

(No Model.)

W. GRUNOW, Jr.
CAR FENDER.

No. 547,166.

Patented Oct. 1, 1895.

Fig. 1.

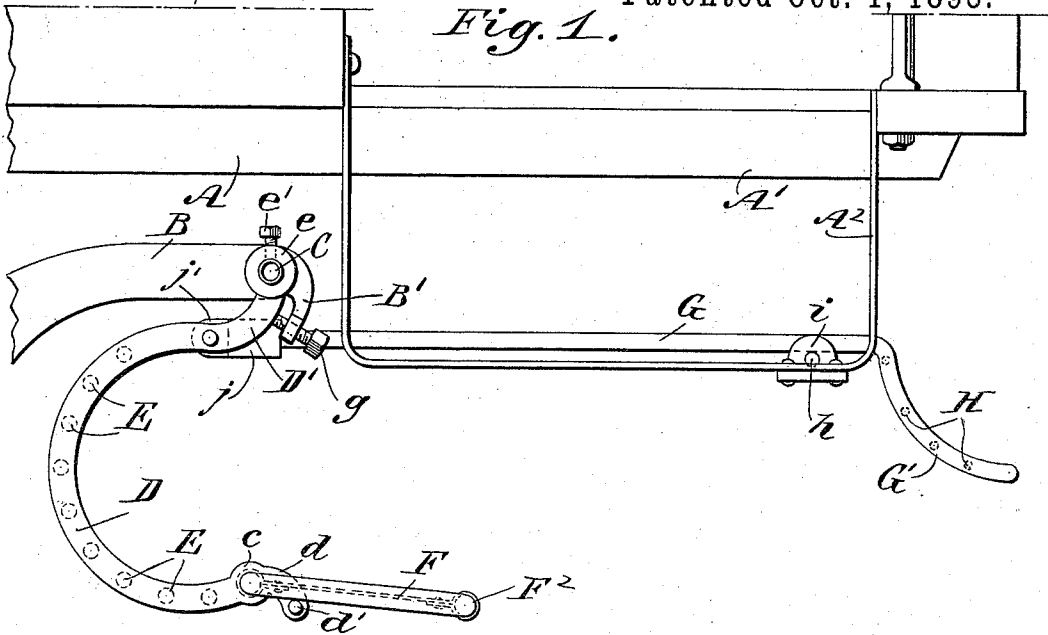
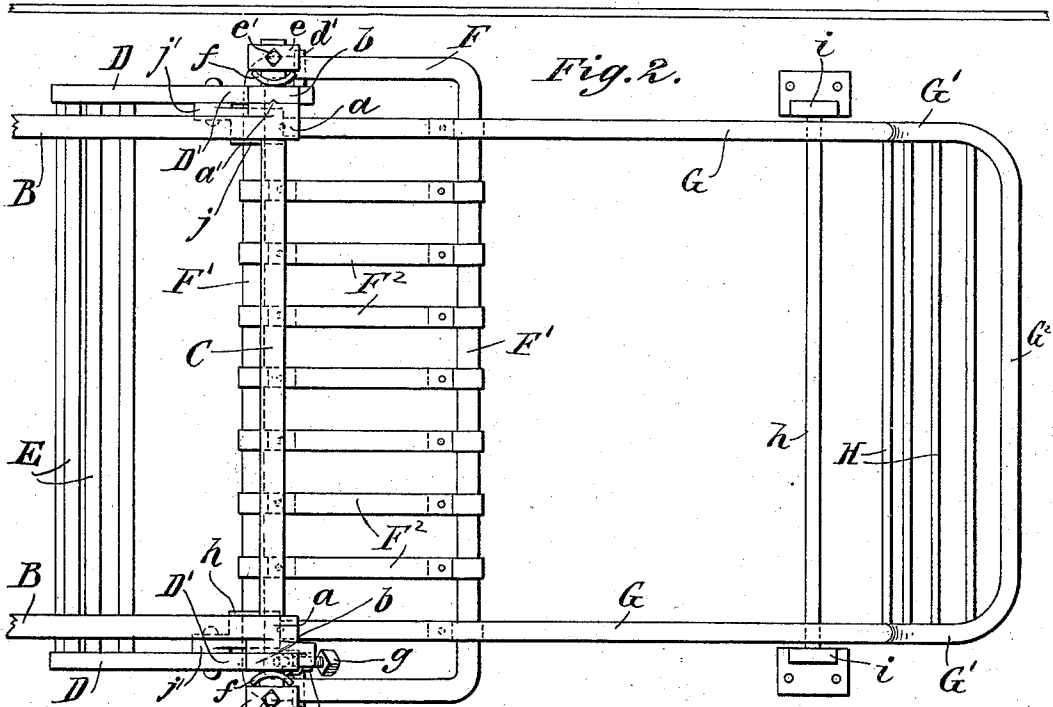


Fig. 2.



