

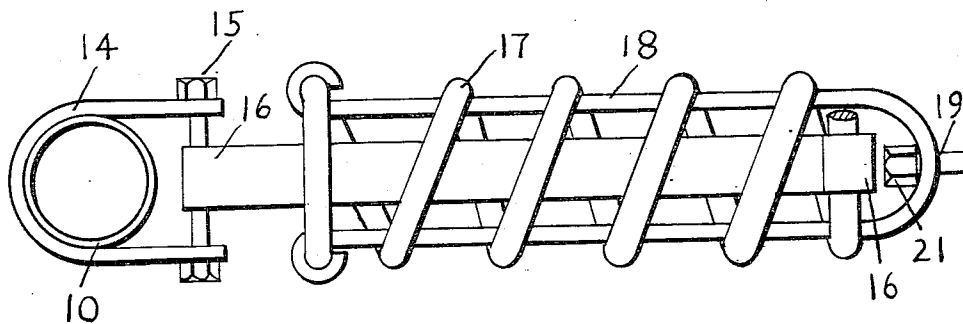
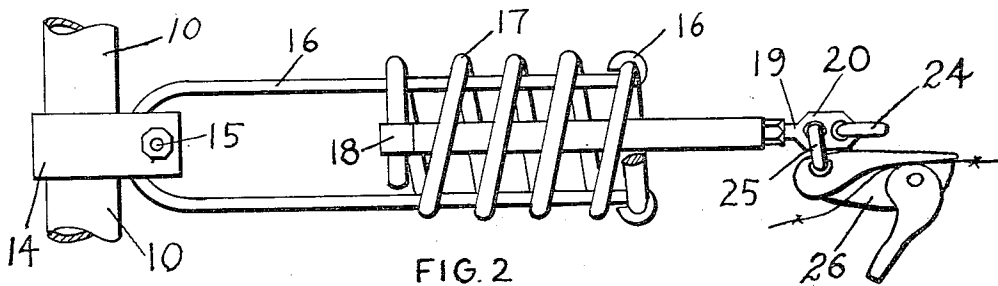
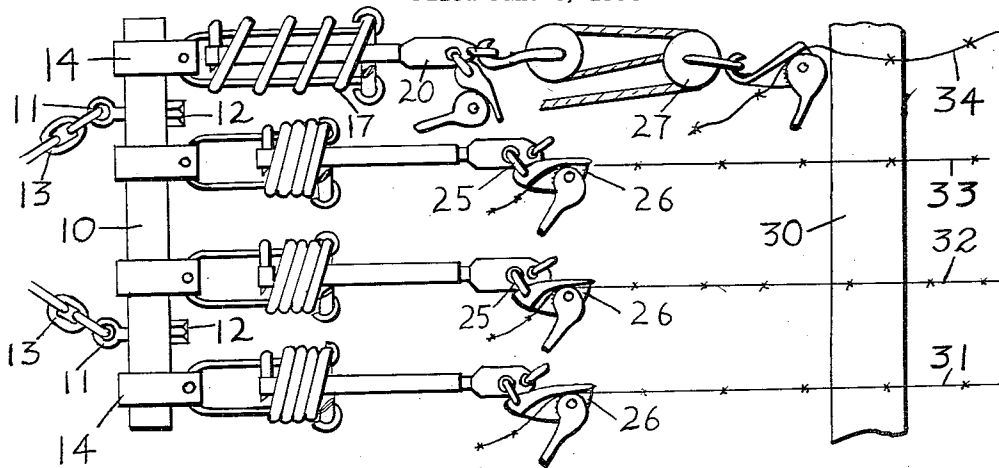
Nov. 27, 1956

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2,772,070

WIRE STRETCHER

Filed Jan. 6, 1954



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2,772,070

## WIRE STRETCHER

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Application January 6, 1954, Serial No. 402,569

3 Claims. (Cl. 254—65)

My invention relates to wire stretchers, and in particular to those wire stretchers which are used to exert tension upon each of a plurality of fence wires, and may likewise be used to exert tension at separate points upon a woven netting, or a woven wire fence.

The object of my invention is to provide a wire stretcher wherein each separate fence wire, or each part of a woven netting, or of a woven wire fence, may be held after stretching at the proper tension while other wires or parts are brought to that tension, and held in proper position upon the post so that when the last wire or part is brought to tension each of the wires will be in place for fastening on the post. Having the wires or parts all properly stretched and in place for fastening will materially reduced the time required for building the fence.

It is obviously desirable that all of the wires be held at the proper tension, but without my device for so holding them over tightening of one wire may cause another wire to sag and thus require loosening of one, or more tightening of the other, in order to get them all at the same tension. My device, which holds each wire at the proper tension, obviates this readjustment of the tension, and promotes the rapid erection of the fence with all wires held and fastened at proper tension.

With this and other objects in view my invention resides in the particular construction and arrangement of parts, herein fully described, and particularly pointed out in the claims.

Referring now to the drawings, in which like characters indicate like parts:

Fig. 1 is a side elevation of my wire stretcher stretching wires in front of a fence post;

Fig. 2 is a detail side view of the wire holding spring and clevis; and

Fig. 3 is a detail plan view of the wire holding spring and clevis.

