

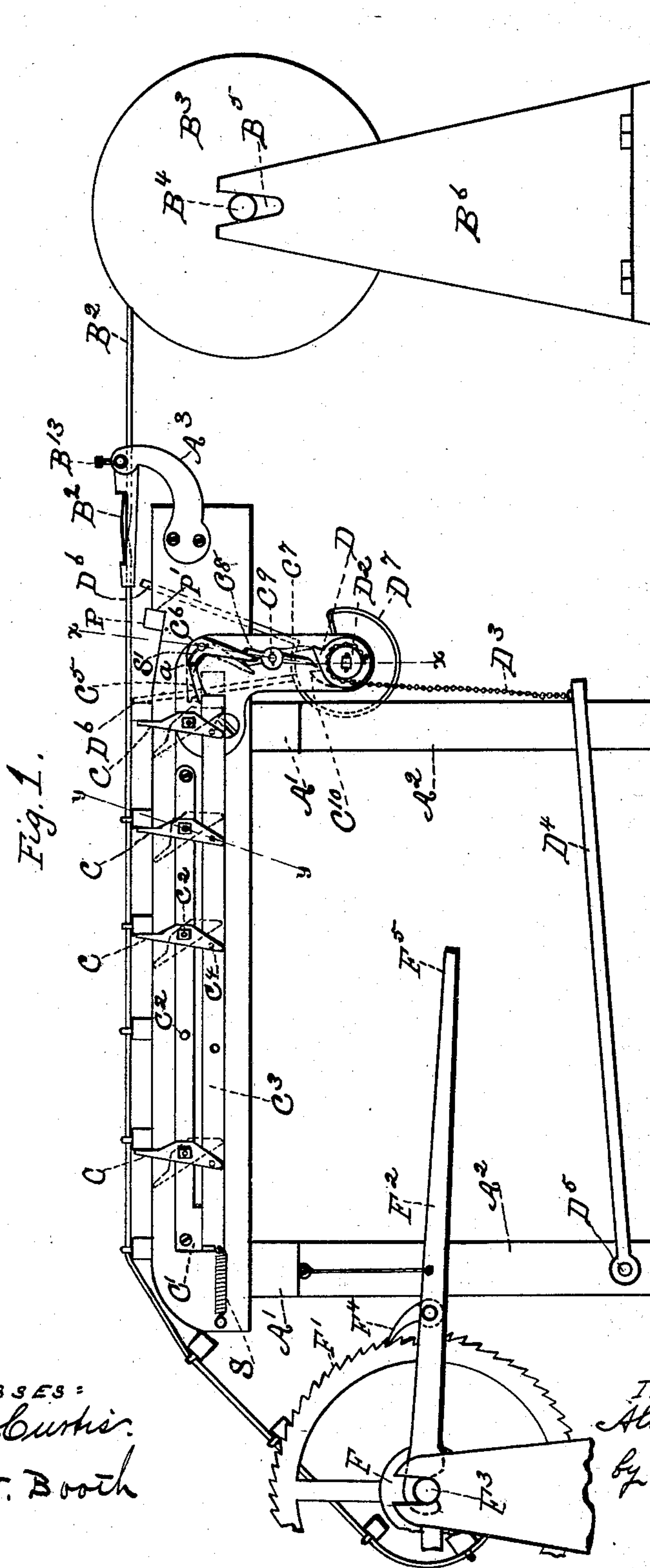
(No Model.)

2 Sheets—Sheet 1.

A. C. BETTS.
WIRE FENCE MACHINE.

No. 410,263.

Patented Sept. 3, 1889.



