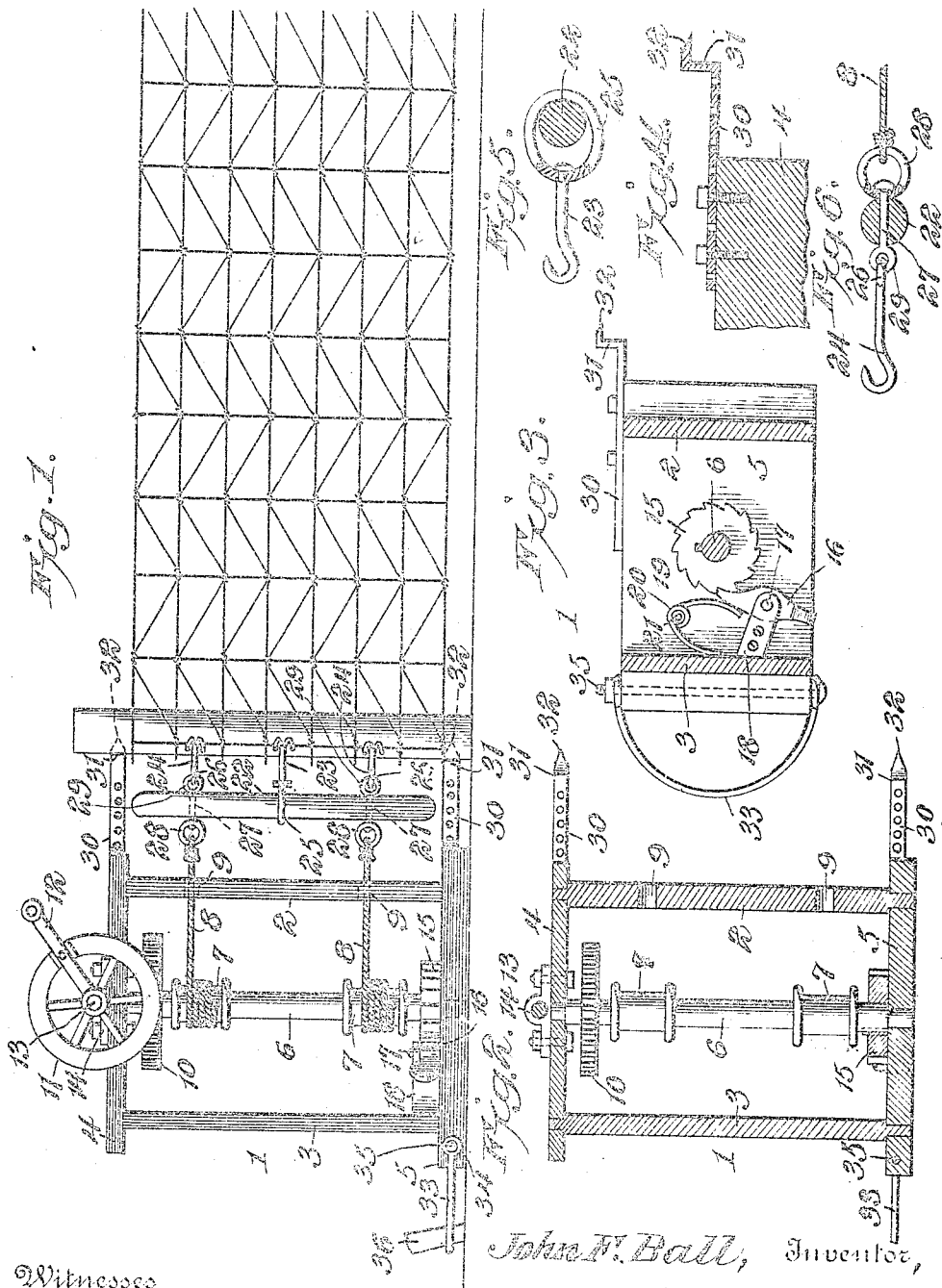


J. F. BALL.
WIRE STRETCHER.

APPLICATION FILED APR. 17, 1909.

Patented Nov. 9, 1909.

939,787.



Witnesses

Howard D. Orr.
H. J. Riley.

