

No. 730,402.

PATENTED JUNE 9, 1903.

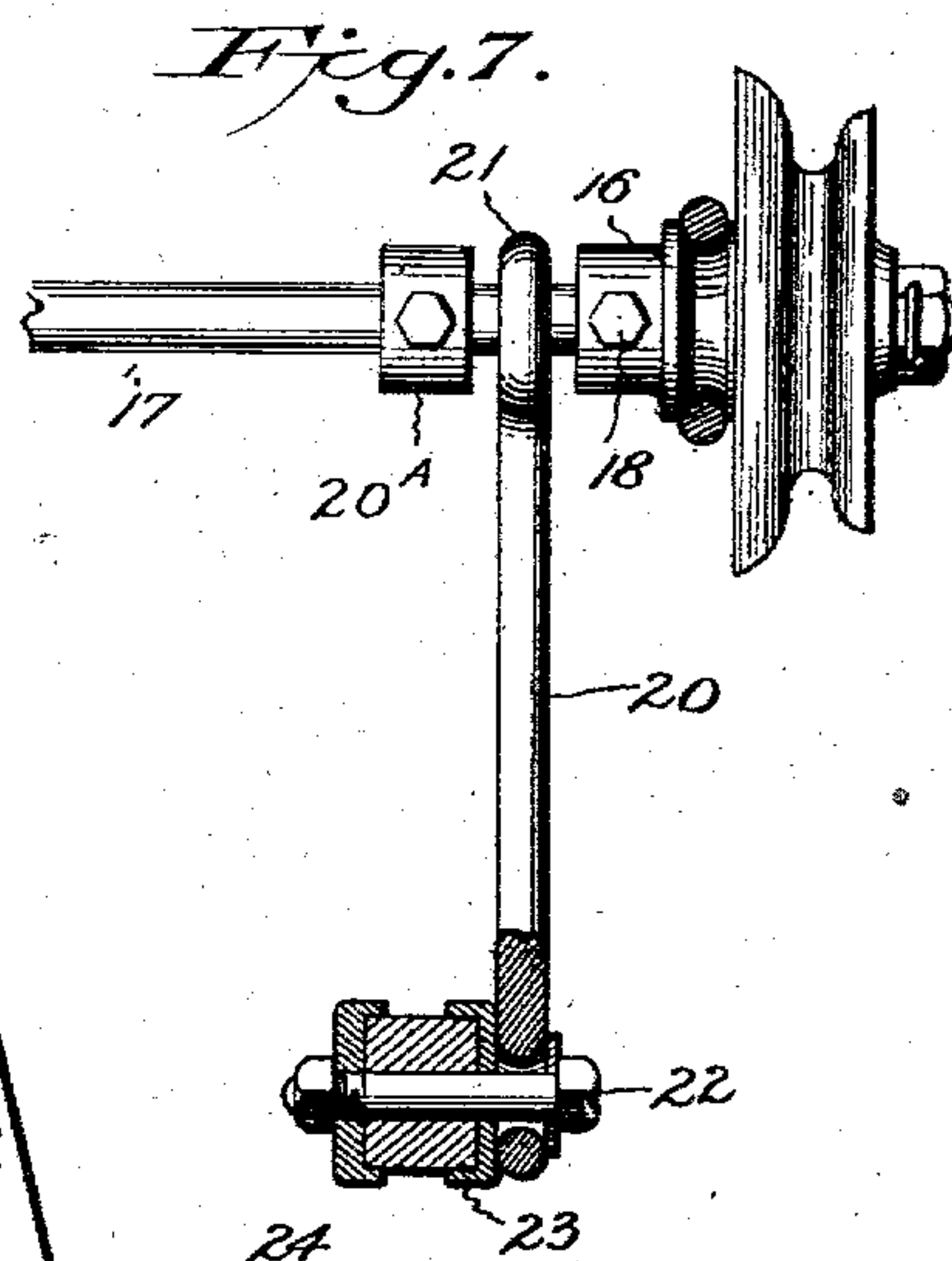
