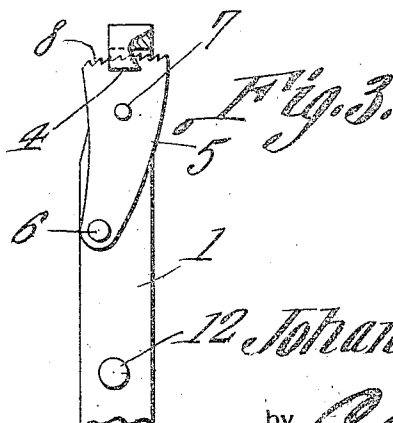
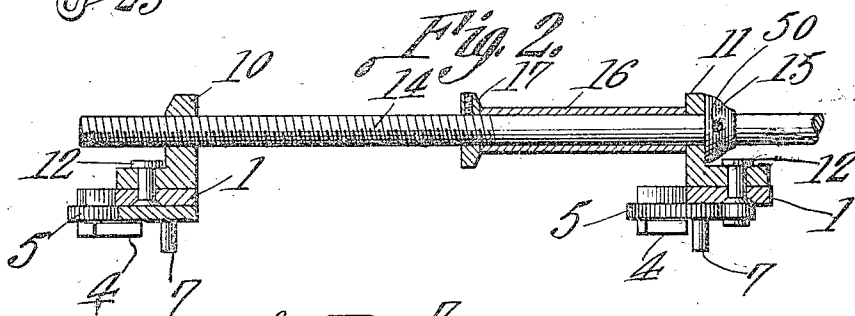
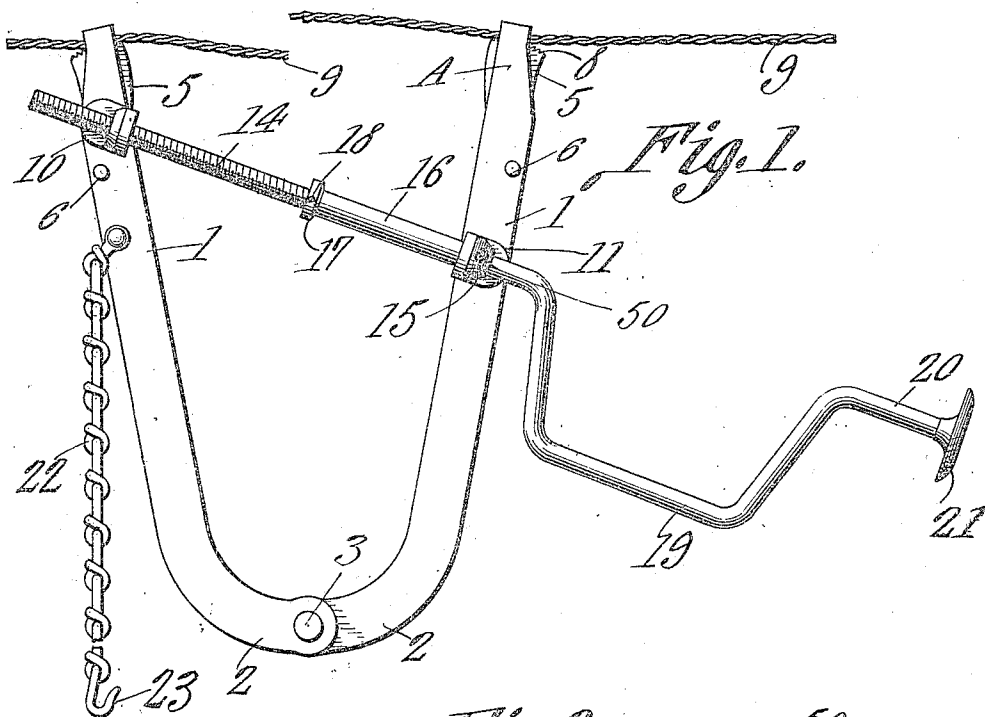


J. G. HALL.
WIRE STRETCHER.
APPLICATION FILED JULY 30, 1910.

1,017,147.

