No. 791,191. PATENTED MAY 30, 1905.

M. HARTZ.

TROLLEY GUARD.

APPLICATION FILED FEB. 27, 1904. RENEWED NOV. 2, 1904.

Fig. 1.

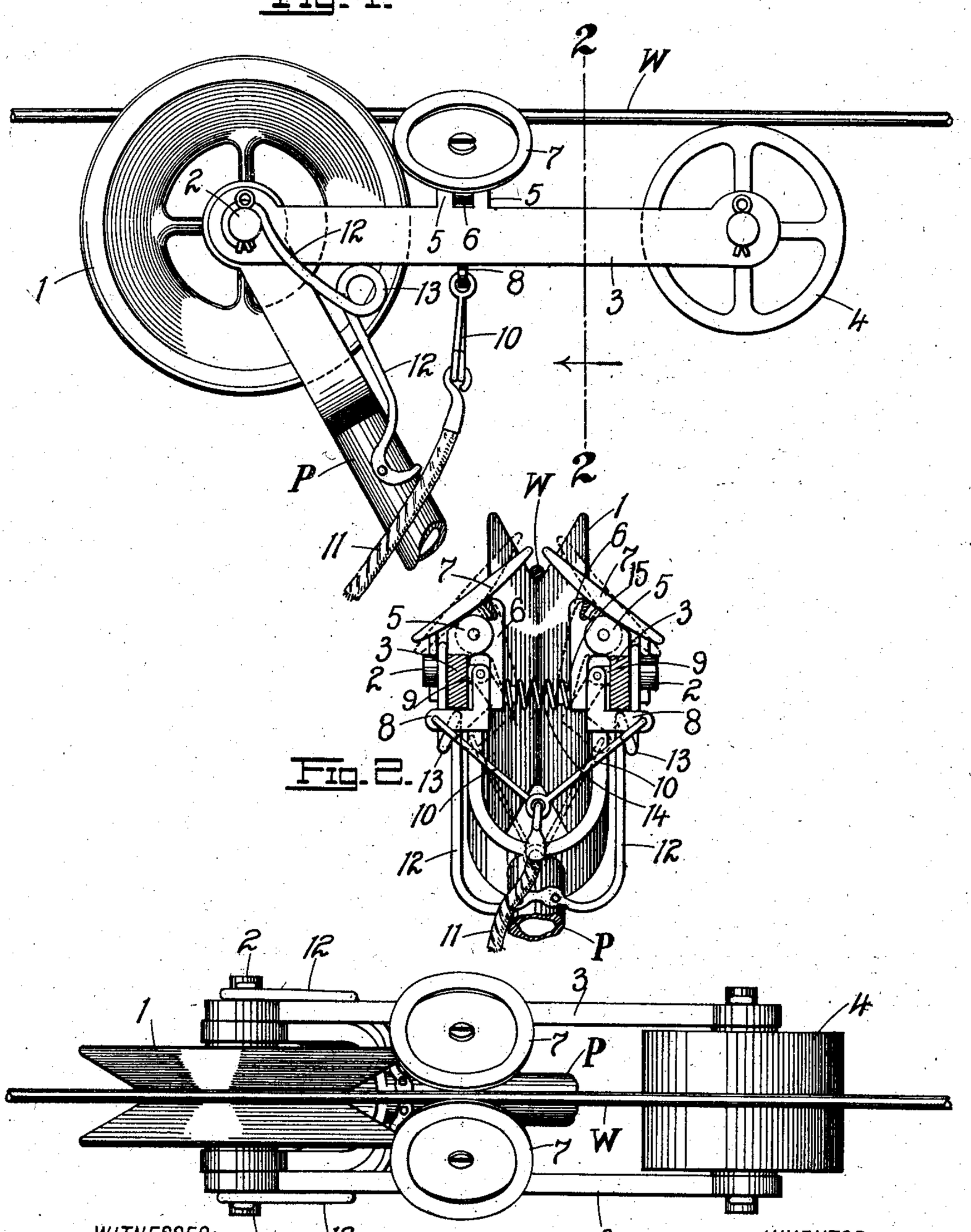

Fig. 2.

Fig. 3.

