchet-pawl of the frame, so that when the lever is in the position shown in Fig. 1 by forcing the upper or free end of the lever rearwardly, as indicated by the arrow, and thereby swinging said lever upon an intermediate fulcrum afforded by the pawl 11 in engagement with the rack-bar the frame will be moved forwardly upon said bar. When the lever has reached its rearward limit, it is thrown forward to engage the pawl 11 with another tooth of the rack-bar, and the operation is repeated, thereby moving the frame longitudinally upon the rack-bar with a step-by-step movement. It will be understood that the pawl 8 prevents a rearward movement of the frame when the lever is being swung forwardly for a new engagement with the rack-bar.

The wire is designed to be connected to the movable frame or member by means of the oppositely-disposed upper and lower wire-gripping clamps or cams 12 and 13, which are pivoted to the bifurcated end of the frame and are located upon the same side of the

rack-bar as is the wire-guide 3. Located between the active inner edges of these clamps or cams is an outwardly-directed rib or shoulder 14, with the upper and lower sides of which the cams are designed to coöperate to clamp upon the wire.

In using the device a wire 15 is passed through the guide 3, then engaged by the upper clamp 12, and finally gripped by the terminal clamp 5 at the opposite end of the rack-bar. The lever is then operated, as hereinbefore described, to move the movable member toward the clamp 5, thereby stretching the left-hand portion of the wire toward the right-hand portion thereof and forming a looped loose portion 16, which is drawn over and placed between the lower cam 13 and the shoulder 14, so as to fixedly hold the opposite portions of the wire, and thereby prevent the slack from being taken up when the pawls 8 and 11 are thrown out of engagement with the rack-bar and the latter slid through the frame, so as to locate the movable frame or member at the guide end of the bar in order that the stretching operation may be continued. It will of course be understood that the terminal clamp 5 is disengaged from the wire when the bar is to be slid forwardly, and afterward the lower clamp 13 is disengaged, so that the movable member may be freely moved forwardly.

From the foregoing description it will be understood that the present device is applied directly to the intermediate portion of a wire and does not require any other support. Also the stretching operation may be continued indefinitely without changing the device from one place to another upon the wire. Should it be desired to splice a broken wire, one end thereof is held by the terminal clamp 5 and the other end held by the clamp 12, whereby the rack-bar forms an electric connection between the two wires, so that the electric current is not interrupted while the wires are being spliced.

What is claimed is—

1. A wire-stretcher, comprising a ratchet-bar, having a wire-gripping clamp, a movable stretching member slidable longitudinally upon the bar, and provided with a ratchet-pawl for engagement with the latter, a ratchet-lever mounted upon the movable member and in engagement with the ratchet-bar, a wire gripping and stretching clamp carried by the movable member, and a loose-wire-gripping clamp also carried by the movable member and arranged oppositely to the other clamp.

2. A wire-stretcher, comprising a bar, having a wire-gripping clamp, a stretching member movable longitudinally upon the bar, operating means for moving the stretching member, oppositely-acting wire-gripping cams, and a coöperating shoulder located between the active edges of the cams.

3. A wire-stretcher, comprising a ratchet-bar, having a wire-gripping clamp, a pendent stretching member movable longitudinally upon the bar, and having a ratchet-pawl in engagement with said bar, a ratchet-lever mounted upon the stretching member and in engagement with the ratchet-bar, upper and lower oppositely-acting wire-gripping cams pivoted upon the stretching member, and a lateral shoulder located between and coöperating with the active edges of the cams.

4. A wire-stretcher comprising a ratchet-bar, having a wire-gripping clamp, a substantially U-shaped stretching member pendent from and also slidable longitudinally upon the bar, one end of the member being bifurcated for the reception of the bar, a ratchet-pawl mounted within the bifurcation and in engagement with the ratchet-bar, upper and lower oppositely-acting wire-gripping cams pivoted upon the bifurcated end of the member, a lateral shoulder projecting outwardly from the member and located between the active edges of the cams, and a bifurcated operating-lever straddling the bar and the intermediate portion of the stretching member, a pivotal connection between the lever and the member, and a pawl mounted in the bifurcation of the lever and engaging the ratchet-bar.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

EDDIE J. BERRY.

Witnesses:
JAMES T. LONG,
W. H. BRYAN.