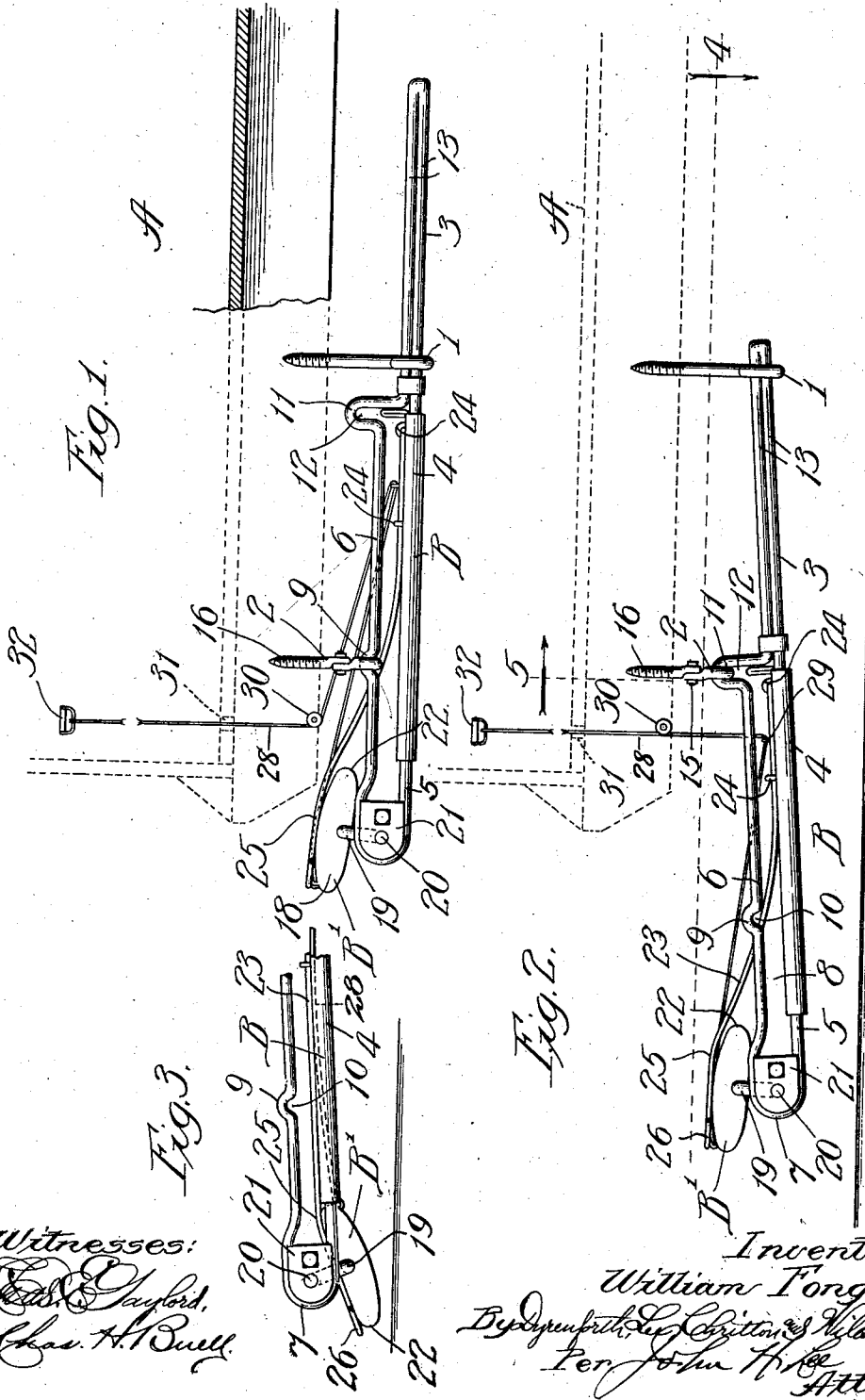


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 GUARD OR FENDER FOR STREET CARS AND THE LIKE.
 APPLICATION FILED OCT. 7, 1910.

1,009,399.

Patented Nov. 21, 1911.

2 SHEETS-SHEET 1.



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1,009,399.

2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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GUARD OR FENDER FOR STREET-CARS AND THE LIKE.

1,009,399.

Specification of Letters Patent. Patented Nov. 21, 1911.

Application filed October 7, 1910. Serial No. 585,833.

To all whom it may concern:

Be it known that I, WILLIAM FONGER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Guards or Fenders for Street-Cars and the Like, of which the following is a specification.

My invention relates particularly to safety fenders, or guards, and is especially useful in connection with street railway cars, tramway cars, or other vehicles.

My primary object is to provide an improved device of the character indicated, which will operate in an improved manner to prevent a person who may be struck by a car from being run over by the car. In other words, my improved device is adapted to prevent a body from passing beneath the fender, so that the car cannot pass over the body.

In the preferred form of my invention, I employ an eccentrically-mounted, automatically-positioned fender-body, which operates, when the body of a person is encountered, to automatically swing rearwardly and downwardly to a position between the rails of the track, so as to be in position to pick up the person and prevent the car from passing over him.

