

No. 631,165.

Patented Aug. 15, 1899.

H. HIRSCHMAN.
TROLLEY.

(Application filed Mar. 29, 1899.)

(No Model.)

FIG.1.

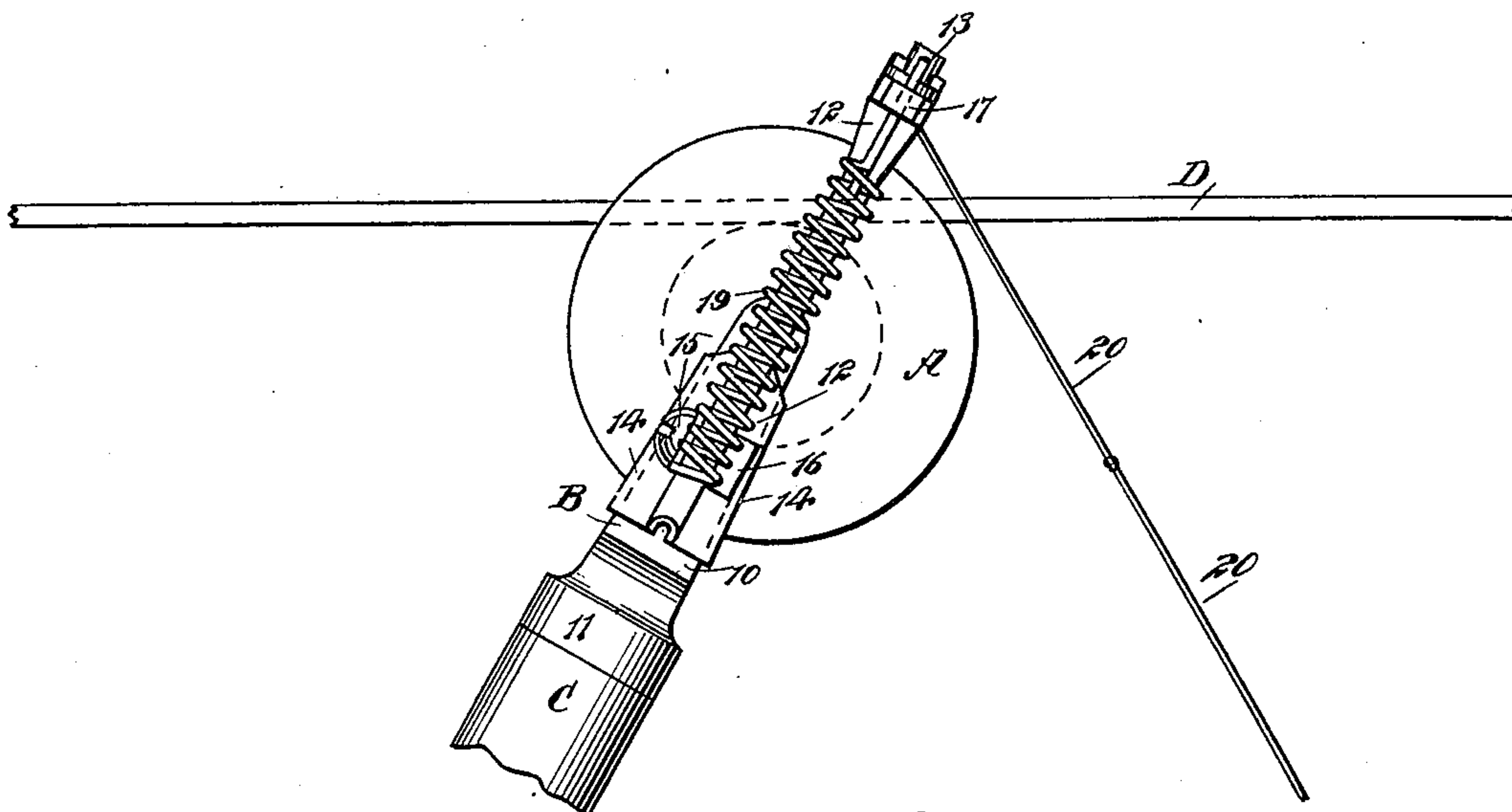


FIG. 2.

