

F. J. GLEASON.
WIRE STRETCHER.
APPLICATION FILED FEB. 10, 1920.

1,406,846.

Patented Feb. 14, 1922.

3 SHEETS—SHEET 1.

Fig. 1.

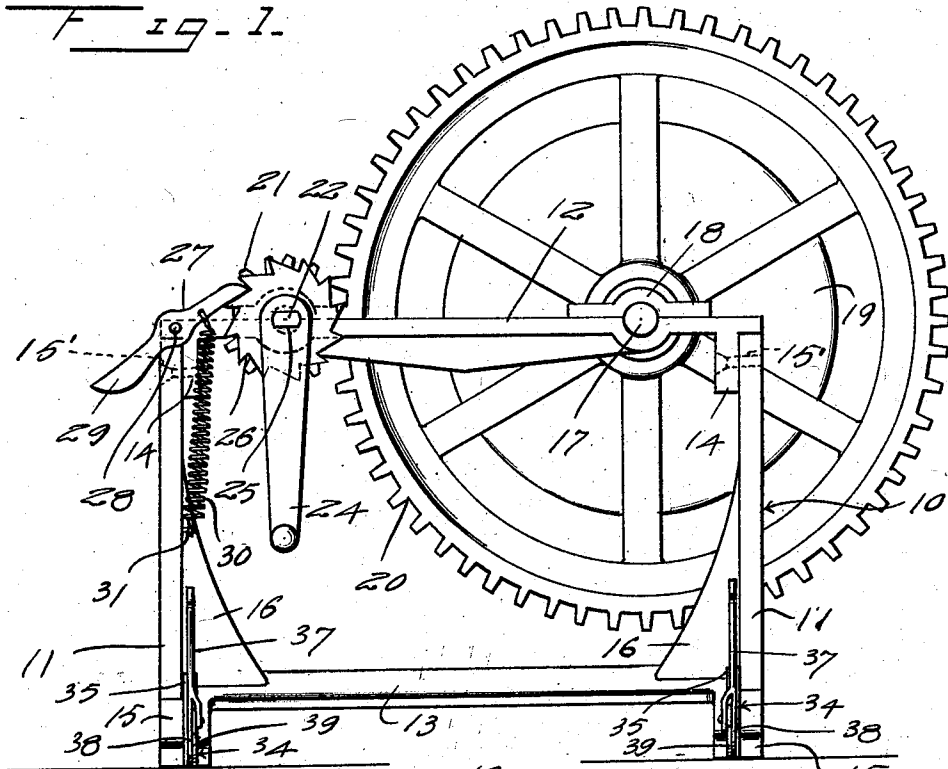
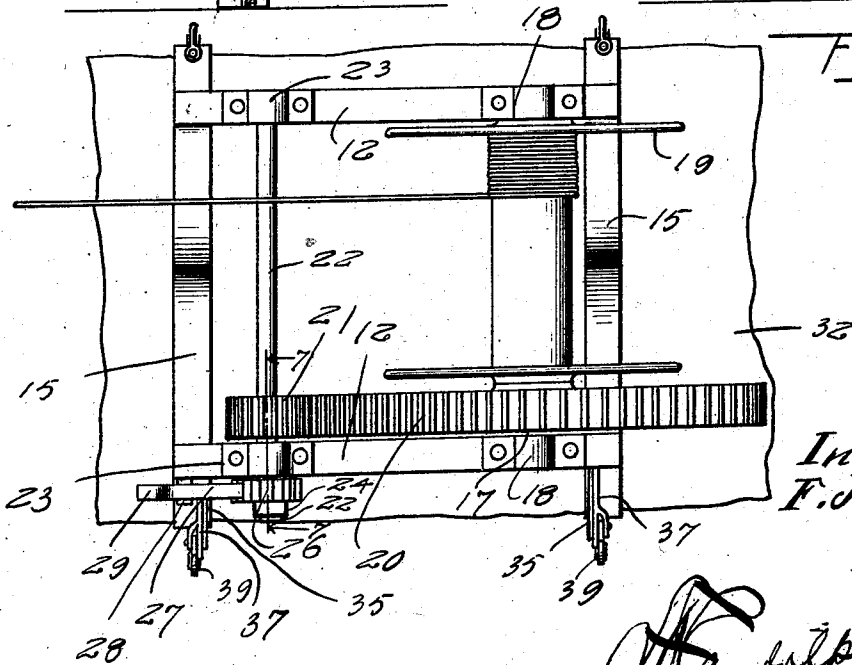


Fig. 2.