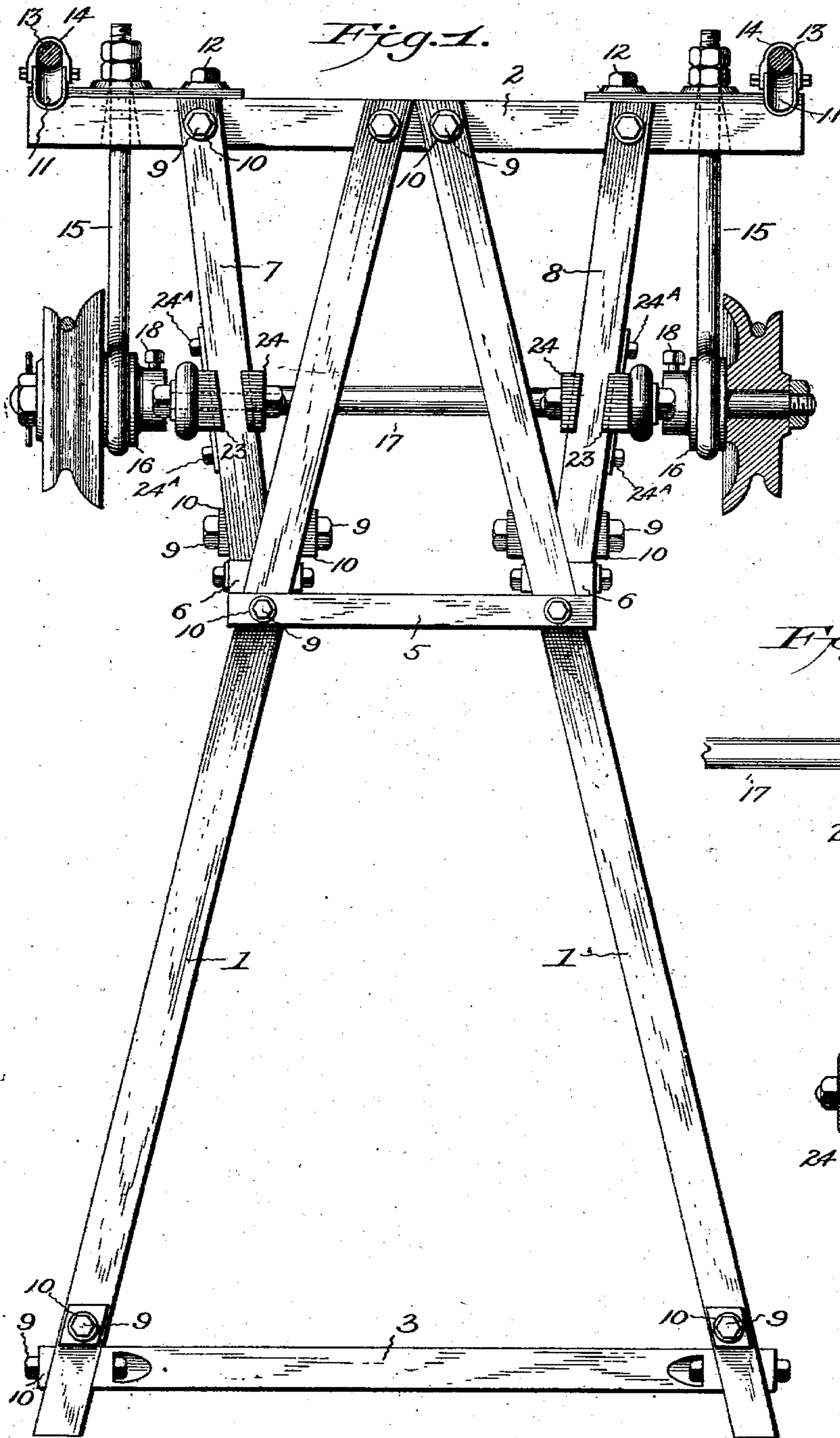
B. C. RIBLET.

