

No. 746,614.

PATENTED DEC. 8, 1903.

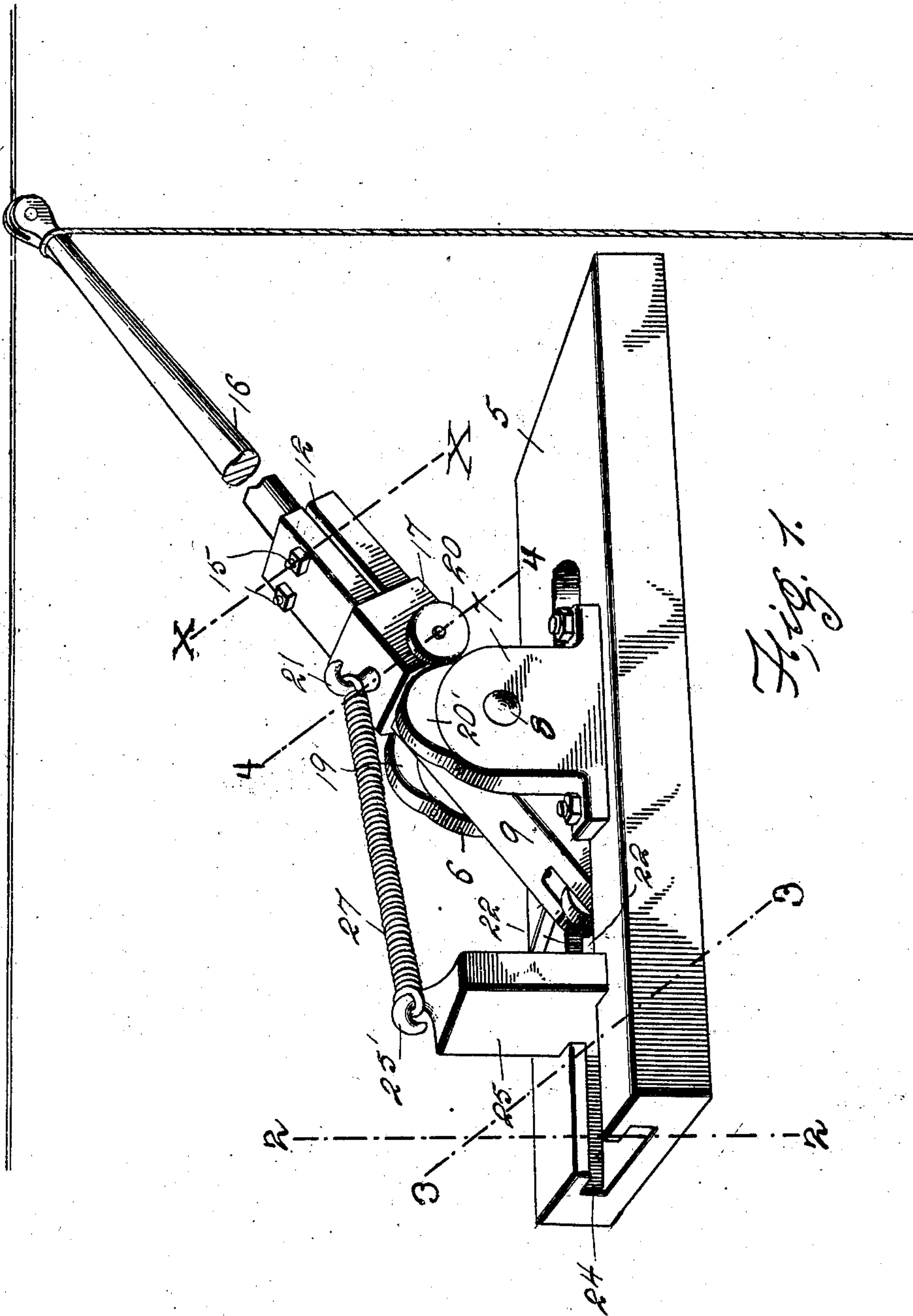
E. A. WAKEFIELD & G. W. MORSE.

