

(No Model.)

2 Sheets—Sheet 1.

C. H. & E. M. GREEN.
CAR FENDER.

No. 506,315.

Patented Oct. 10, 1893.

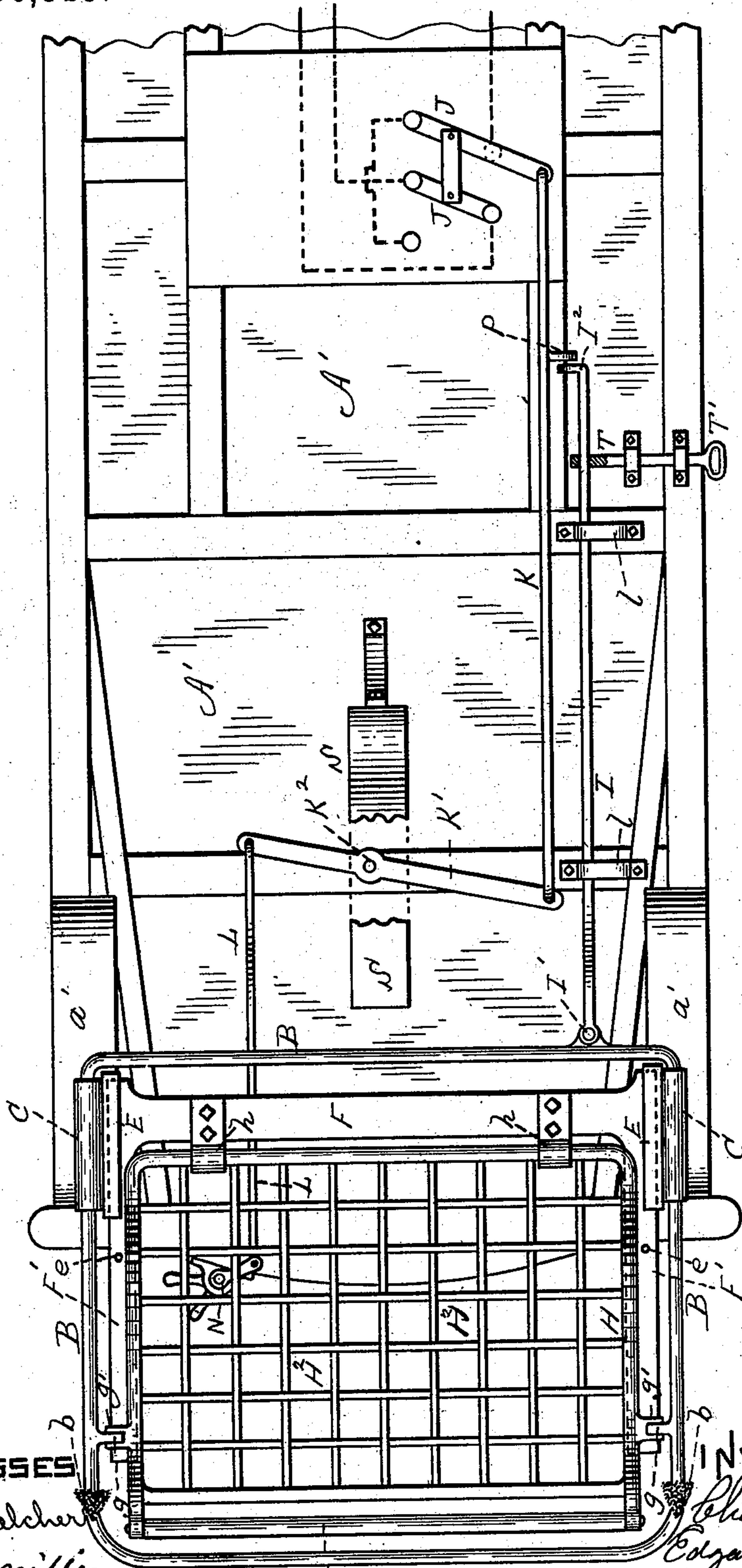


FIG. 1.

