(No Model.)

L. CLARK.

WIRE STRETCHER.

No. 604,302. Patented May 17, 1898.

Fig. 1.

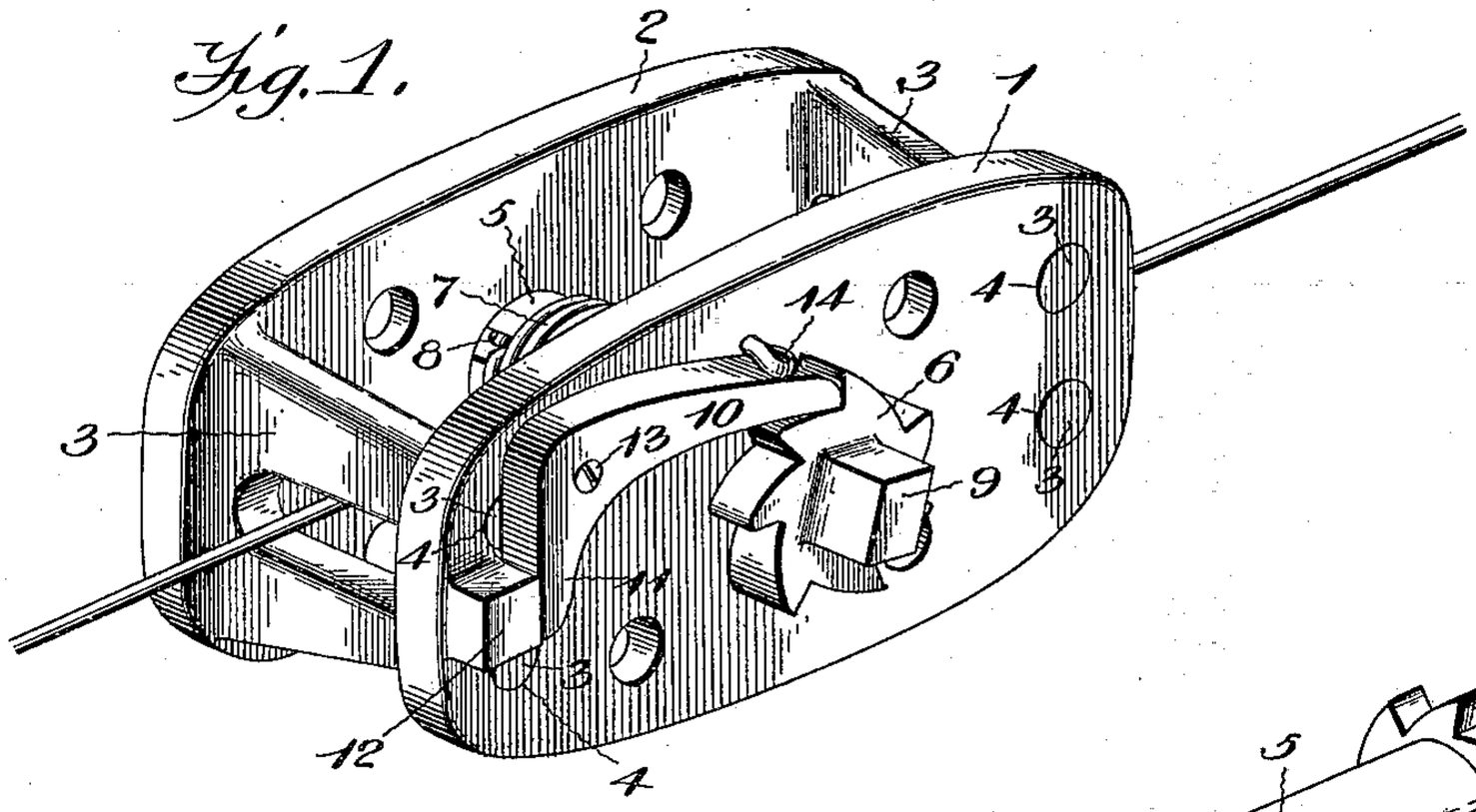
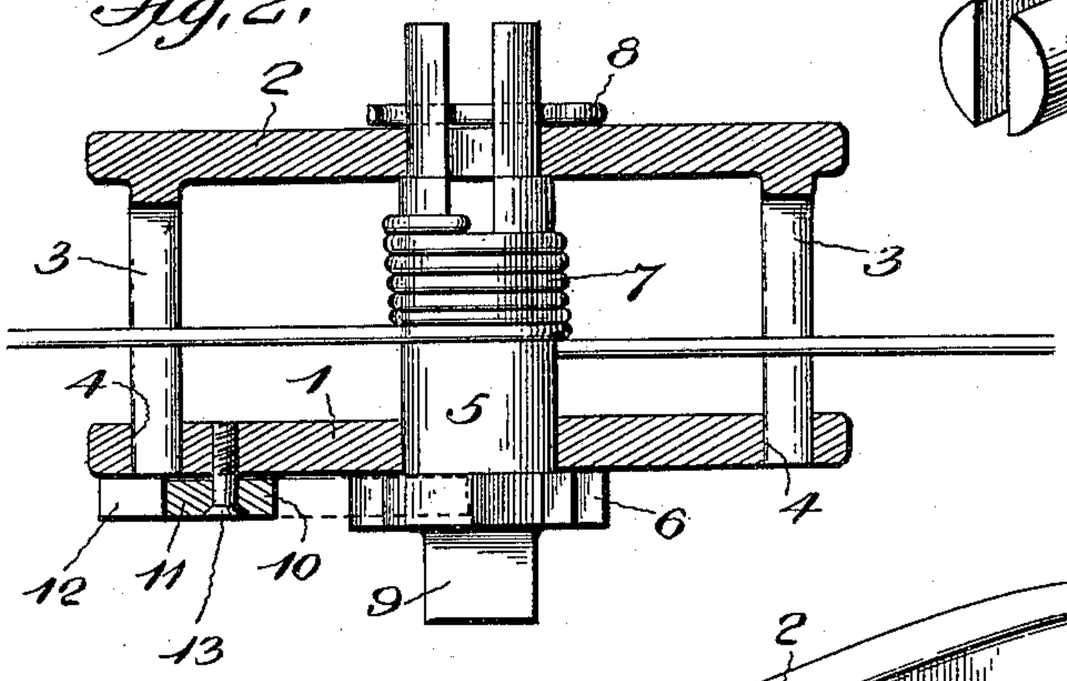


