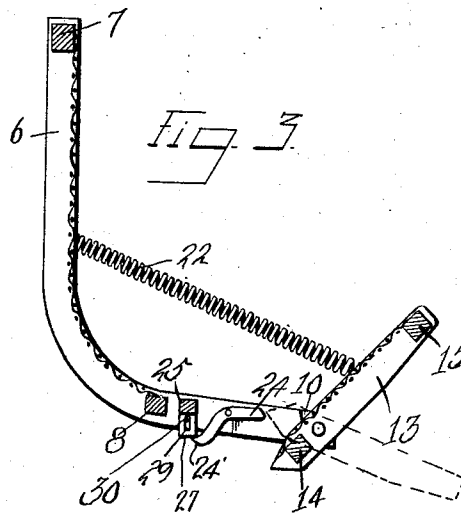
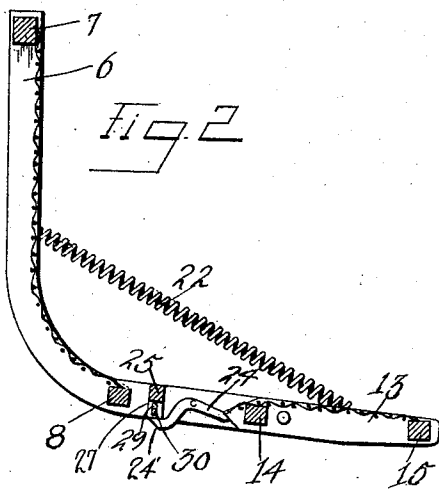
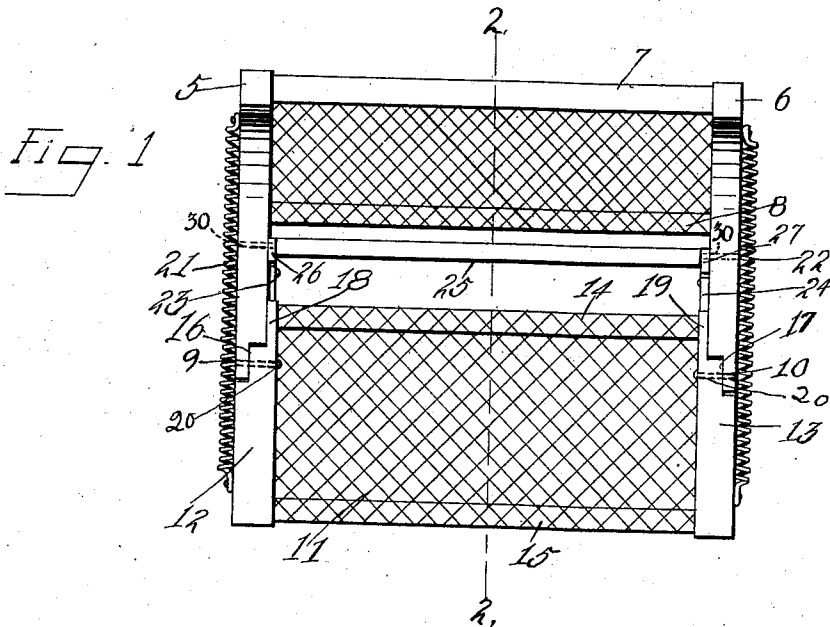


E. L. HARRIMAN.
 TRAM CAR FENDER.
 APPLICATION FILED OCT. 6, 1908.

992,657.

Patented May 16, 1911.



Witnesses

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Inventor
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By

Handwritten signature of the attorney

Attorney

UNITED STATES PATENT OFFICE.

EDWIN L. HARRIMAN, OF ETNA MILLS, CALIFORNIA.

TRAM-CAR FENDER.

992,657.

Specification of Letters Patent.

Patented May 16, 1911.

Application filed October 6, 1909. Serial No. 521,284.

To all whom it may concern:

Be it known that I, EDWIN L. HARRIMAN, a citizen of the United States, residing at Etna Mills, in the county of Siskiyou, State of California, have invented certain new and useful Improvements in Tram-Car Fenders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in car fenders and more particularly to that type of fender carried from the front or dash-board of a tram-car.

One object of the invention is the provision of a fender which will fold upwardly after striking an object, whereby the object will not be flung aside but will be cradled by the fender.

Another object is the provision of a means for tripping the fender and causing it to move from one position to another after striking an object.

With these and other objects in view as will more fully hereinafter appear, the present invention consists in certain novel details of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings and more particularly pointed out in the appended claims; it being understood that various changes in the form, proportion, size and minor details of the device may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings forming part of the specification:—Figure 1 is a plan view of the device. Fig. 2 is a vertical sectional view on the line 2—2 of Fig. 1 and showing the position of the parts before striking an object. Fig. 3 is a similar view showing the position of the parts after striking an object.

Similar numerals of reference are employed to designate corresponding parts throughout.

