No. 829,390. PATENTED AUG. 28, 1906.

B. L. DRESSER.

TROLLEY HARP.

APPLICATION FILED SEPT. 14, 1905.

Fig. 1.

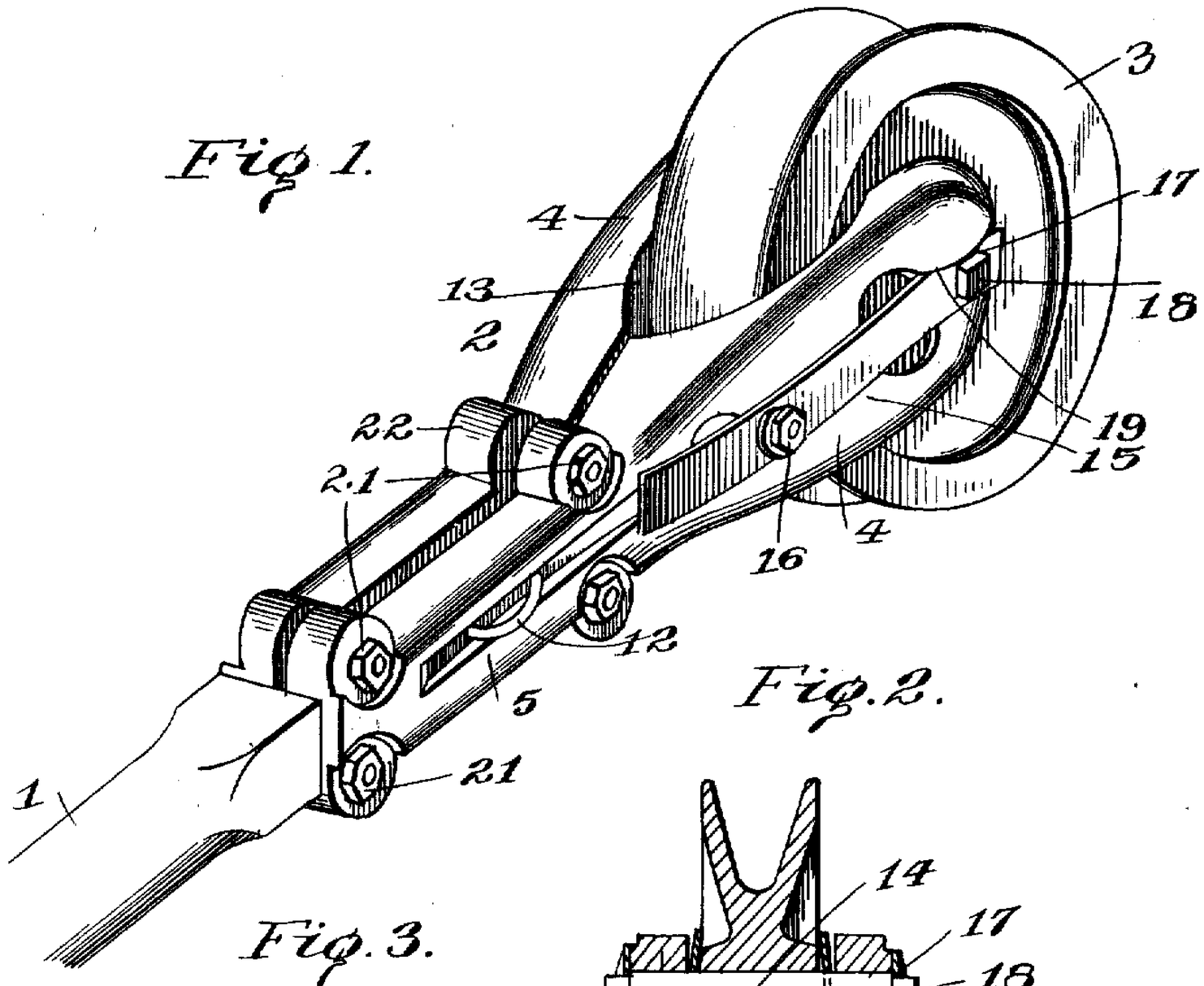


Fig. 2.

