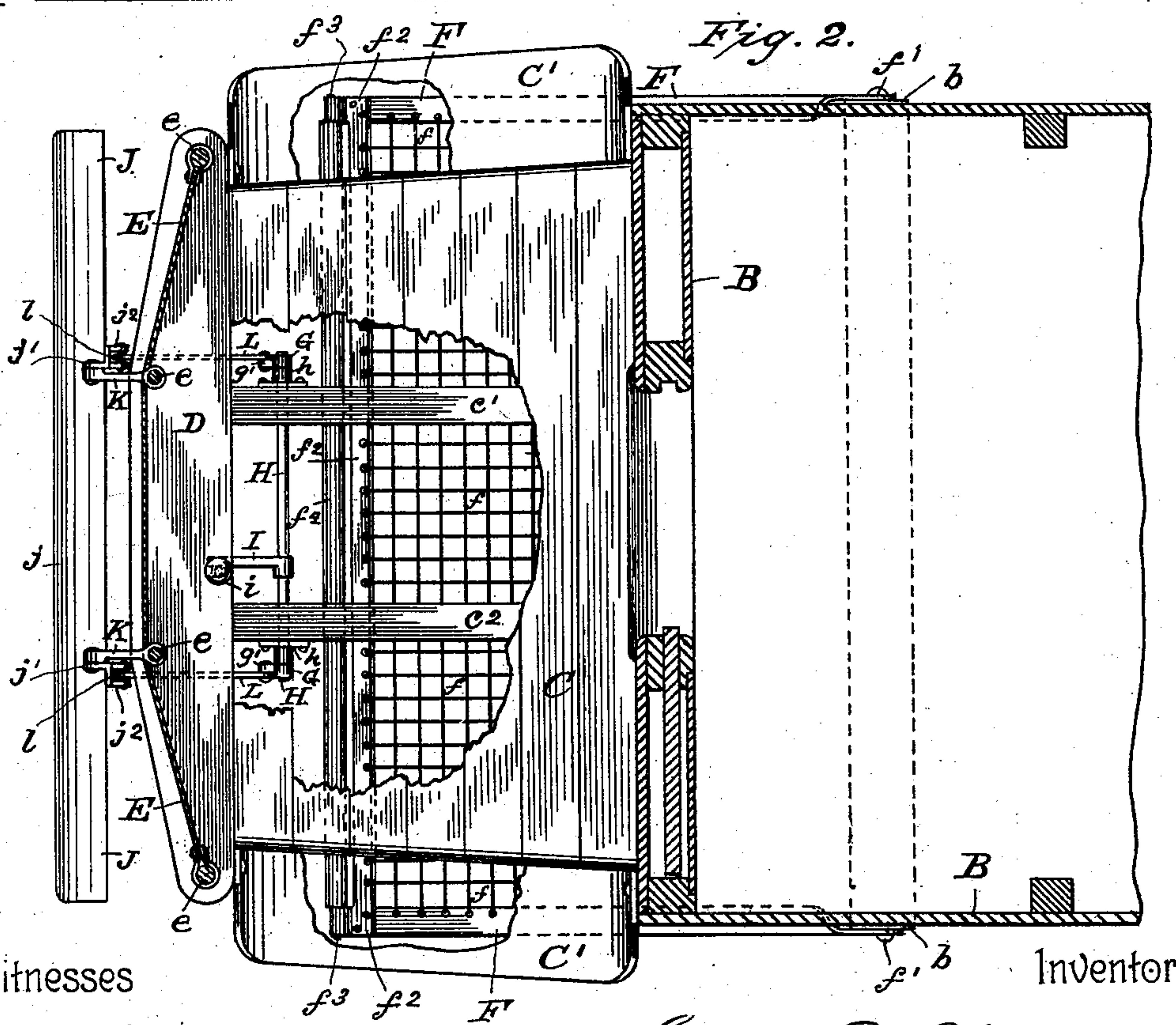
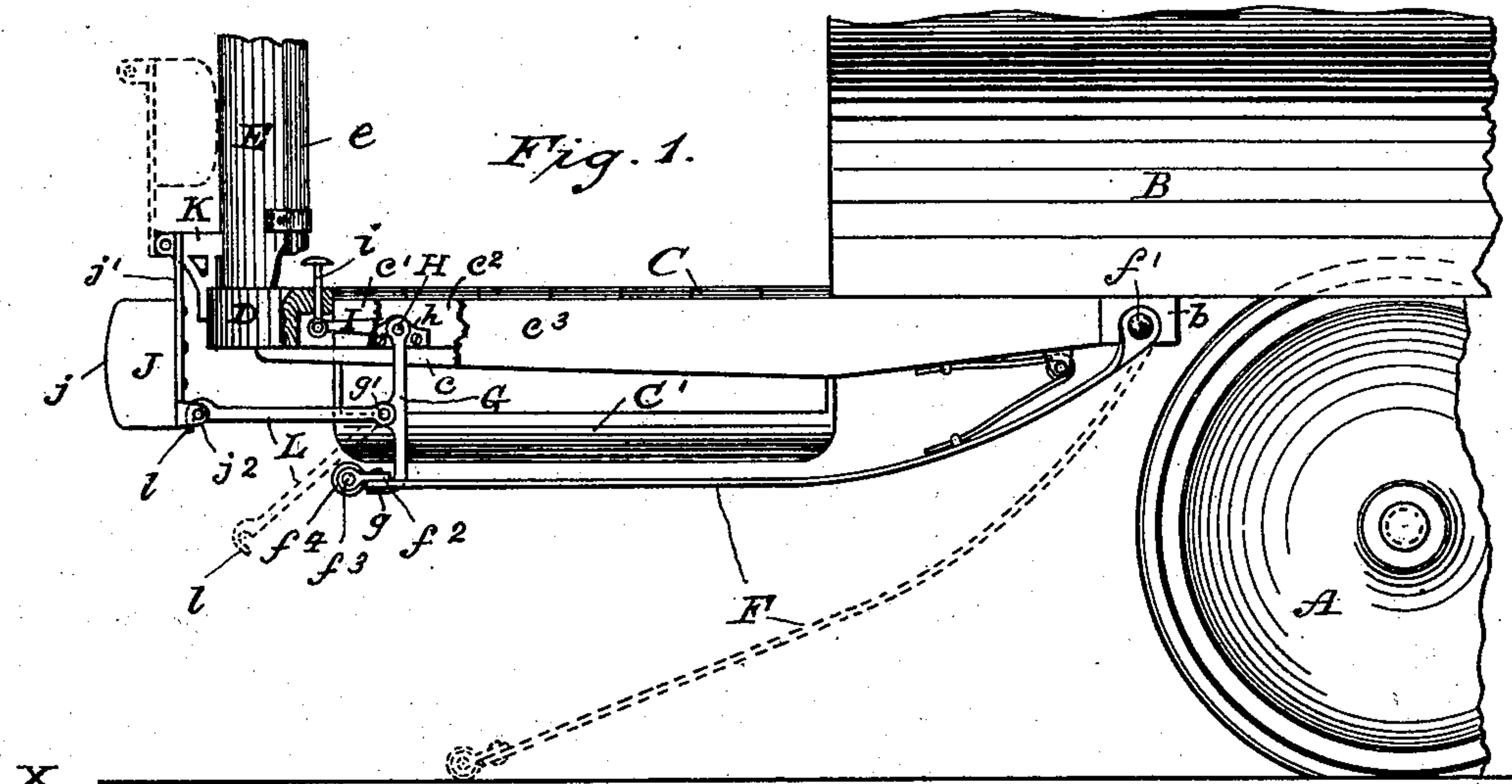


