No. 680,438. Patented Aug. 13, 1901.

E. A. PIERCE.

FENCE WIRE TIGHTENER.

(Application filed Dec. 13, 1900.)

(No Model.)

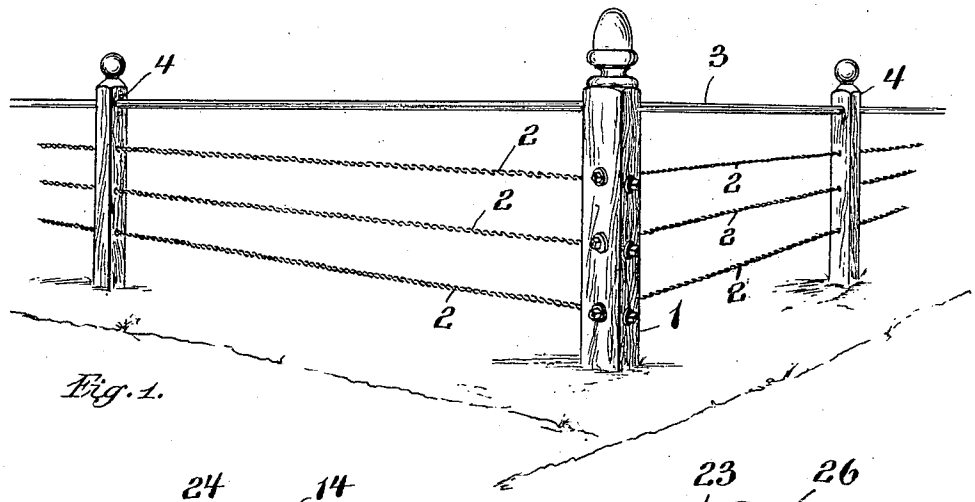


Fig. 1.

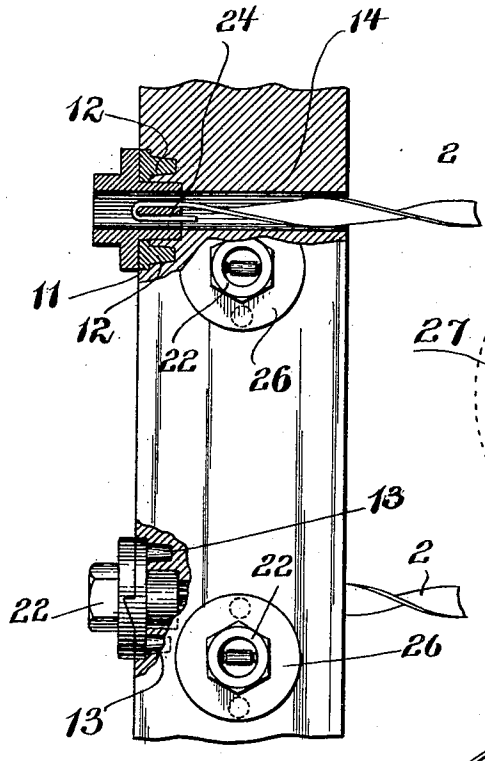


Fig. 2.

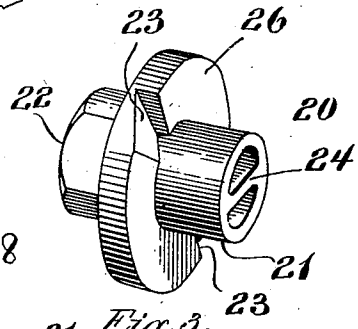


Fig. 3.

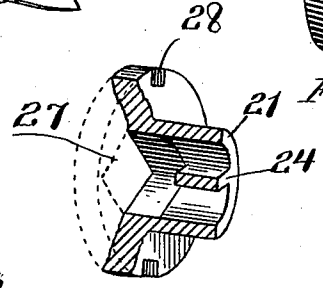


Fig. 6.

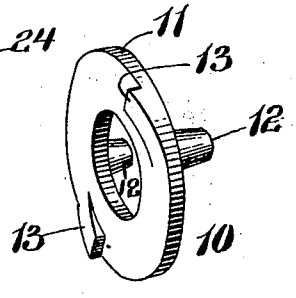


Fig. 4.

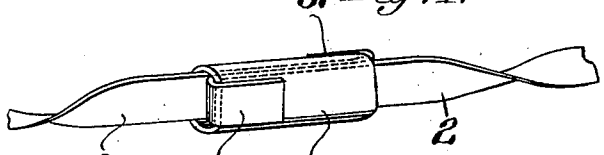


Fig. 5.

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UNITED STATES PATENT OFFICE.

EDWARD A. PIERCE, OF BOSTON, MASSACHUSETTS.

