

(No Model.)

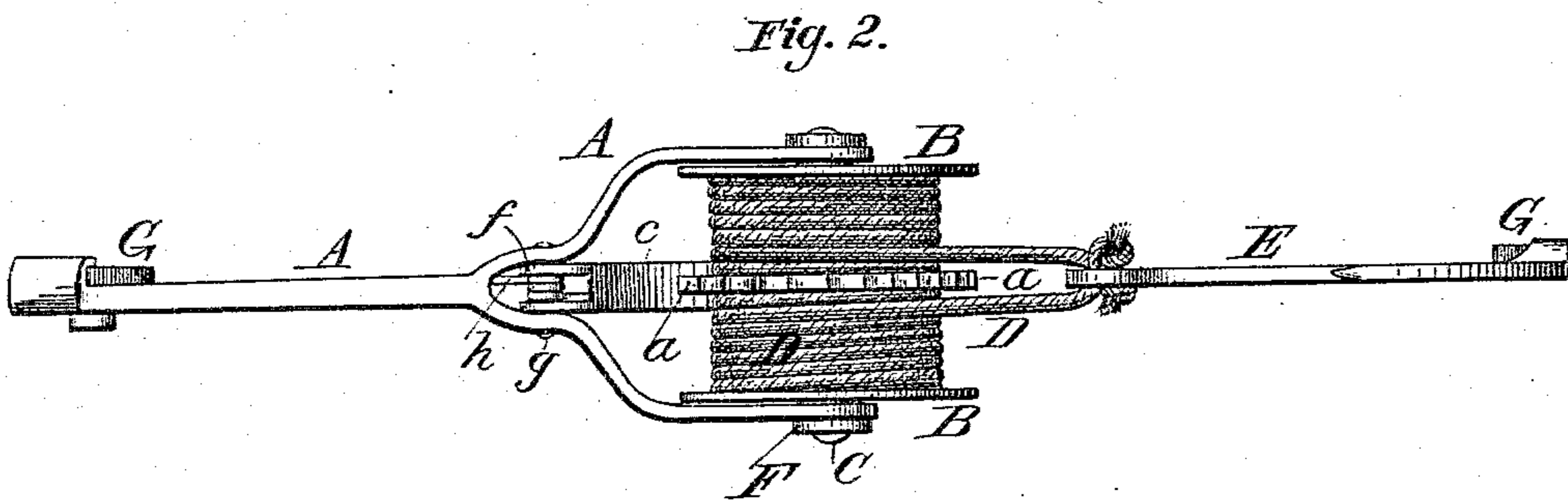
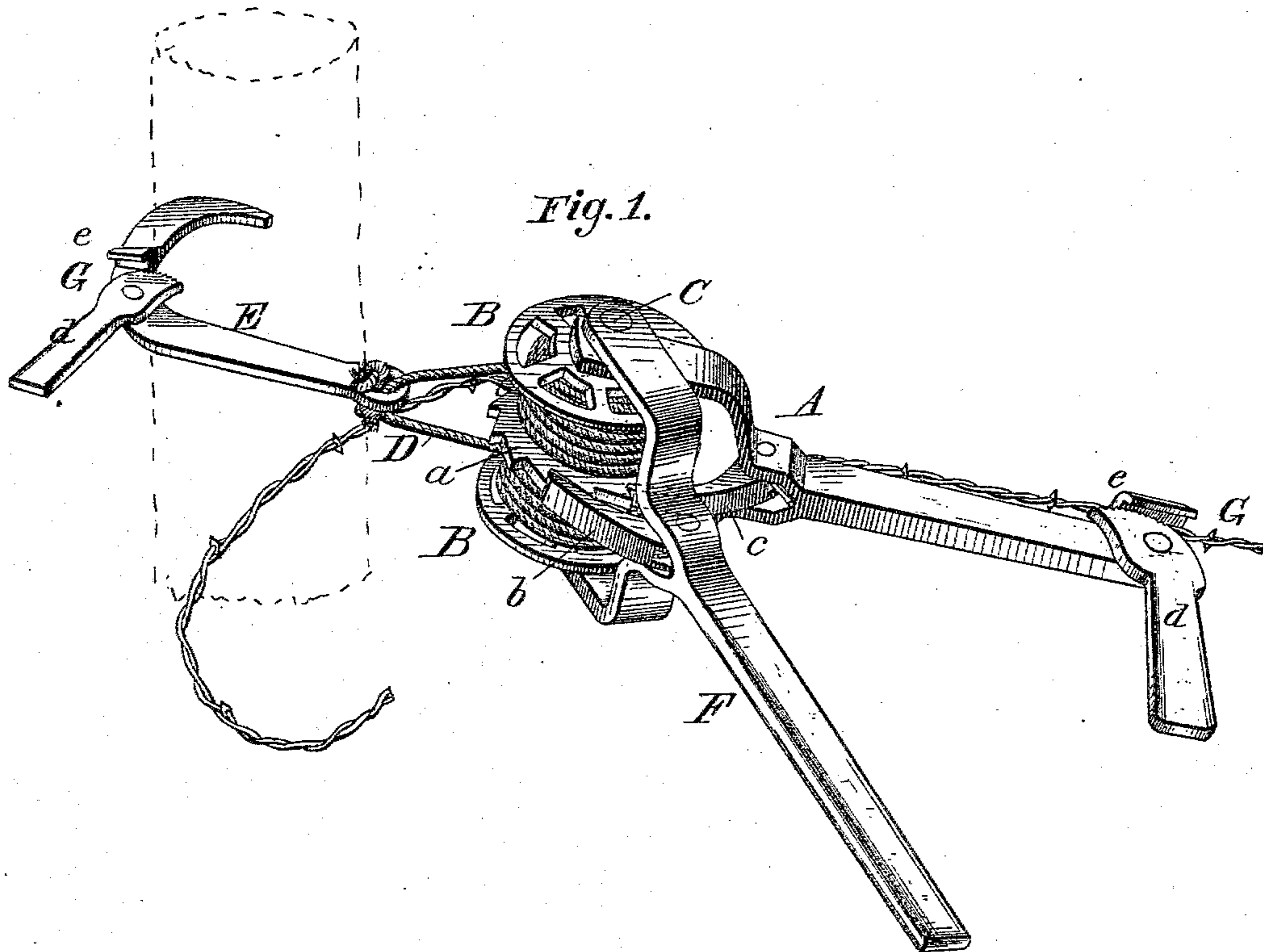
3 Sheets—Sheet 1.

