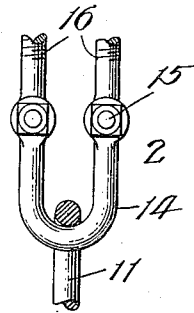
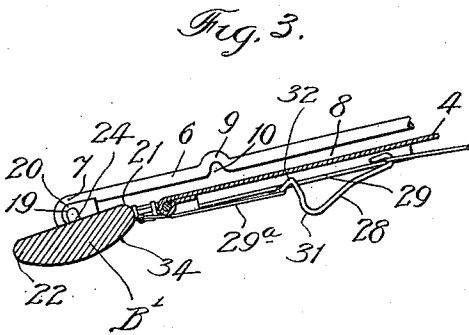
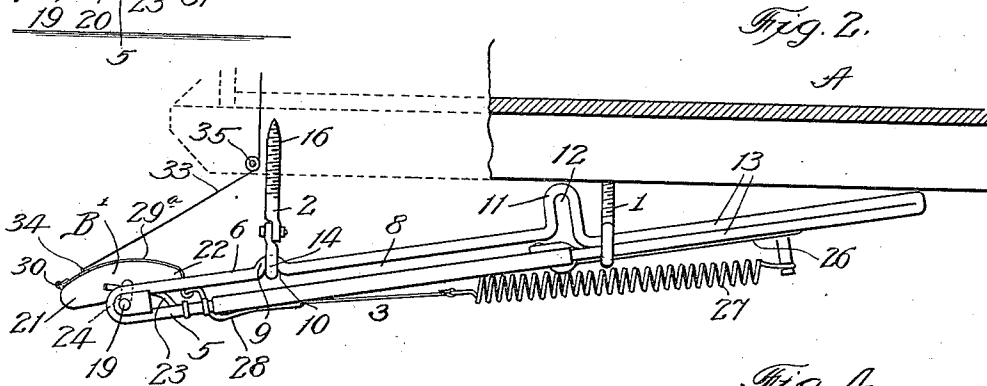
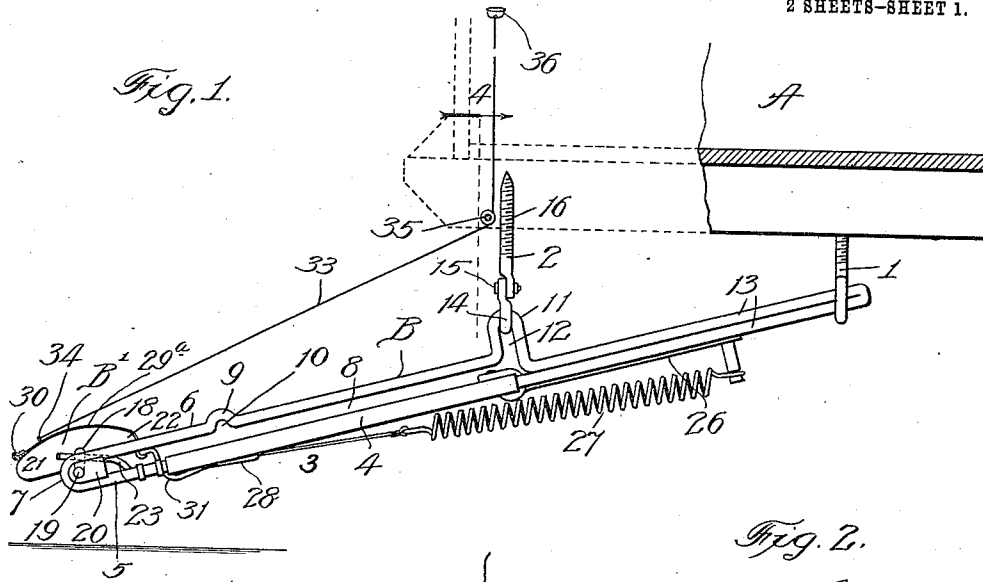


1,023,464.

2 SHEETS-SHEET 1.



Witnesses:

Chas. H. Buell.

