No. 775,777. PATENTED NOV. 22, 1904.

E. L. NARET & J. R. ERNST.

TROLLEY.

APPLICATION FILED SEPT. 16, 1904.

NO MODEL.

Fig. 1.

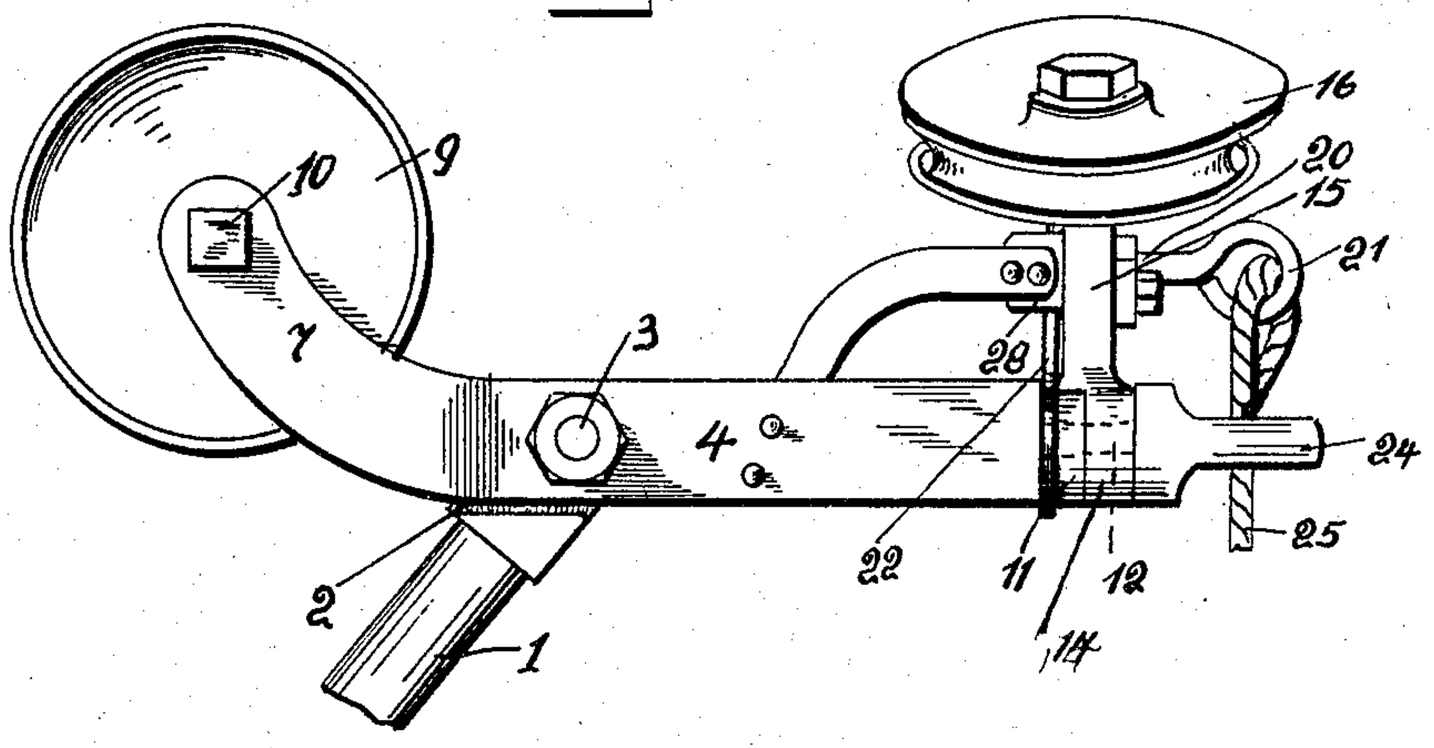


Fig. 2.