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3 SHEETS—SHEET 2.

Fig. 3.

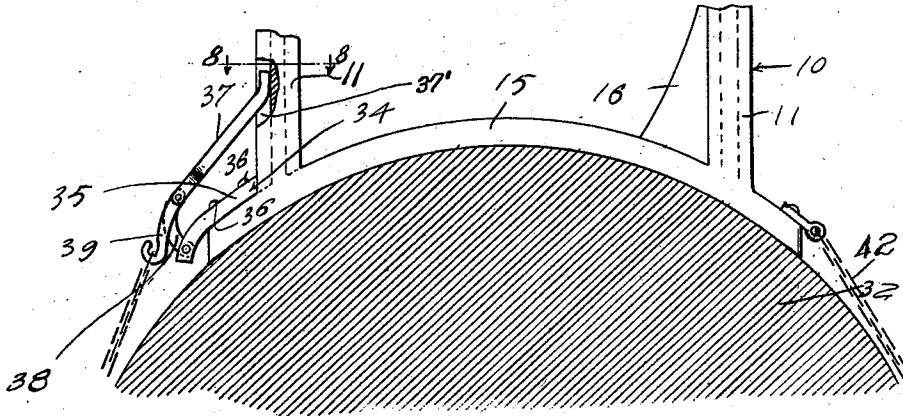


Fig. 4.

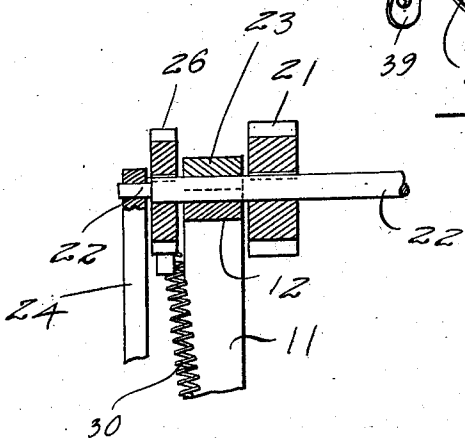


Fig. 8.

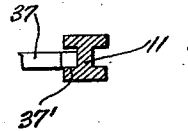
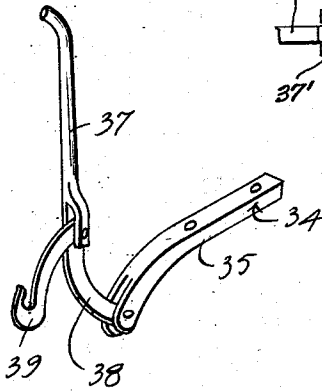


Fig. 7.

