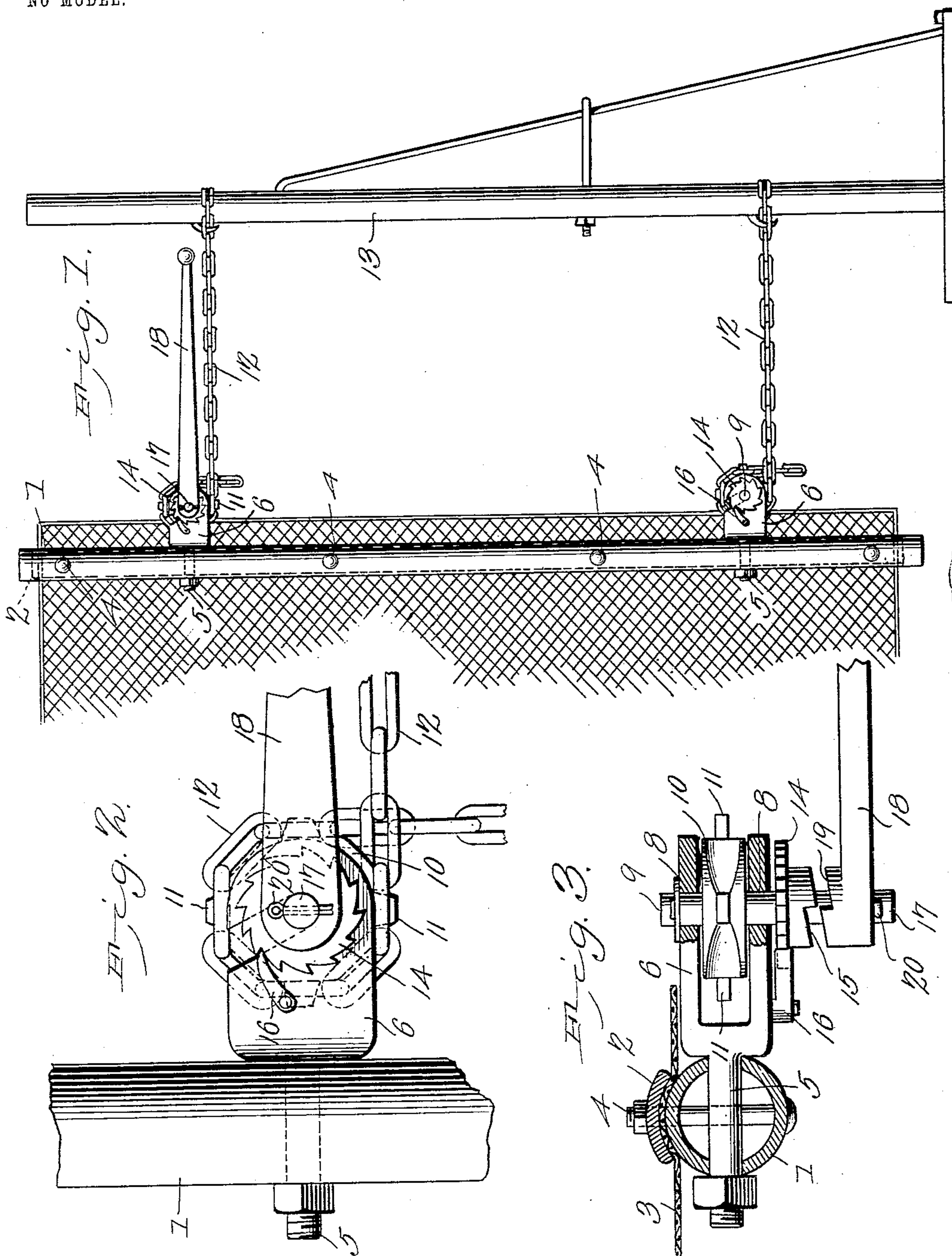


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PATENTED DEC. 1, 1903.