ROPE SHEAVE SUPPORT AND ADJUSTMENT FOR ROPE TRAMWAY TOWERS.

APPLICATION FILED NOV. 24, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:
G. Sargent Elliott.
L. W. Beard

Inventor:
Byron C Riblet.
By H. S. Bailey, Attorney.

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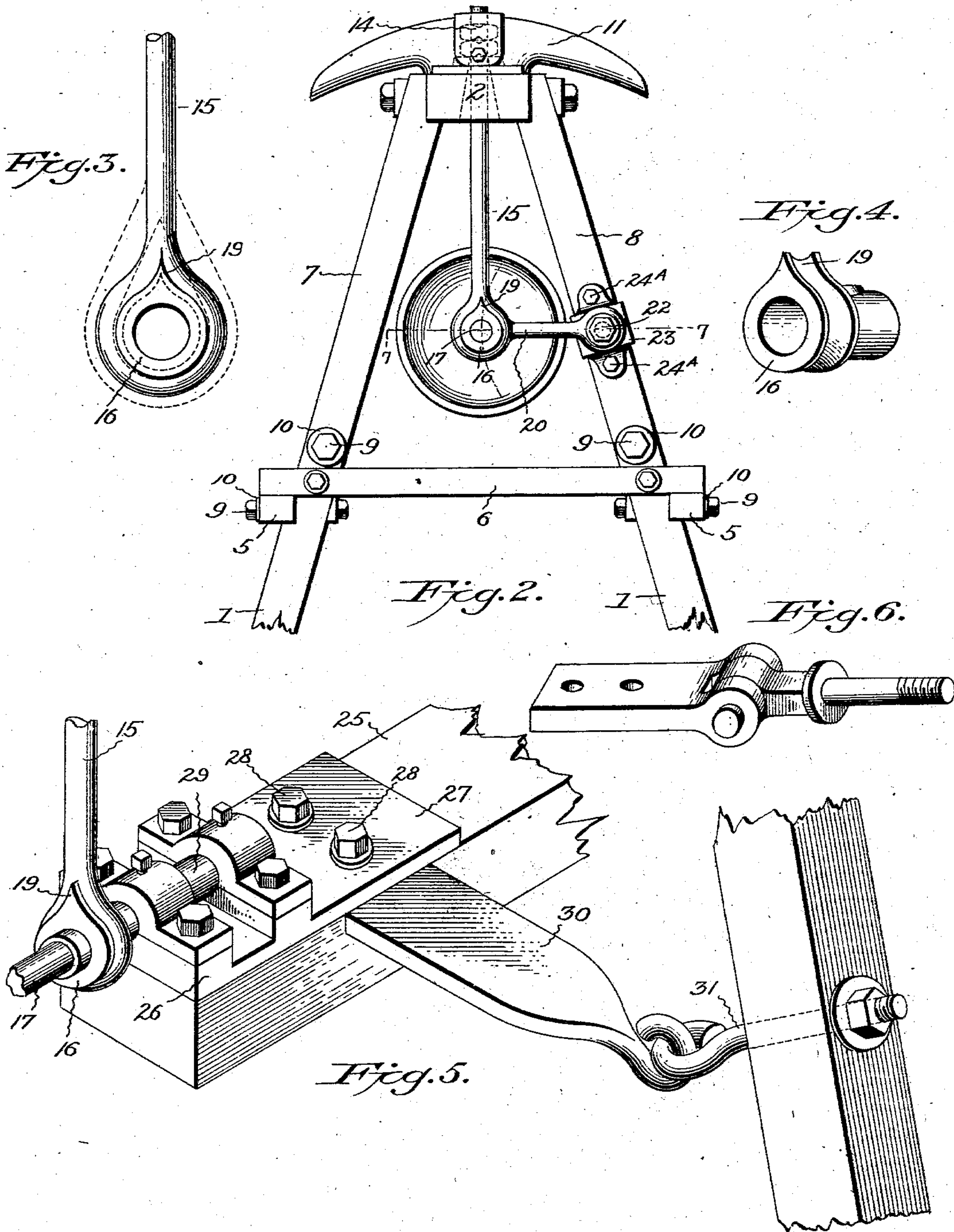
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UNITED STATES PATENT OFFICE.

BYRON C. RIBLET, OF SPOKANE, WASHINGTON.

ROPE-SHEAVE SUPPORT AND ADJUSTMENT FOR ROPE-TRAMWAY TOWERS.

SPECIFICATION forming part of Letters Patent No. 730,402, dated June 9, 1903.

Application filed November 24, 1902. Serial No. 132,656. (No model.)