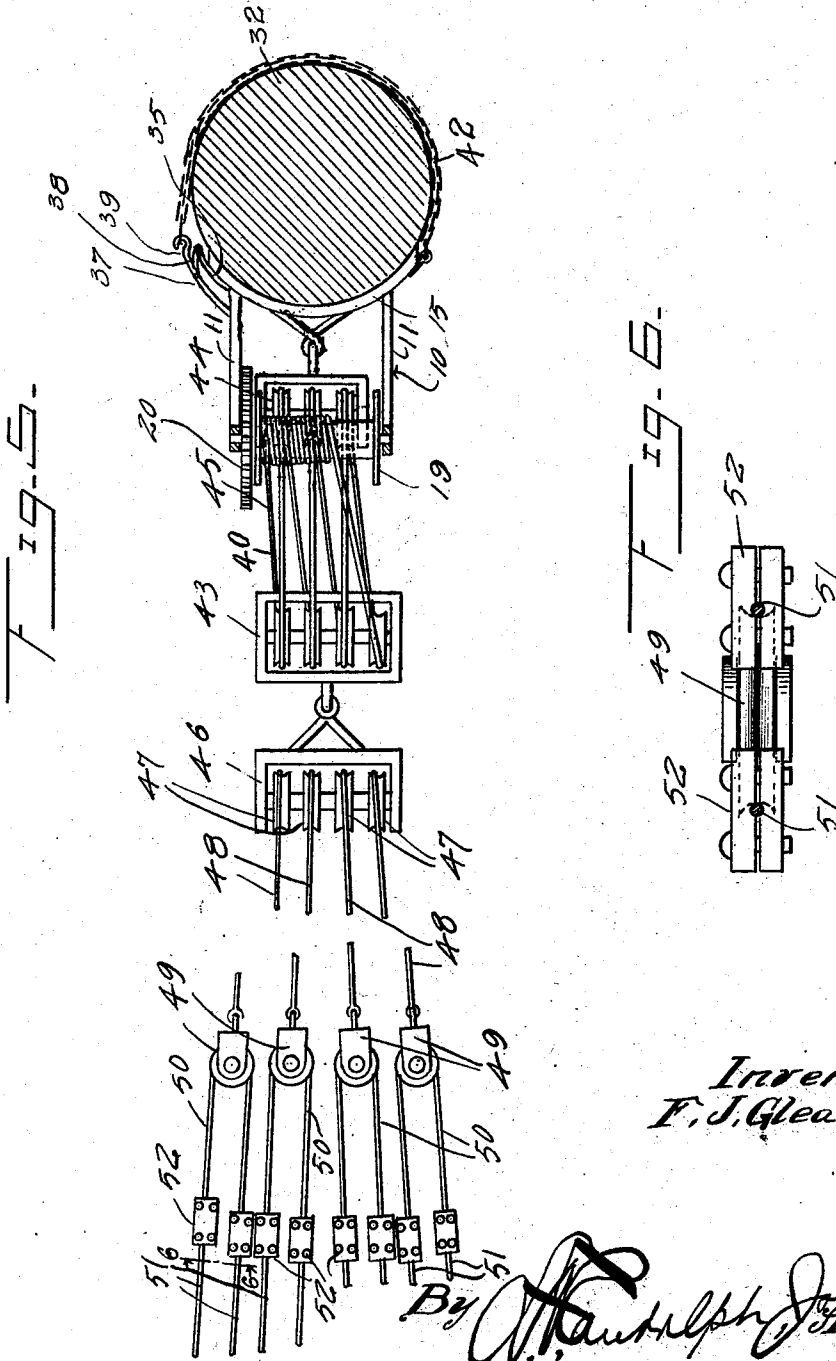
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

FRANCIS J. GLEASON, OF ST. JOHNSBURY, VERMONT.

WIRE STRETCHER.

1,406,846.

Specification of Letters Patent.

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Application filed February 10, 1920. Serial No. 357,559.

To all whom it may concern:

Be it known that I, FRANCIS J. GLEASON, a citizen of the United States, residing at St. Johnsbury, in the county of Caledonia and State of Vermont, have invented certain new and useful Improvements in Wire Stretchers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in wire stretchers having novel means for stretching either one or a plurality of wires simultaneously.

An important object of this invention is to provide a wire stretcher adapted to be anchored to a suitable support such as a telegraph pole and having novel means whereby telephone or other wires may be efficiently stretched over a comparatively great distance.

A further object of the invention is to provide novel means for securing the device to poles of different diameters.

A further object of the invention is to provide a wire stretcher of the class described which is simple, few in parts and cheap to manufacture.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this application, and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a side elevation of a wire stretcher embodying my invention,

Figure 2 is a plan view of the same applied,

Figure 3 is a fragmentary section of a support and my improved stretcher secured thereto,

Figure 4 is a perspective of a locking device embodied in the invention,

Figure 5 is a plan view of the device attached to a pole and employed in conjunction with a pulley and block connection,

Figure 6 is a detail section taken on line 6—6 of Figure 5.

Figure 7 is a detail section taken on the line 7—7 of Figure 2,

Figure 8 is a section on line 8—8 of Figure 3.

In the drawings wherein for the purpose of illustration is shown a preferred embodi-

ment of my invention, the numeral 10 generally designates a frame including spaced uprights 11 connected by longitudinally extending upper and lower side bars 12 and 13 respectively. The upper bars 12 extend over the upper ends of the uprights 11 and are provided with depending apertured lugs 14 which contact with the inner sides of the uprights 11 and are secured to the same by screw bolts 15'. The bottom bars 13 are cast integral with the uprights 11 as are transversely extending end bars 15. Triangular vanes 16 are formed integral with the uprights 11, and the bottom and end rails 13 and 15 and serve to rigidly connect and reinforce the frame.

