

(No Model.)

H. S. SHAW.
WIRE STRETCHER.

No. 473,527.

Patented Apr. 26, 1892.

Fig. 1.

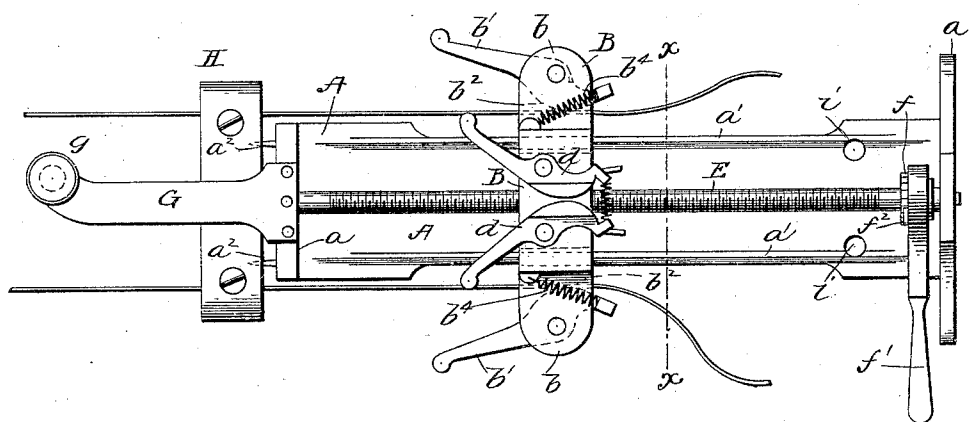


Fig. 4.

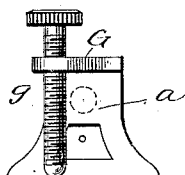


Fig. 2.

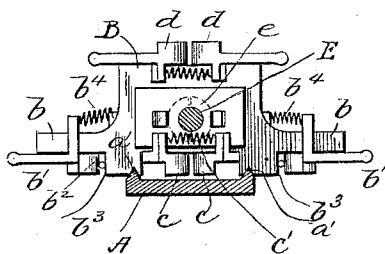


Fig. 5.

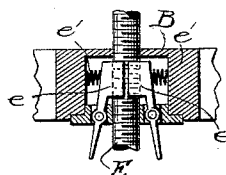
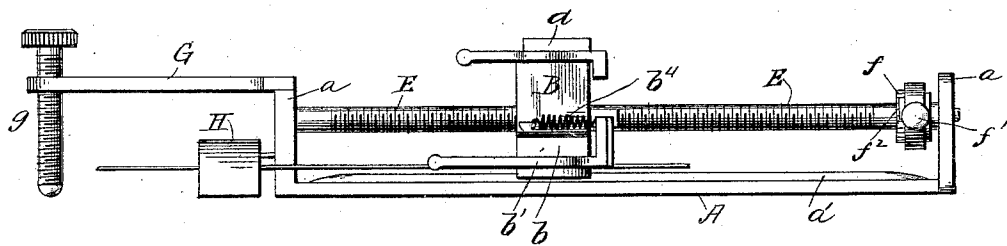


Fig. 3.



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WIRE-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 473,527, dated April 26, 1892.

Application filed May 29, 1891. Serial No. 394,463. (No model.)

To all whom it may concern:

Be it known that I, HERBERT S. SHAW, a citizen of the United States, residing in Dudley, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Wire-Stretchers, of which the following is a specification.

My invention relates to devices for stretching wires to be used as electrical conductors inside of buildings.

The object of the invention is to provide a device by the aid of which one man may put up the wires, and which shall be simple in operation and construction.

The invention consists of the details of construction hereinafter described and claimed.

Referring to the accompanying drawings, Figure 1 represents a plan of the device in operation; Fig. 2, a transverse section on line *xx* of Fig. 1; Fig. 3, a side elevation; Fig. 4, an end elevation, and Fig. 5 a detail of the feeding-nut.

A represents an elongated frame having ends or brackets *a* turned outward at right angles. On the face of this frame are two rails *a'*, running parallel with each other throughout the length of the frame and forming a track or guide for a sliding block B. This block has two lateral extensions *bb* to the underside of each of which is pivoted a lever *b'*, having an eccentric surface *b²*, which faces a shoulder *b³* formed on the under side of the block B. A spring *b⁴* connects the lever with a fixed point on the block and has a tendency to draw the lever toward the shoulder *b³*. The eccentric surface of the lever and the straight shoulder *b³* form a pair of gripping-jaws, the operation of which will be described later on.