To all whom it may concern:

Be it known that I, BYRON C. RIBLET, a citizen of the United States of America, residing at Spokane, in the county of Spokane and State of Washington, have invented certain new and useful Improvements in Rope-Sheave Supports and Adjustments for Rope-Tramway Towers; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in derricks or towers for supporting the wire ropes of aerial wire-rope tramways; and the object of my invention is to provide a tower that will adjustably support the running rope relative to the stationary rope and in which a swinging pivotal lateral support is provided for the running sheaves of the running rope. I attain this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my adjustable rope-supporting tower. Fig. 2 is an end elevation of a fragment of the same with the adjacent sheave removed. Fig. 3 is a side elevation of the lower end of the vertical adjusting-rod and its fixed collar. Fig. 4 is a perspective view of the vertical adjusting-rod's fixed collar. Fig. 5 illustrates my laterally-supporting hinged link arranged to be attached to a timber, which I sometimes employ in place of the iron shaft shown in Fig. 1 to support the running-rope sheaves. Fig. 6 illustrates a perspective view of my hinged links for laterally supporting the sheaves, showing an eye-hinge between the links instead of a pintle-hinge, as in Fig. 5; and Fig. 7 is a sectional view on line 7 7 of Fig. 2.

Similar numerals of reference refer to similar parts throughout the several views.

Referring to the drawings, the body of the tower is composed of the standards 1, four of which are preferably used for high towers and three standards for short and medium-height towers. A cap-timber 2 is secured to their upper ends to stand in a horizontal position. Their lower ends are tied together

by the timbers 3 and 4. Tie-supports 5 and 6 are secured intermediate of the ends of the standards. The ties at the ends preferably form abutments for the struts 7 and 8, which project from the standards to the free ends of the cap of the tower, to which they are secured. The lower ends of the struts and all connections between the several members of the tower are preferably made with bolts 9 and washers 10, as shown. To the ends of the top of the cap I bolt a saddle 11 by a bolt 12. This saddle supports the stationary rope 13. A clip 14 passes over the top of the saddle and holds the rope against accidental displacement. A bolt 15 extends down through each saddle's supporting-plate and through the cap. At its lower end an eye is formed. This eye fits over a ground collar 16, which fits over the opposite ends of a shaft 17, that is suspended by these vertical adjusting-bolts from the cap and between the standards. The collars are secured to the shaft by set-screws 18. These collars are provided with a projecting lug 19, and the eye of the bolt is elongated and made large enough to slip over the collar, as shown by the dotted lines in Fig. 3. The eye is then heated and pressed into the groove of the collar, as shown in the full lines of Fig. 3. The collar is thus fixed against rotative movement in the eye, and, as the collar is secured to the shaft, the shaft is held against rotative movement in the eye of the bolt. Upon the opposite ends of the shaft I mount a sheave-wheel revolubly, preferably securing them to the ends of the shaft by nuts threaded to the extreme ends of the shaft. These sheave-wheels support the running rope, which in tramways is always an endless rope.

On the shaft at the side of each collar of each vertical adjusting-bolt I mount loosely one end of a bar 20, which is provided with an eye 21, that fits loosely over the shaft. This bar 20 is provided at its opposite end with an eye that is loosely bolted to one of the struts by a bolt 22. Washers 23 and 24 are preferably placed on each side of the struts, and these are preferably secured by bolts or lag-screws 24^A to the struts. The vertically-adjustable shaft is thus pivotally attached to the tower by a swinging connection and is thus free to be adjusted vertically and

is also held by the swinging connection against a swaying movement toward the sides of the tower or in alinement with the run of the running rope.

5 On the shaft 17 adjacent to the bar 20 I place a collar 20^A, positioning it at a short space from the collar of the vertical adjusting-bolt in order to give the bar 20 and the shaft a little lateral movement at right angles
10 to the run of the running rope.

In Figs. 5 and 6 I illustrate a slight change in the arrangement of swinging support made necessary by substituting for the metal shaft a beam of wood, which is sometimes preferable
15 where a tramway is to be erected a long distance from a railroad and base of supplies and the matter of freights and cost of erection is a vital matter. In this arrangement a length of timber 25 is used instead of the metal shaft
20 shown in Figs. 1 and 2. A box 26, which is provided with a plate portion 27, is secured to each end of the timber 25 by bolts 28, and these boxes are each provided with bearings for a short shaft 29, at the outer end of which
25 one of the sheaves is supported. The shafts 29 are secured in the bearings by set-screws, and the vertical adjusting-bolts are preferably mounted on the ends of the shafts between the boxes and the sheaves. The swing-
30 ing connection comprises a flat bar 30, that extends beneath the plate portion 27 of the boxes and is secured between the plate and timber by the bolts 28, which extend through the plate, bar, and timber. The bar 30 is
35 formed with an eye at its free end, which engages a corresponding eye in a bolt 31, the end of which is threaded and extends directly through the strut-beam, where it is secured by a nut.

