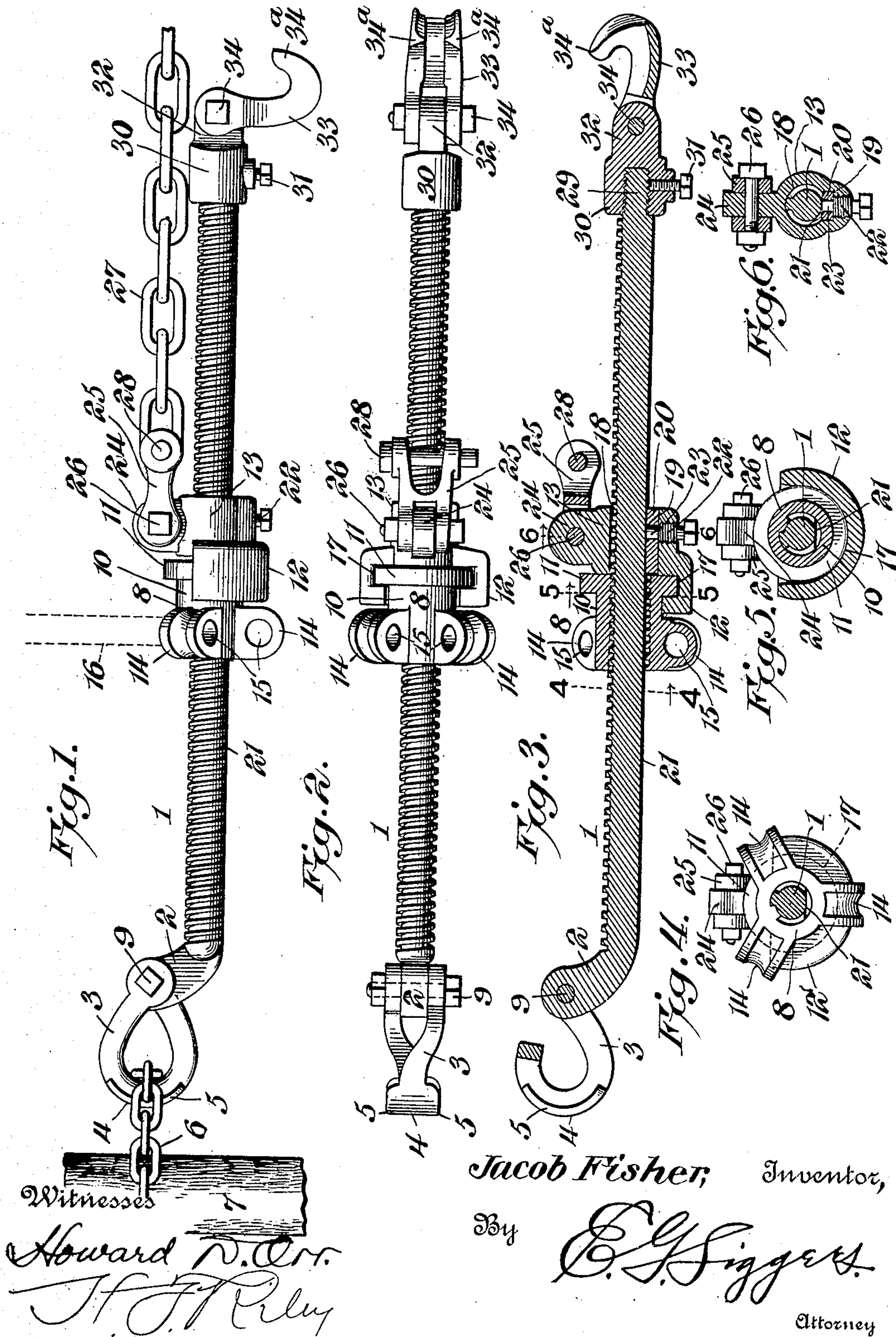


920,307.

Patented May 4, 1909.



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# UNITED STATES PATENT OFFICE.

JACOB FISHER, OF SAC CITY, IOWA.

## WIRE-STRETCHER.

No. 920,307.

Specification of Letters Patent.

Patented May 4, 1909.

Application filed July 22, 1908. Serial No. 444,819.

*To all whom it may concern:*

Be it known that I, JACOB FISHER, a citizen of the United States, residing at Sac City, in the county of Sac and State of Iowa, 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, inexpensive and efficient wire stretcher of great strength and durability, designed particularly for stretching woven fence wires, and capable of being readily operated for enabling the wire to be stretched successively.

