

June 27, 1933.

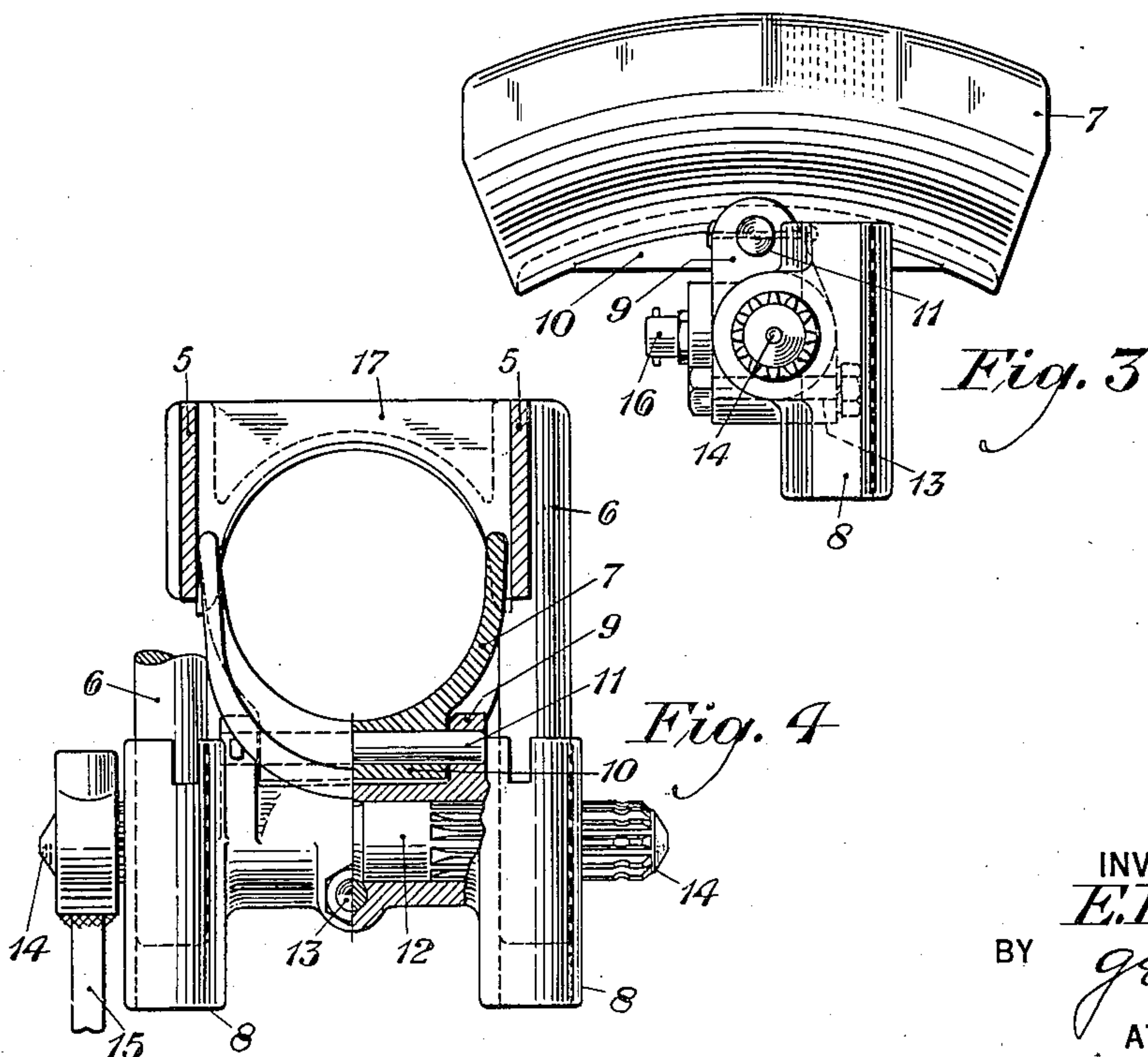
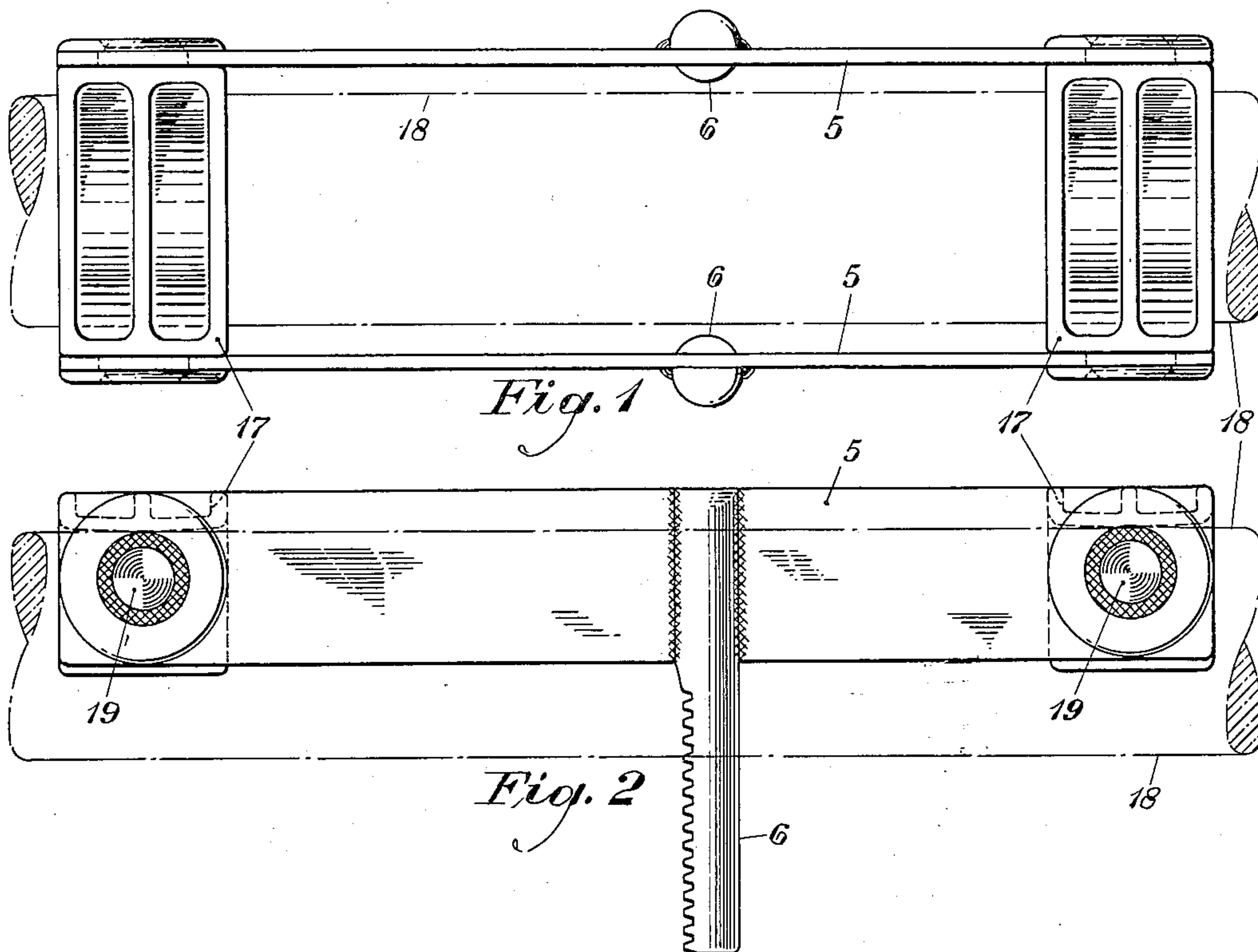
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1,915,423