TROLLEY POLE.

APPLICATION FILED JULY 8, 1903.

NO MODEL.

3 SHEETS—SHEET 1



Witnesses  
*Edmund J. Leonard*

Inventors  
*E. A. Wakefield*  
*G. W. Morse*  
By *Charles H. Morse*  
Attorneys

No. 746,614.

PATENTED DEC. 8, 1903.

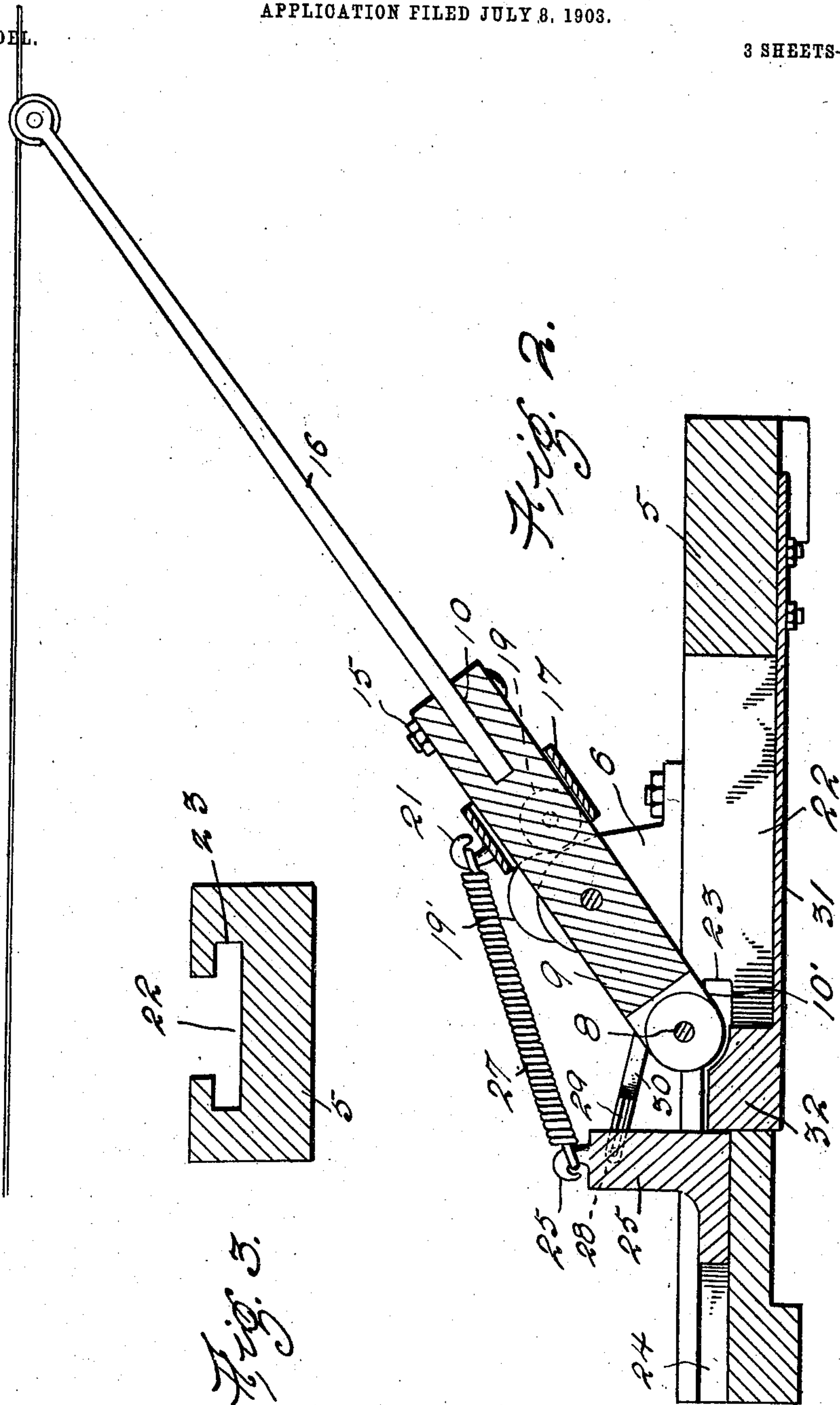
E. A. WAKEFIELD & G. W. MORSE.