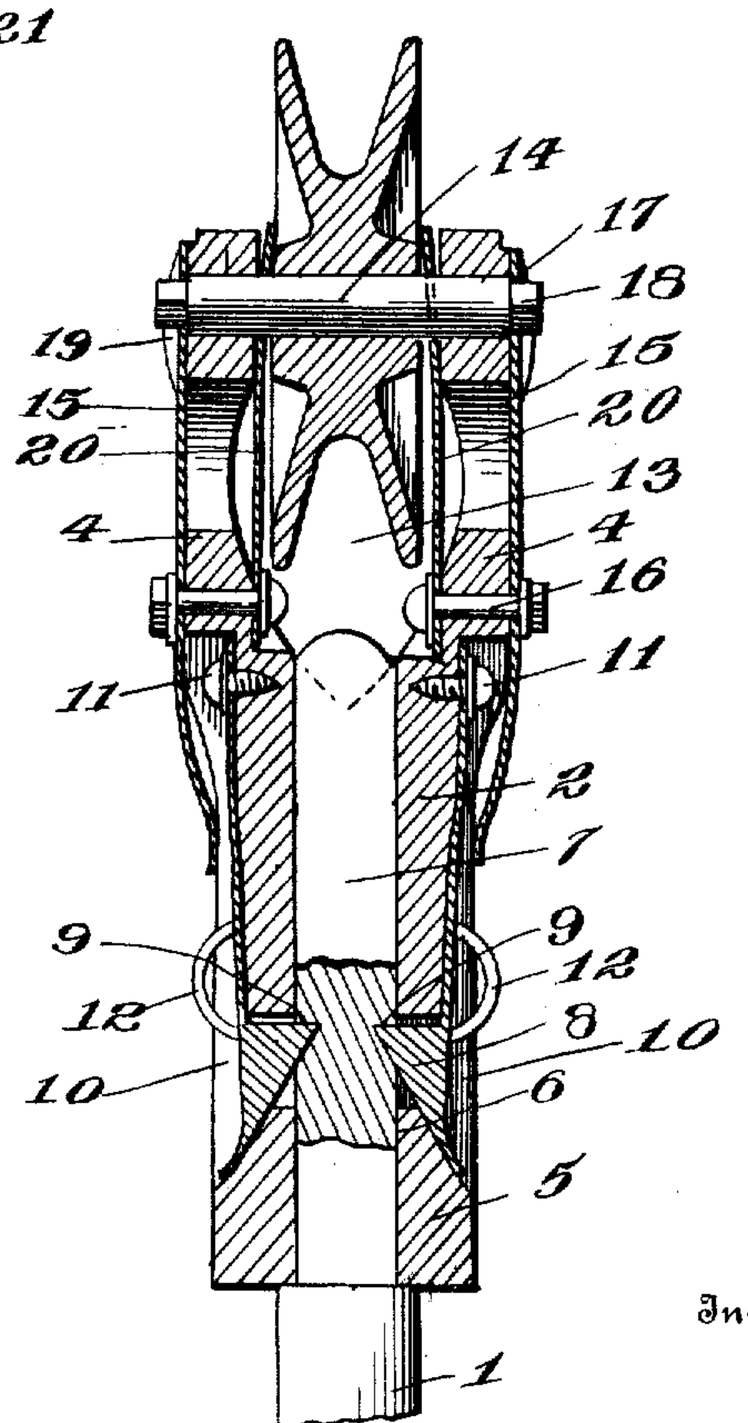
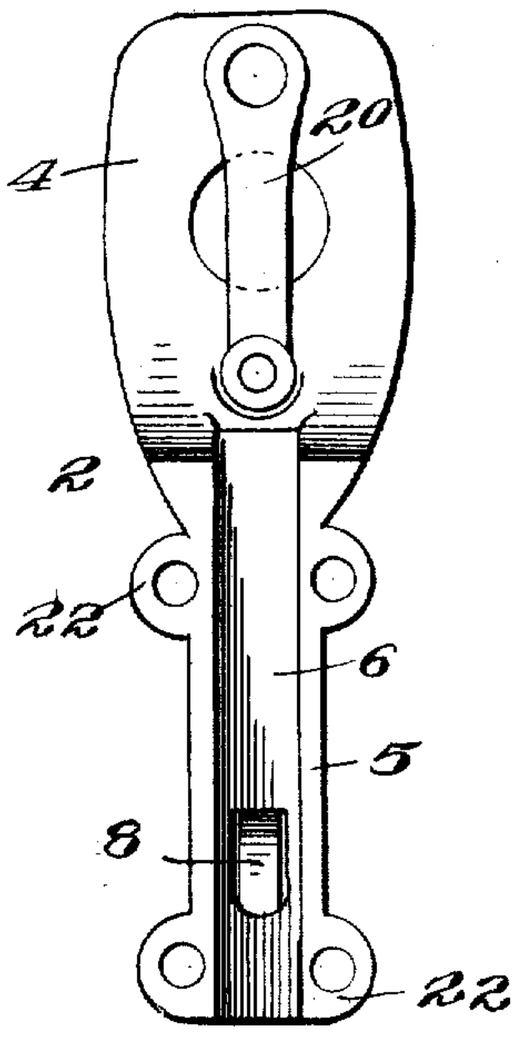


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

BENJAMIN L. DRESSER, OF UXBRIDGE, MASSACHUSETTS.

TROLLEY-HARP.

No. 829,390. Specification of Letters Patent. Patented Aug. 28, 1906.

Application filed September 14, 1905. Serial No. 278,462.

To all whom it may concern:

Be it known that I, BENJAMIN L. DRESSER, a citizen of the United States, residing at Uxbridge, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Trolley-Harps, of which the following is a specification.

