

(No Model.)

2 Sheets—Sheet 1.

A. D. SMITH.
CAR FENDER.

No. 531,395.

Patented Dec. 25, 1894.

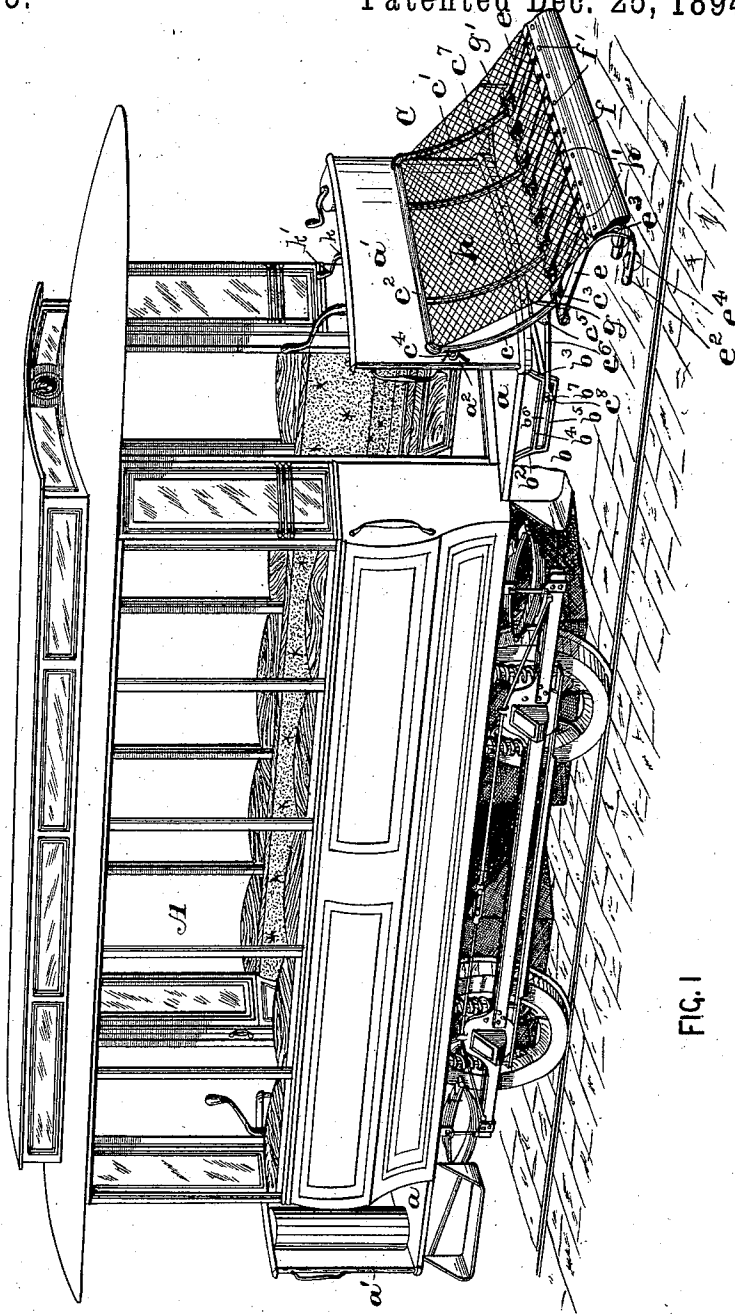


FIG. 1

WITNESSES:

Wm. A. Canfield, Jr.
B. Mortimer Russell.

INVENTOR:

ALONZO D. SMITH.

BY *Fred C. Fraentzel*, ATT'Y.