40 The vertically-adjustable sheave-supporting shaft is adjusted and supported by my improved arrangement to give the running rope a natural and free and easy alinement and bed in the sheaves, thus obviating any
45 danger of its running off.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an adjustable tower for aerial wire-
50 rope tramways, the combination with the standards, the cap, and the struts, of bolts depending from each of the ends of said cap, an eye in the depending end of each of said bolts, an axle extending through the eyes of
55 said bolts, a rope-sheave operatively mounted on the outer ends of each axle, bars attached to the support for said sheaves, and an eye in the free end of said bar, by which it is pivotally secured to said tower, substan-
60 tially as described.

2. In an adjustable tower for wire-rope tramways the combination of the standards having a cap secured in a horizontal position thereto, struts secured at one end to said stand-
65 ards, and extending to and secured at their opposite end to said cap, a rope-receiving saddle secured at each end of said cap, a bolt de-

pending from each of said saddles provided with an eye in its depending end, a grooved collar secured in the eye of each depending
70 bolt, a shaft extending through said collars, rope-sheaves operatively mounted on the end of said shaft, and a swinging bar secured at one end to said shaft and pivotally secured at its opposite end to said tower, substantially
75 as described.

3. In an adjustable tower for aerial wire-rope tramways, the combination with the standards, the struts and the cap, of the rope-supporting saddle and its base-plates, with
80 the bolts depending through said cap, a rope-sheave-supporting member supported by said depending bolts below said cap and between the standards of said tower; and a swinging support comprising a bar, one end of which
85 is attached to the supporting member of said sheave, while its opposite end is attached to a strut of said tower, substantially as described.

4. In a tower for aerial wire-rope tramways,
90 the combination with the standards, the struts, and the cap secured transversely across said standards, of saddles provided with a supporting-base secured to the opposite ends of said cap and adapted to receive and support
95 the standing rope of an aerial wire-rope tramway, bolts depending through the bases of said saddles, and through said cap, having their ends that extend through and above said saddles' bases and said cap, threaded and
100 provided with nuts resting on said saddle, an eye in the lower end of said rods, having an elongated aperture, a recessed collar provided with a projecting portion arranged and adapted to fit the elongated eye of said bolts, and
105 means for securing said collars to said shaft, sheaves adapted to support the running rope of an aerial wire-rope tramway mounted on the opposite ends of said shaft and a swing-
110 ing lateral supporting connection between said shaft, and said tower, comprising a rod pivoted at one end to said shaft, and at its opposite free end to a strut of said tower, substantially as described.

5. In an adjustable tower, for aerial wire-
115 rope tramways, the combination with the standards, the cap and the struts, the saddles, the depending vertically-adjusted bolts, the shaft supported by said bolts, and the rope sheave-wheels, mounted on said opposite
120 ends of said shaft, of lateral swinging supports between said sheave-supporting shaft and said tower, comprising a bar having one of its ends pivotally secured to said shaft, and its opposite end secured to said tower, sub-
125 stantially as described.

6. In an adjustable tower for wire-rope tramways, the combination with a suitable supporting-tower of the recessed collar, the depending rods provided with elongated eyes,
130 arranged to surround and fit into the recesses of said collars, the shaft supported by said collars, and the sheave-wheels at the opposite ends of said shaft, substantially as described.

7. In an adjustable tower, the combination of the standards, the cap and the struts, the depending bolts, the washers fixed thereto, and the sheave-supporting member with the
5 two bars pivoted at one of their ends to the end of said shaft, and at their opposite end pivotally secured by a suitable bolt to a strut of said tower, and a washer mounted on said pivotal bolt between said pivotal end and said

strut provided with a vertical plane face for the pivotal end of said bar to bear against, substantially as described.

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

BYRON C. RIBLET.

Witnesses:

G. SARGENT ELLIOTT,
BESSIE THOMPSON.