No. 884,683. PATENTED APR. 14, 1908.

J. F. RISDON.

CAR FENDER.

APPLICATION FILED NOV. 1, 1907.

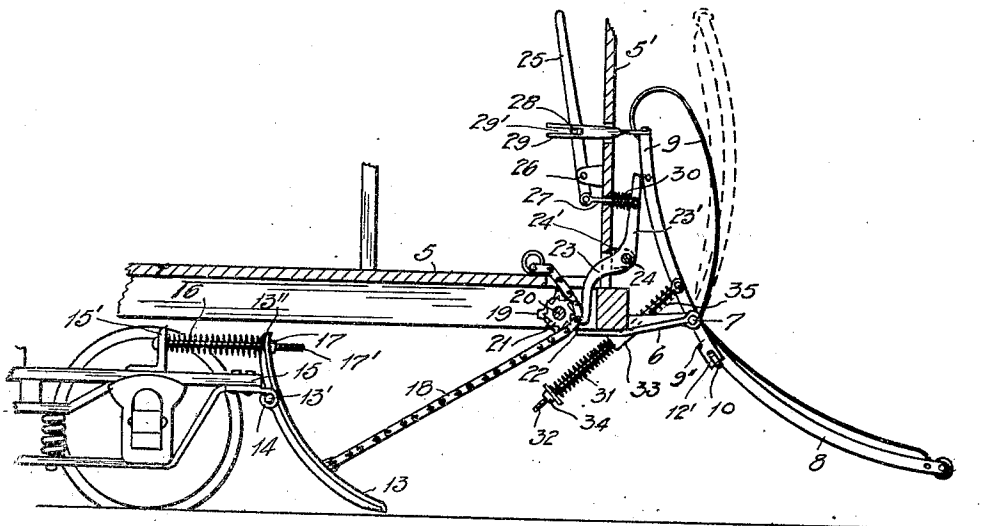

FIG. 2

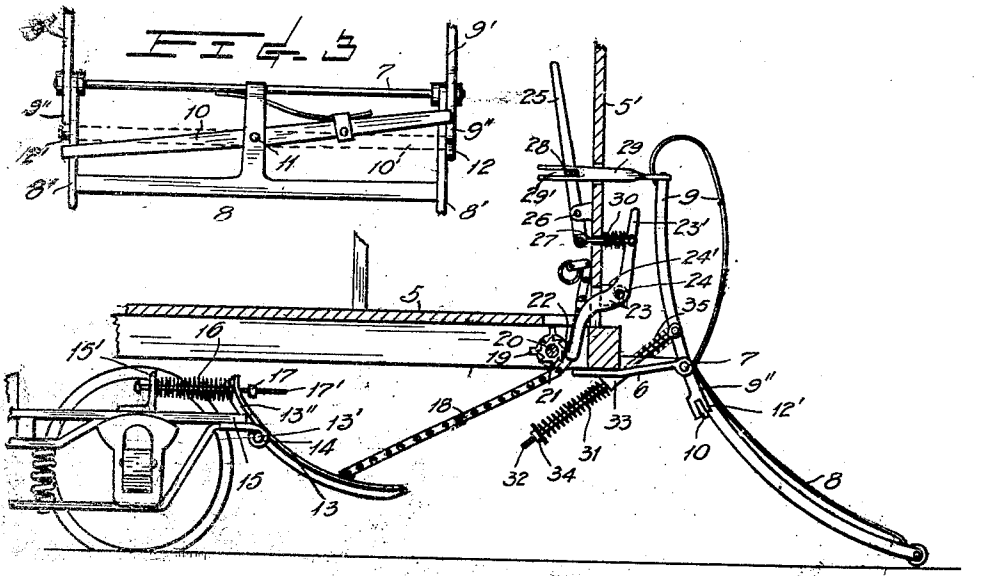

FIG. 1

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CAR-FENDER.

No. 884,683. Specification of Letters Patent. Patented April 14, 1908.

Application filed November 1, 1907. Serial No. 400,187.

To all whom it may concern:

Be it known that I, JOHN F. RISDON, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Car-Fenders, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to fenders for street or suburban railway service.

