E. SAHLER AND J. W. HOLT.

WIRE FENCE STRETCHER AND TIGHTENER.

APPLICATION FILED MAR. 31, 1919.

1,322,060. Patented Nov. 18, 1919.

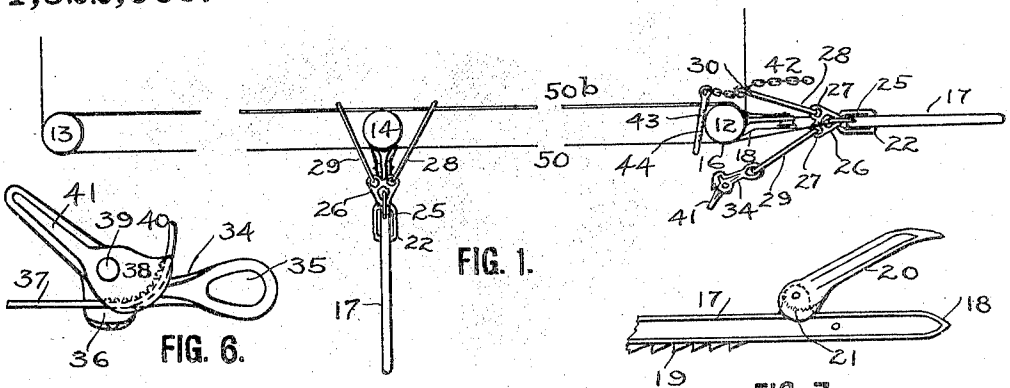


FIG. 1.

FIG. 6.

FIG. 7.

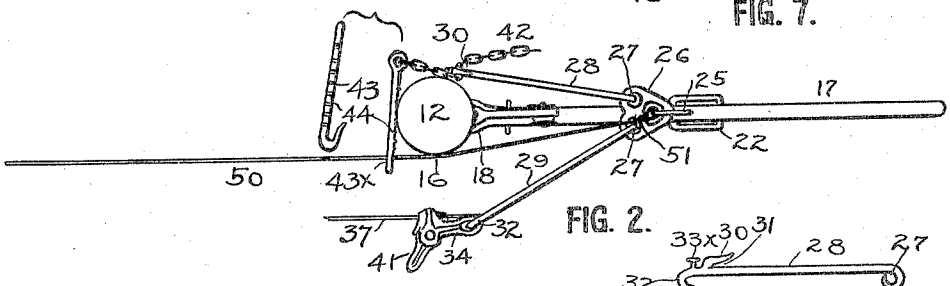


FIG. 2.

FIG. 8.

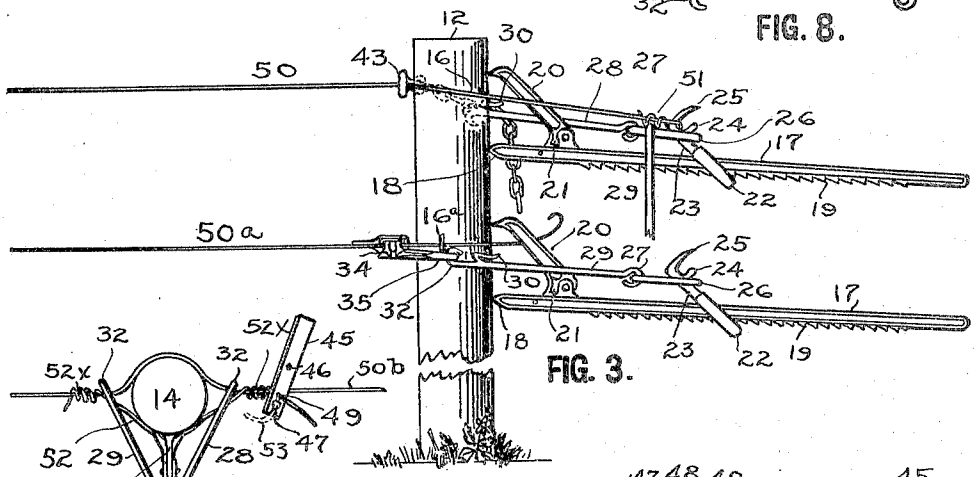


FIG. 3.

