(No Model.) 2 Sheets—Sheet 1.

F. H. BISSELL.

WIRE STRETCHER.

No. 304,693. Patented Sept. 9, 1884.

Fig. 1.

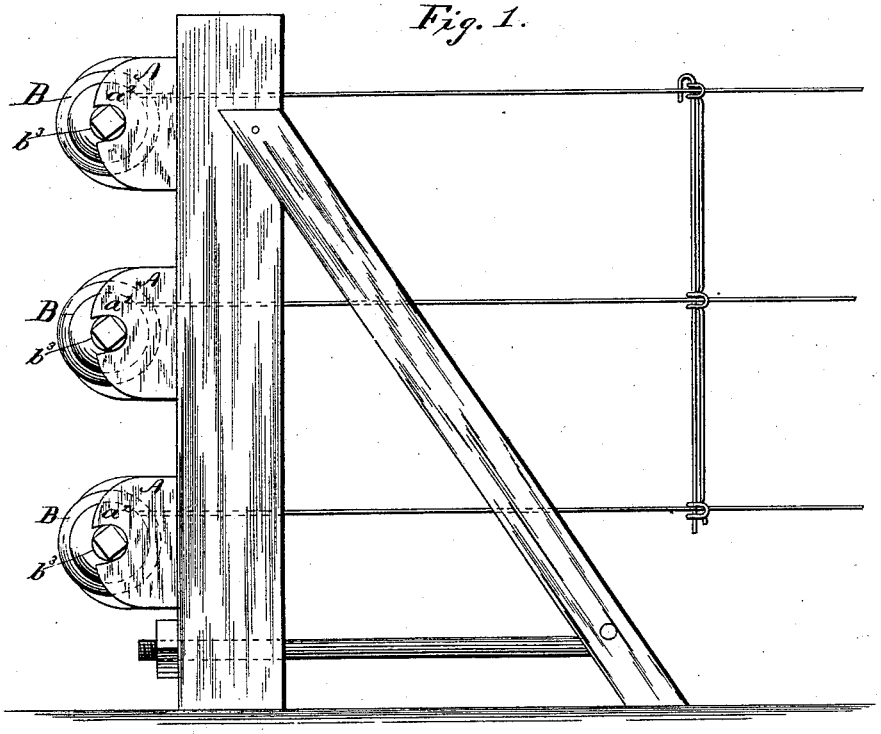
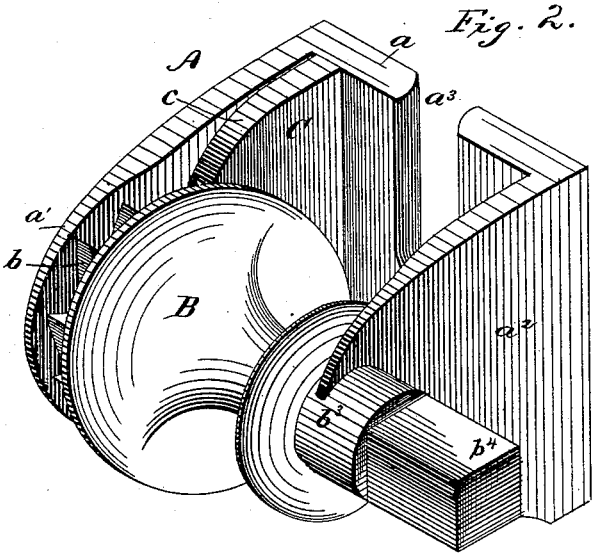


Fig. 2.



WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

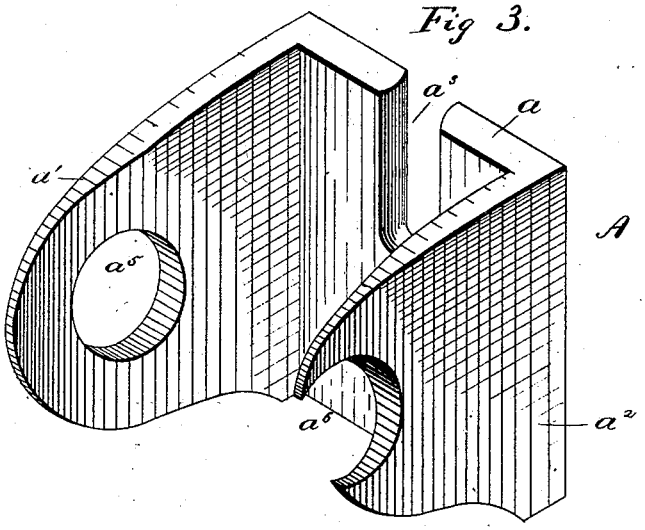


Fig. 4.

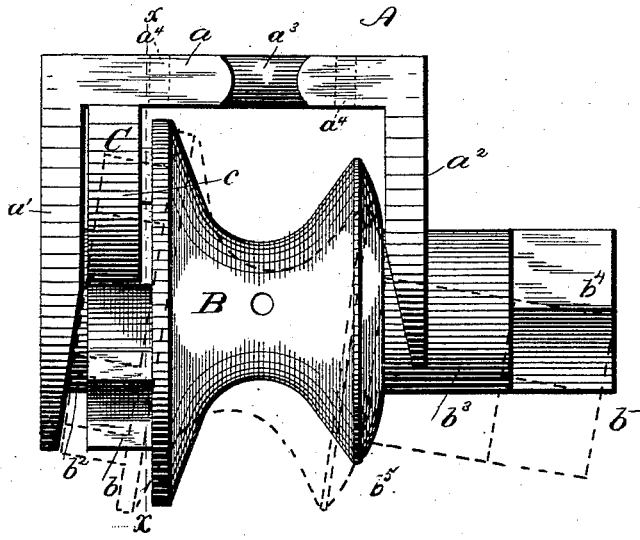
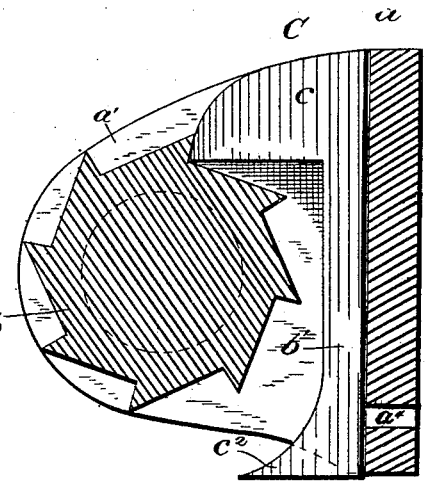


Fig. 5.



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UNITED STATES PATENT OFFICE.

FRANK H. BISSELL, OF ORWELL, ASSIGNOR OF ONE-HALF TO MICHAEL NEIL, OF DAYTON, OHIO.

WIRE-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 304,693, dated September 9, 1884.

Application filed January 30, 1884. (No model.)

To all whom it may concern:

Be it known that I, FRANK H. BISSELL, of Orwell, in the county of Ashtabula and State of Ohio, 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 same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

My invention has for its object to provide a cheap, simple, compact, and efficient device for stretching wire for wire fences and other purposes; and to this end it consists of a stretcher embodying certain novel details of construction and combinations of parts, such as I will now proceed to describe and claim.

Referring to the accompanying drawings, Figure 1 represents a side elevation of a wire fence, showing the manner of applying my improved stretcher thereto. Fig. 2 is a perspective view of one of the stretchers detached. Fig. 3 is a perspective view of the stretcher-frame detached. Fig. 4 is a top view of the stretcher; and Fig. 5, a sectional view taken on the line x x, Fig. 4.

There are but three parts entering into the construction of my stretcher—namely, a frame, A, a ratchet-drum, B, and a pawl, C; and it is the peculiar construction of these parts and their adaptation to each other that constitutes the special novelty of my invention.

