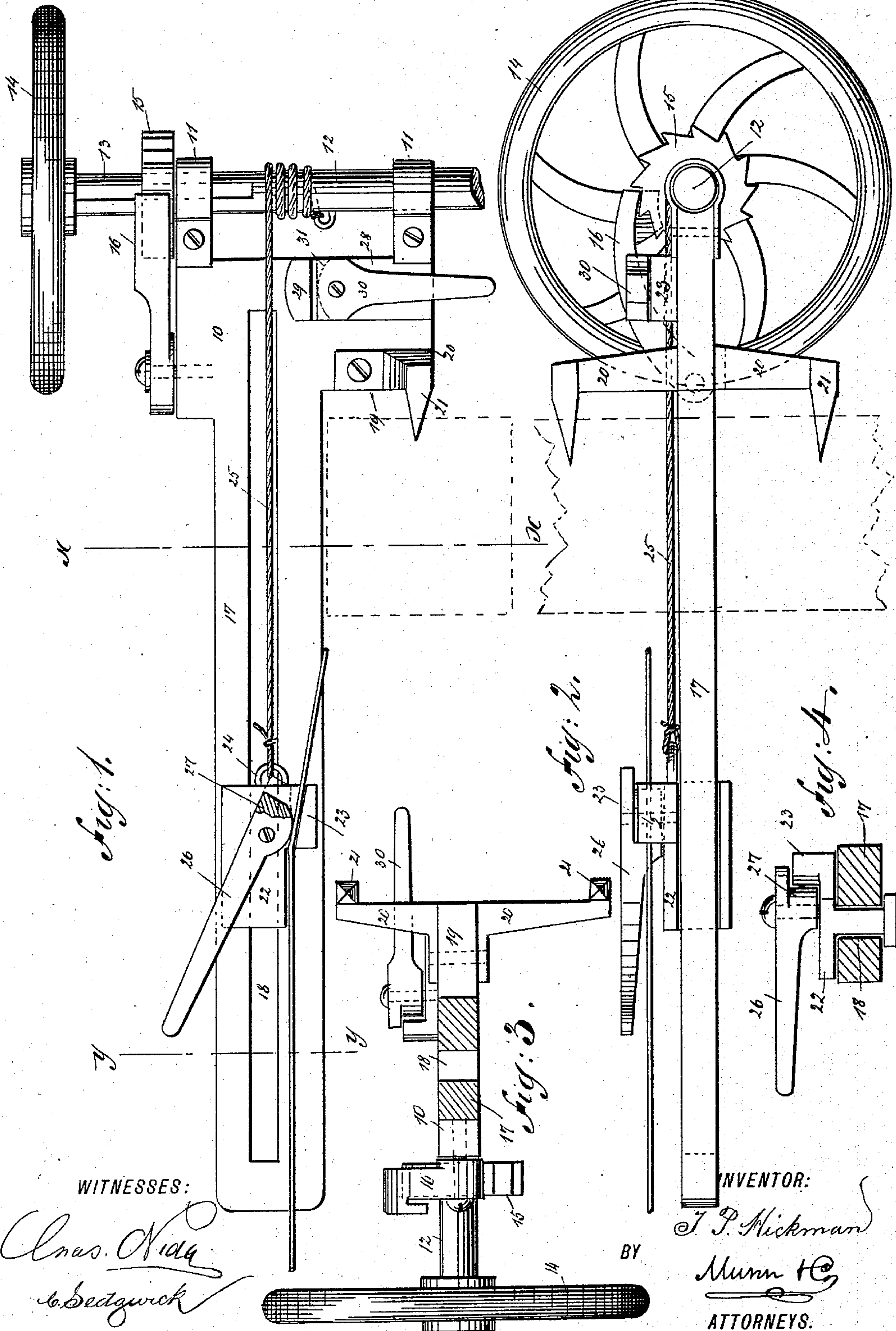


(No Model.)

T. P. HICKMAN.  
WIRE STRETCHER.

No. 413,397.

Patented Oct. 22, 1889.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

THOMAS P. HICKMAN, OF SAVOY, TEXAS.

