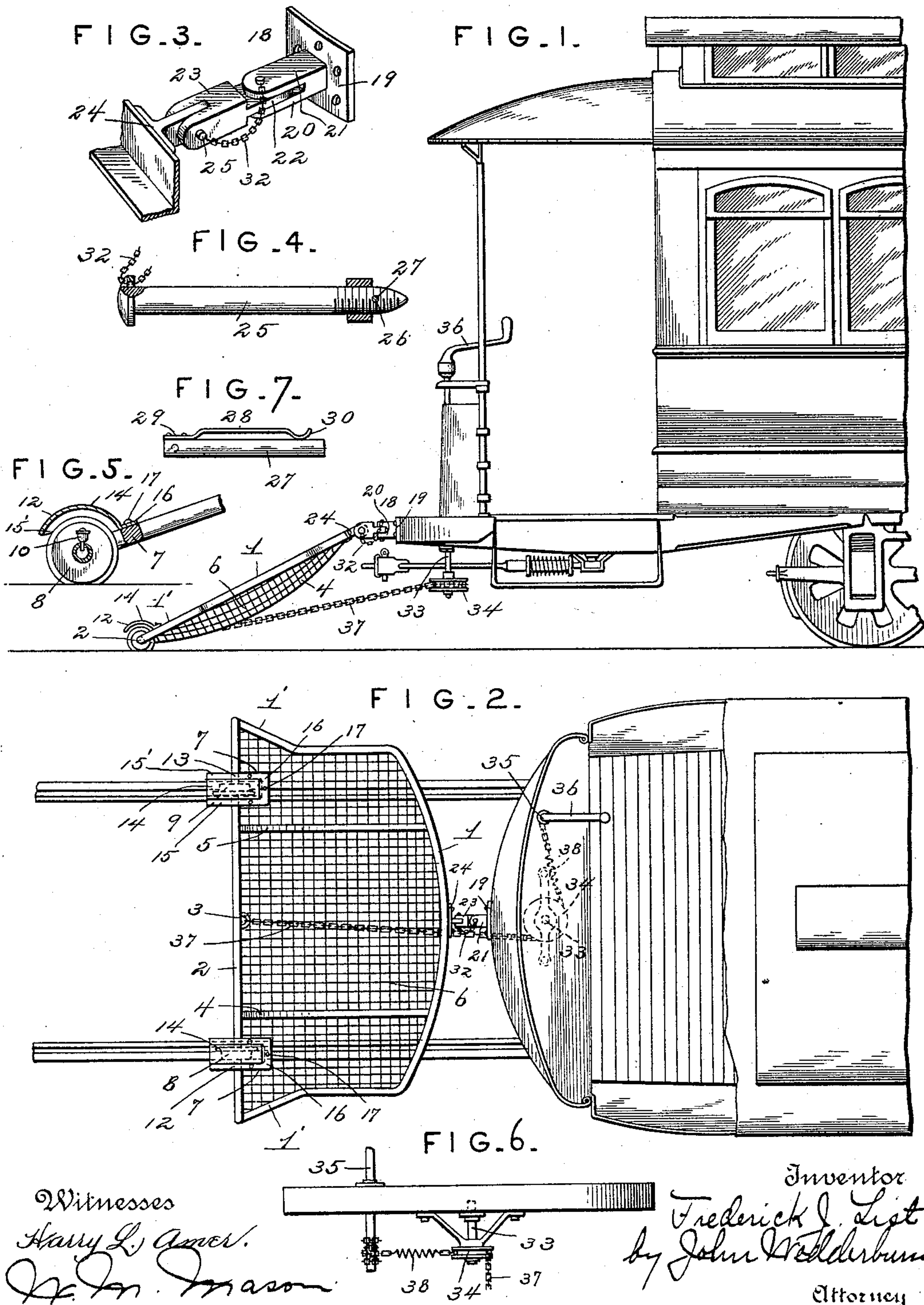


(No Model.)

F. J. LIST.  
CAR FENDER.

No. 582,934.

Patented May 18, 1897.





# UNITED STATES PATENT OFFICE.

FREDERICK JOHN LIST, OF CHELSEA, MASSACHUSETTS.

## CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 582,934, dated May 18, 1897.

Application filed August 1, 1896. Serial No. 601,355. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK JOHN LIST, a citizen of the United States, residing at Chelsea, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in 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.

My invention relates to car-fenders.

My object is to provide a more simple and cheap car-fender which can be quickly and easily applied to or removed from the car and will be more satisfactorily and safely adapted to trip and catch the person or obstacle on the track and properly hold the same.

A further object is to provide an improved and novel car-fender which will be adapted for vertical and lateral movement and will be drawn down firmly on the track, so as to better trip and catch the obstacle when the brake mechanism is applied, but which will in no wise interfere with the stoppage of the car.

Having these objects in view my invention consists of a car-fender comprising certain novel features and combinations which will appear more fully in the following description, the appended claims, and the accompanying drawings, in which—

Figure 1 is a side elevation of a car equipped with my improved fender. Fig. 2 is a plan view; Fig. 3, a detail view of the coupling mechanism; Fig. 4, a detail of the locking bolt and pin; Fig. 5, a detail of one of the wheel-housings; Fig. 6, a front detail view of the car-platform, showing the means for drawing the fender down on the track; and Fig. 7, a like view of a certain improved locking-pin.

