

No. 787,343.

PATENTED APR. 11, 1905.

W. PECK.  
WIRE REPLACER FOR TROLLEYS.  
APPLICATION FILED DEC. 13, 1904.

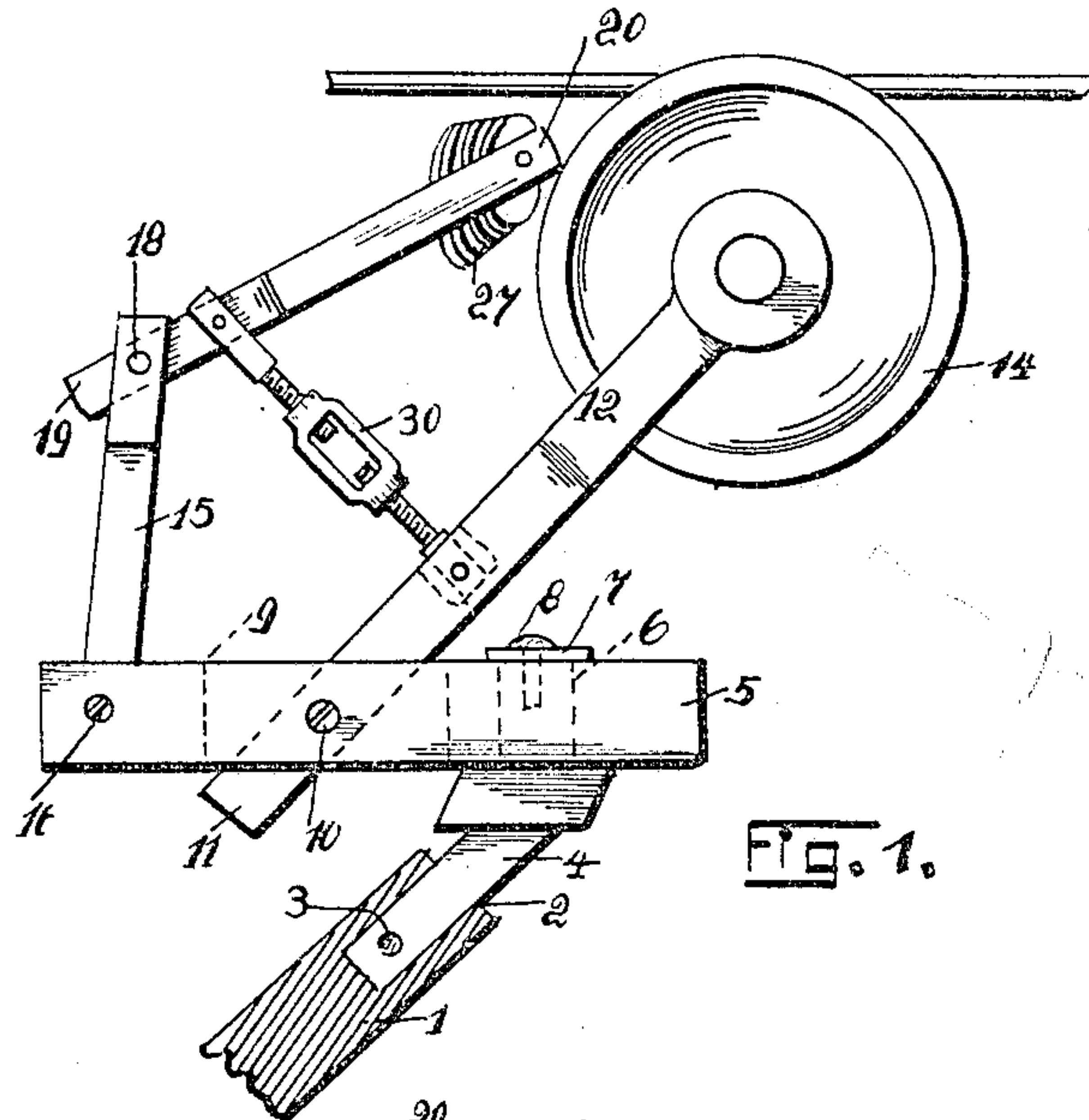


Fig. 1.

