No. 680,178. Patented Aug. 6, 1901.

T. M. SANDERLIN.

STREET CAR FENDER AND BRAKE.

(Application filed Mar. 23, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

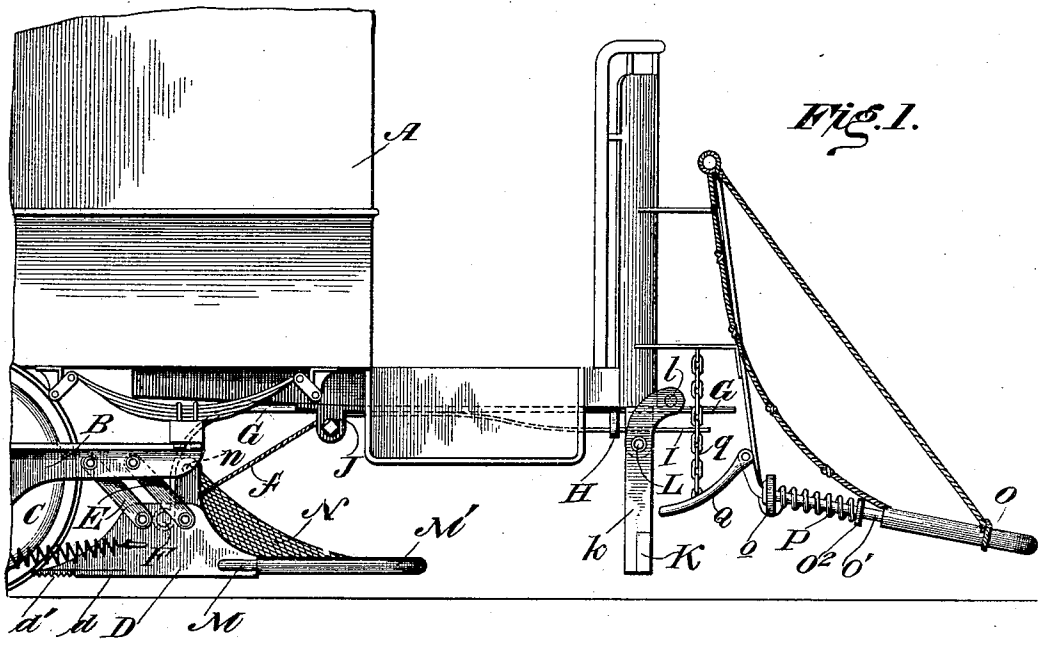
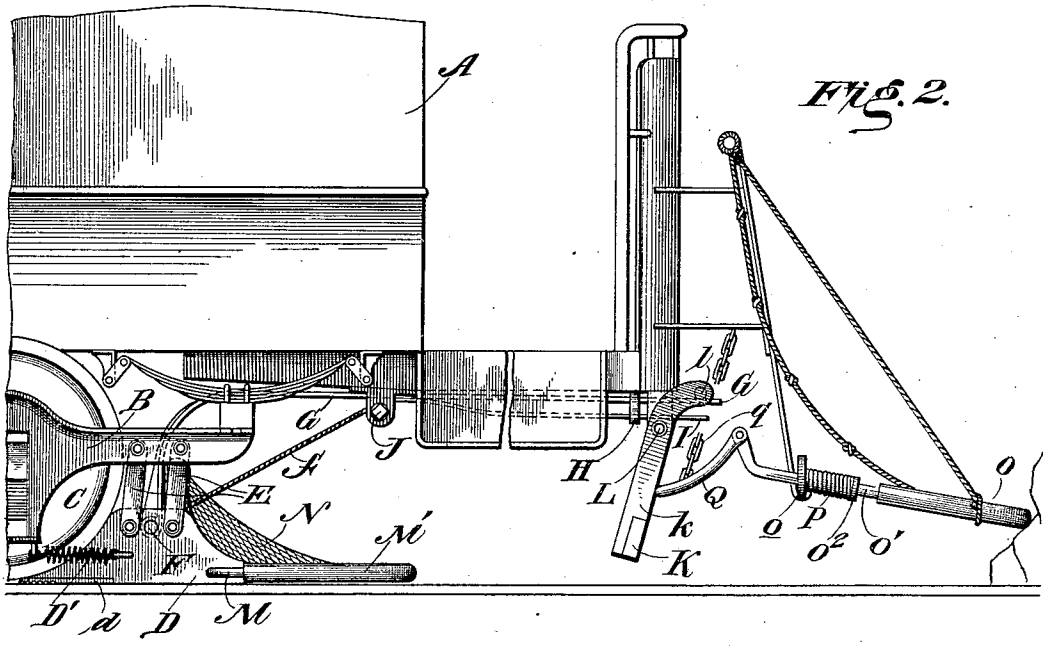


Fig. 2.



