C. G. SCHWARZ.

WIRE STRETCHER.

APPLICATION FILED JULY 22, 1908.

906,942.

Patented Dec. 15, 1908.

2 SHEETS—SHEET 1.

FIG. 1.

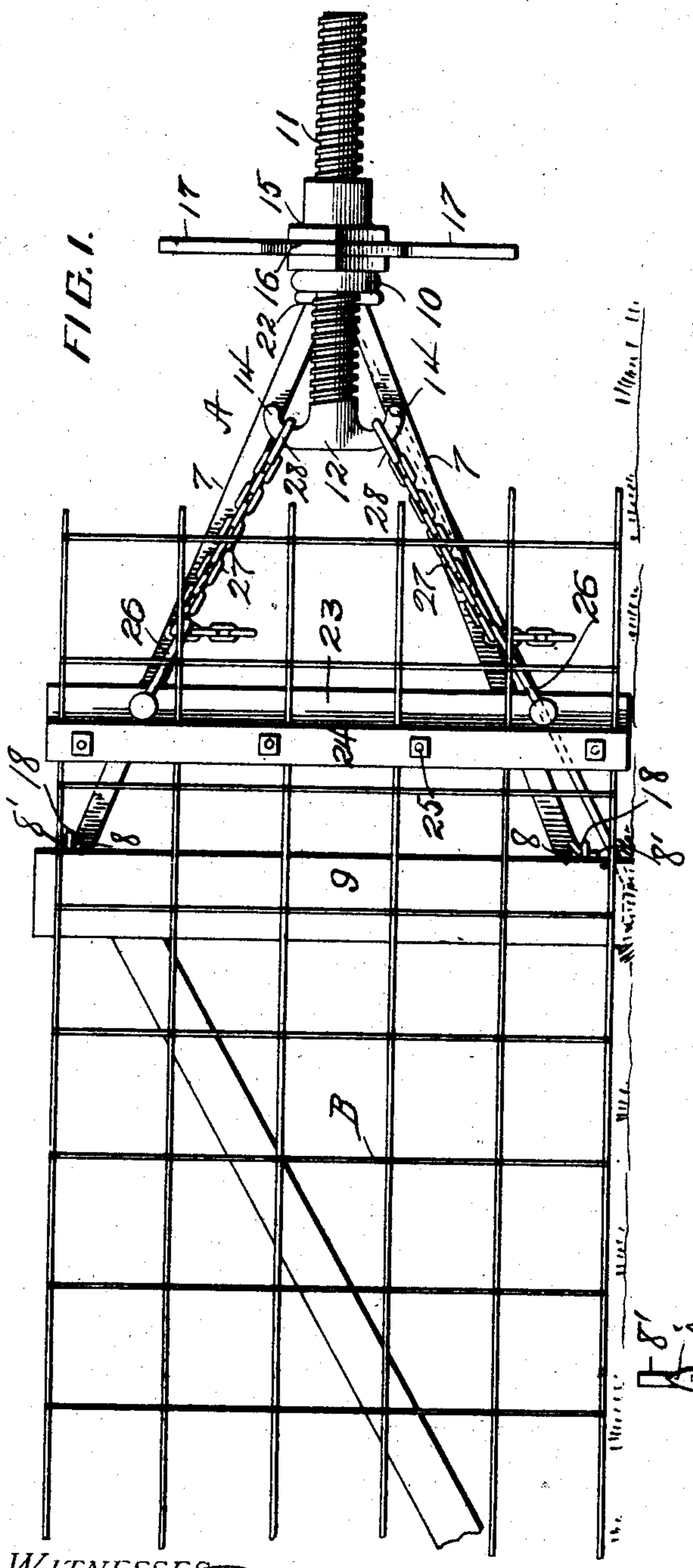


FIG. 2.