WITNESSES:
Frank C. Curtis.
John T. Booth

INVENTOR:
Albert C. Betts.
by Geo. A. Mooker
att'y

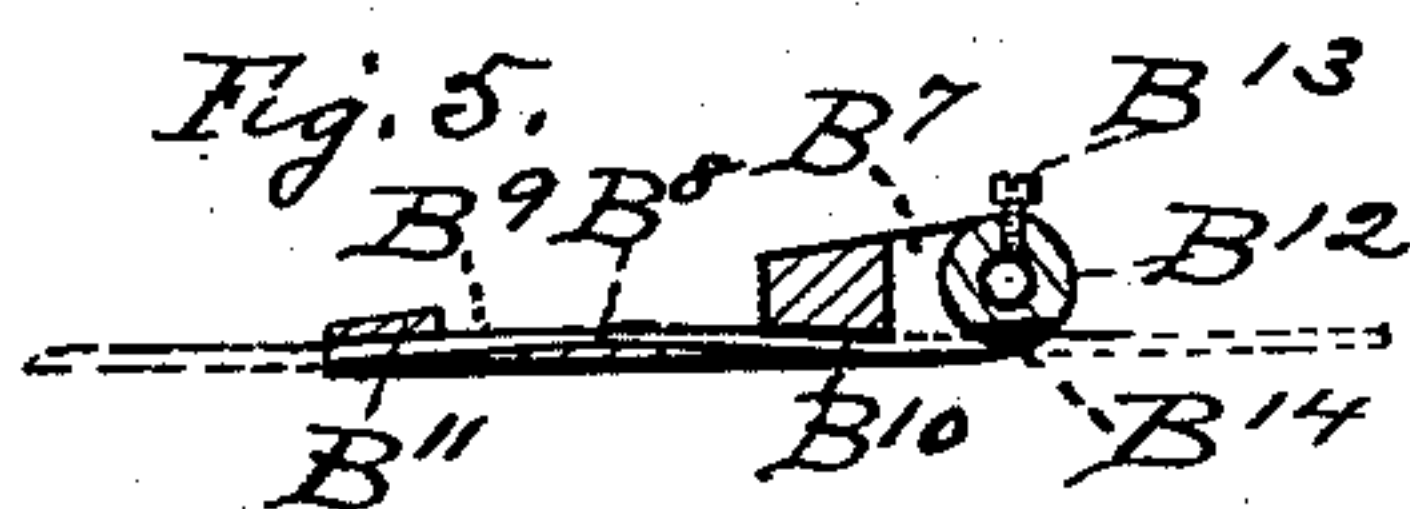
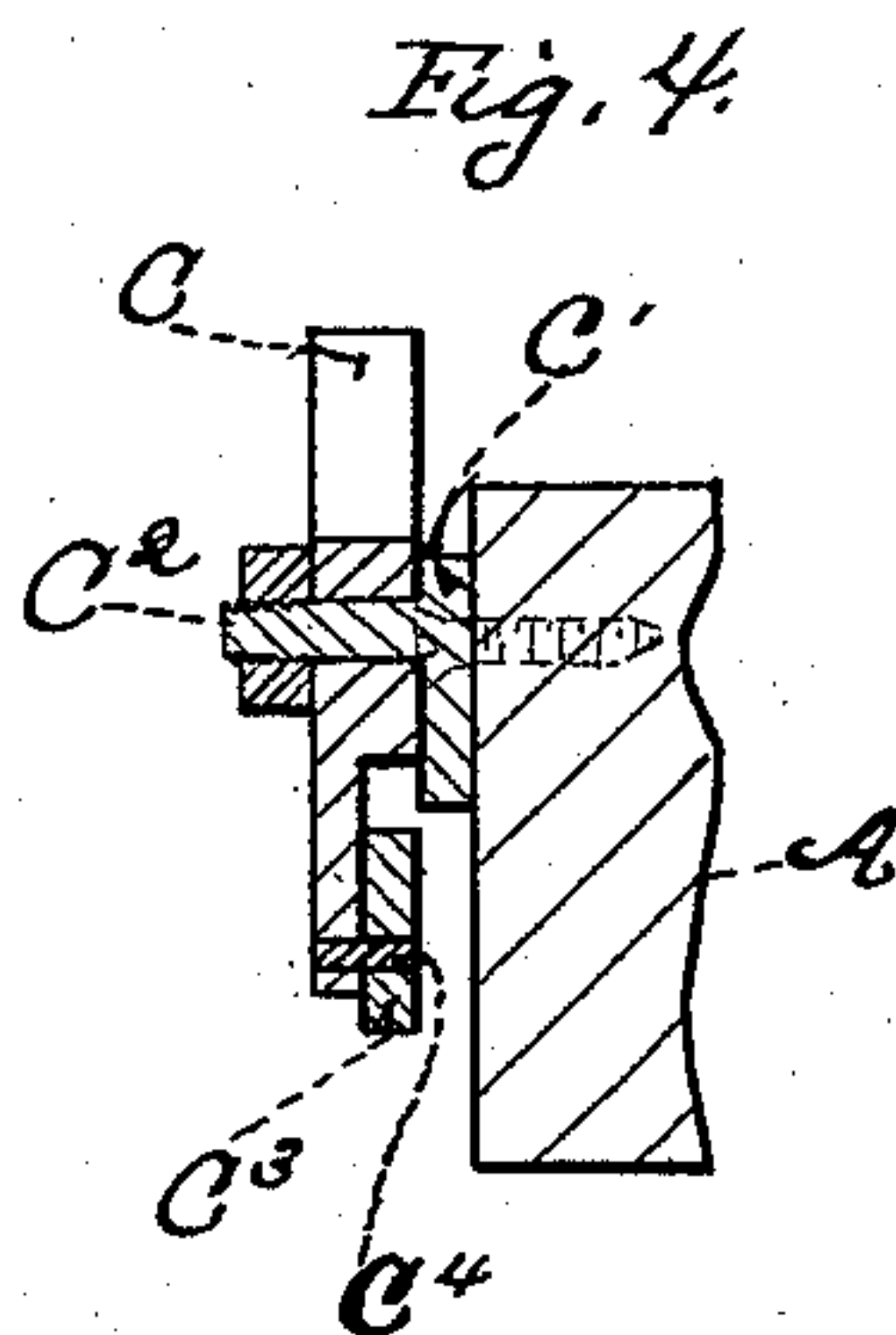
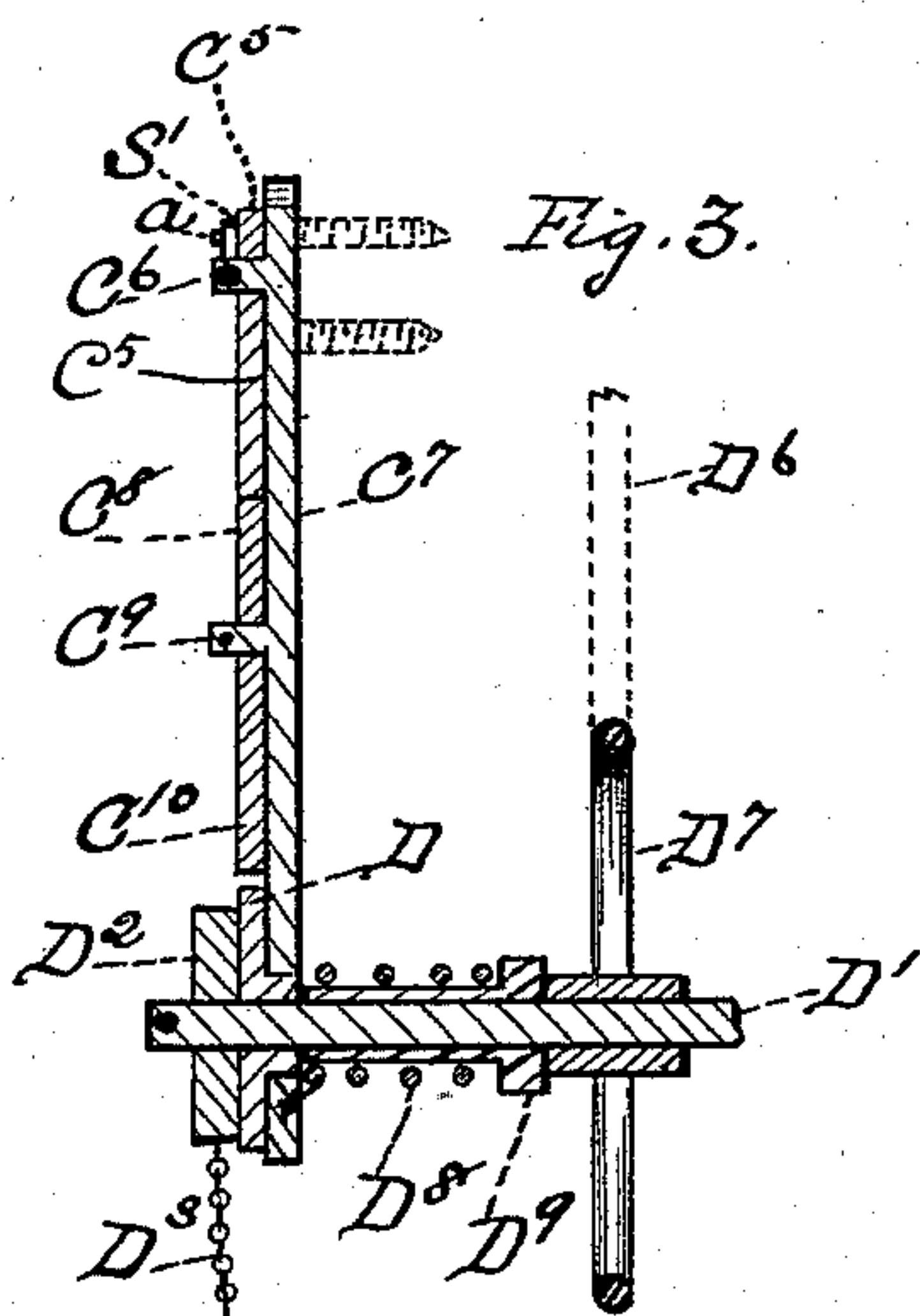
