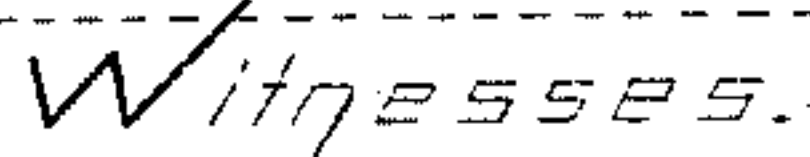
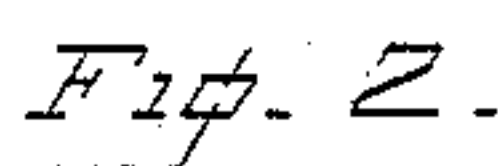


2 Sheets—Sheet 1.

No. 359,084.

Patented Mar. 8, 1887.



E. D. Smith
C. E. Ruggles

In Verdor.
Daniel S. Mangum
By A. M. Wroster
att'y.

(No Model.)

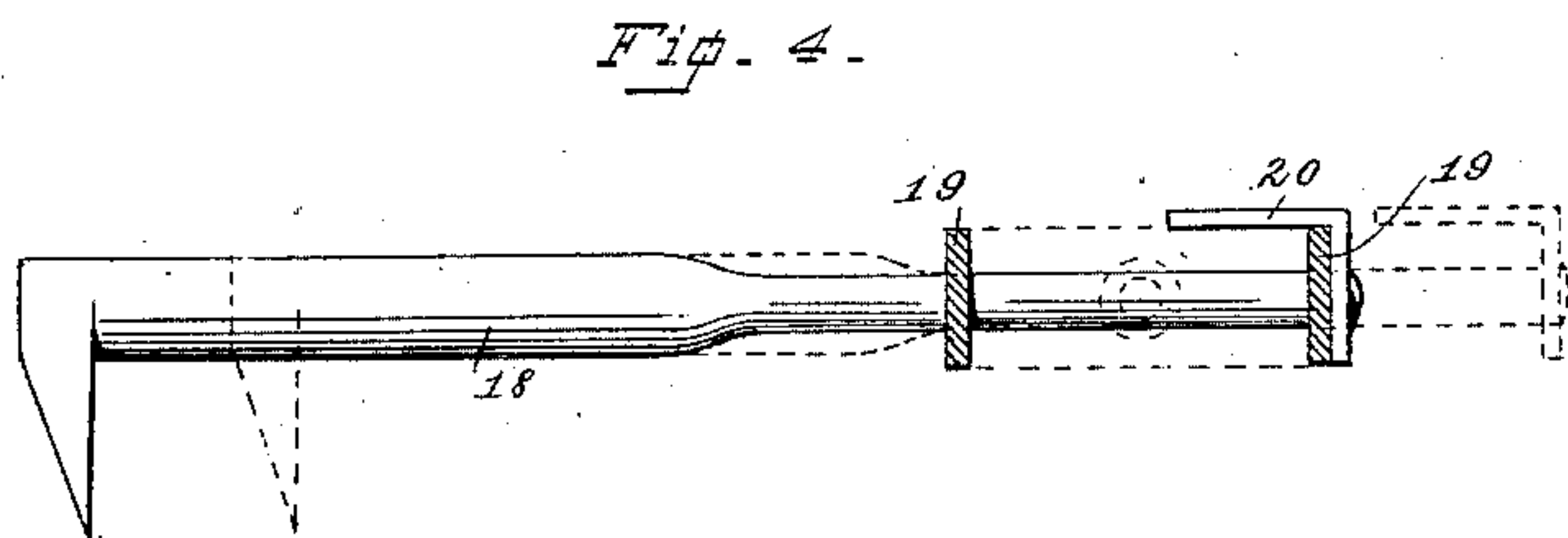
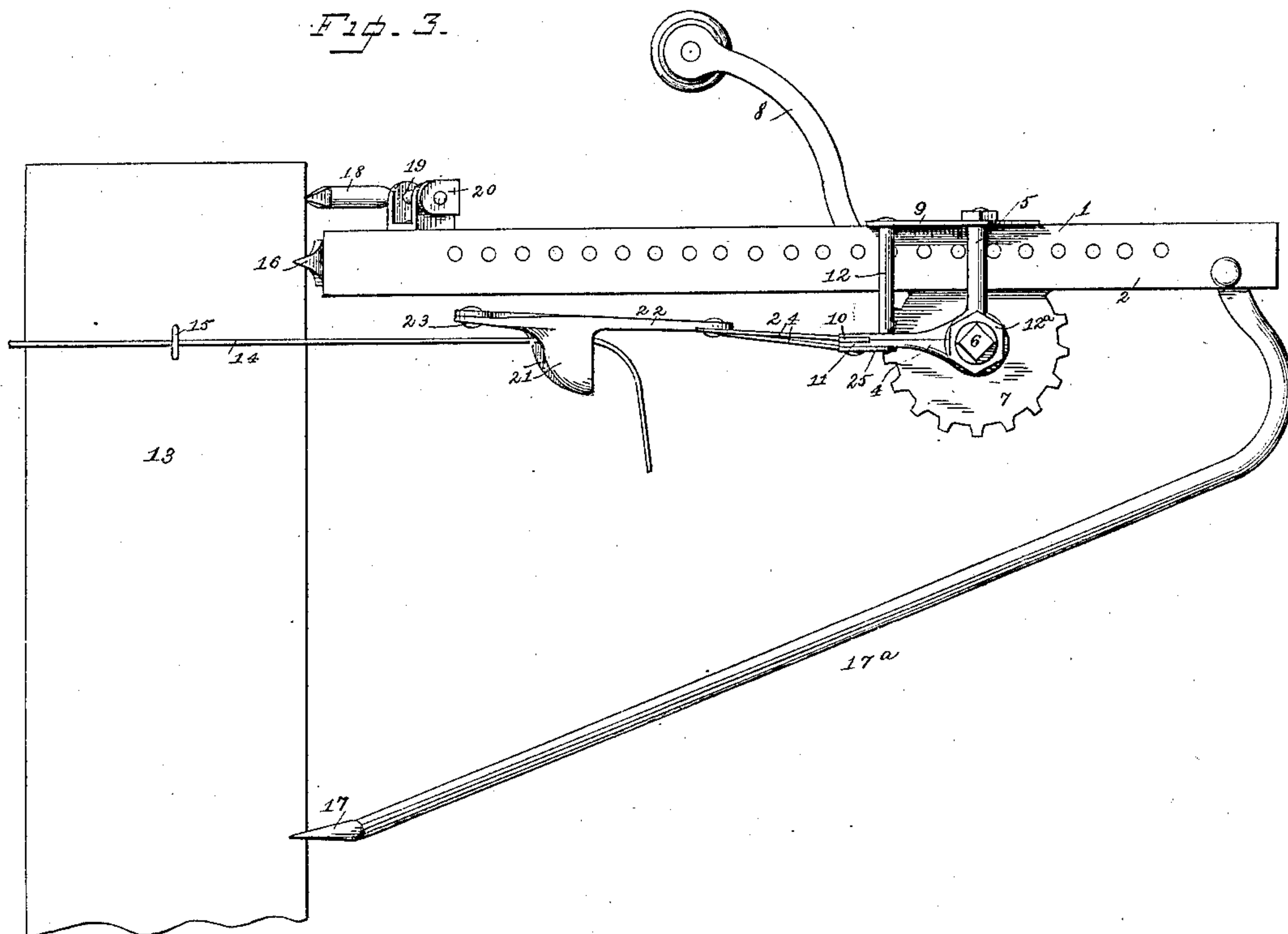
2 Sheets—Sheet 2.