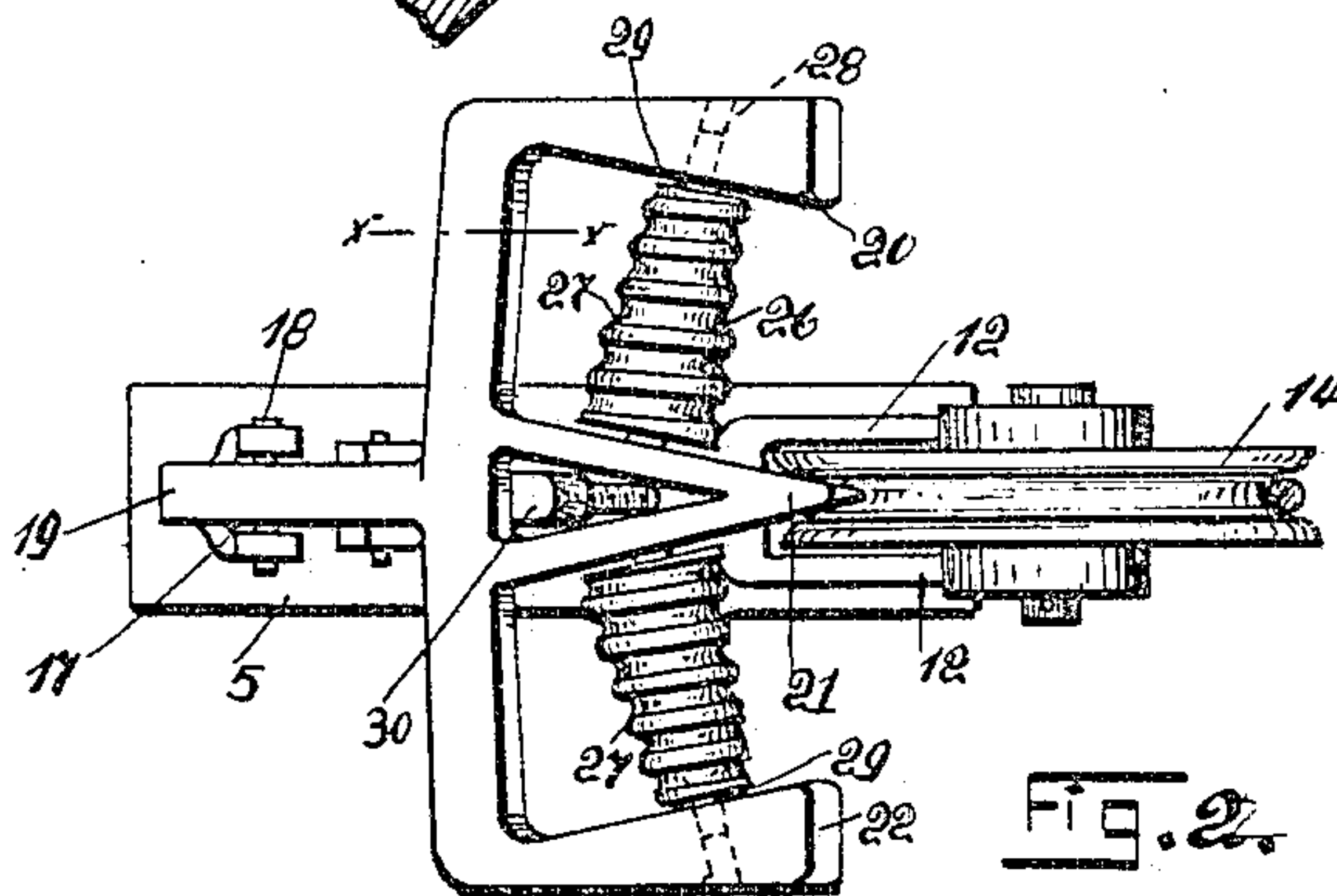


Fig. 2.