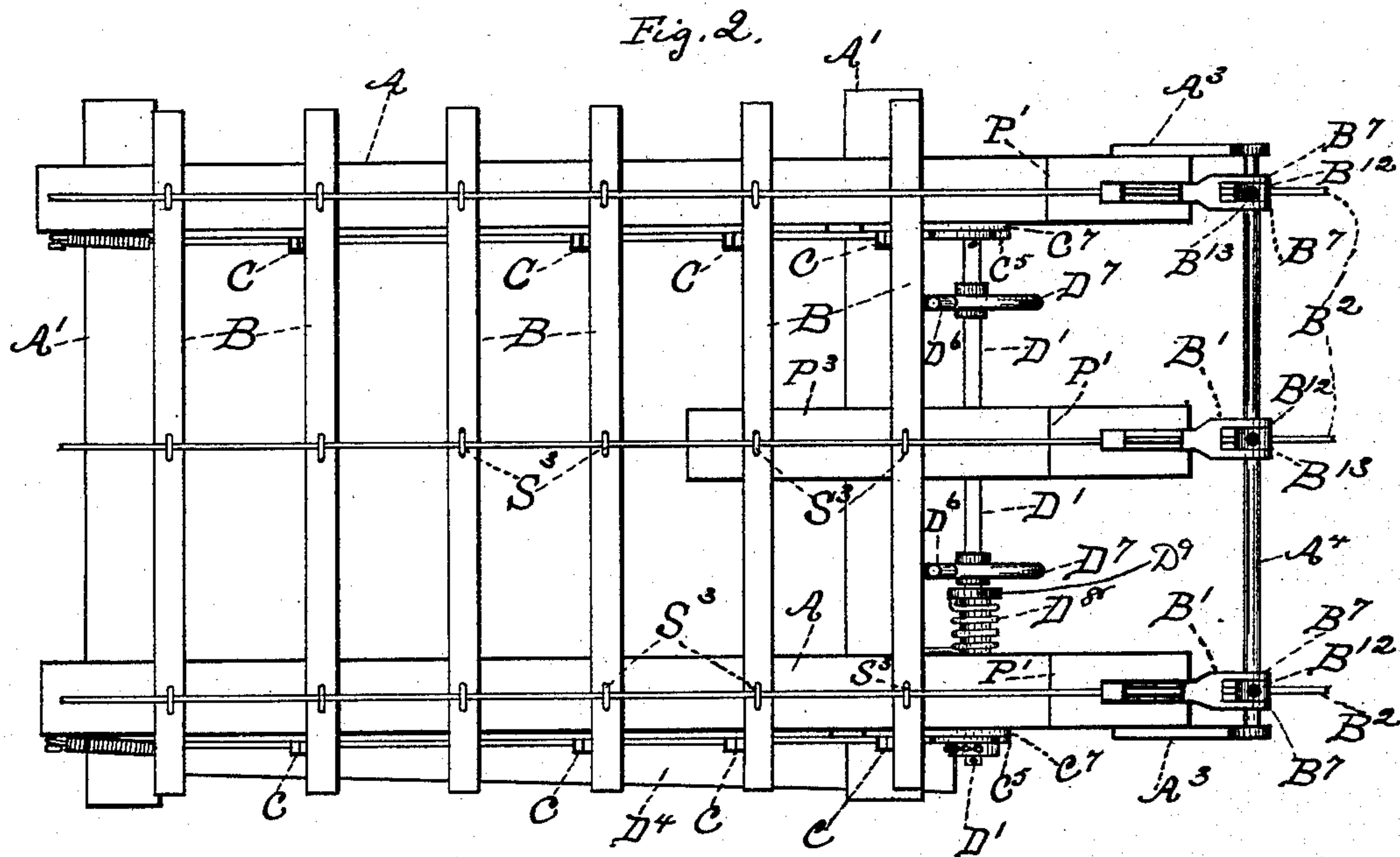
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2 Sheets—Sheet 2.

