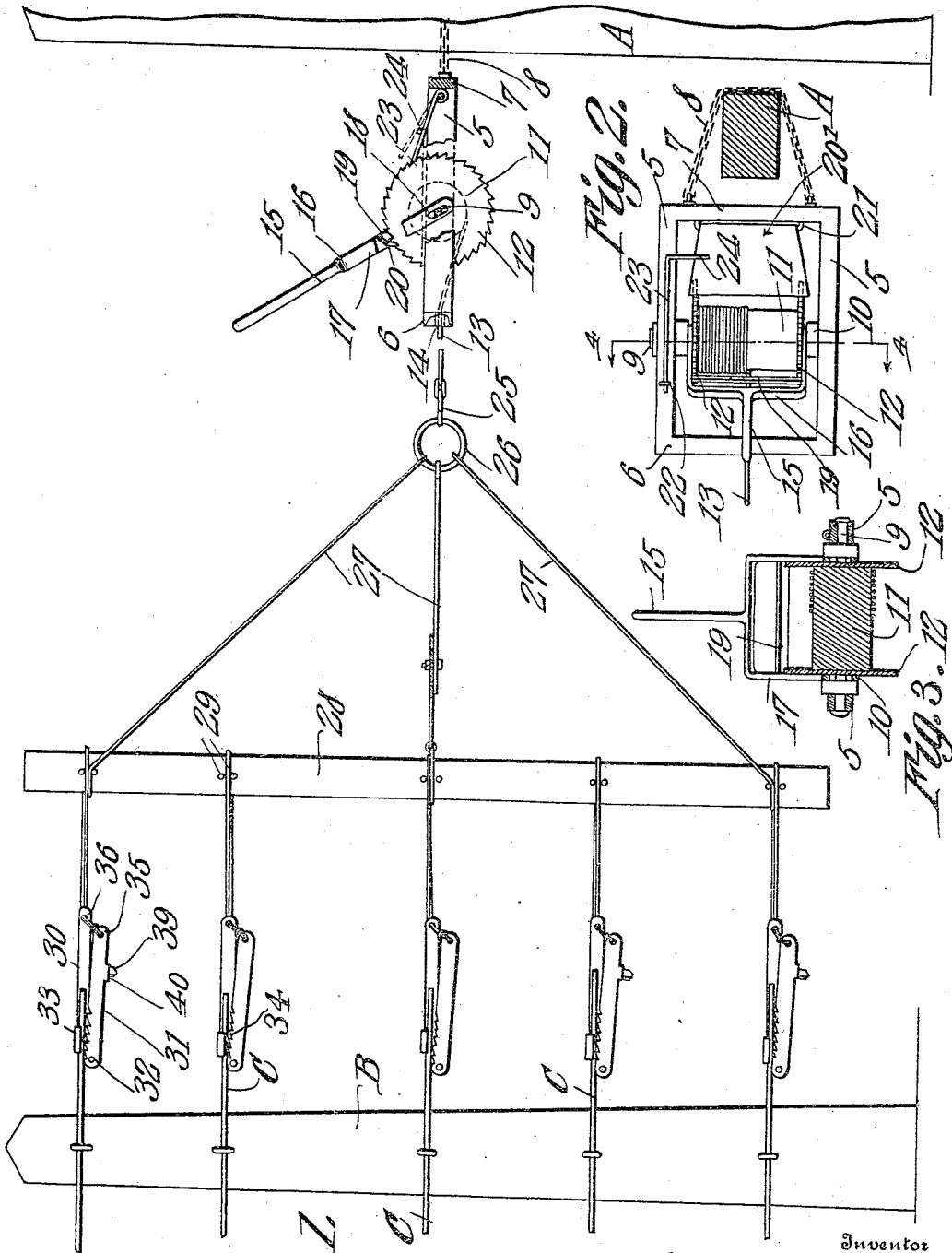


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WIRE STRETCHER.
APPLICATION FILED MAR. 31, 1909.

951,111.

Patented Mar. 8, 1910.



Witnesses

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Fig. 1.

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UNITED STATES PATENT OFFICE.

ELLIS GODWIN, OF CONCORD, NORTH CAROLINA.

