No. 850,572.

PATENTED APR. 16, 1907.

M. GREENBAUM.

STREET CAR FENDER.

APPLICATION FILED SEPT. 13, 1906.

2 SHEETS—SHEET 1.

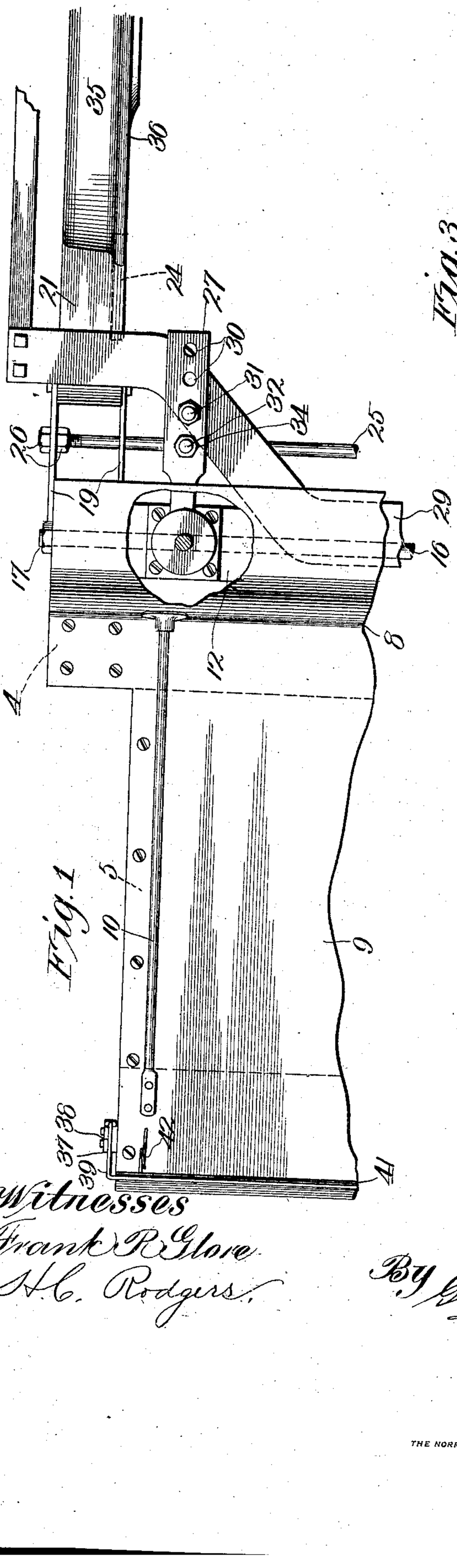

Fig. 1

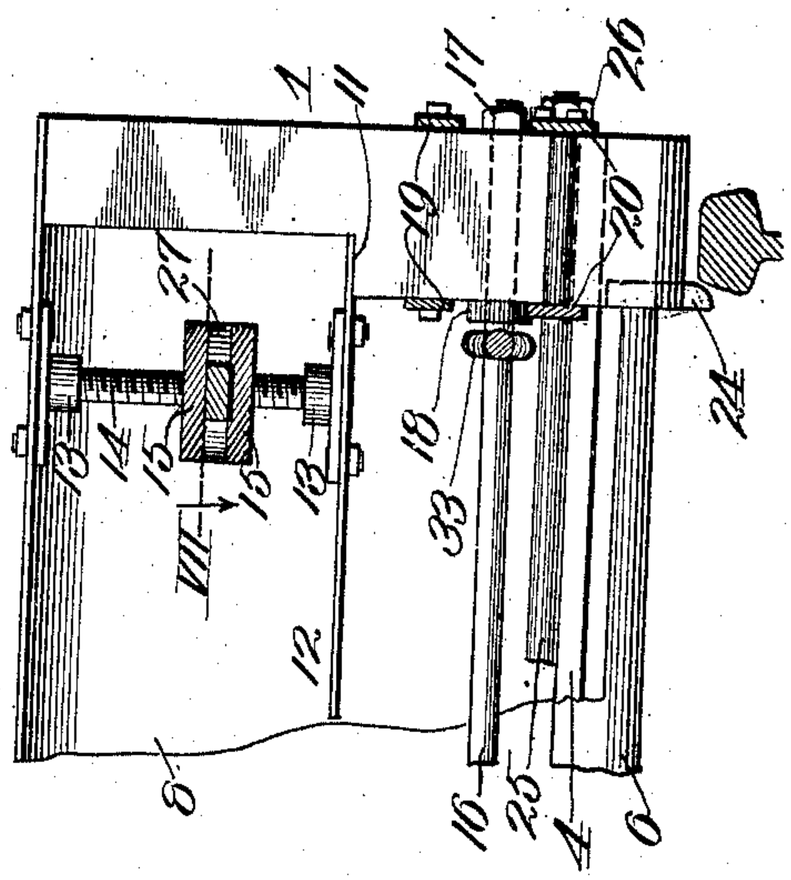

Fig. 3

