

A. L. MAZZANOVICH.
FENDER FOR STREET CARS.
APPLICATION FILED OCT. 7, 1908.

941,527.

Patented Nov. 30, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

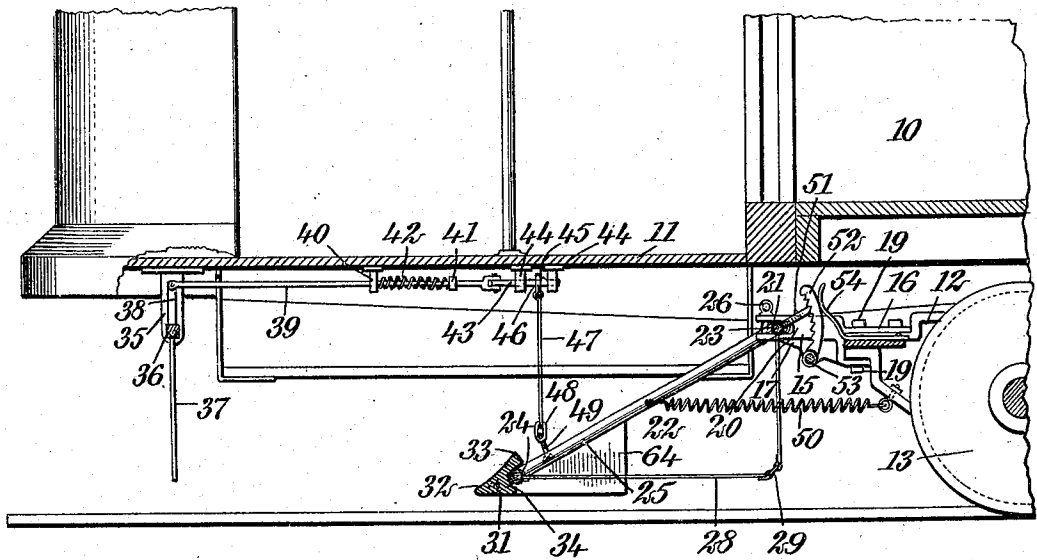


Fig. 6.

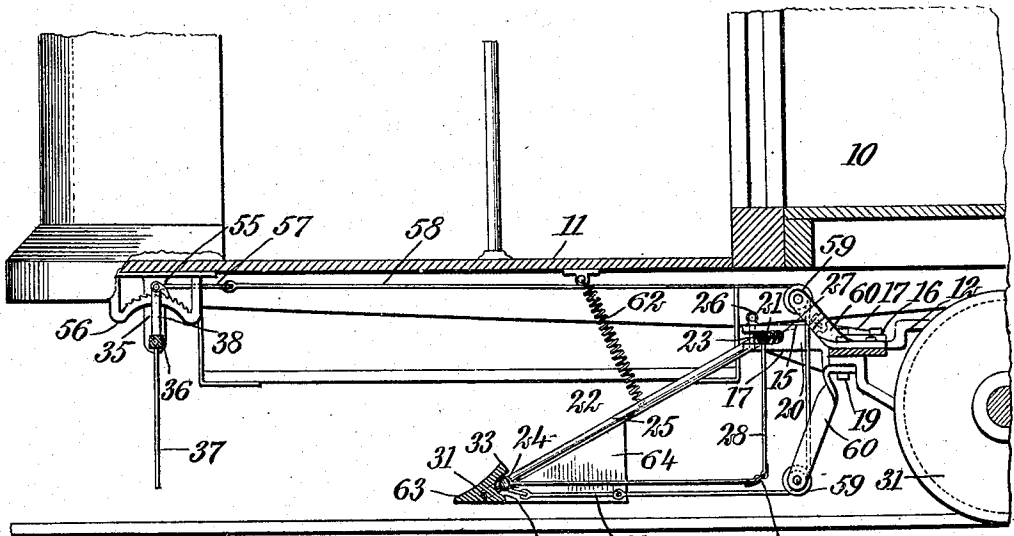
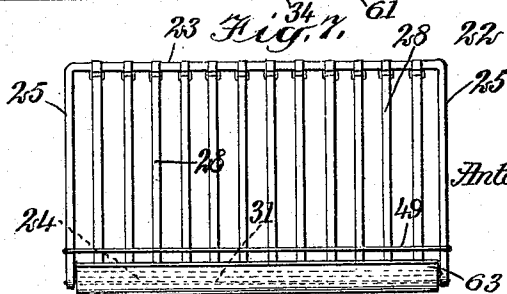


Fig. 7.



