

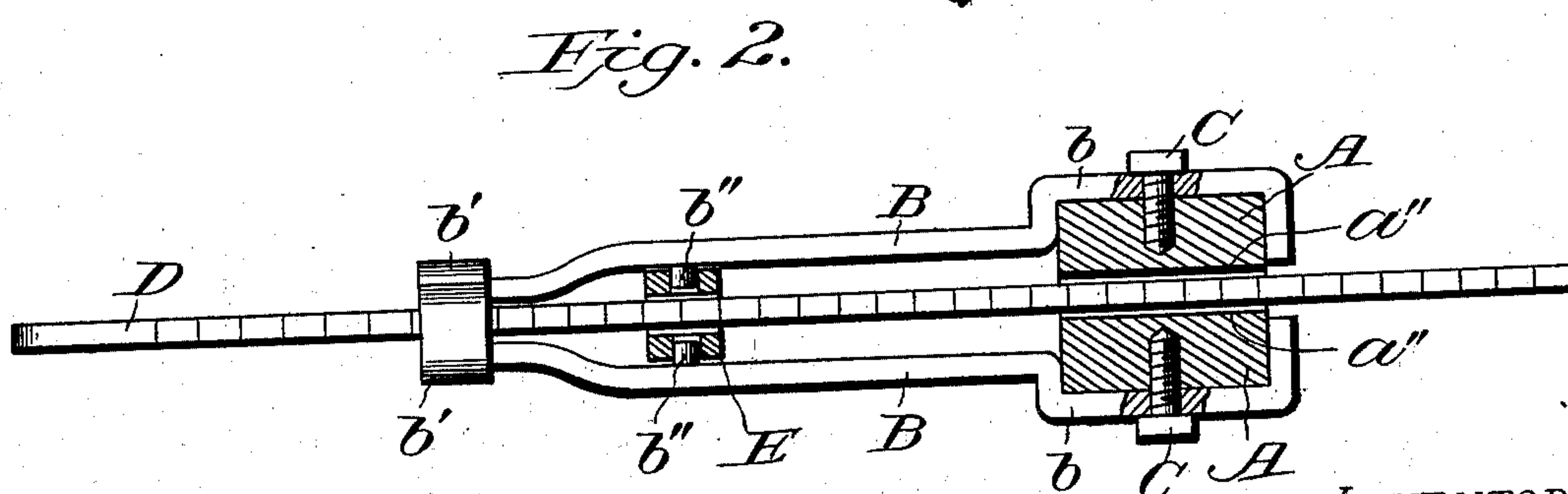
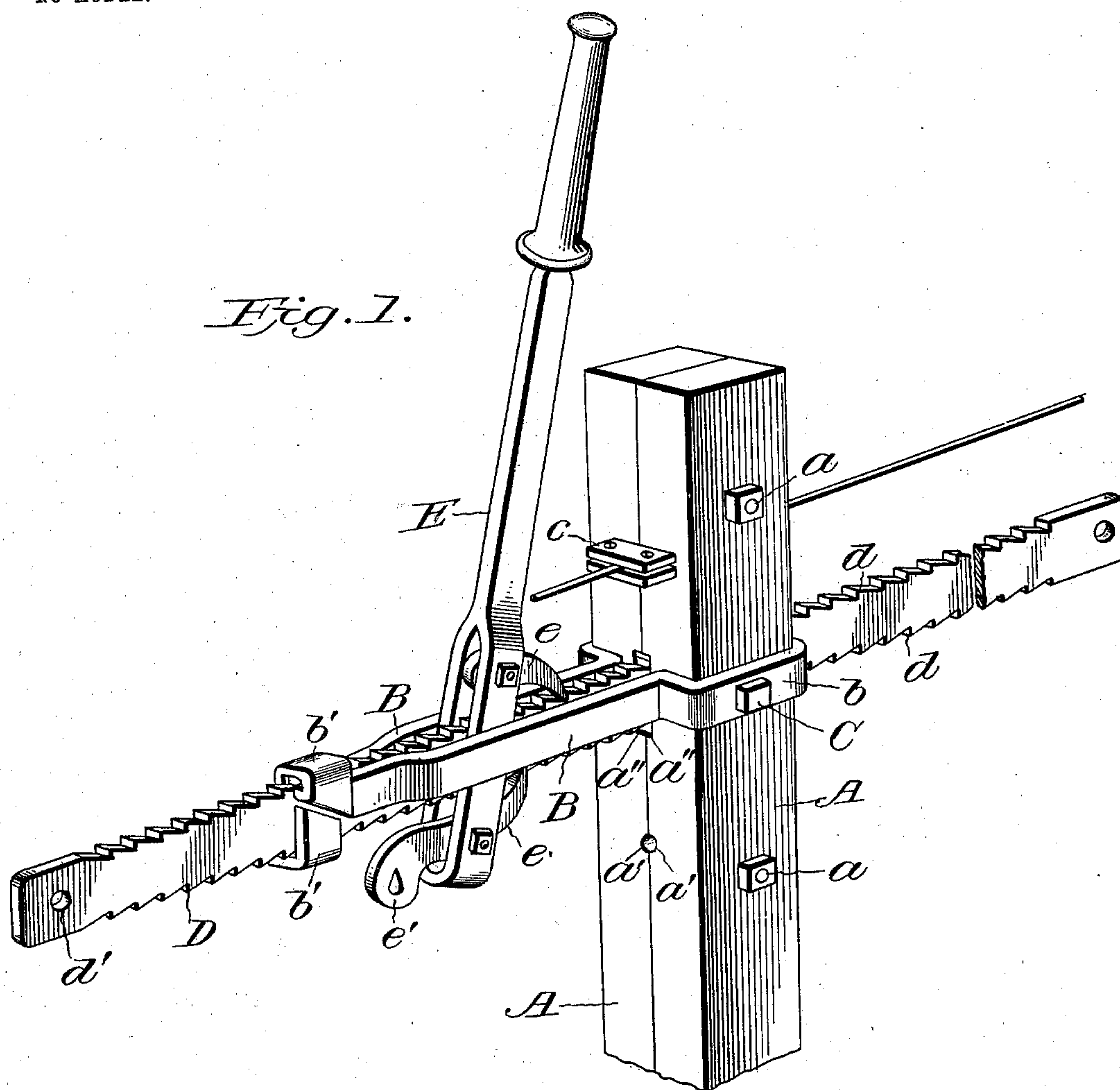
No. 750,417.

