

T. C. SMITH.
AERIAL CABLE GUIDE.
APPLICATION FILED FEB. 8, 1919.

1,340,989.

Patented May 25, 1920.

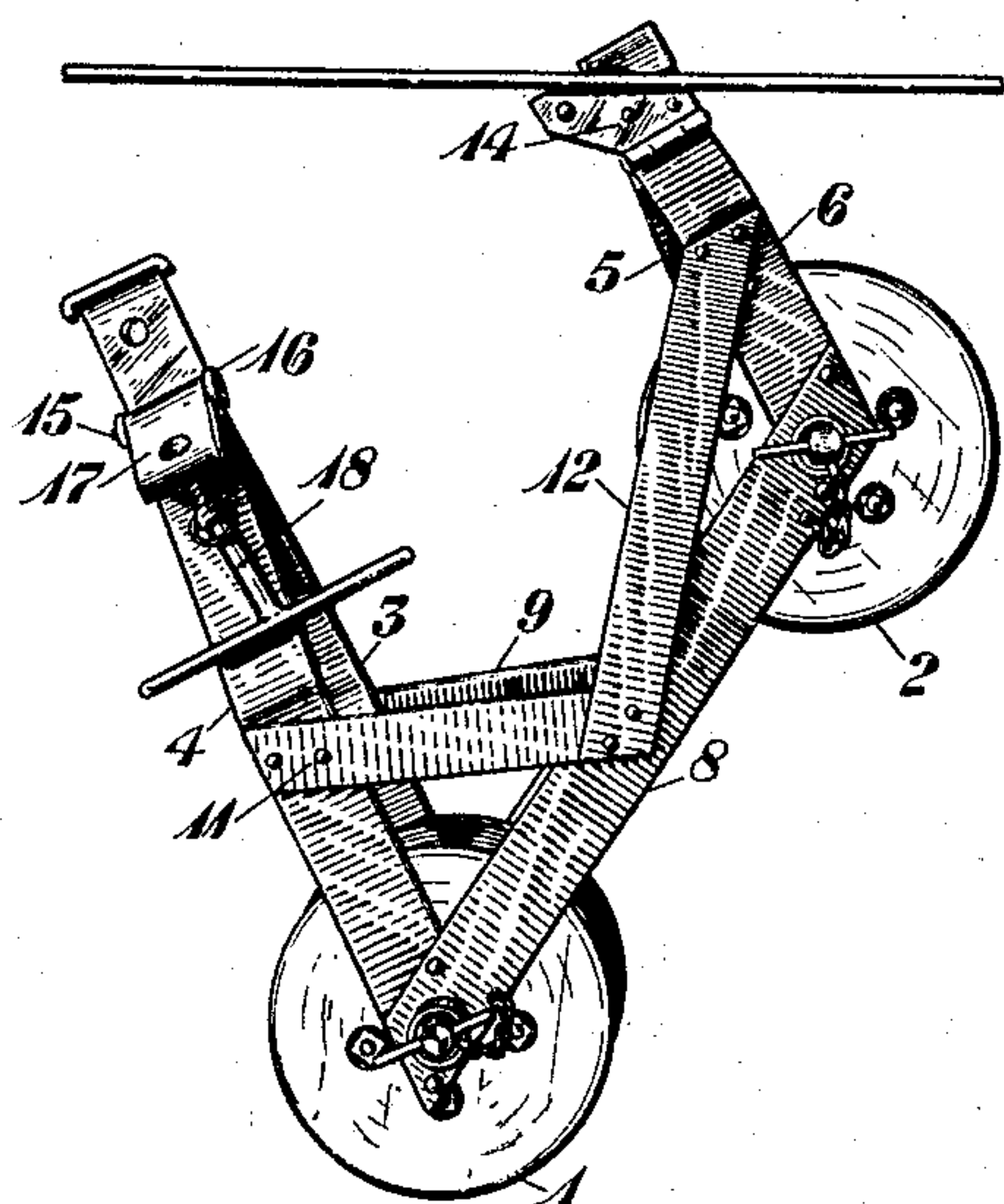


Fig. 1