Patented Feb. 13, 1912.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHANN G. HALL, OF GARDAR TOWNSHIP, PEMBINA COUNTY, NORTH DAKOTA.

WIRE-STRETCHER.

1,017,147.

Specification of Letters Patent.

Patented Feb. 13, 1912.

Application filed July 30, 1910. Serial No. 574,692.

To all whom it may concern:

Be it known that I, JOHANN G. HALL, a citizen of the United States, residing in Gardar township, in the county of Pembina and State of North Dakota, have invented a new and useful Wire-Stretcher, of which the following is a specification.

It is the object of this invention to provide, in a simple, merchantable and inexpensive form, a wire stretcher, adapted to engage the ends of a pair of wires, and to draw the same together for splicing.

Another object of the invention is to provide novel means for engaging the wires, and to provide novel means for operating the component elements of the stretcher to put the wires under tension.

Another object of the invention is to provide an operating member of novel and improved form, and to devise novel means for assembling the operating member with those elements of the structure which it is adapted to actuate.

The drawings show typical embodiments merely, and changes, properly falling within the scope of what is claimed, may be made without departing from the spirit of the invention.

In the accompanying drawings,—Figure 1 shows the wire stretcher in side elevation; Fig. 2 is a section taken longitudinally of the operating member, parts being shown in elevation; and Fig. 3 is a fragmental side elevation of one of the arms, parts being broken away, the view illustrating an opposite side of one of the arms, from that depicted in Fig. 1.

In carrying out the invention there are provided, as primary and fundamental elements, a pair of arms 1. These arms 1 are curved toward each other adjacent one end, as shown at 2, and are pivotally united by a suitable element 3 adapted to that end. Upon the other ends of the arms 1, angularly disposed heads 4 are fashioned, the heads 4 projecting laterally from the arms 1, and overhanging the side faces of the same. Cams 5 are united by means of pivot elements 6 with the arms 1, these cams 5 being adapted to cooperate with the heads 4 engaging the ends of the wires which are to be stretched. The cams 5 may readily be swung backwardly, so that the wires, which are denoted by the numeral 9, may be inserted within the contour of the heads 4, whereupon the cams 5 may be swung into

engagement with the wires 9, to bind the same securely against the heads 4. These cams 5 are provided with outstanding studs 7 whereby they may be swung to and fro as occasion may demand, the end faces of the cams 5 being serrated, as denoted by the numeral 8, in order to provide a stronger hold upon the wires 9.

The invention further includes a pair of brackets 10 and 11. These brackets 10 and 11 are rectangular in general outline. Pivot elements 12 unite one flange of each of the brackets 9 and 10 with one of the arms 1, so that the brackets may move freely upon the arms. The bracket which is denoted specifically by the numeral 10, is provided with a threaded opening, while any bracket to which the numeral 11 is applied, is provided with a smooth opening. An operating member is shown, the same consisting of a straight shank, threaded at one end, as shown at 14, for engagement in the threaded opening of the bracket 10. The intermediate portion of the shank of the operating member is adapted to rotate freely in the unthreaded opening in the bracket 11. The shank of the operating member is provided with a shoulder 15, held in place by a set-screw 50, the shoulder 15 being adapted to bear against one face of the bracket 11. A tube 16 is slipped over the straight shank of the operating member, and cooperates with the shoulder 15 in preventing the operating member from sliding longitudinally in the bracket 11. This tube 16 is held in place by a collar 17, threaded to engage the threaded portion 14 of the shank of the operating member. If desired, the collar 17 may be held in place by means of a set screw 18.

The operating member is terminally extended beyond the arms 1, at one side of the device, and is provided with a laterally extending crank portion 19, and with a terminal straight portion 20, aligned axially with the threaded shank 14. Upon the end of this terminal portion 20, a thrust plate 21 is rotatably mounted; the operating member in general outline resembling a bit stock. To one of the arms 1, a chain 22, or other flexible element is secured. This flexible element terminates in a support-engaging member of some sort, such, for instance, as a hook 23.