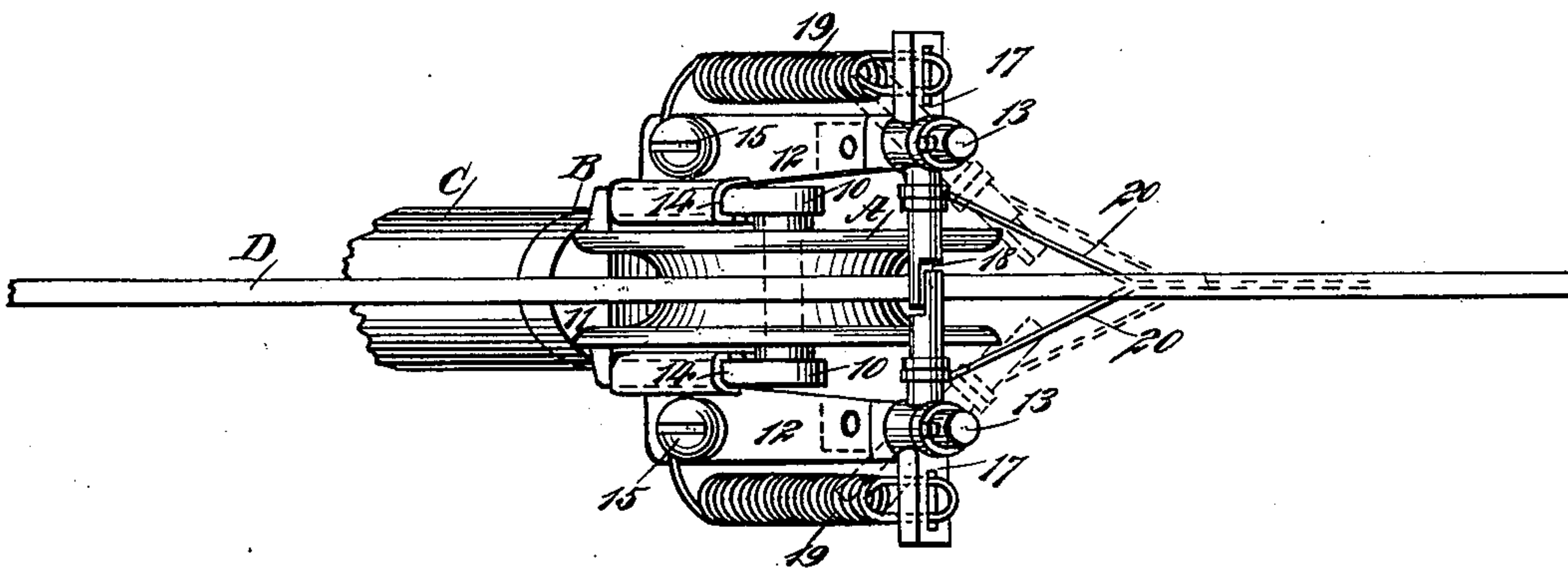
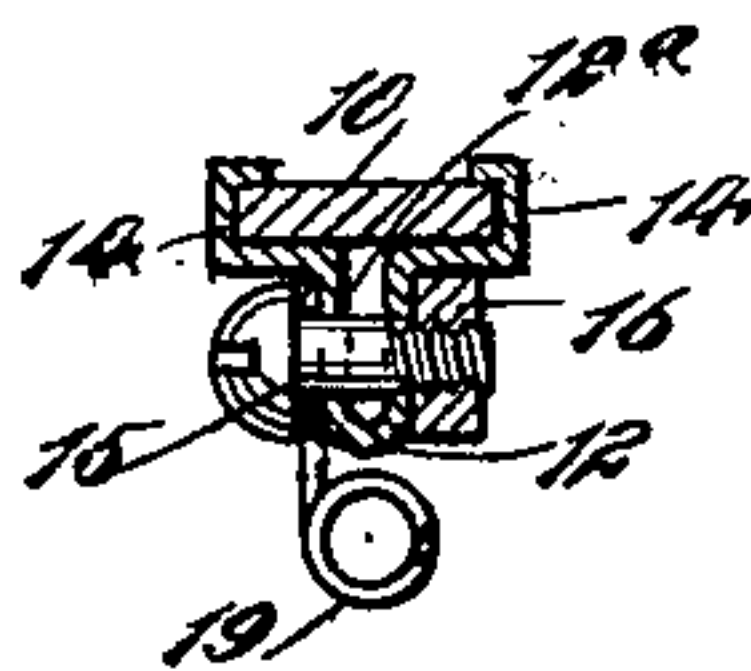


FIG. 3.



WITNESSES:

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TROLLEY.

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Application filed March 29, 1899. Serial No. 710,962. (No model.)

To all whom it may concern:

Be it known that I, HERBERT HIRSCHMAN, of Salt Lake City, in the county of Salt Lake and State of Utah, have invented a new and Improved Trolley Attachment, of which the following is a full, clear, and exact description.

The object of the invention is to provide a simple and durable attachment for trolley-wheels that will effectually prevent such wheels from slipping off or jumping off the wire and yet allow said wheels to freely pass all obstructions—such as the switches that connect the wires, also the wire connections from cross-bars or poles or any other support for the wire—and no matter how swiftly the car may be moving.

A further object of the invention is to so construct the attachment that it will in no manner interfere with the motion or mechanism of the car.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improved device. Fig. 2 is a plan view of the same; and Fig. 3 is a transverse section through one of the members of the trolley-wheel fork, the standard connected with said member, and a spring connected with the standard.

The trolley-wheel A is provided with the usual peripheral groove and is mounted to turn in the usual way between the members 10 of a fork B, the base 11 of the fork being adapted for attachment to the end of a trolley-pole C, and D represents a wire with which the trolley is to engage.