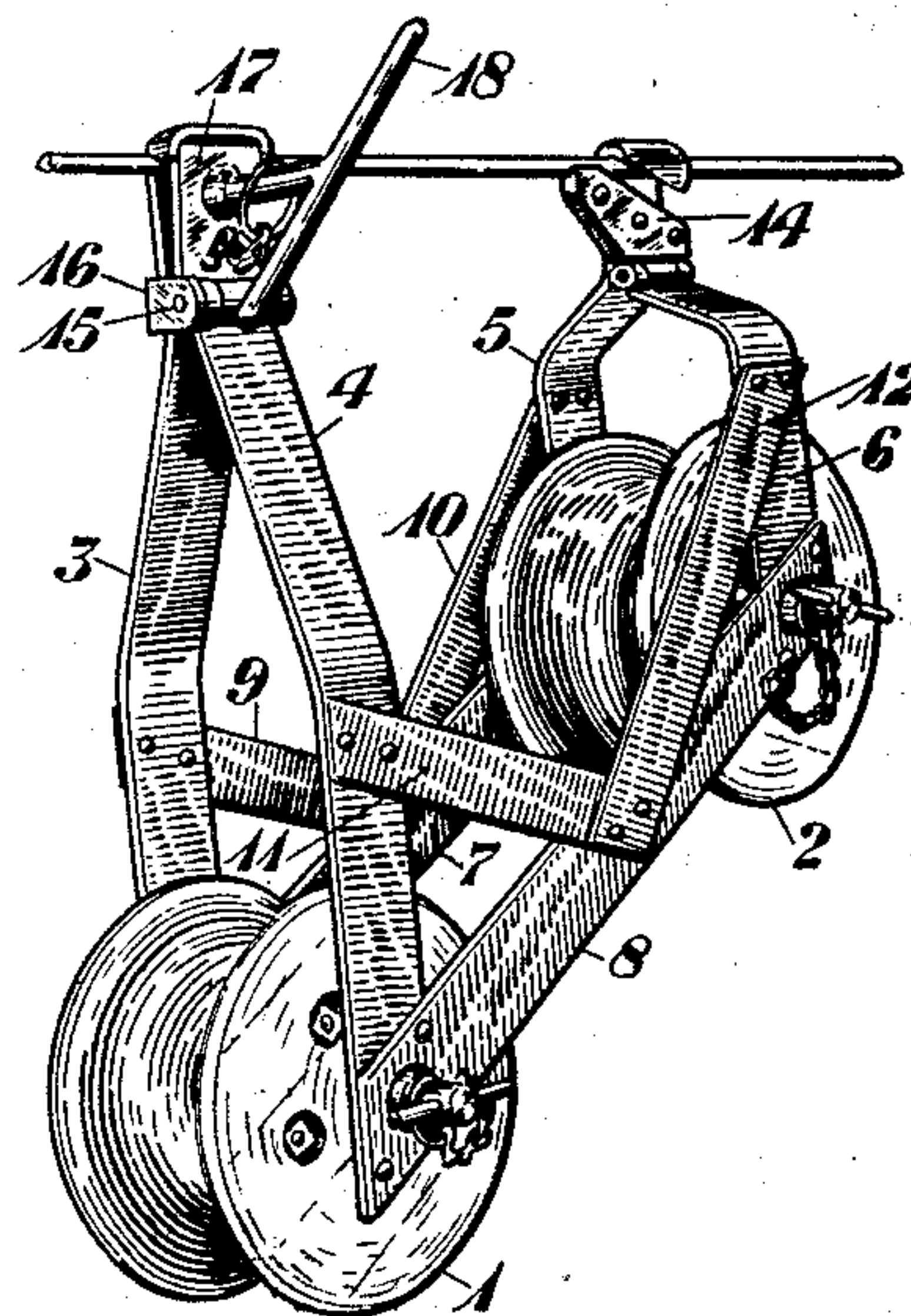


Fig. 2

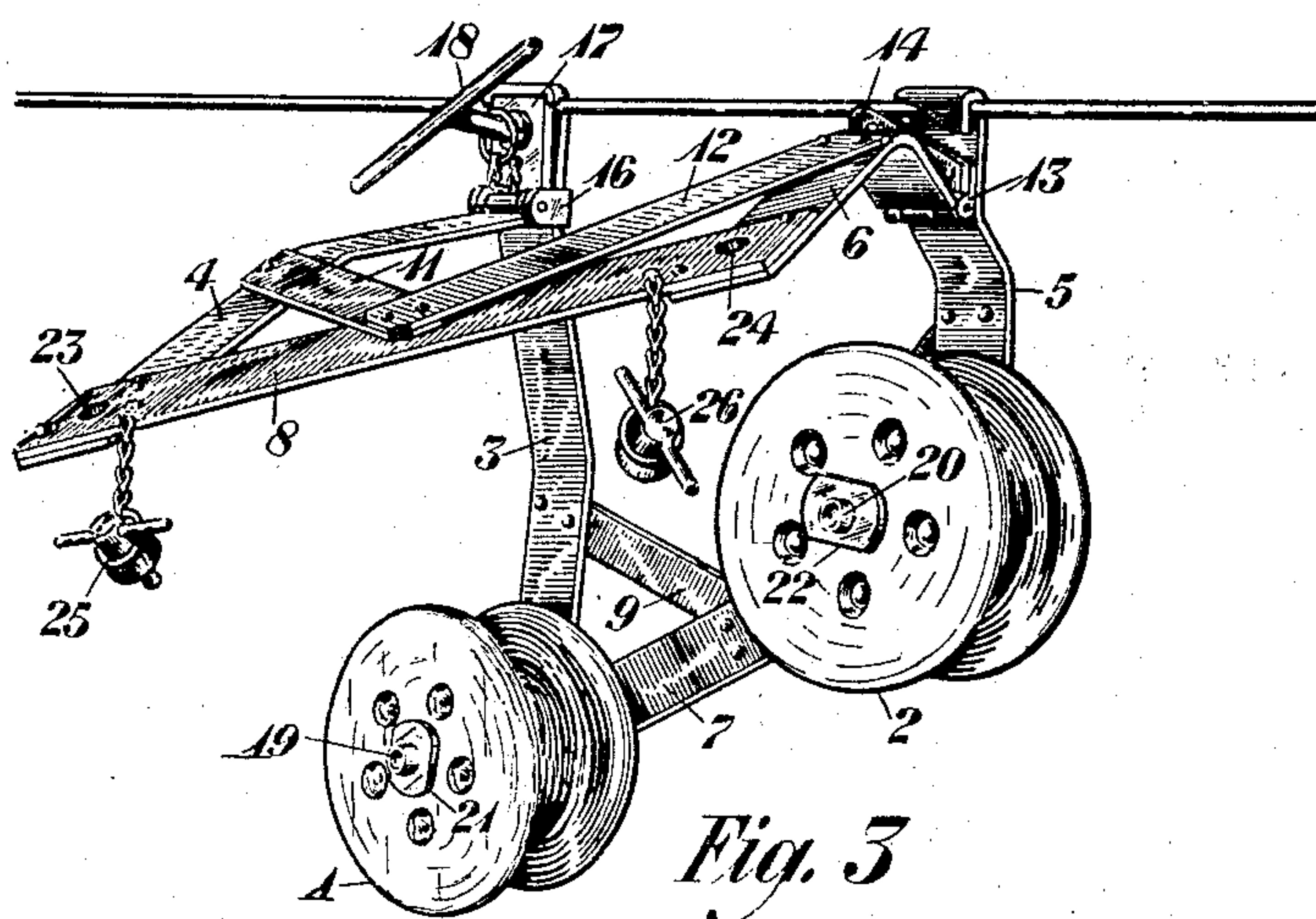


Fig. 3

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TEMPLE CLIFFORD SMITH, OF EAST ORANGE, NEW JERSEY, ASSIGNOR TO AMERICAN TELEPHONE AND TELEGRAPH COMPANY, A CORPORATION OF NEW YORK.

AERIAL-CABLE GUIDE.

1,340,989.