This invention embodies an improved form of harp for trolley-poles; and the essential feature of the invention resides in the provision of a device of this class of very simple construction and one which is adapted for quick attachment and detachment from the ordinary form of trolley-pole most commonly in use at the present time.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings, in which—

Figure 1 is a perspective view of a trolley-pole, showing the invention applied thereto. Fig. 2 is a vertical sectional view through the upper portion of the pole and the harp. Fig. 3 is a front elevation of one of the side plates which comprises a section of the harp looking toward the inner side of said plate.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

In the practical embodiment of the invention and referring to the drawings the numeral 1 designates the trolley-pole, the numeral 2 the harp, and the numeral 3 the trolley-wheel mounted in the harp. The harp comprises a shank 5 and a head composed of spaced sides 4 at the upper end of the shank. The shank 5 is formed with a square socket 6, in which the square upper end portion 7 of the pole is adapted to be received, spring-catches 8 being mounted on opposite sides of the shank 5 of the harp and adapted to engage in recesses 9 in opposite sides of the portion 7 of the pole to attach the harp thereto. The catches 8 are seated in longitudinal depressions 10 in opposite sides of the shank 5 and are secured to the shank at their upper ends by means of a screw or similar fastening 11, each catch having its uppermost portion enlarged. A handle 12 is carried by each catch projecting from its outer side, so as to be readily grasped in order to disengage the catches from the pole and permit quick removal of the harp therefrom. The upper ends of the sides 4 of the head of the harp are formed with openings 13, forming bearings for an axle 14, on which the wheel 3 is mounted. The axle 14 is prevented from displacement by means of springs 15, which are attached to the outer faces of the sides 4 by means of fastenings 16, located between the ends thereof. The upper extremity of each spring 15 is formed with a square opening 17, adapted to receive the squared end portions 18 of the axle 14, the springs 15 being adapted to bear against the shoulders formed by the provision of the squared portions of the axle to prevent lateral displacement of the axle from the bearings 13, before described. The upper end of each spring 15 is received in a recess 19 on the outer face of the sides 4 of the head; but this end portion of each spring 15 may be readily pulled outwardly and turned aside by pivotal movement with reference to the fastenings 16, whereby the axle 14 can be readily displaced should this be necessary for any purpose. The lower end of each spring 15 projects over the upper end of the depression 10 adjacent thereto and forms a housing for the fastening-screw 11, by which the spring-catch 8 adjacent is held in position. The fastenings 16, which attach the springs 15 to the head of the harp, also secure contact-springs 20 thereto, the springs 20, however, being arranged upon the inner face of each side 4 of the head instead of on the outer face, as are the springs 15. The upper end of each spring 20 is provided with an opening through which the axle 14 passes, and the normal tendency of the springs 20 is such as to hold the upper end portions thereof in spring contact with opposite sides of the trolley-wheel 3, insuring a thorough electrical connection of the pole and trolley-wire.

In manufacturing the harps it is contemplated that the same be made in two sections consisting of plates, each plate constituting a half of the shank 5 and forming one side 4 of the head. The plates comprising the harp would be secured together by means of suitable bolts 21, passing through horizontally-apertured lugs 22.

It will be readily noted that the construction of the harp as hereinbefore set forth is particularly advantageous, in that the same can be quickly detached from the pole 1 and a new harp substituted therefor without the necessity of use of skilled labor. Should the

harp break for any purpose, the motorman or conductor of the car can readily replace the same and the car can resume its trip.

Having thus described the invention, what is claimed as new is—

1. In combination, a trolley-pole, a trolley-harp comprising a shank and a head composed of spaced sides, said sides having suitable bearings therein, an axle mounted in the bearings of the sides of the head, a trolley-wheel mounted on said axle, opposite end portions of the axle being formed with shoulders, axle-holding springs on the outer faces of the sides of the head and having end portions thereof bearing against the shoulders on the ends of the axle to prevent lateral displacement of said axle, fastening means for said springs admitting of turning the same to one side to permit of removal of the axle, and contact-springs arranged upon the inner faces of the sides of the head and secured to the said sides by the same fastenings as the axle-holding springs, said contact-springs having openings therein through which the axle aforesaid passes and normally bearing against the opposite sides of the trolley-wheel.

2. A trolley-harp comprising a shank formed with a socket to receive the upper end of a trolley-pole, opposite sides of the shank being formed with longitudinal depressions, spring-catches seated in the depressions of the shank and adapted to move into the socket to engage the trolley-pole and secure the harp thereto, a head at the upper end of the shank of the harp and composed of spaced sides having openings at the upper extremities thereof, an axle mounted in the openings aforesaid and having its ends squared, a trolley-wheel mounted on the axle, springs upon the outer faces of the sides of the head and provided with square openings receiving the squared end portions of the axle, fastenings securing said springs to the sides of the head and permitting pivotal movement of the springs, and contact-springs arranged on the inner faces of the sides of the head and attached thereto by means of the fastenings securing the axle-engaging springs above described, the contact-springs being provided with openings through which the axle passes and being in spring contact with the opposite sides of the trolley-wheel.

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

BENJAMIN L. DRESSER. [L. S.]

Witnesses:

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