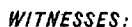


D. GUARINO.
CAR FENDER.

Patented Dec. 15, 1896.



M. C. Fletcher
M. E. MacLean

INVENTOR

Domenico Guarino

BY

ATTORNEYS

UNITED STATES PATENT OFFICE.

DOMENICO GUARINO, OF NEW YORK, N. Y.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 572,984, dated December 15, 1896.

Application filed March 7, 1896. Serial No. 582,207. (No model.)

To all whom it may concern:

Be it known that I, DOMENICO GUARINO, a subject of the King of Italy, and a resident of New York city, county of New York, and State of New York, have invented certain new and useful Improvements in Car-Fenders, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts.

This invention relates to improvements in car-fenders of the class adapted for use upon trolley or other street-railway cars; and it consists of certain improvements on the construction described and claimed in my United States Patent, Serial No. 504,347, allowed November 19, 1895.

The invention will be hereinafter fully described, and specifically set forth in the annexed claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a perspective view of my improved device, showing the same attached to the front of a car. Fig. 2 is a longitudinal sectional elevation, and Fig. 3 is a sectional plan view taken on the line *xx* of Fig. 2.

In the practice of my invention I provide a truck A with ordinary traction-wheels A¹ and a floor A², which said floor is provided with slots *a* and *a'* upon its front and rear edges, respectively, which slots are adapted to engage with a longitudinally-movable coupling, as will be hereinafter fully described. Pivottally attached to the said truck by means of a pin *b* is a turn-table B, which turn-table is provided in its rearward portion with a slot *b'*, which slot registers vertically with slots *a* and *a'* of the floor A² of the truck A.

Mounted upon the turn-table B is a box C, and through the rearward wall of said box is attached a coupling D, which coupling is provided with a slot *d*, which engages with a latch *d'*. The coupling D is further provided with a projection *d*², which engages with the slots of the truck-floor A² and the slot of the turn-table B, whereby the turn-table B and the truck A are maintained in horizontal alinement with each other when the car is moving in a straight direction; but when curves are encountered the segmental slots *a*

and *a'* allow rotary motion to the truck A independent of the turn-table B. If desirable, for the purpose of moving a body, the latch *d'* may be lifted out of engagement with the coupling D, whereby said coupling may be moved rearwardly until its projection *d*² is out of engagement with the slots of the turn-table B and the truck A, whereby said turn-table and all its connections may be revolved upon the truck A and placed in any desirable angle relative to the said truck A.

Depending from the forward end of the turn-table and pivottally attached thereto is a wheel-guard E, said guard being journaled upon a rod *e*, which rod is carried by suitable hangers *e'* upon the turn-table B.

Depending from the bottom of the guard E are two hangers *e*², to which hangers are journaled small traction-wheels *e*³, which wheels engage with the railroad-tracks 1 and maintain the guard E in parallel alinement therewith. When the device is to be used upon a cable-railroad, the guard E is provided with a downwardly-projecting lug *e*⁴, adapted to travel in the cable-slot.

The front wall C' of the box C is provided with vertical slots *c*, which are adapted to receive the rearward ends of the side walls F' of the carrier F. This said carrier is pivottally attached to the said box C by means of pivots *f*, which pass through the lower portion of the side walls C² of said box. The said side walls F' of the carrier F are provided at their rearward portions with projecting arms *f'*, upon which arms is mounted a weight G, which weight must be sufficiently heavy to maintain the carrier F in the position indicated in Fig. 1 of the drawings when the device is in operation.

The upper forward ends of the walls F' are provided with arms *h*, to which arms is pivottally attached the front wall F² of the carrier F. This said wall is provided with pneumatic cushions *h'* to receive the impact of a body coming in contact therewith.