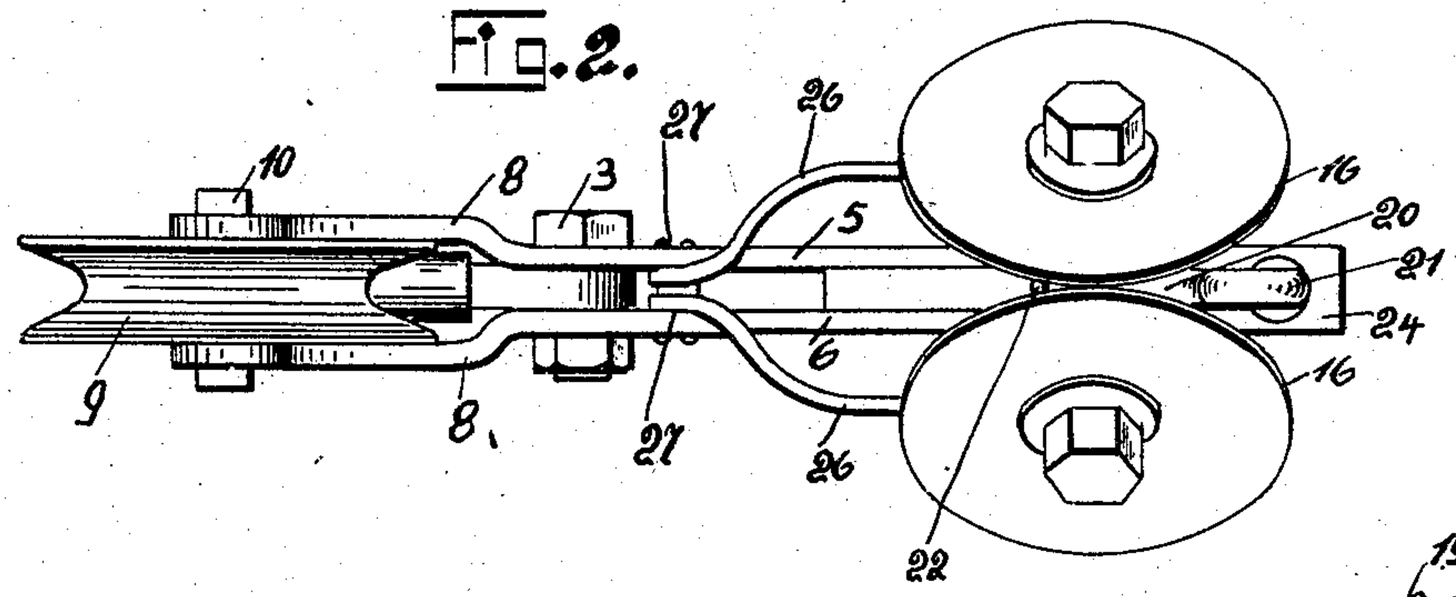


Fig. 3.

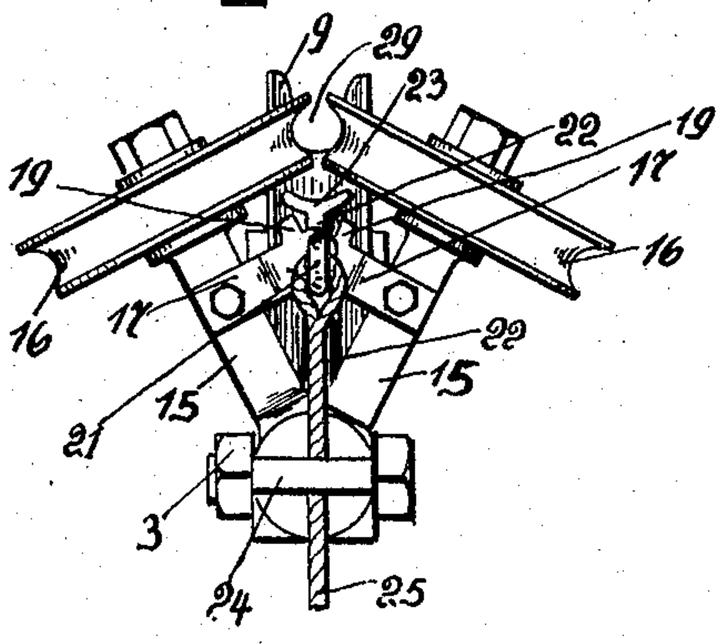


Fig. 4

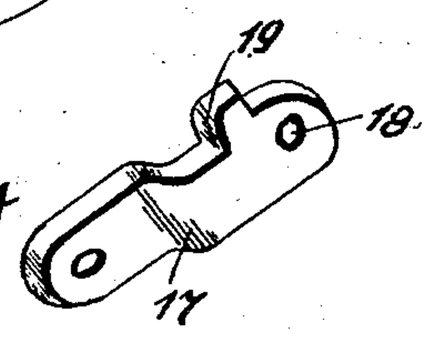
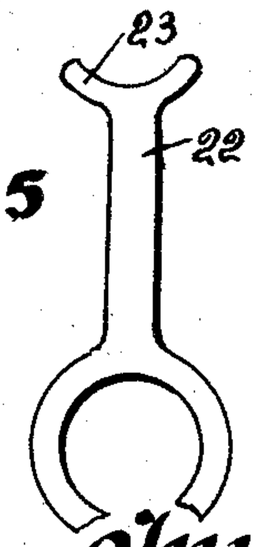


Fig. 5



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UNITED STATES PATENT OFFICE.

EDWARD L. NARET AND JOSEPH R. ERNST, OF MORGANTOWN, WEST VIRGINIA.

TROLLEY.

SPECIFICATION forming part of Letters Patent No. 775,777, dated November 22, 1904.

Application filed September 16, 1904. Serial No. 224,654. (No model.)

To all whom it may concern:

Be it known that we, EDWARD L. NARET and JOSEPH R. ERNST, citizens of the United States of America, residing at Morgantown, in the county of Monongalia and State of West Virginia, have invented certain new and useful Improvements in 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 more particularly to the harps which are adapted to support the trolley-wheels.

This invention has for its object to provide a novel form of harp in which the ordinary type of trolley-wheel is journaled, and in connection with said harp and trolley-wheel we employ auxiliary means for at all times retaining the harp in such position that the trolley-wheel will remain upon the wire.