WITNESSES

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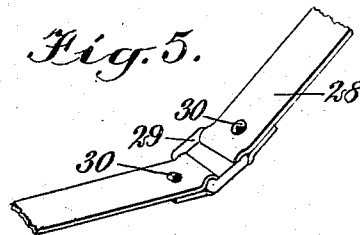
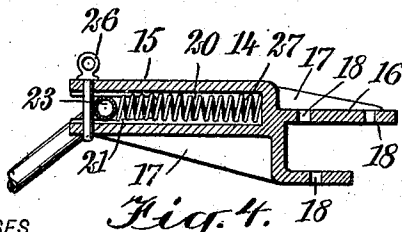
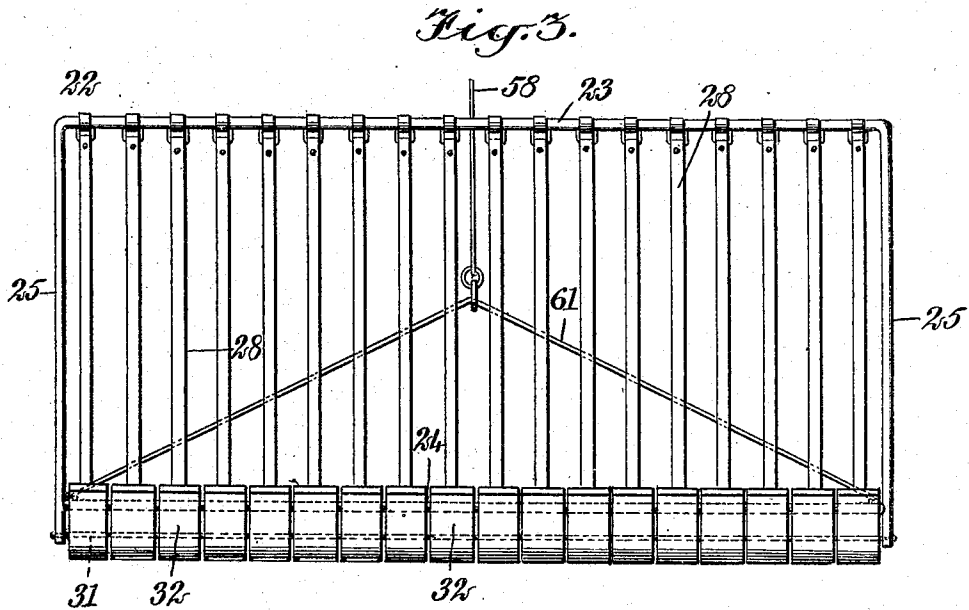
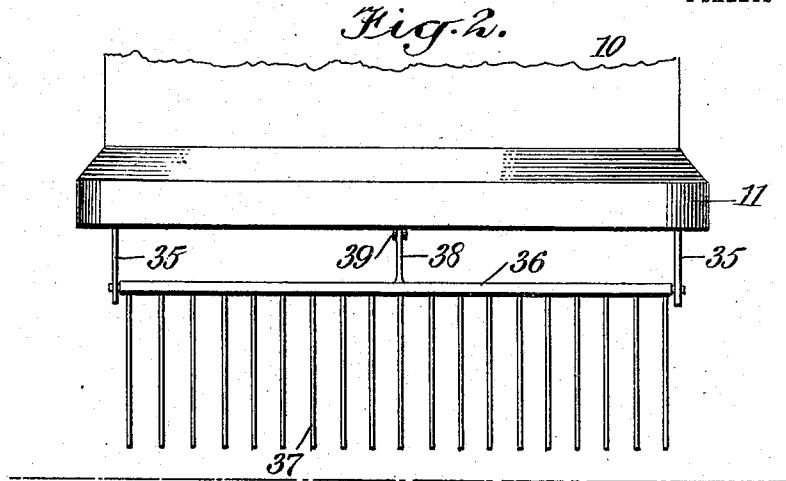
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2 SHEETS—SHEET 2.