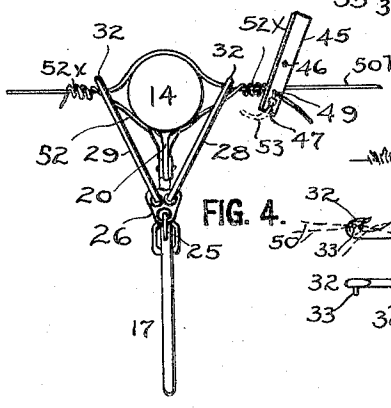


FIG. 4.

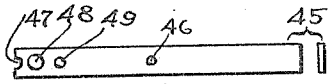


FIG. 5.



FIG. 9.

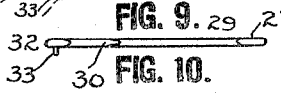


FIG. 10.

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EMIL SAHLER AND JOHN W. HOLT, OF MINNEAPOLIS, MINNESOTA.

WIRE-FENCE STRETCHER AND TIGHTENER.

1,322,060. Specification of Letters Patent. Patented Nov. 18, 1919.

Application filed March 31, 1919. Serial No. 286,294.

To all whom it may concern:

Be it known that we, EMIL SAHLER and JOHN W. HOLT, citizens of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented a new and useful Wire-Fence Stretcher and Tightener, of which the following is a specification.

Our invention relates to devices for stretching and tightening wire fences, and the object is to provide a cheap, simple but improved effective device for stretching all kinds of wire fences including woven fences and barbed wire fences, and for taking up slack in wires of existing wire fences.

In the accompanying drawing,—Figure 1 is a top view of a portion of a wire fence with our device shown as applied to one of the corner posts for stretching either a new or an old fence, or some wire thereof. The view also shows the device as applied to one of the intermediate posts or line posts of the fence for taking up slack in a wire. Fig. 2 is an enlargement of the right hand portion of Fig. 1. Fig. 3 is a side elevation of Fig. 2 with the device shown in two positions. Fig. 4 is an enlargement of the middle portion of Fig. 1. Fig. 5 is a detail view of a wire winding tool constituting a portion of the invention. Fig. 6 is a detail view of a wire clasping device forming another part of the device. Fig. 7 is a detail view of a portion of the main lever and a wire clamp on same. Fig. 8 is a detail side view of one of the hook rods shown in Figs. 1, 2, 3 and 4. Fig. 9 is a side view and Fig. 10 is a face view of the other similar hook rod in said views.

Referring to the drawing by reference numerals 12 and 13 designate two corner posts of a fence, the line posts there between may be many or few but for want of space only one of them, 14, is shown in the drawing. 50 represents a fence wire to be stretched preparatory to securing it to the posts by staples 16 in the usual manner.

The stretching device comprises a main lever 17, having a claw-shaped end 18 adapted to engage in the side of the fence post when the tool is in operation; the lower edge of the lever forms a ratchet rack 19, and near the end 18 is pivoted a dog 20 having a toothed cam 21 (shown in Fig. 7,) between which and the lever a wire may be pinched during certain stretching operations on the wire by the device, as will presently be further described.

Slidable upon the lever 17 is a small yoke 22 having a neck 23 with two hooks or horns 24 and 25 on it, and mounted upon said neck is a triangular flat member 26 having three apertures, one of which is placed on said neck and into the other two are inserted cold-shut eyes 27 of two hook rods 28 and 29, each of which is formed with a side hook 30 having a V-shaped grip 31. Each rod having also an end-hook 32, near which is a catch either like 33 in Figs. 9 and 10 or like $33^{\times}$ in Fig. 8.

A further part of the device is best shown in Fig. 6, to consist of a small frame 34 having an eye 35, and a lug 36, against which a wire, as 37, may be forced and held by a cam 38, which is fulcrumed at 39, and having a toothed face 40 and a lever 41.

The device further comprises a piece of jack chain 42 with a hook bar 43 at one end of it, said bar having at one side serrations 44.

In Figs. 4 and 5 is shown an auxiliary tool consisting of a flat bar of iron or steel 45, having one hole 46 at the middle, in one end a notch 47, and adjacent thereto a comparatively large aperture 48 and a smaller aperture 49.