A transversely extending shaft 17 has its end portions mounted in suitable bearing openings in the sides 12, and said shaft is held in position by a detachable bearing cap 18.

A winding drum 19 is keyed or otherwise secured to the shaft 17 as is a gear wheel 20. The gear wheel 20 is engaged by a pinion 21 mounted on a shaft 22. The end portions of the shaft 22 are also mounted in suitable recessed portions in the upper sides of the top 12 and are held within said recessed portions by a second set of bearing caps 23. A crank handle 24 is detachably secured to the squared end portion 25 of the shaft 22, and is adapted for rotating the pinion 21 whereby a rotary movement is imparted to the gear 20. A ratchet wheel 26 is also rigidly secured to the shaft 22 and is engaged by a pawl 27 pivotally secured to the frame as indicated at 28. A rearwardly extending actuating member 29 is formed integral with the pawl 27 and is adapted to be forced downwardly when it is desired to release the pawl from contact with the ratchet wheel. A coil spring 30 is connected at its ends to the forward portion of the pawl 27 and to an anchoring device 31 secured to one of the uprights 11 at a point spaced upwardly from its lower end.

The end bars 15 are curved longitudinally and are adapted to be secured about a suitable support 32. An anchoring chain 33 is secured to one end of one of the transversely extending members 15 and its opposite end is adapted to be engaged by a locking device 34. The locking device 34 includes an attaching plate 35 secured to the opposite end portion of the member 15 by fastening devices 36. A lever 37 is provided with an

extension 38 secured to the bifurcated forward end portion of the attaching plate 35. A hooked arm 39 is pivoted to the lever 37 intermediate its ends and is adapted to engage the chain 33 for rigidly securing the same about the support 32.

As illustrated in Figure 2, the uprights 11 are secured to the transversely extending end pieces 15 at points spaced inwardly from their ends. The locking device 35 is secured to one of these extended end portions of the members 15 and engages one side of the adjacent upright and is thereby rigidly braced. When the hook 39 is engaged with one end of the chain, the lever 37 is forced rearwardly to the channel or recess 37' intermediate the side flanges of the adjacent uprights 11 and is thereby caused to anchor the stretcher to the support 32.

As illustrated in Figure 5, the device is adapted to be employed in conjunction with a pulley and block connection 40, which is anchored to the support 32 by a cable 42 or other suitable means. The block 40 includes sets of sheaves 43 and 44 about which pass a cable 45. One end of the cable as is obvious is attached to one of the sheaves and the other end is attached to the stretcher drum. The forward end of the block and tackle 40 is connected to a single block 46 upon which are mounted a plurality of sheaves 47. The sheaves 47 are engaged by cables 48 which have their ends connected thereto and to independent pulleys 49. A relatively short cable 50 is passed about each pulley 49 and has its ends secured to wires 51 through the medium of clamping devices 52. When the block 46 is drawn rearwardly by the stretcher and block and tackle, the cables 50 are also drawn rearwardly and the wires 51 are thereby tightened. In the event that one wire stretches more than the other, the cable 50 may move about the pulley 49 and thereby compensate for the difference in the stretching of each wire.

In the practice of my invention, the stretcher may be applied to a base and a single wire connected directly to the winding drum of the same, and stretched as tightly as desired.

Should it be desired to stretch a plurality of wires simultaneously, the pulley and block connection shown in Figure 5 is employed, and by reason of the pulleys 49 and associated elements, the wires may be uniformly stretched.

While I have shown and described the preferred embodiment of my invention, it is understood that such minor changes in arrangement and construction of parts may be made as will remain within the spirit of the invention and the scope of the appended claims.

Having thus described my invention, what I claim is:

1. A stretcher of the class described having a frame, stretching mechanism, mounting members therefor, a support-engaging member integral with said members, a flexible securing element on the support-engaging member, a link secured to said supporting-engaging member, a lever pivoted to the link, a hook to detachably engage the securing member pivoted to the lever, and one of the mounting members having a recess to receive the free end of the lever.

2. A stretcher of the class described having spaced mounting members, stretcher mechanism mounted thereby, a flexible securing element extending from one member, a lever pivoted to the other member, means on the lever to engage the element, and the last mentioned member having a recess to receive the free end of the lever.

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

FRANCIS J. GLEASON.

Witnesses:

C. R. BOND,
CHAS. W. RINTER.