(No Model.) 2 Sheets—Sheet 1.

S. S. PUTNAM, Jr., & W. W. WHITMARSH.

SELF ADJUSTING FENDER OR GUARD FOR RAILWAY CARS.

No. 442,546. Patented Dec. 9, 1890.

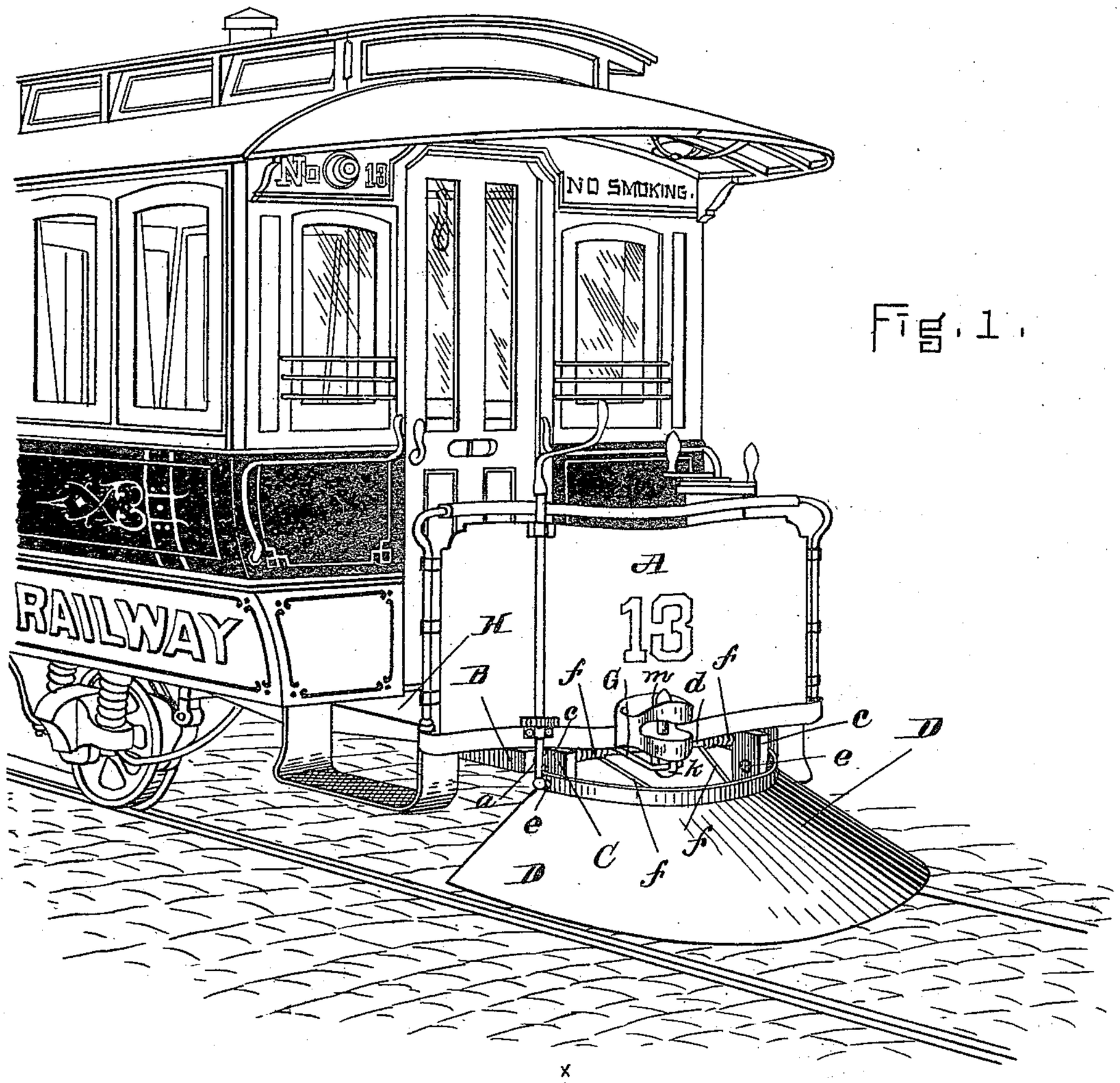

Fig. 1.