TROLLEY POLE.

APPLICATION FILED JULY 8, 1903.

NO MODEL.

3 SHEETS—SHEET 2.



Witnesses  
*Amos J. ...*  
*Ed. Leonard*

Inventors  
*E. A. Wakefield*  
*G. W. Morse*  
By  
*Charles J. ...*  
Attorneys

No. 746,614.

PATENTED DEC. 8, 1903.

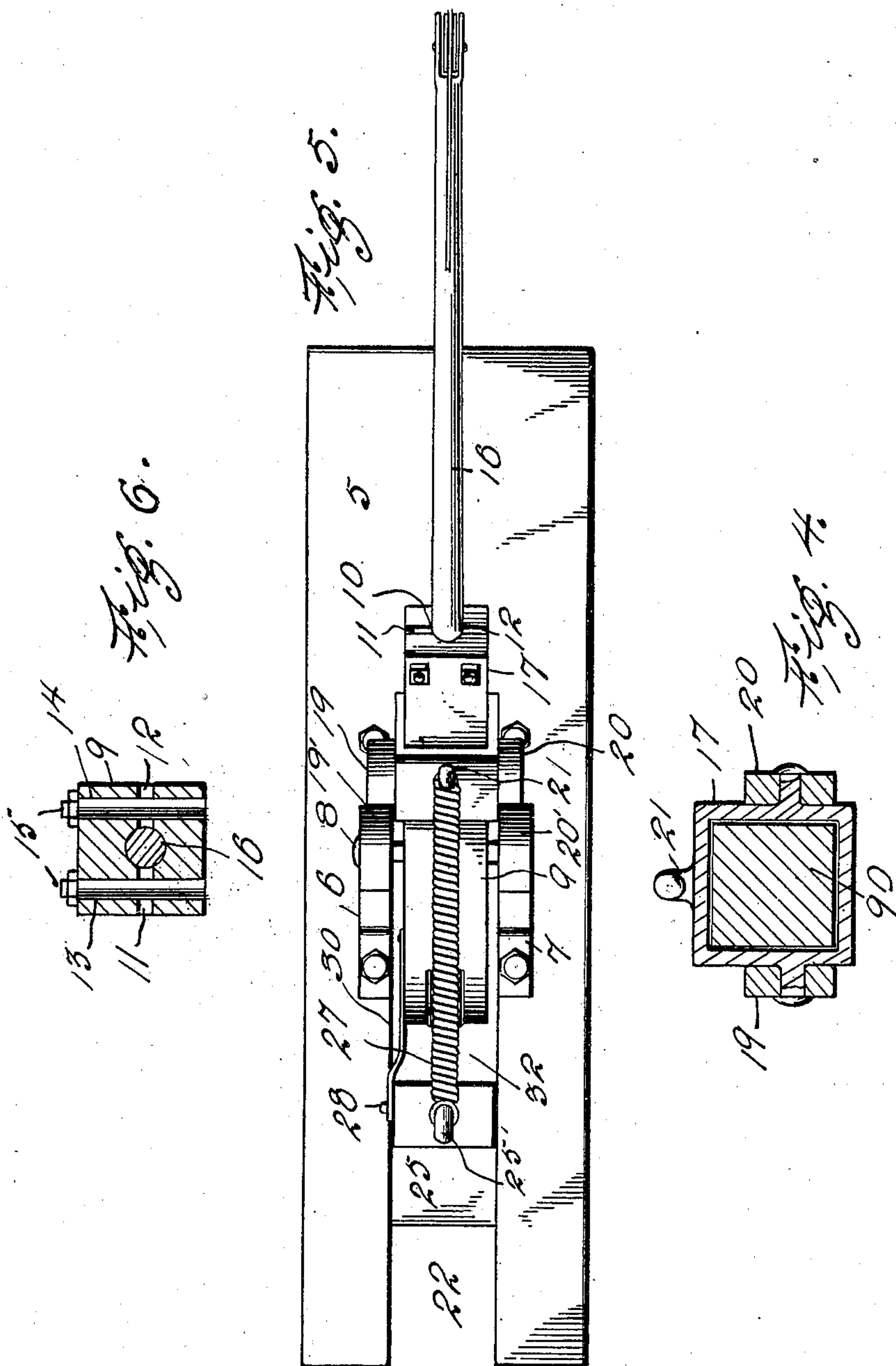
E. A. WAKEFIELD & G. W. MORSE.