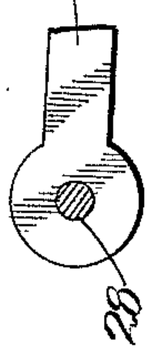

Fig. 7

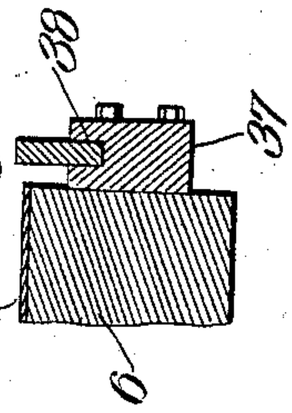

Fig. 6.

Witnesses

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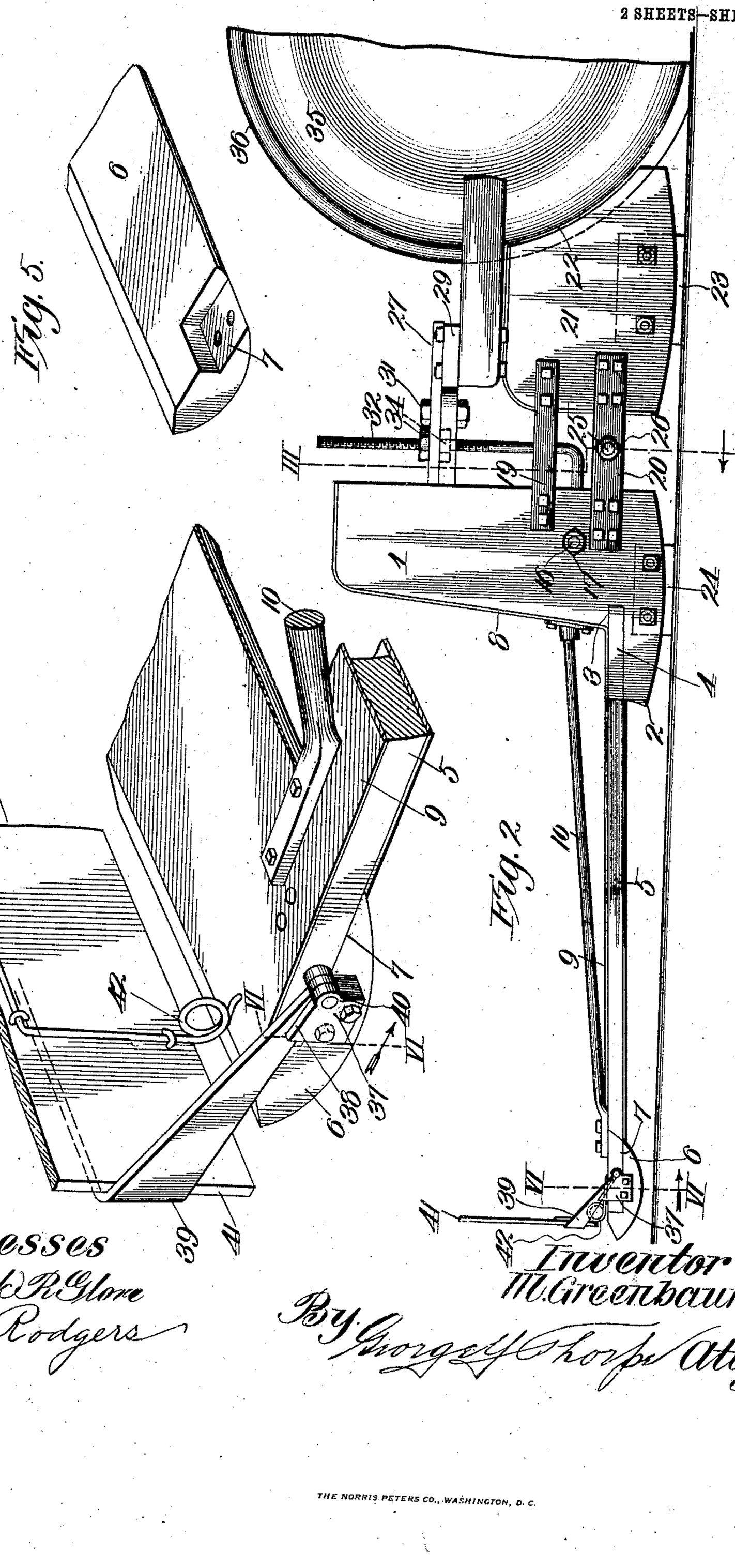
2 SHEETS—SHEET 2.



