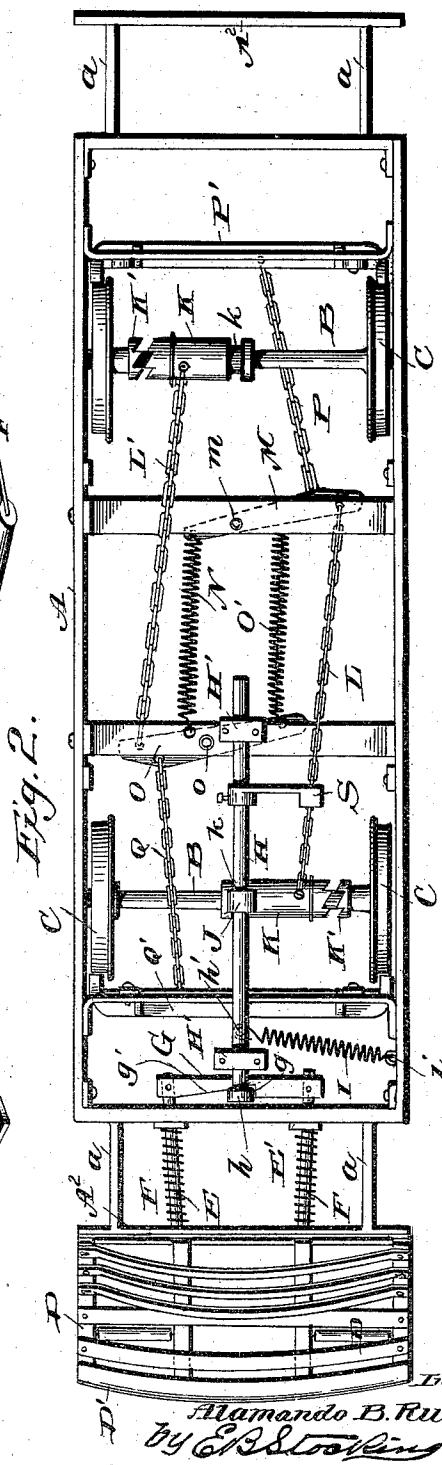


A. B. RUSS.
CAR FENDER.

Patented Aug. 20, 1895.



Witnesses
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UNITED STATES PATENT OFFICE.

ALAMANDO B. RUSS, OF CHICAGO, ILLINOIS.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 544,932, dated August 20, 1895.

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To all whom it may concern:

Be it known that I, ALAMANDO B. RUSS, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, 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 certain new and useful improvements in car-fenders of that class which are designed to apply the brakes and stop the car simultaneously with the meeting with an obstruction by said fender.

It has for its object, among others, to provide simplified means for accomplishing the desired result. I pivotally mount the fender near its upper end and provide a pivotal connection between the same near its lower end and the rods by which it is carried and which serve to operate the clutch mechanism for applying the brake.

Another object is to provide mechanism whereby the brakes may be applied by the gripman or motorman without the actuation of the fender by an obstruction.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this application, and in which—

Figure 1 is a substantially central vertical longitudinal section through a car-truck equipped with my improvement. Fig. 2 is a top plan of the same. Fig. 3 is a perspective detail of the fender, showing its manner of support on the end of the truck. Fig. 4 is a perspective detail of the rock-shaft and its attachment with the catch-plate, with which its dog engages.

Like letters of reference refer to like parts in all the figures of the drawings.

Referring now to the details of the drawings by letter, A designates a truck-frame, B the axles, and C the wheels of any suitable construction, except as hereinafter specified. It is provided with the longitudinal side bars A', one or more of which may extend beyond the transverse end portion of the frame, as

seen in Fig. 3, to serve as a guard at that point.

While it is intended that ordinarily both ends of the car shall be provided with my improved fender and its brake-actuating devices, in order that the car may be used either end foremost, I have chosen to show in this application such equipment at one end only, which will suffice for the purpose of a clear understanding of the invention. The truck is shown as provided at each end with the transverse plate A², held the proper distance from the end of the truck-frame by the plates or rods *a*. These plates or bars A² serve as a support for the fender, which near its upper end is pivotally mounted thereon in any suitable manner—as, for instance, by the hinges *b*, as seen in Figs. 1 and 3, these hinges being secured to a transverse bar of the fender, as seen in said views. The fender itself is composed of any suitable material which combines strength with lightness, its forward end being preferably slightly curved and provided with a yielding cushion D', which may be a rubber tubing suitably secured to the forward ends of the horizontal portions of the upright bars of the fender, as seen in Figs. 1 and 3, the fender proper having any desired configuration, that shown being considered one of the preferable forms.