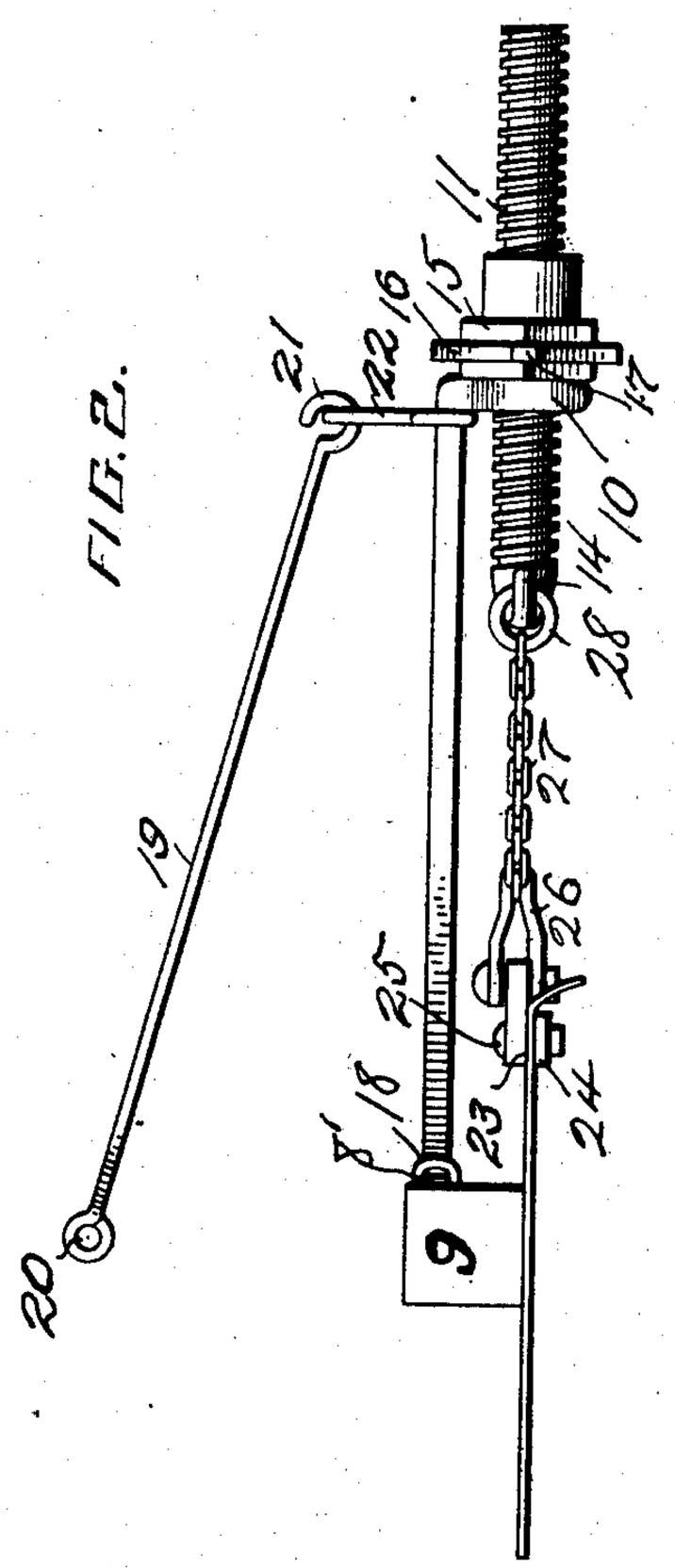
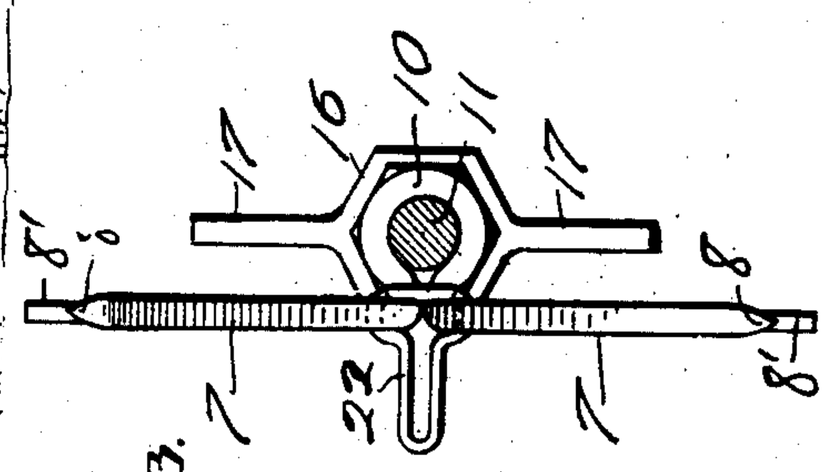


FIG. 3.



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2 SHEETS—SHEET 2.

FIG. 4.

