

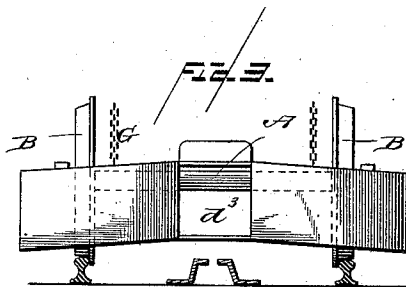
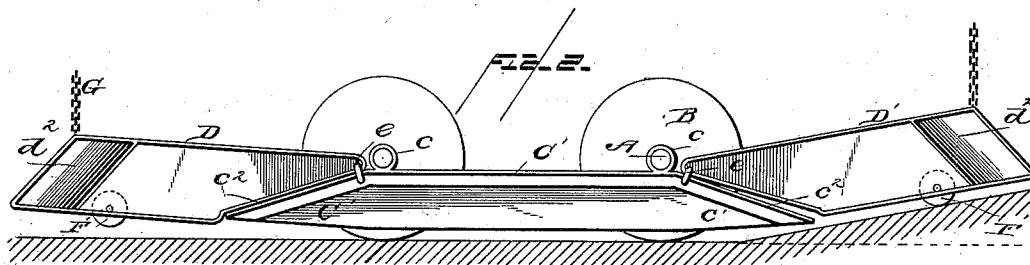
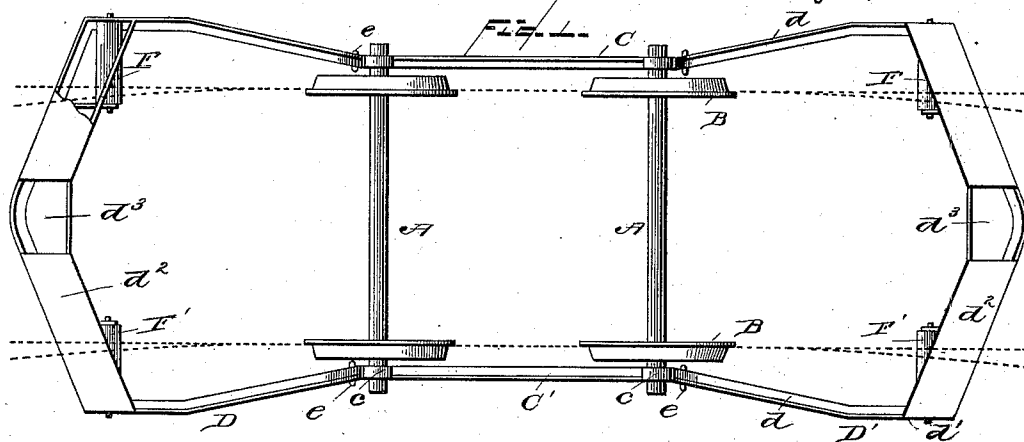
(No Model.)

A. J. MASON & G. C. HALE.

FENDER FOR STREET CARS.

No. 366,015.

Patented July 5, 1887.



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UNITED STATES PATENT OFFICE.

ARTHUR JOHN MASON AND GEORGE C. HALE, OF KANSAS CITY, MISSOURI.

FENDER FOR STREET-CARS.

SPECIFICATION forming part of Letters Patent No. 366,015, dated July 5, 1887.

Application filed January 7, 1887. Serial No. 223,672. (No model.)

To all whom it may concern.

Be it known that we, ARTHUR JOHN MASON and GEORGE C. HALE, citizens of the United States, residing at Kansas City, in the State of Missouri, have invented certain new and useful Improvements in Fenders for Street-Cars, of which the following is a specification, reference being had therein to the accompanying drawings.

Our invention relates to improvements in fenders for cable and other street-railway cars; and it consists of the peculiar combination of devices and novel construction and arrangement of the various parts for service, substantially as hereinafter fully described, and particularly pointed out in the claims.

The primary object of our invention is to provide an improved fender for protecting the feet and other parts of the person of passengers and bystanders from injury by the wheels &c., of a passing car.

A further object of our invention is to provide improved side fenders which are suspended from the axles of the car; to provide improved end fenders which are adapted to be carried by the side fenders, and which will automatically accommodate themselves to any rise and depression or change of grade in the track; to provide the end fenders with means for partially relieving the side fenders of their weight, when desired; and, finally, the object of our invention is to provide an improved fender which shall possess superior advantages over others of this class which have preceded it in points of simplicity, strength and durability of construction, and cheapness of manufacture.

In the accompanying drawings, which illustrate an improved fender for cars embodying our invention, Figure 1 is a top plan view. Fig. 2 is a side elevation showing one of the end fenders in the act of accommodating itself to a change of grade in the track, and Fig. 3 is an end elevation.

Referring to the drawings, in which like letters of reference denote corresponding parts in all the figures, A A' designate the axles of the car, and B the wheels thereon, which are of the ordinary or any preferred class. Although our invention is especially adapted for use on cable street-cars, still we do not desire to confine ourselves to the use of it upon any pat-

tern or class of cars, as we are aware that it can be used with advantage upon any kind of street or steam cars.

Our invention consists, essentially, in two side fenders, C C', and two end fenders, D D', which are arranged continuously around the sides and ends of the cars to effectually protect the passengers and bystanders from injury, and the end fenders are so constructed and arranged that they will automatically accommodate themselves to any change in the grade of the track without in any manner affecting the side fenders. These side fenders, C C', are arranged on opposite sides of the car and exterior to the wheels thereof, and they are suspended from the axles of the car by any suitable or preferred mechanism, as for instance, suitable straps or bands, e, which are connected to the fenders and embrace the axles, as clearly shown in Figs. 1 and 2 of the drawings. These side fenders thus depend from the axles within a suitable distance or elevation from the ground or track to clear the same, and at their ends they are extended or projected beyond the plane of the edges or peripheries of the wheels. Both ends of both fenders are extended beyond the peripheries of the wheels, as at e', and the upper edges of these extended ends of the side fenders are inclined or beveled from their upper edges to the lower edges, as at e'', for a purpose to be hereinafter explained.