The main or body portion of the fender consists of a pair of side bars or sills 5 and 6. These members are preferably of metal, and substantially right-angular in contour. The sills are so arranged that one of their sides will extend vertically upward while the opposite side will extend forward and outward. The upper end portions of the

sills are connected by a cross piece 7 and the intermediate portions by a similar cross piece 8. The distance between the sills will correspond, approximately, to the width of an ordinary tram-car and the space between the sills may be covered with wire or hemp netting, secured to the cross pieces 7 and 8. The forward end portions of the sills 5 and 6 are, on their opposed inner faces, provided with the vertically cut out portions 9 and 10 and pivotally supported from these portions is what will subsequently be termed a swinging frame designated in general by the numeral 11. The sides of the swinging frame are designated by the numerals 12 and 13 and correspond in thickness to the thicknesses of the sills 5 and 6 but are of considerably less length than the latter and unlike the latter may be perfectly straight. The opposite end portions of the sides 12 and 13 of the swinging frame are connected by a pair of cross pieces 14 and 15 and the spaces between the sides 12 and 13 and cross pieces 14 and 15 may be covered with wire or hemp netting. In order that the opposite outer faces of the sides 12 and 13 may be flush with the outer sides of the sills 5 and 6, the said sides are, on their outer faces, and adjacent their inner ends provided with vertically cut out portions 16 and 17, which correspond in length and depth to the vertically cut out portions 9 and 10 and in advance of the vertically cut out portions 16 and 17 are further cut away as shown at 18 and 19, thus permitting the inner extremities of the sides 12 and 13 to extend inwardly from the vertically cut out portions 9 and 10 of the sills 5 and 6 and bear on the opposed inner faces of said sills 5 and 6.

The swinging frame is pivotally supported from the side sills 5 and 6 by means of pivot bolts 20 extending through the vertically cut out portions of the sills and those of the sides 12 and 13.

In order that the swinging frame may fold upwardly and inwardly after striking an object a pair of helical springs are employed, the ends of which are fixed to the inner ends of the sides 12 and 13 of the swinging frame and at points adjacent the middle and on the outer faces of the sills 5 and 6. When the swinging frame is in its normal position, that is extending continuously in advance of the forward side portions of the sills 5 and 6, the springs 21 and 22 will be tensioned and in order to

maintain the swinging frame in this position against the action of the springs 21 and 22 the following construction is employed:—

By referring to the drawings it will be seen
5 that pivoted on the inner faces of the sills
5 and 6 between the inner sides of the
swinging frame and lower-most cross piece
8 of the main frame are the intermediate
portions of a pair of dogs 23 and 24. These
10 dogs are so positioned that their forward
ends will bear on the lower sides and adjacent
the inner edges of the sides 12 and 13
of the swinging frame. The opposite ends
of these dogs are bent downwardly and engaged
15 beneath the lower edges of plates 26
and 27 secured to the ends of the cross bar
25. Referring to Fig. 2 of the drawings it
will be seen that the rotative tendency of
the frame 11 engendered by the helical
20 springs 21 and 22 is transmitted through
the dogs 23 and 24 into a lifting tendency of
the cross bar 25. This is resisted by guide
bolts 30 carried by the opposed inner faces
of the sills 5 and 6 and passing through
25 elongated slots 29 in the plates 26 and 27.
In the normal position of the fender, being
that shown in Fig. 2, the swinging frame is
thus locked against upward movement by
the dogs as described. When an object is
30 caught in the fender the weight of the object
will depress the bar 25, the plates moving
downwardly and depressing the left hand or
inner ends of the dogs. This motion is transmitted
to the swinging frame
35 and causes the latter to pivot downwardly
against the tension of the springs until the
points of the sides 12 and 13 disengage from
the ends of the dogs. The springs then
draw up the frame into the position shown
40 in Fig. 3 and the object which tripped the
fender is safely cradled therein.

It will be seen that I have provided a device which is simple in construction and comparatively easy to manufacture having

few parts and these so arranged that the 45
danger of derangement will be reduced to a
minimum.

What is claimed as new, is:—

1. In a car fender, the combination of a
main frame, a swinging frame at the front 50
end of the main frame and connected thereto
for up and down movement, springs to
raise the swinging frame, a cross bar in the
rear of the swinging frame and having
plates on its ends slidably connected to the 55
sides of the main frame for vertical movement,
and dogs pivotably mounted on the
main frame and normally engaging the
lower edges of the said plates and the rear
portion of the swinging frame to normally 60
hold the latter in forwardly extended position.

2. In a car fender the combination of a
main frame, a swinging frame at the front
end of the main frame connected thereto for 65
up and down movement, springs to raise the
swinging frame, a cross bar in the rear of
the swinging frame and having plates on
its ends, said plates being provided with
elongated vertical slots, studs secured to 70
said main frame and engaging the slots in
said plates, and dogs pivotably mounted on
said main frame, one end of each dog engaging
beneath the lower edge of one of said
plates and the other end of said dog engaging 75
beneath a side member of said swinging
frame, whereby said frame will be normally
locked in the extended position by said dogs
but will be released therefrom by the tilting
of said dogs resulting from a depression of 80
said cross bar.

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

EDWIN L. HARRIMAN.

Witnesses:

JOE CLARK,
C. M. MANLEY.