FENCE-WIRE TIGHTENER.

SPECIFICATION forming part of Letters Patent No. 680,438, dated August 13, 1901.

Application filed December 13, 1900. Serial No. 39,722. (No model.)

To all whom it may concern:

Be it known that I, EDWARD A. PIERCE, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Fence-Wire Tighteners, of which the following is a specification.

This invention relates to a new and improved means for taking up the slack of and keeping taut the strands of ribbon fence-wire; and it consists in the novel features of construction and arrangement of parts hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this application, and to the characters of reference marked thereon, the same reference characters designating the same or similar parts or features wherever they occur.

Of the drawings, Figure 1 shows in perspective a portion of a wire fence in which the strands have been tightened by means of my invention. Fig. 2 is a detail view of a corner-post of the fence—in this case one of the posts in connection with which my improved tightener is employed, although it can be employed in connection with any desired post in the fence. Fig. 3 is a detail perspective view of the movable tightening member. Fig. 4 is a like view of a stationary detent-holding member. Fig. 5 is a detail perspective view of my improved band-splice. Fig. 6 is a view similar to Fig. 3, showing a modified form of twisting member.

Fence-wire, especially when of the band form, has a tendency to sag. Various expedients have been tried to overcome this defect, but with only partial success hitherto, so far as I am aware. I have found that by twisting the band form of wire the same is thereby shortened and also stiffened. By my invention I employ a device composed of a twisting and a holding member. The twisting member serves as a means for shortening and stiffening the band by twisting it, while the holding member serves to maintain the twisting member in any desired position of adjustment.

1 represents a post of a band-wire fence, to which my tightening devices are attached. This post is shown as at the corner of the fence; but, as stated, it is immaterial, since the tightening-post might be in any part of the fence. In practice there will be a tightening device for each wire.

2 2 2 represent band-wires, 3 the top rail, and 4 4 line-posts.

10 represents a holding member. As shown, this is composed of a disk 11, formed with a central aperture or bearing. Upon one side this disk is provided with pins 12 12 and upon the opposite side with cam-teeth 13 13. A hole 14 is made in the post 1 for each band 2. The member 10 is secured by the pins 12 12 to the post over the hole 14, with its cam-teeth 13 opposed to the direction in which the band will exert its pull.

20 represents a twisting member composed of a perforated hub 21, formed to rotate in the aperture or bearing of the holding member and having a squared end 22 for engagement with a wrench, and a flange 26, in which are formed notches 23 23 for engagement with the cam-teeth 13 13. A web 24 is formed near the end of the hub 21, opposite the squared end 22. The end of a band 2 is passed through the hole 14 and wrapped about the web 24 of the twisting member 20, there being such a member for each band. The hub 21 is inserted through the disk 11 into the hole 14, there being a holding member for each twisting member. If the bands sag, they are twisted by turning the twisting member 20 with a wrench. As the band twists it will also shorten and stiffen. The teeth 13 of the holding member engaging the recesses 23 of the twisting member maintain these parts in any desired adjustment. The pull of the band holds the teeth and recesses in engagement unless separated by the wrench in turning the twisting member.

Instead of the squared end 22 I may form the hub with a squared aperture 27 (see Fig. 6) for engagement with a complemental tool. Further, in place of the notches 23 I may form peripheral notches 28, through which a nail or other device may be passed for engagement with the teeth 13.

In Fig. 5 I have shown my improved form of splice. In making this splice the ends of the bands to be spliced are placed together in opposite directions. A wrapper 30 of metal is then placed about the wrapped ends, the latter protruding at one side beyond the wrapper. After the wrapper is in position

the free ends 31 of the bands are then bent back over the wrapper, as shown.

Having thus explained the nature of my invention and described a way of constructing and using the same, although without having attempted to set forth all the forms in which it may be embodied or all the modes of its use, I declare that what I claim is—

1. A tightening device for wire fences, comprising, first, a holding member formed to bear against a fence-post and having an aperture or bearing to coincide with a hole in the post, and means for engagement with a fence-post to prevent rotation of said member, and secondly, a twisting member composed of a hub which is rotatable in said bearing, said hub having means for engagement with a band-wire, and a flange adapted to bear against the outer side of the holding member, the said flange and holding member having complemental engaging parts which are held in engagement with each other by the tension of the wire, and retain the twisting member in any desired position of adjustment.

2. A device for tightening band-wire, comprising a holding member having a central aperture, post-engaging studs on its inner side, and cam-teeth on its outer side, and a twisting member composed of a hub portion rotatable in the aperture of the holding member and having a cross-bar to engage a band-wire, and a flange having notches formed to engage said cam-teeth.

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

EDWARD A. PIERCE.

Witnesses:
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