

UNITED STATES PATENT OFFICE.

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COMBINED WIRE STRETCHER, SPLICER, AND TIGHTENER.

No. 805,926.

Specification of Letters Patent.

Patented Nov. 28, 1905.

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To all whom it may concern:

Be it known that I, WILLIAM DEWITT MILLER, a citizen of the United States, and a resident of Saco, in the county of Valley and State of Montana, have invented a new and useful Improvement in a Combined Wire Stretcher, Splicer, and Tightener, of which the following is a specification.

This invention relates to an improvement in wire-stretchers and is adapted to hold the wire alongside of the post or other object to which the stretcher may be attached, so that the wire can be secured thereto, and is in the nature of an improvement upon the construction disclosed in Letters Patent No. 785,511, granted to me on or about March 21, 1905.

The objects of this present invention are to provide means whereby the wire can be drawn to a much higher tension, means for releasing the dog from the rope in pulley-bracket, means by which the stretcher can be hitched to a wire as well as a post, and to provide a better wire-support and wire-clamp on the spar.

Reference is had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all figures.

Figure 1 is a perspective view showing my invention as in operation. Fig. 2 is a sectional side view of the hitching-frame and open pulley mounted thereon and is a detail of this invention. Fig. 3 is a sectional side view of end, taken at the line 1 1, showing the wire-support having a shoulder, which is a detail of this invention. Fig. 4 is a sectional end view, and Fig. 5 a perspective view, of pulley bracket-frame, showing a pulley on its side, which is a detail of this invention. Fig. 6 is a transverse sectional view of bracket-frame, taken at the line 2 2 on Fig. 5, showing the dog employed and the spring to regulate it. Fig. 7 is a perspective view of the end, taken at the line 3 3 on Fig. 1, showing the wire-clamp used.

The spar 2 may be made of wood or iron, not necessarily round, having at one end a wire-clamp 10 and a rope-guide 2^a. Near the center is rope-guide 2^b, and at the other end a wire-support 4 and a longitudinal slot containing pivoted therein a grooved pulley 5. Attached to post 1 by a chain is hitching-frame 8, having a wire-clamp and chain attached to one end and the other end forming a rope-eye 8^d for the stretcher-rope 6 to pass through. On the top of frame 8 is pivoted a

grooved pulley 8^b, having an outward flange greater in circumference than the one adjacent the frame. 8^a is a bar projecting out over the flange of the pulley 8^b. This and the wide flange of the pulley keep the stretcher-rope in position. Bar 8^a and pulley 8^b are held in position by rivet 8^c, which has a smaller diameter through the frame than the pulley, thus allowing the pulley to rotate freely thereon.

The wire-support 4 has a hook-like projection 4^c at its lower end, which is adapted to engage the wire 3 when pressed down and to hold it against the spar by the force of coil-spring 4^a when released. 4^b is a shoulder on wire-support which engages brace-frame 2^c on spar 2 when the support is pushed forward, thus locking and making the support 4 stationary vertically.

To release the wire from the hook, the support-bar must be pushed back from the top until the shoulder 4^b is free from brace 2^c, then it can be pressed far enough through the slot to allow the wire to be disengaged from the hook.

2^d is a slot through brace-bar 2^c and the spar having an elongated opening at the top gradually diminishing toward the bottom, thus allowing the top of the wire-support a forward and backward motion.

2^c is a brace-bar to strengthen the spar.

Bracket-frame 7 contains pivoted therein a grooved pulley 7^c, an angular-shaped dog 7^f with an oval-shaped toe, a spring 7^e, and has on one side two shoulders 7^g and 7^h, adapted to engage spring 7^e. The said dog is regulated by the spring 7^e, which when set on shoulder 7^g causes the dog to press hard against the rope and prevents its retrogression; but when raised to shoulder 7^h, as indicated by dotted lines, and the binding force of the dog released by a slight forward pull on the rope the spring will raise and hold the dog from the rope.

On the side of bracket-frame 7 is pivoted an open and grooved pulley 7^a with an outward flange greater in circumference than the one adjacent the frame 7.

7^b is a bar projecting over the flange of the pulley, and it, with the wide flange, keeps the stretcher-rope in position. Rivet 7^d passes through bar 7^b and open pulley 7^a and with a smaller diameter through bracket-frame 7 and pulley 7^c, thus allowing the pulleys their freedom in turning.

