No. 696,248. Patented Mar. 25, 1902.

W. H. MARTIN.

LIFE SAVING DEVICE FOR STREET CARS.

(Application filed May 23, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

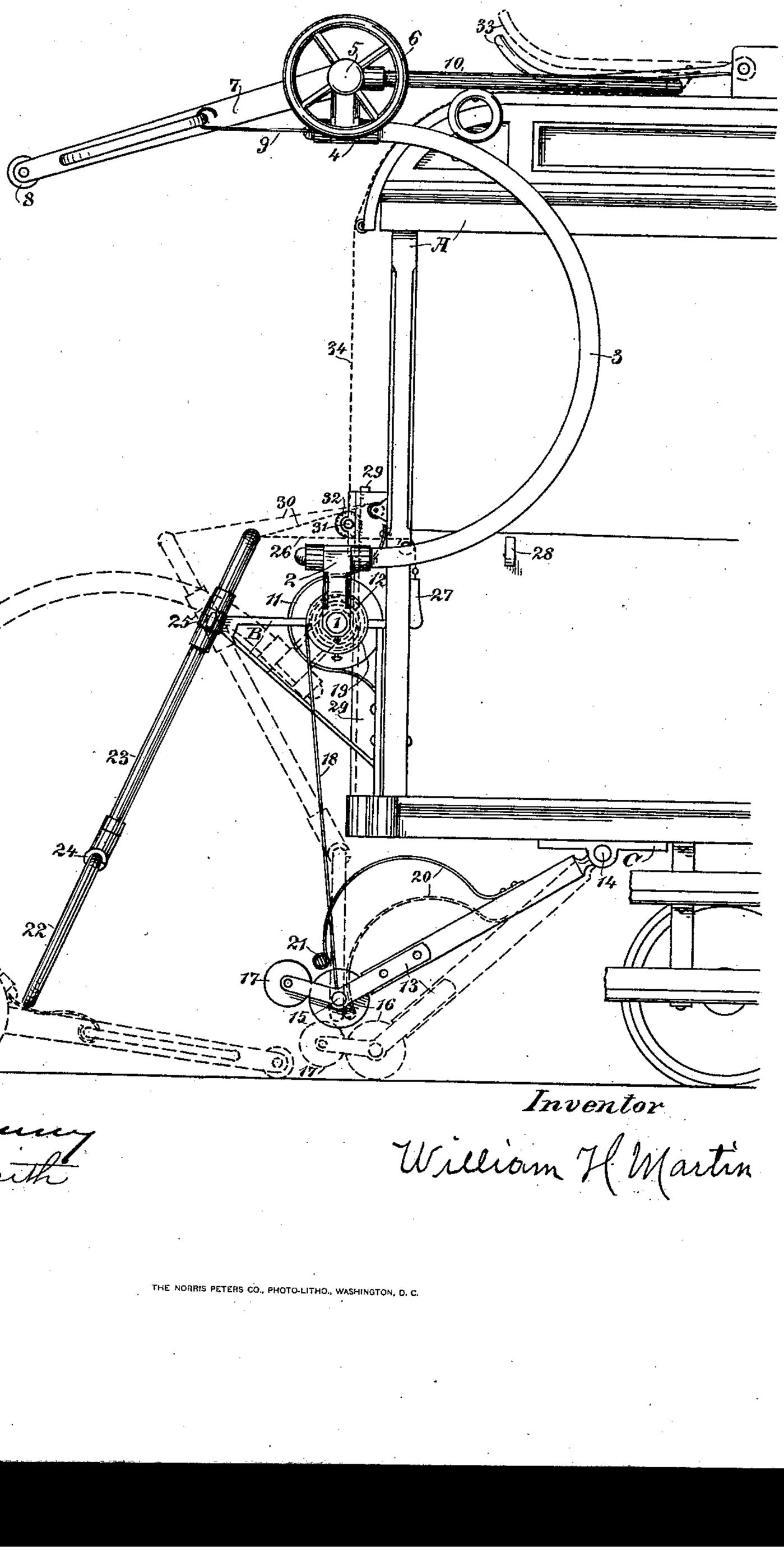