In practical operation, the wires 9 are introduced between the cams 5 and the over-

hanging heads 4. One hand of the operator may be placed upon one of the arms 1, to steady the device, the other hand of the operator being engaged in the crank portion 19, the device being steadied by the operator pressing his chest against the thrust plate 21. As the operating member is rotated, the hold of the cams 5 upon the wires 9 will be increased, and the arms 1 will be drawn toward each other at their free ends. Thus, the wires 9 will be tightened, whereupon their free ends may be secured together in any desired manner, the cams being then loosened from the wires.

By reason of the fact that the brackets 10 and 11 are pivotally mounted upon the arms, the operating member is permitted to exercise its function without binding, as the angle between the arms 1 is lessened.

Sometimes the device may be employed, not to stretch a pair of wires, but to draw one wire toward a fixed support. In such instance, the wire is engaged at that end of the device to which the letter A, is specifically applied in Fig. 1. The hook 23 is then engaged by a fixed support of any sort, and when the operating member is put into motion, the wire will be tightened, and after having been tightened, may be spiked into a post or the like.

That arm 1 which carries the bracket 11, may be denominated the primary arm; and that arm 1 which carries the bracket 10, may be denominated the secondary arm. It is to be noted that the bracket 11 is farther from the free end of the primary arm than is the bracket 10 from the free end of the secondary arm. Moreover, the tension member 22 is pivoted to the secondary arm between the bracket 10 and the pivotal connection 3 between the two arms. Because the brackets 10 and 11 are spaced at unequal distances from the free ends of the arms upon which they are mounted, the operating member will be disposed diagonally of the arms, and diagonally of the wire which is to be stretched. The crank portion 19 will therefore be spaced apart from the wire, so that the said crank portion may be rotated readily. Moreover, if the tension member 22 is connected with a support, this tension member and the wire will tend to move into alinement when the wire is stretched. Since the tension member 22 is pivoted to the secondary arm between the bracket 10 and the connection 3, the crank 19 will be swung away from the wire, when the wire is tightened. The wire stretcher, therefore, considered as an entity, is so constructed that when the wire is tightened, the crank

portion 19 will of a certainty, be spaced far enough from the wire, to permit the ready rotation of the said crank portion 19.

The device, although simple in construction, and of few parts, presents a wire stretcher of high efficiency, and one which is well adapted to receive and withstand the severe usage commonly imposed upon devices of this class.

The collar 17 may be spaced slightly from the end of the tube 16, the collar, under such circumstances, being held rigidly upon the operating member by means of the set screw or securing device 18. Under such circumstances, the tube 16 will cooperate with the shoulder 15 in holding the operating member against longitudinal movement in the bracket 11; however, the tube 16 will be rotatable upon the operating member. Under such circumstances, one hand of the operator may be engaged with the crank portion 19 of the operating member, the other hand of the operating member being placed upon the tube 16, in which tube, the operating member will rotate freely. The tube 16, therefore, will serve as a hand hold, whereby the wire stretcher will be steadied.

Having thus described the invention, what is claimed is:—

A wire stretcher including an operating member having a crank and a threaded end and a shoulder located between the crank and the threaded end; and means for mounting the operating member, whereby a tightening of the wire will operate to swing the crank portion of the operating member clear of the wire, for rotation; said means including primary and secondary arms pivotally connected at one end, brackets pivoted to the arms, the bracket of the primary arm being located at a greater distance from the free end of the primary arm than is the bracket of the secondary arm from the free end of the secondary arm, the threaded portion of the operating member being engaged with the bracket of the secondary arm, the shoulder of the operating member being engaged with the bracket of the primary arm, wire-engaging means at the free end of the primary arm, and a tension member pivoted to the secondary arm between the bracket of the secondary arm and the pivotal connection between the arms.

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

JOHANN G. HALL.

Witnesses:

JONAS HALL,
MARGARET A. JOHNSON.