

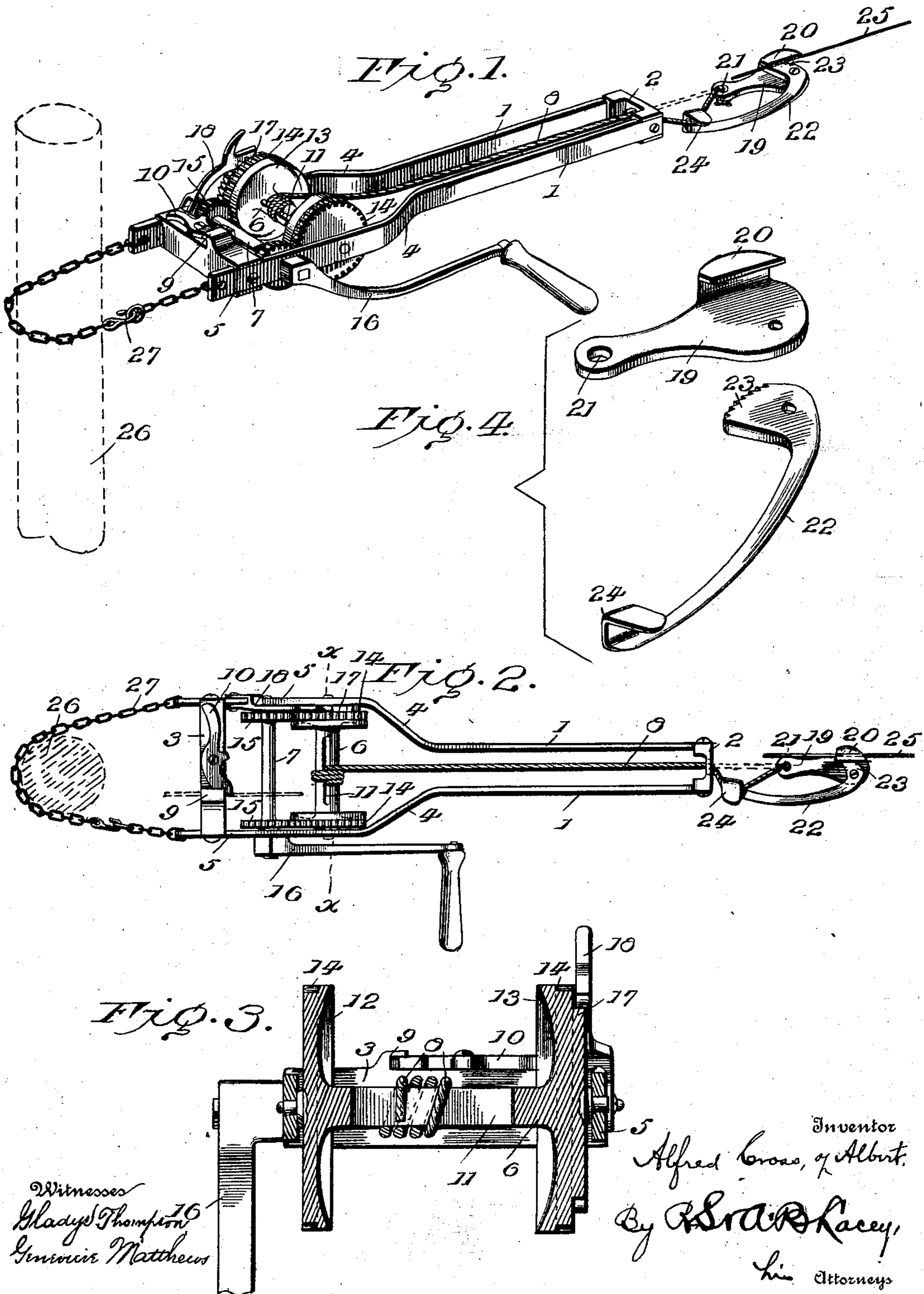
No. 702,543

Patented June 17, 1902.

ALFRED CROSS OF ALBERT.
WIRE STRETCHER.

(Application filed Oct. 14, 1901.)

(No Model.)



UNITED STATES PATENT OFFICE.

ALFRED CROSS OF ALBERT, OF MITCHELL, OKLAHOMA TERRITORY.

WIRE-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 702,543, dated June 17, 1902.

Application filed October 14, 1901. Serial No. 78,609. (No model.)

To all whom it may concern:

Be it known that I, ALFRED CROSS OF ALBERT, a citizen of the United States, residing at Mitchell, in the county of Lincoln and Territory of Oklahoma, have invented certain new and useful Improvements in Wire-Stretchers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention provides a machine of novel construction designed, primarily, for tightening fence-wires and which may be used for stretching a line, wire, rope, or cable for splicing or any desired purpose. The stretcher can be attached to a post or other anchoring means or may be used in mid-air, being attached to the ends of the wire or part to be strained, the ends of the wires or like part being firmly held during the splicing operation.

The stretcher besides being effective is durable and capable of being easily and conveniently handled by one person in any one of its several capabilities of use.

For a full description of the invention and the merits thereof, and also to acquire a knowledge of the details of construction of the means for effecting the result, reference is to be had to the following description and drawings hereto attached.