My improved fender is provided with a frame 1, made into the shape of a dust-pan, having outwardly-inclined portions 1' and a round cross-bar 2, which is provided with a ring 3, said frame having the two curved pieces 4 and 5, which bend down toward the rails and connect to the cross-piece and brace the frame. The numeral 6 designates wire-netting, preferably constructed of soft iron, which is connected to the frame and the cross-bars. The fender is peculiarly adapted to trip or scoop up the person or obstacle and

then to safely hold the same. On each side of the fender and connected to the cross-bar thereof is a U-shaped bracket 7, which lies above the rail of the track. There are two wheels 8 and 9, which are loosely mounted on the cross-bar and project into the brackets. These wheels run on the rails and prevent the fender from swinging or swaying laterally, and they are kept oiled by cups 10 and 11. The housings of these wheels are designated by the numerals 12 and 13, and as they are duplicates a description of one will suffice. The body 14 of the housing is made semicircular in shape and fits down over the upper half of the wheel, being in contact therewith. From the sides of the body project flanges 15 and 15', while 16 designates a rear flange. These flanges are bolted down onto the bracket by bolts and nuts 17. Thus it will be seen that the wheels are at all times protected, so that they can in no wise injure any one falling on the fender.

The numeral 18 designates a connecting-iron which has a base 19, which is bolted directly to the front of the car (the buffer being removed) and is provided with arms 20 and 21. A coupling is provided which has a flat shank 22, that is received between the arms of the connecting-iron and is pivotally connected thereto, and a bifurcated head 23.

The fender-frame is provided with a flat ear 24, which is received in the bifurcation of the head of the coupling and is pivotally connected thereto on a novel form of locking-bolt 25. This bolt is, as usual, provided with a head and nut, but it also has near its tip an opening 26.

The numeral 27 designates my improved locking-pin, which is adapted for reception in opening 26. The ribbon-spring 28 has one end connected to the pin at 29 and is bent also, being provided with a curved free end 30. A chain 32 connects the locking-pin with the head of the locking-bolt, so that the two will be together at all times. After the locking-bolt has passed through the bifurcation of the coupling and the ear of the frame of the fender, the nut being placed in position, the locking-pin is passed into the opening in the bolt and is held in position by the spring, so that it cannot become jarred loose, and consequently the locking bolt and nut are held in



position. An eye 3 is connected to the front cross-bar of the fender-frame.

The numeral 33 designates a spindle which is securely connected to the under side of the  
5 car-platform and projects downwardly, and on this spindle there is journaled a pulley 34.

The numeral 35 designates the ordinary brake-spindle, which is, as usual, provided with a crank 36 on its upper end and con-  
10 nected by a chain to the brake mechanism. A chain 37 is also connected to this spindle and adapted to be wound therearound, and this chain passes around pulley 34 and under the fender, being connected to the hook 32. The  
15 chain is broken immediately underneath the fender and a coil-spring 38 connected to the sections thereof.

The operation is as follows: The fender is normally down on the track, so that the wheels  
20 run on the rails thereof, but when the object is to be taken up, as the motorman or driver turns the crank of the brake-spindle to apply the brakes the chain that connects said spindle with the front portion of the fender-  
25 frame is also wound on the spindle and the fender drawn firmly down upon the rails, so that it does not move or sway in any manner when the person is struck, but owing to the fact that the wire-netting of the fender is  
30 flexible the person or other object caught up is in no manner injured, and as the fender is hollowed out in the form of a scoop after the object has once been received thereon it remains. The coil-spring is interposed in the  
35 chain that connects the brake-spindle with the fender-frame, so that the fender will not be drawn too firmly down upon the rails, and hence interfere in any manner with the car  
40 applied. Owing to this peculiar construction

of the pivotal connections between the fender and the car the fender can be quickly and easily swung up against the car-dashboard by first unhooking the chain from the fender. The fender can also be readily removed at  
45 any time by unlocking my improved locking bolt and pin.

It is obvious that slight and immaterial changes in construction might be resorted to without departing from any of the advantages  
50 of my invention, and hence it is to be understood that I do not limit myself to the precise construction herein described, but consider that I am entitled to all such variations as come within the spirit and scope of the in-  
55 vention.

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

In a car-fender, the combination with a fen-  
60 der pivotally connected to the car-body and having wheels adapted to run on the track, of a brake-spindle carried by the car, a pulley carried by the car and separate from the brake-spindle, and a chain and coil-spring se-  
65 cured together, one end of said chain being connected to the front end of the fender beneath the same and said chain running directly therefrom and around the pulley and  
70 having its other end connected to the brake-spindle whereby when the spindle is turned the forward end of the fender will be drawn directly down on the track.

In testimony whereof I have signed this specification in the presence of two subscrib-  
75 ing witnesses.

FREDK. JOHN LIST.

Witnesses:

WM. E. PERRY,  
ROBERT OLDREINE.