The upright portion of the fender is provided with the transverse spring-metal strips D², one end of each of which is fixedly mounted on the end plate of the fender and its opposite end provided with an elongated slot *d* to engage over a headed screw or analogous device *d'*, so as to permit of endwise movement of said strips under compression, the said strips being normally bowed, as seen in Figs. 1 and 2. This forms a yielding cushion against which a person is thrown when picked up by the fender. The strips are placed with their slots alternately arranged, as seen best in Fig. 3, so as to provide greater resiliency than would be obtained were they all arranged at one end and avoiding weakness at any one point in said strips.

In order to prevent contact of the lower end of the fender with the rail, I provide upon the under side thereof rollers D, which are preferably of sufficient length to insure their con-

tact with the rail at all times, even when going around sharp curves. They are shown as of such width in Fig. 2.

E are longitudinally-disposed horizontal rods, the rear ends of which are adapted to slide through bearings E' on the forward transverse bar of the truck-frame, and their forward ends are pivotally connected, as at *e*, with the fender near the lower portion thereof. In this instance this pivotal connection is shown as with a bracket or lug *e'* on the rear face of the fender, but any suitable pivotal connection may be made. F are stout springs around these rods, as seen in Figs. 1, 2, and 3. This arrangement serves to keep the fender in its forward and uppermost position, unless otherwise restrained.

G is a plate attached to the rear ends of the rods E, as seen best in Fig. 2, and is provided with a notch *g*, with an inclined wall *g'* extending thereinto, as seen in Figs. 3 and 4.

H is a longitudinally-disposed shaft mounted to rock in suitable bearings H', attached to the under side of the platform of the car, as indicated in Fig. 1. The forward end of this shaft is provided with a downward extension *h*, as seen, Figs. 1, 3, and 4, which is designed to engage the notch in the plate G, as seen best in Fig. 4, this depending portion being preferably rectangular or provided with a square engaging-face, as shown in said Fig. 4. This shaft is further provided with a depending projection or pin *h'*, to which is connected one end of a spring I, the opposite end of which is suitably connected to some part of the truck-frame, as at *i*. This shaft H also carries the forked arm J, which is designed to engage in the groove *k* of the movable part K of the clutch, which is mounted to slide lengthwise on the axle and designed for co-operation with the fixed part K' of the clutch, as will be clearly understood from reference to Fig. 2. This movable part of the clutch constitutes a drum, upon which is designed to be wound the rope or chain L, one end of which is attached to said drum or movable part of the clutch and its other end connected to a lever M, pivoted at *m* on a transverse bar of the truck, the other end of which has connected thereto one end of the spring N, the opposite end of which is attached to a portion of the truck. A similar rod or chain L' is connected at one end to the movable portion of the clutch at the other end of the truck, while its other end is connected to a lever O, pivoted at *o* on a transverse portion of the truck, and the opposite end of said lever O has attached thereto a spring O', whose opposite end is connected to some fixed part, all as seen in Fig. 2. The levers M and O are connected, respectively, by the chains P and Q to the brake-beams P' Q', pivotally mounted at opposite ends of the truck and carrying brake-shoes R, of any suitable construction, adapted to be forced against the peripheries of the wheels to act in the well-known manner.

S is a substantially horizontally-disposed arm adjustably mounted on the shaft H, as seen best in Fig. 2, and formed to constitute a foot-lever, as shown in Figs. 1, 2, and 4, this lever being designed to be adjusted into proper position to bring it convenient to the foot of the gripman or motorman to enable him to reset the parts, throw off the clutch, and set the fender in its normal position after the same has been actuated by meeting with an obstruction.

In order to enable the gripman or motorman to apply the brakes, when desired, without the meeting of an obstruction, I provide a lever T, suitably pivoted on the frame, with its upper end extending within convenient reach of the motorman or gripman and its lower end designed to engage the plate G, as indicated in Fig. 4, to move the same back until it clears the downward extension *h* of the shaft H.