Inventor:

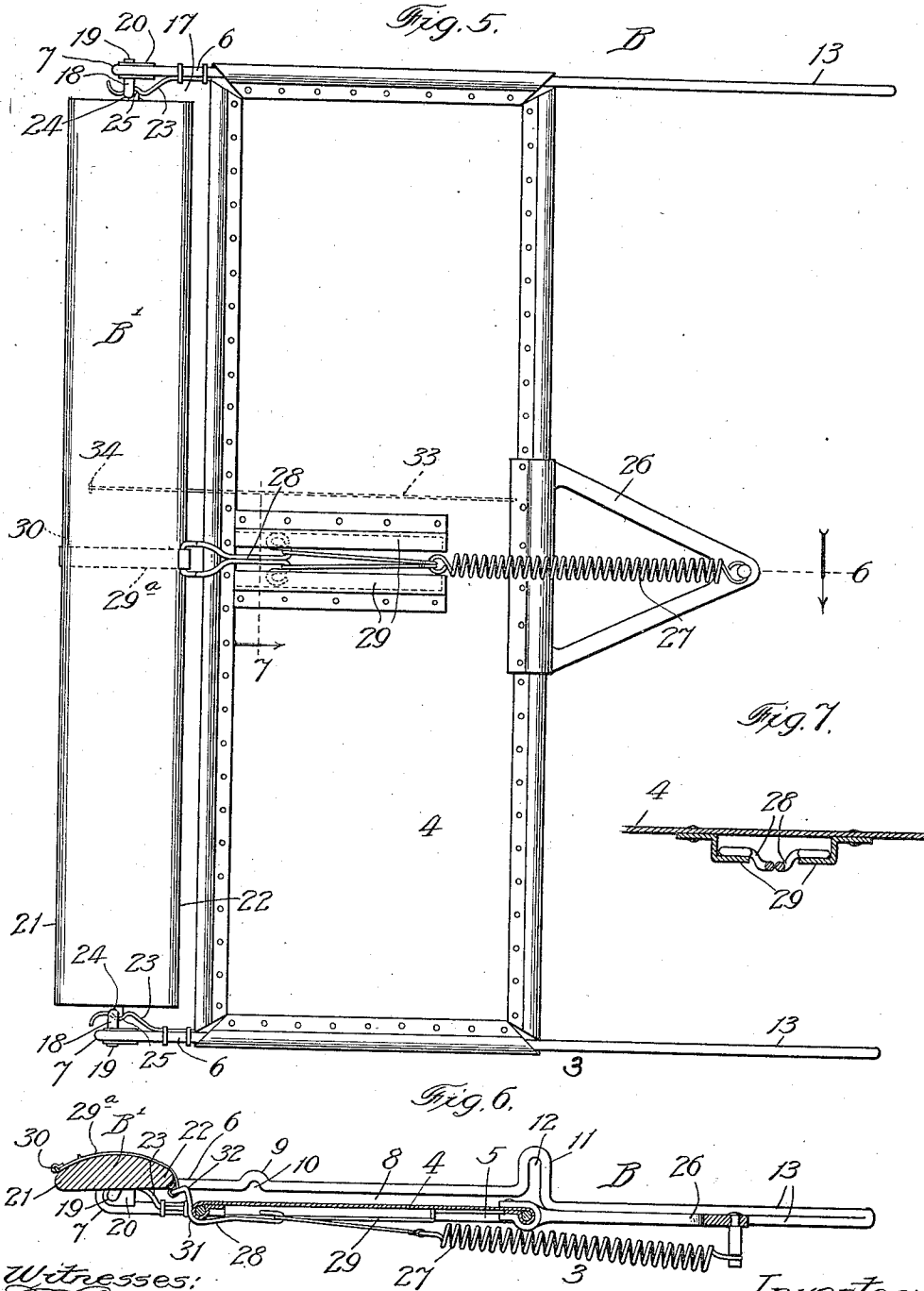
William Forger,
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W. FONGER.
 GUARD OR FENDER FOR STREET CARS OR THE LIKE.
 APPLICATION FILED JAN. 18, 1912.

1,023,464.

Patented Apr. 16, 1912.

2 SHEETS-SHEET 2.



Witnesses:
[Signature]
 Chas. H. Buell.

Inventor:
 William Fonger,
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 Attys.