A. C. DECKER.

WIRE STRETCHER.

No. 288,166.

Patented Nov. 6, 1883.



Witnesses:

J. Henry Kaiser.
Walter S. Dodge

Inventor:

Alexander C. Decker,
by Dodge & Son,
Attys.

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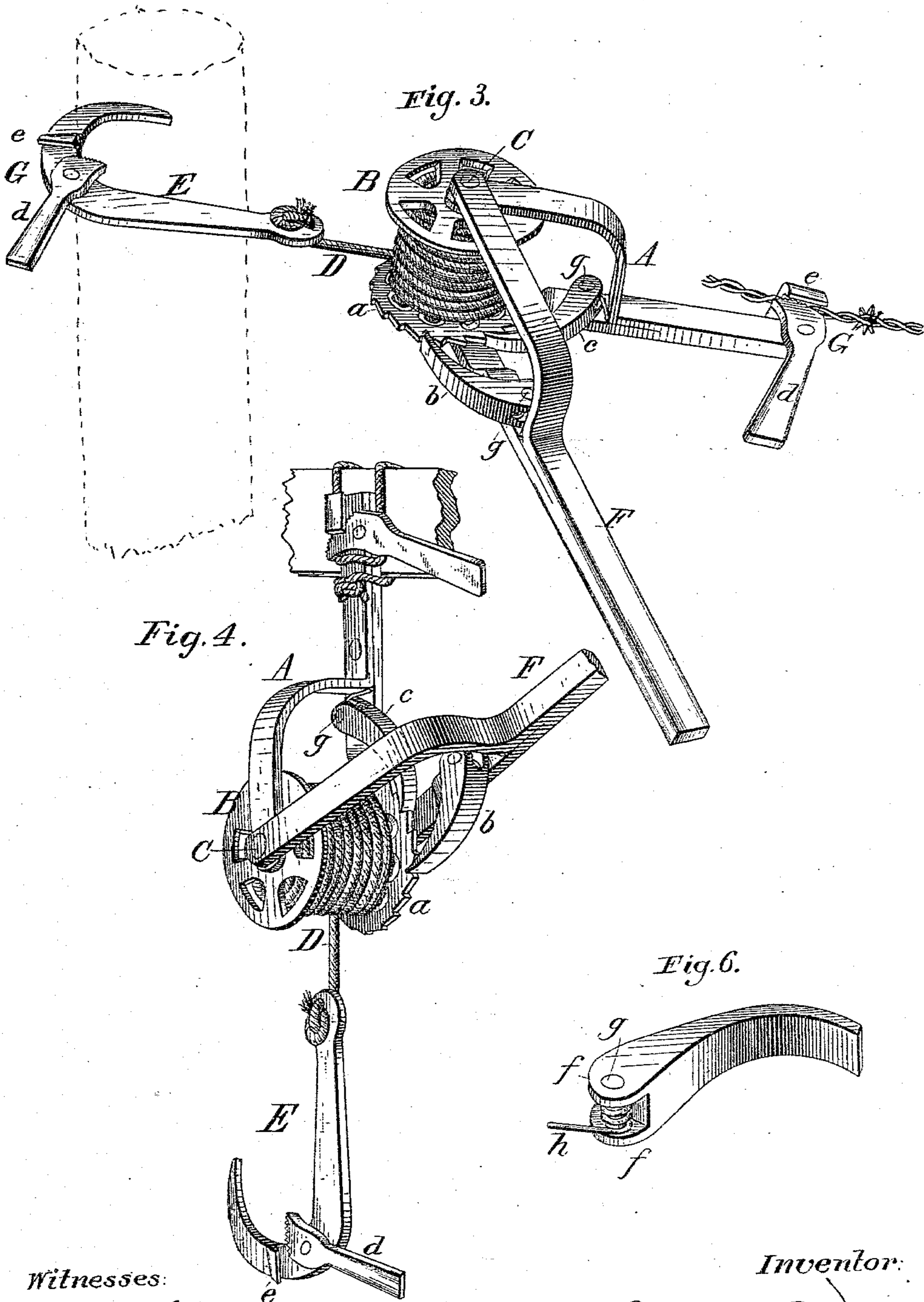
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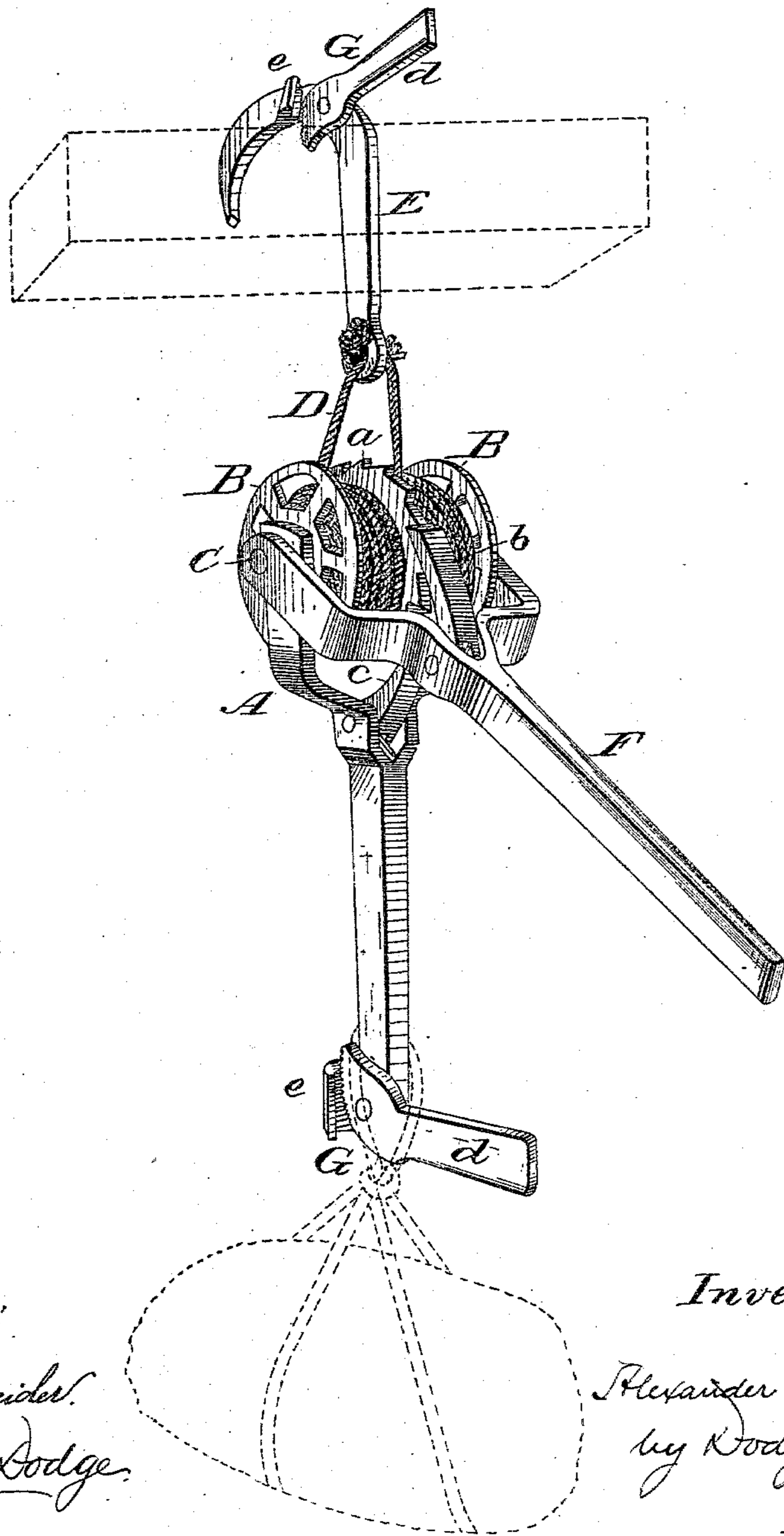
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Fig. 5.



