

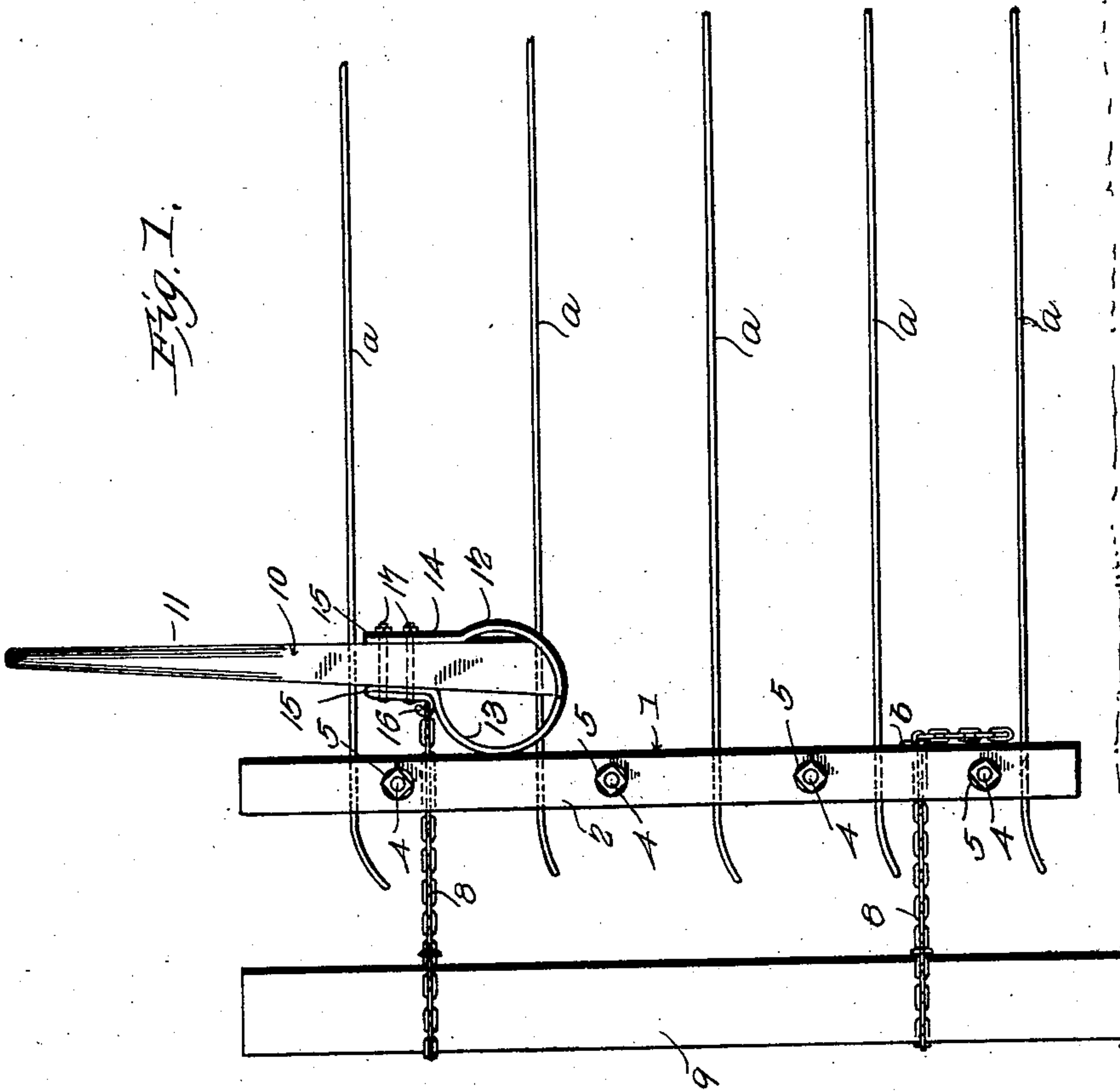
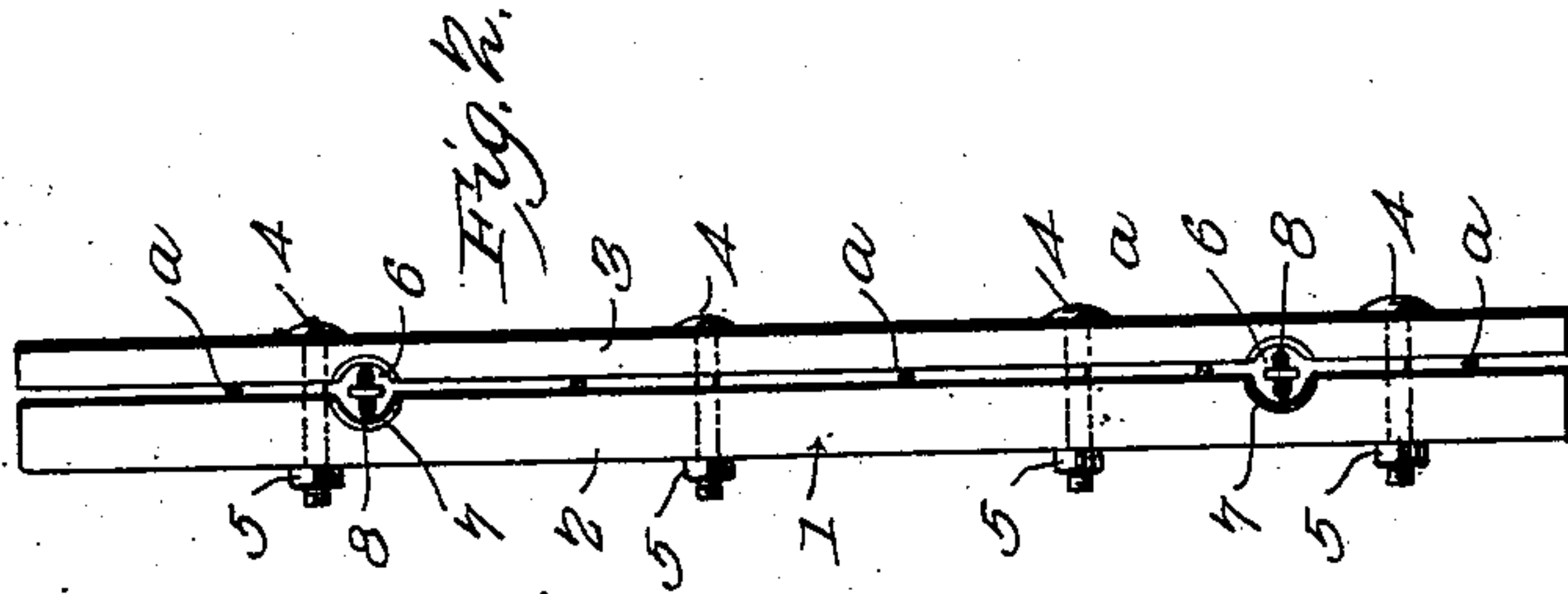
No. 714,071.