The object of the invention is the improvement in apparatus of this character, whereby the same may be predeterminately actuated by the motorman but should he fail to so meet an emergency the fender devices will of themselves respond to a demand and automatically prevent a person or other object from encountering the car-wheels.

With these and other ends in view, the invention consists in the novel construction, adaptation and combination of devices as will be hereinafter described and claimed.

Figure 1 is a longitudinal vertical section of the front end of a car with my improved fender devices attached thereto; Fig. 2 is a view similar to Fig. 1 with the fender devices in changed positions; and Fig. 3 is a fragmentary underside plan view of the leading fender.

The reference numeral 5 designates a street car platform to which is rigidly secured brackets, such as 6, for carrying a transverse rod 7. Hinged to this rod are the side members 8′ and 9′ of the frames of the lower and upper fender parts 8 and 9, respectively. Said side members of the upper fender-part 9 are prolonged to provide arms 9″ for engagement with the locking-bar 10 which is connected intermediate its length by a pivot 11 with the other part 8 and the arms are accordingly made to have a hook 12 upon one and a bifurcated end 12′ upon the other arm to serve as latch-housings for the locking-bar ends. Another fender 13, or wheel guard, as it will be hereinafter designated, is tiltably connected by a cross-bar 13′ and brackets 14 to the end of the wheel-truck 15. Such guard is provided with an arm 13″ extending above its connection with the rod and between this arm and an angle-piece 15′ of the truck is a helical spring 16 tending to force the guard to its lowermost position, whereat it is indicated in Fig. 2, and determined by the adjustment of a nut 17 upon a headed rod 17′ which extends through apertures in the guard-arm and the angle-piece.

Connected with the guard is a chain 18 which passes about and is engaged by the teeth of a sprocket-wheel 19 mounted fixedly upon a shaft 20 having thereupon a ratchet-wheel 21. A detent 22 for this ratchet-wheel is provided upon the end of the arm of a lever 23 which is fulcrumed by a pin 24 to a support 24′ rigidly connected to the car dash-board 5′, while the other arm 23′ is arranged to be engaged by the upper part of the fender when the same is in its normal position, as represented in Fig. 2.

25 is a lever fulcrumed at 26 to a support upon the car and is connected by a rod 27 with the arm 23′ of the lever 23 and to the other side of the fulcrum 26 is a stud 28 adapted to engage a rod 29 when the lever is tilted outwardly to effect the lowering of the fender to which the rod 29 is connected. The stud 28 is slidably seated in a slot 29′ of the rod and is arranged to bear against the forward end of the slot when effecting the aforesaid movement of the fender.

A compressing spring 30 is employed to press the arm 23′ of the lever 23 outwardly to cause the detent thereof to detachably engage the ratchet-wheel 21 and also serve to yieldingly hold the arm against the upper fender-part 9. A spring 31 is also employed to exert a force against this fender contrary to that of the spring 30 and is advantageously mounted upon a reach-rod 32 attached to the fender and extends through a socket attachment 33 of the car. This rod is screw-threaded for the reception of a nut 34 between which and said socket attachment is confined the spring 31 to afford means for adjusting the power of the same. A counter-acting spring 35 may be used, if desired, upon the rod 32 between the fender and the attachment 33, but it must be somewhat weaker than the opposing spring 30.

The operation of the invention may be described as follows: Let us assume that the fender and wheel guard are both in their normal positions, namely, held at such a height as to clear the track surface by about six inches and are thus maintained through the agency of the spring 31 acting upon the forward fender, while the rear fender is held suspended by the chain 18 which is held against withdrawal from the sprocket-wheel 19 by the pawl-lever 23 being engaged in the

ratchet-wheel 21 which is arranged to turn in unison with the sprocket-wheel. Under such conditions, if an object should present itself upon the track in advance of the car, the operator actuates the lever 25 to cause the stud 28 to forcibly bear against the rod 29, whereby the fender may be tilted downwardly, as shown in Fig. 1, to allow the fender picking up the object. This manipulation of the fender would, by reason of the lever 25 being positively connected with the lever 23, swerve the same to disengage the detent thereof from the ratchet-wheel 21 and release the wheel-guard, and the detent is accordingly shown on the point of becoming disengaged when the guard will then be moved to occupy the position which it occupies in Fig. 2. Should the operator, however, fail to tilt the fender downwardly in the manner just explained to receive the object, and the latter should encounter the fender, the effect would be that the fender would be tilted upwardly and in so doing influence the lever 23 to disengage the ratchet to release the chain whereupon the spring 16 would assert itself to tilt the wheel-guard 13 downwardly into the position in which it is illustrated in Fig. 2 thus safeguarding the object against any liability of becoming mangled by the car-wheels, whether it has been passed over by the fender or not. In Fig. 2 the lower part of the fender is represented by broken lines to illustrate how it can be swung up upon its hinged connection when unemployed.