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UNITED STATES PATENT OFFICE.

ALEXANDER C. DECKER, OF BUSHNELL, ILLINOIS, ASSIGNOR OF ONE-HALF
TO JAMES AYRES AND PETER AYRES, BOTH OF SAME PLACE.

WIRE-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 288,166, dated November 6, 1883.

Application filed February 13, 1883. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER C. DECKER, of Bushnell, in the county of McDonough and State of Illinois, have invented certain
5 Improvements in Wire Stretchers, of which the following is a specification.

My invention relates to wire-stretchers; and it consists in a novel construction and arrangement of parts, hereinafter fully set forth,
10 whereby the device is adapted to be used without liability of turning or swinging about the wire.

In the accompanying drawings, Figure 1 represents a perspective view of my improved
15 device in its preferred form in use as a wire-stretcher; Fig. 2, a side elevation of the same; Fig. 3, a perspective view of a slightly-modified form of the device; Fig. 4, a perspective
20 view, showing one manner of using the stretcher for lifting heavy weights; Fig. 5, a similar view, showing another way of using the stretcher for a like purpose; Fig. 6, a perspective
view of the pawl detached.

As commonly constructed, wire-stretchers
25 employing a winding-drum are furnished with a crank for rotating said drum, and in using the stretchers there is a constant tendency of the frame to turn over, which not only inter-
30 feres with the ready manipulation or use of the implement, but causes the wire to be violently thrown about, to the manifest danger of the party using the device. Such devices do
not permit the convenient application of as much power as is sometimes desirable, because
35 of unsteadiness and tipping of the frame.

The primary object of my invention is to provide a stretcher capable of use as a straining
40 device, or for splicing wires, or for lifting, in which the operative movements shall always be in the direction of the strain, so that there shall be no tendency to rock or tip.

I am aware that a sliding bar moving in a
45 frame designed to be made fast to a post has before been operated by a lever and pawl, and also that a wire stretcher having a rotary drum for winding in a rope carrying a hook furnished with a wire-clamp has had its crank
loosely journaled upon the shaft or axle of
50 such drum, and provided with a pawl to engage with a ratchet on the drum, so that the

crank might be swung back and forth about the axle without making a complete revolution around the same, and might thus rotate the drum by a reciprocating motion of the
55 crank. I desire here to say that such constructions are not included in my invention, which I will now proceed to explain in connection with the drawings, in which—

A represents a yoke or frame, in which is
60 mounted a winding drum or spool, B, either journaled in the frame or supported on an independent axle, C, passing through the drum and the arms of the frame or yoke. This drum is provided or formed with a ratchet, *a*,
65 which may be either at the middle, as in Figs. 1, 2, and 5, or at the sides, as in Figs. 3 and 4, the first arrangement being preferred.

D represents a rope attached to drum B, and
70 carrying a hook, E, designed to be hooked around a post or over a beam or rafter, if the device is to be employed for lifting, the rope being double when the middle ratchet is used,
and passing each side thereof, or single if the ratchet is placed at the side, as will be readily
75 understood by referring to the drawings.