D. D. MANGUM.

WIRE STRETCHER.

No. 359,084.

Patented Mar. 8, 1887.



Witnesses.

E. D. Smith
C. E. Ruggles

Inventor.

Daniel S. Mangum
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UNITED STATES PATENT OFFICE.

DANIEL D. MANGUM, OF LANESVILLE, CONNECTICUT.

WIRE-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 359,084, dated March 8, 1887.

Application filed September 16, 1886. Serial No. 213,650. (No model.)

To all whom it may concern:

Be it known that I, DANIEL D. MANGUM, a citizen of the United States, residing at Lanesville, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements in Wire-Stretchers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to produce a portable wire-stretcher which shall be especially adapted for use in putting up the various classes of fence-wire now in such general use, the essential requirements in a device of this class being that it shall be light, easy and quick to manage, capable of being attached in every imaginable position, and equally adapted to operate upon all classes of wire, whether flat or round, or whether barbed or not. In order to accomplish these results in the simplest manner possible, I have devised the novel construction, of which the following description, in connection with the accompanying drawings, is a specification, numbers being used to indicate the several parts of the device.

Figure 1 is a side elevation illustrating my improved stretcher in use, it being attached in the ordinary position to the post; Fig. 2, a plan view corresponding therewith; Fig. 3, a side elevation corresponding with Fig. 1, except that the device is shown in the inverted position; and Fig. 4 is a detail view, upon an enlarged scale, showing the manner in which the side clamp is reversed.

1 is the body, which consists of side pieces, 2, and a rack, 3. This rack may be of any ordinary construction, or may be formed, as in the present instance, by driving-pins through the two cross-pieces.

4 is a carrier adapted to slide along the body and provided with standards or posts 5, in which a shaft, 6, is journaled. 7 is a pinion rigidly attached to the shaft, which engages the rack. Both ends of the shaft are squared, as shown, and are adapted to receive a detachable crank, 8, whereby the shaft and pinion are rotated to move the carrier forward or backward, as may be desired.

It will of course be understood that the exact construction of the sliding carrier is not of the essence of my invention, and that the details may be varied to an almost unlimited extent without departing from the spirit thereof.