A. C. BETTS.
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No. 410,263.

Patented Sept. 3, 1889.



WITNESSES:

Frank C. Curtis.

John T. Booth

INVENTOR:

Albert C. Betts,

by Geo. W. Mosher
att'y

UNITED STATES PATENT OFFICE.

ALBERT C. BETTS, OF BRUNSWICK, NEW YORK.

WIRE-FENCE MACHINE.

SPECIFICATION forming part of Letters Patent No. 410,263, dated September 3, 1889.

Application filed March 27, 1889. Serial No. 304,990. (No model.)

To all whom it may concern:

Be it known that I, ALBERT C. BETTS, a resident of the town of Brunswick, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Wire-Fence Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, that will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Similar letters refer to similar parts in the several figures therein.

My invention relates to improvements in wire-fence machines; and it consists of the novel construction and combination of parts, hereinafter described, and pointed out in the claims.

Figure 1 of the drawings is a view in side elevation of my improved machine, showing a fence in the different stages of manufacture. Fig. 2 is a top plan view of the parts shown in Fig. 1, except that the supply-coils of wire are broken away and the treadle and treadle-actuated parts are shown in a different position. Fig. 3 is a cross-section of a side portion of the machine, taken on the broken line $x x$ in Fig. 1. Fig. 4 is a similar section taken on the broken line $y y$ in Fig. 1. Fig. 5 is a vertical longitudinal section of one of the frictional feed-guides for feeding and guiding the wires from supply-coils to the machine.

My improved machine is adapted to make that form of fence which consists of a series of vertical wood slats or pickets connected with each other by a plurality of parallel horizontal wires severally secured to the individual pickets by means of a staple straddling the wire and driven into the picket. The frame is composed of two stringers or beams A, resting upon the cross-beams A', supported by the uprights or legs A². The stringers are substantially parallel with each other, occupying the same horizontal plane, and located at the proper distance apart to support the ends of the pickets B, as shown in Fig. 2. The stringers are each provided with a bracket-arm A³, adapted to support the cross-rod A⁴, which rod supports a guide B' for the wires B². These guides serve to feed the

strands of wire from spools B³ to the pickets. The spools have an axle B⁴, the ends of which have a bearing in an open-ended slot B in a bearing-block B⁶. The bearing-slot has its open end a little wider than the diameter of the axle and its closed end contracted to a width a little less than the diameter of the axle, so that the axle is pinched by the walls of the inwardly-contracted open-ended slot in proportion to the weight of the coil. As the weight of the coil diminishes in proportion as its diameter diminishes, and consequently as the leverage of the wire being unwound therefrom diminishes, the friction of the axle upon the slot-walls acts as a constant brake upon the spools and prevents the wire from uncoiling too rapidly. As a further brake upon the wires to keep them taut on their way to the pickets, I make the guides B' of a novel form. They are provided with the ears B⁷, perforated to receive the rod A⁴, and have in the body part the inclined ways B⁸ and B⁹, as shown in Fig. 5. These ways may be open at their point of junction at the longitudinal center of the guide and closed at their other ends, as at B¹⁰ and B¹¹. It will be seen that the wire is caused to bind upon the inclosing-walls of the angular track thus formed and its progress retarded by the frictional contact therewith. The position of the guides may be adjustably fixed by means of the washers B¹², movable longitudinally upon the cross-rod, being tapped and provided with an adjusting-screw B¹³, adapted to be set upon the cross-rod. The washer may have a channel B¹⁴ in its lower side to receive the wire when desired.