The invention is illustrated in its preferred embodiment in the accompanying drawings, in which—

Figure 1 is a view of my device in side elevation in the position which it occupies with relation to the body of a street-car, when moved to its retracted position; Fig. 2, a similar view showing the relation when the fender-frame occupies its forwardly extended position; Fig. 3, a broken view similar to Fig. 2, but showing the fender-proper after it has been automatically lowered from the position shown in Fig. 2; Fig. 4, a view taken as indicated at line 4 of Fig. 2; and Fig. 5, a broken sectional view taken as indicated at line 5 of Fig. 2.

In the drawings—A represents the body of a car; B, a fender-frame retractably mounted beneath the sub-structure of the car-body, from which it is suspended; and B¹, a fender or guard which is eccentrically mounted on the front end of the frame B and adapted, when encountered by a body, or obstacle, to be automatically swung rearwardly and downwardly, so that its edge, which is normally at the rear, will be pre-

sented forwardly and in position to pass beneath the body encountered and elevate the same to a position on the fender-frame.

The construction of the car-body A is unimportant. The frame B is shiftably suspended from the framework at the base of the car-body, as by means of guides 1 and 2.

The fender-frame, in the form shown, comprises a pair of side members 3 and a sheet-metal member 4 which connects the front portions of the side members and affords a floor or platform. As shown, each side member 3 comprises a strong rod which is bent upon itself to afford a lower member 5 and an upper member 6. The loop 7 thus formed is forwardly presented, and the members 5 and 6 are so spaced throughout the front portion of their length as to afford a guide-slot or space 8. The upper members 6 are offset or struck upwardly at 9 to afford recesses 10 which engage the front guides 2 when the frame is shifted rearwardly, that is, to the sheathed or retracted position. At the rear end of the spaces or slots 8, the upper members 6 are offset upwardly as indicated at 11, thereby affording substantial recesses 12 adapted to engage the front guides 2 when the fender-frame is in the operative position. In the rear of the offset 11, the upper member 6 is struck downwardly so as to lie in contact with the rear portion of the lower member 5, the rear portions of the members 5 and 6 being suitably secured together in any desired manner, so as to afford a shank 13 adapted to move in the rear guide 1. Each guide 1 may be in the form of an eye-bolt, the eye of which receives the shank 13. Each guide 2 may be in the form of a U-bolt, as shown in Fig. 5, the lower section 14 of the guide constituting a U-shaped member, the extremities of whose arms are connected by bolts 15 with the threaded bolt-sections 16 which connect with the framework of the car-body. When desired, one of the bolts 15 may be removed, and the member 14 may then be turned about the other bolt 15 as a pivot to enable the fender-frame to be disengaged from the guide. When this is done, the shank 13 may be readily withdrawn from the guide 1.

The sheet-metal member 4 has its lower edge-portions turned about the front portion of the lower members 5 of the side members 3 of the frame, but the loop-por-

tions of the side members 3 project in front of the front edge of the member 4, thereby affording a space 17 adapted to accommodate the revoluble fender B¹.

5 The fender B¹ preferably comprises an elongated body having an elongated oval form of cross-section. Said body may be made hollow and formed of sheet-metal, suitable ends 18 being provided for the
10 body. Connected with the ends 18 are crank-like arms 19 having out-turned pivot ends 20 which are received in journal-blocks 21 secured in the loops 7 at the front ends of the side-members 3.

15 The automatically-set, or automatically-positioned, fender B¹ normally occupies an elevated position with relation to the front end of the fender-frame B, so that the fender B¹ will be normally carried at a short
20 distance above the roadbed. As thus carried, the fender B¹ normally presents its edge 22 rearwardly, and the fender is normally held yieldingly in the elevated position shown in Fig. 2 by means of spring-
25 arms 23 which have their rear ends securely fastened to the rear portion of the frame-plate or platform 4, as indicated at 24, the front ends of the spring-arms 23 being suitably curved, as indicated at 25,
30 to engage the rounded upper surface of the fender B¹. The front extremities of the spring-arms 23 are curved outwardly and rearwardly, as indicated at 26, terminating adjacent the loops of the side-members 3.

35 When the fender is out of use, the frame B is retracted, as shown in Fig. 1, in which position the front end of the fender-frame is elevated above the normal position of use, and the recesses 10 engage the lower
40 walls of the front guides 2. When the device is set for use, the frame B is shifted forwardly until the recesses 12 of the frame-members 6 engage the lower walls of the guides 2, in which position the fender-frame
45 tilts downwardly and forwardly. The fender-proper, B¹, being set in the position shown in Fig. 2, is normally held yieldingly in that position by the spring-arms 23. If, while the car is running, the fender
50 B¹ encounters a body, the fender will be automatically swung through a rearward somersaulting course, till the fender occupies the position shown in Fig. 3, with the edge 22 presented forwardly and down-
55 wardly and positioned close to the roadbed, the spring-arms 23 yielding to permit this reversal and then serving to secure the fender in its reversed position. The springs 23 serve, also, after the initial movement in
60 the rearward somersaulting action, to positively force or quickly snap the fender into the position shown in Fig. 3, so as to aid in causing the fender to pick up the body encountered. When thus reversed, the fender
65 is properly positioned and set to cause

the body encountered by it to ride over the fender and thus be thrown on to the plate or platform 4. It is noteworthy that inas-
much as the edge 22 which is normally presented rearwardly swings downwardly and is presented forwardly after the fender B¹
70 is encountered by a body, the action of the device is such as to insure the fender picking up the body which is encountered. Thus, if a person is struck by the fender, the fender will be automatically reversed
75 and lowered, or in other words, caused to dip beneath the body of the person struck, so that the body will roll up over the fender and on to the platform 4.