John F. Ball, Inventor,

3311

E. J. Siger.

Attorney

UNITED STATES PATENT OFFICE.

JOHN F. BALL, OF ESTEP, WEST VIRGINIA, ASSIGNOR OF ONE-HALF TO VAN BUREN GREENE, OF GREENVIEW, WEST VIRGINIA.

WIRE-STRETCHER.

939,787.

Specification of Letters Patent.

Patented Nov. 9, 1909.

Application filed April 17, 1909. Serial No. 490,450.

To all whom it may concern:

Be it known that I, JOHN F. BALL, a citizen of the United States, residing at Estep, in the county of Boone and State of West Virginia, have invented a new and useful Wire-Stretcher, of which the following is a specification.

The invention relates to improvements in wire stretchers.

10 The object of the present invention is to improve the construction of wire stretchers, and to provide a simple and comparatively inexpensive one of great strength and durability, adapted to enable one person with
15 safety and ease to stretch either woven or barbed wire.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully
20 described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within
25 the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing:—Figure 1 is a side elevation of a wire stretcher, constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a horizontal sectional view. Fig. 4
30 is a detail view of one of the adjustable post-engaging bars. Fig. 5 is a detail view of the intermediate hook. Fig. 6 is a detail view, illustrating the construction of the outer hook.

Like numerals of reference designate corresponding parts in all the figures of the drawing.

1 designates a substantially rectangular frame, arranged in an upright position and composed of parallel front and rear upright
45 bars 2 and 3 and horizontal top and bottom connecting bars 4 and 5, the lower connecting bar being preferably enlarged to provide a base. The frame is provided with suitable bearings for a vertical windlass
50 shaft 6, provided with upper and lower drum portions 7 around which are wound

flexible connections 8, consisting of ropes or cables attached at one end to the windlass shaft and extending horizontally therefrom through openings 9 of the front upright bar
55 2 of the frame. The upper portion of the windlass shaft carries a horizontal gear 10, which meshes with a vertical gear wheel 11, provided with a crank handle 12 to enable it to be readily rotated by hand. The vertical
60 gear wheel 11 is mounted on a horizontal shaft 13, journaled in suitable bearings 14 secured to the top of the frame 1.

The lower portion of the vertical windlass shaft carries a horizontal ratchet wheel 15,
65 arranged at the upper face of the bottom bar or base of the frame and engaged by a spring actuated pawl 16, pivoted at an intermediate point by a pin 17, or other suitable fastening device, which also extends through a brace
70 18. The brace is secured to the upper face of the base of the frame and has a projecting portion extending over the pawl. The inner end of the pawl is maintained in engagement with the ratchet wheel by a spring 19, consisting of two sides or arms and an intermediate
75 coil 20, through which passes a pin 21, or other suitable fastening device. One of the sides or portions of the spring engages the frame, and the other bears against the
80 pawl, as clearly illustrated in Fig. 3 of the drawing. The outer arm of the pawl forms a handle and is located at one of the side edges of the bottom or base of the frame. The pawl and the ratchet wheel are adapted
85 to lock the windlass shaft against backward movement for holding the wires while the latter are being fastened to a fence post.

The flexible ropes or cables of the windlass are connected with a vertical stretcher
90 bar 22, equipped with a plurality of hooks 23 and 24, consisting of straight shanks and diverging bills or engaging portions, which are curved and adapted to engage the wires of a fence. The bills or engaging portions
95 form a claw for gripping the wire, and any number may be employed for enabling the wires of a fence to be uniformly stretched. The shank of the intermediate hook 23 is swiveled to a ring or loop 25, which is slidably arranged on the vertical stretcher bar
100 22, and while only one intermediate hook is

illustrated in the accompanying drawing, it will be readily apparent that more may be employed and that they may be adjusted, upward and downward on the stretcher bar.

5 The shanks of the outer hooks 24 are provided with eyes 26, which are connected to swivels consisting of a stem 27 and an eye or ring 28. The stem pierces the stretcher bar and is provided at the front or outer end with an eye 29, which is linked into the eye 26, and the inner or rear end of the stem is swiveled to the ring or eye 28. The stem pierces the ring or eye 28 and is headed within the same. This forms a swivel connection between the outer hooks and the stretcher bar, and enables the hooks to be turned in any direction to facilitate their engagement with the wires to be stretched.