Midway between the two levers *b'* and in the same plane therewith there are two other levers *c c*, similarly shaped and located in a notch on the under side of the block B, as shown in Fig. 2. The eccentric faces of these two levers stand opposite each other and they act together to form a grip. A coiled spring *c'* connects their ends and has a tendency to draw the eccentric surfaces toward each other. On the top or outer face of the block B there are two or more levers *d d*, which are arranged directly above the levers

c c. The latter, therefore, do not appear in Fig. 1, because they are covered by the levers *d d*. The faces of the gripping-levers are provided with teeth or roughened. The middle of the block B is perforated, the opening being fitted with a pair of jaws *e*, whose adjacent faces are screw-threaded and form when together a cylindrical opening, through which passes a threaded rod E. The parts of the nut may be pressed together by springs *e'*, and they may be thrown out of engagement with the rod by pressing their extensions together. The rod E has its bearings in the end pieces *a*, and at one end has mounted upon it a ratchet-wheel *f* and the handle *f'*, carrying the pawl *f²*, by means of which the rod may be rotated. The forward end piece *a* is armed with two spurs or brads *a²*, which project in a forward direction. To the face of this same end piece is secured a forwardly-extending arm G, the outer end of which is curved slightly to one side and forms a bearing for a vertical screw-threaded rod *g*. This rod passes through a threaded hole in the arm G, and it may be adjusted back and forth for a purpose which will hereinafter appear.

In the operation of wiring the wires are stretched by my device in the following manner: The apparatus is placed behind a cleat H, the spurs *a²* resting against the side of the cleat and holding it in position. The set-screw *g* is then used to force the apparatus against the wall or ceiling and hold it in that position. The ends of the wires coming through the cleat are then pulled up by hand and passed between the gripping-jaws *b³ b³*. The springs *b⁴* will act to hold the wires temporarily in place. If the three-wire system is used, the middle jaws *c c* receive the middle wire, which, by the way, passes close beside the rod *g* and through an opening in the end piece *a*. Then to put the tension on the wires the handle *f* is turned step by step, and by reason of the engagement between the nut *e* and rod E the block B moves along the track *a'* and draws the wires with it. In case a single wire is being strung, the stretching is done with the single pair of jaws *d d* or the pair *c c*. The jaws *d d* are made heavier than the others, so that the larger-sized

wires may be taken. It will be observed that when the parts of the nut *e* are out of engagement with the rod *E* the block may be moved back and forth freely by hand.

5 The cleat *H* represents an insulator, a rosette, the end of a molding, or other device used in connection with a system of distribution against which the spurs *a*² may be placed to hold the apparatus in place. It will be
10 observed that the points of the spurs serve as pivots upon which the apparatus is swung when the screw *g* is operated, and in working against a ceiling, if the spurs are well embedded in the cleat, the apparatus will be
15 held in place by the spurs and the foot of the screw *g*. Holes *i i* are provided for the reception of screws whenever a cleat, rosette, or other device is not available for securing the stretcher in place.

20 Having thus described my invention, I claim—

1. A stretching apparatus consisting of a base - plate and upwardly - extending end
25 plates, one of said end plates being provided with spurs and a forwardly-extending arm, as *G*, carrying a set-screw *g*, in combination with a block sliding in guides in the base-plate, the said block having gripping devices

for the wires, and means for altering the position of the block, for the purpose set forth. 30

2. A stretching apparatus consisting of a base - plate and upwardly - extending end plates, one of said end plates being provided with spurs and a forwardly-extending arm, as *G*, carrying a set-screw *g*, in combination with
35 a rotatable threaded rod, a block sliding in the base-plate and having a nut engaging with said threaded rod, whereby the block is caused to move along the frame, the said block being further provided with a series of
40 gripping devices for the wires, all combined and arranged for the purpose set forth.

3. In a wire-stretcher, the combination, with the frame thereof and the gripping and stretching devices, of the abutment *a*, spurs
45 *a*², and the forwardly-projecting arm *G* and set-screw *g*, the latter standing at right angles to the arm, for the purpose set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing
50 witnesses.

HERBERT S. SHAW.

Witnesses:

OSCAR SHUMWAY,
E. H. WALKER.