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FIG. 2

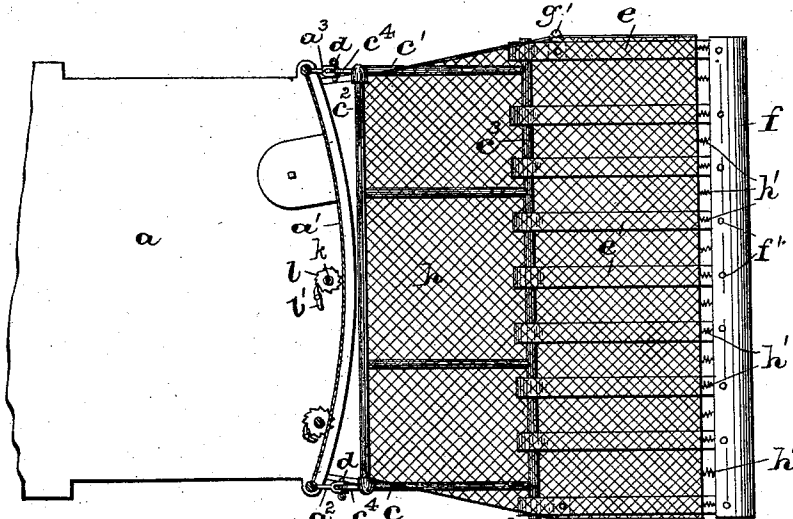


FIG. 3

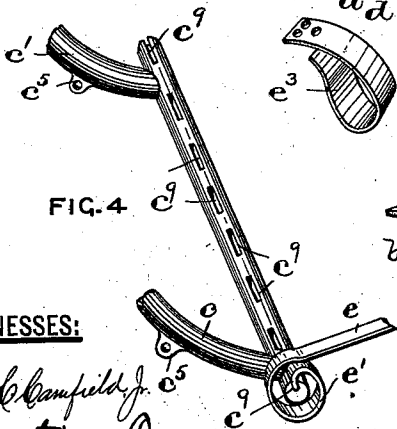
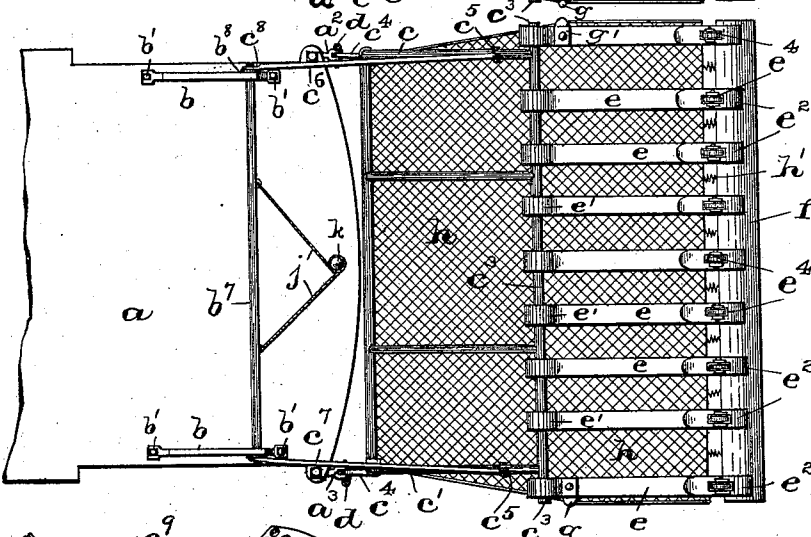


FIG. 4

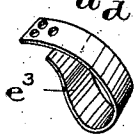


FIG. 6

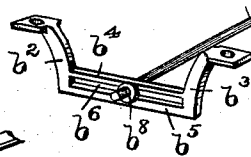


FIG. 5

WITNESSES:

Wm. H. Campfield Jr.
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INVENTOR:

ALONZO D. SMITH.

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UNITED STATES PATENT OFFICE.

ALONZO D. SMITH, OF NEWARK, NEW JERSEY.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 531,395, dated December 25, 1894.

Application filed September 8, 1894. Serial No. 522,414. (No model.)

To all whom it may concern:

Be it known that I, ALONZO D. SMITH, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Car-Fenders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My present invention is designed to provide a fender for electric, cable or other surface cars, and the invention is designed to provide an effective and simply constructed device, for the saving of life, which is normally raised in front of the dash board of the car, but can be quickly lowered as necessity demands, to pick up any obstruction on the track.

The invention therefore consists in the fender for cars hereinafter fully described, and also in certain novel arrangements and combinations of parts to be fully described in the accompanying specification and finally embodied in the clauses of the claim.

In the accompanying sheets of drawings, in which similar letters of reference are employed to indicate corresponding parts:—Figure 1 is a perspective view of a car, illustrating in connection therewith the fender embodying the principles of my invention. Fig. 2 is a top view of the fender, as it appears in front of the platform of a car and its dash board, the latter being represented in section. Fig. 3 is a bottom view of the fender, illustrating more particularly the means for retaining the pivoted catch-basket of the fender in its raised position in front of the dash board of the car. Fig. 4 is a perspective view of a portion of the fender frame. Fig. 5 is a similar view of certain bearings underneath the platform of the car and movable rod therein, with which the fender can be pivotally and detachably connected; and Fig. 6 is a perspective view of a certain spring used in connection with the fender frame.

In said drawings, A indicates the body of a surface car, which may be of any suitable con-

struction and size. The platform of the car is represented by the letter *a* and the dash board by the letter *a'*.