WITNESSES

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Fig. 3.

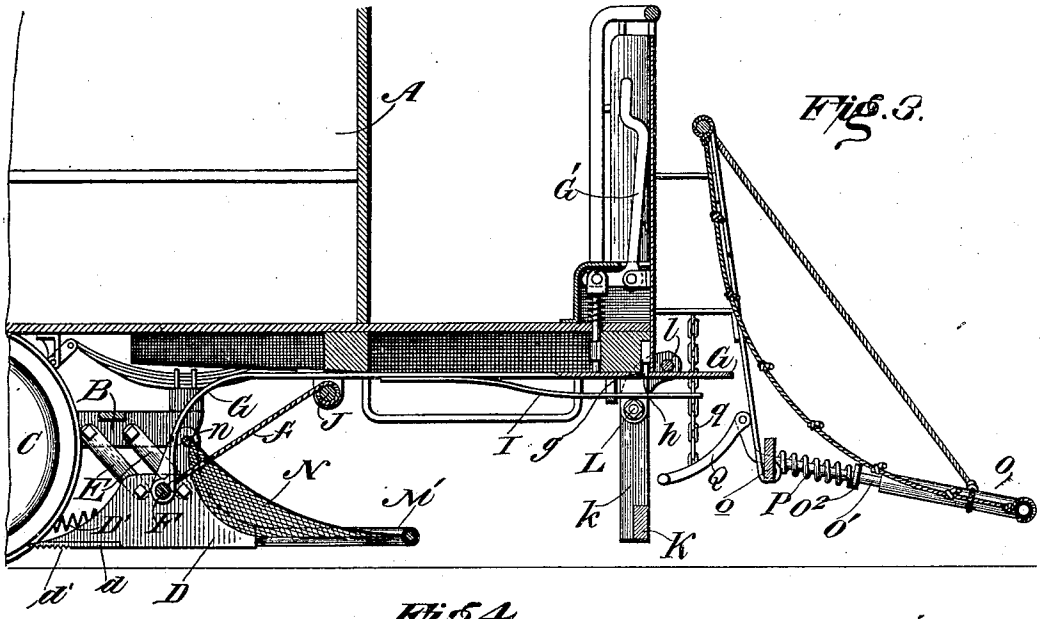
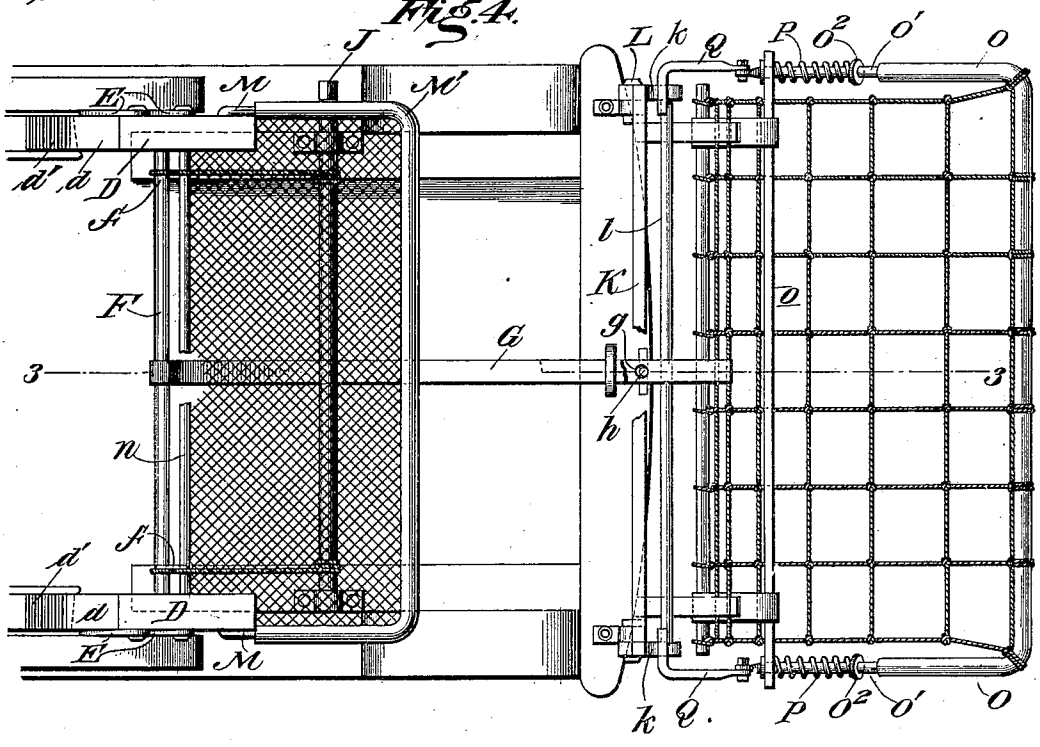