PATENTED JAN. 26, 1904.

I. M. WARNER.
WIRE STRETCHER.

APPLICATION FILED OCT. 3, 1903.

NO MODEL.



WITNESSES:

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ISAAC M. WARNER, OF UNION CITY, MICHIGAN, ASSIGNOR TO JOSEPH W. McCAUSEY, LEO S. PARSONS, ADDISON J. BOYER, AND WILLIAM ODEN HUGHART, JR., OF GRAND RAPIDS, MICHIGAN.

WIRE-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 750,417, dated January 26, 1904.

Application filed October 3, 1903. Serial No. 175,561. (No model.)

To all whom it may concern:

Be it known that I, ISAAC M. WARNER, a citizen of the United States, residing at Union City, in the county of Branch and State of Michigan, have invented a new and useful Wire-Stretcher, of which the following is a specification.

My invention relates to improvements in wire-stretchers used in erecting and repairing fences and for other purposes, and has for its object the production of a simple, durable, and powerful implement for exerting tension on one or more wires simultaneously and for holding them under suitable tension until secured to permanent supports. I attain these objects by the construction shown in the accompanying drawings, in which—

Figure 1 is a perspective view of the entire implement; and Fig. 2 is a top plan view thereof, showing parts in section.

Like letters refer to like parts in both the figures.

In Fig. 1 A A are separable members, which support the other operative parts of the device and also serve as means for attaching the stretcher to the wires to be stretched, either by directly clamping or gripping them upon a plurality of wires already in place upon their supporting-posts or by securing them together by the bolts *a a*, so as to bring the grooves *a' a'* into position to form apertures for the passage of any desired number of wires, which may then be secured for stretching by any suitable fastening, as at *c*, this fastening forming no part of my invention. The members or grips A A (shown broken in Fig. 1) may be long enough to carry a second tension device at the opposite end, if desired, for simultaneously stretching a large number of wires or a wide web.