From the foregoing it is evident that the invention is peculiarly adapted to meet any contingency which is likely to arise in the service where fender devices are generally found to be defective, namely, where through the negligence of the motorman the fender is not lowered in time and in consequence the person or object upon the track is endangered by the wheels. While this invention overcomes automatically this objection it is still susceptible of being manipulated by the motorman and all danger is obviated.

Having described my invention, what I claim, is—

1. In an apparatus of the class described, the combination with a fender having two hinged parts, locking devices to secure said parts together, of a tiltable wheel-guard, supports for said guard, a spring acting to urge the guard into operative position, means acting against said spring to hold the same under compression and the wheel-guard normally elevated and comprising a chain connected at one end to the wheel-guard, a shaft carrying a sprocket wheel to receive said chain and a detent engaging said sprocket wheel, an actuating lever, connections between said actuating lever and said detent, and connections between said lever and the said fender.

2. In an apparatus of the class described, the combination with a car, a fender, a support carried by the car and to which the fender is hinged, a spring acting to yieldingly retain the fender so as to be at some distance above the track bed, and a lever, of a wheel-guard, a support for said guard, means for holding the said wheel guard normally suspended above the track bed and comprising a shaft, a sprocket wheel thereon, a chain connected to the wheel-guard and engaging the sprocket wheel and a pivotally mounted detent engaging the sprocket wheel, an actuating lever pivotally attached to the car, connections between said lever and the detent, and a spring acting to tilt the guard into juxtaposition with the track bed when the lever is actuated.

3. In apparatus of the class described, the combination with a fender formed with two hinged parts, and locking devices to secure said parts together, of a tiltable wheel-guard, supports for the guard, a spring acting to urge the guard into operative position, a shaft upon the car and provided with a sprocket-wheel and a ratchet-wheel mounted thereon, said wheels, a chain engaging with said sprocket-wheel and connected to said guard, a lever provided with a detent for engagement with said ratchet-wheel, and a spring acting to retain such lever in engaged condition with respect to the wheel and also in position to be tripped therefrom through impingement by said fender.

4. In apparatus of the class described, the combination with a car, a fender, a support carried by the car and to which the fender is hinged, a spring acting to yieldingly retain the fender so as to be at some distance above the track-bed, a lever, and the connection between the lever and the fender, of a wheel-guard, a support for carrying said guard, a spring acting to tilt the guard into juxtaposition with the track-bed, a shaft upon the car and provided with a sprocket-wheel and a ratchet-wheel mounted thereon, said wheels, a chain engaging with said sprocket-wheel and connected to said guard, a lever provided with a detent for engagement with said ratchet-wheel, and a spring acting to retain such lever in engaged condition with respect to the wheel and also in position to be tripped therefrom through impingement by said fender.

5. In apparatus of the class described, the combination with a car, a fender, a support carried by the car and to which the fender is hinged, a spring acting to yieldingly retain the fender so as to be at some distance above the track-bed, a lever, and the connection between the lever and the fender, of a wheel-guard, a support for carrying said guard, a spring acting to tilt the guard into juxtaposition with the track-bed, a shaft upon the car and provided with a sprocket-wheel and

a ratchet-wheel mounted thereon, said wheels, a chain engaging with said sprocket-wheel and connected to said guard, a lever provided with a detent for engagement with said ratchet-wheel, a spring acting to retain such lever in engaged condition with respect to the wheel and also in position to be tripped therefrom through impingement by said fender, and connection between the two aforesaid levers whereby the wheel-guard may be released independently of the fender.

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

JOHN F. RISDON.

Witnesses:
PIERRE BARNES,
ROBT. B. GILLIES.