Fig. 4.



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UNITED STATES PATENT OFFICE.

THOMAS M. SANDERLIN, OF NORFOLK, VIRGINIA, ASSIGNOR OF ONE-HALF TO GEORGE P. HUDSON AND ASHER J. HUDSON, OF SAME PLACE.

STREET-CAR FENDER AND BRAKE.

SPECIFICATION forming part of Letters Patent No. 680,178, dated August 6, 1901.

Application filed March 23, 1901. Serial No. 52,644. (No model.)

To all whom it may concern:

Be it known that I, THOMAS M. SANDERLIN, of Norfolk, in the county of Norfolk and State of Virginia, have invented certain new and useful Improvements in Street-Car Fenders and Brakes; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

This invention is an improved combined car-fender and emergency-brake; and its object is to provide a novel automatic fender and emergency-brake or arresting device particularly adapted for street-railway cars, whereby if the fender strikes any obstacle the emergency-brakes or arresting devices will be immediately thrown into operative position, and at the same time an emergency-fender will be lowered, so that if a person should be knocked down or fall on the track and not be caught by the ordinary fender he will certainly be caught on the emergency-fender without being hurt by rolling should the car not be immediately stopped.

The invention briefly consists in the novel construction and combinations of parts summarized in the claims, and the following detailed description thereof, in connection with the accompanying drawings, will enable such claims to be readily understood.

In said drawings, Figure 1 is a side view of a portion of a car, showing an arrangement of fenders and emergency-brakes or arresting devices embodying my invention, the parts being in "set" position as on the road. Fig. 2 is a similar view showing the positions of parts after being tripped by some obstacle. Fig. 3 is a longitudinal section on line 3 3, Fig. 4. Fig. 4 is a bottom plan view thereof.

The car-body A is mounted on the truck-frame B, and the latter is mounted on wheels C, all as usual, these parts being conventionally shown. Suspended from the truck-frame in front of the wheels are emergency-brakes or arresting devices comprising chock-shoes D, which are hung by double links E E, pivoted at their lower ends to the shoes and at their upper ends to the overhanging side bars of the truck-frame, so as to suspend the shoes directly over the rails. These links are so long that unless the shoes are upheld by swinging them upwardly and forwardly, as hereinafter described, (see Fig. 1,) the shoes will lie upon the track-rails directly in front of the wheels C, as in Fig. 2. Each shoe D is provided with a rearwardly-extending tongue *d* on its bottom, upon which when the shoes are dropped the car-wheels run and hasten the stoppage of the car, and the shoes taper upwardly in front of the tongues, so as to positively arrest the car. The tongues *d* may be roughened or serrated on their under sides, as shown at *d'*, to cause them to firmly bite the rail when the wheels run thereon, and thus prevent the shoes sliding on the rails. The wheels are prevented from running up over the shoes by the links E E, which connect the shoes positively to the truck-frame. The opposite shoes D are preferably connected in any suitable manner, so that they remain the proper relative distance apart and can be simultaneously raised or lowered. As shown, they are connected by a rod F, to the center of which is hinged the inner end of a latch-bar G, which extends forward beneath the car-body to the front thereof, and its front end is guided and supported in a guide-loop H, attached to the front of the body. The front end of this latch-bar when the shoes are raised, as in Fig. 1, may be engaged with any suitable retaining device. As shown, the front end of the latch-bar has a perforation *g*, which when the shoes are raised engages with a pin *h*, depending from the car-body. A flat spring I is attached to the front end of latch-bar G and underlies the same and extends through guide H, so as to continually press the latch-bar upward, and thus insure its engagement with pin *h*. As a means of raising the shoes a shaft J is journaled in the truck or car-body in front of the shoes and connected to the shoes or rod F by ropes or chains *f*, and if said shaft is turned so as to wind up the ropes *f* the shoes will be simultaneously lifted and latch-bar G pushed forward until opening *g* engages pin *h*. Then shaft J is released, but the shoes are retained in uplifted position by latch-bar G until it is disengaged from pin *h*.