WITNESSES

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ANTON L. MAZZANOVICH, OF NEW YORK, N. Y.

FENDER FOR STREET-CARS.

941,527.

Specification of Letters Patent.

Patented Nov. 30, 1909.

Application filed October 7, 1908. Serial No. 456,535.

To all whom it may concern:

Be it known that I, ANTON L. MAZZANOVICH, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Fender for Street-Cars, of which the following is a full, clear, and exact description.

This invention relates to fenders for street cars and more particularly to a fender adapted to be mounted under the platform and to be pivotally supported by a truck of the car, and including a frame, means for holding the frame in a normal position, a swinging gate mounted underneath the platform in front of the fender, means controlled by the gate for operatively positioning the frame, means for holding or locking the frame in an operative position, and means for cushioning the attachment of the frame with the car truck, the frame being provided with flexible strips so that the body of a person struck by the car can be received and held by the frame. The frame further has a shoe which tends to prevent a body—after being received by the fender—from escaping from the same.

An object of the invention is to provide a simple, durable and efficient fender or wheel guard for street railway and other cars, which is normally inoperatively positioned and is controlled by a swinging gate in front of the fender, which, when a person is run over by the car, comes into contact with the body and is swung aside, whereby the fender is operatively positioned to receive the body, and in which the fender, when operated by the gate, is secured or locked in an operative position.

A further object of the invention is to provide a device of the class described in which the fender has means serving to hold a body in position in the fender to prevent it from escaping therefrom, and in which the fender, at the sides, has guards tending to prevent a body from passing underneath the fender at the sides of the frame.

A still further object of the invention is to provide a fender in which the net or bag carried by the fender frame consists of independent flexible strips suitably secured to the frame, and in which the frame itself is pivotally cushioned upon the car truck to reduce the force of the blow when a body is picked up by the fender.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a longitudinal section of a part of a street car showing an embodiment of my invention applied thereto; Fig. 2 is a front view of the lower part of a street car platform, showing an embodiment of the gate which I employ with my invention; Fig. 3 is an enlarged front view of one form of the fender; Fig. 4 is an enlarged longitudinal section showing a bracket which I employ for securing the fender to a car truck; Fig. 5 is an enlarged perspective view showing part of one of the flexible strips which form part of the fender; Fig. 6 is a longitudinal section of a part of a street car showing a modified form of my invention applied thereto; and Fig. 7 is a front elevation of the fender showing a detail of the modified form.

Referring more particularly to the drawings, 10 represents a street car of any ordinary type having a front platform 11 and a forward truck 12 carrying the wheels 13. I employ a bracket 14 for mounting my fender in place upon the truck, which consists preferably of a casting having oppositely directed and offset U-shaped parts 15 and 16 respectively. These parts are connected by inclined strengthening ribs or flanges 17. The sides of the part 16 have openings 18 therethrough and are formed to fit the forward end of the car truck to which they are secured by means of bolts 19 or the like. The part 15 has closed sides 20 provided with slots or recesses 21.

The fender proper includes a preferably rectangular frame 22 fashioned from tubular or other material adapted for the purpose, and consisting of an upper cross bar 23, a lower cross bar 24, and side bars 25. The latter are extended forwardly beyond the cross bar 24 for a purpose which will appear hereinafter.

Two or more of the brackets 14 are employed to mount the fender in position and receive the cross bar 23 in the slots 21 and the U-shaped parts 15. Locking pins 26 arranged in suitable openings of the brackets

serve to hold the cross bar 23 in place, as is shown most clearly in Fig. 4. Helical springs 27 or other suitable cushioning members are arranged within the parts 15 of the brackets and engage the cross bar to form a cushion support for the same. It will be understood that the frame is mounted to swing by means of the brackets, but the attachment is cushioned to reduce the shock of the impact when the fender picks up a body.

