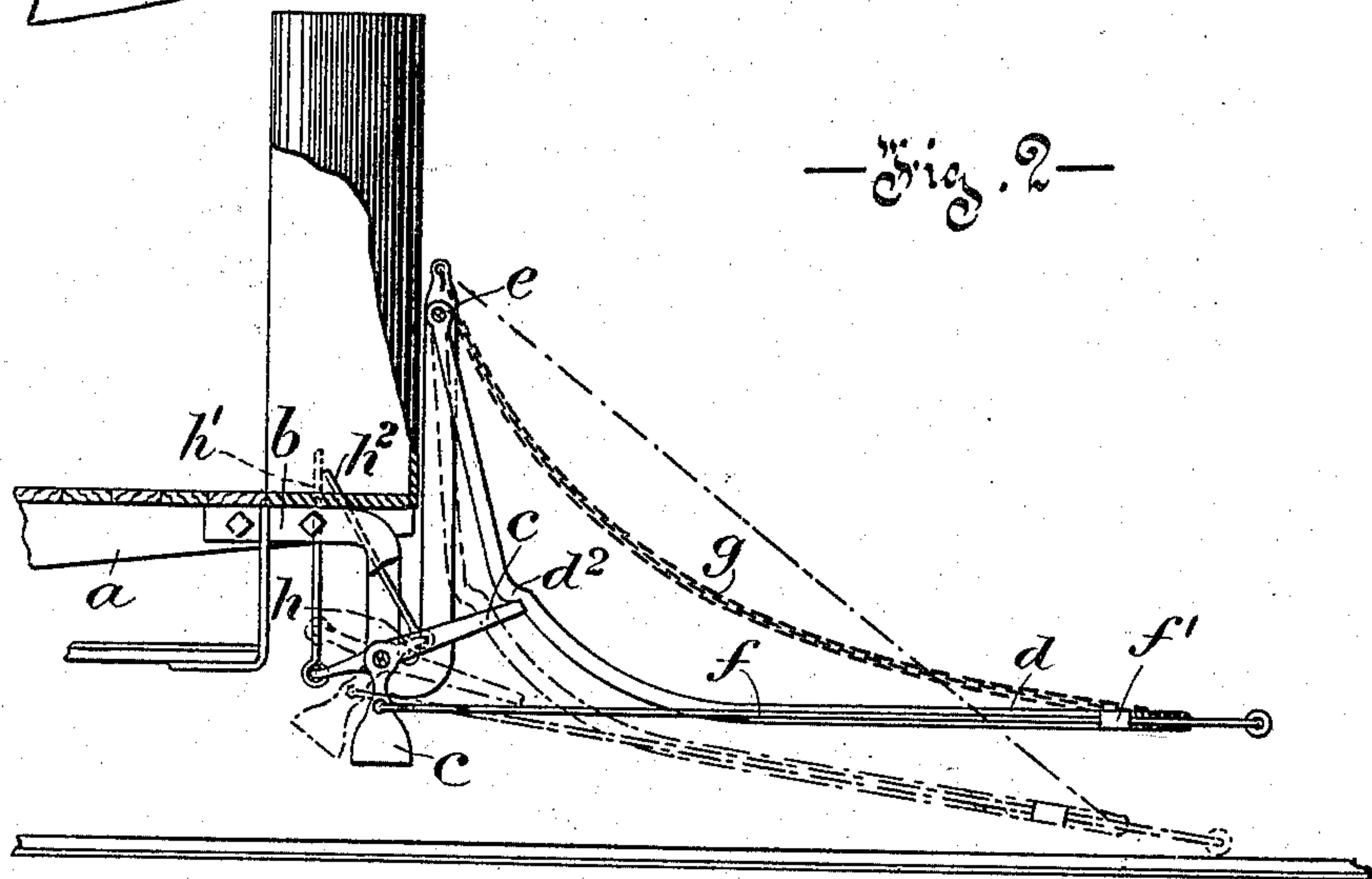