From the front of the car-body is suspended a trip-bar K by means of hangers *k k*, attached

to its ends and pivoted near their upper ends to the car-body in any suitable manner. As shown, the hangers are suspended from pivots L, attached to the car-body, and their upper ends are curved forwardly and upwardly and are connected by a rod *l*, which normally lies above the latch-bar G, as shown in Fig. 4. If the bar K strikes any obstruction, so as to move it backward, the rod *l* will be moved forwardly and downwardly and will engage latch-bar G and push its front end downward until perforation *g* disengages pin *h*, whereupon the shoes D will drop into operative position, as in Fig. 2, and remain so until positively raised again, as above described. To insure the quick dropping of the shoes when bar G is released, springs may be employed, and I have shown coiled springs D′ attached to the shoes and to adjacent parts of the truck-frame, (see Figs. 1 and 2,) which will pull the shoes down and back whenever the latch-bar is released. The bar K being free to swing will not drag or roll an obstacle on the track. To prevent any possible injury to a person who might fall in front of the car, I attach an emergency-fender to the shoes D, and for this purpose the lower front ends of the shoes are connected by a rod or tube M, which is preferably cushioned, as by inclosing it with rubber hose M′, and a fender-netting N is strung between the shoes, this rod M, and a rod *n*, the latter being attached to the shoes, as shown. If desired, the rod F may be utilized as the rear support for the fender-netting.

The emergency-fender will of course be raised with the shoes and lowered therewith, and when lowered its rod M will lie close to and upon the roadway between the rails, so that any obstacle on the track must be caught by the emergency-fender should the car move or slide a sufficient distance to bring such fender up to the obstacle.

To enable the motorman to quickly stop the car at will or to avoid a collision, an emergency-lever G′ is pivoted on the platform directly over the forward end of the latch-bar G, the lower end of said lever being bent, so as to engage the latch-bar and disengage the same from pin *h* when the upper end of the lever G′ is thrown back. Thus the arresting devices can be operated at will or automatically, as occasion arises.

The car-body may be provided with the usual fender O, as indicated in the drawings; but I preferably improve the construction of such fender, so as to utilize it in tripping the arresting devices, as follows: The ends of the front rod O′ of the front fender are slidingly connected to the hinge-bar *o* thereof, so that the front rod can move back if it strikes an obstruction. Springs P are strung on the rod O′, between the hinge-bar *o* and collar O^2 on rod O′, to hold said rod normally projected forwardly in proper position. To the rear ends of rod O′ are pivoted arms Q, which extend rearwardly nearly to the hangers *k* *k* and are preferably bent, so that if rod O′ is pushed backward arms Q will strike the hangers *k* and force them backward, thereby causing rod *l* to disengage the catch-bar G from pin *h* and permitting the shoes D to be thrown into operative position. The arms Q are hinged to rod O′, rather than made rigid extensions thereof, to permit the front fender to be closed up, as usual, by raising rod O′ against the upper part O^3 of the fender. If desirable, the rear ends of arms Q may be suspended by flexible cords or chains *q* from the overhanging parts of the car-body.

With a car equipped with the several improvements described accidents to persons falling on the track in front of a moving car or dangerous collisions will be prevented, or should the front fender strike an unyielding object rod O′ would be moved back and through arms Q and hangers *k* release the arresting devices. If the front fender should strike and knock down a person and fail to pick him up, if the body laid on the track it would strike yielding trip-bar K and release the arresting devices, and simultaneously the emergency-fender would drop into position to pick up the body without injury should the car slide sufficiently to bring the emergency-fender to the body.

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

1. The combination with a car, of the arresting devices comprising opposite shoes, links suspending each shoe from the truck-frame directly in front of the wheels, rods connecting the shoes, springs for throwing said shoes into operative position and means for raising said shoes into inoperative position; with a latch-bar hinged to said shoes and projecting forward under the platform, a retainer for locking the latch-bar when the shoes are raised, and devices for automatically releasing said latch-bar from its retainer, for the purpose and substantially as described.