With the parts constructed and arranged substantially as above set forth the operation is as follows: The parts are set by depressing the foot-lever S, when the springs F force the fender outward to its utmost limit, the depending portion *h* of the shaft H engaging in the notch of the plate G and the shaft H being rocked to force the movable part of the clutch away from the fixed portion thereof. Now when the fender strikes an obstruction the impact thereof will force the same rearward sufficiently to move the plate G away from the depending portion of the shaft H, when the spring I immediately rocks the shaft H in its bearing and moves the movable part of the clutch into engagement with the fixed part thereof on the axle. The impetus of the car will wind the chain L upon the drum K, thus pulling upon the lever M and also upon the lever O, and through the medium of the chains P and Q forcing the brake-shoes against the wheels and stopping the car. When the obstruction has been removed and it is desired that the car should proceed, the gripman or motorman has simply to place his foot upon the lever S, when the shaft H is rocked in its bearing and the springs F force the fender outward and the forked arm J moves the movable part of the clutch inward away from its co-operating fixed portion. The brakes may be applied at any time by the gripman or motorman by means of the lever T, which, when moved, causes its lower end to press against the plate G, moving the same inward until clear of the depending portion of the shaft H, when the spring I causes the shaft to be rocked and the movable part K of the clutch engaged with its fixed part K'.

Various modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What I claim as new is—

1. A fender pivotally mounted above its center and rods pivotally connected therewith below its center and passing through a

relatively fixed guide on a car, springs around said rods, and a brake controlling latch carried by the inner ends of said rods, substantially as described.

5 2. The combination with a brake setting mechanism, of a fender pivotally mounted on the end of the car to drop automatically toward the track in meeting with an obstruction and mounted below its center upon sliding means pivotally connected therewith, a
10 latch carried by the inner ends of said rods and an interposed rocking part cooperating with said latch to control the brake setting mechanism, substantially as described.

15 3. The combination with brake-setting mechanism, of a fender hinged near its upper end on the end of a car to swing in the arc of a circle vertically and to automatically drop toward the track when meeting with an ob-
20 struction, and sliding rods provided with springs and pivotally connected with the fender below its pivot and adapted to control the brake-setting mechanism, substantially as set forth.

25 4. The combination with a brake-setting mechanism, of a fender pivotally mounted near its upper end on the end of the car, means pivotally mounted on the fender, and a rock-shaft mounted to rock transversely of the
30 truck and cooperatively-arranged to serve with said means for controlling said brake-setting mechanism, substantially as specified.

5. The combination with brake-setting mechanism, of a fender pivotally mounted
35 to drop toward the track when met by an obstruction, and a longitudinally-disposed rock-shaft mounted to rock transversely of the truck and having devices for cooperation with said fender and brake-setting mechanism to
40 control the latter, substantially as specified.

6. The combination with a brake-setting

mechanism, and a pivotally-mounted fender, of a longitudinally-disposed rock-shaft for actuating the brake-setting mechanism, and a
45 catch-plate carried by the fender for cooperation with means on said rock-shaft, substantially as specified.

7. A fender pivotally-mounted above its center and provided with spring-actuated rods pivotally-mounted thereon, and a catch-plate
50 carried by said rods, combined with a rock-shaft having means cooperating with said catch-plate and carrying means for actuating brake-setting mechanism, substantially as specified.

8. A fender provided with bowed spring strips having elongated slots alternately-arranged on the fender and means permitting
55 limited endwise movement of said strips, substantially as specified.

9. The combination with a fender pivotally-mounted above its center, of a clutch mechanism, a longitudinally-disposed rock-shaft having means for actuating said clutch mechanism and means pivotally mounted on
60 and carried by the fender to be engaged by means on said rock shaft substantially as and for the purpose specified.

10. The combination of a clutch and brake-setting mechanism, a fender hinged above its
70 center to swing vertically, a longitudinally-disposed rock-shaft, having means for actuating the clutch, and means carried on the fender for cooperation with means on the rock-shaft, substantially as and for the pur-
75 pose specified.

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

ALAMANDO B. RUSS.

Witnesses:

HEATH SUTHERLAND,
E. H. BOND.