UNITED STATES PATENT OFFICE.

WILLIAM FONGER, OF CHICAGO, ILLINOIS.

GUARD OR FENDER FOR STREET-CARS OR THE LIKE.

1,023,464.

Specification of Letters Patent.

Patented Apr. 16, 1912.

Application filed January 18, 1912. Serial No. 671,874.

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 or the Like, of which the following is a specification.

My present invention constitutes an improvement upon the device set forth in my Letters Patent No. 1,009,399, granted November 21, 1911.

My primary object is to provide an improved construction and arrangement, whereby the fender-proper will be forcibly thrown to the lowered position when the latch or restraining device is released.

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 it normally occupies when in use, this view showing the relation of the device to a street-car, which is shown brokenly in section; Fig. 2, a similar view showing the device in retracted or inoperative position; Fig. 3, a broken sectional view, in which the parts correspond with the position shown in Fig. 1, but with the fender-proper reversed, or in the lowered position; Fig. 4, a broken section taken as indicated at line 4 of Fig. 1; Fig. 5, a bottom view of the improved device; Fig. 6, a section taken as indicated at line 6 of Fig. 5; and Fig. 7, a broken transverse section taken as indicated at line 7 of Fig. 5.

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 presented 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 frame-work 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 its normal forward 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. 4, 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 frame-work 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 lateral edge-portions turned about the front portions of the lower members 5 of the side members 3 of the frame, but the loop-portions 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.

The fender B¹ preferably comprises an elongated body having an elongated somewhat oval form of cross-section, said body being formed of any suitable material. Fixedly connected with the ends of the body

B¹ are crank-like arms 18 having out-turned pivot-ends 19 which are received in journal-blocks 20 secured in the loops 7 at the front end of the side members 3.

5 The automatically-reversing fender B¹ normally occupies an elevated position relative to the front end of the fender-frame B, as shown in Fig. 1, so that the fender B¹ will be normally carried a short distance
10 above the roadbed. As thus carried, the fender B¹ normally presents its edge 21 forwardly and presents its edge 22 rearwardly; and the fender is normally held yieldingly in the elevated position with relation to the frame by means of springs 23
15 adapted to bear against those portions 24 of the crank-arms 18 which are parallel with the end surfaces of the fender B¹. Thus, the rear ends of the springs 23 are attached to the side members 3 of the frame
20 and the springs are offset, as indicated at 25 in Fig. 5, to engage the portions 24 of the crank-arms.

The rear portion of the fender-frame B
25 carries a centrally-disposed bracket 26 to which is attached a fender-reversing spring 27 whose front end is connected with a hook, or latch-member, 28, whose shank slidably engages with a guide 29 on the lower side
30 of the member 4, and whose free extremity is joined by a flexible member 29^a to the fender B¹ at or near the front edge thereof. The front end of the member 29^a is shown connected with the member B¹ by means of
35 a staple 30. The hook or latch-member 28 has its front portion curved upwardly, as indicated at 31, and adapted to operatively engage the front edge of the platform 4, while the extremity 32 of the hook projects
40 forwardly somewhat and is adapted to be struck by the rear edge 22 of the member B¹, when the member B¹ is swung rearwardly and downwardly on its cranks. When this occurs, the hook 28 will be dis-
45 engaged from the front edge of the platform 4, and the spring 27 will forcibly retract the hook, and through the medium of the flexible member 29^a effect instant reversal of the member B¹. This action occurs
50 automatically when the fender encounters an obstacle or body, so that the edge 22 of the fender, which is normally presented rearwardly, will swing downwardly and be presented forwardly in position to pick up the body encountered and
55 elevate the same to position on the fender platform. The reversal of the fender may also be accomplished by moving the fender manually by means of a cable 33, whose
60 front end is connected with the front edge-portion 21 of the fender by means of an eye 34, said cable passing about the pulley 35 and into the car where it is equipped with a handle 36, which is conveniently lo-
65 cated, to enable it to be grasped by the mo-

torman. Thus, the motorman, observing a dangerous situation, may, through the medium of the member 33, swing the fender B¹ rearwardly, thus causing it to trip or
70 unlock the hook, or member, 28, whereupon the spring 27 will serve to forcibly reverse the fender, that is throw it to the safety position. As shown in Fig. 6, the extremity 32 of the hook 28 lies in close proximity
75 to the rear edge 22 of the fender B¹; and, if desired, the extremity of the hook may be relied upon to hold the fender in its normal elevated position, in which case the springs 23 may be dispensed with. After
80 the reversal of the fender, the spring 27 and its connections serve to hold the fender in the position shown in Fig. 3.