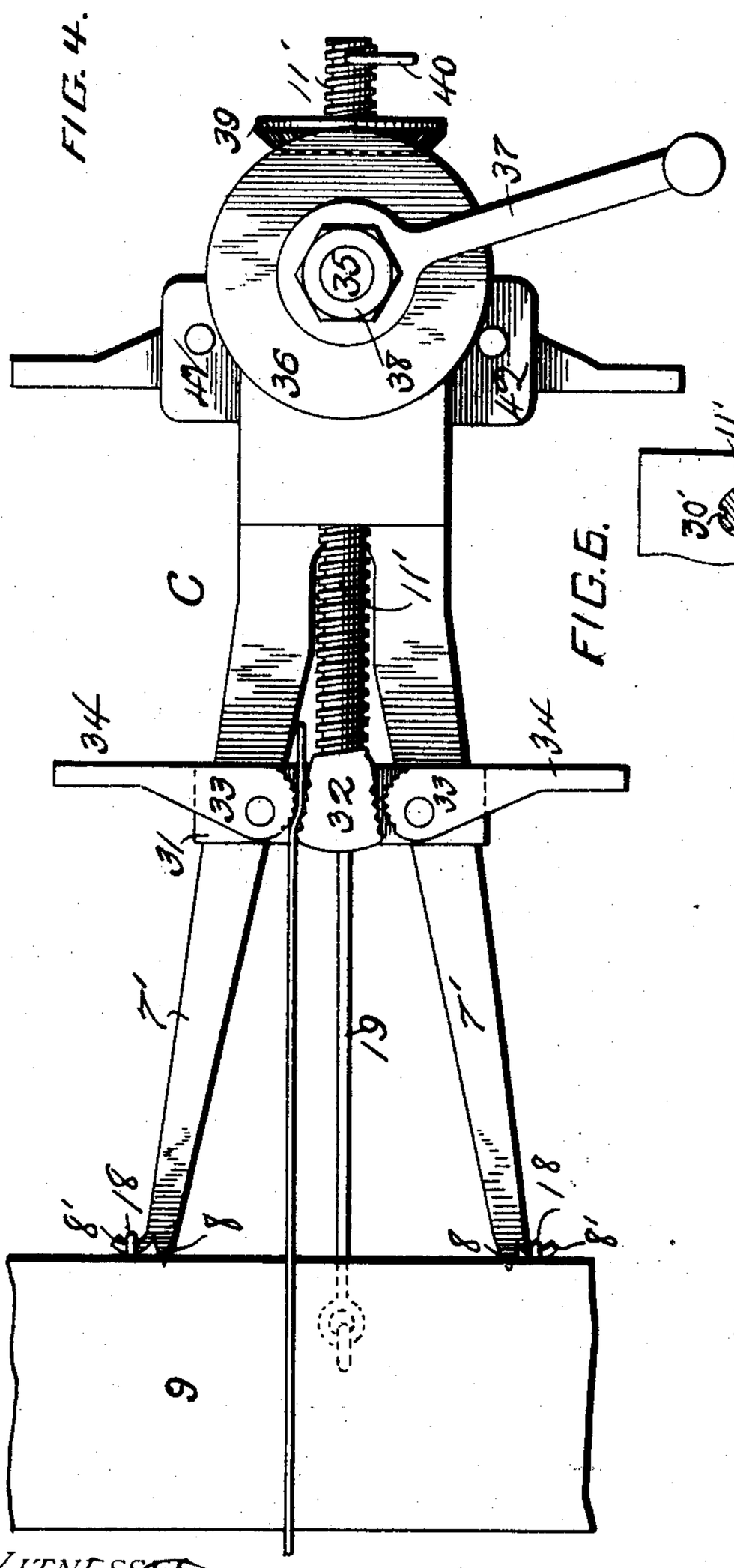

FIG. 6.

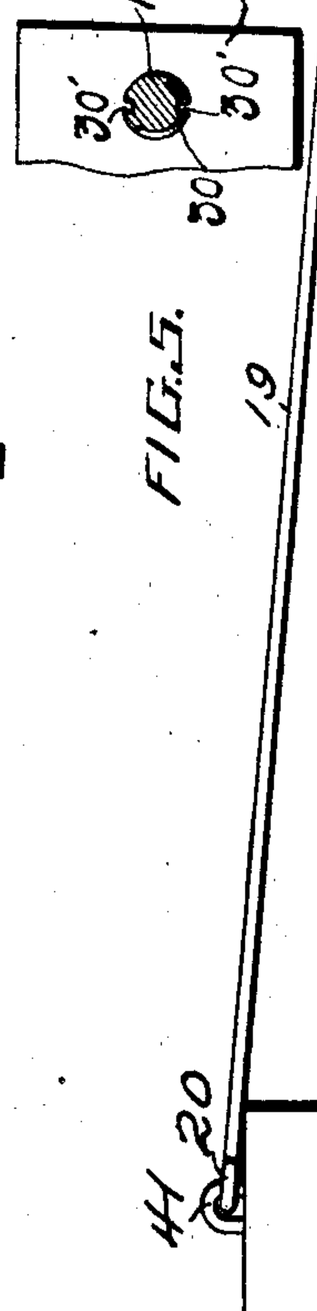

FIG. 5.