Witnesses
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UNITED STATES PATENT OFFICE.

MANUEL GREENBAUM, OF KANSAS CITY, MISSOURI.

STREET-CAR FENDER.

No. 850,572. Specification of Letters Patent. Patented April 16, 1907.

Application filed September 13, 1906. Serial No. 334,426.

To all whom it may concern:

Be it known that I, MANUEL GREENBAUM, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Street-Car Fenders, of which the following is a specification.

This invention relates to street-car fenders, and more especially to that type of fender which underlies the car-platform as distinguished from those fenders which project forward some distance beyond the platform; and my object is to produce a fender underlying a car-platform which will perform its function efficiently and reliably and which is of simple, strong, durable, and inexpensive construction.

To this end the invention consists in certain novel and peculiar features of construction and organization hereinafter described and claimed, and in order that it may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1 is a plan view of a portion of a street-car equipped with a fender embodying my invention, the fender being broken away. Fig. 2 is a side view of the same. Fig. 3 is a vertical section on the line III III of Fig. 2. Fig. 4 is an enlarged sectional perspective view of the front end of the fender. Fig. 5 is a detail perspective view of a portion of the front end of the fender. Fig. 6 is a vertical section on the line VI VI of Fig. 4. Fig. 7 is a horizontal section on the dotted line VII of Fig. 3.

In the said drawings, 1 indicates a pair of vertical standards provided with forwardly-projecting feet 2 and formed with horizontally-alined notches 3 above said feet to receive a cross-bar 4.

5 are bars projecting forwardly from bar 4 and engaging notches 7 in the rear corners of a cross-bar 6 of segmental form in cross-section.

8 is a sheet-metal cover secured to the front and upper edges of standards 1 and bridging the space between them, and 9 a continuation of said cover and of integral formation therewith, if desired, bridging the space between bars 5 and between bars 4 and 6, said cover extension 9 being broken away in Fig. 4 and being adapted to form a bed to receive persons or objects picked up by the fender.

10 indicates longitudinal brace-rods arranged above bars 5 and secured at their rear ends to the front edges of the standards and at their front ends to the front ends of said bars 5. These braces 10 stiffen the frame described and prevent its front end sagging and coming in contact with the roadway.