The end fenders, D D', are arranged at opposite ends and beneath the body of the car, and the side walls, d, of these end fenders are inclined or bulged outwardly from their rear ends to a point near the front outer ends of the fenders, when the said side walls are again converged toward each other, as at d'. These end fenders are each provided with a vertically-disposed end wall, d'', which inclines downwardly and forwardly, so as to ward off any object in its path. This inclined end wall is furthermore bent or curved at its middle, so that the two ends thereof lie or are arranged at an angle to each other, which further aids in warding off an object, and in this wall is formed a central opening, d'', to accommodate the coupling between two adjoining cars.

The rear ends of the side walls of the end fenders are hinged or pivotally connected to the terminal ends of the side fenders, as at e,

and the lower edges of the said side walls are inclined or beveled to correspond with the inclination of the inclined edges of the ends of the side fenders, so that the said end fenders will
 5 rest snugly on the side fenders. It will thus be seen that the side and end fenders are pivotally connected together, so that while the side fenders are held in place on the axles the end fenders are free to have a limited movement or play in a vertical plane, and that the
 10 end fenders are adapted to rest upon and be carried by the side fenders.

F F' designate supporting rollers or wheels which are suitably journaled in the lower forward portion of the end fenders on opposite
 15 sides of the line drawn through the center of the fenders, and these rollers are adapted to ride upon the track when the car approaches an upgrade, so that the end fenders are elevated above the plane of the forward-curved
 20 edges c^2 of the side fenders, and thereby automatically accommodate themselves to a change in the grade of the track. The rollers are made of such a width that they will ride upon
 25 the rails of a switch without reference to which direction the car may be turned, as indicated in the dotted lines in Fig. 1.

Check-chains G may be connected to the free end of the pivoted end fenders to partially relieve the side fenders of the weight thereof
 30 and yet permit the end fenders to accommodate themselves to an elevation in the track.

When the car is traveling on a level portion of the track, the end fenders rest upon
 35 the upper inclined edges, c^2 , of the side fenders, which thereby carry and support the end fenders. When, however, an upgrade is reached by the car, the rollers or wheels come
 40 in contact with the track and elevate the front end of the end fenders off the side fenders, so that the end fender is partially supported at its rear end by the side fenders, while the front end thereof is supported by the rollers. As the car approaches a level portion of the
 45 track again, the weight of the end fenders causes the same to drop or gravitate and thereby rest upon the side fenders, by which it is again carried and supported.

While we deem the mechanisms and devices
 50 herein shown and described as best adapted for carrying our invention into effect, still we do not desire to confine ourselves to the exact details of construction and form and proportion of parts illustrated as an embodiment of
 55 our invention, but hold ourselves at liberty to make such changes and alterations as fairly fall within the scope of our invention.

Our invention is exceedingly simple, strong, and durable in construction, effective and reliable in operation, easily and readily applied
 60 to any class of car, and is cheap and inexpensive of manufacture.

Having thus fully described our invention, what we claim as new, and desire to secure by
 65 Letters Patent, is—

1. The combination of the suspended side

fenders and the non-collapsible end fenders connected directly to and carried by the side fenders, and thereby forming a continuous guard around the sides and ends of the car,
 70 the end fenders being pivoted to the side fenders to permit them to move vertically, substantially as described.

2. In a fender for railway-cars, the vertically-movable end fenders having a portion
 75 of their side walls diverging laterally, as at d , toward the free end of the fender, as and for the purpose described.

3. In a fender, the combination of the side fenders suspended directly from the extremities of the axles of the car, and the end fenders connected directly to the side fenders,
 80 said end fenders being pivoted to be capable of a vertical movement, and having supporting-rollers at or near the free ends thereof, which thereby adapt the end fenders to automatically accommodate themselves to a change
 85 of the grade, substantially as described.

4. In a fender, the combination of the side fenders suspended from the axles of the car, and having the inclined upper edges, c^2 , and
 90 the end fenders hinged or pivotally connected to the side fenders, and adapted to rest upon the said inclined edges thereof, substantially as described, for the purpose set forth.

5. In a fender, the combination of the side fenders suspended from the axles of the car, and the end fenders pivotally connected to the side fenders, adapted to be carried and supported
 100 thereby, and having the loosely-journaled supporting-rollers in the lower portion of its free end, substantially as and for the purpose set forth.

6. In a fender, the combination of the suspended side fenders and the vertically-movable end fenders pivotally connected directly to the side fenders and normally carried thereby in
 105 an elevated position out of contact with the track, substantially as described.

7. In a fender, the combination of the suspended side fenders and the vertically-movable end fenders connected directly to the side fenders and normally carried thereby in an elevated position out of contact with the track,
 110 the free ends of the said end fenders having supporting-rollers journaled therein, which are adapted to ride upon the track and thereby adapt the end fenders to automatically accommodate themselves to a change of the grade,
 115 as and for the purpose described.

8. In a fender, the end fenders having the converging end walls, d^2 , and a central opening, d^3 , at the apex of said walls, as and for
 120 the purpose set forth.

In testimony whereof we affix our signatures
 125 in presence of two witnesses.

ARTHUR JOHN MASON.
 GEORGE C. HALE.

Witnesses:

W. A. ALDERSON,
 W. HARMON.