Flexible strips 28 join the cross bars 23 and 24 and have the ends looped about the cross bars and suitably secured thereto by rivets or in any other convenient manner. The strips may consist of metal or other material adapted for the purpose, and each of the strips comprises two lengths, one secured to the cross bar 23 and the other to the cross bar 24. The adjacent ends of the two lengths of each strip are connected by an eyelet 29, the ends of the parts being looped about the sides of the eyelet and secured by means of rivets 30 or the like. The strips are suitably spaced and are independent of one another. The total length of the strips exceeds the distance between the cross bars and the fender frame, so that a bag or net is provided to receive a body.

The forwardly projecting ends of the side bars 25 are connected by a tightly stretched cable 31 or similar member, and shoes 32 of rubber or like material and having openings therethrough for the purpose, are mounted upon the cable 31. The shoes are wedge-shaped and have parts 33 extending toward and above the cross-bar 24, as is shown most clearly in Figs. 1 and 6. The shoes, at the under sides have cut-away parts 34 to receive the cross-bar 24, so that the parts 33 of the shoes rest upon the cross-bar. The parts 33 extend upwardly and form stops to prevent a body from escaping from the front of the fender after it has once been received by the same, without in any way interfering with the picking up thereof by the fender.

At the under side of the car platform, in front of the fender, are downwardly extending brackets 35 between which is pivoted a gate bar 36 having downwardly extending rods 37 rigid therewith. The bar has an upwardly disposed arm 38 which is connected to a link 39. The latter is arranged to slide in a guide 40 and has a rigid collar 41. A spring 42 is wound upon the link 39 between the guide 40 and the collar 41, to resist the movement of the link in one direction. At the end, the link is bifurcated and pivotally secured to a trigger 43, which is slidably arranged in space guides 44, between which each has a slight projection 45. A ring 46 is arranged upon the trigger between the guides 44, and carries a link 47, which at the lower end has a second ring 48. The latter is loosely mounted upon a rod 49 extending across the fender frame near the

lower or front edge thereof, so that the fender is normally inoperatively positioned. A spring 50 having the ends connected respectively to the fender frame and the car truck, tends normally to swing the frame downward into an operative position. It will be understood that the gate thus controls the fender, and that as long as the gate is in a normal position the trigger holds the link 47, which in turn secures the fender in a normal elevated position. As soon as the gate strikes the body of a person about to be run over, it is swung aside and the link 39 is moved in the direction of its length to pull the trigger out through the ring 46. This permits the frame to descend under the pull of the spring 50.

The upper cross bar 23 of the fender has a rigidly extended finger 51 which constitutes a dog and is adapted to engage a curved ratchet bar 52 pivoted by means of a suitable pintle 53 upon the car truck. A spring 54 holds the ratchet normally in engagement with the finger or dog 51. The dog and the ratchet lock the fender in the depressed position, so that it is practically impossible for a body to roll under the fender and thus reach the wheels.

In the form of the device shown in Fig. 6 the gate arm 38 carries at the end a pivoted dog 55 which engages a curved ratchet 56 carried at the under side of the platform. The arm is connected by means of a link 57 with a flexible member 58 consisting of a wire cord or the like, which passes around suitable grooved pulleys 59 rotatably carried by brackets 60 secured to the car truck. The flexible member is secured by a suitable connection 61 to the cross bar 24 of the fender, passing around the back and underneath the fender. A spring 62 tends normally to hold the fender frame in an elevated position and is secured respectively to the under side of the car platform and to the sides of the frame. When the gate is swung aside by a body, it draws the flexible member 58 forward and the latter thus pulls the fender frame downward against the tension of the spring 62. The dog 55 moves along the ratchet and locks the fender in the depressed operative position. In this form of fender too, I prefer to use a single shoe 63 extending entirely across the front of the fender instead of a plurality of shoes 32 as is shown in Fig. 3.