I. M. WARNER.
WIRE FENCE STRETCHER.
APPLICATION FILED OCT. 10, 1902.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

ISAAC M. WARNER, OF UNION CITY, MICHIGAN, ASSIGNOR TO FRANK C. BOISE, OF UNION CITY, MICHIGAN.

WIRE-FENCE STRETCHER.

SPECIFICATION forming part of Letters Patent No. 745,979, dated December 1, 1903.

Application filed October 10, 1902. Serial No. 126,787. (No model.)

To all whom it may concern:

Be it known that I, ISAAC M. WARNER, a citizen of the United States, residing at Union City, in the county of Branch and State of Michigan, have invented a new and useful Wire-Fence Stretcher, of which the following is a specification.

The invention relates to improvements in wire-fence stretchers.

The object of the present invention is to improve the construction of wire-fence stretchers and to increase their strength, durability, and efficiency and to provide an exceedingly simple and inexpensive one designed especially for stretching finely-woven wire fencing and adapted to securely grip the same and capable of enabling such fencing to be uniformly stretched without liability of injuring the same.

A further object of the invention is to provide a wire-stretcher of this character capable of being conveniently operated and adapted to permit the operator to stand beyond the fencing and adjacent to the post to which the same is to be stretched, whereby the operator will be out of danger and not liable to injury in case of any breakage of the fencing material.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is an elevation of a wire-fence stretcher constructed in accordance with this invention and shown in operative position. Fig. 2 is a detail view showing a side elevation of one of the stretching devices secured to the stretcher-bar, parts thereof being broken off. Fig. 3 is a detail horizontal sectional view.

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

1 designates a vertical stretcher-bar constructed of tubular metal and designed to receive finely-woven wire fencing which is firmly clamped to the stretcher-bar by means of a curved approximately semitubular clamping-bar 2, whereby the wire fencing 3 is securely held without liability of injuring the

strands. The curved clamping-bar 2 is connected with the stretcher-bar 1 by means of bolts 4, arranged at suitable intervals and adapted to permit the stretcher-bar to be readily connected with and disconnected from the fencing to be stretched. By this construction finely-woven wire fencing and analogous material is firmly held throughout the entire distance between the top and bottom of the fence, so that the fencing is uniformly stretched. Also by presenting curved faces to the fencing material to avoid cutting or otherwise injuring the wires the liability of the wire fencing to break is reduced to a minimum.

The tubular stretcher-bar is also perforated for the reception of shanks 5 of forked bearing-brackets 6, located equidistant of the top and bottom of the stretcher-bar and secured to the stretcher-bar in any suitable manner. These forked bearing-brackets are provided at opposite sides with bearings 8 for the reception of a shaft 9, preferably constructed of a single piece of malleable metal and provided with a sprocket or stretcher wheel 10, arranged between the sides of the fork or yoke of the bearing-bracket. The arms of the bracket or yoke lie adjacent the sides of the sprocket-wheel and serve as guides for the chain to hold it against displacement. The sprocket or stretcher wheel is preferably provided with four sprocket-teeth 11 for engaging links of a chain 12, and it is recessed or cut away between the sprocket-teeth for the reception of the adjacent links lying between those engaged by the sprocket-teeth. The chain, which extends from a post 13, passes beneath the sprocket-wheel and extends upward around the same, whereby the said chain is engaged at all times with three of the four sprocket-teeth of the wheel 10. The post has the chains 12 attached to it near its top and bottom, and the shafts are adapted to be rotated by the means hereinafter described to stretch the wire fencing in the direction of the post. The shaft 9 is extended beyond one side of the bearing-bracket and is provided adjacent to the same with a ratchet-wheel 14, and it has a clutch section or member 15 at the outer face of the ratchet-wheel. The ratchet-wheel 14 is engaged by a suitable pawl 16,