## WIRE-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 413,397, dated October 22, 1889.

Application filed July 24, 1889. Serial No. 318,562. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS P. HICKMAN, of Savoy, in the county of Fannin and State of Texas, have invented a new and Improved Wire-Stretcher, of which the following is a full, clear, and exact description.

My invention relates to an improvement in wire-stretchers, and has for its object to provide a device of simple, durable, and economical construction and capable of carrying the roll taut a sufficient distance beyond the post to conveniently nail the wire thereto, and whereby any amount of slack can be taken up by repeated operation.

The further object of the invention is to provide a machine which will also be able to draw together the broken ends of a wire and take up the slack between the posts.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the wire-stretcher. Fig. 2 is a side elevation of the same. Fig. 3 is a transverse section on line *x x* of Fig. 1, and Fig. 4 is a similar section on line *y y* of Fig. 1.

The body 10 of the device is made preferably rectangular, and to each end of the body at the rear a bearing 11 is secured, in which bearing a shaft 12 is journaled, extending beyond the ends of the body parallel with the rear side, which shaft is provided at one end with a longitudinal groove 13 and a hand-wheel 14, and upon the shaft a ratchet-wheel 15 is held to slide, the said wheel being provided with a feather adapted to enter the longitudinal groove 13, whereby the ratchet-wheel is enabled to turn with the shaft and slide thereon, as occasion may demand. The ratchet-wheel is engaged by a pawl 16, pivoted to one side of the body 10.

From the forward side edge of the body 10, nearer the right-hand end than the left, an arm 17 is horizontally projected, which arm is of any desired length and provided with a

longitudinal slot 18, which slot also extends some distance transversely in the body, as best shown in Fig. 1. By locating the arm 17 more to the right of the center than to the left, a shoulder or bearing-surface 19 is provided at the forward side of the body adapted for contact with one face of the post, while the contiguous side edge of the arm is in contact with the other side, as illustrated in Fig. 1.

From the top and bottom surfaces of the body 10, at the outer end of the shoulder 19, angled brackets 20 are rigidly secured, which brackets extend, respectively, upwardly and downwardly from the body at a right angle to the upper and lower faces, and the free ends of the brackets are bent horizontally outward upon themselves, and made to terminate in wedge-shaped extremities 21, extending forward parallel with the longitudinal axis of the arm 17, whereby when the shoulder 19 is placed parallel with and near to the post the sharpened wedge-like extremities 21 of the brackets will be in position to enter the post when tension is exerted upon the forward portion of the body-arm 17.

In the slot 18 of the body-arm 17 a block 22 is held to slide, the upper surface of the block, which bears upon the upper face of the arm 17, being provided at one side with an integral post 23 and at the rear end with an eye 24 or equivalent device, to which eye one end of a rope, cord, or chain 25 is secured, the other end of said rope, cord, or chain being attached to the shaft 12.

Upon the sliding block 22, in front of the post 23, the head of a lever 26 is fulcrumed, the face of the said head opposed to the post being semicircular, as illustrated at 27 in Fig. 4, and the semicircular surface of the lever-head and the opposed face of the post 23 are brought together sufficiently close to enable the semicircular or cam surface 27 of the lever to clamp and straighten the wire between it and the post when occasion may demand.

Upon the upper face of the body 10, to the rear of the shoulder 19 and to the left of the slot 18, a plate 28 is longitudinally attached at or near the rear side, as shown in Fig. 1,



which plate at its inner end is provided with an upwardly-extending integral post 29, and upon the plate, in front of the post, the head of a lever 30 is pivoted, the head of which lever contiguous to the post is semicircular or convex, as illustrated at 31. In shaping the lever-head in this manner a wire strand may be clamped between the head and the post, whether the said strand be entered at the forward or at the rear side. The lever 26 is capable of clamping the wire only when entered from the forward end of the arm 17; therefore the semicircular or cam surface 27 does not extend from side to side of the lever-head.

