

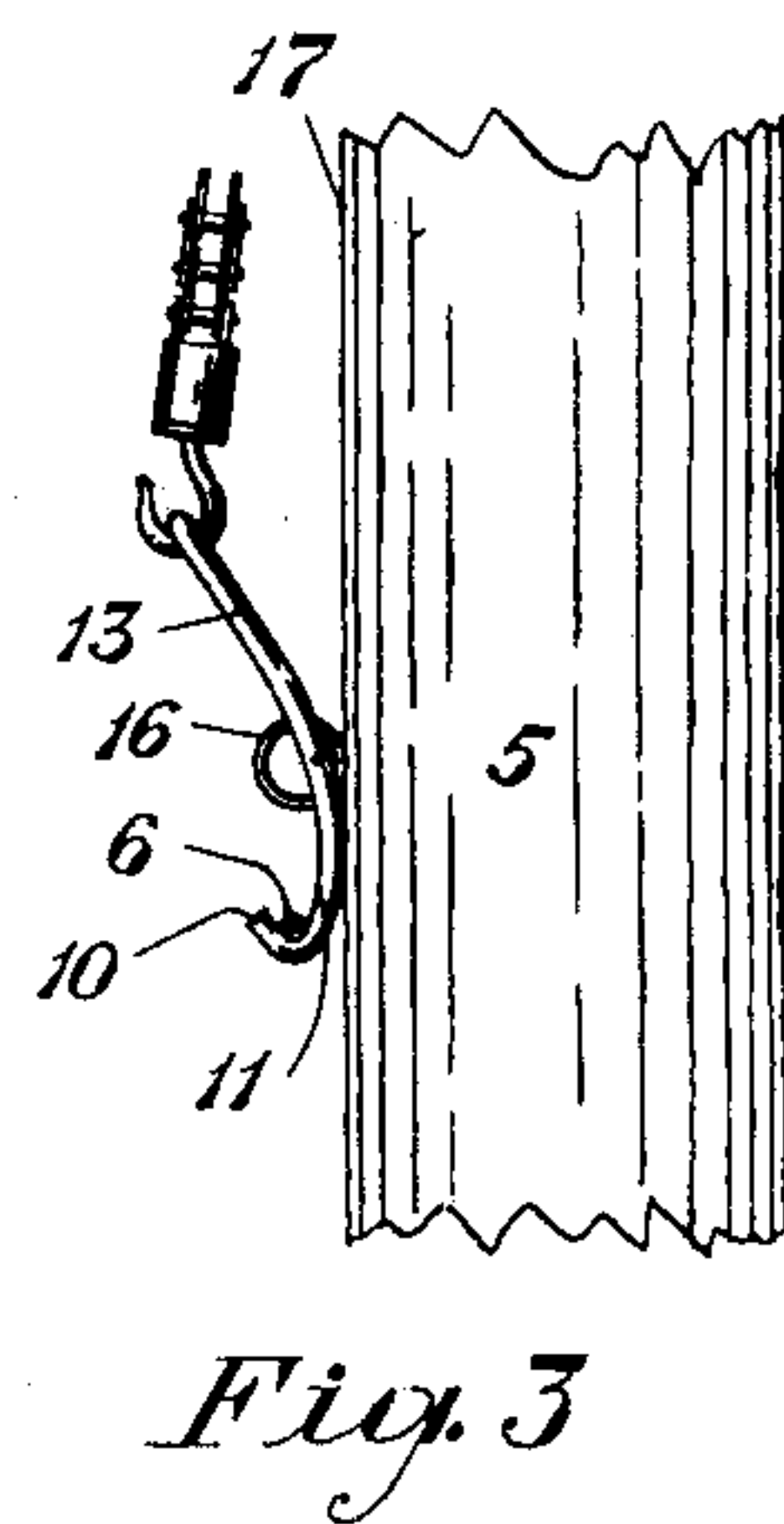
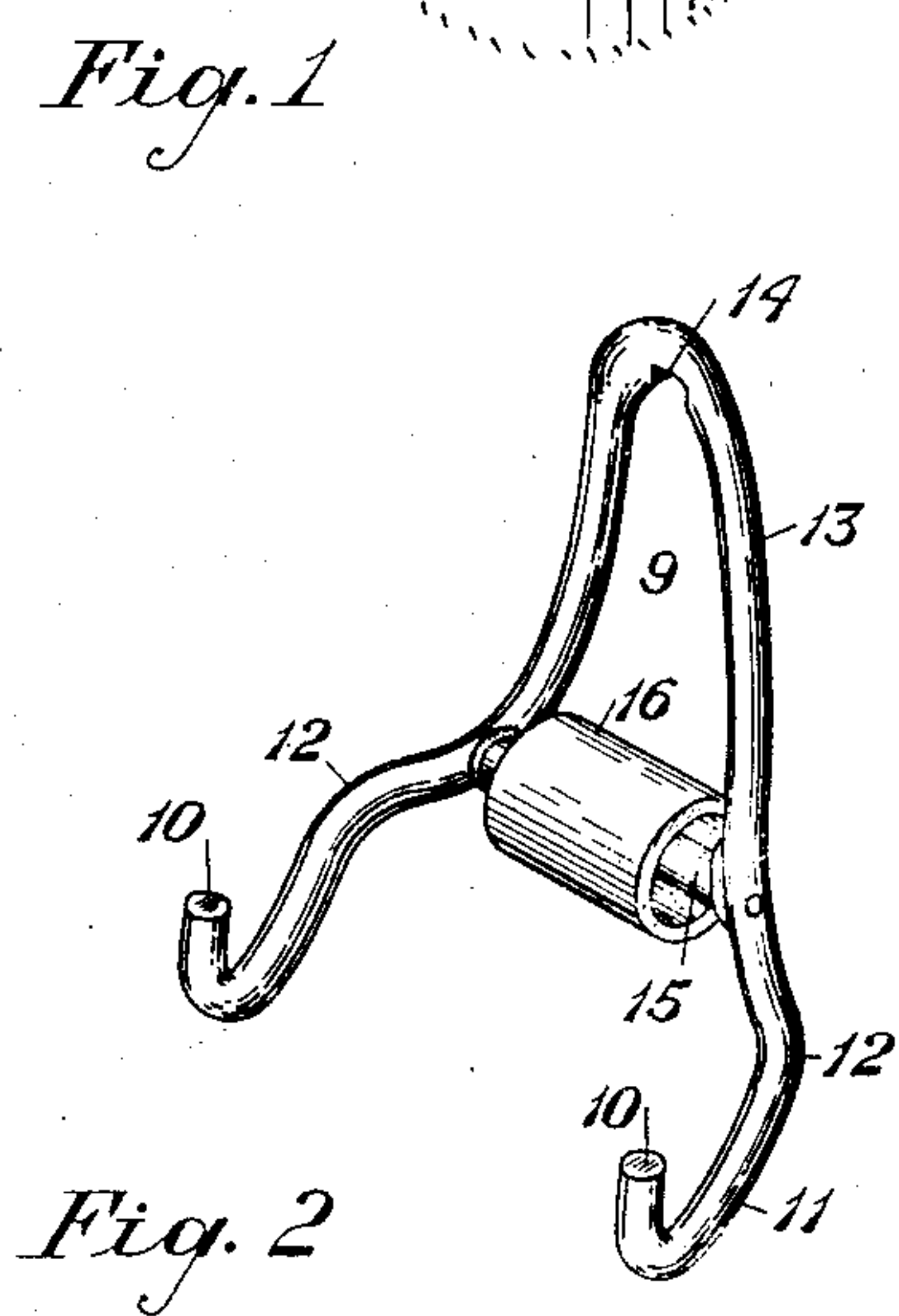