mounted on the adjacent side of the bearing-bracket and adapted to lock the shaft against retrograde rotation. The outer portion 17 of the extended end of the shaft forms a pivot
 5 for an operating-lever 18, which extends outward from the shaft in the direction of the post 13. By passing the chains beneath the shafts, as before described, they are not only enabled to engage the sprocket or stretcher
 10 wheels more securely, but the operating-lever is extended toward the post to permit the operator to stand adjacent to the same, where he will be out of danger in the event of any breakage of the fencing material or other
 15 parts. The operating-lever is provided at its inner end with an opening to receive the shaft, and it has a clutch section or member 19 arranged to engage the said clutch-section 15, whereby the shaft will be rotated when the
 20 operating-lever is oscillated. The lever is detachably secured on the outer portion 17 of the shaft by means of a removable key or pin 20. The shaft is adapted to be readily operated to stretch the fencing material, and great
 25 power may be readily brought to bear on such fencing material for stretching the same to the desired tension.

It will be seen that the wire-fence stretcher is exceedingly simple and inexpensive in construction, that while it is adapted for stretching all kinds of fence-wires it is especially designed for operating on finely-woven wire fencing, and that it is capable of firmly gripping the same without liability of cutting or
 30 otherwise injuring the fine wires, thereby enabling such fencing material to be uniformly stretched. Furthermore, by such uniform or equal distribution of the strain throughout the fencing material from the top to the bottom of the fence the liability of the same to break when subjected to a high tension is reduced to a minimum. Also it will be clear that by passing the chains under and around the sprocket or stretcher wheels they are engaged with three out of the four sprocket-teeth of the same and that the operator is also permitted to stand beyond the fencing material at a point adjacent to the post, where he will be out of danger in event of any break-
 40 age.
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What is claimed is—

1. The combination with a bar having fabric-engaging means, of a plurality of stretching devices carried by said bar, each of said
 55 devices comprising a yoke having an extension engaged with said bar, a shaft journaled in the arms of said yoke, a sprocket-wheel carried by the shaft between said arms, a ratchet-wheel carried by said shaft, a pawl

carried by said yoke for engagement with said ratchet-wheel, and means carried by said shaft for engagement with an operating-handle.

2. The combination with a bar having fabric-engaging means, of a plurality of stretching devices carried by said bar, each of said devices comprising a yoke having an extension engaged with said bar, a shaft journaled in the arms of said yoke and having one end extended beyond said arms, a sprocket-wheel
 65 carried by said shaft between said arms, a ratchet-wheel keyed to the extended end of said shaft, and a clutch member carried by said shaft extension and adapted for engagement with an operating-handle.

3. A wire-fence stretcher comprising a stretcher-bar provided with bearings, a shaft provided with a sprocket-wheel located between the bearings, said shaft being also provided with an extended end having an exterior ratchet-wheel and a clutch member, a pawl arranged to engage the ratchet-wheel, a chain engaged by the sprocket-wheel, and a lever fulcrumed on the extended end of the shaft and provided with a clutch member for
 75 engaging the said clutch member, substantially as described.

4. A wire-fence stretcher comprising an upright stretcher-bar having bearings, a shaft journaled in the bearings and provided with
 80 a sprocket-wheel and having a clutch member, a chain extending beneath the ratchet-wheel and over the top of the same, and a lever extending outward from the shaft and provided with a clutch member for engaging
 85 the said clutch member, substantially as described.

5. A wire-fence stretcher comprising an upright stretcher-bar provided with means for engaging wire fencing, bearing-brackets extending outward from the stretcher-bar, shafts mounted in the bearing-brackets and provided with sprocket-wheels and having clutch members, chains designed to be anchored to a post and extending beneath and
 90 around the sprocket-wheels, and a lever having an opening to receive the shafts and provided with a clutch member for engaging the said clutch members and extending outward beyond the stretcher-bar, substantially as
 95 described.

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

ISAAC M. WARNER.

Witnesses:

H. T. CARPENTER,
 C. H. LOWELL.