CABLE BENDER

Filed Nov. 12, 1932

2 Sheets-Sheet 1



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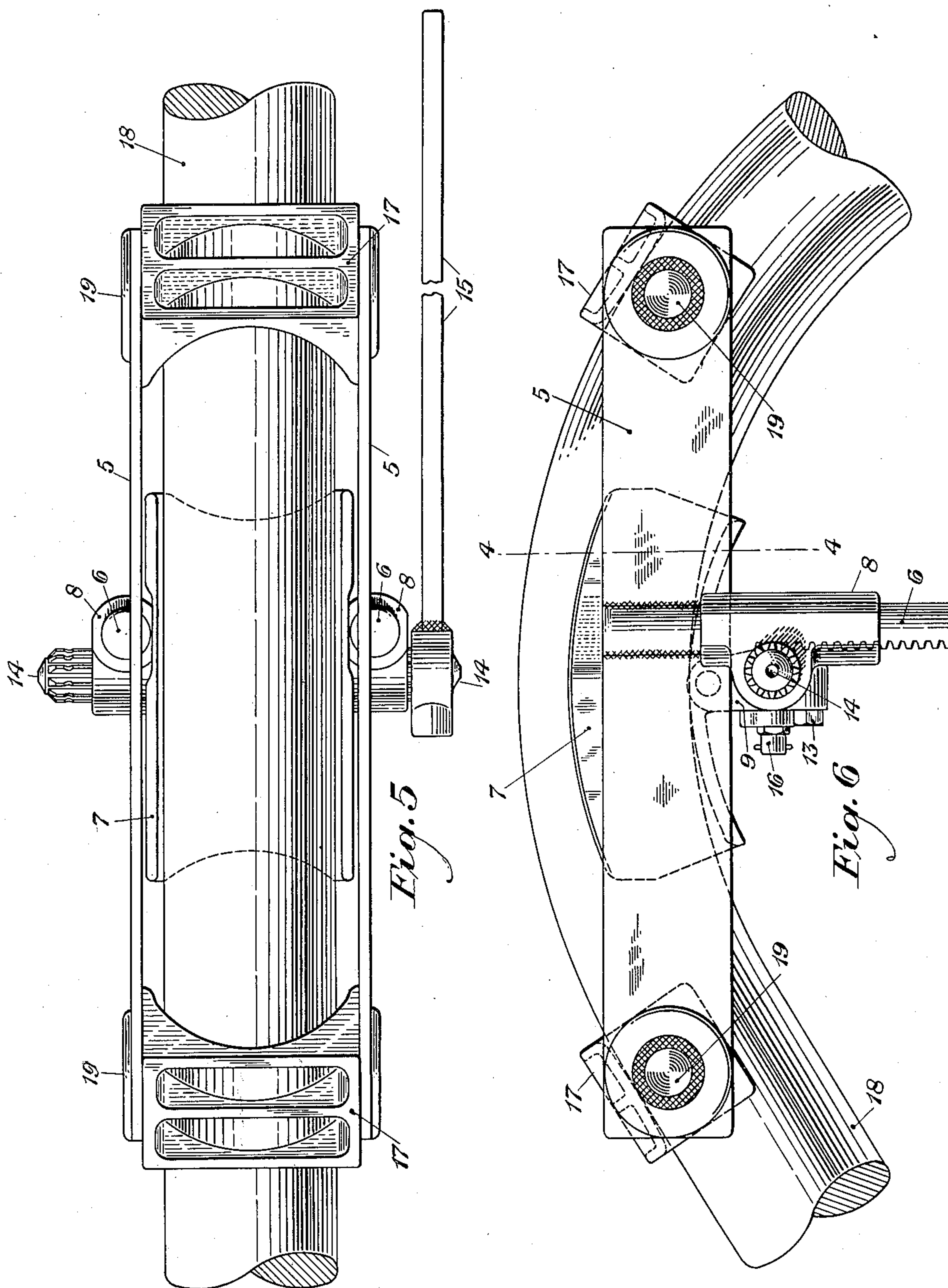
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UNITED STATES PATENT OFFICE

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CABLE BENDER

Application filed November 12, 1932. Serial No. 642,438.

This invention relates to improvements in benders for metal tubing and pipe of various kinds, and more particularly to the bending of electric transmission cables.

5 An object of the invention is to provide a tool of the above character which is of compact size and adapted to be used in any position or in cramped quarters.

10 Another object is to provide a bender of few and simple parts which may be manufactured at a minimum of cost.

The novel features which are considered characteristic of this invention are set forth with particularity in the appended claims. 15 The invention both as to its organization and method of operation, together with other objects and advantages thereof, will be further explained in the following detailed description having reference to the accompanying drawings consisting of the following figures: 20

Figure 1 is a plan view of the longitudinal frame for the improved bender and the end or outer shoes carried thereby;

Fig. 2 is a side elevation of Fig. 1;

25 Fig. 3 is a detail showing a side elevation of a detached shoe which is adapted to be attached to the frame at its approximate midpoint;

Fig. 4 is a section taken on the line 4—4 of Fig. 6;

30 Fig. 5 is a plan view of the frame and its associated parts illustrating a cable in position in the frame; and

35 Fig. 6 is a side elevation of Fig. 5, showing the formation the cable may assume after being bent, and the positions of the shoes at such time.