Hinged to the forward ends of the side walls F' are doors H. These doors are normally maintained in the position shown in Fig. 2 of the drawings by means of swinging guards I and hooks J, the said guards being provided with slots *i*, which engage with lugs *i*² upon the side walls F' of the carrier F. These said

guards are mounted upon pivots i^3 of the doors H, and their upward motion is limited by means of stops i^1 , which are also mounted upon said doors H. The guards I are further provided with weights i^2 , which will maintain them in vertical position when they are released from lugs i^2 . They are further provided with pins i^6 , which engage with the hooks J of the operating mechanism. Said operating mechanism consists of a downwardly-projecting cushioned guard K, which comprises cross-pieces k and uprights k' , which have weights k^2 attached to their upper ends to maintain the guard in a forward direction, as illustrated in Fig. 2, the said cross-pieces k being provided upon their front surfaces with pneumatic cushions k^3 , and the said guard K being pivotally attached to the side walls F' of the receiver F by means of pivots k^4 .

Projecting from the sides of the uprights k of the guard K are pins k^5 , which engage with slots j of the hooks J. Engaging with the front wall F^2 of the carrier F is a rearwardly-projecting rod L, which is pivoted to an upwardly-projecting trip-lever M, which lever is secured to a hanger m upon the front wall of the box C and has a notch m' therein, which engages with a cross-bar N of the carrier F.

The device is further provided with an auxiliary guard E' , which said guard is attached and hinged to a cross-piece g , which connects the two walls F' .

As a means for independently operating the guards E and E' when meeting a stone or other obstacle a cord or rope 2 is attached to the guard E, so that a motorman or driver can lift said guards, as illustrated by dotted lines in Fig. 1 of the drawings, or said guards may be maintained in an upward position by means of a hook 3. (Illustrated in Fig. 2 of the drawings.)

The swinging doors H are hinged to the side walls F' by means of vertical rods or pins h^2 . Said doors are further secured to the front wall F^2 of the carrier by means of hooks and eyes l and l' , respectively.

In the operation of the device, it being set as indicated in Fig. 2, the car is attached thereto by means of the couplings D' and D^2 , and motion being given to the car the device will be pushed in front thereof until it will accidentally come in contact with a person or body, when said body will strike the projecting cushioned portions k' of the guard K and move said guard radially and rearwardly until the hooks J are released from the pins i^6 of the swinging guards I, whereby said guards will drop and the doors H be permitted to close, and the wall F^2 will be moved rearwardly until the rod L provides sufficient movement to the lever M to release said lever from the cross-rod N; when the weight

will lift the carrier into position illustrated in Fig. 1 of the drawings, thus carrying the body upwardly and out of harm's way. In the event of the device coming in contact with a reclining body the auxiliary guard E' will take said body up, and the depending guard K will release the mechanism in the manner precisely as described above. While the device will operate perfectly when the swinging guard K comes in contact with a body, air-pressure against the front wall F^2 will have no effect upon the operative mechanism, owing to the fact that the hooks J maintain the doors H in their open position, and said doors can only be released by the guard K, which, owing to the small area of its lower cushioned portion, cannot be operated by pressure of air.

I do not confine myself to the specific details of mechanical construction as herein shown and described; it being obvious that under the scope of my invention I am entitled to slight variations of detail which may be suggested during the process of constructing a full-sized fender; neither do I confine myself to the use of my device in connection with a street-railway car, as the device will operate equally well when attached to the front of a locomotive.

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

1. A car-fender comprising a truck having mounted thereon a turn-table, a wheel-guard and a box; the said box having mounted thereon a rearwardly-weighted carrier and a trip-lever adapted to engage with said carrier, which carrier comprises two side walls, a swinging front wall and hinged doors adapted to fold over upon the said front wall, and a swinging weighted guard which engages with slotted hooks adapted to maintain the said doors in an open position, substantially as shown and described.

2. In a car-fender, the combination of a truck adapted to be coupled to the front of a car, said truck having mounted thereon a turn-table, wheel-guards, a box upon which is mounted a rearwardly-weighted carrier and a trip-lever adapted to engage with said carrier, and swinging sectional doors; with a swinging guard and hooks adapted to engage with the said doors, said guard adapted to operate the said trip-lever and release the swinging doors, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 4th day of March, 1896.

DOMENICO GUARINO.

Witnesses:

M. G. MACLEAN,
S. SCHWARTZ.