WIRE-STRETCHER.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ELLIS GODWIN, a citizen of the United States, residing at Concord, in the county of Cabarrus and State of North Carolina, have invented a new and useful Wire-Stretcher, of which the following is a specification.

It is the object of the present invention to provide an improved construction of wire fence stretching machine and to simplify the same and yet present novel features and advantages over similar devices now in use.

The mechanism embodying the invention is of that type in which a windlass or traction means is employed in connection with a fence wire gripping means whereby upon actuation of the windlass or other suitable traction device, a pull will be exerted upon the fence wire gripping means to stretch the one or plurality of wires with which the device may be engaged.

One of the novel features of the invention resides in the form of pawl and ratchet mechanism and actuating means which are associated with the windlass or winding drum of the traction mechanism.

In the accompanying drawings, Figure 1 is a view in side elevation of the mechanism showing the manner of using the same, parts being broken away. Fig. 2 is a view in top plan of the windlass or traction device of the mechanism. Fig. 3 is a vertical sectional view through the windlass on the line 4-4 of Fig. 2.

In the drawings, the windlass is shown as mounted for rotation in a frame the sides of which are indicated by the numeral 5, the forward end by the numeral 6, and the rear end by the numeral 7. Secured at its ends either permanently or detachably to the rear end 7 of the frame at each end thereof is a chain 8 which, when the device is in use, is to be engaged about a post or other fixed support which in the drawings is indicated by the reference character A.

The shaft of the windlass is indicated by the numeral 9 and is journaled for rotation in suitable bearings 10 formed upon the inner or opposed faces of the sides 5 of the frame. Fixed upon the shaft 9 is the windlass proper which comprises a spool or drum 11 having at each end a head 12 formed with ratchet teeth as clearly shown in Fig. 1 of the drawings. A traction element such as a cable or chain 13 is connected with the drum

11 and is adapted to be wound thereon upon rotation of the said drum in one direction. The cable or chain 13 extends forwardly through a slot 14 formed in the front end 6 of the frame and connects with the fence wire gripping means which will presently be described.

In order that the windlass 11 may be rotated as above described, there is provided a lever 15 which projects upwardly at right angles from the connecting portion 16 of a yoke the sides or spaced portions of the yoke being indicated by the numeral 17 and being formed at their lower ends with slots 18 which receive the shaft 9 of the windlass, the said slotted ends of the spaced members of the yoke being located between the heads of the drum 11 and the corresponding bearings 10, and connecting the yoke for oscillating upon the shaft as an axis and also for movement in a direction radially of the shaft. Secured at its ends in the spaced portions 17 of the yoke and extending transversely of the said yoke beneath the connecting portion 16 thereof is a bar 19 which is formed, directly inwardly of each yoke 17, with a tooth 20 which is adapted for coöperation with the teeth of the corresponding drum head 12 upon oscillation of the lever 15, whereby to rotate the said drum and wind up the cable 13.

It will be understood, from the foregoing, that when the lever is rocked to the right in Fig. 1 of the drawings the teeth of the bar 19 will merely ride over the teeth of the drum head 12 but that upon rocking of the lever to the left in Fig. 1 of the drawings, rotative movement will be imparted to the drum.

In order to hold the windlass 11 against backward rotative movement which would permit unwinding of the cable 13 as will be readily understood, a pawl is provided and this pawl is shown as in the form of a flat plate 20' which at one end is pivoted or hinged as shown at 21 to the rear end 7 of the frame in which the windlass is mounted, the forward edge of this plate engaging, at its ends, with the teeth of the head 12 of the drum.

In order to insure of proper engagement of the pawl plate 20' with the teeth of the head of the drum 11, there is secured as at 22, upon the upper edge of one side 5 of the frame, a spring bar or rod 23 having

an inwardly laterally turned rear end 24 which normally engages with the upper face of the pawl plate 20' to hold the same in engagement with the said teeth of the head 12.

As is shown in Fig. 1 of the drawings, when it is desired to unwind the cable or chain 13 from the spool 11, the spring rod or bar 23 is moved laterally and the pawl plate 20' is swung upwardly to permit of engagement of the laterally turned end 24 of the said rod or bar 23 therebeneath, such engagement serving to hold the pawl plate out of engagement with the teeth of the head 12 of the windlass. After the pawl plate has been thus positioned, the lever 15 is raised or lifted to a slight degree so as to bring the teeth of its bar 19 out of contact with the teeth of the head 12 and the cable or chain 13 may then be readily unwound from the spool or drum.