The wire-clamp 10 is riveted to the end of

the spar and consists of a block 10^a and a lever 10^c, fulcrumed at one side of the block on a projecting flange 10^b and having a serrated head, which can bear against the block.

5 One end of stretcher-rope 6 is secured to bracket-frame 7 and passes from it back and over grooved pulley 5 in the spar, thence forward along the spar through rope-eye 2^b and rope-eye 8^d in the hitching-frame, thence
10 back to bracket-frame 7 on its end and over grooved pulley contained therein and passing out under toe of the dog 7^f, thence returning to the hitching-frame 8 and around open pulley pivoted thereon, thence back to bracket-frame 7 and around the open pulley 7^a, that
15 is held to rotate on the side of the bracket-frame, thence through rope-eye 2^a on the side of the end of the spar.

When in operation, as draft force is applied
20 to the end of the rope the spar, with the wire attached thereto, will move forward longitudinally and the front end of the spar can be drawn past the object to which the stretcher is hitched, so that the wire can be secured
25 thereto. Thus it leaves no slack wire when the stretcher is removed. One of the principal improvements of this present invention is the open pulleys 7^a and 8^b, which are not to be used until the wire has been partly
30 drawn by the use of one loop in the rope, running it from pulley within bracket-frame 7 out through rope-eye. Then enough rope can be redrawn through rope-eye to pass over the open pulleys, thus making another loop
35 in the rope, which greatly increases the stretching power of the stretcher with the same draft force. It saves time and also prevents the inconvenience that would otherwise occur from the entanglement of the
40 rope.

The bracket-frame to which one end of the rope is attached can be placed as far back as pulley 5, and as draft force is applied to the rope the bracket-frame moves forward, drawing the rope over the pulley 5 in the spar and forcing the spar forward. The bracket-frame
45 can be drawn until it meets the hitching-frame 8. Then if the wire is not tight enough the operator can take hold of the bracket-frame 7 and bring it back again to pulley 5, the stretcher-rope running over pulley 5 and slipping through rope-eye 7^d in the hitching-frame 8, thus giving another hitch. This operation may be repeated, so that the wire can
50 be drawn quite a distance without releasing it from the spar for another hold.

The wire-clamp 9 on hitching-frame 8 can be used to hitch the stretcher to a wire, as would be necessary in repairing a broken

wire, and the ends be drawn past each other, 60 so that they can be fastened together without leaving slack in the wire after the stretcher is removed.

It can readily be seen that this device is simple in construction, easily used, and very 65 effective in its work.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a wire-stretcher, a hitching-frame 70 having at one end a rope-eye, at the other end a wire-clamp, and pivoted thereon a grooved pulley having on its exposed side a flange greater in circumference than the inner flange, a bar projecting out over said pulley, and a rope engaging the rope-eye and the pulley. 75

2. In a wire-stretcher, a bracket-frame with a pulley held to rotate on its side, said pulley having its exposed flange greater in 80 circumference than the inner flange, and a rope engaging said pulley.

3. In a wire-stretcher, a bracket-frame, a grooved pulley held to rotate therein, a dog to engage the rope, a spring to regulate the 85 said dog, shoulders on frame to hold spring, a grooved pulley held to rotate on the side of said frame, said pulley having on its exposed side a flange greater in circumference than the inner flange, a bar projecting over the pulley, and a rope engaging the pulleys. 90

4. In a wire-stretcher, a spar, a wire-support with a shoulder for locking it on the spar, a wire-clamp to secure the wire to the spar, a bracket-frame with a grooved pulley held to 95 rotate therein and another grooved pulley held to rotate on the side thereof, a hitching-frame with a grooved pulley pivoted thereon and a rope-eye at one end of said hitching-frame, and a stretcher-rope, one end of which 100 is secured to the said bracket-frame and the main portion making two loops, the first loop, by passing from the bracket-frame, to which one end is secured, over grooved pulley in the spar thence to and through the rope-eye in 105 the said hitching-frame and back to the bracket-frame and over the pulley therein, the second loop, the rope passes from the bracket-frame to and around the pulley on the hitching-frame thence back again to the 110 bracket-frame and around the pulley on the side thereof.

In testimony whereof I affix my signature in the presence of two witnesses.

WILLIAM DEWITT MILLER.

Witnesses:

CECIL TAYLOR,

WILLIAM LONG.