Patented Nov. 18, 1902.

I. M. WARNER.  
WIRE FENCE STRETCHER.

(Application filed July 15, 1901.)

(No Model.)



Witnesses  
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# UNITED STATES PATENT OFFICE.

ISAAC M. WARNER, OF UNION CITY, MICHIGAN, ASSIGNOR TO FRANK C. BOISE, OF UNION CITY, MICHIGAN.

## WIRE-FENCE STRETCHER.

SPECIFICATION forming part of Letters Patent No. 714,071, dated November 18, 1902.

Application filed July 15, 1901. Serial No. 68,366. (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-Fence Stretcher, of which the following is a specification.

My invention is an improved wire-fence stretcher; and it consists in the peculiar construction and combination of devices herein-after fully set forth and claimed.

One object of my invention is to effect improvements in the construction of the stretcher-bar.

A further object of my invention is to effect improvements in the construction of the lever whereby the same is adapted to bear against the stretcher-bar and to be detachably connected to the flexible elements which connect the stretcher-bar to the post.

A further object of my invention is to combine with a post, the stretcher-bar, and the flexible connecting element between the post and the stretcher-bar a lever adapted to be detachably connected to one of said flexible connecting elements and to bear on the stretcher-bar when operated to stretch the runner-wires.

In the drawings, Figure 1 is a side elevation of a wire-fence stretcher constructed in accordance with my invention, showing the same in position for operation. Fig. 2 is a detail elevation of the stretcher-bar at right angles to Fig. 1.

The stretcher-bar 1, which is adapted to be attached to the runner-wires *a* of a wire fence, comprises the two sections or jaws 2 3, which are connected together by transversely-disposed bolts 4. The runner-wires are passed between the sections 2 3, and by adjusting the nuts 5 on the bolts 4 said runner-wires are clamped between the sections of the stretcher-bar and firmly secured thereto, as will be understood. In the opposing sides of sections 2 3, at suitable distances from their upper and lower ends, respectively, are openings 6, in which are secured semicylindrical metallic thimbles 7, which are adapted for the passage of the flexible connecting elements 8, which are attached to the post 9 through the said stretcher-bar, the said thimbles forming

guides for the said flexible connecting elements. The latter, as here shown and preferably, are chains. The same may be attached at their outer ends to the post 9, either by forming bights in the said chains and passing the same around the post, as herein indicated, or by any other suitable means, and I do not limit myself in this particular.