In operation, to stretch a wire which is lying upon the ground, for instance, the end of the wire is passed between the post 23, the inner face of which is beveled in direction of the rear and the semicircular or cam surface of the lever 26, and the said lever is manipulated to clamp the said wire between it and the post, as shown in Fig. 1, the end of the wire extending rearwardly beyond the block 22. The device is lifted and the left-hand side of the arm 17 is placed in contact with the face of the post to which the wire is to be secured, whereby the shoulder 19 is made to face another side of the post, as shown in Fig. 1, and the wedge-like hooks 21 are made to touch the post. If the tension of the wire is not sufficient to hold the device in contact with the post, it may be readily supported with one hand, while the wheel 14 is turned with the other hand to revolve the shaft 12, whereupon the rope, cord, or chain 25 is wound upon the said shaft and the block and wire drawn thereby in the direction of the post and past the same, if desired. When the wire has been brought in contact with the post, it is secured thereto by staples or other approved devices. If, when the block 24 is drawn to the rear end of the slot 18, the slack of the wire has not been taken up, the wire is clamped between the lever 30 and the opposed post 29 and released from engagement with the lever 26. The block is then carried forward and again attached to the wire and drawn rearward in the direction of the shaft until the proper tension is obtained and all the slack drawn in, when the wire is attached to the post. The same operation is performed in taking up the slack between the posts.

It will be observed that as soon as tension is brought to bear upon the wire the hooks 21 will enter the post and rigidly secure the device thereto. It will also be observed that as the ratchet-wheel 15 is free to move laterally upon the shaft 12, as the shaft passes to the left when the rope winds thereon to the right, to bring the rope, cord, or chain 25 parallel with the walls of the slot 18, the ratchet-wheel moves to the right, so as to always contact with the pawl 16. By these means, whenever the wheel 14 is released by

the operator, the shaft is prevented from turning to unwind the rope until the pawl 16 is thrown out of engagement with the ratchet-wheel.

To unite the ends of wire which has been broken, one of the ends is held fast to the post 23 by the lever 26, and the other end fast to the post 29 by the rear lever 30.

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

1. In a wire stretcher or tightener, the combination, with a body provided with a slotted arm projected from one side edge, a bearing surface or shoulder at the forward side, and a shaft journaled in the rear end of the body, of a block held to slide in the slot of the arm, a rope, chain, or cord connecting the said block with the shaft, a lever provided with a cam-face pivoted upon the sliding block adapted for contact with a post projected from the same, and a second lever provided with a semicircular face pivoted upon the body portion and capable of contact with a post projected upward from the said body, all combined for operation substantially as shown and described.

2. The combination, with a body, an arm projected from the forward side of the said body, provided with a longitudinal slot extending transversely in the body, a shaft journaled at the rear side edge of the body, provided with a longitudinal groove, a ratchet-wheel held to slide upon and turn with the shaft, and a pawl adapted for contact with the said wheel, of a block held to slide in the groove of the body-arm, provided with an upwardly-extending post at one end, a lever fulcrumed upon said block, having a cam-surface adapted for contact with the post, a second lever pivoted upon the body, provided with a semicircular face adapted for contact with a post fast to the body, hooks projected at a right angle from the upper and lower faces of the body and forwardly in the direction of the longitudinal axis of the body-arm, and a rope or chain connection between the sliding block and the shaft, substantially as shown and described.

3. In a wire stretcher or tightener, the combination, with a body, an arm projected from the forward side edge of the body near one side of the center and provided with a longitudinal slot extending into the body, a shaft journaled upon the rear side edge of the body, a ratchet-wheel held to slide upon and turn with the shaft, and a pawl pivoted upon the body capable of contact with the ratchet-wheel, of a block held to slide in the slot of the arm and provided with an upwardly-extending side post, a lever fulcrumed upon the said block, having a cam-face adapted for contact with the contiguous face of the post, a post projected upward from the body, a lever fulcrumed upon the body in front of the said post, having a semicircular face adapted for contact with the post, a rope, cord, or



chain connecting the sliding block and the shaft, bracket-arms projected at a right angle from the upper and the lower surface of the body near the left-hand forward corner, 5 which bracket-arms are made to terminate in essentially wedge-shaped extremities extending at a right angle to the body of the bracket-arms inwardly and parallel with the longi-

tudinal axis of the slotted body-arm, all combined for operation substantially as shown in and described.

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Witnesses:

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J. S. BOGGESS.