40 The improved cable bender comprising this invention includes a longitudinal frame member which is made of any suitable material and is provided with a pair of parallel side plates 5, 5. A cylindrical rack bar 6 is formed integral with each side plate and is positioned at its approximate midpoint. These rack 45 bars have a toothed portion which extends below the frame 5 and at right angles thereto. A central shoe member 7 is adjustably mounted on the rack bars 6 which pass through a tubular sleeve 8 carried on each side of the 50 shoe 7. The shoe 7 is shown as being of sub-

stantially segmental formation, and is provided with an arcuate groove which extends lengthwise of the shoe. This groove faces upwardly and forms a seat to receive the cable. The tubular sleeves 8 form part of a 55 casting 9, and this casting is attached to flanges 10, which extend longitudinally beneath the shoe 7, by means of a transverse pin 11. This pin passes through openings in the flanges, and is suitably secured thereto to 60 prevent its displacement. A transverse shaft 12 passes through the casting 9 and is provided with a circumferential groove which is rotatably seated on a pin 13 and is kept in 65 position thereby. The shaft 12 is provided on its ends with pinions 14 which pass through the casting 9 and extend outwardly therefrom. The teeth of the pinions within the 70 casting engage with the teeth on the racks 6 which are positioned within the tubular sleeves 8. The extended ends of the pinions may be engaged by an operating lever, such as a wrench, as indicated at 15. The wrench 75 when applied to either of the extended portions of the pinions 14, and rotated causes the rotation of the pinions and their shaft 12. This operation causes the shoe 7 to be raised or lowered in accordance with the direction of rotation of the wrench.

80 A fitting 16 may be applied to the casting 9 for the purpose of introducing a lubricant, such as alemite or the like.

85 A shoe 17 is pivotally mounted near each end of the frame 5, and these shoes serve as outer bearings for a cable 18. The shoes are provided with grooves which correspond to the curvature of the cable, and such grooves are faced in an inward direction or in a direction opposite to that of the groove 90 in the central shoe 7. The shoes 17 may be pivotally connected to the plates of the frame 5 by means of rivets 19 or the like, and these rivets extend through each side of the shoe and through the side plates of 95 the frame 5.

100 The cable to be bent is seated in the longitudinal frame at a point in the cable where it is desired to make the bend, and the outer portions of the cable lie between the frame and the grooves in the outer shoes 17.

The adjustable or central shoe may be now applied and caused to move upward on the racks 6 by means of the hand-operated lever until the desired curvature or bend of the cable is accomplished. The end shoes act as fulcrum points between which the cable may be bent, and the adjustable central shoe member which moves between these fulcrum points exerts pressure to bend the cable to the desired curvature.

What is claimed is:

1. A cable bending tool including a longitudinal frame for receiving cable and having fulcrum points between which the cable may be bent, an adjustable member movable between said fulcrum points to bend said cable, rack members carried by said frame upon which the adjustable member travels, and rotatable members engaging said rack members to elevate and lower said adjustable member upon said rack members.

2. A cable bending tool including a longitudinal frame for receiving cable, a shoe member pivotally connected near each end of the frame and between which the cable may be bent, said members having a cable-engaging groove facing in one direction, a pair of racks carried by said frame, a central shoe member adjustably mounted on said racks and having a cable-engaging groove facing in a direction opposite the grooves of the end shoe members, and pinions movable on said racks to adjust the central shoe.

3. A cable bending tool including a longitudinal frame for receiving cable, a shoe member pivotally connected near each end of the frame and between which the cable may be bent, said members having a cable-engaging groove facing in one direction, a pair of racks carried by said frame, a central shoe member adjustably mounted on said racks and having a cable-engaging groove facing in a direction opposite the grooves of the end shoe members, pinions having teeth portions engaging said racks and extending outwardly therefrom, and means for rotating the extended portions of the pinions to move the central shoe on said racks to bend the cable.

In testimony whereof, I have signed my name to this specification this 11th day of November 1932.

EDGAR E. KELLEMS.