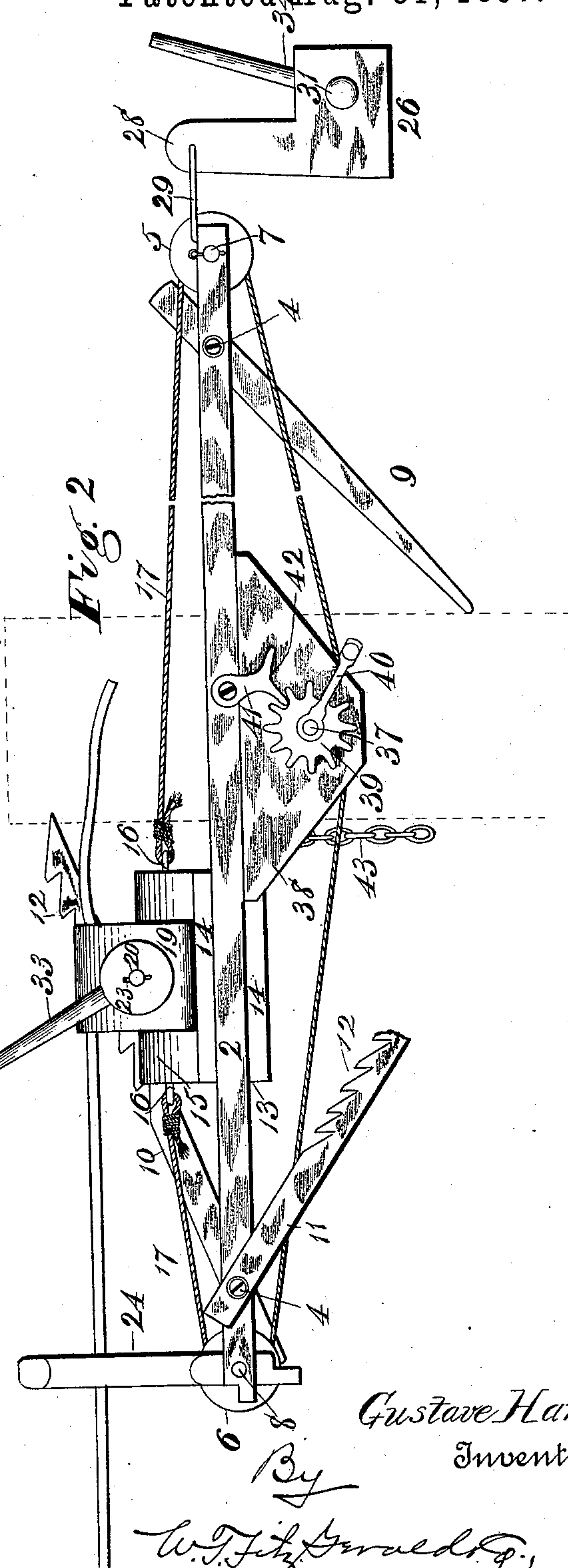


2 Sheets—Sheet 1.

No. 589,082.

Patented <sup>34</sup> Aug. 31, 1897.

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Inventor:

By W. T. Fitzgerald,  
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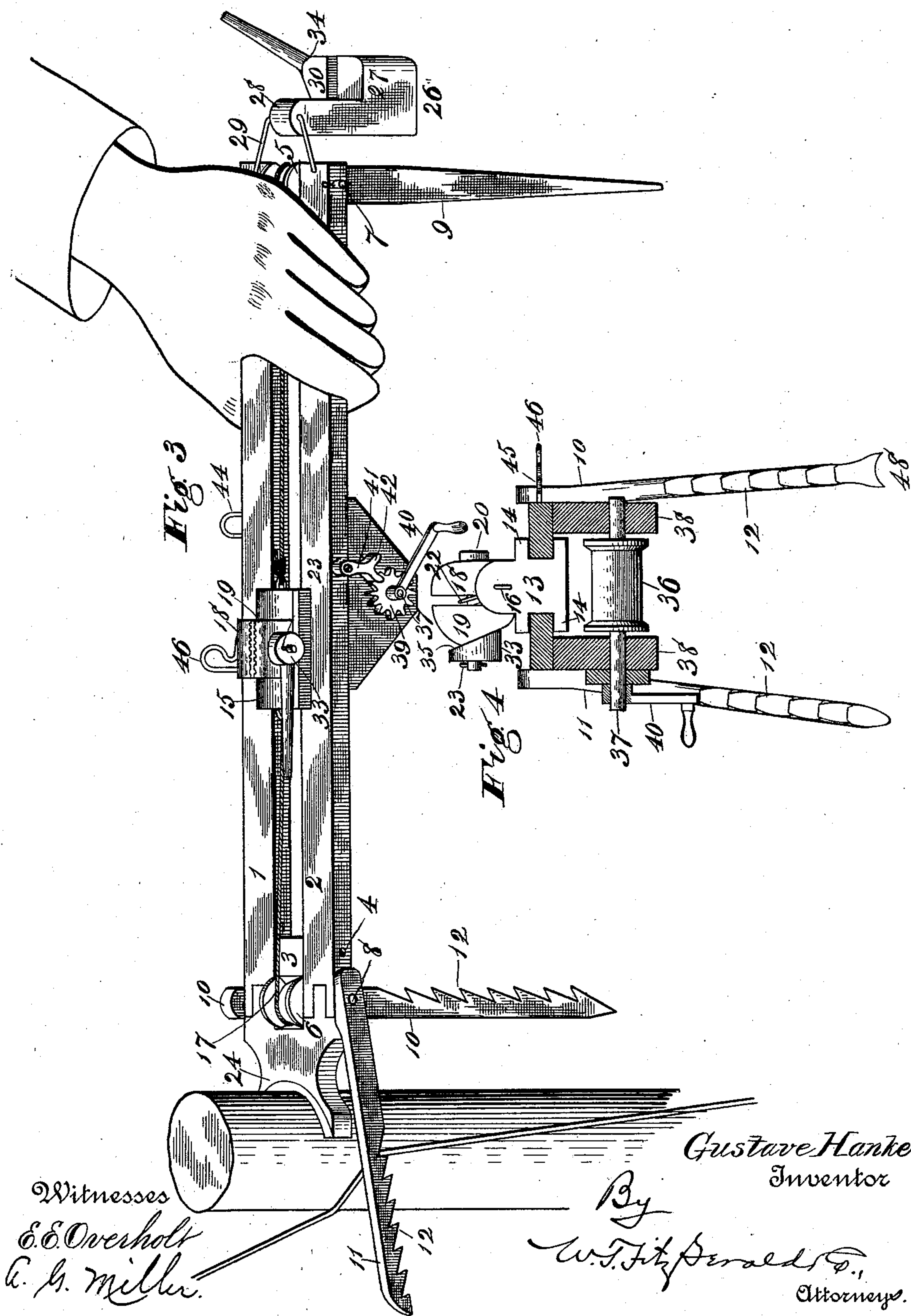
(No Model.)

2 Sheets—Sheet 2.

G. HANKE.  
WIRE STRETCHER.

No. 589,082.

Patented Aug. 31, 1897.



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# UNITED STATES PATENT OFFICE.

GUSTAVE HANKE, OF ADAIR, IOWA, ASSIGNOR OF TWO-THIRDS TO CHRIST LECKBAND AND A. C. SAVAGE, OF SAME PLACE.

## WIRE-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 589,082, dated August 31, 1897.

Application filed March 25, 1897. Serial No. 629,231. (No model.)

*To all whom it may concern:*

Be it known that I, GUSTAVE HANKE, a citizen of the United States, residing at Adair, in the county of Adair and State of Iowa, 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.

My invention, as will be hereinafter fully described and claimed, has relation to a wire-stretching device, and more particularly relates to an appliance used in building wire fences and for tightening, repairing, and restoring the wires thereof.

The details of construction involved will be illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view of my invention complete. Fig. 2 is a side elevation thereof, showing part of the fence-post in dotted lines and also showing a slightly-modified adjustment of the side braces. Fig. 3 is a perspective view of my invention, showing one of its uses. Fig. 4 is a transverse section on a line central to the winding-drum.

The various details involved in the construction of my improved wire-stretcher will be designated by figures, the same figure being employed to indicate the same part throughout the several views.

It will be observed that I have produced a wire-stretching appliance which may be employed to meet all the various requirements of such a tool, as it has the capacity of being applied directly to the end of the wire when another line thereof is to be stretched in position, and also for being attached to the ends of a broken wire for the purpose of bringing said ends together, when the break may be repaired. The device may also be used to take up the slack in a wire without the necessity of cutting the same, the process being illustrated in Fig. 3.