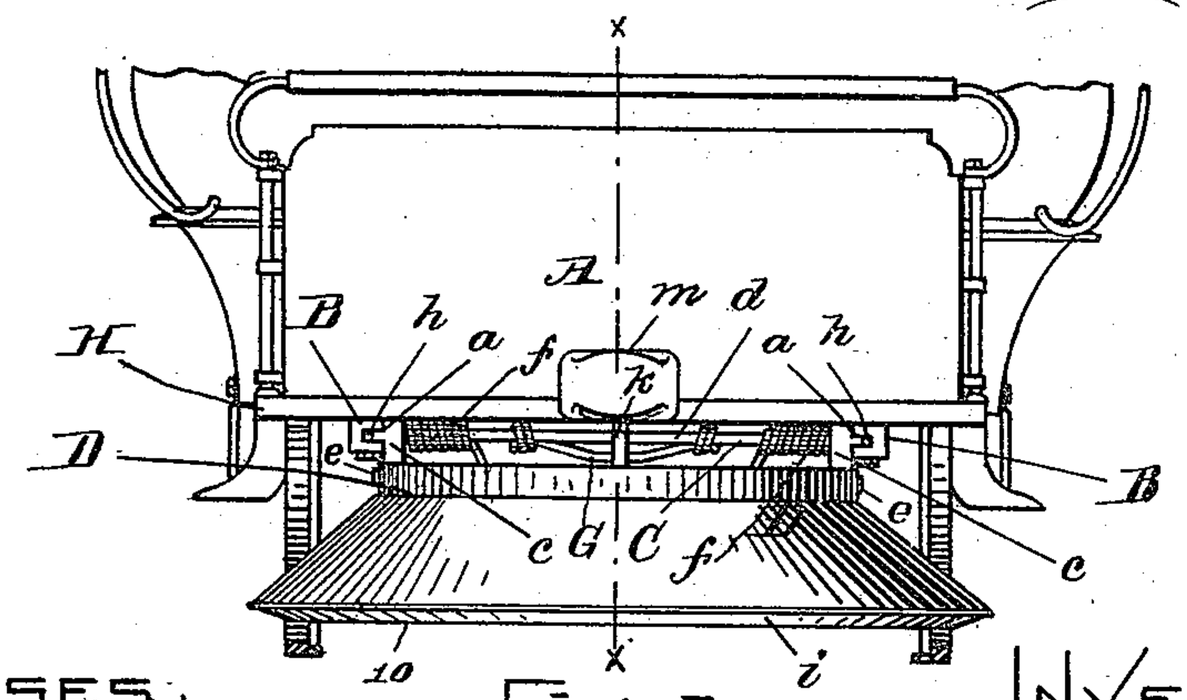

Fig. 2.