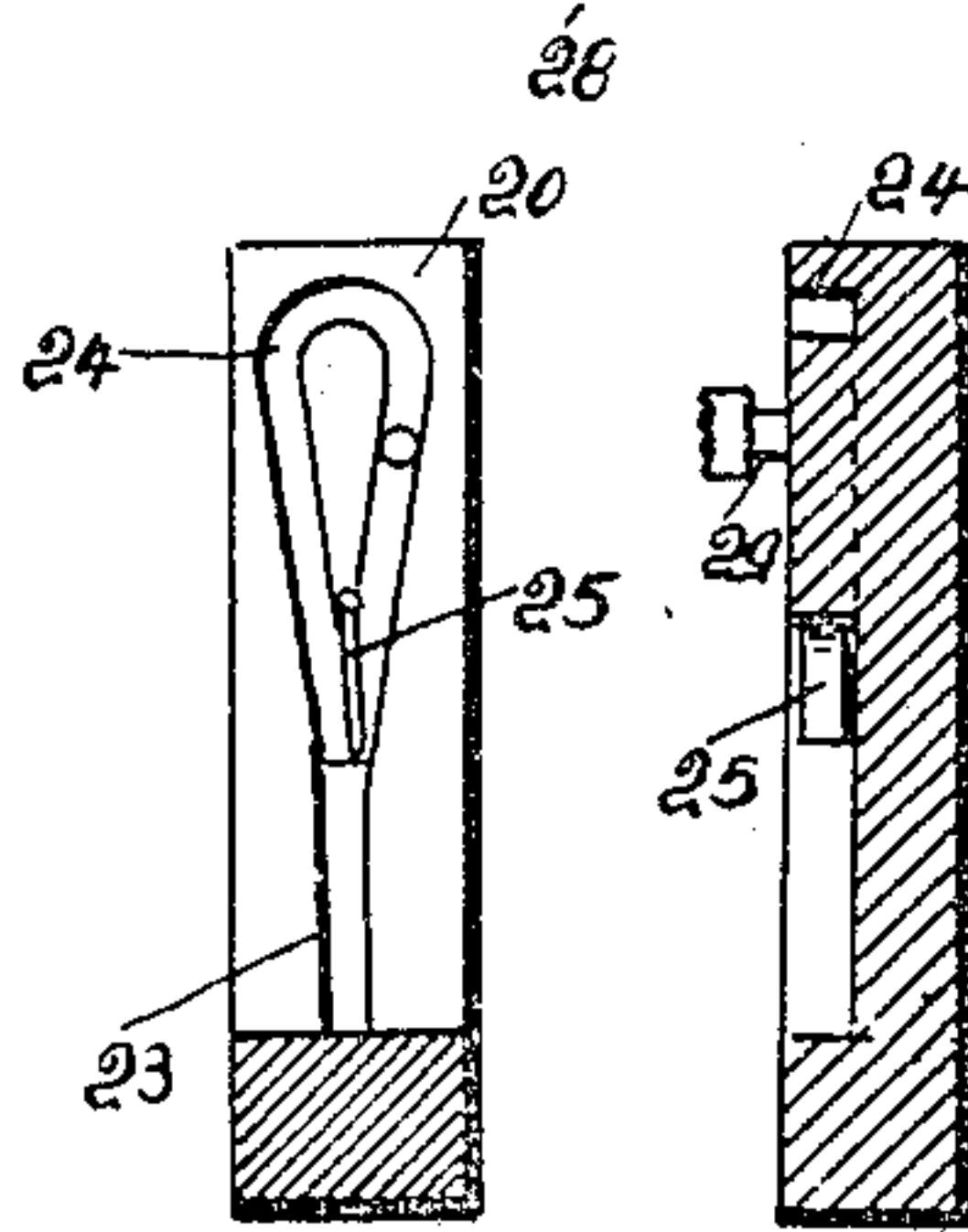


Fig. 3.