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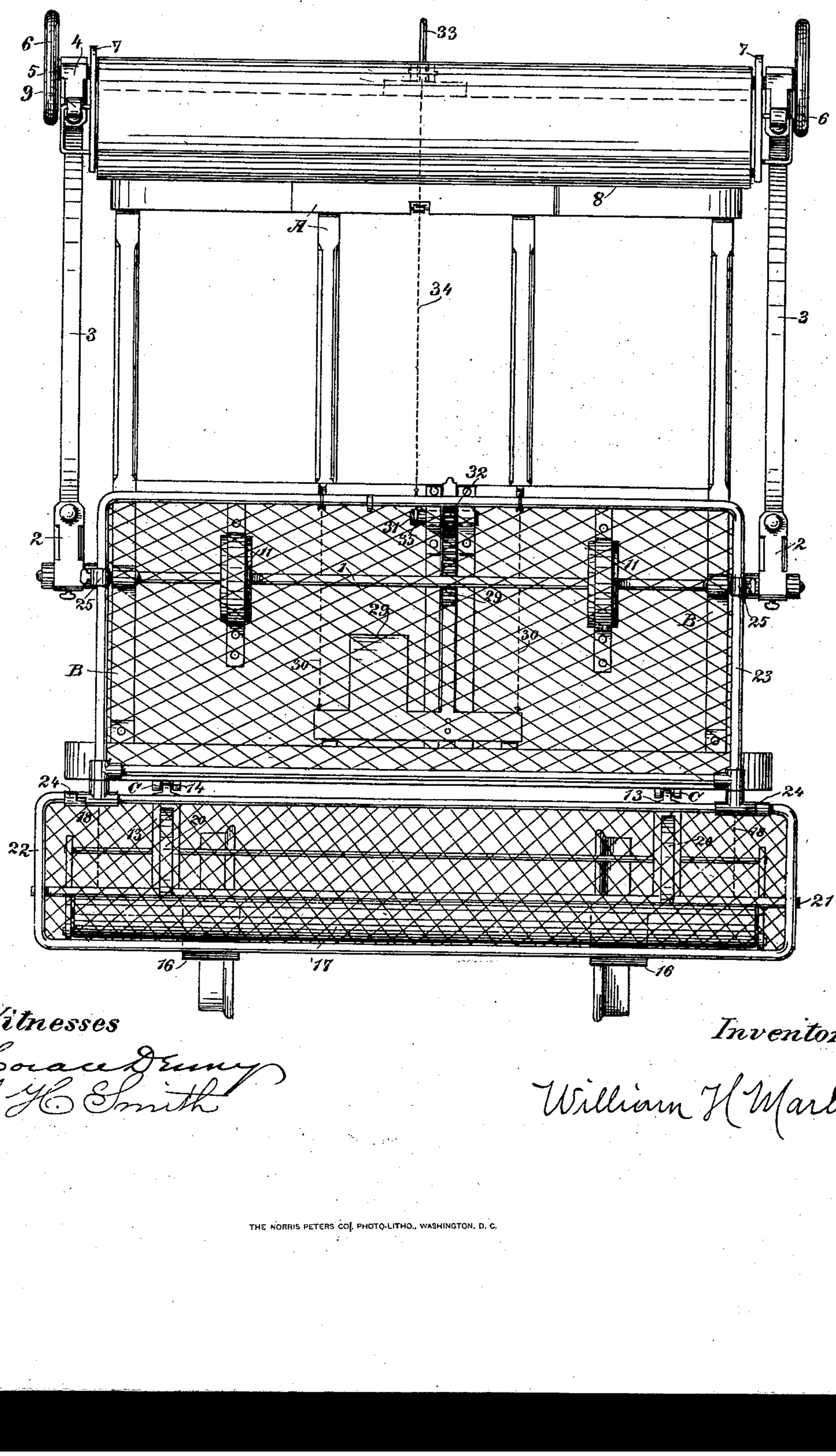
Fig. 2.



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WILLIAM H. MARTIN, OF SAN FRANCISCO, CALIFORNIA.

LIFE-SAVING DEVICE FOR STREET-CARS.