(No Model.)

G. O. SPENCER.
CAR FENDER.

No. 604,910.

Patented May 31, 1898.



Witnesses

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GEORGE O. SPENCER, OF MANCHESTER, NEW HAMPSHIRE.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 604,910, dated May 31, 1898.

Application filed January 4, 1897. Serial No. 617,879. (No model.)

To all whom it may concern:

Be it known that I, GEORGE O. SPENCER, a citizen of the United States, residing at Manchester, in the county of Hillsborough and State of New Hampshire, have invented certain new and useful Improvements in Fenders for Electric Cars; 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.

This invention relates to safety appliances for street-cars, the objects being to lessen the severity of the shock or blow to persons who happen to be unfortunate enough to be on the track of a moving car and to provide an automatically-adjustable screen or frame for preventing the person so struck from getting under the wheels, as fully set forth in the following specification and claims and clearly illustrated in the drawings accompanying and forming a part of the same, of which—

Figure 1 is a broken elevation showing one end of an electric or cable street-car to which my improvements are applied, Fig. 2 being a sectional or broken plan view of the same.

Likereference-letters denote corresponding parts in both views.

A represents a car-wheel.

B is the car-body; C, the boards of the platform; $c' c^2 c^3$, longitudinal timbers to which the boards C are secured.

C' are the steps, and D is the end beam of the platform, carrying the rods e , to which the dasher E is attached.