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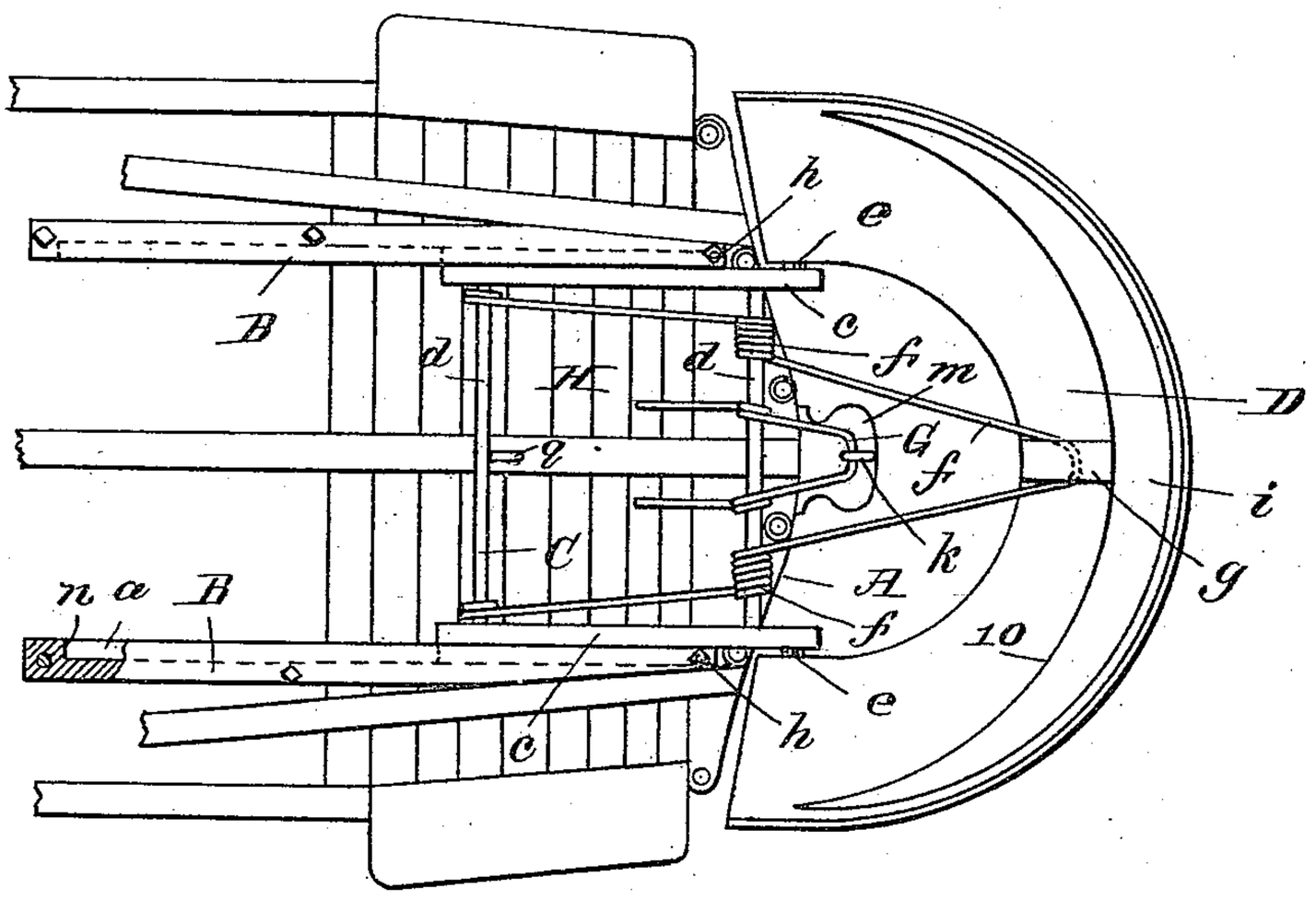

FIG. 3.