WITNESSES: e e'

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CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 547,166, dated October 1, 1895.

Application filed August 3, 1894. Serial No. 519,328. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM GRUNOW, JR., a citizen of the United States, and a resident of Bridgeport, county of Fairfield, and State of Connecticut, have invented certain new and useful Improvements in Car-Fenders, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts in both figures.

This invention relates to car-fenders of that class which are secured beneath the platform of the car, and has for its object to provide a device of this character which will by gravity and without the aid of springs or levers be normally held perpendicularly from its axis, will be suspended in the position and swing with the motion of a pendulum, and which when it comes in contact with a body will be automatically depressed at the front, without, however, engaging with the track so forcibly as to injure the fender-frame by dragging, should the car be traveling rapidly.

A further object of the invention is to provide an auxiliary device operating on like principles to the usual guards or fingers used to depress the fender before it strikes the obstruction, my improved form of this device being adapted to not only so depress the fender, but also to form a seat or repository for any person struck thereby while standing in an upright position, a fender constructed according to my invention thus comprising means to catch up a pedestrian before being knocked down by the car, and also means for absolutely saving him from injury to life or limb in the event of his failing to be saved from harm by the forward guard.

The invention consists in the novel inventive construction and arrangement of parts by which the above-mentioned results, together with cheapness of manufacture and lightness of weight, are attained, and herein-after more fully described and claimed.

In the accompanying drawings, Figure 1 is a side elevation of the forward end of a car provided with a device embodying my invention. Fig. 2 is a plan view of the device apart from the car.

In the practice of my invention I secure to the truck of the car A (the said truck not

being shown) hangers B at each side of the car, which range adjacent to or slightly below the under surface of the car-body or the platform A' and have journaled between the same in the bearings *a* a tubular shaft C, each end of which extends appreciably beyond the hangers and the truck. Mounted upon the tubular shaft C, by means of sleeves *b*, are approximately semicircular arms or side pieces D, the upper ends of which are upwardly projected to form the flanges D', upon the top of which the sleeves *b* are secured or formed. The arms D have intervening the same horizontally-ranging rods E, which constitute the supporting-body of the fender, the use of such rods, however, not being obligatory, as a netting or any other supporting material may be employed where desired. At their lower ends the arms D are enlarged and apertured to form bearings *c*, and forward of the said bearings there are formed upon or secured to the said arms downwardly-turned flanges *d*, which said flanges have secured at or near the ends thereof pins *d'*, projecting downwardly therefrom.

In the bearings *c* is journaled the rear bar F' of a tray F, which extends in front of the main fender-body and normally rests upon the pins *d'*, thereby being suspended at a slight distance above the track. The tray F consists of an elongated rectangular hollow frame, the front and rear bars F' of which are intervened by metallic straps F², resting upon and encircling each bar, the ends of the straps being secured to the same at the under side. It will be observed, particularly by reference to Fig. 1, that the fender being pivoted at the top immediately in alignment with its center of gravity the lower portion thereof and the whole of the tray F will be normally maintained upon an approximate level with the track. Were the flanges D' removed, or were they extended farther forwardly, the weight of the fender would cause the same to point obliquely upwardly or downwardly, respectively, and I claim it as one of the main advantages of my invention that the fender is thus suspended and is capable of swinging like a pendulum.