Specification of Letters Patent.

Patented May 25, 1920.

Application filed February 8, 1919. Serial No. 275,874.

To all whom it may concern:

Be it known that I, TEMPLE C. SMITH, residing at East Orange, in the county of Essex and State of New Jersey, have invented certain Improvements in Aerial-Cable Guides, of which the following is a specification.

This invention relates to cable guides, and more particularly to devices of this character which are adapted for use in connection with supporting and guiding cables in their passage from cable reels to aerial messenger wires, upon which they may be supported by means of rings or the like.

One of the principal objects of this invention is the simpler and more expeditious placing of an aerial cable in position with decreased liability of injury to the cable than heretofore; while another object is that such cable placing operation may be effectuated without the necessity of employing heavy, massive, complex or non-portable apparatus. Other and further objects of the invention will hereinafter appear.

In the accompanying drawing, in which like numerals represent like parts throughout, one form of the improved device appears. Figure 1 illustrates a side elevation of the cable guide hooked at one of its ends to a strand, and adapted for movement in either direction thereon; Fig. 2 illustrates said guide in locked position on the strand, and Fig. 3 is a perspective view of the device showing its side plate opened.

The invention will now be described in detail in connection with the appended drawing.

The frames in which the pulleys or sheaves, 1 and 2, are mounted comprise side plates 3, 4 and 5, 6. The plates 3 and 5 are provided at their upper extremities with a hooked portion by means of which the frame may be attached to a support such as a wire. Extending from and suitably attached to the lower ends of the side plates, 3, 5 and 4, 6 are straps 7 and 8. Reinforcing members 9, 10 and 11, 12 are provided for said plates, and are fixed at their upper ends to the side plates 3, 5 and 4, 6, respectively. At their lower ends the reinforcing members are secured together and to the bars 7 and 8. The side plates 4 and 6 with the bar 8, and reinforcing members 11 and 12, form a unitary frame structure which is adapted to be swung

away from its associated frame to which it is hinged by means of a plate 13 or the like. A member 14 associated with plate 13 is provided in juxtaposition to the hooked extremity of said plate 5, and the opposing edges of the members are cut away at such an angle as to allow the device to be readily placed in position on the strand, but when so placed to prevent it from becoming disengaged from said strand while in use. The plate 13 and member 14 are preferably secured together and to the side plate 5 by rivets or the like. The laterally extending member is hinged at its other end by means of a pin 15 or the like, which may be supported in journal bearings formed in the ears of the yoke 16, said yoke being secured to the rear of member 3 in any suitable manner. The pin 15 also provides an axis for clamping plate 17. The clamping plate 17 and the upper portion of member 3 are adapted to be clamped together by means of a hand bolt 18, which is threaded through coinciding apertures in said members, and when the bolt is turned in a clockwise direction the members are brought together and thus rigidly engage the strand, and prevent displacement of the device thereon, as will later appear.

The sheaves 1 and 2 are provided with the usual grooved peripheries, and are journaled on spindles 19 and 20. The spindles are introduced through holes in the center of the sheaves and are secured at one end in apertures (not shown) formed in the side plates 3 and 5 and their associated bar 7. On their opposite ends the spindles are provided with plates 21 and 22 which are shrunk or otherwise attached to said spindles and serve to keep the sheaves in position thereon. The extremities of the spindles project a sufficient distance through the plates 21, 22 to engage and be supported in openings 23 and 24 provided in the members 4, 6 and 8. Thumb-bolts 25 and 26 engage with interior threads in the spindles 19 and 20, and when in place lock the laterally extending member. When the laterally extending member is raised, the sheaves 1 and 2 are retained in place on the spindles 19 and 20 by means of the plates 21 and 22 fixed to the spindles which are supported in apertures of the side plates 3 and 5 as previously outlined.

When the improved cable guide is to be

placed in position for operation, it is attached to the messenger wire through a diagonal opening formed between the opposing faces of the hooked extremity of member 5 and plate 14, as may be seen in Fig. 1. While in this position the guide may be drawn back and forth along the wire until it is in the proper place. The other end of the guide is then hooked to the wire and by means of the hand bolt 18, clamping plate 17 and side plate 3, rigidly grips the strand and prevents longitudinal movement of the guide thereon.

