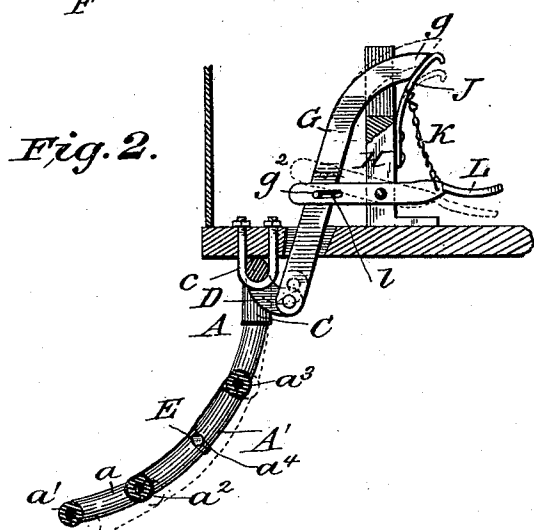
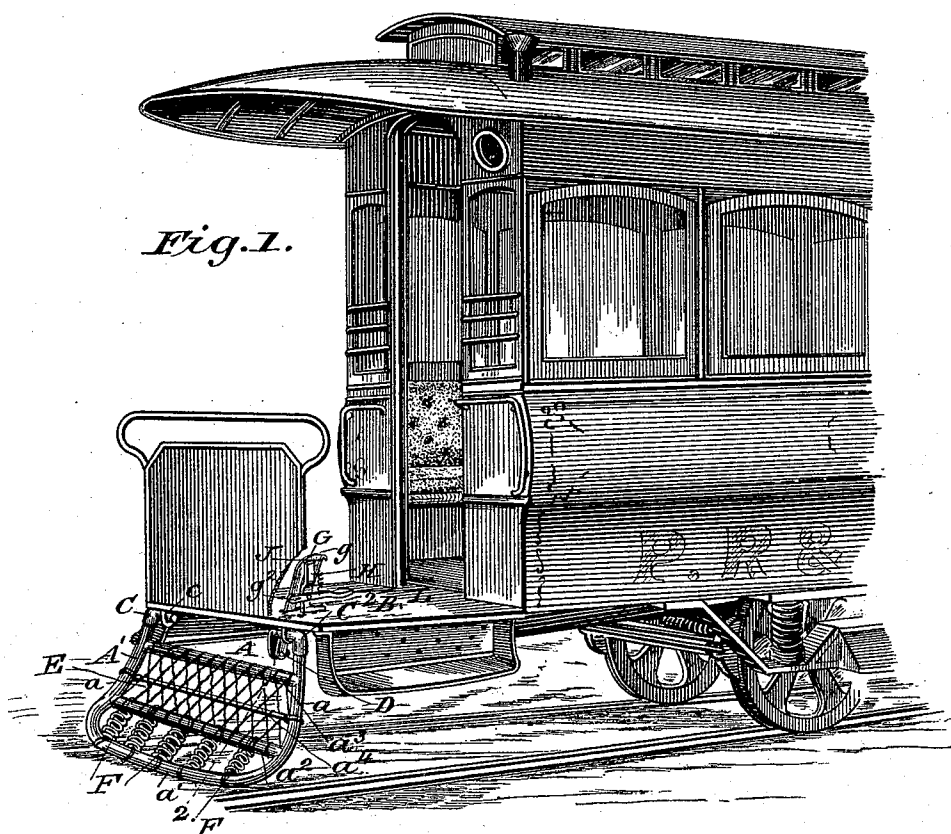


(No Model.)

W. LEONHARDT.
STREET CAR FENDER.

No. 497,583.

Patented May 16, 1893.



WITNESSES:

Witnesses:
Fred G. Dieterich
W. D. Blondel

INVENTOR

William Leonhardt
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ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM LEONHARDT, OF BALTIMORE, MARYLAND, ASSIGNOR TO THE
LEONHARDT WAGON MANUFACTURING COMPANY, OF SAME PLACE.

STREET-CAR FENDER.

SPECIFICATION forming part of Letters Patent No. 497,583, dated May 16, 1893.

Application filed February 17, 1893. Serial No. 462,726. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LEONHARDT, residing in the city of Baltimore and State of Maryland, have invented certain new and
5 useful Improvements in Street-Car Fenders, of which the following is a specification.

This improvement relates more particularly to fenders for electric or cable street cars, and it has for its object to provide a fender simple and inexpensive in its construction and
10 effective for its intended purpose.