In connection with the stretcher-bar and chains or flexible connecting elements 8 I employ a lever 10. The same comprises a bar 11 and a strap 12, which is preferably of iron or steel. The said strap is bent in circular form to provide a bearing-cam 13 at one end of the bar 11. One end of the said strap bears against the outer side of the said bar, as at 14, being formed as an arm which lies against said bar, and the opposite end of the said strap is bent to form an arm 15, which bears on the side of the bar 11 opposite the arm 14, the outer end portion of said arm 15 being doubled reversely thereon, as shown, and formed with a hook 16. Bolts 17 are employed, which pass through the said arms 14 15 and through the said bar 11 and effectually secure the cam-bearing strap on the inner end of the bar forming the lever, as shown.

In operation, the chains or flexible connecting elements 8 being passed through the guides in the stretcher-bar and the latter being secured on the runner-wires, the lever is disposed on the inner side of said stretcher-bar, or, in other words, on the side of said stretcher-bar which is farthest from the said post, and a link of one of the said chains 8 is engaged by the hook 16 of said lever, the latter being in a vertical position, as shown in Fig. 1, and the cam at the inner end thereof bearing against the inner side of the stretcher-bar. By turning the upper end of the lever in the direction indicated by the arrow in Fig. 1 the chain will be partly wound on the cam 13 and the said lever and the said chain will coact to force the stretcher-bar toward the post 9, and thereby stretch the runner-wires, as will be understood. When the stretcher-bar has been thus moved to the desired extent, the stretched chain is attached to the stretcher-bar, which may be readily done by passing a pin *b* through one of the links of the chain and causing said pin to bear against the inner side of the



stretcher-bar. The lever is then detached from the said stretched chain and reattached to the unstretched chain at the opposite end of said stretcher-bar and the operation before described repeated, thus enabling all the runner-wires to be stretched to the requisite degree. Inasmuch as my lever is operated on and bears against the inner side of the stretcher-bar, the latter may be moved on the chain or flexible connecting element until it is nearly or quite in contact with the post, and hence my improved stretcher is adapted for operation in stretching the runner-wires to an end post of a fence as effectually as between the intermediate posts.

Having thus described my invention, I claim—

1. The combination with runner-wires, of a stretcher-bar attached thereto, a fixed support, as a post, a flexible connecting element between the same and said stretcher-bar, and a lever having a cam bearing against said stretcher-bar and to which said flexible connecting element is attached, said flexible connecting element being wound on said cam by the operation of said lever, substantially as described.

2. The combination with runner-wires, of a stretcher-bar attached thereto, a fixed support, as a post, a flexible connecting element between the same and said stretcher-bar and passing through the latter and a lever bearing against said stretcher-bar and to which said flexible connecting element is attached, said lever having a cam on which said flexible connecting element is wound, when said lever is operated, substantially as described.

3. The combination of a stretcher-bar having means for the attachment of runner-wires thereto and provided with guides, flexible connecting elements passed through said guides and a lever adapted to bear against said stretcher-bar, and to be detachably secured to said flexible connecting elements,

said lever having a cam at one end on which said flexible connecting elements are wound when said lever is operated, substantially as described.

4. The combination of a stretcher-bar comprising a pair of sections, means to clamp the opposing sides thereof on opposite sides of runner-wires, semitubular thimbles extending across and in the opposing sides of said sections, said thimbles forming guides, connecting elements attached to a fixed object, as a post, and extending through the guides, and means, coacting with said connecting elements and said stretcher-bar, to draw the latter longitudinally of said connecting elements and thereby stretch the runner-wires, substantially as described.

5. A lever comprising a bar and a metallic strap, the latter being bent in circular form, disposed on one end of the bar, to form a cam thereon, and having arms at its ends which bear against and are secured to opposite sides of said bar, in combination with runner-wires, a stretcher-bar attached thereto, a fixed support, as a post, and a flexible connecting element, as a chain, attached to said fixed support and said lever, and adapted to be wound on the cam of said lever, when the latter is operated, said cam bearing on said stretcher-bar, substantially as described.

6. A fence-stretcher having a stretching-bar provided with means for engaging a fence fabric, an operating device having a cam to bear on the bar, and a flexible connection for attachment to a relatively fixed object and engaged by, and wound on the cam of, said operating device.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ISAAC M. WARNER.

Witnesses:

CHARLES W. SHORT,  
CHAS. E. DAY.