Secured to each of the grip members A A by cap-screws C or otherwise are the parts B B, preferably of mild steel, said parts being suitably formed at one end, as at *b*, to partially embrace the uprights to which they are respectively secured and at the other end, as

b', laterally bent or hooked, so as to form when the implement is assembled a guide-slot for the double rack-bar or ratch D, said rack-bar also passing through a guide-slot formed by adjacent channels *a'' a''* in grip members A A, the latter slot being in alinement with the slot formed by the hooks *b'*. These hooks *b'* serve not only as rack-bar, but prevent the spreading of the parts B B and accidental disengagement of the lever E, hereinafter described, from the lugs on which it is pivoted. On lugs *b''* (shown in Fig. 2) on the inner sides of the parts B B is pivoted a lever E, of the form clearly shown in Fig. 1, said lever passing astride the rack-bar D and carrying pawls *e e*, one located above and the other below the pivot-lugs and each adapted to contact with the teeth *d* of rack-bar D. In order to hold the lower pawl in contact with the teeth on the under side of the rack, it is extended on the opposite side of its pivot, as at *e'*, to form a counterweight, or it may have additional weights attached to the apertured end *e'*.

At *d'* in the rack-bar D is a suitable aperture by means of which said rack-bar may be secured to a stationary support of sufficient strength to resist the stress of the wires.

The operation is as follows: Rack-bar D, secured to a stationary support at the end *d'*, and the grip members A A and attached parts being moved to the opposite end of said rack, the ends of the wires to be stretched are secured to A A or these grips clamped from opposite sides upon wires already in place and the lever E oscillated. At each swing of the lever in either direction one of the pawls *e* will serve as a temporary fulcrum, while the other travels along the opposite edge of the rack-bar to a new point of contact, the lugs *b''*, the frame B B, and wire-grips A A moving therewith in a direction to exert tension on the wire or wires whether lever E be oscillated toward or from the wire-grips.

It will be seen that when the stretching is completed the entire device may be readily

dismantled by merely removing the bolts *a a* and removed from the stretched wires even though the latter are secured on either side of the stretcher, as in removing slack from wires
5 or netting already erected.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a wire-stretcher, in combination, a rack-bar adapted to be anchored at one end,
10 a laterally-separable wire-grip slidably embracing said rack-bar, and a lever fulcrumed in separable supports on said wire-grip and having pawls pivoted on opposite sides of its fulcrum, said pawls being adapted to alter-
15 nately engage with the teeth of said rack-bar.

2. In a wire-stretcher, in combination, a horizontally-arranged bar, means for securing one end thereof to a stationary support, teeth on the opposite edges of said bar, a separable
20 wire-grip slidably embracing said bar, a lever fulcrumed in supports on said wire-grip, pawls pivoted to said lever above and below said bar, the lower pawl being counterweighted to cause it to engage the lower rack-teeth, whereby os-
25 cillation of said lever will intermittently move said wire-grip relatively to said toothed bar.

3. In a wire-stretcher, in combination, a separable wire-grip, a rack-guide therein, a lever-support attached thereto, a second rack-
30 guide on said lever-support, a lever fulcrumed on said lever-support, and connections be-

tween said lever and said rack for moving the wire-grip relatively to said rack.

4. In a wire-stretcher, in combination, a separable wire-grip, laterally-extending, sepa- 35 rable lever-supports mounted on corresponding portions of said grip, aligned rack-guides in said wire-grip and lever-support respectively, a rack-bar with two serrated edges adapted to pass through said guides, a double 40 pawl-lever mounted on said lever-support and adapted to move said rack-bar relatively to said guides and wire-grip.

5. In a wire-stretcher, the combination of separable wire-grips, a rack-guide therein, le- 45 ver-supports secured thereto, a rack-guide on said supports, pivot-lugs on said supports between said rack-guides, a bifurcated lever pivoted on said lugs, a rack-bar serrated on both of its edges and adapted to pass through said 50 rack-guides and said bifurcated lever, and gravity-actuated pawls on said lever, adapted to move said rack-bar relatively to said wire-grips.

In witness whereof I have signed my name 55 to this specification in the presence of two witnesses.

ISAAC M. WARNER.

Witnesses:

GEO. STYLES,
CLARA H. PAGE.