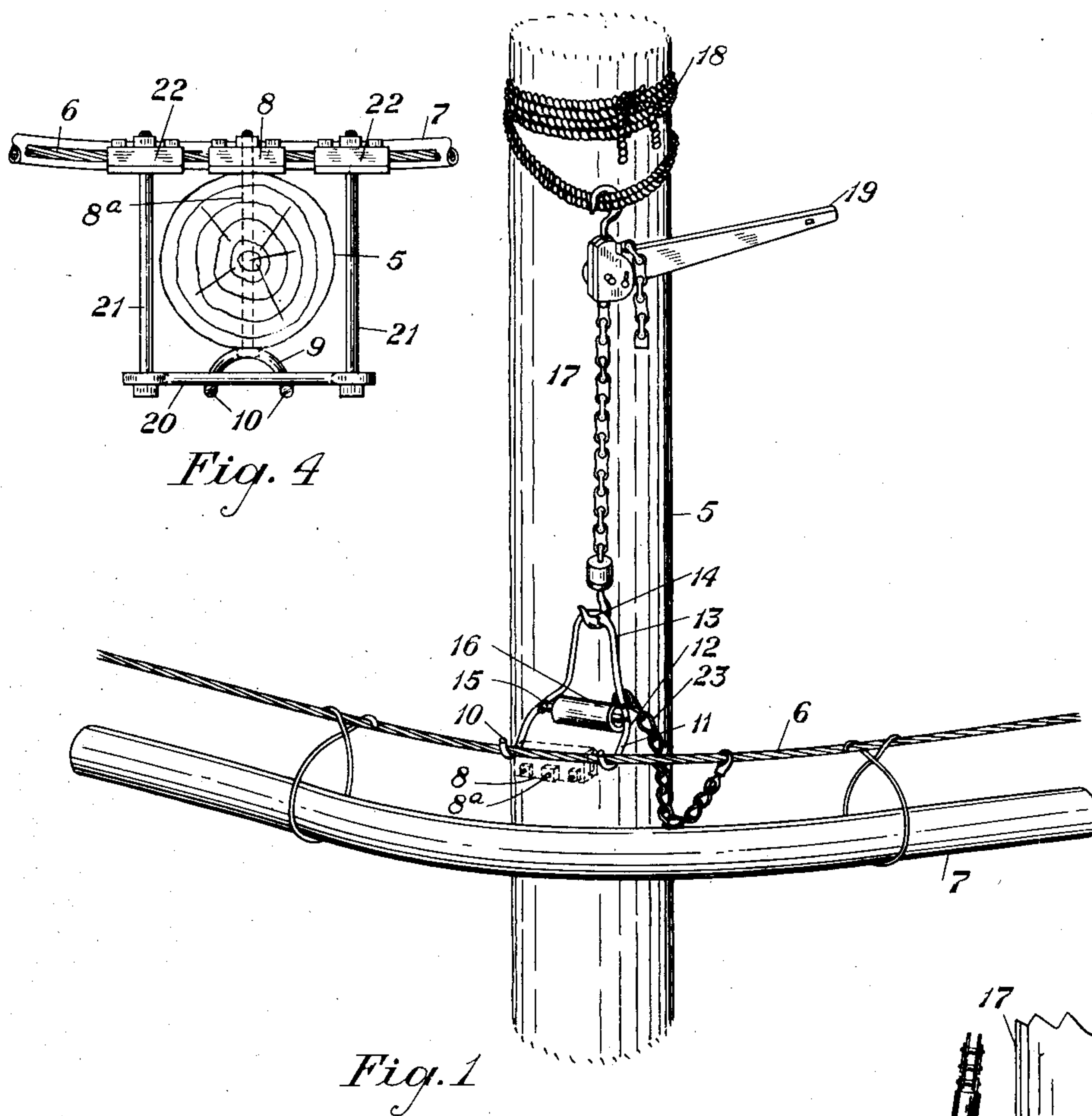
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MEANS FOR SHIFTING STRANDS AND CABLES ON POLES