SPECIFICATION forming part of Letters Patent No. 696,248, dated March 25, 1902.

Application filed May 23, 1901. Serial No. 61,524. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. MARTIN, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented a new and Improved Life-Saving Device for Street-Cars, of which the following is a specification.

My invention relates to improvements in life-saving devices for street-cars in which a combined awning and carriage having a roller and pivoting-arms with wheels having a friction-roller operate in conjunction with a pivoting-trigger having a hinged section and a combined trigger-counterweight and straight-gear lever operating a spur-gear wormed-rod ring-lock; and the objects of my invention are, first, to land the combined awning and carriage having a roller upon the track over and in advance of any object coming in contact with the trigger and the pivoting-arms with wheels having a friction-roller in the rear of the same, whereby the obstruction is lifted upward from the track by the rollers, the same turning in opposite directions; second, to afford ample space upon the carriage for the reception of the object when caught; third, to overcome the impact on coming in contact with any object; fourth, to provide a reliable yet sensitive lock adapted to securely retain the device in position when the car is in motion and release the same by the least touch of the trigger which operates the lock; fifth, to insure the safety of a person standing in a direct line with either carriage-supporting arm in the descent of the same, for which purpose I have provided curved arms adapted to overreach a person; sixth, to furnish the curved arms and combined awning and carriage with a rigged carriage-dash adapted to securely hold the curved arms in a uniform manner and insure the perfect action of the carriage.

With these various objects in view my invention consists in the peculiar construction of the various parts and in their novel arrangement, all of which will be fully described in detail and pointed out in the claims.

In the drawings forming a part of this specification, Figure 1 represents a side view in action; Fig. 2, a front view.

In carrying out my invention I furnish the car A with bracket S and lugs C, adapted to carry all of the operative parts except the lock. The brackets B are provided with a rock-shaft 1. Secured to either end portion of the same is a double T 2, carrying a curved arm 3, either arm 3 being furnished with a double T 4. The double T's 4 are provided with an axle 5, having wheels 6. The axle 5 is furnished with a combined awning and carriage 7, having a roller 8. The same is supported by carriage-springs 9, arranged in the double T's 4, adapted to support the carriage 7 in a position to serve as an awning when the same is raised and allow the carriage 7, with roller 8, to yield on coming in contact with the roadway when operating.

10 represents the carriage-dash spanning the curved arms 3 and double T's 4, being adapted to secure the same in a uniform position and insure perfect action in the descent of the carriage 7.

11 represents spring-barrels furnished with coil-springs 12, attached to the rock-shaft 1. The same are adapted to turn the said rock-shaft 1 less than one-half of a whole turn, which action when the carriage 7 is in the raised position will land the carriage 7 upon the track over and in advance of any object when operating.

13 represents pivoting-arms pivoted, as at 14, in the lugs C beneath car A. The same are provided with an axle 15, furnished with wheels 16, adapted to turn a friction-roller 17, connected therewith. The axle 15 is supplied with chains 18, carried by grooved wheels 19, arranged upon the rock-shaft 1. The said chains 18 are adapted to carry the pivoting-arms 13 and friction-roller 17 some distance above the track when out of action and lower the same by the operating of the rock-shaft 1, so that the wheels 16 may roll upon the track, thereby turning the friction-roller 17 in the opposite direction. The pivoting-arms 13 are provided with a set of springs 20, carrying a horizontal bar 21. The same is adapted to reciprocate with a sectional pivoting-trigger 22 23, hinged, as at 24, and pivoted, as at 25. The upper portion of the said sectional pivoting-trigger 22 23 is provided with a pull-cord 26, leading to the inner side of the car, the same having a handle 27, adapted to be operated by hand independently of operating the automatic lock,

which will be explained hereinafter. The said cord 26, with handle 27, may be pulled inwardly from the inside of the car by hand, which action would haul in on the upper portion of the sectional pivoting-trigger 22 23, the same turning on the pivoting-pins 25, throwing the lower portion of trigger 22 23 outwardly and upwardly, whereby any change of grade may be approached with the trigger 22 23 free from coming in contact with the roadway. Let go the pull-cord 26 and the sectional pivoting-trigger 22 23 will assume a position representing an angle of about forty-five degrees, as when out of action. The same is governed by means of a combined trigger-counterweight and straight-gear lever 29, connected therewith by cords 30, the same being secured to the lower portion of the combined trigger-counterweight and straight-gear lever 29 and attached to the upper portion of the sectional pivoting-trigger 22 23. The said cords 30 raise and lower the combined trigger-counterweight and straight-gear lever 29 by the operating of the said sectional pivoting-trigger 22 23.