Standards 1 are provided at their inner sides with upwardly-disposed shoulders 11, connected by a cross-bar 12 and secured to the latter near each end, and to the upper portion of the cover 8, near each side, are vertically-alined collars 13 for holding rigidly vertical screws 14, equipped with adjustable nuts 15.

16 indicates a horizontal tie-rod connecting the lower portions of the standards and equipped at its ends with nuts 17 to prevent spreading of the standards and with rigid collars 18 at the inner sides of the standards to prevent the latter moving inwardly or toward each other.

19 and 20 indicate bars rigidly secured to the standards and projecting rearward therefrom, and 21 blocks which are secured to the rear ends of said bars and having their rear edges concaved, as at 22, for a purpose which hereinafter appears, and said blocks are furthermore provided with depending guide-plates 23 in longitudinal alinement with similar depending guide-plates 24 of standards 1.

25 indicates a horizontal tie-rod connecting bars 20 and engaged at opposite sides of said bars by nuts 26 for the purpose of bracing said bars, and thus guarding against any material lateral movement of blocks 21 and the guide-plates 23 depending therefrom.

27 are longitudinally-extending bars provided with holes 28, through which screws 14 extend loosely, the nuts 15, hereinbefore mentioned, engaging the upper and lower sides of said bars 27 for the purpose of vertically adjusting the same to accommodate the angular cross-bar 29 of the car-truck, as in some trucks said bars 29 are of different configuration and of different height from that shown most clearly in Figs. 1 and 2. The bars 27 are provided with a plurality of holes 30, any of which are adapted to be engaged by bolts 31, whereby said bars 27 are secured rigidly to the truck-frame bar 29, and extending through said bars 27 are the vertical arms of angle-bars 32, the front ends of the horizontal arms of said angle-bars terminating in eyes 33, engaging tie-rod 16, carried by the fender-frame.

34 are nuts engaging the vertical arms of

said angle-bar at the upper and lower sides of bars 27, and the object of said angle-bars and said nuts is to brace the lower part of the fender-frame against vibratory movement toward and from the car, and thus coöperate in holding the front end of the fender-frame at a fixed distance above the roadway, and in this connection it should be stated that the depending guide-plates 23 and 24 are attached to fit against the inner sides of the track-rails, as shown in Fig. 3, to prevent lateral movement of blocks 21 and the fender-frame, and the segmental recesses in said blocks are adapted to permit the blocks to fit close to the tread-surface of the wheels 35 of the car and at the outer sides of the flanges 36 thereof, the arrangement of the blocks close to the wheels and inward of the flanges thereof cooperating with the depending guide-plates 23 and 24 in preventing any lateral vibration or swinging motion of the fender, the provision of the concave surface in blocks 21 affording an opportunity to interpose practically the entire rear ends of said blocks between the wheel-flanges, so as to provide such a long bearing that it will be impossible for the fender to rock sufficiently in a vertical direction to perceptibly cause one side of the fender to dip or move lower than the other, it being understood that the blocks 21 are a rigid part of the fender and perform no braking function—that is to say, never come into contact with the tread-surfaces of the wheels.

37 indicate blocks secured rigidly to the opposite ends of cross-bar 6 and provided with notches 38 to receive arms of a swing-frame 39, hinged, as at 40, to said blocks.

41 is a plate carried by a spring-frame 42, secured to block 6, adapted to hold said plate yieldingly against the rear side of frame 39.

From the foregoing it will be apparent that the fender is supported rigidly and solely on the cross-bar 29 of the car-truck and that it can be vertically adjusted in the required degree by the proper manipulation of nuts 34, though the fender proper should never be raised sufficiently high to lift the guide-plates 23 and 24 above the topmost surface of the track-rails.