WITNESSES:

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UNITED STATES PATENT OFFICE.

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TROLLEY-GUARD.

SPECIFICATION forming part of Letters Patent No. 791,191, dated May 30, 1905.

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To all whom it may concern:

Be it known that I, MATHIAS HARTZ, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Trolley-Guards, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in trolley-guards; and it consists in the novel construction of guard more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is a side elevation of a trolley with guard attached. Fig. 2 is a transverse section on line 2 2 of Fig. 1, and Fig. 3 is a top plan thereof.

The object of my invention is to construct a guard which will effectively prevent the trolley-wheel from jumping the line-wire, and to this end I have devised a guard which in detail may be described as follows:

Referring to the drawings, 1 represents a trolley, P the pole, and W the line-wire. Pivotally mounted about the outer projecting ends of the spindle 2 of the trolley and exterior to the forked ends of the pole, by which the spindle is carried, is a frame 3, whose free end is provided with a roller 4, which rides freely over the under surface of the wire as the trolley travels along the same. Pivotally secured on either side of the frame contiguous to the trolley between lugs or ears 5 5 are the rock-bearings 6 6, along whose upper inclined surfaces are mounted the downwardly-inclined guard rollers or disks 7 7, between whose converging faces the wire W is confined. Adapted to engage the depending arms of the rock-bearings 6 are the vertical members of the angular tripping-dogs 8, pivotally suspended from lugs 9, carried by the frame, the free ends of the horizontal members of said dogs having connected thereto the upper ends of links 10, whose lower meeting ends are coupled to the cable 11, leading to the platform of the car. Looped about the opposite ends of the spindle 2 are the ends of a spring-supporting yoke 12, the base of the yoke being secured or riveted to the pole, the respective arms of the yoke being provided at a suitable point with inwardly-inclined spring-coils 13, disposed at a sufficient angle to come under the sides of the frame 3 and serve as a support therefor and keep the roller 4 in permanent contact with the wire W.

Under ordinary circumstances the wire W will be confined between the converging faces of the disks 7, no matter in what direction the trolley-pole may sway, this arrangement preventing the trolley from jumping the wire. The guard-disks are kept to their converging position by the expansion of a spring 14, supported on studs 15 at the adjacent ends of the depending arms of the rock-bearings 6. Should it be desirable for any reason to draw the trolley off the wire, the conductor has simply to pull on the cable 11, the draft thereon serving to trip the dogs 8 inwardly, thereby forcing the rock-bearings to an inclination sufficient to open up the space between the converging faces of the disks 7, allowing for the release of the wire W, it being understood that a draft on the cable 11 will compress the spring 14. (See dotted position of parts in Fig. 2.) When the trolley is restored on the wire, a release of the cable will permit the spring 14 to expand, this again restoring the parts to their normal position and closing the disks 7 7 over the wire. Of course the spring-yoke 12, with its supporting-coils 13, yieldingly forces the frame 3 toward the wire W, keeping the parts in uniform relation thereto until disengaged in the manner already indicated.

I do not wish to be limited to the precise details, as they may in a measure be departed from without in any wise affecting the nature or spirit of my invention.

Having described my invention, what I claim is—

1. A trolley-guard comprising a suitable frame mounted in proximity to the trolley, means for forcing the frame toward the line-wire, spring-controlled converging rotatable disks carried by the frame and closing over the wire, and means under the control of the conductor for tilting the disks to releasing position, substantially as set forth.

2. A trolley-guard comprising a frame pivotally suspended from the trolley-spindle, a spring-yoke secured to the pole and serving to support the frame, a terminal roller in the free end of the frame adapted to bear against the under side of the line-wire, rocker-bearings mounted in the frame, disks mounted on the bearings and normally converging or closing over the line-wire, dogs pivotally suspended from the frame and engaging the adjacent ends of the rocker-bearings, a spring for normally forcing the adjacent ends of the rocker-bearings apart, links depending from the free ends of the dogs and having their opposite ends connected to the cable leading to the platform of the car, the parts operating substantially as and for the purpose set forth.

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

MATHIAS HARTZ.

Witnesses:
HENRY WITZGALL,
JOHN BENDER.