

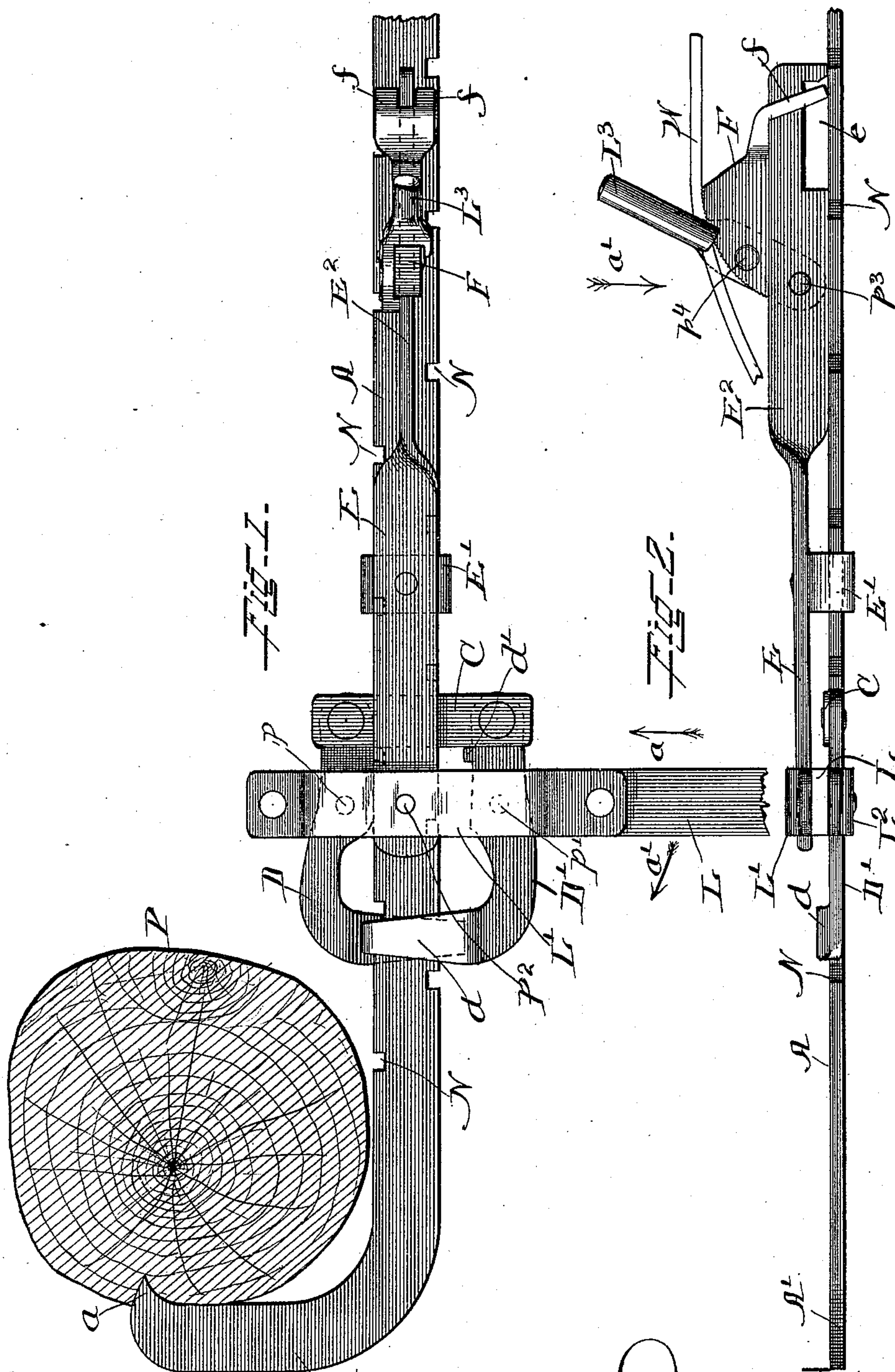
(No Model.)

2 Sheets—Sheet 1.

J. DIETRICH.
WIRE STRETCHER.

No. 486,221.

Patented Nov. 15, 1892.



WITNESSES:

Cha. Sterner.
Gerald Mahony.