Underneath each platform of the car, are a pair of suitable brackets *b*, preferably of the form and construction shown in Fig. 5, which are secured at or near the opposite sides of the platform *a*, see Fig. 3, by means of bolts *b'*. Each bracket is provided with the downwardly extending arm- portions *b²* and *b³*, which are connected by means of the connecting pieces *b⁴* and *b⁵* and form a bearing *b⁶* in each bracket for a rod *b⁷*, which is capable of a reciprocatory sliding movement in said bearings. The projecting ends of said rod *b⁷* are preferably screw-threaded and collars *b⁸* on said ends retain the rod in its proper position in said brackets *b*.

The fender C, as will be seen from Figs. 1, 2 and 3, consists of a suitable frame comprising therein suitably bent side pieces *c* and *c'*, which are connected at the top by a rod or piece of tubing *c²* and at the bottom by a suitable bar *c³*. Each frame piece *c* and *c'* is provided with perforated ears or lugs *c⁴*, whereby this portion of the fender can be pivotally connected by means of pins *d* with of the car. Lower down on said frame-pieces perforated ears or lugs *a²* and *a³* on the dash board *c* and *c'* are perforated ears or lugs *c⁵* to which are pivotally connected certain rods *c⁶* and *c⁷* having slotted or forked ends *c⁸*, whereby said rods can be detachably connected with the free ends of the rod or bar *b⁷*, preferably on the outer sides of the brackets *b*, as will be clearly understood from Figs. 1 and 3.

The lower front portion of the fender consists of any desirable number of spring-plates *e*, which are spirally bent, as at *e'*, and are secured to said cross piece or bar *c³*, in any well known manner, and preferably in slots or openings *c⁹* in said bar, as will be seen from Fig. 4.

The front portion of each spring plate *e* is bent in the manner of a U, and each bent portion may be provided with a small wheel or roller *e¹*, secured thereto in any well known manner. Secured on each of said U-shaped portions *e²*, as will be seen more especially from Fig. 1, is the supplemental spring *e³*, shown in Fig. 6, and on the top of said parts is a suitable rubber guard *f*, all of said parts

being secured together by means of suitable screws or bolts f' .

Extending from the two end spring plates e are two uprights g and g' made of spring metal and secured to said uprights and the top bar c^2 of the fender frame is a suitable netting h . The lower portion of said netting h is secured by means of short springs h' to the rubber guard f , as clearly shown in the several figures of the drawings. Thus it will be seen, that the netting h is arranged considerably above the more solid frame work of the fender frame, and acts as a cushion to receive a person upon the catch-basket of the fender, thereby breaking the force of the blow and preventing any bruising of the body.

To retain the fender in its normally raised position above the track, in front of the car, a wire rope or chain j , see Fig. 3, is secured to the cross-bar or rod b^7 , and the ends of said rope or chain are wound around the lower end of a rod k operated by means of a handle k' , by the motor-man from the platform of the car. Arranged on said rod k , directly above the platform, is a toothed wheel l with which can be made to engage a pivoted dog or pawl l' , in the manner of the usual construction of brake rods for railway cars.

When the chain or rope j is wound about the lower end of said rod k , and the pawl l' is forced against the toothed wheel l , the action of the rope or chain j on the rod b^7 will be to cause said rod to be moved forwardly in its bearings b^6 , thereby forcing the rods c^6 and c^7 against the under side of the fender frame, causing the fender to swing on its pivotal pins d and sufficiently raising the front portion of the fender above the tracks, as will be clearly evident.

When the motorman notices a person or other obstruction on the track, by means of his foot, he disengages the pawl or dog l' from the toothed wheel, and the fender, by its own weight, immediately drops. This brings the rollers or wheels e^3 down upon the ground, and with it the rubber guard f , and the person is safely landed upon the cushion or netting h and retained therein. When the obstruction has been removed, the fender can be again brought to its raised position by winding the chain or rope j upon the lower end of the rod k and causing the locked or holding engagement of the pawl or dog l' with the toothed wheel l . Each end of the car is provided with a rod b^7 and a pair of brackets b forming bearings for said rods.

It will be evident, that the fender can be detachably arranged on either end of the car by simply placing the slotted or forked ends of the rods c^6 and c^7 against the rod or bar b^7 and connecting the lugs or ears c^4 with the lugs or ears on the dash board of the car, by the insertion of the pins d . In this manner, when the car has reached the end of the route, the fender proper can be quickly detached from the one end of the car and immediately connected with the opposite end of the car.