The frame A is made in the form of a bracket—that is to say, it is formed with a back piece, a, and two projecting lugs or side pieces, a' a^2, all preferably formed integral. The back piece, a, is provided with a vertical slot or opening, a^3, for the passage of the line of wire to be stretched, and preferably with two or more apertures, a^4 a^4, for the passage of screws or nails by which to secure the frame to a post or other suitable support. The lug or side piece a' is provided with an opening, a^5, which constitutes the bearing for the inner end of the ratchet drum-shaft, while the lug or side piece a^2 is provided with a corresponding open bearing, a^6, for the outer end of the said shaft.

The ratchet-drum B consists of a drum having a ratchet, b, at one side, and mounted upon or preferably having formed with it a shaft affording an inner journal, b^2, for insertion into the circular bearing, a^5, an outer journal, b^3, for insertion in the open bearing a^6, and a squared portion, b^4, for the application of a crank or handle by which to rotate the drum.

The pawl C has a head, c, which is adapted to engage with the ratchet b at the upper side, and it has also a long straight shank, b', which bears at its rear against the back piece of the frame or bracket A, and terminates in a forwardly-extending retaining-projection, c^2, which serves to prevent the loss or removal of the pawl so long as the drum remains in place.

When the parts are all in proper position, as shown in Fig. 4, the side of the ratchet on the one hand and the outer side of the drum on the other hand stand as near the inner faces of the side pieces, a' a^2, as is possible without binding, in order to allow of the least longitudinal movement of the drum-shaft in its bearings. This close fitting of the drum and ratchet between the side pieces of the frame is effected, first, by beveling outward the inner face of the side piece a' from about a vertical line drawn through the center of the circular opening a^5 to the outer edge of the side piece, and by beveling in like manner the inner face of the side piece a^2 from the inner side of the bearing opening outward, all as shown in Fig. 4; and, secondly, by beveling inward the outer side of the drum, as indicated at b^5, Fig. 4, these several bevelings permitting a ratchet-drum of a length nearly if not quite equal to the distance between the side pieces to be inserted in place by first inserting into its appropriate bearing, a^5, the short end of the shaft at an angle, as shown in dotted lines, Fig. 4, and then closing in the longer end of the shaft into the open bearing a^6 of the opposite side piece, as shown in said last-mentioned figure in full lines.

In the practical use of the stretcher for fence-building, the frame A is first secured to a post or other suitable support in the line of the proposed fence, the pawl C then inserted in its proper place, and there held until the ratchet-drum has been inserted as first described, after which the latter holds the said pawl in position. The wire to be stretched is fastened to the drum by being passed through a perforation in the drum and tied or otherwise fastened,

and a crank is applied to the squared end of the shaft, and the wire wound upon the drum till sufficiently tight, the pawl automatically rising and falling as the turning continues, and effectually locking the parts when the turning ceases. Each line of wire is preferably provided with an independent stretcher, and the stretchers are left as a part of the fence in condition to be used to effect a tightening or slackening of the wires at any time.

As will be seen, the parts of my stretcher are few, of simple construction, and not liable to be lost or to get out of order.

Having thus described my invention, what I claim as new is—

1. In a wire-stretcher, the combination, with the frame or bracket consisting of the back piece and the two side pieces provided with the circular and semicircular open bearings, respectively, of the ratchet-drum and its journals, and the automatic pawl having the head for engaging the upper side of the ratchet, and the downwardly-extended shank, and the projection for preventing its removal or loss, substantially as described.

2. In the herein-described wire-stretcher, the combination, with the bracket or frame, having side pieces provided with bearings and beveled as described, of the ratchet-drum, also beveled on the side nearest the side piece having the open bearing, and a pawl for engaging the ratchet, the whole constructed and arranged substantially as described.

FRANK H. BISSELL.

Witnesses:
FRED F. CHURCH,
MICHL. NEIL.