Fig. 4.

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# UNITED STATES PATENT OFFICE.

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## WIRE-REPLACER FOR TROLLEYS.

SPECIFICATION forming part of Letters Patent No. 787,343, dated April 11, 1905.

Application filed December 13, 1904. Serial No. 236,683.

*To all whom it may concern:*

Be it known that I, WILLIAM PECK, a citizen of the United States of America, residing at Steubenville, in the county of Jefferson and State of Ohio, have invented certain new and useful Improvements in Wire-Replacers for Trolleys, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in trolleys, and has for its object the provision of a novel device which is adapted to be used in connection with the ordinary type of trolley-wheel harps, the device being employed to retain the trolley wheel or wheels upon the wire and prevent the same from becoming displaced when the car or vehicle which carries the same passes around a curve or meets with any obstructions or obstacle which would have a tendency to displace the trolley-wheels from the wire.

Another object of this invention is to provide a device of the above type which will be extremely simple in construction, strong and durable, serviceable, and highly efficient when used in connection with street-car systems, where it is necessary that the cars be not delayed by the trolley-wheels becoming displaced from the trolley-wire.

With the above and other objects in view reference will be had to the drawings accompanying this application, wherein like numerals of reference designate corresponding parts throughout the several views, in which—

Figure 1 is a side elevation of my improved device, illustrating the same in position upon a trolley-pole. Fig. 2 is a top plan view of the same. Fig. 3 is a side elevation of one of the arms of a fork used in connection with my improved device, and Fig. 4 is a vertical sectional view of the same.

To put my invention into practice I have constructed my improved device whereby the same will be applicable to trolley-poles now being used, and in the accompanying drawings the reference-numeral 1 designates the end of a trolley-pole which, as is the common practice, is provided with a socket 2. In this

socket I secure, by means of a pin 3, a depending stem 4 of a rotatable platform 5. The platform 5 is rotatably mounted upon the shank portion 6 of the stem 4, said platform being retained thereon by a washer 7 and a set-screw 8. The platform is provided with a slot 9, in which is mounted, by a set-screw 10, the lower end 11 of a harp 12. In the harp 12 is journaled the ordinary type of trolley-wheel 14. The opposite end of the platform from that which is connected to the trolley-pole carries an upright 15, which is mounted in the platform by a set-screw 16. The upper end of the upright is bifurcated, as indicated at 17, and in this bifurcated end of the upright is pivotally mounted, by a pin 18, a fork 19. The fork is preferably constructed with three prongs 20, 21, and 22, the prongs 20 and 22 converging toward the center prong 21. The center prong is of a substantially inverted-V shape, the sides of said center prong lying in a plane parallel to the inner sides of the prongs 20 and 22. The confronting faces of the prongs 20, 21, and 22 are provided with slots 23, one of these slots being illustrated in Figs. 3 and 4 of the drawings. The upper end of each slot is of a substantially loop form, as indicated at 24, and at the junction of the loop portion of said slot with the straight portion of the slot I provide a gate 25, which is normally adapted to lie in the position illustrated in Fig. 3 of the drawings.

Mounted in the slots 23 of the prongs 20, 21, and 22 are the cone-shaped wheels 26 26, said wheels being provided with the spirally-arranged grooves 27. In order to place these wheels between the prongs 20, 21, and 22, I have provided the prongs 20 and 22 with apertures 28 28, through which the pins 29 are inserted to retain the wheels 26 within the fork. The pins 29 29 are made of a length corresponding to the distance between the slots 23, whereby they may move within said slots, and after the wheels have been placed in position the apertures 28 28 may be plugged or otherwise closed, if it be so desired.