The rope D is preferably attached to the
80 drum by passing it through holes or perforations formed in the ratchet, and tying or knotting it in any convenient manner, to prevent its detachment. When the double rope is used and carried on opposite sides of the middle ratchet, it will be seen that the rope will
85 draw and wind equally on both sides of the center, and thus avoid even the slight tendency to draw to one side that might exist even with the construction of the frame here de-
scribed.

F represents a hand-lever, the inner end of
90 which is forked to straddle the yoke or frame and the arms of which are secured upon and carried by the axle C. This lever carries
a spring-pawl, *b*, which is arranged in line
and engages with ratchet *a*, so that as the lever is moved in one direction the pawl en-
95 gages with and rotates the ratchet, and when moved in the reverse direction the pawl rides
back over the teeth of the ratchet, which latter is prevented from turning backward by a
pawl, *c*, pivoted in frame A, as shown in the
several figures. It will thus be seen that by 100

simply swinging lever F back and forth in the direction of the length of frame A the drum B will be rotated and caused to wind up the rope D.

5 The frame A and the hook E are each furnished with a wire-clamp, G, of usual construction—that is to say, consisting of an eccentric-lever, *d*, pivoted to the body of the hook or frame, and arranged to clamp the wire
10 between its serrated eccentric face and a lip or rib, *e*, overhanging the eccentric, as shown in Figs. 1 and 3.

The spring-pawls *b* and *c* are constructed, as shown in Fig. 6, with two ears, *f*, through
15 which the pivot-pin *g* passes, and between which the spring *h* is placed, one end of said spring being arranged to bear against the pawl, and the other against the frame or lever in which it is pivoted.

20 The device being thus constructed, its operation is as follows: If it be desired merely to stretch or strain the wire in constructing wire fencing or like work, the rope D is run off from drum B a proper length, the hook E
25 is engaged around a post, and the wire is clamped in the device G of the frame A, all as indicated in Figs. 1 and 3. The lever F is then moved back and forth, and the drum thereby rotated until the desired tension is se-
30 cured, whereupon the wire is secured to the post in the usual way. If it be desired to splice a broken wire, the operation will be the same, except that, instead of passing hook E around a post, one end of the broken wire will
35 be secured in its clamp G, the other end being similarly secured in the clamp of frame A, both being allowed to extend beyond the clamps sufficiently to afford facility for splicing. The rope being then wound up, as be-
40 fore, the ends of the wire will be carried past each other and held ready for twisting together, which will be done in the ordinary manner. When it is desired to lift a heavy weight, the frame A may be suspended by a rope
45 or otherwise from an overhead beam or support, and the hook E engaged with the article to be raised, the rope in all cases being prop-

erly run off from the drum beforehand; or the hook may be engaged over a beam and the weight attached to the frame A, the two plans
50 being respectively represented in Figs. 4 and 5.

It is particularly to be noted that in both forms of my device the hand-lever is forked and has a bearing at each end of the winding-drum, so that any tendency of the device to
55 turn over with the wire as an axis of rotation is entirely overcome, the lever absolutely preventing such turning or rotation, and thus overcoming an objection which is at once the cause of delay and source of great danger in
60 using wire-stretchers not thus free from the difficulty mentioned.

Having thus described my invention, what I claim is—

1. In a wire-stretcher, the combination of a
65 frame provided with a clamp, a drum mounted and arranged to rotate in said frame and provided with a ratchet, a rope attached to the drum and provided with a hook, and a forked lever having a bearing at each end of the drum,
70 and provided with a pawl arranged, substantially as shown, to engage with the ratchet of the drum.

2. The herein-described wire-stretcher, consisting of frame A, provided with a wire-
75 clamp and with a pawl, *c*, drum B, provided with ratchet *a* and with rope D, furnished with hook E, and having clamp G, and forked lever F, pivoted to the frame A at opposite ends of the drum, and provided with pawl *b*,
80 said parts being combined and operating substantially as described.

3. The herein-described wire-stretcher, consisting of frame A, provided with a wire-
85 clamp and a pawl, *c*, drum B, having ratchet *a* at its middle, and provided with double rope D, carrying hook E, provided with a wire-clamp, and forked lever F, provided with pawl *b*, said parts being constructed, combined, and arranged to operate as explained.
90

ALEXANDER C. DECKER.

Witnesses:

PETER AYRES,
SOLON BANFILL.