Fig. 2.



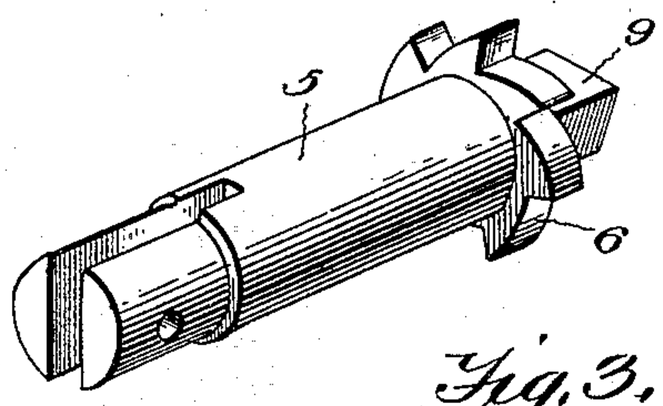
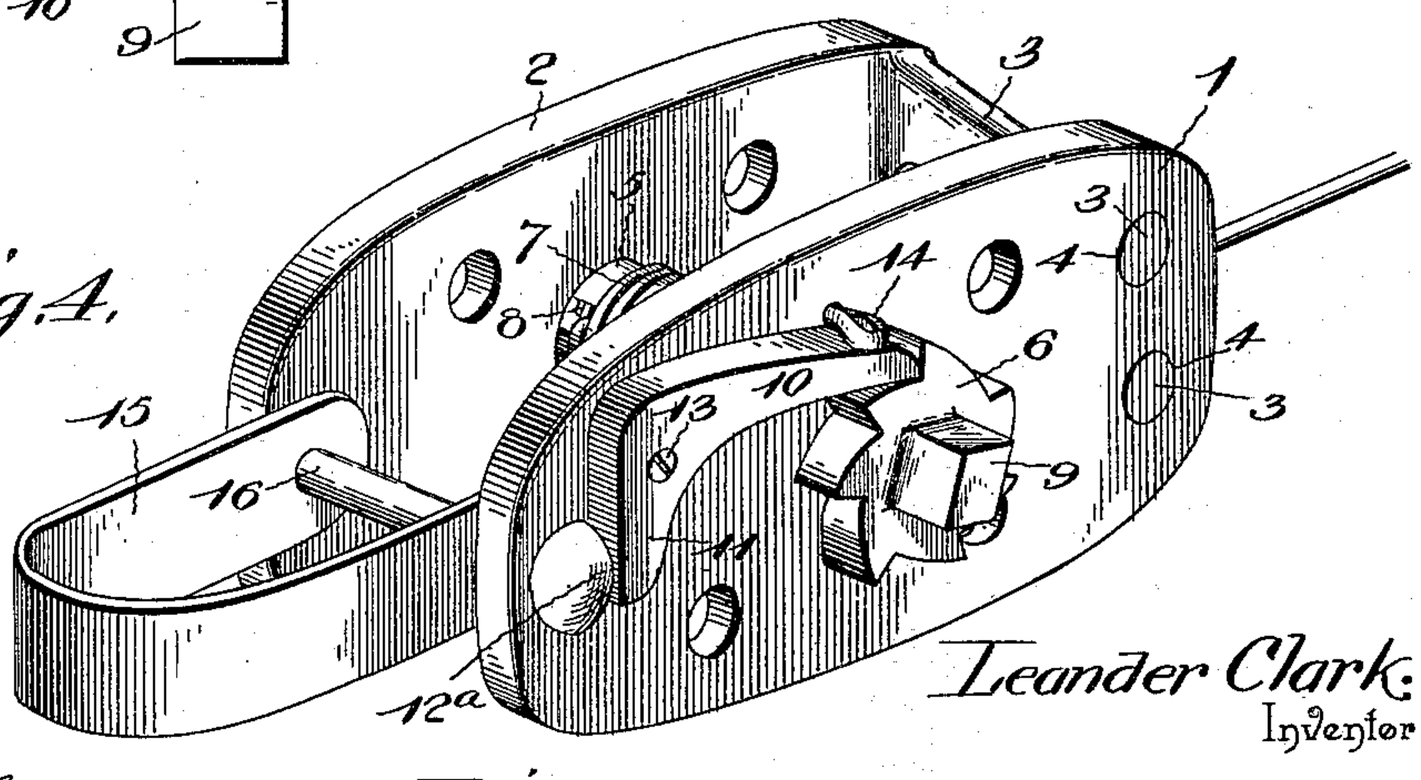