WITNESSES

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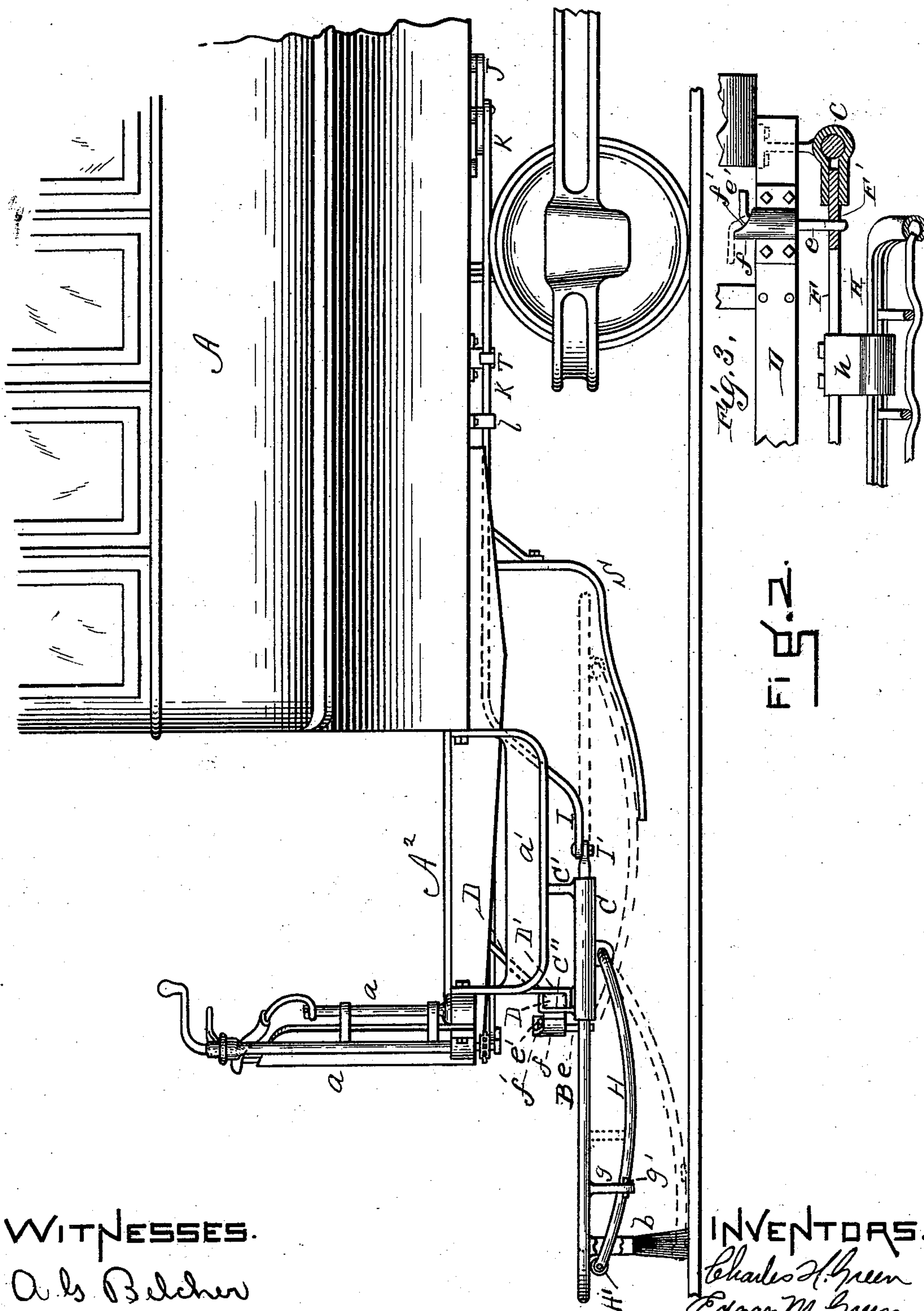
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UNITED STATES PATENT OFFICE.

CHARLES H. GREEN, OF BOSTON, AND EDGAR M. GREEN, OF SOMERVILLE,
MASSACHUSETTS.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 506,315, dated October 10, 1893.

Application filed December 24, 1892. Serial No. 456,212. (No model.)

To all whom it may concern:

Be it known that we, CHARLES H. GREEN, of Boston, in the county of Suffolk, and EDGAR M. GREEN, of Somerville, in the county of Middlesex, State of Massachusetts, citizens of the United States, have invented new and useful Improvements in Car-Fenders, of which the following is a specification.

This invention relates to fenders for cars, preferably street cars, and consists in certain mechanism and novel construction and arrangement of parts, whereby, when the fender strikes an obstruction, such as a human body for instance, a concave or scoop-shaped swinging shelf automatically and instantly falls, so that its forward end touches and moves over the pavement in constant contact therewith, the result being that the person struck by the fender falls into or is scooped up and carried along by the said swinging shelf, and thus protected from any possibility of being run over by the car-wheels or struck by the car itself.

The nature of this invention is fully described below and illustrated in the accompanying drawings in which—

Figure 1 is a plan view of the under side of a portion of an electric street-car, provided with our improved fender, a small portion being represented as broken out. Fig. 2 is a side elevation of the same. Fig. 3 is a detail in elevation and cross vertical section of certain parts below described. In these figures the fender is represented as extended into position for use.

Similar letters of reference indicate like parts.

A represents the body of an electric street-car, A' being the bottom, A² the platform, a the dashboard, and a' the steps, all constructed as usual.

B is a metallic frame consisting essentially of an endless rod bent into a substantially rectangular shape, and preferably provided with ordinary track-brushes b. This frame B is supported by and slides in grooved or tubular supports C secured to the under side of the car by means of hangers C' and brackets C'' resting on the cross-bar D which is usually supported in cars of this character in the position shown in Fig. 2, by brackets

or hangers D' extending downward from the car.