A further object of our invention is to provide a trolley-harp which will be extremely simple in construction, strong, durable, and highly efficient when used, and in constructing our improved harp we have provided means whereby when the cars or vehicles carrying the trolley pole and harp pass around a curve or under bridges the overhead construction will not interfere with the general operation of the trolley-wheels carried by our improved harp and the same will retain the main trolley-wheel in position upon the wire and overcome the trouble experienced in said wheels becoming detached from the wire. We employ novel means for removing the trolley harp and wheels from the wire when it is desired to do the same.

With the above and other objects in view the invention consists in the novel construction, combination, and arrangement of parts, to be hereinafter more fully described, and specifically pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this application, and wherein like numerals of reference indicate like parts throughout the several views, in which—

Figure 1 is a side elevation of our improved trolley-harp, showing the same secured upon the upper end of a trolley-pole. Fig. 2 is a top plan view of the same. Fig. 3 is an end view of our improved harp. Fig. 4 is a detail perspective view of one of the toggle-levers employed in connection with our improved harp. Fig. 5 is a detail view of a guard employed in connection with the harp.

To put our invention into practice, we employ the ordinary and well-known type of trolley-pole, as designated by reference-numeral 1, and the upper end of this pole is cut away to form a contracted portion 2, to which is secured, by a bolt and nut 3, our improved harp 4.

The harp consists of the two side frames 5 and 6, these frames being secured upon each side of the contracted portion 2 of the pole, and the ends of said frames are bent upwardly, as indicated at 7, and sprung outwardly, as indicated at 8, forming a yoke in which the trolley-wheel 9 is mounted by a bolt or pin 10. The opposite ends of the frames are secured to a bar 11, which carries a pin 12, and upon this pin is secured a V-shaped member 14, the upwardly-extending standards 15 15 of which have mounted upon their upper ends the auxiliary wheels 16 16.

Connected to each one of the standards 15 15 is a toggle-lever 17, this toggle-lever being shown in Fig. 4 of the drawings. The upper end of each toggle-lever is provided with an aperture 18 and with an outwardly-extending lug 19. The loose ends of the toggle-levers are secured together by a pin 20, having formed on its outer end an eyelet 21. Upon the pin 12 is also mounted a guard 22, said guard having a T-shaped concave head 23, as clearly shown in Fig. 5 of the drawings. The pin 12 is provided upon its outer end with an eyelet-head 24, and through this eyelet-head the ordinary trolley-rope 25 is adapted to pass and have its end secured to the eyelet 21 of the pin 20.

The V-shaped member 14, comprising the standards 15 15, is pivotally mounted upon pin 12, each standard having a movement independent of the other, and to maintain the standards in an angular position (shown in Fig. 3 of the drawings) we employ flat band-springs 26 26, which are secured to the side frames,

as indicated at 27 27, and have their other ends secured to the lugs 28 of each standard 15.

It will be seen from the drawings and foregoing description that the auxiliary wheels 16 16 are maintained at an angle to one another and that the periphery of said wheels forms a pathway 29, through which the trolley-wire passes, this pathway being in horizontal alinement with the periphery of the trolley-wheel 9. When it is desired to remove the harp and its appurtenant parts from the wire, the rope 25 is pulled downwardly, carrying with it the pivoted ends of the toggle-levers, and the downward movement of these toggle-levers expands and forces downwardly upon the standards 15 15, enlarging the pathway 29 and permitting the wheels 16 16 to be removed from the trolley-wire. The springs 26 26 will return the wheels to their normal position when it is again desired to place the trolley upon the wire.

We have employed the guard 22 in connection with the end of the pin 12, whereby should the trolley-wire be forced below the wheels 16 16 this guard will prevent the wire from contacting with the toggle-levers and in any manner interfering with the movement of the same, the guard supporting the wire until the harp has assumed such a position in relation to the trolley-wire that the same will again enter its path of travel.

By employing the three wheels in the harp the contact-surface is increased and assured more positive. This is more especially true where icy or frosty trolley-wires are encountered.

While we have herein shown the springs for maintaining the standards 15 15 in their normal position and the toggle-levers 17 expanding the standards in order to release the harp, we do not care to limit ourselves to this specific means, but may employ such others as may be deemed necessary to maintain a serviceable construction, and we do not care to confine ourselves to the general arrangement, particularly the angle at which the auxiliary wheels are disposed, but may make such changes as will be permissable by the appended claims.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A trolley-harp comprising two frames, a trolley-wheel journaled between said frames, angularly-disposed standards pivoted to the ends of said frames, auxiliary trolley-wheels rotatably mounted upon said standards, means for maintaining said standards in angular relation one to the other, and means for separating said standards, substantially as described.

2. A trolley-harp comprising two frames having upcurved ends, a trolley-wheel journaled between said ends, angularly-disposed standards pivoted to the ends of said frames, a trolley-wheel journaled upon the end of each standard, toggle-levers carried by said standards, means for maintaining said standards in angular relation one to the other, and means for separating said wheels.

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

EDWARD L. NARET.
JOSEPH R. ERNST.

Witnesses:
JOHN G. LENTZ,
C. W. CRAMER.