To the end that the fender shall not swing too freely, I mount upon the tubular shaft C at each end thereof collars *e*, secured thereon

by means of the nuts e' extending there-
through, and intervening the said collars and
the sleeves b upon the arms D are plate-
springs f , which force the said sleeves toward
the bearings a upon the truck-hangers B ,
thereby increasing the friction of the sleeves
therewith and restricting the movement of the
fender. The bearings a may have thereon
pointed lugs a' and the sleeves be interiorly
notched to receive the said lugs, and thereby
prevent the fender from leaving the perpen-
dicular position, except upon a more than
slight shock of contact, such arrangement be-
ing illustrated upon one side of the fender in
Fig. 2. I prefer, however, to form upon the
truck-hangers B a downwardly-turned and
inwardly-directed extension B' , in the end of
which is mounted a thumb-screw g , bearing
upon the flange D' of the arms D . By turning
this thumb-screw, the arms may be forced far-
ther rearwardly to depress the forward end of
the fender to any desired degree, though how-
ever much the said thumb-screw g may be
turned in the reverse direction the fender will
not point farther forwardly than its normal di-
rection when swinging from the pivotal point
in the bearings a , although, were this a desid-
eratum, such could be effected by permitting
the end of the said screw to enter the flange
and revolvably securing the same thereto.

The operation of the device will be readily
understood from the foregoing description,
taken in connection with the accompanying
drawings, particularly by such as are conver-
sant with the especial class of devices to which
my invention appertains. The fender being
suspended in the position shown in Fig. 1,
wherein the tray F ranges parallel with the
track and a passer-by being struck by the car
the latter will fall upon the track beneath the
car-platform. Upon the forward end of the
tray F striking the fallen pedestrian the fen-
der-body will slightly yield rearwardly, there-
by carrying the point or front of the tray
downwardly upon the track, although the said
tray, being pivoted to the fender, will not be
caused to engage forcibly with the said track
and endanger breakage thereof. Unless the
body be exceptionally heavy the forward mo-
tion of the car will cause the tray F to im-
mediately pass beneath the said body, which will
thereupon be deposited into the main or semi-
circular fender-frame, and by reason of the
suspension of the same, as hereinbefore re-
ferred to, the weight of the body will the more
securely hold the fender in the perpendicular
position from its axis, thereby obviating one
of the chief defects of many forms of car-fen-
ders, which, after receiving the body struck
by the car, are incapable of retaining the
same and thus the body is rolled along the
track so long as the car continues in motion,
such fenders consequently serving merely to
prevent the body from passing beneath the
wheels of the car without protecting the same
from injury to life or limb. Where, by rea-
son of the weight or solidity of a body, great

resistance is offered to the fender, the same
will yield until the flanges d , which sustain
the tray F , come in contact with the ground,
whereupon the necessary rigidity will be con-
tributed to the fender to enable the obstruc-
tion to be deposited therein.

While the device before described will op-
erate with absolute perfection and be auto-
matic in action, I have also devised an attach-
ment or guard, which will instantaneously de-
press the fender upon a body being struck by
the car, and, furthermore, if the pedestrian is
standing in an upright position, will prevent
the said person from falling to the ground.
This device comprises two or more sliding rods
 G , resting at the forward end upon a shaft h ,
journalled in bearings i upon a beam or hanger
 A^2 , depending from the car-platform A' , which
said hanger I have shown in the drawings as
being comprised by and subserving the func-
tions of the usual car-step by which entrance
to the car is obtained. At the rear of the slid-
ing rods G are secured the heads j , having ap-
ertured flanges or collars j' at the ends thereof,
which said flanges are pivoted to the arms D
immediately at the junction of the flanges D'
with the same. At their forward ends the
rods G are downwardly turned and forwardly
curved in the form of segmental extensions
 G' , which are connected at the front by a
cross-rod G^2 , the whole being preferably
formed in one piece and the corners being
rounded, as shown. Intervening the exten-
sions G' are bars H , which, in conjunction
with the extensions and the cross-rod G^2 , form
a seat or repository maintained midway be-
tween the car-platform and the track. When
this auxiliary device is used, it will at once
be seen that any person standing with his
back to the car will, when struck thereby, be
caught up immediately by the guard and
caused to sit thereon, whereupon he is car-
ried along with the car during its further
motion until the same can be stopped, and
with almost as little discomfort as though sit-
ting upon the platform or the car-step. Fur-
thermore, as with all such guards, the fender
proper will be forced rearwardly sufficiently
to depress the front thereof, though it will be
observed that by the peculiar mounting of
the guard-frame this will act considerably
more easily than heretofore, and, further, that
by the pivoting of the main fender, as here-
inbefore specified, the guard will be normally
projected without the aid of springs or levers.

I do not confine myself to the exact forma-
tion of parts and details of construction here
in set forth and illustrated, as such may be
varied in many particulars without altering
the nature of the invention, the essential fea-
tures of which are comprised in the pendulum-
frame or main fender, the swiveled tray,
which yields upwardly to prevent breakage
and to ride over stones or other small ob-
structions, and, further, in the forwardly-
ranging combined guard and seat.

