

E. F. HOPKINS.
WIRE STRETCHER.

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938,488.

Patented Nov. 2, 1909.

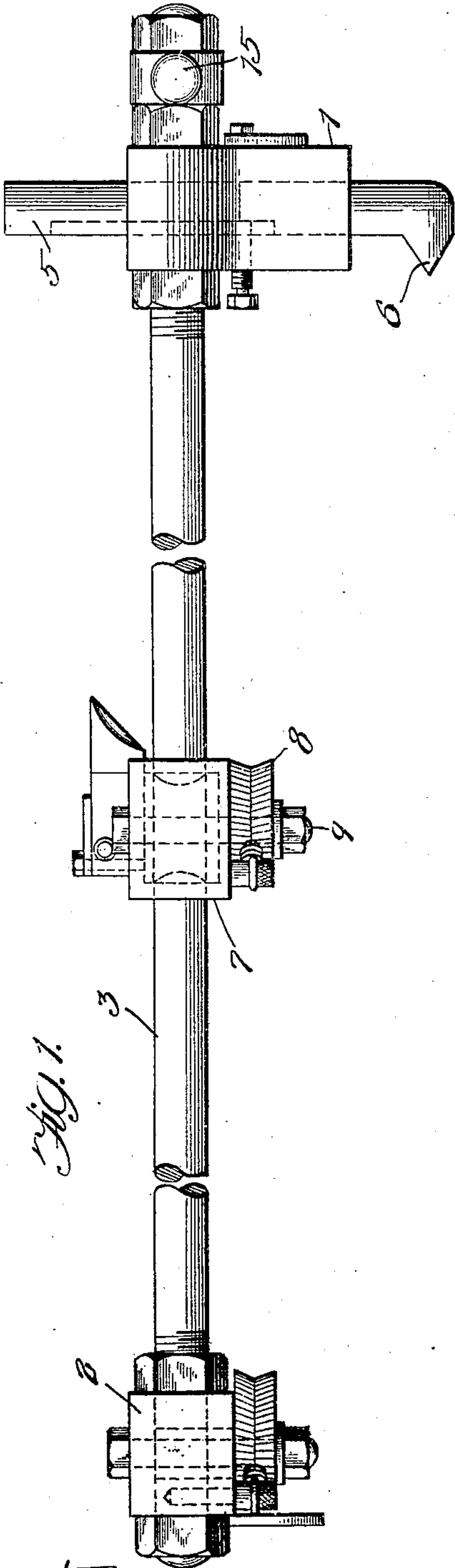


Fig. 1.

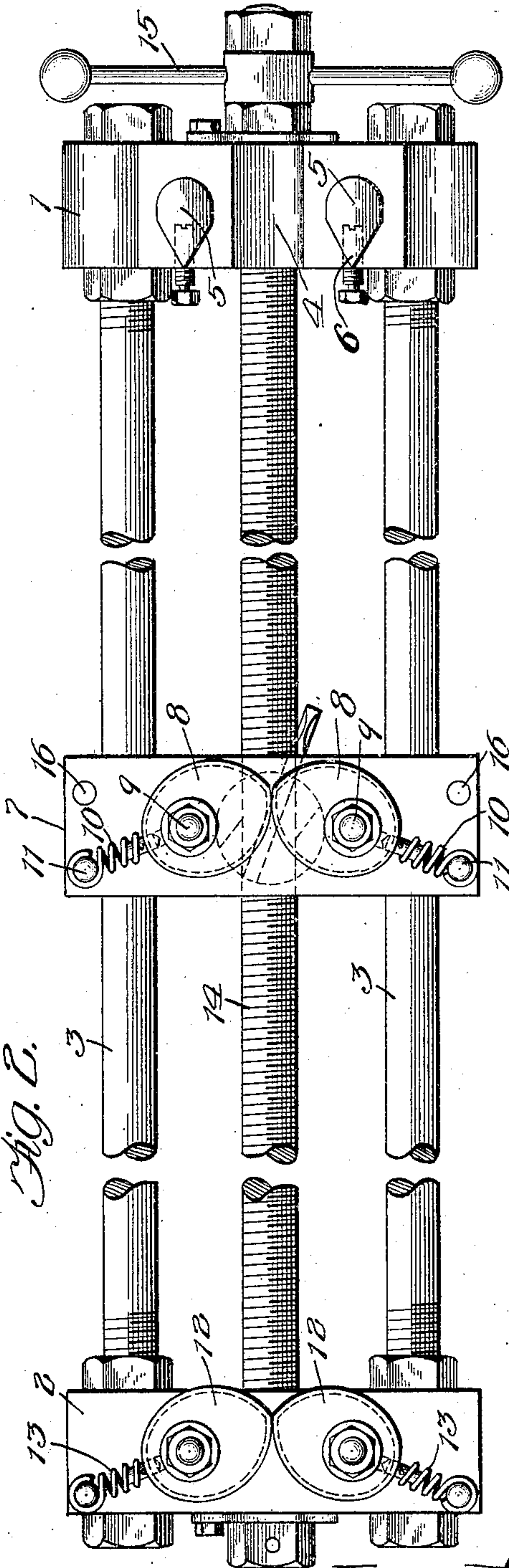


Fig. 2.

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UNITED STATES PATENT OFFICE.