Extending horizontally from the tubular supports C are grooved supports E. In these supports slides a frame which consists of the cross-piece F and side-pieces or extensions F'. This frame F F' is held normally locked so that it cannot slide in the supports E, by means of pins or bolts e see Fig. 3 extending down vertically from the frame f. The upper ends e' of these bolts e are bent into a horizontal position so that the bolts can be lifted out of engagement with the frame F F' by moving said ends e' up on the incline f' of the frame f. This frame f extends from the bar D above referred to. H is the frame of a swinging shelf or scoop, hollowed out or concavo-convex in cross section (that is, longitudinal section with the car) said frame consisting of an integral rod comprising the side pieces and back piece, a roller H' supported by the front ends of the side pieces, and a grate or net work H² within and supported by said frame. This frame swings by means of hinges h from the portion F of the sliding frame F F', and is supported normally in the raised position shown in full lines in the drawings by means of dropped brackets g secured to the under side of the frame B and underlapping projections g' extending horizontally from the frame H. It can thus be seen that the frame F F' from which the swinging shelf or scoop H H² extends, is stationary being prevented from horizontal movement by the pins e, while the frame B is free to slide horizontally in the tubular supports C. It is apparent therefore that should the fender while the car is in motion strike a person on the track, the portion of the fender coming in contact with the person would be the front of the frame B. The effect of the blow would be to instantly force the frame B back in its slides, and this movement of the frame would move the underlapping brackets g back from under the projections g' extending from the frame H of the scoop, with the result that this scoop or swinging shelf would instantly be released, and drop from its raised position into the position shown by broken lines in Fig. 2, in which its front edge, especially the roller H', rests

upon the pavement between the rails. The person struck by the frame B therefore, cannot fall under the car, but if he falls is received by the scoop or concavo-convex swinging shelf H H² in which position he is safe. The scoop being in a raised position from the ground normally, cannot accidentally come in contact therewith, and being provided with the roller H', when it is dropped by reason of accidents as above described, moves freely over the ground without danger of digging or plowing up anything.

It may be desirable that in case of accident in which the fender comes into operation, the electrical current should be automatically reversed, this being accomplished in the following manner: A horizontal rod I is pivotally secured at I' to the rear portion of the frame B and extends rearward under the car supported by broad hangers l and is provided at its rear end with a sharp bend I². The switching mechanism J, not new in this invention, is connected by a horizontal rod K with one end of a lever K' fulcrumed at K² to the under side of the car, the other end of said lever being connected by a rod L with the ordinary reversing mechanism N operated by the motor-man. The rod K has rigidly secured to it, near the bend I², a projection P.

As the frame B is pushed back in the manner above described, the rod I is carried back with it, and its end I² engages the projection P and reverses the switch J, operating, as will be seen, automatically, the same rod which is actuated by the motor-man.

When the car has reached the end of its route, the fender is slid back by raising the bolts e thus releasing the frame B. The entire fender can then be pushed back under the car into the position shown by broken lines in Fig. 2, and the scoop or hinged portion is held up in such position by a pan or apron S, of substantially the shape shown, secured to the under side of the car.

In order to prevent the rod I I² from engaging the switching mechanism when the fender is pushed back, a bolt T is provided, said bolt sliding under the car and being operated from outside the car by its handle T' and extending transversely into engagement with the rod I. By slightly withdrawing this bolt the rod I is swung in the broad supports l l out of line with the projection P so that if the fender is pushed back, the current will

not be reversed. Of course it is desirable to have a fender at each end of the car.

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

1. A car fender comprising the horizontally sliding frame B supported by the car, the stationary frame F F', the scoop or shelf H H² hinged at the rear edge to the frame F F' and with its front edge held in a raised position by the frame B when said frame B is drawn forward but released when it is pushed rearward, substantially as described.

2. In combination, the sliding frame B provided with the supporting hangers g, the frame F F' and the scoop or shelf H H² hinged at its rear edge to the frame F F' and provided with the projections g', substantially as set forth.

3. In combination, the frame B sliding in supports C, the frame F F' supported by slides E, pins or bolts as e supported from the car and adapted to be raised or lowered out of or into engagement with the frame F F', and the scoop or swinging shelf H H² hinged at its rear edge to the frame F F' and with its front edge sustained in a raised position but adapted to be dropped by the sliding of the frame B, substantially as set forth.

4. In a car fender, the combination with the scoop or shelf H H² hinged at its rear edge to a frame capable of being slid rearward under the car, and the supporting apron S secured to the under side of the car and adapted to sustain the scoop in a raised position when it is moved back, substantially as described.

5. In combination, the sliding frame B, the electric switching mechanism J, and an intermediate connection substantially as described whereby the current is automatically reversed by the rearward movement of the frame, substantially as set forth.

6. In combination, the sliding frame B, rod I pivoted thereto under the car with its opposite end free to vibrate to a limited extent and provided with the engaging end I², and the electric switching mechanism K K' L provided with the engaging projection P, substantially as described.

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