In Fig. 1 of the drawings, the wire gripping device of the invention is shown as adapted for stretching a plurality of fence wires at a time, and in the said figure of the drawings, one of the posts of the fence is shown and is indicated by the reference character B and the fence wires are indicated by the reference character C.

The cable or chain 13 is provided at its free end with a hook 25 which is detachably connected either with a ring 26 which is connected with the gripper carrying bar of the device or with a single one of the grippers as will be presently explained. The ring 26 is connected with the gripper carrying bar by means of suitable chains or lengths of cable 27 which are passed around the gripper carrying bar which is indicated by the numeral 28, at the ends and middle thereof, as shown in Fig. 1 of the drawings, and between studs 29 upon the sides of the bar, it being understood that by attaching the ring in this manner to the said bar, the pull upon the bar is equalized throughout its length. Each of the fence wire grippers embodied in the invention is comprised of a pair of members one indicated by the numeral 30 and the other by the numeral 31. The member 30 of each gripper is pivoted at one end to the corresponding end of the member 31 as indicated by the numeral 32 and is formed with a laterally projecting lug 33 which extends laterally above the upper edge of the member 31, the said member being formed, throughout a portion of its length corresponding substantially to the position of the lug 33 upon the member 30, with gripping teeth 34 it being understood that when a fence wire is inserted between the toothed edge 34 of the member 31 and the lug 33 upon the member 30 and the two members are swung upon their pivots so as to bring the edge 34 adjacent to the opposing face of the lug 33,

the wire will be firmly gripped between these two portions of the two members.

In order that the ordinary pull upon the members will act to so swing them upon their pivots, a length of cable is secured at its ends as at 35 to the free end of the member 31 of the gripper and the two strands of the cable are then passed through an eye 36 formed at the free end of the member 30, the looped cable being engaged about the bar 28 and between the said studs 29, it being understood that the loops may be readily detached from the bar 28 if desired. In the drawings, five of the grippers are shown as connected with the bar 28. It will be understood however that where it is desired to stretch four fence wires instead of five, or to establish a four-point connection between a woven wire fence and the bar 28, two of the grippers may be attached to the bar intermediate of the top and bottom grippers shown in Fig. 1 of the drawings by passing their attaching cables between the two pairs of studs through which the strands of the cable of the intermediate gripper are shown as passed.

It will further be understood, that when it is desired to stretch a single fence wire, one of the grippers, detached from the bar 28, may be connected with the cable 13 by having the hook 25 at the end thereof engaged with the looped end of its attaching cable and the device is then operated as before described.

It will further be understood that where it is desired to bring the broken ends of a wire together, one of the grippers may be attached to the cable 13 and the other to the chain 8 and in this manner a pull will be exerted upon both sections of the wire to be spliced.

In order to hold the members 30 and 31 of the grippers in closed or gripping relation, there is formed upon each of the members 30 a depending toothed extension 39, the teeth being formed at one edge of the said extension and being directed inwardly laterally in the path of movement of a single tooth 40 formed upon the lower edge of the member 31 of the gripper.

It will be understood that a pull exerted through the medium of the traction element or cable 13 upon the attaching cable of either one or a plurality of the grippers will result in the members thereof being closed or drawn together whereby to firmly grip the fence wire or fence material and that the tooth 40 will successively engage with the teeth of the rack extension 39 and will lock the members of the gripper in closed relation.

What is claimed is:—

In a mechanism of the class described, a windlass, a ratchet at each end of the windlass, a plate pivoted to rest with one edge in engagement with both ratchets, and a spring

rod having a lateral portion engageable
above and beneath the said plate, whereby
in the former instance to hold the plate in
engagement with the ratchet and in the lat-
5 ter instance to support the plate out of such
engagement.

In testimony that I claim the foregoing

as my own, I have hereto affixed my signa-
ture in the presence of two witnesses.

ELLIS GODWIN.

Witnesses:

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