It has also for its object to provide a fender constructed of an elastic or yielding body, whereby to ease the force of the blow as it con-
15 tacts with a person, and also to become partially compressed, to prevent the possibility of any portion of the person being clamped or drawn between such body and the track, as is usually the case, where the fender is formed partially
20 or entirely of a rigid frame or body.

With other minor objects in view and which will hereinafter be referred to my invention consists in the peculiar combination and novel
25 arrangement of parts, all of which will hereinafter be fully described in the specification and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a portion of
30 a street car with my improved fender applied. Fig. 2 is a vertical longitudinal section of the fender and a portion of the platform, such section being taken approximately on the line 2—2 in Fig. 1.

35 The body A of my improved fender is formed of an outer rim, A', which is bent to form side arms *a a* and the front end *a'*, and such side arms are bowed to a shape substantially as shown in Fig. 2 of the drawings, their upper
40 ends having a pivotal connection with the under side of the front end of the car platform B, any suitably arranged means, such for instance as shown, being employed for pivotally connecting such ends to the car body,
45 and such means consist of socket members C C, fitted on the ends of the arms *a a* which are held to rock in staples *c* on the car body, one of such sockets having a rearwardly extending crank portion D for a purpose presently
50 described. The rim A' is formed of a hollow elastic body filled with air, being as it were, in

the nature of a pneumatic tube, which is rendered more rigid by the transverse hollow tubes *a² a³* which communicate with the side arms *a*, the rim being further braced by the
55 central connection *a⁴*.

E is a netting which extends from the tube *a²* to the tube *a³*, and which in practice is formed of a flexible material such as rope or leather, such netting E serving to break the
60 fall of the person as the fender tumbles him over toward the dash of the car body.

To hold the front end of the rim more rigid and yet provide a yielding contact end, coiled springs F are interposed between the front
65 end *a'* and the lower transverse tube *a²*.

The fender is normally held with its lower or front end slightly above the track, whereby it will pass over ordinary obstructions, such as snow, ice, &c., and to hold it to such position, its crank member D is pivotally con-
70 nected to a lever G, the upper end of which is curved rearward as at *g*, passes between the bifurcated end of a standard H, and bears against a stout flat spring J secured to such
75 standard H, which spring normally forces the lever G forward and downward and thereby holds the lower end of the fender up to the position shown in Fig. 2, the lever G being held
80 from further outward movement by a stop pin *g²* secured thereto, which fits in a slotted bearing *l* in the front end of a foot lever L pivoted on the standard H.

K indicates a chain connection which joins the spring J and the rear end of the foot lever
85 as shown.

From the foregoing description taken in connection with the drawings it will be observed, that while the fender is held to travel over ordinary obstructions, as it strikes a
90 person, it will, owing to its elasticity, bend back and thereby ease the shock of the contact, and furthermore, as the body of the person is pushed forward, the body of the fender being almost entirely a yielding one,
95 the possibility of such person becoming clamped under the fender as it is dragged along is almost entirely avoided.

In case the gripman or motorman sees the person on the track before the fender hits him,
100 he can lower the front end of the fender down against the track (see dotted lines Fig. 2) by

pressing the foot lever down which operation also draws the spring J down and allows the lever G to pass freely upward and rearward, as it is elevated by the front end of the foot lever.

5 Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

10 1. A fender for street cars comprising a body portion formed of pneumatic tubing substantially as and for the purpose described.

2. As an improved fender for street cars, the frame A, formed of pneumatic tubing, and consisting of the rim bent to form side arms a and a front portion a' , and the transverse tubes a^2 a^3 all substantially as shown and for the purpose described.

3. In a street car fender, in combination, the body A formed of elastic material, having a forwardly projecting portion a' upwardly extending arms a said arms adapted to be piv-

otally hung from the car body, and a flexible netting on such body A all substantially as and for the purpose set forth.

4. A street car fender, comprising a body portion A having a forward cross member a' of yielding material, a transverse member a^2 and coiled springs interposed between such members a' a^2 substantially as and for the purpose described.

5. The combination with the car body, the frame A having its upper end held to rock on such body, said frame having a rearward extension D, of the standard H, foot lever L, lever G connected to the extension D, the spring J and the chain connection K all arranged substantially as and for the purpose described.

WILLIAM LEONHARDT.

Witnesses:

JOHN HERRING,

EDWARD M. LEONHARDT.