EZRA F. HOPKINS, OF CHICAGO, ILLINOIS.

WIRE-STRETCHER.

938,488.

Specification of Letters Patent.

Patented Nov. 2, 1909.

Original application filed January 13, 1908, Serial No. 410,487. Divided and this application filed November 6, 1908. Serial No. 461,275.

To all whom it may concern:

Be it known that I, EZRA F. HOPKINS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Wire-Stretchers, of which the following is a specification.

This application is a division of my application Serial No. 410,487, filed January 13, 1908.

One of the objects of this invention is to produce a grip adaptable to various purposes and reversible in position to act in opposite directions.

The invention is herein shown as applied to a wire stretcher comprising a stationary grip and a movable grip, the jaws of the movable grip being adapted to move a wire toward and away from the stationary grip.

In the accompanying drawings Figure 1 is a side elevation, with parts broken away, of a wire stretcher embodying the features of my invention. Fig. 2 is an under-side view thereof.

The embodiment selected for illustration comprises two end pieces 1 and 2 rigidly connected together by longitudinal rods 3. The end piece 1 has a slot or notch 4 therein to receive the wire or cable being operated upon. In the end piece 1 are mounted two pins 5 having points 6 thereon, said pins providing means by which the wire stretcher may have a bearing at one end upon a fence post, the cross-arm of a telegraph pole, or any other suitable support.

The wire-engaging means comprises a cross-head 7 supported to slide longitudinally upon the rods 3. Upon the cross-head 7 are pivotally mounted two gripping jaws 8 which in this instance have V-grooved transversely ribbed gripping-faces. The jaws 8 are substantially elliptical in outline, and are eccentrically mounted upon the pivots 9, the long ends of said jaws extending toward each other and toward the center of the cross-head, to grip a wire between them. Tension springs 10, each attached at one end to the rear or shorter end of one of the jaws, and at its other end to a screw 11 removably seated in an opening in the cross-head 7, tend to hold the jaws in engagement with each other or with a wire or cable lying between them.

Jaws 12 similar to the jaws 8 are piv-

otally mounted upon the end piece 2 and are adapted to lie at opposite sides of and engage a wire while the latter is being stretched. The jaws 12 tend to move into engaging position through the action of the coiled tension springs 13.

The means for moving the cross-head 7 comprises a screw shaft 14 rotatably supported in the end pieces 1 and 2 and provided at one end with a handle 15 or other suitable means for turning it. The shaft 14 has a screw-thread connection with the cross-head 7.

In operation, assuming the cross-head 7 to be near the end piece 2, and the end piece 1 to have a firm bearing upon a suitable support, the wire to be tightened is laid between the holding jaws 8 and 12, the springs 10 and 13 and the tension upon the wire serving to draw said jaws into gripping engagement with said wire. The handle 15 is now rotated to move the cross-head 7 toward the end piece 1 and thereby place tension upon the wire, the latter slipping between the jaws 12. In case there is more slack in the wire than can be taken up in one movement of the cross-head, said cross-head is returned toward the end piece 2 by the operator in any suitable way, as by rotating the screw shaft 14 in the reverse direction, the jaws 12 in the meantime holding the wire. When the cross-head 7 has been moved rearward as just described, the wire is again engaged with the jaws 8 and the cross-head again moved to place additional tension upon the wire. When it is desired to draw together two wires coming from opposite directions, the screws 11 are placed in the openings 16 (Fig. 2) and the jaws 8 turned to point toward the end piece 2. The jaws are reversed as just described by turning one of the jaws so as to extend substantially parallel with the shaft 14, whereupon the other jaw 8 may be swung upon its pivot past the first mentioned jaw, which latter jaw may now be swung to reversed position. The jaws will be induced to remain in reversed position by the springs 10 when the pins are in the openings 16. While one wire is being held by the jaws 12 the other wire may be engaged with the reversed jaws 8 and drawn toward the first mentioned wire by moving the cross-head in that direction. If more than one stretching movement of

the cross-head 7 is necessary to take up the slack in the wires, the ends of the wires may be twisted together to hold the wires temporarily, while the cross-head is being moved back toward the end piece 1 preparatory to a second pull.

It will be apparent that each of the jaws constitutes an abutment against which the opposite jaw exerts its force.

10 I would have it understood that I desire not to be limited to the precise details herein set forth, for various modifications will occur to persons skilled in the art.

I claim as my invention:

15 1. A reversible grip for wire stretchers comprising a reversible jaw, a spring to act on said jaw, a shiftable anchor for said spring, and an abutment for said jaw.

20 2. In a wire stretcher, the combination of reversible, opposing clamping jaws, having relatively short diameters and relatively long diameters; a support upon which said jaws are pivoted; and springs carried by said

jaws to exert tension to close them in either position. 25

3. A wire stretcher comprising a frame, a cross-head movable on said frame; pivoted jaws carried by said cross-head, said jaws being elongated; shiftable springs arranged to act upon said jaws; and removable anchors for said springs adapted to engage recesses in the cross-head. 30

4. A wire stretcher comprising a frame; a cross-head movable on said frame; pivoted jaws carried by said cross-head, said jaws being elongated and being eccentrically mounted; springs attached to the short ends of said jaws; and screws attached to said springs, said screws being arranged to be seated in a plurality of openings in said cross-head. 35 40

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