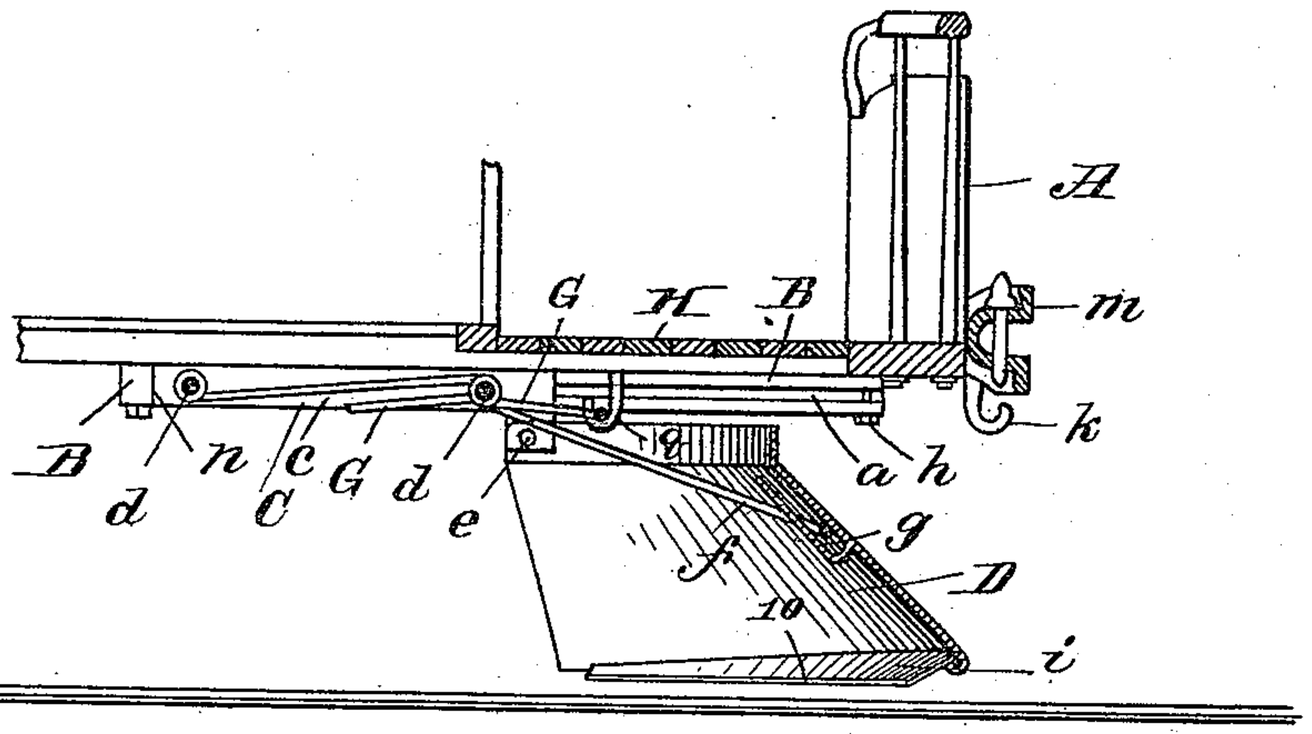

FIG. 4.

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UNITED STATES PATENT OFFICE.

SILAS S. PUTNAM, JR., AND WILLIAM W. WHITMARSH, OF BOSTON, MASSACHUSETTS.

SELF-ADJUSTING FENDER OR GUARD FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 442,546, dated December 9, 1890.

Application filed September 11, 1890. Serial No. 364,704. (No model.)

To all whom it may concern:

Be it known that we, SILAS S. PUTNAM, Jr., and WILLIAM W. WHITMARSH, citizens of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Self-Adjusting Fenders or Guards for Railway-Cars, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of one end of a street-railway car having our improved fender or guard applied thereto. Fig. 2 is an end elevation of the lower portion of the same. Fig. 3 is a plan view of the under side of the same. Fig. 4 is a longitudinal vertical section on the line *x x* of Fig. 2.

Our invention relates to an improvement on the self-adjusting fender or guard for railway-cars for which Letters Patent of the United States were granted to S. S. Putnam, Jr., July 1, 1890, No. 431,393, and has for its object to provide a means whereby the fender or guard may be pushed back horizontally beneath the end of the car to which it is attached, so that it will be entirely out of the way when not required for use—as, for instance, when the car is to be stored away in the car-house, where it is desirable to economize space by placing the cars as near together as possible, or where two cars are to be coupled together.

To this end our invention consists in the combination, with a railway-car, of a fender or guard arranged to slide horizontally beneath the end of the car to which it is attached, whereby it may be drawn out into a position for use or pushed back out of the way when not required, a suitable catch or retaining device being provided for locking or holding the fender in place when drawn out or pushed in, as hereinafter set forth.

In the said drawings, A represents the front portion of a railway-car, to the under side of which are secured two guide-bars B B, provided on their inner sides with grooves *a*, within which fit the side pieces *c c* of a horizontally-sliding frame C, the said side pieces *c c* being connected to transverse rods *d d*. To the front end of this frame C is pivoted the fender D, preferably composed of sheet metal, and of any suitable or desirable form. The bolts *e e*, upon which the fender D is hung, pass through suitable apertures at or near its rear upper corners and enter the front ends of the supporting-frame C, the fender being supported with its lower edge quite close to the ground and being free to rock or oscillate upon its pivots *e e* either downwardly or upwardly. The pivots *e e* are so placed that the fender will swing downward by its own weight to its proper level, in which position it is supported by a spring *f*, coiled around one of the transverse rods *d*, the front looped end of said spring fitting within a guide *g*, secured to the under side of the fender, whereby if the fender is depressed or rocked downward by encountering an obstruction it will be instantly returned to its original position when released in a manner similar to that shown in the patent of S. S. Putnam, Jr., before referred to. In case, however, the fender is brought into contact with the ground by the excessive jolting or longitudinal rocking motion of the car, it will readily yield or rock upward on its pivots *e e* and be instantly returned to its proper level by its own weight, combined with the action of the spring *f*, as the end of the car to which it is attached rises, thus avoiding any liability of breakage or injury to the parts, as would occur if the fender were rigidly attached to the car. The spring *f* may be of any suitable form or description, and may be so applied, as shown in the drawings, that it will return the fender to its normal position when rocked either upward or downward; or it may be arranged to merely raise the fender after having been depressed, in which case the weight of the fender will be relied upon to carry it down after it has been rocked upward.