It is sometimes desirable that the motor-
man should be able to swing the fender from the position shown in Fig. 2 to the
80 position shown in Fig. 3. To enable this to be done, I connect with that portion of the fender which is normally the front portion, as by means of an eye 27, a cord or flexible member 28, which extends through
85 a guide 29 with which the plate 4 is equipped centrally near its rear edge, the cord then extending up past the roller 30 and through
90 a passage 31 in the floor of the vestibule of the car, the upper end of the cord being provided with a loop or handle 32 adapted to be grasped by the motorman.

The foregoing detailed description has
been given for clearness of understanding only, and no undue limitation should be
understood therefrom, but the appended
claims should be construed as broadly as
100 permissible in view of the prior art.

What I regard as new, and desire to secure by Letters Patent, is—

1. In a device of the character set forth, the combination with a frame, of a fender
105 supported in the forward portion of such frame and normally elevated above the plane thereof, and means to cause said fender when struck by an obstacle to automatically
110 move downwardly to a position below the plane of said frame.

2. In a device of the character set forth, the combination with a supporting frame, of a fender equipped with crank-arms jour-
115 naled in said frame, said fender having rounded surfaces, and springs carried by said frame and engaging said rounded surfaces.

3. In a device of the character set forth, the combination with a supporting frame, of a fender of substantially elongated oval
120 form in cross-section, crank-arms connected with the end portions of said fender and journaled in said frame, and means yieldingly holding the fender in an elevated po-
125 sition with relation to the frame.

4. In means of the character set forth, the combination with a car-body, of front and rear guide-members suspended there-
from, a fender-frame having side-members
130

provided with longitudinal slots adapted to engage the front guide-members, said slots having recesses at their rear portions permitting tilting of the frame when it is in its forwardly extended position, and a reversibly-mounted fender carried by said fender-frame.

5. A device of the character set forth, comprising a fender-frame having side-members affording longitudinal guides with offsets at their rear portions adapted to permit tilting of the fender-frame, and a reversibly-mounted fender carried by the front portions of said side-members.

6. In means of the character set forth, the combination with a car-body, of front and rear guide-members carried by the substructure of the car-body, a fender-frame comprising side-members affording longitudinal guides provided with offsets adapted to engage the first-named guides when the fender-frame is in the retracted position, and provided also with offsets adapted to engage the same guides when the fender-frame is in the projected position, and a pivotally mounted fender carried by the front portion of said frame.

7. In a device of the character set forth, the combination of a fender-frame having side-members composed of rods bent upon themselves to form longitudinal guides, a platform connecting the lower members of said guides, and a reversibly-mounted fender in front of said platform.

8. In a device of the character set forth, the combination with a supporting frame, of a normally elevated, eccentrically mounted, rearwardly overturnable fender mounted thereon and adapted to be automatically reversed upon encounter with an obstacle, whereby the normal rear edge will swing downwardly and then forwardly with relation to the frame.

9. In a device of the character set forth, the combination with a supporting frame, of a reversible eccentrically mounted fender,

the rear edge of which will swing downwardly and be presented forwardly when the normal front edge encounters an obstacle.

10. In a device of the character set forth, the combination with a supporting frame, of a normally elevated, eccentrically mounted fender adapted to rearwardly somersault and carry its rear edge downwardly and forwardly when the fender encounters a body, and spring holding-means for the fender.

11. In a device of the character set forth, the combination with a supporting frame, of a normally elevated, eccentrically mounted fender adapted to rearwardly somersault and carry its rear edge downwardly and forwardly when the fender encounters a body, and a spring serving to aid in effecting the final portion of the somersaulting movement.

12. In a device of the character set forth, the combination with a supporting frame, of a normally elevated, eccentrically mounted fender adapted to rearwardly somersault and carry its rear edge downwardly and forwardly when the fender encounters a body, and a spring so related to the fender as to normally hold the fender yieldingly in the elevated position and after the initial portion of the somersaulting movement to force the fender through the final portion of the somersaulting movement.

13. In a device of the character set forth, the combination with a supporting frame, of a normally elevated fender adapted to rearwardly somersault, cranks mounted on the frame and fixedly secured to the fender, and spring-means normally holding the fender yieldingly in the elevated position and adapted to serve, after the initial swing of the fender on its cranks, to force the fender through the final portion of the somersaulting movement.

WILLIAM FONGER.

In presence of—

R. A. SCHAEFER,
R. A. RAYMOND.