Fig. 3.

Fig. 4.



Witnesses
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Leander Clark.
Inventor

By his Attorneys,
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UNITED STATES PATENT OFFICE.

LEANDER CLARK, OF GREENVILLE, OHIO.

WIRE-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 604,302, dated May 17, 1898.

Application filed December 29, 1897. Serial No. 664,241. (No model.)

To all whom it may concern:

Be it known that I, LEANDER CLARK, a citizen of the United States, residing at Greenville, in the county of Darke and State of Ohio, have invented a new and useful Wire-Stretcher, of which the following is a specification.

My invention relates to wire-stretchers, and has for its object to provide a simple, strong, and efficient construction and arrangement of parts adapted to be used with slight modification either as a mid-wire or as an end-wire stretcher, and, furthermore, to provide a construction of mid-wire stretcher whereby when allowed to remain in engagement with the fence-wire the drum is locked permanently against displacement.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a wire-stretcher of the mid-wire type constructed in accordance with my invention applied to a fence-wire. Fig. 2 is a longitudinal section of the same. Fig. 3 is a detail view of the drum detached. Fig. 4 is a perspective view of a stretcher of the end-wire type applied to a fence-wire.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The stretcher embodying my invention includes a frame having parallel side cheeks 1 and 2, of which the latter carries terminal wire-guides 3, bifurcated to form guide-openings in longitudinal alinement, the extremities of the arms of the guides being fitted in openings 4 in the cheek 1. Furthermore, said cheeks are provided with transversely-alined bearings, in which is mounted a drum 5, provided with a fixed ratchet 6 contiguous to one end and longitudinally slotted at the opposite end to engage a fence-wire 7 at an intermediate point. The slotted extremity of the drum extends through the rear cheek 2, and is provided with a transverse perforation fitted with a split key 8, which, bearing against the outer surface of the rear cheek while the ratchet bears against the outer face of the front cheek, maintains the cheeks at the proper interval, and thus locks the extremities of the wire-guides in the openings provided therefor in the front cheek. In other words, in applying a stretcher constructed in accordance with my invention to a fence-wire the cheeks are detached by the removal of the key in the rear end of the drum and the guides are placed over the wire. The front cheek is then applied to engage its terminal openings with the extremities of the guides. The drum is inserted through the front cheek with its slot straddling the wire and is then extended to cause its rear extremity to project beyond the rear cheek, and finally the split key is engaged with the transverse perforation of the drum to lock the several parts of the stretcher in their proper relative positions. It will be seen that the final insertion of the key serves to connect all of the separable members of the stretcher, thus facilitating the application of the device to a wire fence, and reducing to a minimum the number of detachable parts.