As a means for securing the pickets upon the wires in a position such that they shall be equidistant and parallel with each other, I provide the guide-stops C, pivoted upon the frame-stringers or upon slats C', secured to the frame, as upon the pivots C². Any desired number of pivots may be provided and the stops located thereon at such distances apart as may be desired for the spaces between the pickets, and connected at their lower ends by a movable slat C³, to which they are pivoted at C⁴. Two stops on each stringer would serve to approximately guide and hold the pickets in place; but I prefer a greater number, as shown, as greater accuracy may

be obtained. The stops are held up to the position shown by the solid lines in Fig. 1 by means of the detent-lever C⁵, pivoted at C⁶ upon a bracket C⁷, screwed to the main frame, the head of which lever engages with the end of the slat C³ to hold it in position. The tripping-lever C⁸, pivoted upon the bracket C⁷ at C⁹, is so located that its lower arm C¹⁰ is acted upon by the cam D, while its upper arm acts to trip the detent-lever. The cam is fixed upon the shaft D'. The shaft is also provided with a pulley D², fixed thereon, having an actuating-chain D³ and treadle D⁴. The treadle is pivoted at D⁵ upon one of the frame-supporting legs. The shaft D' is also provided with two sweep arms or levers D⁶, having the circular spring-connection D⁷, and with a torsion coil-spring D⁸, one end of which spring is secured to the bracket C⁷ and the other end to the supporting-sleeve D⁹, which sleeve is fixed upon the shaft.

F is a large spool on which the completed fence is wound and drawn from the machine. The spool is provided with a toothed rim F', and is rotated by means of a lever F², fulcrumed upon the spool-axle F³ and provided with a pawl F⁴ and handle F⁵.

The operation of the machine is as follows: The desired number of wires are drawn from as many spools B³ ranged in front of the machine, passed severally through the guides B' over the machine-frame, and secured to the winding-spool F, the guides B being adjusted at the desired distance apart on the cross-rod A⁴. A picket is then placed across the frame in the position shown at P in Fig. 1 against the abutments or stops P'. The treadle is then operated to force the arms D⁶ from the position shown by solid lines to that shown by dotted lines in Fig. 1, which carries the picket against the first set of stops C to the position shown by dotted lines in Fig. 1 and by solid lines in Fig. 2. The staples S³ are then inserted by a hammer or other known means, by which the several wires are secured to the picket. The treadle is then released and the torsion-spring D⁸ turns the shaft D' backward and throws the arms D⁶ forward to the position shown by solid lines and the treadle up to the position shown in Fig. 1. The cam D, which was forced by the treadle to a position back of lever-arm C¹⁰, (shown by dotted lines in Fig. 1,) is also forced back to

the position shown by the solid lines, striking the arm C¹⁰ and forcing the levers C⁵ and C⁸ to the position shown by dotted lines in Fig. 1, which releases the slat C³. The wires and pickets secured thereto are then drawn backward along the machine-frame by means of the handle F⁵ and winding-spool F, or by any suitable power, as by the hand of the operator applied directly to the pickets, forcing the slat C³ and the stops C to the position shown by dotted lines in Fig. 1. As soon as the pickets pass the stops C they and the slat C³ are restored to the position shown by the solid lines by the spring S and the detent C⁵ forced to the position shown by solid lines by the spring S', fixed upon the stationary pivot C⁶ and bearing down upon the pin a in the detent. The detent thus engaging the slat C³ holds the stops firmly in position, and when the pickets forming part of the completed fence are drawn against them their further movement is arrested until another picket is attached in the same manner and the detent again tripped, as before, in which manner the process is continued, as desired.

It is obvious that any desired number of wires may be employed. I have shown three wires and a short middle picket-support P³.

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

1. In a wire-fence machine, the combination, with a supporting-frame, of picket-stops C, pivotally secured upon opposite sides of such frame, spring-controlled stop-connecting slats C³, spring-controlled detent-lever C⁵, tripping-lever C⁸, and treadle-actuated tripping-cam, substantially as described.

2. In a wire-fence machine, a tension device consisting of a guide-block having in its body part oppositely-inclined ways B⁸ and B⁹ for the wire, open at their point of junction near the center of the block, and closed at the ends B¹⁰ and B¹¹ of the block, one end B¹⁰ being provided with the transversely-perforated supporting-ears B⁷, substantially as described.

In testimony whereof I have hereunto set my hand this 25th day of March, 1889.

ALBERT C. BETTS.

Witnesses:

GEO. A. MOSHER,
W. H. HOLLISTER, Jr.