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UNITED STATES PATENT OFFICE.

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WIRE-STRETCHER.

No. 906,942. Specification of Letters Patent. Patented Dec. 15, 1908.

Application filed July 22, 1908. Serial No. 444,729.

To all whom it may concern:

Be it known that I, CHARLES G. SCHWARZ, a citizen of the United States of America, residing at Reamsville, in the county of Smith and State of Kansas, have invented certain new and useful Improvements in Wire-Stretchers, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to certain new and useful improvements in wire stretchers, and has for its main object to simplify and improve the construction generally of that class of stretchers adapted to be connected to a post of the fence so as to be braced by said post, and to draw the strands of the wire past the post in a taut condition so that they may be securely fastened to such post, and held in such taut condition.

My invention briefly described, comprises a frame member having a pair of outwardly inclined arms the free ends of which are pointed and are provided with means by which the arms can be secured to a fence post, as by staples, or equivalent means. In the adaptation of my invention designed for the stretching of what is generally termed as woven wire, the frame member is provided with an eye through which a stretching screw is arranged to operate, a nut being mounted on the screw to be turned by a suitable wrench for operating the screw, the latter being connected at its inner end by tightening chains to a clamp, to which latter the woven wire is connected.

In the adaptation of the invention as designed for stretching a single wire, means are provided for clamping such single wire, and the stretching screw is arranged to operate through the eye of the frame member in the same manner as in the adaptation of the invention to the stretching of woven wire; in lieu of the nut and wrench for operating the stretching screw, the same is actuated by means of bevel gears and a crank, one of such bevel gears being arranged on the screw, and the other bevel gear and the crank being rotatably supported from the eye of the frame member.

The invention will be hereinafter more fully described and then particularly claimed, and in describing the invention in detail, reference will be had to the accompanying drawings forming a part of this application, and wherein like numerals of reference will be employed to designate like parts throughout the several views, in which:—

Figure 1 is an elevation of a wire stretcher constructed in accordance with my invention, and adapted for the stretching of woven wire, the stretcher being shown applied to the wire in position for stapling the wire to a post. Fig. 2 is a top plan view of the stretcher in position on a post and connected to the wire. Fig. 3 is an end view of the stretcher with the stretching screw in cross section. Fig. 4 is a side elevation of the device as adapted to the stretching of a single wire. Fig. 5 is a top plan view thereof. Fig. 6 is a cross sectional view of the stretching screw in the form of device shown in Figs. 4 and 5, showing one end of the bearing for said screw, the remainder of the parts being omitted.

To put my invention into practice, in the adaptation thereof shown in Figs. 1 to 3, inclusive, I provide a frame member A preferably formed from a single piece of material, such as a metal bar or rod. The arms 7—7 of this member A are provided with pointed ends 8 which are adapted to take into the fence post 9 to which the stretcher is attached. The bar or rod from which the member A is formed is bent laterally at the other end of the arms 7—7 to form an eye 10, through which the stretching screw 11 is designed to reciprocate. The said screw 11 is provided on its inner end with a head 12 having hooks 14. The screw is actuated so as to move the same through the eye 10, in this form of construction, by means of a nut 15 which can be operated by any suitable form of wrench, though I preferably employ in practice, a spanner wrench 16 of the type herein shown, the same being provided with the oppositely projecting handles 17, as this form of wrench enables me to apply a pipe to the handles so as to make the same of any desired length, and thus effectively increase the leverage.

In applying the stretcher to the post, the pointed ends 8 are forced into the post, so that the lips 8′ carried by said arms 7 at the ends thereof will abut against the post 9 as clearly seen in Fig. 1 of the drawings. These lips may be made as an integral part of the arms 7, or they may be separate and suitably fastened thereto, as may be desired. They

are so positioned with respect to the extreme outer ends of the arms, that they lie a slight distance back of such extreme outer ends, in order that the said outer ends will penetrate the post to the desired distance, prior to the lips 8′ engaging such post. After being positioned as shown in Fig. 1 of the drawings, the frame member is attached to the post 9 by means such as staples 18. In order to further support and brace the stretcher when placed in position on the post as shown in Figs. 1 and 2, I provide an anchoring and brace rod 19, provided at its outer end with an eye 20, and at its inner end with a hook 21, which latter engages in a link 22 carried by the frame member A adjacent the lateral extending eye 10 of such member.