F is my improved adjustable frame, which may be covered with a light wire-netting f , as seen through the broken portions of the platform and steps in Fig. 2. This frame is made broader than the rails and wheels and is pivotally connected at one end, as at f' , to a timber b , secured underneath the car-body, just forward of the wheels, at either end of the car. Normally this frame will assume the elevated position shown by full lines in Fig. 1, but it may be dropped to the rails, automatically or it may be operated from the platform in a manner to be hereinafter explained. The free end of this frame F is provided with a cross-bar f^2 , and a rod f^3 , running parallel therewith, is secured in any convenient manner to said frame F, or it may

be mounted in the bent ends of said cross-bar f^2 , as shown, and this rod is provided with a rubber covering f^4 , so as to do less injury to the person who may be caught by it. When not required for use, the frame F is sustained at the proper elevation to avoid contact with the rails or any object between the same by the bent ends g of the supporting-arms G, which are rigidly secured to a rocker-shaft H, mounted in bearings h , secured to the central sills or timbers $c' c^2$ of the platform, and at some convenient point upon said shaft is also rigidly mounted a horizontal arm I, to the free end of which is pivotally attached an operating-rod i , rising through the platform and in easy reach of the motorman or other operator of a car, the bent ends g of the supporting-arms G engaging the under side of the cross-bar f^2 of the frame F when the latter is in its elevated position. Thus when occasion presents the motorman may bear down with his foot upon said arm I, which instantly disengages the said projections or bent ends g of the arms G from the cross-bar f^2 , allowing the frame F to drop to the position shown by dotted lines in Fig. 1 and by full lines in Fig. 2 and rendering it impossible to run over any object on the track, the netting or screen f being designed to be sufficiently flexible or elastic to cause no injury to the person landing on it.

To guard against inadvertence or oversight on the part of the operator of a car, a transverse frame or buffer J, which may present a convex or cushioned front j , is located forward of the dasher, the arrangement and function of which are as follows:

Brackets K are secured to the platform or to the dasher by means of the rods e , as shown, and to the free ends of said brackets the buffer is normally suspended by the pivotally-connected plates j' , bolted to the buffer, which permits the latter to be turned up out of the way when it is desired to couple two cars together, as shown by dotted lines in Fig. 1, the coupling of two cars together rendering it necessary to thus turn the buffers up, in which position they would remain by contact one with the other even though no other means should be provided to sustain them in this position; but as their pivotal point when in such position is forward of their center of

gravity either buffer would remain in its elevated position, resting against the car-dasher, until turned down. At or near the lower edge of said buffer the plates j' are provided with
 5 an eye j^2 for the reception of the hooked ends l of either rod L , which rods are pivotally attached at their opposite ends, as at g' , to the supporting-arms G . Thus it is obvious that should the buffer strike anything it would be
 10 moved toward the car-platform, which movement would automatically drop the frame F .

The connections or arms L are hooked to the buffer in order that they may be readily disengaged therefrom when it is desired to adjust
 15 said buffer to the position shown in dotted lines for the purpose before mentioned.

In order that the frame F may drop to the track as quickly as need be and to prevent its possible vibrations and to hold it more
 20 steadily in contact with the ground or track, suitable springs M may be provided to bear it down, and in the drawings I have shown these springs attached to the outside platform-sills c^3 at m , their free ends passing
 25 loosely through loops $m' m^2$, respectively, secured to the said sills c^3 and the frame F .

Having described my improvements, what I claim is—

1. As a safety appliance to power street-
 30 cars, the combination of a transverse frame or buffer pivotally connected forward of the dasher and adapted for adjustment to a position above or below the platform, a screen or

frame pivotally connected at one end to a car
 its free end being provided with a rubber 35
 covering and arranged to drop to the ground forward of the wheels, suitable movable arms depending from the car-platform for supporting the free end of said screen-frame, and
 40 rods pivotally attached to said supporting-arms below their pivotal point and detachably connected to said buffer, substantially for the purpose set forth.

2. In street-cars, the combination of a transverse cushioned frame or buffer pivotally connected forward of the dasher and adapted for
 45 adjustment to a position above or below the platform, a screen or frame pivotally connected at one end to a car its free end being provided with a rubber covering and arranged
 50 to drop to the ground forward of the wheels, suitable movable arms depending from the car-platform for supporting the free end of said screen-frame, rods pivotally attached to said supporting-arms below their pivotal
 55 point and detachably connected to said buffer, and means substantially as shown whereby the car-operator may disengage the supporting-arms and screen-frame from a point above
 60 the car-platform.

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

GEORGE O. SPENCER.

Witnesses:

J. B. THURSTON,

JOHN H. ANDREWS.