In the present instance I have shown the carrier as consisting of a bottom plate, 9, and top plate, 10, standards or posts 5, which extend up from the bottom and encircle the shaft, constituting the journals therefor, arms 11, which extend backward from the top plate and also encircle the shaft, and strengthening-posts 12, which extend from the bottom plate and are riveted to arms 11 and the top plate. The shaft and pinion are held at their proper positions by nuts 12^a, which engage the shaft and are screwed up against standards 5.

In the drawings, 13 denotes the post to which the wire is to be secured, 14 the wire which is being stretched, and 15 a staple by which the wire is secured to the post.

In order that the device may be secured to the post in any desired position, I have provided prongs 16 at the inner end of the body, one or both of which may be driven into the post, prongs 17 at the inner end of an arm, 17^a, which is curved downward and pivoted to the rear end of the body, and a swiveled side clamp, 18, carried by a clip, 19, which is swiveled at the forward end of the body. As shown in full and dotted lines in Fig. 2, this clamp will work upon either side of the post, and in use gives the device such firm lateral support that it is practically immovable. 20 is a latch at the rear end of the clamp, which engages the clip to prevent the clamp from turning. When it is desired to reverse the clamp, it is pushed backward until the latch is out of engagement with the clip, as clearly shown in Fig. 4, when it may be readily turned. It is then pushed forward again and is held by the latch in the desired position.

The device may be used with either of its four sides up, it being simply necessary to drive the prongs and the clamp into the post to hold it in position. By this means I am enabled to stretch a wire at the top, bottom, or upon either side of the post with equal convenience. In use the wire is clamped between jaws 21, the inner ends of whose shanks 22

are pivoted together, as at 23, their outer ends being curved outward and pivoted to levers 24, which in turn are pivoted to the top plate, 10. It will be noticed in Fig. 2 that I have shown one of the jaws as extending slightly beyond the other. This is in order that there shall be no danger of cutting the wire in two. Having fixed the device in place upon the post, the sliding carrier is run to the forward end of the body—that is, toward the post—and the wire placed between the jaws. The carrier is then run backward by turning the crank, as already explained. It will be seen from the construction that as the tension upon the wire increases as the carrier is moved outward the grip of the jaws upon the wire is correspondingly tightened, so that there is no possibility of the wire slipping through the jaws. When the wire has been tightened up as much as may be desired, the carrier is locked at its backward position by a pivoted latch, 25, which rests upon arms 11 and engages the teeth of the pinion, thus locking it firmly in place. The wire may then be secured to the post by staples, or in any suitable manner.

It will be seen that in finishing a piece of fence my improved construction enables me to tighten the wires at the last post just as easily as upon the intermediate posts, it being only necessary to provide sufficient extra wire to engage the jaws. As the wire while it is being stretched does not have to be handled by the operator, it will be seen that I avoid the danger of tearing the hands, which has been such a serious objection to wire-stretchers of this class as heretofore constructed, and, furthermore, that its action is quick and sure. As stated above, the details of construction may be varied to an almost unlimited extent without departing from the spirit of my invention.

I claim—

1. The body having a rack, 3, and a sliding carrier having a pinion, 7, secured to the operating-shaft, in combination with the jaws, levers 24, and securing devices consisting of prongs 16 and 17, and swiveled side clamp, whereby the device is secured in position for use.

2. The body having a rack, a sliding carrier having a pinion which engages said rack, and the jaws, in combination with prongs 16 at the forward end of the body, prongs 17 upon a rod pivoted to the rear end of the body, and a swiveled side clamp, whereby the device is held in position for use.

3. The body having a rack, 3, means, substantially as described, for securing the body in position, and a sliding carrier consisting of plates 9 and 10, posts 5 and 12, and arms 11, in combination with a shaft, 6, journaled in post 5, a pinion carried by said shaft, which engages the rack, jaws 21, carried by shanks 22, and levers 24, pivoted to said shanks and to plate 10.

4. The body having a rack, 3, and prongs 16, pronged arm 17^a, and swiveled clamp 18, secured thereto, in combination with a sliding carrier, a pinion journaled therein, jaws 21, whose shanks are pivoted, as shown, and levers 24, pivoted to the jaw-shanks and to the sliding carrier, as and for the purpose set forth.

5. The body having rack 3, means, substantially as described, for securing the body in position, and a sliding carrier adapted to move on said body, in combination with a pinion whose shaft 6 is journaled in said carrier and whose ends are squared to receive a crank, jaws 21, carried by shanks 22, whose inner ends are pivoted together, and levers 24, pivoted to the outer end of said shanks and to the sliding carrier.

6. The body, rack, and pinion, jaws having shanks 22, and levers 24, in combination with plates 9 and 10, posts 5 and 12, and arms 11, substantially as described.

7. The body, rack, and pinion, sliding carrier, jaws, and connecting-levers, in combination with prongs 16 and 17, swiveled clamp 18, and swiveled clip 19, by which said clamp is carried.

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

DANIEL D. MANGUM.

Witnesses:

A. M. WOOSTER,
E. D. SMITH.