The drum is extended forwardly beyond the plane of the ratchet to form a wrench or key seat 9, and mounted upon the front cheek, in operative relation with the ratchet, is a pawl 10, having a tail or extension 11 for contact with a stop 12 when the pawl is in engagement with a tooth of the ratchet, whereby the backward pressure of the ratchet is communicated by the pawl to the stop instead of straining the fulcrum-pin 13 of the pawl, it being desirable to use a light fulcrum-pin and protect it from strain in order that the pawl may operate freely during the rotary adjustment of the drum. When the stretcher has been operated to properly tighten a fence-wire, and it is desired to allow the stretcher to remain upon the wire permanently, a locking-pin 14 of the split-key type should be inserted in a perforation in the front cheek in the path of the free end of the pawl, thus preventing the accidental disengagement of the pawl from the ratchet in case the slacking of the fence-wire should allow the stretcher to turn, and thus displace the pawl by gravity or a jar.

In the construction illustrated in Fig. 4, which is designed particularly as an end-wire stretcher for application to a fence-post or other fixed object and adapted to strain the

wire in only one direction, (instead of straining the same in two directions, as described in connection with the mid-wire stretcher,) I dispense with one of the end-wire guides (shown in Figs. 1 and 2) and substitute a clevis 15, which is held in place by a transverse bolt 16, connecting the cheeks in lieu of said guide. In this construction the head of the bolt forms a stop 12ª, which performs a function analogous to the stop 12 of the construction shown in Figs. 1 and 2. In other features the end-wire stretcher is identical with that employed for mid-wire stretching.

In the above description it will be seen that the advantages of the construction are the facility with which the device may be applied to a wire and the permanent locking of the parts in their relative positions after such application, whereby the movable members are capable of properly performing their various functions. A further advantage of the construction resides in the means whereby the backward pressure of the ratchet, due to the tension of the fence-wire, is communicated to a fixed part of the frame instead of being sustained by the pivot of a movable part, such as the pawl.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention. In this connection it will be understood that the stretcher may be made of a suitable size for use in connection with ropes, cables, and the like, the proportions being suitably varied to accommodate the particular flexible member which is to be subjected to tension.

Having described my invention, what I claim is—

1. A wire-stretcher having parallel separable cheek-plates, one of which carries a bifurcated guide, of which the extremities are stepped in openings in the other cheek-plate, a shouldered drum removably mounted in transversely-alined bearings in the cheek-plates and provided with a wire-receiving bifurcation, a transverse key engaging the drum in contact with the exterior surface of one of the cheek-plates, to prevent relative displacement of the cheek-plates and the accidental dismounting of the drum, while allowing the disconnection of said parts to facilitate the engagement of the drum with a fence-wire, and means for locking the drum against backward rotation, substantially as specified.

2. A wire-stretcher having parallel cheek-plates, a revoluble drum mounted in bearings in the cheek-plates, ratchet mechanism for preventing backward rotation of the drum, and including a pawl, mounted upon one of the cheek-plates, engaging a ratchet on the drum, and a removable locking-pin fitted in an opening in the stretcher-frame in the path of the pawl, to prevent disengagement of the latter from the ratchet, substantially as specified.

3. A wire-stretcher having parallel cheek-plates and an interposed wire-guide, a revoluble drum mounted in transversely-alined bearings in the cheek-plates and carrying a ratchet, a pawl mounted upon one of the cheek-plates in operative relation with said ratchet and provided with a tail or extension, and a removable locking-pin fitted in an opening in the stretcher-frame to prevent disengagement of the pawl from the ratchet, substantially as specified.

4. A wire-stretcher having parallel separable cheek-plates, bifurcated wire-guides carried by one of the cheek-plates and fitted at their extremities in openings in the other cheek-plate, a drum mounted in transversely-alined bearings in the cheek-plates and provided with a ratchet to bear against the outer surface of one of the cheek-plates, said drum being longitudinally slotted to engage a fence-wire, a pin engaging transverse openings in the drum contiguous to the outer surface of the other cheek-plate, to prevent displacement of the drum from its bearings and lock the extremities of the wire-guides in the openings in which they are fitted, and a pawl for engaging the ratchet to prevent accidental backward rotation of the drum, substantially as specified.

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

LEANDER CLARK.

Witnesses:
W. N. STUBBS,
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