Another object of the invention is to improve the construction of that class of wire stretchers employing a longitudinal screw and a rotary nut, and to prevent lateral strain and binding of the parts when the device is exerting considerable power in stretching woven wire fencing or in analogous stretching or pulling operations.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, 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 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 drawings:—Figure 1 is a side elevation of a wire stretcher, constructed in accordance with this invention. Fig. 2 is a plan view of the same. Fig. 3 is a longitudinal sectional view of the wire stretcher. Fig. 4 is a transverse sectional view on the line 4—4 of Fig. 3. Fig. 5 is a similar view on the line 5—5 of Fig. 3. Fig. 6 is a transverse sectional view on the line 6—6 of Fig. 3.

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

1 designates a longitudinal screw or member, provided at its outer end with a laterally extending arm 2 to which is pivoted a twisted link or clevis 3. The arm 2, which is flattened, preferably extends upward from the screw, and the twisted link or clevis has an enlarged outer portion 4, connecting

the sides of the twisted link or clevis and laterally enlarged to provide projecting flanges or ribs 5, curved longitudinally and adapted to engage the contiguous ends of the two horizontal links of an anchoring chain 6. The twisted link or clevis, which is composed of two sides and a curved connecting portion, has spaced terminals at one end, and the projecting ribs or flanges 5 extend only partially around the clevis and are arranged in flush relation with the outer face of the curved connecting portion of the same. The anchoring chain, which encircles a post 7, is composed of vertical and horizontal links, and the ribs or flanges 5 fit against the inner faces of the contiguous vertical links and extend into the recesses or spaces between the adjacent ends of the contiguous horizontal links. By this construction the screw is prevented from twisting when considerable force is exerted in rotating a nut 8 for stretching the fence wires or woven wire fencing. The sides of the links or clevis 3 are spaced apart to receive the arm 2 and are pivoted to the same by means of a transverse bolt 9.

The nut 8, which has interior screw threads to engage the threads of the screw, is provided with a smooth extension 10, having an annular flange 11 at its outer end and engaging a grooved semi-circular portion 12 of a slidable sleeve 13 to form a separable swivel connection. The nut, which is adapted to be rotated for moving the sleeve longitudinally of the screw, is equipped with a plurality of radially arranged lugs 14, having transverse openings 15 for the reception of a bar or lever 16, as illustrated in dotted lines in Fig. 1 of the drawing for enabling the nut to be readily rotated with sufficient power to operate the wire stretcher. The extension 10 and the flange 11 form a head, which is swiveled to the sleeve 13 by means of the said semi-circular portion 12, which is provided with an interior groove 17, arranged concentric with the screw and receiving the flange 11. The sleeve is provided with a segmental opening 18, and it has a groove 19 at the bottom thereof to receive a key or piece 20, which fits against a flat face 21 of the screw. The flat face 21 is arranged at the bottom of the screw, and the key or piece 20 is adjustable by means of a set screw 22 to take up the wear. The set screw, which is mounted in a threaded perforation of the sleeve, has a polygonal outer



end and its inner end 23, which is reduced to form a shoulder, fits in a perforation of the key or piece 20. By this construction the sleeve is held against rotary movement on the screw, but is permitted to slide longitudinally of the same. Also the connection between the key and the adjusting screw prevents the key from being displaced from the groove when the slide is moved along the screw. The sleeve is also equipped with a laterally extending lug 24, projecting upward from the sleeve and receiving a clevis 25. The clevis 25, which is pivoted to the ear or lug 24 by a bolt 26, is composed of two sides and an intermediate connecting portion. The sides are spaced apart at one end to receive the ear or lug 24, and at the other end to receive a front chain 27, which is adjustably secured to the link or clevis 25 by means of a transverse pin 28. The pin 28 pierces the sides of the clevis and is adapted to be passed through any one of the links of the chain 27, which in practice is designed to be connected by any suitable means with the woven wire fencing, or the fence wires to be stretched.

The inner or front end 29 of the screw is reduced and threaded for the reception of a sleeve 30, interiorly threaded to engage the end 29 and held against rotary movement by a set screw 31, piercing the sleeve 30 and engaging the reduced end 29 of the longitudinal screw. The outer end of the fixed sleeve 30 is provided with an ear 32 to which a claw hook 33 is pivoted by means of a bolt 34. The claw hook, which has spaced shank portions to straddle the ear or lug 32, is also provided with spaced bills or engaging portions 34<sup>a</sup>, adapted to engage one of the links of the chain 27. The bills 34<sup>a</sup>, which constitute a claw, straddle one of the links of the chain 27 and engage the adjacent link. The hook is adapted to be engaged with the chain after the nut has been moved to the rear end of the longitudinal screw for holding the chain until the nut and sliding sleeve are returned to the front end of the screw for another stretching operation. The chain 27 may be connected at different points or links to the clevis 25. The clevis 25 is arranged in alinement with the clevis 3 to maintain the screw in a horizontal position and to prevent any tendency of the wire stretcher to twist.