Of course, it will be understood that many variations of the construction and arrangements of the several parts herein shown and described may be made without departing from the scope of my invention, as for instance, the spring-plates e may be differently shaped and arranged, and the rollers or wheels e^3 may be entirely dispensed with. Hence, I do not wish to be understood as limiting myself to the exact details of construction and arrangements of the parts herein shown and described.

Having thus described my invention, what I claim is—

1. A fender for cars, comprising therein, a fender frame, bearings or brackets, as b , secured to the platform of the car, a rod movable in said bearings, said fender frame being pivotally connected with said rod and with the dash board of the car, a vertical rod having a rotary movement on the platform, and a chain or wire rope connecting said vertical rod with said movable rod in the bearings underneath the platform, for retaining the fender in a raised position in front of the car, but being capable of lowering the fender when said vertical rod is operated, substantially as and for the purposes set forth.

2. A fender for cars, comprising therein, frame portions c , c' , c^2 and c^3 , spring-plates e extending from said portions c^3 , said plates being U-shaped, as at e^2 , and spirally wound, as at e' , and means for securing said fender to a car, substantially as and for the purposes set forth.

3. A fender for cars, comprising therein, frame portions c , c' , c^2 and c^3 , spring-plate e extending from said portions c^3 , said plates being U-shaped, as at e^2 , and spirally wound, as at e' , a spring, as e^3 , on each of said plates e , a flexible guard f , and means for securing said fender to a car, substantially as and for the purposes set forth.

4. A fender for cars, comprising therein, frame portions c , c' , c^2 and c^3 , spring-plates e extending from said portions c^3 , said plates being U-shaped, as at e^2 , and spirally wound, as at e' , rollers or wheels e^4 connected with said plates e , and means for securing said fender to a car, substantially as and for the purposes set forth.

5. A fender for cars, comprising therein, frame portions c , c' , c^2 and c^3 , spring-plates e extending from said portions c^3 , said plates being U-shaped, as at e^2 , and spirally wound, as at e' , rollers or wheels e^4 connected with said plates e , a spring e^3 on each of said plates e , a flexible guard f , and means for securing said fender to a car, substantially as and for the purposes set forth.

6. In a fender for cars, in combination, a pair of bearings, as b , adapted to be secured underneath the platform, a rod b^7 movably arranged in said bearings, frame portions c , c' , c^2 and c^3 , rods c^6 and c^7 for pivotally connecting said frame portions c and c' with said rod b^7 , and spring-plates e extending from

said frame portion c^3 , said plates being U-shaped, as at e^2 , substantially as and for the purposes set forth.

7. In a fender for cars, in combination, a pair of bearings, as b , adapted to be secured underneath the platform, a rod b^7 movably arranged in said bearings, frame portions c , c' , c^2 and c^3 , rods c^6 and c^7 for pivotally connecting said frame portions c and c' with said rod b^7 , spring-plates e extending from said frame portion c^3 , said plates being U-shaped, as at e^2 , a spring e^3 on each of said plates e and a flexible guard f , substantially as and for the purposes set forth.

8. In a fender for cars, in combination, a pair of bearings, as b , adapted to be secured underneath the platform, a rod b^7 movably arranged in said bearings, frame portions c , c' , c^2 and c^3 , rods c^6 and c^7 for pivotally connecting said frame portions c and c' with said rod b^7 , spring-plates e extending from said frame portion c^3 , said plates being U-shaped, as at e^2 , rollers or wheels e^4 in said plates, a spring e^3 connected with each of said plates, and a flexible guard f , substantially as and for the purposes set forth.

9. A fender for cars, comprising therein,

frame portions c , c' , c^2 and c^3 , slots or openings c^9 in said portion c^3 , and spring-plates e secured in said slots or openings c^9 and connected at the bottom with a flexible guard, substantially as and for the purposes set forth.

10. In a fender for cars, in combination, a pair of bearings, as b , adapted to be secured underneath the platform, a rod b^7 movably arranged in said bearings, frame portions c , c' , c^2 and c^3 , slots or openings c^9 in said portions c^3 , spring-plates e secured in said openings or slots c^9 and connected at the bottom with a flexible guard, rods c^6 and c^7 pivotally connecting said frame portions c and c' with said rod b^7 , and lugs or ears on said frame portions, and pins d for pivotally connecting said frame portions with similar lugs or ears on the dash board of the car, substantially as and for the purposes set forth.

In testimony that I claim the invention set forth above I have hereunto set my hand this 6th day of September, 1894.

ALONZO D. SMITH.

Witnesses:

FREDK. C. FRAENTZEL,
WM. H. CAMFIELD, Jr.