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MEANS FOR SHIFTING STRANDS AND
CABLES ON POLES

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This invention relates to means for changing the positions on poles of messenger strands and cables supported thereby.

It is sometimes necessary to change the positions of strands and their attached cables by raising or lowering them on poles in order to obtain additional road clearance, to transfer or replace cable on poles and for other reasons. The strands and cables are heavy in weight and are under considerable tension when in position on the poles. It has been the practice in moving strands and cables from one position to another on poles, to use tackle or other equipment. Suitable anchorages are not always available at corner poles for the tackle and, furthermore, complicated and time-consuming operations are involved which require a force of men.

It is one of the objects of this invention to provide means for shifting strands and cables on poles with a minimum amount of time, labor and effort.

Another object is to provide an arrangement of the above character whereby one workman has entire control of the mechanical and other forces connected with the operation of shifting a strand and cable, thus eliminating hazard due to improper or incomplete cooperation between members of a group of workmen.

These and further objects will be apparent from the following description, when considered in connection with the accompanying drawing, in which certain embodiments of the invention are illustrated.

Referring to the drawing, Figure 1 shows the improved arrangement in engagement with a messenger strand and with a pulling force applied thereto, whereby the strand is moved outwardly to clear the pole;

Fig. 2 is a perspective view of the strand-engaging device;

Fig. 3 shows the device attached to a messenger strand and before a pulling force is applied thereto; and

Fig. 4 is a top view of the improved arrangement applied to a strand when its position and the "pull" on the pole are opposite to that shown in Fig. 1.

In the drawing the numeral 5 is applied to a section of pole such as is used to carry a messenger strand 6 and a cable 7 supported thereon by cable rings. The strand is normally secured in position on the pole by means of a clamp 8, shown in dotted lines. In Fig. 1 the pole may be considered as located at a corner, and that the strand and cable assume an arcuate position as

they are bent slightly about the pole at this point. There is, of course, greater pressure exerted by the messenger and cable against the corner pole than that which would be exerted against the pole included in a series extending in a direct or straight line.

The strand and supported cable are shifted on the pole by means of mechanism including a tool 9. This tool may be made from any suitable metal formed into proper cross-section and substantially of the configuration more clearly illustrated in Fig. 2 of the drawing. A pair of hook members 10, 10 is provided at the lower extremities of the tool which engage the messenger strand. These hook members are respectively part of the irregularly formed arms 11, 11, which have shoulders 12, 12 provided thereon. The legs of an inverted V-shaped portion 13 connect with the shoulders, and a slot 14 is cut on the inner side of the top of said portion. A cylindrical cross-bar 15 is connected to the ends of the portion 13 in any suitable manner, and a pipe member 16 or roller is rotatably mounted thereon.

The tool above described may be connected to any suitable lifting or hoisting arrangement, for instance a chain hoist 17, as shown in the drawing. The lower hook of this hoist may be seated in the slot 14 of the tool, and the upper hook may be attached to lashing 18, secured about the pole. A handle 19 operates latching mechanism of the hoist, causing its chain to be raised and lowered in a well understood manner, thus shifting the messenger strand and cable on the pole in the direction desired.