TROLLEY POLE.

APPLICATION FILED JULY 8, 1903.

NO MODEL.

3 SHEETS—SHEET 3.



Witnesses  
*W. H. Simpson*  
*J. Leonard*

Inventors  
*E. A. Wakefield*  
*G. W. Morse*  
BY  
*James H. James*  
Attorneys



# UNITED STATES PATENT OFFICE.

EDWIN A. WAKEFIELD AND GEORGE W. MORSE, OF MECHANIC FALLS,  
MAINE.

## TROLLEY-POLE.

SPECIFICATION forming part of Letters Patent No. 746,614, dated December 8, 1903.

Application filed July 8, 1903. Serial No. 164,711. (No model.)

*To all whom it may concern:*

Be it known that we, EDWIN A. WAKEFIELD and GEORGE W. MORSE, citizens of the United States, residing at Mechanic Falls, in the county of Androscoggin, State of Maine, have invented certain new and useful Improvements in Trolley-Poles; and we 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.

This invention relates to trolley-poles, and has for its object to provide a mechanism whereby the pole when it leaves the wire will be prevented from flying up under the tension of the springs and striking against the wire-supporting arms.

In the drawings forming a portion of this specification, in which like numerals of reference indicate similar parts in the several views, Figure 1 is a perspective view of a complete device. Fig. 2 is a section on line 2 2 of Fig. 1. Fig. 3 is a section on line 3 3 of Fig. 1. Fig. 4 is a section on line 4 4 of Fig. 1. Fig. 5 is a top plan view of the device. Fig. 6 is a section on line *x x* of Fig. 1.

Referring now to the drawings, the present invention comprises a base-plate 5, which is adapted to be secured to the top of a car and to which are attached uprights 6 and 7, having alining perforations therethrough for the reception of the pintle 8 of an arm-base 9. The base 9 comprises a substantially rectangular bar having a recess 10 at one end thereof for the reception of a trolley-arm 16, the sides of the recess being slotted, as shown at 11 and 12. The base is also provided with perforations 13 and 14 in its sides at right angles to the slots for the reception of clamping-bolts 15. Between the pole-clamp and the point of its pivotal connection with the uprights the base is incased in a sleeve or collar 17, which carries a hook 21. Mounted upon the sides of the sleeve are rollers 19 and 20, which bear upon the upper edges of the uprights 6 and 7, upon which are formed cams 19' and 20'. When the rollers 19 and 20 pass over the cams, the collar is caused to move on the base 9.

The base-plate 5 is slotted for a portion of

its length adjacent one end thereof, as shown at 22, and the walls of this slot are provided with grooves 23. The portion of the base-plate between this slot and the end of the plate has a T-shaped groove 24 in the upper face thereof, the T being inverted and so positioned that its arms form continuations of the grooves 23. A follower 25, having a T-shaped base of a size to readily engage the groove 24, is engaged with its base in the groove and is adapted to slide easily therein. The top of the follower is flattened and has at its rear a hook 25', which is adapted to receive one end of a tension-spring 27, the other end of said spring being disposed upon the hook 21, before mentioned.