32 represents a spur-gear. The same is secured on a wormed rod supported by journals, the same being attached to the front of the car A. The upward movement of the combined trigger-counterweight and straight-gear lever 29 causes the straight-gear portion of the same to turn the spur-gear 32, the wormed rod 31 turning with the gear-lever 29, meshing with the spur-gear 32.

33 represents a pivoting-arm on the top of the car. The same is provided with a cord 34, having a ring 35, adapted to fit the first or end thread on the wormed rod 31. The said ring 35 is released from the same by turning the wormed rod 31.

When the device is out of action, the carriage 7 assumes nearly a horizontal position above and in front of the car A, the carriage-dash 10 overlying the top and forward portion of the same, the pivoting-arms 13, with friction-roller 17, being held above the track by the chains 18, supported by the grooved wheels 19, the combined trigger-counterweight and straight-gear lever 29 down, the cords 30 holding the sectional pivoting-trigger 22 23 at an angle of about forty-five degrees, the ring-lock 35 occupying the first thread at the point of the wormed rod 31, the cord 34 holding the pivoting-arm 33 down on the top of the carriage-dash 10, thus preventing the coil-springs 12 from operating the rock-shaft 1.

Should the car be under headway and meet with an obstruction, the lower portion of the sectional pivoting-trigger 22 23 is brought into contact with the same, the trigger yielding to the object, which action causes the cords 30 to lift the combined trigger-counterweight and straight-gear lever 29 upwardly, thereby turning the spur-gear 32, turning with it the wormed rod 31, releasing the ring 35 from the same. Cord 34 then becomes loose, releasing the pressure of the pivoting-arm 33 from the carriage-dash 10, whereby the coil-springs 12 operate the rock-shaft 1, which action lowers the pivoting-arms 13, with friction-roller 17, to the track in the rear of the object and lands the combined awning and carriage 7, with roller 8, upon the track over and in advance of the same, thereby picking up any object between the said carriage and friction-rollers.

Having fully described my invention, what I claim as such, and desire to secure by Letters Patent of the United States, is—

1. The combination in a life-saving device for street-cars, of a combined awning and carriage having a roller, a carriage-axle with wheels connected therewith, a rock-shaft with double T's having curved arms with double T's supporting the combined awning and carriage having a roller, the carriage-springs connected therewith, the carriage-dash spanning the curved arms and T's, the spring-barrels having coil-springs attached to the rock-shaft, all substantially as set forth.

2. In a life-saving device for street-cars, the combination with the combined awning and carriage having a roller, of the carriage-axle with wheels connected therewith, the rock-shaft with double T's having curved arms with double T's supporting the combined awning and carriage having a roller, the carriage-springs connected therewith, the carriage-dash spanning the curved arms and double T's, the spring-barrels having coil-springs attached to the rock-shaft, as shown and described; a set of pivoting-arms with wheels having a friction-roller, the spring-bar with springs attached to the pivoting-arms, the chains secured to the axle thereof, the grooved wheels attached to the rock-shaft carrying the said chains, all substantially as shown and described.

3. In a life-saving device for street-cars, the combination of the wormed rod provided with spur-gear, and the ring and cord, as shown for the purpose specified.

4. In a life-saving device for street-cars, the combination of a sectional pivoting-trigger, the combined trigger-counterweight and straight-gear lever connected therewith adapted to the spur-gear, the cords connecting the said sectional pivoting-trigger and combined trigger-counterweight and straight-gear lever, all substantially as shown and described.

5. In a life-saving device for street-cars, the combination of a pivoting-arm on top of the car, the cord connected therewith, the ring at the end of the said cord and the wormed rod, all substantially as shown and described for the purpose specified.

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Witnesses:
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