А/Е/10/7

~~Inventor~~
John Dietrich
by Wm. Greene & Dietrich
Atty's

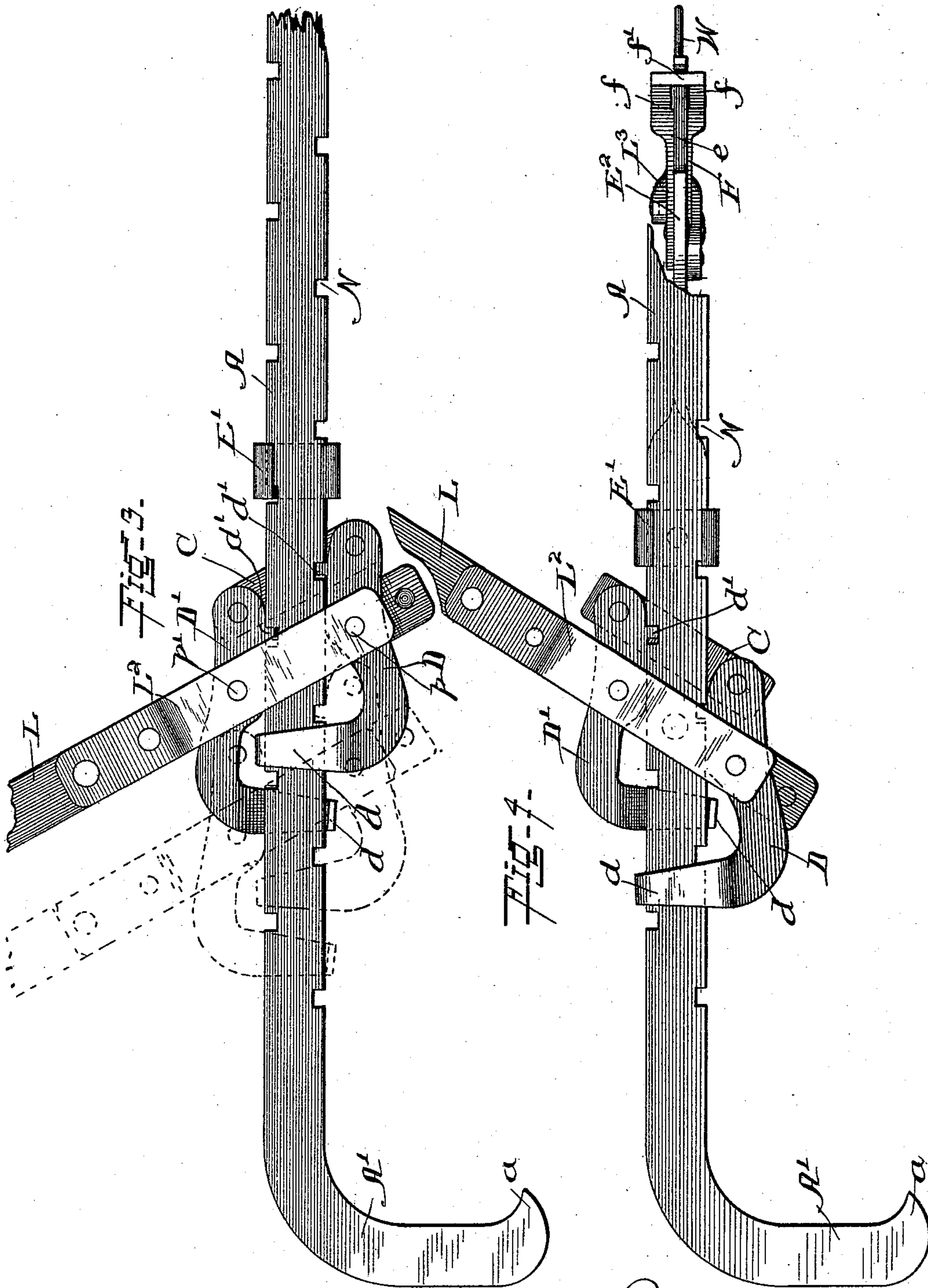
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2 Sheets—Sheet 2.

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Witnesses:

Chas. Shervey.
Guald Mahoney.

Inventor:

John Dietrich
by Wiles, Granger & Peters
Attys.

UNITED STATES PATENT OFFICE.

JOHN DIETRICH, OF YELLOW CREEK, ILLINOIS.

WIRE-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 486,221, dated November 15, 1892.

Application filed March 31, 1892. Serial No. 427,178. (No model.)

To all whom it may concern:

Be it known that I, JOHN DIETRICH, a citizen of the United States of America, residing at Yellow Creek, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Wire-Stretchers, of which the following is a specification.

My invention relates to improvements in wire-stretchers of that class in which a reciprocating lever has a step-by-step movement along a straight bar, the bar being attached to a post or other suitable support, and the lever being provided with a wire-holding clamp whereby the movement of the lever along the bar stretches the wire.

The invention is fully described and explained in this specification and shown in the accompanying drawings, in which—

Figure 1 is a top plan of my improved stretcher in operative position with relation to a post. Fig. 2 is a side elevation of the stretcher, the view being in the direction indicated by the arrow *a*, Fig. 1. Figs. 3 and 4 are bottom plans of the stretcher, showing its lever and other operating parts in different positions.