Briefly stated, my invention consists in providing a framework which forms a track or guideway upon which one of the clamps may be reciprocated by means of a cable, while one end of the framework has attached to it an additional clamp for receiving one end of

the broken wire, and in certain constructions which will enable the jaws of the clamp to be reliably brought to bear upon the wire placed therein.

In carrying out my invention I provide the body or frame proper, consisting of the members 1 and 2, securely held in position by the end blocks 3, which may be secured by means of the locking-bolts 4, or said blocks may be integrally formed with the side pieces, if preferred.

The blocks 3 are located sufficiently near the ends of the side pieces to permit the mounting of the pulleys 5 and 6, respectively, held in position by the shafts 7 and 8.

The shaft 7 is of sufficient length to extend laterally to one side of the frame, and upon such extension I pivotally mount the brace 9, the purpose of which will be hereinafter set forth.

The shaft 8 is of sufficient length upon each side of the side pieces to provide a journal, upon which are mounted the levers 10 and 11, each being provided upon its lower edge with the ratchet teeth or notches 12, designed to engage the wire upon either side of a post when it is desired to take up the slack therein, as illustrated in Fig. 3.

Designed to reciprocate between the inner edges of the frame-pieces 1 and 2 is the guide-block 13, having the anchoring edges 14, each edge being so formed as to extend slightly over the inner edge of the contiguous side piece, and thus securely mount said block in its position.

Upon the upper surface of the guide-block I provide the ears 15, each provided with an aperture in which is mounted a ring or eye-bolt 16, designed to receive the end of the operating-cable 17, by means of which said block is moved to either end of the frame.

Erected upon the upper side of and integrally formed with the block 13 is the fixed jaw 18, preferably-provided with a roughened face, and designed to cooperate therewith is the movable jaw 19, said jaws being held in cooperative position by means of the clamping-bolt 20.

It will be observed that a seat 21 is provided between the ears 15 to accommodate the lower end of the jaw 19 and prevent all



except a lateral movement thereof. Said jaws are held normally open by means of the spring 22, interposed between them and mounted upon the bolt 20, the movement of the jaw being circumscribed by the pin 23, or said pin may be replaced by a nut of suitable character.

I pivotally mount upon the end of the frame, to which are secured the levers 10 and 11, the guide 24, having the beveled edge 25, designed to engage the post during the process of taking up the slack in a wire, while upon the opposite end of the frame I locate the clamping-jaw 26, which consists of the fixed jaw 27, having the integrally-formed anchoring end 28, connected to the ends of the side pieces 1 and 2 by means of the staple 29, substantially as shown.

Designed to cooperate with the fixed jaw 27 is the laterally-movable jaw 30, held in position by the bolt 31, said jaws being normally held in an open position by the interposed spring 32.

In order to open and close the jaws 18 and 19 and 27 and 30, I provide, respectively, therefor the cam-levers 33 and 34, and as each of the movable jaws is tapered or narrowed toward its lower edges the cam-face 35 of said levers will reliably lock and hold the jaws together when said lever is properly manipulated, as will be readily understood.

In order to positively reciprocate the block 13 and its accompanying jaws, I provide the cable 17, which may be formed of any suitable material, though it is thought that a wire cable will be productive of the best results. Power is applied to said cable by means of the drum 36, rotatably mounted in position by means of the operating-shaft 37, to which said drum is rigidly secured.

The shaft 37 and its accompanying drum are rotatably mounted beneath the frame-sections 1 and 2 by means of the brackets 38, one end of said shaft being arranged to extend entirely through one of said brackets, and upon said end I rigidly attach the ratchet-wheel 39 and the crank 40, by means of which the drum is rotated.

Cooperating with the ratchet-wheel 39 is the detent 41, having the bifurcated end 42, said detent being so pivoted in position that it may be employed to cooperate with said wheel from either side thereof, thus locking the drum in an adjusted position, though the strain or pull thereon may be from either direction.

In order to obtain a reliable grasp or purchase upon the cable, I prefer to wrap it several times around the drum, and it is thought that no additional means will be required to effect the cooperation of said drum and cable.