While the essential and characteristic features of the invention are susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a wire-stretcher constructed in accordance with and embodying the essential features of the invention, the same being shown in position for tightening a fence-wire. Fig. 2 is a top plan view. Fig. 3 is a transverse section on the line X X of Fig. 2 looking to the left and showing the parts on a larger scale. Fig. 4 is a perspective view of a wire-clamp, the parts being separated.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The device comprises a frame, a windlass, operating and detent mechanisms coöperat-

ing with the windlass, and clamps, the parts being constructed in the manner substantially as illustrated and hereinafter set forth in detail.

The frame is oblong and is narrow at one end and widened at the opposite end, which receives the operating mechanism. In its construction the frame is composed of longitudinal bars 1 and end bars 2 and 3, recessed at their ends to receive the end portions of the longitudinal bars, as shown most clearly in Fig. 1, the several bars being secured in any substantial way. The longitudinal bars 1 are offset, as shown at 4, so as to widen the space between the end portions 5, between which the windlass 6 and drive-shaft 7 are located. The frame-bars are preferably of metal, for strength, durability, and compactness of construction. The end bar 2 is centrally apertured for the passage therethrough of a cord or rope 8, by means of which the movable clamp is connected to the windlass 6. The end bar 3 is formed with a hook-shaped lug 9, with which the cam-lever 10 coöperates when it is required to grip a wire or other part, as shown by the dotted lines in Fig. 2. The cam-lever 10 is pivoted to the end bar 3 at one side of the hook-shaped lug 9. The windlass 6 is journaled at its ends in the end portions 5 of the longitudinal bars 1 and has a longitudinal slot 11, through which the cord or rope 8 is passed for securement thereof to the windlass. The heads 12 and 13, forming an integral part of the windlass, have a portion toothed, as shown at 14, to intermesh with pinions 15 near the ends of the shaft 7, journaled in the end portions 5 of the bars 1 parallel with the windlass 6, an end portion of the shaft being extended and provided with a crank 16, by means of which power is applied to the shaft for rotation thereof when it is required to turn the windlass 6 to effect a straining of the wire or like part to be drawn taut. By having two pinions, as 15, and locating them near the ends of the shaft 7 all tendency to torsional strain is obviated and the work is equalized upon the shaft and windlass, which is a desideratum and results in greater ease of operation. One of the windlass-heads, as 13, is provided with ratchet-teeth 17, and a pawl 18, pivoted to an end portion of a side bar 1, coöperates with the

ratchet-teeth 17 to prevent backward rotation of the windlass when the crank 16 is released. The pawl 18 is provided with a series of teeth for engagement with a corresponding number of teeth 17, thereby increasing and adding to the durability of the machine.

The movable clamp consists of a plate 19, having a hook-shaped lug 20 at one end and edge, and this plate is widened at the end having the hook-shaped lug 20 and is made narrow at the opposite end, the contracted end having an opening 21 to receive an end portion of the cord or rope 8, which is secured thereto in any way, preferably by having its terminal portion knotted, as indicated most clearly in Fig. 1. A lever 22 is provided at one end with a cam-head 23, toothed at its outer edge, and its opposite end is bent or otherwise provided with a hook 24 to engage with the rope or cord 8 and prevent slipping or outward displacement of the lever when in operation, this being shown most clearly in Figs. 1 and 2. The wire or other part to be stretched is held by the movable clamp, being gripped between the lug 20 and cam-head 23 of the lever 22, after which the hooked end 24 is engaged with the cord or rope 8, so as to prevent any slipping of the part 25 when subjected to tension.

When it is required to stretch a fence-wire, the machine is anchored to a post 26 by means of a chain 27, the latter being attached at its ends to projecting end portions of the longitudinal bars 1, said chain being provided at any convenient point with a hook and ring to admit of it being passed around a post either when it is required to apply it thereto or remove it therefrom. The wire to be stretched is engaged by the movable clamp and is drawn taut by winding the rope or cord upon the windlass 6 by means of the crank 16, shaft 7, and intermeshing cog-gearing 15 and 14. Should it be required to splice

a wire, the end portions are gripped by the fixed and movable clamps and are drawn together by rotation of the windlass until the end portions overlap sufficiently to admit of their being twisted together in the well-known way.

Having thus described the invention, what is claimed as new is—

1. In a wire-stretcher, a frame, a windlass having integral heads and terminal journals mounted in the said frame, and having a longitudinal slot, the heads having a portion toothed and one of the heads having integral ratchet-teeth, an operating-shaft journaled at its ends in the said frame and provided at or near its ends with pinions in mesh with the toothed portions of the windlass-heads, a pawl coöperating with the said ratchet-teeth, a fixed and a movable grip, and a cord having one end passed through the longitudinal slot of the windlass and its other end attached to the movable grip, substantially as described.

2. A wire-stretcher, comprising longitudinal bars offset between their terminals, end bars of different lengths joining the longitudinal bars and having their extremities recessed to receive them, the shorter bar being centrally apertured, and the longer bar having an integral lug, a cam-lever fulcrumed on the longer end bar for coöperation with the lug thereof, a windlass journaled between the more widely spaced longitudinal frame-bars, and a movable grip connected with the windlass by means of a cord or rope which passes through the opening in the shorter end frame-bar, substantially as specified.

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

ALFRED CROSS OF ALBERT. [L. S.]

Witnesses:

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