In the operation of shifting the messenger strand and its cable in an upward direction, the outer plate of the clamp 8 is removed, after which the handle 19 is manipulated to exert a lifting force on the tool 9. This causes the tool to turn about its cross-bar 15 as a fulcrum, and the top of the tool, which normally lies in slightly spaced relation from the pole, is drawn inwardly toward the pole. The lower or hooked portion of the tool moves outwardly at this time and the strand, which is carried thereby, is likewise moved, thus releasing the pressure which it normally exerted against the clamp and pole. The strand is forced outwardly under this condition a sufficient distance to permit it and its supported cable to clear the pole and also the clamp and the projecting end of the bolt or lag bolt which secures the clamp to the pole. The messenger strand may be thus freely and readily raised on the pole to the height desired by means of further operation of the chain hoist. When such loca-

tion has been reached the applied lifting force is discontinued, thereby permitting rotation of the tool about its cross-bar 15 as a fulcrum. The lower or hook portion of the tool now tends to
 5 move inwardly so that the messenger strand lies comparatively close to the pole, to which it may be secured in its adjusted position by means of a clamp 8. The hook portion of the tool may be removed from the strand when the clamp has
 10 been adjusted to take the load.

When it is desired to lower the messenger strand and its associated cable, the handle 19 of the mechanism 17 is operated until the strand is positioned to clear the clamp and bolt. The
 15 strand, when released from its clamp 8, will be caused to travel downwardly on the pole, due to the weight of its associated cable, the rate of travel being controlled by means of the hoist. The messenger strand may be secured in this
 20 latter adjusted position by clamping it to the pole, as previously described.

In cases where the cable 7 is clamped on the surface of the pole opposite to that shown in Fig. 1, and where the "pull" of the cable is away
 25 from the pole, the arrangement shown in Fig. 4 is used. In this connection the tool is shown as applied to a bar 20. This bar has parallel side bolts 21, 21 connected therewith at one end, while the other ends of the bolts are connected to
 30 clamps 22, 22 which are fixed to the messenger strand 6. These clamps lie on either side of the clamp 8 which is permanently attached to the pole by means of the bolt 8a, which extends through the pole. The members 20 and 21 form
 35 a frame about the pole, and when the clamp 8 and its bolt 8a are removed, the tool 9 is adapted to move the strand and its supported cable up and down the pole by means of the chain hoist mechanism 17 in a manner similar to that de-
 40 scribed in connection with the movement of the strand in Fig. 1, as above described. When the strand and cable have been moved on the pole to the point desired they are permanently secured at such point, the frame and tool being removed
 45 just after the permanent clamp has been finally set.

To prevent accidental dropping of the tool 9 it may have one end of a chain 23 attached

thereto and the other end of this chain may be snapped about the messenger wire, as indicated in Fig. 1.

While the arrangements of this invention have been illustrated as embodied in certain specific
 5 forms which have been deemed desirable, it will be understood that they are capable of embodiment in many and widely varied forms without departing from the spirit of the invention as de-
 10 fined in the appended claims.

What is claimed is:

1. A device for raising and lowering messenger strands and their attached cables on poles, in-
 cluding a lever fulcrumed intermediate its ends
 on a pole and having a sharply bent portion on
 one end adapted to engage and hold a strand and
 the other end being adapted to have a force ap-
 15 plied thereto, the application of said force to said lever causing it to rotate about its fulcrum and move its strand-engaging end outwardly to
 20 clear the pole and in accordance with the direction of the applied force.

2. Means for raising and lowering messenger strands and their attached cables on poles, in-
 cluding a lever concaved outwardly and having
 25 a hook and a sharply bent portion at one end to engage a strand, means at the other end of the lever to which a pulling force may be attached a fulcrum intermediate the ends of the lever, the
 lever being so shaped that when no force is ap-
 30 plied the normal tension of the strand causes its hook portion to bear upon the pole and the end of the lever to which the pulling force is to be applied to stand away from the pole, the applica-
 35 tion of force to the last-named end of the lever tending to rotate said end toward the pole and upon said fulcrum to pull the strand clear of and along the pole.

3. Means for raising and lowering messenger strands and their attached cables on poles, in-
 cluding a lever having a sharply bent portion and
 40 a hook at one end and a loop at the other end, said ends being connected by an outwardly concaved portion, and a fulcrum intermediate the ends of the lever adapted to bear against a sup-
 45 porting pole.

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