The hand wheel is rotated to wind the cables or ropes on the windlass shaft to stretch the fence wires or woven wire fencing, and in order to prevent the wire stretcher from slipping, it is equipped at the front with upper and lower adjustable post-engaging bars 30, provided at intervals with perforations and secured to the top and bottom bars of the frame by screws, or other suitable fastening devices. The outer portions 31 of the bars 30 are bent at right angles to form flat post-engaging faces, and the outer terminals of the bars are bent longitudinally and tapered or sharpened to provide outwardly projecting spurs or points 32, adapted to be embedded in a post. The adjustable bars also enable the wire stretcher to be off-set from an intermediate or corner post for drawing the fence wires or wire fencing past the same, so that the wires may be stapled or otherwise secured to the post, while they are held at the desired tension by the wire stretcher.

The wire stretcher is also equipped with a stake-receiving loop 33 of substantially semi-circular form, provided with terminal eyes 34 and secured to the rear end of the bottom bar or base of the frame by a transverse bolt 35, or other suitable fastening device, which passes through the eyes 34 and hinges the loop to the frame of the wire stretcher. The loop is adapted to be anchored by a stake 36, driven into the ground and arranged within the loop, as clearly illustrated in Fig. 1 of the drawing. The hinging of the loop will also enable the same to be readily swung upward out of engagement with the stake, when it is desired to move the wire stretcher.

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

60 1. A wire stretcher comprising a frame, a vertical windlass shaft mounted in the frame, spaced flexible connections secured to and arranged to be wound around the windlass shaft, a vertical bar arranged in

spaced relation with the windlass shaft and 65 carried by the flexible connections, and a plurality of wire-engaging devices connected with the vertical bar and arranged at different elevations.

2. A wire stretcher comprising a frame, a 70 vertical windlass shaft mounted in the frame, gearing for rotating the shaft, spaced flexible connections secured to and arranged to be wound around the shaft, a vertical bar arranged in spaced relation with the vertical 75 shaft, and a plurality of wire-engaging devices provided with swivels connected with the vertical bar and also attached to the flexible connections of the vertical shaft.

3. A wire stretcher comprising a frame, a 80 vertical shaft having spaced flexible connections, a vertical bar arranged in spaced relation with the shaft, wire-engaging devices located at different elevations and having eyes, and swivels consisting of stems piercing 85 the vertical bar and provided at their outer ends with eyes linked into the eyes of the wire-engaging devices, and rings swiveled to the inner ends of the stems and connected with the flexible connections. 90

4. A wire stretcher including a frame, a vertical shaft having spaced flexible connections, a vertical bar arranged in spaced relation with the shaft, outer wire-engaging devices, swivels connected with the wire-engaging devices and with the flexible connections and having stems piercing the vertical 95 bar, and an intermediate wire-engaging device provided with a swiveled loop slidably arranged on the vertical bar between the 100 said swivels.

5. A wire stretcher including a frame, a vertical shaft having spaced flexible connections, upper and lower post-engaging bars projecting from the frame and having terminal 105 points to prevent the wire stretcher from slipping, said bars also spacing the frame from a post to enable the wires to be stretched past the latter, a vertical bar arranged in spaced relation with the shaft 110 and being of a length less than the distance between the upper and lower post-engaging bars and carried by the flexible connections, and wire-engaging devices connected with the vertical bar and arranged at different 115 points along the same.

6. A wire stretcher including a frame, a vertical shaft having spaced flexible connections, upper and lower post-engaging bars extending horizontally from the frame and 120 adjustably connected with the same and having angularly bent outer portions presenting flat faces to a post and provided with projecting pointed terminals adapted to be embedded in a post, said bars also spacing the 125 frame from a post to enable the wires to be stretched past the latter, a vertical bar arranged in spaced relation with the shaft and

being of a length less than the distance between the upper and lower post-engaging bars and carried by the flexible connections, and wire-engaging devices connected with the vertical bar and arranged at different points along the same.

In testimony, that I claim the foregoing

as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN F. BALL.

Witnesses:

HENRY H. PRICE,
WM. COPLEY.