Having thus fully described my invention,

what I claim as new, and desire to secure by Letters Patent, is—

1. A car-fender for street and other railway cars, comprising an approximately semi-circular frame suspended from the car truck beneath the car-platform in alignment with its center of gravity, whereby the lower portion of the same will range substantially parallel to the track, and the front thereof be automatically depressed by contact with a body; and a tray pivoted to the forward end of said frame, said frame having inwardly projecting stop pins upon which the tray rests, substantially as shown and described.

2. A car-fender for street and other railway cars, comprising an approximately semi-circular frame suspended from the car truck beneath the car-platform in alignment with its center of gravity, a rectangular tray having its rear end pivoted in said frame to project forwardly therefrom, arms or extensions depending from the frame, and stop pins projecting inwardly therefrom, said tray resting upon said stop pins; said frame and tray being of substantially open or skeleton form, substantially as shown and described.

3. In a fender for street and other railway cars, the combination with hangers projecting from the car-truck and having forwardly and downwardly ranging extensions, of a frame pivoted at the top in said hangers, and set-screws inserted in said hanger-extension and bearing against the frame, whereby the fender may be adjusted from the front, substantially as shown and described.

4. A fender for street and other railway cars, comprising substantially semi-circular arms upwardly turned, a shaft journaled in the car and extending through the ends of the said arms, a supporting body intervening the arms, downwardly turned flanges at the forward end of the fender to engage with the track when the same is forced rearwardly, stop pins upon the said flanges, and a tray pivoted in the arms at the forward end and resting upon the stop pins, the said tray projecting horizontally forward from the fender and being upwardly yielding, substantially as shown and described.

5. A fender for street and other railway cars, comprising a shaft journaled in hangers projecting from the truck of the car, substantially semi-circular arms upwardly turned and pivoted at the top upon the said shaft in alignment with the center of gravity of the fender, whereby the lower portion of the same ranges parallel with the track, collars upon the shaft, frictional springs intervening the same and the arms, thumb-screws mounted in the hangers, bearing against the arms and adapted to adjust the fender vertically, cross-bars connecting the arms, downwardly turned flanges at the forward end of the said arms having stop pins upon the same, and a tray comprising a hollow rectangular frame pivoted in the arms and resting upon the stop pins, and supporting straps extending across the

body of the tray, substantially as shown and described.

6. In a fender for street and other railway cars, the combination, with a frame pivoted to the car-truck in alignment with the center of gravity, of a sectionally segmental or curved guard supported near the front of the car and adapted to form a seat or repository; and rods pivotally connected to said frame and guard and freely sliding upon a support or rod beneath the car-platform, whereby pressure on the said guard forces the frame rearwardly and downwardly and the weight or gravity of said frame projects said guard, substantially as shown and described.

7. In a fender for street and other railway cars, the combination, with a frame depending from the car, of a shaft journaled between the car steps, rods sliding thereon and connected to the main fender, and a sectionally segmental or curved guard secured to the rods, and suspended thereby between the car-platform and the track, the said guard comprising a support or frame adapted to form a seat or repository, substantially as shown and described.

8. A fender for street and other railway cars, comprising a shaft journaled in hangers projecting from the truck of the car, substantially semi-circular arms having upwardly turned ends pivoted upon the shaft in alignment with the center of gravity of the fender, collars upon the said shaft, and frictional springs intervening the same and the arms, thumb-screws mounted in the front of the hangers bearing against the arms and adapted to adjust the fender vertically, cross-bars intervening the arms to form a supporting body, downwardly turned flanges at the forward end of the fender having stop pins thereon, a tray comprising a hollow rectangular frame pivoted in the arms and resting upon the stop pins, the said tray projecting horizontally forward from the fender and being upwardly yielding, metallic straps extending across the body of the tray, a shaft journaled between the car steps, rods sliding upon the said shaft having heads at the rear thereof pivoted to the fender near the top thereof, whereby the same are normally projected, the said rods being downwardly and forwardly curved to form a segmental guard, and extended horizontally to form a cross-rod at the front of the said guard, and bars connecting the extensions to form a frame adapted to constitute a seat or repository for a person struck by the car, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 27th day of July, 1894.

WILLIAM GRUNOW, JR.

Witnesses:

DALMAN GOODSSELL,
ROBT. E. PARSONS.