The stretcher is connected to the woven wire by means of a suitable clamp, in this instance shown as comprising two strips or plates 23—24 respectively, the plate 24 being preferably of less width than the plate 23 but preferably of a softer metal than the plate 23. These two plates are connected together by bolts 25, the woven wire being placed against plate 23, plate or bar 24 then placed against the wire, and the two plates or bars tightly clamped on the wire by means of the bolts 25 and the nuts on said bolts. The wider plate or bar 23 is provided with two or more grab links 26 through which the connection chains 27 are passed, the grab links 26 being so designed, as seen in Fig. 2, that a link of the chain will enter a narrow portion of the grab link, and thus hold the chain without any other fastening, when such chain or chains are stretched taut. The other ends of these chains are preferably provided with rings 28 so that the chains may be engaged and disengaged from the hooks 14 of the stretching screw in a ready and easy manner.

In the adaptation of the device designed for the stretching of a single wire, as shown in Figs. 4 and 5 of the drawings, C indicates the frame member, the arms 7′ of which are pointed and provided with lips in the same manner as above described for the arms of the device shown in Figs. 1 to 3. The same reference numerals have therefore been applied to like parts in this form of construction.

The stretching screw 11 in this form of construction operates through alined holes made in the ends of a boxing or bearing 29, the end walls of which lie at right angles to the arms 7′, and which boxing or bearing constitutes an equivalent part to the eye 10 of the device shown in Figs. 1 to 3. The stretching screw 11′ in this construction is preferably slotted on opposite sides as shown at 30 to receive lugs 30′ (see Fig. 6) carried by the end walls of the boxing or bearing 29, in a manner well known. This construction is designed to prevent rotating of the screw in the end walls of the boxing or bearing, and the causing of said screw to be reciprocated without rotation. At its inner end, the said screw carries one or more wire clamps of any approved or desired form, that herein shown embodying a plate 31 attached to the end of the screw and provided approximately midway of its length, in alinement with the screw, with a fixed jaw 32 provided with gripping faces on its opposite edges, the said plate 31 having pivoted thereto two pivoted jaws 33 provided with suitable handles 34.

Mounted on the boxing or bearing 29 is a stud 35 constituting a bearing for the mounting thereon of a bevel gear wheel 36, provided with an operating crank 37, the said wheel and crank being held on the stud in any desired manner, as by a nut 38. The said bevel wheel 36 is designed to engage and mesh with a bevel wheel 39 mounted on the screw 11′. It will be evident that as the wheel 36 is rotated by means of the crank 37, that its meshing with the wheel 39 will impart a rotary movement to the latter and cause the stretching screw 30 to be drawn through the eye of the frame, and the wire being stretched having previously been engaged with one of the jaws carried by the inner end of the screw, such wire is drawn taut against the face of the post, to which it may be secured by stapling in the ordinary manner. That the screw 11′ may be moved through the eye by hand to bring the same to a desired position before beginning operation, I preferably provide a link 40 in the outer end of the screw which can be used as a handle for such movement of the screw, and also acts as a stop to prevent the screw being turned out of the wheel 39. With this form of device, I also employ the anchoring rod 19, the hook end 21 of which is engaged with an eye 22′ carried by the frame member, and the eye end 20 of which receives one arm of a staple 41 which secures the anchoring rod to the post 9.

In order to adapt the stretcher to the stretching of wire on either side of the post, I provide the same with additional clamps 42 which may be of the same type as the clamps 32—33 above described and hence need not be shown in detail. The device shown in this adaptation of the invention is particularly advantageous for use in splicing broken wire between posts. One end of the wire can be connected to one of the clamps 42, the other end engaged by the clamps carried by the screw, and the wire drawn so as to overlap the ends to admit of such splicing.

The general principle and operation of the device in both forms of the construction it is to be noted, is the same and it is believed the general operation thereof as well as the construction will be fully understood without further description in detail.

In the practice of the invention it will of course be understood that various changes may be made in the details of construction

without departing from the spirit of the invention or the scope thereof as claimed.

What I claim is:—

1. In a wire stretcher, a frame member having arms the free ends of which are pointed and have curved lips projecting therefrom adjacent the pointed ends, the said member having a laterally-extending eye at the opposite end thereof, a screw working through said eye, means for connecting a wire with said screw, and means for actuating the screw.

2. A wire stretcher comprising a frame member having arms which at their free ends are pointed, lips carried by said arms adjacent said pointed ends, a laterally-extending eye at the other end of said arms, a stretching-screw working through said eye, means for connecting said screw to the wire to be stretched, and means for actuating said screw.

In testimony whereof I affix my signature in the presence of two witnesses.

CHARLES G. SCHWARZ.

Witnesses:
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T. P. RYAN.