The reference-numeral 30 designates a turn-buckle of a conventional form which is pivot-



ally mounted between the fork and the end of the harp 12, and the object of this turnbuckle will be presently described.

The operation of my improved device is as follows: It is a well-known fact that trolley-wheels at times become displaced from the trolley-wire on account of the vehicle or car carrying the same passing around a curve at too great a rapidity or on account of the trolley-wheel striking some irregularities or obstacles upon the trolley-wire, and in constructing my improved device I have embodied the construction just described, whereby should the wheel become displaced from the trolley-wire it will be immediately replaced thereon. The normal position of my improved device in respect to the trolley-wheel is illustrated in Figs. 1 and 2 of the drawings, and I have employed two of the cone-shaped wheels 26, whereby the wire may be gripped upon either side of the trolley-wheel. The ordinary type of trolley-pole is generally spring-actuated, whereby should the trolley-wheel become displaced from the wire it will be forced upwardly past the trolley-wire, and when this occurs the cone-shaped wheels 26 are adapted to engage the wire and return the same to the trolley-wheel. When the wire strikes one of the wheels 26, it will be rotated, and the rotation of the spirally-grooved wheel will gradually convey the wire toward the trolley-wheel, and in order that the same may be elevated sufficiently to permit it to be transferred to the trolley-wheel I have provided the loop-shaped slots 23 within the prongs of the fork. The rotation of the wheel 26, which carries the trolley-wire, will gradually raise the spirally-grooved wheel within the slot 23, and when the wheel has been sufficiently elevated to transfer the wire to the trolley-wheel the spirally-grooved wheel will continue its passage within the groove 23, passing around the loop and downwardly into either portion of the groove to its normal position. The hinged gate 25 will open by the pressure of the pin 29 upon the same and permit the grooved wheel to assume its normal position, after which the gate will close and prevent the pin 29 when the wheel travels upwardly again from entering that portion of the groove which it traverses after placing the trolley-wire upon the trolley-wheel. The turnbuckle 30 is employed for adjusting the fork to any desired position in respect to the trolley-wheel harp.

It will be noted that various changes may

be made in the details of construction without departing from the general spirit and scope of the invention.

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

1. A device of the type set forth comprising a revoluble platform, a harp mounted upon said platform, a wheel journaled in said harp, a fork pivotally mounted upon said platform, grooved wheels mounted in said fork, means for adjusting said fork in respect to said harp, substantially as described.

2. A device of the type set forth, comprising a revoluble platform, a harp carried by said platform, a trolley-wheel journaled in said harp, a fork pivotally mounted upon said platform, spirally-grooved wheels rotatably mounted within said fork, means whereby said wheels may slide within said fork, and means for adjusting the inclination of said fork, substantially as described.

3. In a device of the type set forth, the combination with a trolley-pole and a harp, of a revoluble platform carried by said pole, a fork pivotally mounted upon said platform, revoluble reciprocating wheels mounted in said fork, and means for adjusting the inclination of said fork, in respect to said harp.

4. The combination with a trolley-pole, and a trolley-harp having a wheel journaled therein, of a platform rotatably mounted upon said pole, a fork pivotally mounted upon said platform, revoluble reciprocating cone-shaped wheels mounted within said fork, said wheels having spirally-arranged grooves formed therein, and means for adjusting the inclination of said fork, substantially as described.

5. The combination with a trolley-pole and a trolley-harp having a wheel journaled therein, of a rotatable platform carried by said pole, a fork pivotally mounted upon said platform, said fork having grooves formed therein, rotatable cone-shaped spirally-grooved wheels mounted in said grooves, and means for adjusting the inclination of said fork, substantially as described and for the purpose set forth.

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

WILLIAM PECK.

Witnesses:

P. A. GOVIN,

C. V. JOHNSTON.