The front edge of the fender is provided with a curved or crescent shaped flange *i*, the inner edge 10 of which is slightly below the level of the front edge of the fender, whereby the latter is prevented from actually striking the ground, the edge 10 of the flange *i* receiving the blow and sliding along the ground, thus preventing the front edge of the fender, if brought down near to the ground, from catching under a stone or other obstruction, and thereby avoiding liability of accident

from this cause. This flange, however, is fully described and claimed in the aforesaid patent of S. S. Putnam, Jr., and forms no part of the present invention.

When the car is to be used, the horizontally-sliding supporting-frame C is moved forward in its guideways into the position seen in Figs. 1 and 3, a suitable stop or stops *h* being provided to limit its outward movement. This causes the fender D to project beyond the front end of the dasher of the car, as desired, in which position it is locked by a suitable catch or retaining device, which in the present instance consists of a double lever G, fulcrumed on the front rod *d*, the front looped end of said lever G being adapted to engage with a hook *k*, projecting from the under side of the draw-head or bumper *m*, thus holding the frame C and fender D securely in place against any force which may tend to push them backward. When the car is to be placed in the car-house, where it is desirable to economize space to the greatest possible extent, or where two cars are to be coupled together, the retaining device G is unfastened and the frame C, with the fender D, slid back horizontally beneath the front end of the car, as seen in Fig. 4, in which position the fender is entirely under the car, out of the way, no portion of it projecting beyond the platform H. Suitable stops *n* serve to limit the backward movement of the frame C, and when the fender is pushed back as far as permitted by said stops it is held securely in place by the retaining-lever G, which is adapted to engage with a hook *q*, suitably placed to receive it.

It is obvious that the retaining device may be adapted to hold the frame C in any desired position intermediate between its extremes of movement, whereby the fender may be secured in place with its front end projecting more or less beyond the end of the car, as may be desired.

Each end of the car is to be provided with one of the above-described horizontally-sliding fenders, and when the car is in use the fender at the rear end is pushed beneath the car into the position seen in Fig. 4, entirely out of the way.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The combination, with a railway-car, of a fender or guard arranged to slide horizontally beneath the end of the car to which it is attached, whereby it may be drawn out into a position for use or pushed back out of the way when not required, substantially as set forth.

2. The combination, with a railway-car, of a fender or guard secured to a supporting-frame adapted to slide horizontally in guides beneath the end of the car, means for holding said fender in place when adjusted, and stops for limiting the horizontal sliding movement of the fender in either direction, substantially as described.

3. In a railway-car, a self-adjusting fender or guard pivoted to a supporting-frame adapted to slide horizontally in suitable guides beneath the end of the car to which the fender is attached, said fender being adapted to rock or oscillate on its pivots toward or from the ground independently of the car to which it is attached, means for holding said fender at the proper level and automatically returning it to its normal position after being rocked or oscillated, and a retaining device for holding the sliding frame and fender in position when drawn out into an operative position or pushed in beneath the car when not required for use, substantially as set forth.

4. In a railway-car, the combination of the fender D, pivoted to the frame C, arranged to slide horizontally in guides on the under side of the car, the spring *f*, adapted to support the fender at its proper level and automatically return it to its normal position after being rocked or oscillated, stops for limiting the horizontal sliding movement of the frame C in either direction, and the lever G, adapted to engage with hooks or catches and lock or hold the frame C and fender D in position when drawn out for use or pushed back out of the way beneath the car, substantially as set forth.

Witness our hands this 5th day of September, A. D. 1890.

SILAS S. PUTNAM, JR.
WILLIAM W. WHITMARSH.

In presence of—
P. E. TESCHEMACHER,
HARRY W. AIKEN.