I provide an equalizer bar 10 upon which the several elements of my wire stretcher are mounted. This bar may be a length of pipe to stand vertical, the length being sufficient to hold all of the clevises 14, of which there is one for each wire, or for each part of the netting or woven fence to be stretched. At two points on the equalizer bar 10 separated some distance apart I pass through the bar diametrically an eye bolt 11 and fasten same with a nut 12. To the eye of each these eye bolts 11 is fastened a length of chain 13 which leads to an anchorage, at the left of Fig. 1, not shown, so that the bar 10 is held in substantially vertical position when the fence wires are being stretched.

The clevises 14, of which there is one for each wire to be stretched, are slidably mounted on the equalizer bar 10 and set a proper distance apart corresponding to the vertical position each wire is to have in the fence. Once tension is begun on the wire to be stretched the clevis 14 will remain in its proper vertical position, and there is no need of securing it against sliding along the equalizer bar 10.

The rounded portion of the clevis 14 is on the left,

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towards the anchorage, and the clevis bolt 15 on the right, towards the fence wires to be stretched. To the right of the clevis 14 I place the wire holding compression spring 17 which is held by a loop 16 in the vertical plane and a loop 18 in the horizontal plane. These loops are hair pin shaped and at their ends are each bent about the spring at its last coil. The loop 16 has its ends bent about the last coil of the spring 17 toward the right, and has its rounded turn to the left where the clevis bolt 15 passes through it. The loop 18 has its ends about the last coil of the spring 17 toward the left, and its rounded turn to the right toward the wire to be stretched. In Fig. 3 the spring 17 is shown fully expanded, and in Fig. 2 partly compressed.

Through a hole in the rounded end of the loop 18 is passed a threaded shank 19 on which there is a nut 21 on the inside of the loop. At the other end of the shank 19 is an integral flattened portion 20 which has two holes, one of which receives the link 24, and the other the link 25. The link 24 is available for insertion of the connecting hook of the block and tackle wire stretcher 27, and the link 25 provides a permanent connection to the cam type wire grip 26.

Toward the right in Fig. 1 is shown the fence post 30 in place in the ground, and in front of it the fence wires 31, 32 and 33, numbered from the bottom upward, already stretched, and the top wire 34 yet to be stretched. The block and tackle wire stretcher 27 is shown connected for such stretching with a hook at one end inserted in the link 24, and a wire grip at the other end grasping the unstretched wire 34, the tightening to be provided by the block and tackle between the two ends.

Each of the springs 17 connected with the wires 31, 32 and 33 is shown under full compression indicating that each of the wires is stretched to that degree of tension. The wire 34 can be stretched to that degree of tension and made fast to the wire grip 26 attached to its wire holding spring 17 so that all four wires will be held against the face of the post 30, or series of posts, at proper tension ready to be fastened by staples or other fastening means. Should the tension on wire 34 be too great the other wires will tend to sag, and the tension on wire 34 can be reduced until the tension on all wires is equal.

The first wire to be tightened should be wire 32 or wire 33 because the clevis of either is located between the eye bolts 11 and through it an even pull could be exerted on the anchorage chains 13, but the pull of either wire 31 or wire 34 whose clevis is at the end of equalizer bar 10 outside of the eye bolts 11 would tend to pull the equalizer bar 10 out of perpendicular.

I have shown the compression spring 17 as my preferred form because it is not subject to being distorted and becoming unusable after excessive tension is applied; however, it is possible to use in its place an expansion spring so powerful that it is not likely to be distorted by such tension as can be applied. Also I have shown the cam type wire grip as preferable, but the type having a tapered jaw into which the wire fits, or any other suitable wire grip, may be substituted without departing from the spirit of my invention.

The operation of my device has already been explained in connection with the foregoing description.

What I claim as new, and desire to secure by Letters Patent of the United States is:

1. An equalizer bar adapted to be held substantially vertical against horizontal tension, a plurality of spring units, each unit having two end pieces and a spring exerting longitudinal tension between said end pieces, one end piece of each unit being connected to holding means mounted upon said equalizer bar, the other end piece of

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each unit having a wire grip and also having a connection to which a wire stretcher may be attached.

2. An equalizer bar adapted to be held substantially vertical against horizontal tension, a series of holding means each slidably mounted on said equalizer bar, a series of spring units, each unit having two end pieces and a spring exerting longitudinal tension between said end pieces, one end piece of each unit being connected to one of said series of holding means, the other end piece of each unit having a wire grip and also having a connection to which a wire stretcher may be attached.

3. An equalizer bar adapted to be held substantially vertical against horizontal tension, a plurality of spring units, each unit having two end pieces and a spring exerting longitudinal tension between said end pieces, one end piece of each unit being connected to holding means

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mounted upon said equalizer bar, the other end piece of each unit having a wire grip and also having a connection for a wire stretcher, and a wire stretcher extending from the connection on one of said end pieces having a wire grip to its own wire grip placed beyond the wire grip of said spring unit.

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