When the guide is locked on the wire, the cable is drawn from the cable reel over the sheaves 1 and 2 of said guide by means of a "pulling in" line attached to the cable. The cable is then threaded through rings or other supporting means on the wire and this operation continues until the required length of cable is in position.

After the cable is in place the thumb bolts 25 and 26 of the cable guide are unscrewed from the spindles 19 and 20 and the lateral extending member, which is hinged to the plate 13 and yoke 16 is raised, as shown in Fig. 3, and the cable is removed from guide. The guide may now be released from the wire by an operation which is practically the reverse of that previously described in connection with its installation.

By this improved arrangement the cable is supported at different points while it is being placed in position on the wire by means of two small sheaves. The arc thus formed by the cable is equivalent to an arc several times the diameter of the sheaves, and the cable when entering the rings, supported on the wire, at this arc is prevented from stripping off said rings. The arc formed by said sheaves also allows the cable to enter said rings in as straight a line as is practicable, and permits the cable to be easily pulled through the rings. It will therefore be clear that kinking or other excessive bending of the cable is prevented, and it may be placed in position with negligible injury thereto and in an expeditious manner.

From the foregoing it is evident that the construction, operation and many advantages of the herein described invention will be apparent to those skilled in the art without further description, and it will be understood that the various changes in the size, shape, proportion and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described the invention, what it is desired to secure by Letters Patent is:

1. In an aerial cable guide adapted to be secured to a messenger wire, a main frame, an auxiliary frame associated therewith, sheaves journaled in said frames, hooked

members provided on the main frame adapted to support said guide on the strand, a clamping plate associated with one end of the main frame and auxiliary frame and cooperating with one of the hooked members for rigidly attaching said guide to the wire, means carried on one end of the main frame whereby a common pivotal point is provided for the clamping plate and one end of the auxiliary frame, and means fixed to the other end of the main frame whereby a pivotal point is provided for the opposite end of the auxiliary frame.

2. In an aerial cable guide adapted to be secured to a messenger wire or support, frames provided with pairs of side plates, one pair of side plates being fixed and the other pair being hinged thereto and adapted to be moved with respect thereto, sheaves journaled in said frames, supporting means associated with the fixed plates whereby the sheaves are kept in vertical position when the movable member is raised, hooked members provided on said fixed plates for suspending the guide from the support, and a clamping plate associated with one end of said frames and cooperating with one of the hooked members for rigidly attaching said guide to the said support.

3. In an aerial cable guide adapted to be secured to a messenger supporting wire, a frame, hooked members provided on said frame for supporting the guide on said strand, a member associated with one of the hooked members, the opposing faces of said members being formed at an angle to their axes to prevent lateral displacement when in position on the wire, and clamping means associated with the other hooked member whereby the guide is rigidly attached to said wire.

4. In an aerial cable guide adapted to be secured to a messenger or support wire, a main frame, an auxiliary frame hinged thereto, sheaves journaled in said frames, hooked members provided on the main frame for supporting the guide on said support wire, a member associated with one of the hooked members, the opposing faces of said members being formed at an angle to their axes to prevent lateral displacement when in position on the support, and clamping means associated with the other hooked member whereby the guide is rigidly attached to said wire.

5. In an aerial cable guide adapted to be secured to a messenger or supporting wire, frames for said guide, sheaves journaled in said frames in such a manner that their axes lie in different vertical planes the axis of one being lower than that of the other, and means by which said cable guide may be supported from the messenger wire.

6. In a guide adapted for the erection of aerial cables to messenger wires, frames for

said guide, sheaves journaled in said frames in such a manner that their axes lie in different vertical planes the axis of one being lower than that of the other, the multiple
5 support thus formed by the sheaves providing for a greater radius in the cable bend than the radius of the sheaves, and means

by which said cable guide can be supported from the messenger wire.

In testimony whereof I have signed my name to this specification this sixth day of February, 1919.

TEMPLE CLIFFORD SMITH.