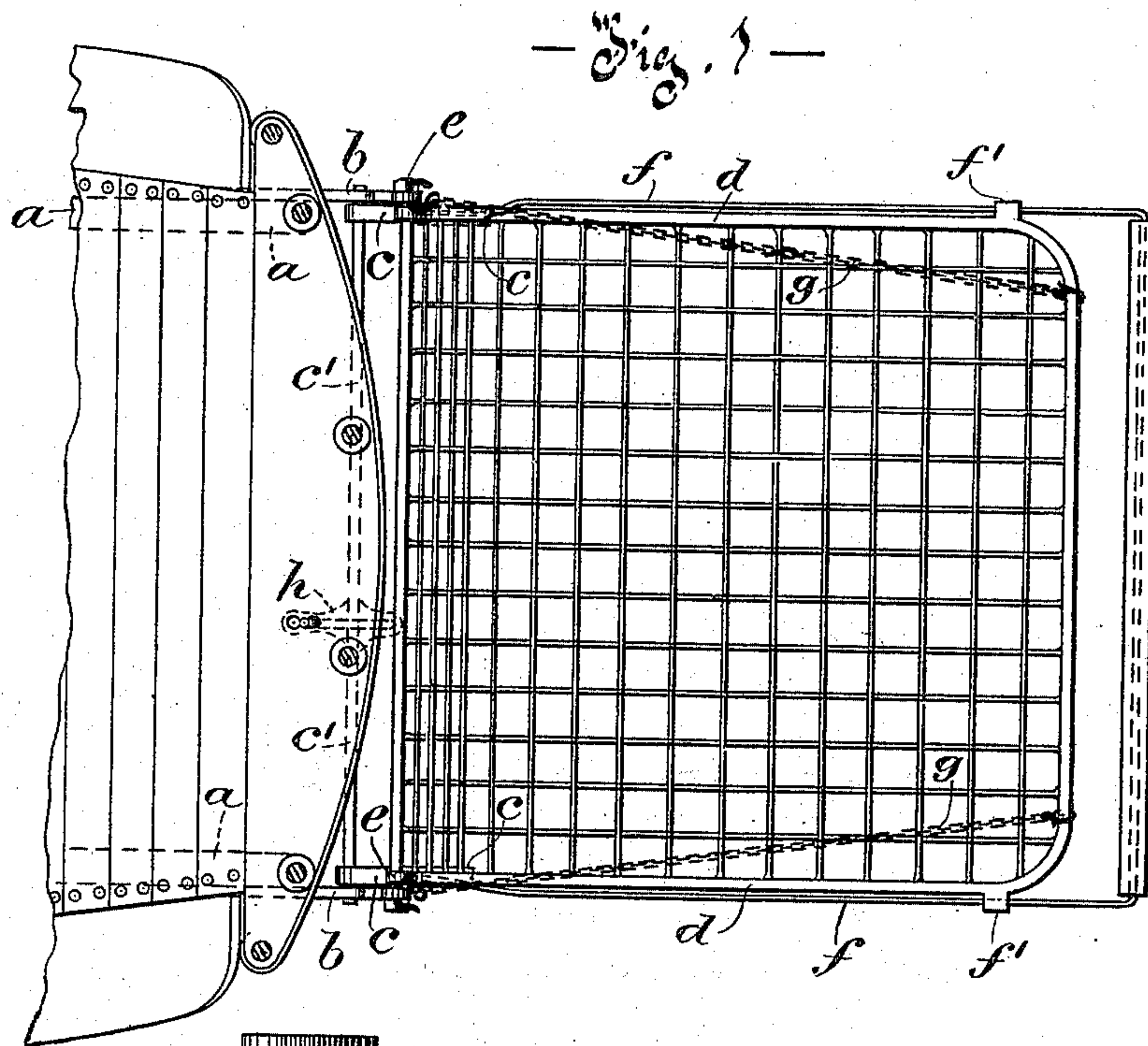