In the operation of the apparatus, when a wire, say the wire 50, is to be stretched, the lever 17 is placed with its forked end against the corner post 12 and inclined upwardly with its other end; the end of the wire is secured about the horn 25, as shown at 51, in Fig. 3; the hook 43 is placed over the wire as at $43^{\times}$ in Fig. 2; the chain 42 is engaged in the hook 30 with such of the chain links as will hold the lever 17 in about the lateral position, shown in Fig. 2; the lever 17 is then swung downward to a level position, or far enough to stretch the wire sufficiently; the dog 20 will then engage the post and hold the lever in said position while the operator secures the wire by staples 16 in the corner post and other posts as may be desired. During this operation the hook bar 43 cannot slide on the post because of its serrations 44 and its engagement with the wire 50, and hence a turning movement about the post is prevented, and any tendency to a turning movement of the post in the ground is overcome by the position of the lever 17, which may be inclined laterally against the

pulling strain of the wire 50, according to the looseness of the soil holding the post, by shortening of the active part of the chain 42. If during this process any of the several wire strands of the fence be found a little too short to reach the horn 25, such wire may be secured about the hooks 30—32 of the rod 29, in the manner shown in dotted lines 50^x in Fig. 9, the catch 33 assisting in holding the wire engaged, and as the lever 17 is then forced downward, said short wire, say 50^a in Fig. 3, is pulled far enough to be reached and secured by the staple 16^a.

If the wire is too short to be reached by the hook 30 directly, the clamp 34 is placed with its eye 35 on the hook 32 and engaged with the wire as shown in the lower part of Fig. 3. And if the wire is too short for the latter method, then a piece is spliced onto it, which splicing can be done with the parts herein shown and described; but as the wire fence stretching device as such does not splice the wire, nor does the splicing help to stretch the wire, and we can also modify the device considerably for wire splicing alone, and further because only one of the undersigned joint inventors has invented the wire splicing feature, said splicer will be found described in another application for patent filed by E. Sahler, simultaneously with this present application.

If the wire to be stretched is at the other or inner side of the posts, like the wire 50^b in Fig. 1, it is evident that the chain and its hook bar 43 will be placed at the outer side of the post and engaged by the hook rod 29, otherwise the operation is the same as already described, and the device is moved on the post from one wire to the other to stretch one wire at a time, except where the fence is a woven wire fence, in which case the clamp 34 is placed on such of the wires as will have the best effect to stretch the whole run of the fence.

For taking up slack in the wires of old fences, the device is placed as in Fig. 4 and at the middle of Fig. 1, against one of the line posts 14, and the hooks 32 engaged over the slack wire 50^b, one at each side of the post, the lever 17 is then swung downward until the wire is fully tightened, the dog 20 is then engaged with the post so it will hold the device in place while the operator places a piece of wire 52 in the position shown and by the tool 45 winds the ends of said wire about the main wire 50^b, as shown at 52^x in Fig. 4. During such winding, the end of the wire operated by the tool is placed in the hole 49 and bent over into the notch 47, as shown at 53, so as to resist the winding and thereby cause the winding to be so much tighter about the main wire.

The hole 46 in the tool 45 is used when slack is to be taken up in a woven fence, where the space in which to turn the tool is limited. The large hole 48 is to be used where the wire 52 is a double wire applied to barb wire fences having double main wires twisted together and provided with barbs.

Having thus described our invention, what we claim is:—

1. In a device of the kind described, a main lever having a claw-shaped end adapted to be placed against a fence post, said lever having ratchet teeth along its lower edge; a dog pivoted near the claw end of the lever at the upward side thereof, and arranged to engage the fence post at an incline to the lever, a yoke slidable on the lever and adapted to engage the teeth thereof and having a neck with horns on it, a flat member having three apertures, one of which is placed on said neck, and rods attached in each of the remaining apertures, each rod having at its free end a primary hook and adjacent thereto a secondary hook with a sharp grip, a chain adapted to be gripped by one of said secondary hooks and having at one end a hook bar adapted to bear against a fence post and engage a fence wire having connection with one of the horns for purpose of stretching the wire.

2. The structure specified in claim 1, said hook bar having serrations upon the side designed to contact with the fence post during the operation of the device.

3. The structure specified in claim 1, said primary hooks having adjacent auxiliary catches for holding wire which for purpose of stretching it may be engaged by one or both of said hooks of the rod.

4. The structure specified in claim 1, said hook-bar and chain being transferable and designed for operation alternately at each side of a fence post, according as the wire to be stretched may be located.

5. The structure specified in claim 1, and an auxiliary cam-clamp for gripping extra short fence wires, said clamp having an eye adapted to be engaged either by one of the horns of the yoke or by the primary hook of either one of the hook rods.

In testimony whereof we affix our signatures.

EMIL SAHLER.
J. W. HOLT.