A standard 12 is connected with each member 10 of the fork B, and at the upper end of each standard a pin or cylindrical section 13 is formed. The standards are preferably constructed of spring metal, and the bottom portion of each standard is provided at its inner face with a longitudinal groove 12^a, as shown in Fig. 3. At the inner edge of the lower portion of each standard a wing 14 is constructed, and these wings are bent over the side edges of the members 10 of the fork to an engage-

ment with the inner faces of said members, thus forming grooves in which the members of the fork are fitted, and the standards are firmly secured to the forks by passing a screw 15 through the slotted portion of each standard and into a nut 16 at the opposite side of the standard, the nut bearing against the wing belonging to the standard, as is also shown in Fig. 3. The standards extend beyond the outer ends of the members of the fork to a point beyond the periphery of the trolley-wheel.

A guard-finger 17 is pivoted at the upper end of each standard 12. These guard-fingers normally extend in direction of each other and over the periphery of the trolley-wheel. Each of the guard-fingers is provided with a longitudinal recess 18 at its inner end, the recess in one finger being made at the bottom portion thereof and the recess in the other finger being made in the top portion of the same, and the fingers are of such length that their recessed inner ends overlap, as is clearly shown in Fig. 2. The fingers are held in their normal position—namely, crossing the trolley-wheel—and are returned to such position when disturbed and released through the medium of springs 19. These springs are preferably coil-springs, and their upper ends are secured to the outer end members of the guard-fingers, while their lower ends are secured to the standards by the screws or bolts 15. These springs therefore are practically opposite the outer longitudinal edges of the standards 12, as shown in both Figs. 1 and 2. As soon as an obstruction is met the guard-fingers will separate laterally in either direction, placing the springs 19 under tension, and as soon as the obstruction is passed the fingers will be returned by the springs to their normal position transversely of the trolley-wheel. While the guard-fingers are capable of lateral movement, they are held against vertical movement. When the guard-fingers are employed, the rope 20 is bifurcated at the top, and one strand of the rope is attached to each of the guard-fingers respectively. Thus when the trolley-wheel is to be placed in engagement with a wire or is to be removed from such engagement by drawing downward on the rope 20 the guard-fingers are separated, permitting the wire to be carried

to or from the trolley-wheel, and at the same time the trolley-pole may be drawn downward as far as necessary.

It will be observed that the members of the fork are attached to the standards in a removable manner, and it is evident that the guard-fingers may be readily disconnected from the standards and that the springs may be disconnected from both the standards and the guard-fingers. Thus should any part become broken or seriously injured it may be conveniently replaced by a perfect part.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination with a trolley-wheel and its support, of guard-fingers each pivotally mounted between its ends above said wheel and extending transversely over a portion of the wheel, the inner ends of said guard-fingers normally overlapping, and springs connected with the outer ends of said fingers and with a fixed support, the said fingers being capable of lateral movement and held against vertical movement, as described.

2. A trolley-wheel, a fork in which the trolley-wheel is mounted to turn, a standard attached to each member of the fork and extending approximately parallel therewith, the said standards projecting beyond the outer ends of the members to a point beyond the periphery of the trolley-wheel, a guard-finger pivoted between its ends at the upper end of each standard whereby the fingers have lateral movement, the inner ends of said guard-fingers extending normally in direction of each other and across the upper portion of the trolley-wheel and springs arranged at the outer edges of the standards extending approximately parallel with the standards and members of the fork and secured at their upper ends to the outer end members of the fingers, and at their lower ends to the said standards, as set forth.

3. The combination with a trolley-wheel and its fork, of guide-standards attached to the members of the fork and extending at each side of the trolley-wheel beyond its periphery, guard-fingers pivoted between their ends upon the upper ends of said standards and extending inward toward each other, the guard-fingers being arranged to interlock at their inner ends, and capable of lateral movement

but held against vertical movement, springs connected with the outer ends of the guard-fingers and with a fixed support, said springs serving to normally maintain the guard-fingers in position over the trolley-wheel, being likewise adapted to return said fingers to such position when an obstruction has been passed, as specified.

4. The combination, with a fork and a trolley-wheel mounted in the said fork, of a standard attached to each member of the fork, which standards extend at each side of the trolley-wheel beyond the periphery thereof, a guard-finger pivoted upon the upper end of each standard, the guard-fingers having their inner ends recessed at opposite faces, the recessed portions of said guard-fingers being arranged to overlap, and springs attached to the outer ends of the guard-fingers and to the said standards, for the purpose described.

5. The combination with a trolley-wheel and its fork, of standards constructed of spring material, the said standards having at their lower portions wings formed with grooves in which the members of the fork are fitted, means for firmly securing the standards to the forks, and spring-controlled guard-fingers carried by the standards and extending over a portion of the trolley-wheel, substantially as set forth.

6. The combination with a trolley-wheel, and the fork in which said wheel is mounted, of standards having their lower portions constructed to engage and fit upon the members of the fork, the said standards extending at each side of the trolley-wheel beyond the periphery thereof, and each having at its upper end a pin or cylindrical section, a guard-finger mounted to turn on the said upper end of each standard, the inner ends of the guard-fingers extending normally in direction of each other and over the periphery of the trolley-wheel, coil-springs secured at their upper ends to the outer ends of the guard-fingers, and screws or bolts securing the lower ends of said springs to the standards, the said screws or bolts also serving to secure the standards in place on the members of the fork, substantially as described.

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Witnesses:

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