(No Model.)

S. S. KIMBALL.
STREET CAR FENDER.

No. 535,763.

Patented Mar. 12, 1895.



Witnesses

John H. [Signature]
R. A. [Signature]

Inventor

Stephen S. Kimball
By *his Attorney*
Oliver N. [Signature]

UNITED STATES PATENT OFFICE.

STEPHEN S. KIMBALL, OF MONTREAL, CANADA.

STREET-CAR FENDER.

SPECIFICATION forming part of Letters Patent No. 535,763, dated March 12, 1895.

Application filed August 4, 1894. Serial No. 519,508. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN SMITH KIMBALL, of the city of Montreal, in the district of Montreal and Province of Quebec, Canada, have invented certain new and useful Improvements in Fenders for Street-Cars; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention relates to the pivoted fenders or guards located at the end or ends of a car and adapted to be lowered to receive any obstruction in case of accident and the invention has for its object to render the same automatically adjustable from an elevated position to a lower one in the event of its forward end striking any obstruction, thus avoiding any absolute necessity for action on the part of the motorman although means are preferably provided whereby he can raise and lower the fender at will.

The invention consists in a receiver or guard composed of a rectangular frame with wire mesh or other filling, having its inner end pivoted to standards at the end of the car, and its outer end held normally elevated by movable supports in the form of rocker arms adapted to be operated automatically through a projecting trip or feeler extending forward of the guard.

For full comprehension however of the invention, reference must be had to the annexed drawings forming a part of this specification, in which like symbols indicate corresponding parts and wherein—

Figure 1 is a plan view of the fender with sufficient of the car platform to show its attachment thereto and Fig. 2 a side elevation with a portion of dasher and supporting frame broken away.

$a a$ are the usual sills beneath the car platform and to these are preferably bolted the standards $b b$ usually made in the bent form shown in order to secure as low a point of attachment as possible and in rear of the front of the car platform for movable supports preferably in the form of rocker arms or bell crank levers $c c$ rigidly mounted on a shaft c' extending between and having bearings in the inner portions of the standards.

The guard or fender proper in this case has a rigid frame bar d curved upward at its inner ends, and pivoted at e to the outer up-

wardly projecting portions of the standards b , the filling being composed of wire mesh netting or other desirable material. One, the supporting, arm of each of the lever supports $c c$ is notched at its end to form a seat for the side portions of the frame bar d of the guard and the frame bar itself is preferably bent as at d^2 to present a shoulder which serves to locate this supporting arm of the lever support in proper position to maintain the guard in its normal position, as shown in full lines Fig. 2. The other arm of each of the lever supports is preferably made somewhat heavier to act as a counterbalance tending to throw the supporting arm upward and attached to these actuating arms, as they may be called, are the ends of a rod f bent so as to extend across the front of the guard and turn inward along the sides of the same, suitable eyes f' being provided on such sides to support it. This rod, when the guard and its supports are in the normally elevated position shown in full lines Fig. 2, is projected somewhat beyond the front edge of the guard and acts as a trip or feeler which, upon coming into contact with any obstruction is driven inward and throws the lever supports to the position shown by dotted lines in Fig. 2, lowering the supporting arms of same and consequently allowing the front end of the guard to drop to the position indicated by dotted lines also.

The front portion of the feeler or trip is preferably covered with rubber cushioning, for obvious reasons and a pair of light chains or other connections g, g , leading from the upper ends of the standards $b b$ to the outer corners of the guard serve to limit the downward fall of the guard and to support it with any body that might be thrown upon it.

In order that the motorman may raise and lower the guard at will I set a short cross piece h rigidly upon the shaft c' carrying the movable supports $c c$ for the guard, and from the opposite ends of this cross piece pins $h' h^2$ project up through openings in the car platform so that the motorman by depressing the pin h^2 with his feet can rock the shaft c' and lower the supports, thus allowing the guard to fall, or, by pressing upon the pin h' rotate the shaft in the opposite direction and raise the supports and so elevate the guard.

What I claim is as follows:

1. In a car fender, the combination with
suitable standards at the end of the car, of a
guard composed of a rectangular frame, with
wire mesh filling, pivoted at its inner end to
5 said standards, a shaft extending between
said standards and movable supports in the
form of rocker arms or levers rigidly mounted
on said shaft by which said guard is normally
elevated, with a trip or feeler connected with
10 said shaft to operate said supports and ex-
tending forward of said guard for the pur-
pose set forth.

2. In a car fender the combination with the
sills or framework of a car, of standards se-
15 cured at the ends thereof, a guard composed

of a rectangular frame with wire mesh fill-
ing, pivotally connected with said standards;
a shaft extending between said standards;
rocker arms or levers rigidly mounted on said
shaft and adapted to support said guard; a 20
trip rod or feeler extending forward of the
guard and having inner ends connected with
said rocker arms; and means, carried by said
shaft, whereby the motorman can partially ro-
tate the same for the purpose set forth.

Montreal, 25th day of July, 1894.

STEPHEN S. KIMBALL.

In presence of—

OWEN N. EVANS,

WILL. P. McFEAT.