In the views, A is a straight flat bar of iron or steel formed with preferably square notches N N in its edges and having at one end an arm A' at right angles to the bar and terminating in a point *a*, the arm and point being adapted to secure the bar to a post P in the manner shown in Fig. 1. Across the bar A lies a lever L, to which are attached straps L' L², embracing the bar and permitting the lever to slide freely thereon. Two pawls or dogs D D' lie between the strap L² and the lever on opposite edges of the bar A and are held in place by means of pivots *pp'*, the rear ends of the pawls being connected by a short transverse bar C, connected with them by suitable pivots. The front end of each of the dogs D D' is formed with a hook *d*, extending across the bar and having its end bent upward or downward to embrace the edge thereof and limit the lateral movement of the front end of the dog, and near the rear end of each of the dogs there is formed on its inner margin a preferably rectangular lug *d'*, adapted to enter in any one of the series of notches N on the corresponding edge of the bar A. The

short bar C is parallel to the lever L, and when the lever is at right angles to the bar, as in Fig. 1, the space between the inner ends of the lugs *d'* is considerably greater than the width of the bar A. It is evident, therefore, that if the lever be moved in the direction indicated by the arrow *a*, Fig. 1, until the lug on the dog D is free from the notch in which it lies both the lugs on the dogs will be entirely free from the bar, and the lever may be moved thereon toward or away from the arm A without difficulty. If, however, the lever be swung in the direction indicated by the arrow *a'* in Fig. 1, the dog D' must be moved forward or toward the arm A' until the parts reach the position shown in Fig. 3, when the lug of the dog D' will enter one of the notches on the corresponding edge of the bar A in the manner shown in that figure. If, then, the movement of the lever be reversed, the lug on the dog D' must become the fulcrum or support of the lever, when the dog D will be moved forward until the parts reach the position illustrated in Fig. 4. This reciprocal movement of the lever may be continued as required, and at each movement of the lever in either direction one of the dogs will be advanced one step upon the bar A.

To the strap L' is pivoted the front end of a bar E, lying along the face of the bar A and held in suitable relation thereto by means of a clasp E', pivoted to the bar E and embracing the bar A. The rear end E² of the bar E is in a plane at right angles to the plane of the bar A and carries a short lever L³, which is pivoted to it by means of a pivot *p*³, Fig. 2. A cam F, pivoted to the lever L³, has a slight sliding movement on the bar E² and is formed with fingers *ff*, which embrace the end of the bar, the ends of the fingers preferably joined by a rod *f'*, lying in a notch *e* in the lower margin of the bar E², this rod being intended to permit the sliding of the cam along the bar and at the same time to prevent its escape therefrom. The lever L³ is provided with a shoulder, which overhangs the corrugated upper edge of the cam F and is adapted to clamp the end of a wire W, which it is desired to stretch by means of the device. The clamp thus formed is simple and powerful, and at the same time is free from any tendency to wedge the wire tightly between its

opposing surfaces in such a way as to render it difficult to release it when desired. An examination of the relative position of the parts, as shown in Fig. 2, will show that a very slight movement of the free end of the lever L^3 will be sufficient to release the wire; but nevertheless the pressure obtained by this clamp is sufficient to hold the wire firmly under any tension to which it is subjected in actual use.

The operation of the device is evident from the foregoing description and explanation of its parts, but may be briefly stated as follows: The end A' of the bar being brought into engagement with a post in the manner shown in Fig. 1, the lever, with its dogs and clamp, is moved to the rear end of the bar A —that is, to the end farthest from the post. The clamp is then brought into engagement with one end of the wire to be tightened, the other end being fastened to a post at a suitable distance from the stretcher. The lever is then moved reciprocally in the manner hereinbefore described, and by means of its dogs is moved forward step by step upon the bar until the wire is sufficiently tightened or until the lever reaches the post. If the lever reaches the post before the wire is drawn tight, the wire may be fastened to the post in any desired manner or otherwise secured against slackening, and the dogs may then be released from the notches in the bar and moved again to the rear end thereof, when the clamp can again be applied to the wire and the operation of stretching repeated.

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

1. The combination, with the notched bar A and lever L , of the dogs $D D'$, lying on opposite edges of the bar and pivoted to the lever, and the connecting-bar C , joining the ends of the dogs, the front ends of the dogs being formed to embrace the bar and their rear ends being provided with inwardly-extending lugs adapted to enter the notches in the bar, substantially as shown and described.

2. The combination of the lever A , provided with notches $N N$ in its opposite edges, the lever L , the dogs $D D'$, formed with hooks $d d'$ and lugs $d' d'$, and the connecting-bar C , pivoted to the rear ends of the dogs, substantially as shown and described.

3. The combination, with the bar, the lever, and dogs attached to the lever and adapted to give it a step-by-step advance thereon, of the bar $E E^2$, moving with the lever, the lever L^3 , pivoted to the bar $E E^2$, and the cam F , pivoted to the lever L^3 and sliding upon the bar E^2 , the lever being provided with a shoulder overhanging the edge of the cam and adapted to form therewith a wire-holding clamp, substantially as shown and described.

4. The combination, with the bar A and lever L , of the bar $E E^2$, formed with the notch e , the lever L^3 , pivoted to the bar E^2 , and the cam F , pivoted to the lever L^3 and provided with the fingers $f f$ and with the rod f' , joining the ends of the fingers and sliding in a notch e , substantially as shown and described.

JOHN DIETRICH.

Witnesses:

Y. W. DOW,
CHARLES DIETRICH.