Mounted upon one side of the follower 25 is a pin 28, which is engaged with the slot 29 of a bar 30, which is pivoted at one end to the end of the pole-base opposite to that which carries the clamp. The bar and pole-base thus form a toggle-joint, the object of which will be hereinafter described.

Secured to the under side of the base-plate 5 is a spring-plate 31, which has upon its free end a beveled lug 32, which lies within the perforation 22 and bears normally with one of its faces against the follower 25 to limit its movement in the direction of the slot. This lug 32 lies in the arc described by the end 10' of the pole-base when the latter moves upon the pivot 8.

In the operation of the device should the pole 16 leave the wire and fly upward under tension of the spring 27 the end 10' of the pole-base would strike the beveled surface of the lug 32 and force it downwardly within the slot 22, thus disengaging it from the follower 25, which by reason of the tension of the spring 27 would slide in the groove 24 in the direction of the uprights 6 and 7, reducing the tension of the spring 27 and allowing the pole 16 to fall. When it is desired to reset the device, it is but necessary to draw the pole down, which may be done through the medium of the customary trolley-rope. By this operation the slot 29 of the bar 30 will slide on the pin 28 until the limit of its motion is reached, when the follower will be forced backward until clear of the lug 32,



which, under the tension of the spring-plate 31, will be forced upwardly to engage the follower and prevent its return.

The object of the cams 19' and 20' is to increase the tension of the spring 27 when such increased tension is necessary to move the follower 25. This is accomplished when the cams force the collar 17 along the pole-base, which increases the distance between the hooks 21 and 25'. This increase of tension takes place just as the lug 32 is disengaged from the follower 25.

It will of course be understood that any suitable proportions and material may be used in the manufacture of the present invention and that, if desired, two or more springs may be used instead of the single spring 27.

What is claimed is—

1. A trolley mechanism comprising a base-plate having uprights mounted thereon, a pole journaled between the uprights, a follower slidably mounted upon the base-plate, spring connecting the pole with the follower, means for holding the follower against sliding movement under tension of the spring and means for automatically disengaging the holding means.

2. A trolley mechanism and base-plate having uprights mounted thereon, a pole journaled between the uprights, a hook slidably mounted upon the pole, a follower slidably mounted upon the base-plate, spring connecting the hook with the follower, means for holding the follower against sliding movement under tension of the spring, means for automatically engaging the holding means when the end of the pole is lifted above its

normal position and means for reengaging the holding means.

3. A trolley mechanism comprising a slotted base-plate, uprights mounted thereon, a pole pivoted between the uprights, a follower slidably mounted upon the base-plate at one side of the slot, spring connecting the follower and the pole a spring-actuated lug lying within the slot and in engagement with the base of the follower to limit the movement thereof, an extension on the end of the pole for engagement at times with the lug to disengage it from the follower to permit of further movement of the latter under tension of the spring.

4. A trolley mechanism comprising a slotted base-plate having uprights mounted thereon, a pole pivoted between the uprights, a hook slidably mounted upon the pole, a follower slidably mounted upon the base-plate, spring connecting the hook with the follower, a spring-actuated lug lying within the slot and adapted to bear against the follower to limit its motion under tension of the spring, an extension upon the end of the pole to engage the lug at times and disengage it from the follower to permit of further movement of the latter, and a toggle-joint between the pole and the follower to move the latter against the action of the spring when the joint is extended.

In testimony whereof we affix our signatures in presence of two witnesses.

EDWIN A. WAKEFIELD.  
GEORGE W. MORSE.

Witnesses:

HAROLD L. COTTON,  
CLARENCE M. HUTCHINS.