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

1. A wire stretcher including an anchoring chain, a screw, a nut engaging the screw, and a clevis consisting of a twisted link having spaced terminals at one end and connected with the screw and receiving the anchoring chain, said clevis being provided at opposite sides with flanges extending partially around the clevis and arranged in flush relation with

the outer face of the same and fitting between and engaging the contiguous ends of the links of the anchoring chain.

2. A wire stretcher including an anchoring chain, a screw, a nut engaging the screw, and a twisted clevis receiving the anchoring chain and having an enlarged portion provided with laterally projecting ribs or flanges fitted between and engaging the contiguous ends of the links of the anchoring chain.

3. A wire stretcher including a longitudinal screw having a laterally extending arm, an anchoring chain, a nut engaging the screw, a sleeve having a swivel connection with the nut and provided with a projecting ear extending from the same side of the screw as the arm, a clevis connected with the arm and receiving the anchoring chain, a second clevis connected with the ear and arranged in alinement with the first-mentioned clevis, a front chain connected with the clevis of the ear, and a claw hook mounted on the screw and arranged to swing into and out of engagement with the front chain.

4. A wire stretcher including a longitudinal screw having a flattened face intersecting its threads, a nut engaging the threads and provided with radially projecting lugs having openings, a slide arranged on the screw and having a swivel connection with the nut, and means carried by the slide for connecting the wire stretcher with the wires to be stretched.

5. A wire stretcher including a longitudinal screw having a flat longitudinal face, a nut engaging the screw, a sleeve slidable on the screw and connected with the nut and provided with a groove arranged opposite the said flat face, a key arranged in the groove of the sleeve and fitting against the flat face of the screw, and means for adjusting the key and for retaining the same in the groove of the sleeve when the latter is moved along the screw.

6. A wire stretcher including a longitudinal screw having a flat longitudinal face, a nut engaging the screw, a sleeve slidable on the screw and connected with the nut and provided with a groove arranged opposite the said flat face, a key arranged in the groove of the sleeve and fitting against the flat face of the screw, and a set screw mounted on the sleeve and swiveled to the key for adjusting the same and for retaining the key in the groove of the sleeve when the latter is moved along the screw.

7. A wire stretcher including a longitudinal screw, a nut arranged on the screw and provided with a smooth extension having an annular flange, a sleeve slidable on the screw and provided with a semi-circular portion having an inner groove and detachably receiving the flange of the extension to form a separable swivel connection, and means for preventing the sleeve from rotating around the screw.



8. A wire stretcher including a longitudinal screw, a nut arranged on the screw, a sleeve carried by the nut, a chain connected with the sleeve and extending along one side of the screw, and a claw hook mounted on the screw and arranged to swing into and out of engagement with the chain.

9. A wire stretcher including a longitudinal screw having a reduced threaded end, a nut mounted on the screw, a sleeve connected with the nut, a chain carried by the sleeve and extending along one side of the screw, a fixed interiorly threaded sleeve engaging the threaded end of the screw and provided with a lug, and a claw hook pivoted to the lug and arranged to swing into and out of engagement with the chain.

10. A wire stretcher including an anchoring chain, and a clevis provided at opposite sides with flanges arranged in flush relation with the outer face of the clevis and fitting between and engaging the contiguous ends of the links of the anchoring chain.

11. A clevis composed of two sides and a connecting portion and provided at opposite sides with curved flanges, which project from

the side faces and have a curvature corresponding with that of the connecting portion of the clevis and arranged in flush relation with the outer faces of the same and adapted to fit between and engage the contiguous ends of the links of a chain.

12. A clevis consisting of a twisted link and composed of two sides and a connecting portion and having its sides bent at an intermediate point and terminating in spaced alined eyes, said clevis being provided at opposite sides with curved flanges, which project from the side faces and have a curvature corresponding with that of the connecting portion of the clevis and arranged in flush relation with the outer face of the latter and adapted to fit between and engage the contiguous ends of the links of a chain.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JACOB FISHER.

Witnesses:

HENRY BAHL,  
JOHN H. CROSE.