In order that the appliance may be secured in position upon the post or other object, I provide the anchoring-chain 43, one end of which is secured to the staple 44, while the free end thereof is held in an adjusted position by means of the narrow loop 45, formed upon the securing-staple 46. By this ar-

rangement it will be observed that said loop 45 being of sufficient width to receive one of the links the chain will be reliably held against slipping after once adjusted, as the succeeding link will lie in a different plane and will therefore be prevented from passing through the loop. In order to reinforce the locking capacity of said chain, I provide upon the free end of the brace 9 a beveled edge having a concave edge or notch 47, while in like manner I provide upon the free end of the lever 10 the biting-notch or concave edge 48. The brace 9 is brought to bear upon the upper part of the post by placing the free end thereof against it, while the free end of the lever 10 is swung into position against the lower part of the post, though it will be understood that the position of these parts may be interchanged, the lever 10 being placed above, while the brace 9 may be brought to bear upon the lower part of the post. It will be seen by reference to Fig. 2 that the side braces will prove equally efficient when mounted upon the projecting ends of the bolts 4 instead of upon bolts 7 and 8, as shown in Figs. 1 and 3. This disposition of said lever and post securely holds the wire-stretcher in an anchored position, enabling the device to be used to meet all the requirements of building or repairing a fence. During the building process the use of the device, after being anchored substantially in the manner stated, is as follows: The drum is properly rotated to bring the jaws 18 and 19 to that end of the frame nearest the end of the wire with which said jaws are to cooperate when said wire is placed between the jaws and the lever caused to describe one-half of a circle, more or less, which will bring the cam-face thereof to bear upon the outer tapered face of the movable jaw and thus tightly bind the wire, when the drum may be so rotated as to draw said jaws and the secured end of the wire toward the opposite end of the frame until a sufficient degree of tension is produced, when the detent may be swung into engagement with the ratchet-wheel and the operator may then secure the stretched wire to the several posts intervening between the point where the stretcher was last employed and starting-point.

After the wire has been secured to the several posts the end thereof may be released from the jaws, when more of the wire may be unwound from the spool and the stretcher moved to another position, where the operation may be repeated.

When it is desired to bring the severed ends of a broken wire together, the jaws 18 and 19 and 27 and 30 are separated to the desired extent by a proper rotation of the drum, when each of said jaws will receive one of the free ends of the wire, and by rotating the drum the jaws 18 and 19 are caused to move toward the other jaws, and thus bring the ends of the wires together or sufficiently near to complete the splicing process.



When it is desired to merely take up the slack of a wire, the guide 24 is placed against the post and one of the levers 10 or 11 is swung into position over the wire, so that one of the notches or ratchets 12 thereon will contact therewith, when by a lateral movement of the device the wire is effectively tightened, when it may be secured by staples or otherwise. This operation may be repeated at the next post or at proper intervals on the line of the fence. It will be seen that great leverage is provided by means of which the levers 10 and 11 will reliably perform their office from either side of the post.

It will be observed that I have produced a reliably efficient construction for the purpose specified, and it will be understood that the several parts may be constructed of any suitable material. While I have described the preferred accessories necessary to produce my invention, it will be understood that the equivalents thereof are comprehended by me, and I do not, therefore, wish to be held to the exact construction set forth.

Having thus fully described the construction and operation of my improved wire-stretching device, what I claim as new, and desire to secure by Letters Patent, is—

1. As an improvement in wire-stretchers, the combination with the framework, of a guide-block mounted thereon; clamping-jaws secured to said guide-block; an operating-drum for said guide-block rotatably

mounted upon said frame; a cable connecting said block and drum; levers pivotally secured to the end of the framework and having a series of notches upon their edges and a biting-notch upon their free ends, and a stationary clamp attached to the outer end of the framework and designed to cooperate with the jaws upon the movable block, substantially as specified and for the purpose set forth.

2. As an improvement in wire-stretchers, the herein-described appliance consisting of the frame or body having the members 1 and 2 and the end blocks 3; grooved pulleys 5 and 6 rotatably mounted between the ends of the side pieces; a guide-block slidingly mounted between the inner edges of said pieces and carrying the jaws 18 and 19 and the cam-lever therefor; a guide-block having a beveled edge pivotally mounted upon one end of the body; clamping-jaws 27 and 30 secured to the opposite end of the body and provided with the operating-lever and the post-engaging brace, and lever, and chain-engaging staple having the link-clamp 45, all operatively combined in the manner and for the purpose set forth.

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

GUSTAVE HANKE.

Witnesses:

THOS. FLYNN,

WM. SCHLOTFELD.