2. The combination with a car, of the opposite connected arresting-shoes provided with tongues, the pairs of links suspending each shoe from the truck-frame directly in front of the wheels, means for raising said shoes into inoperative position, a latch-bar pivoted to the shoes and extending forwardly under the car-platform, and a keeper or pin under the platform adapted to engage said latch-bar and lock said shoes in inoperative position, and a trip-bar and its connections for automatically releasing said latch-bar from said keeper, for the purpose and substantially as described.

3. The combination of a car and arresting devices therefor comprising shoes adapted to chock the wheels, links suspending said shoes directly from the car-truck, a latch-bar connected to the shoes and extending forward under the car-platform, a keeper attached to the platform for locking the said bar to hold said shoes in inoperative position; with a

trip-bar adapted to release the latch-bar when struck by an object, and an emergency-fender connected to and moving with the shoes, all substantially as described.

4. The combination of a car and arresting devices therefor, comprising chocking-shoes, links pivotally suspending said shoes from the truck-frame, a latch-bar connected to the shoes and having its front end extended under the car-platform, and a retaining device under the platform adapted to lock said bar; with a swinging trip-bar hung from the car-platform in front of the shoes and adapted to be moved by contact with a body, and devices actuated by said trip-bar for releasing said catch-bar from the retaining device, for the purpose and substantially as described.

5. The combination of a car, emergency-brakes or arresting devices therefor suspended from the truck, a latch-bar hinged to and extending forward beneath the car-platform, a retainer attached to the platform adapted to engage the latch-bar to retain the arresting devices in inoperative position, a trip-bar connected to the lower end of hangers pivotally suspended from the car-platform and a rod connecting the upper ends of the hangers adapted to engage and release the latch-bar from its retainer when the trip-bar is swung inward, substantially as described.

6. The combination of a car and arresting devices therefor, comprising chocking-shoes, links pivotally suspending said shoes from the truck-frame, a shaft and connections for raising said shoes, and a latch-bar hinged to a rod connecting the shoes, having a perforated front and adapted to engage a retaining pin or device; with a swinging trip-bar hung in front of the shoes and adapted to be moved by contact with a body, and the devices actuated by said trip-bar for releasing said catch-bar, for the purpose and substantially as described.

7. The combination of a car, emergency-brakes or arresting devices therefor, a latch-bar adapted to retain the arresting devices in inoperative position, a trip-bar connected to hangers suspended from the car-body and a rod connected to the upper ends of said hangers adapted to engage and release the latch-bar from its retainer when the trip-bar is swung inward, with a fender attached to the front end of the car adapted to engage the hangers and actuate the trip-bar when the fender is struck, substantially as described.

8. The combination of a car, emergency-brakes or arresting devices therefor suspended from the truck, a latch-bar hinged to said devices adapted to engage a keeper to retain the arresting devices in inoperative position, a trip-bar connected to hangers suspended from the car-body and devices operated by said trip-bar adapted to engage and release the latch-bar from its retainer when the trip-bar is swung inward, with a fender attached to the front end of the bar, having a rearwardly-movable front rod, springs for normally holding said rod in proper position, and arms pivoted to the ends of said rod adapted to engage the hangers and actuate the trip-bar when the front fender is struck, for the purpose and substantially as described.

9. The combination of a car, the arresting-shoes, the links suspending said shoes from the truck-frame in front of the wheels, the fender connected to and between said shoes, a latch-bar hinged to said shoes, and projecting through a guide attached to the car-body and adapted to engage a pin or keeper thereon, and a spring for holding said latch-bar in engagement with the keeper, with a swinging trip-bar suspended in front of the shoes and adapted to disengage the latch-bar from the keeper when swung backward; a fender attached to the front of the car, and means whereby the front fender actuates the trip-bar when struck by an object, substantially as described.

10. The combination of a car, the arresting-shoes, the pairs of links suspending said shoes from the truck-frame in front of the wheels, the fender connected to and between said shoes, a latch-bar hinged to said shoes, and projecting through a guide attached to the car-body and adapted to engage a pin or keeper thereon, a spring for holding said latch-bar in engagement with the keeper, and a shaft and ropes or chains for raising said shoes to inoperative position; with a swinging trip-bar suspended in front of the shoes and adapted to disengage the latch-bar from the keeper when swung backward; a fender attached to the front of the car, and means whereby the front fender actuates the trip-bar when struck by an object, substantially as and for the purpose described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

THOMAS M. SANDERLIN.

In presence of—
S. J. FURNISS,
H. H. DAWSON.