With the parts arranged as shown it will be seen that if a person is recumbent upon the trackway and is struck by plate 41 and frame 39 said plate and frame will swing downwardly and rearwardly and in such action form an inclined plane which will tend, like a scoop, to pick up such person and cause him to roll back over frame 39 and plate 41 onto the fender-bed 9, spring-frame 42 restoring plate 41 and frame 39 to their original positions as soon as the person clears said plate and frame, so that the former shall be in a position to prevent the person picked up from rolling forward off the front end of the fender, the frame 39 preventing the plate 41 from moving forward beyond the position shown, because the arms of said frame come into engagement with the bottom of notches 38, it being likewise noticed that the substantially vertical portion of cover 8 provides a wall or abutment which will prevent such person from rolling off the rear end of the fender. It will thus be seen that the fender will not only pick up a person lying on the track, and thus prevent him from being run over, but will also hold him reliably thereon until the car is arrested, when he can be removed from one side or the other of the fender.

From the above description it will be apparent that I have produced a street-car fender which embodies the features of advantage enumerated as desirable in the statement of the invention and which is obviously susceptible of modification without departing from the principle of construction involved.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A street-car fender, comprising a pair of standards, a frame projecting forward therefrom, a cover connecting the front edges of the standards and extending forward and forming a bed for said forwardly-projecting frame, a plate held yieldingly in a substantially vertical position at the front end of said frame, and means to limit the forward swinging movement of said plate.

2. A street-car fender, comprising a pair of standards, a frame projecting forward therefrom, a cover connecting the front edges of the standards and extending forward and forming a bed for said forwardly-projecting frame, a swing-frame carried at the front end of said fender-frame, a plate, and means to press said plate yieldingly forward against said swing-frame.

3. A street-car fender, comprising a pair of standards, a frame projecting forward therefrom, a cover connecting the front edges of the standards and extending forward and forming a bed for said forwardly-projecting frame, a swing-frame carried at the front end of said fender-frame, a plate, and a spring-frame secured to the main or fender frame and to said plate and holding the latter pressed forward against said swing-frame.

4. The combination with the truck-frame of a car, of bars secured to said truck-frame and projecting forward therefrom and provided with holes, a fender-frame forward of the truck-frame, rigid screws carried by said fender-frame and extending through the holes of said bars, and nuts mounted on said screws and engaging the upper and lower sides of said bars.

5. The combination with the truck-frame of a car, of bars secured to and projecting forward from said frame, a fender carried by said bars, a transverse tie-rod for the lower part of the fender, angle-bars secured at their front ends to said tie-rod and extending

up through said forwardly-projecting bars, and nuts engaging said angle-bars at the upper and lower sides respectively of said forwardly-projecting bars.

6. The combination with the truck-frame of a car, of bars secured to and projecting forward from said frame, a fender carried by said bars, a transverse tie-rod for the lower part of the fender, angle-bars secured at their front ends to said tie-rod and extending up through said forwardly-projecting bars, nuts engaging said angle-bars at the upper and lower sides respectively of said forwardly-projecting bars, bars projecting rearwardly from the sides of the fender, and blocks secured rigidly to the rear ends of said bars in the vertical plane of the wheels of the truck and at the outer sides of the flanges of such wheels.

7. The combination with the truck-frame of a car, of bars secured to and projecting forward from said frame, a fender carried by said bars, a transverse tie-rod for the lower part of the fender, angle-bars secured at their front ends to said tie-rod and extending up through said forwardly-projecting bars, nuts engaging said angle-bars at the upper and lower sides respectively of said forwardly-projecting bars, bars projecting rearwardly from the sides of the fender, blocks secured rigidly to the rear ends of said bars in the vertical plane of the wheels of the truck and at the outer sides of the flanges of such wheels, plates depending from said blocks and the fender-frame, and a brace-rod connecting the undermost bars which connect the fender-frame with said blocks.

In testimony whereof I affix my signature in the presence of two witnesses.

MANUEL GREENBAUM.

Witnesses:
H. C. RODGERS,
G. Y. THORPE.