At each side of the fender frame I employ a guard plate 64 secured to the side bars of the frame and serving to prevent a body from escaping at the side of the fender and passing underneath the same. The shoes, it will be understood, are pivoted upon the member supporting them and have a limited movement. They thus assist materially in the picking up of a body by the fender and also serve to prevent the body from rebound-

ing after it has been received in the fender.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a fender, a frame having cross-bars, and independent strips connecting said cross-bars and exceeding in length the distance between said bars, each of said strips consisting of single, flat, flexibly connected lengths.

2. In a fender, a frame having cross bars, side bars, and flexible independent strips each consisting of a plurality of lengths and having an eyelet connecting said lengths, said strips having the ends secured respectively to said cross bars and exceeding in length the distance between said cross bars.

3. In a fender, a frame having a cross-bar at the front, and a movable shoe in front of said bar and having a part projecting above the same whereby said bar limits the movement of said shoe.

4. In a fender, a frame having at the front a cross-bar, and in front of said cross-bar a member substantially parallel thereto, a shoe being movably mounted upon said member and having a part projecting rearwardly and upwardly beyond said bar, whereby said bar serves to limit the movement of said shoe.

5. In combination, a frame having side bars, a member stretched between said side bars, and a shoe pivoted upon said member, said frame having a cross bar forming a support for said shoe, said shoe having a part projecting above the plane of said frame and having a limited movement.

6. In combination, a frame having cross bars and side bars, said side bars extending forwardly beyond the front cross bar, a member connecting said side bars in front of said front cross bar, and a shoe pivoted upon said member and having a part projecting upwardly beyond the plane of said frame, said projecting part being formed to rest upon said front cross bar, said frame having flexible strips extending thereacross.

7. In a fender, a frame having cross bars and side bars, said side bars being extended forwardly beyond said front cross bar, a flexible member stretched between said extended parts of said side bars, a plurality of independent shoes pivoted upon said flexible member and having upwardly extending parts resting upon said front bar, said shoes being cut away to receive said front cross bar, and having limited independent movements, and flexible strips connecting said cross bars.

8. In a fender, a bracket adapted to be secured to a car truck and having a recess, a

frame having a part movably held in said recess whereby said frame is pivotally mounted, and cushioning means within said recess and engaging said part of said frame.

9. In a fender, a bracket having a recess and adapted to be secured to a car truck, a frame having a cross bar movably arranged in said recess, means for preventing said cross bar from leaving said recess, and cushioning means within said recess and engaging said cross bar.

10. In a fender, a bracket adapted to be secured to a car truck and having a part in shape of U-section, said part having slotted sides, a frame having a cross bar movably mounted in said part and said sides of said bracket, means for holding said cross bar within said part, and cushioning means within said part and engaging said cross bar.

11. In a fender, brackets each comprising parts in shape of U-section and offset with respect to each other, strengthening ribs connecting said parts, one of said parts being formed to receive a part of a car truck and to be secured thereto, the other of said parts having slotted sides, a frame having a cross bar arranged in said slotted sides of said brackets, locking pins for securing said cross bar against displacement from said brackets, and springs within said brackets and engaging said cross bars.

12. In combination, a frame adapted to be pivotally secured to a car truck, means for holding said frame in a normal position, a gate, means controlled by said gate for operatively positioning said frame, means for holding said frame in operative position, and means for cushioning the pivotal attachment of said frame with the car truck, said frame being adapted to receive a body.

13. In combination, brackets adapted to be secured to a car truck, a frame pivotally and slidably secured to said brackets, cushioning means engaging said frame at said brackets, means for holding said frame in a normal position, a gate adapted to be secured to a car at a point remote from said frame, means controlled by said gate for operatively positioning said frame, means for locking said frame in the operative position, said frame being adapted to receive a body, and means tending to hold the body within said frame.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ANTON L. MAZZANOVICH.

Witnesses:

JOHN K. BRACHVOGEL,
JOHN P. DAVIS.