As appears from Fig. 7, the shank of the hook or latch-member 28 is loosely confined
85 in the guide 29, so that the necessary downward swing of the member 28 is freely permitted when the unlatching action occurs. If desired, the guide 29 may be dispensed with.

When the fender is out of use, the frame
90 B is retracted, as shown in Fig. 2, 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 walls of the front guides 2. When the device
95 is set for use, the frame B is shifted forwardly until the recesses 12 of the frame-members engage the lower walls of the guides 2, while the fender-frame tilts downwardly and forwardly sufficiently to bring
100 the fender to a proper position with relation to the track. The fender-proper B¹, being set in the position shown in Fig. 1, is normally held yieldingly in that position, as above described. If, when the car is run-
105 ning, the device B¹ encounters a body, the fender will be automatically swung through a rearward somersaulting course, till the fender occupies the position represented in Fig. 3, with the edge 22 presented for-
110 wardly and downwardly and positioned close to the roadbed. It is noteworthy that inasmuch as the edge 22, which is normally presented rearwardly, swings downwardly
115 and then forwardly after the fender B¹ 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 be struck by the fender,
120 the fender will be automatically reversed 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.

What I regard as new, and desire to se-
125 cure by Letters Patent, is—

1. In a device of the character set forth, the combination with a supporting frame, of a normally-elevated, eccentrically-mount-
130 ed, rearwardly-overturnable fender mounted

thereon, an actuating spring for effecting reversal of said fender, and an automatically-tripped restraining device for said spring.

2. In a device of the character set forth, the combination of a supporting frame, a rearwardly-overtunable fender mounted thereon and adapted to swing so that its edge, which is normally presented rearwardly, will be carried downwardly and presented forwardly, a fender-reversing spring connected therewith, and a latch-member normally restraining said spring from action and adapted to be unlatched by said fender during initial rearward movement of the fender.

3. In a device of the character set forth, the combination of a fender-frame, a rearwardly-swinging reversible fender mounted thereon so that its rear edge will swing downwardly and be presented forwardly, a fender-reversing spring, a latch-member connected with said spring, and flexible connections between said latch-member and said fender, said latch-member being adapted to be released by initial rearward movement of the fender.

4. In a device of the character set forth, the combination of a fender-frame, an eccentrically-mounted rearwardly-somersaulting fender mounted thereon and adapted to have its rear edge carried downwardly and presented forwardly, a fender-reversing spring, a latch-member connected therewith and normally engaging the front portion of the frame to restrain said spring from action, and connections between said latch-member and said fender, said latch-member being adapted to be released by the fender

when the fender is initially moved rearwardly.

5. In a device of the character set forth, the combination of a fender-frame, a rearwardly-somersaulting fender mounted thereon and adapted to have its rear edge carried downwardly and presented forwardly, a fender-reversing spring equipped with a trip-device and connected with the fender said trip-device being adapted to be tripped during initial rearward movement of the fender, and manual means for tripping said device and adapted to be operated by the motorman.

6. In a device of the character set forth, the combination of a fender-frame, a rearwardly-overtunable fender mounted thereon, a centrally-disposed latch-member connected with said fender and engaging the front portion of the frame, said latch-member being adapted to be tripped by the fender during its initial rearward movement, and a spring connected with the rear portion of said frame and attached to said latch-member.

7. In a device of the character set forth, the combination of a fender-frame, a rearwardly-somersaulting fender mounted thereon and adapted to have its rear edge carried downwardly and presented forwardly, a fender-reversing spring equipped with a trip-device and connected with the fender, and manual means through the medium whereof the trip-device may be tripped by the motorman.

WILLIAM FONGER.

In presence of—

L. HEISLAR,

R. SCHAEFFER.