

(No Model.)

2 Sheets—Sheet 1.

M. FERNANDEZ.
CAR FENDER.

No. 560,849.

Patented May 26, 1896.

Fig. 1.

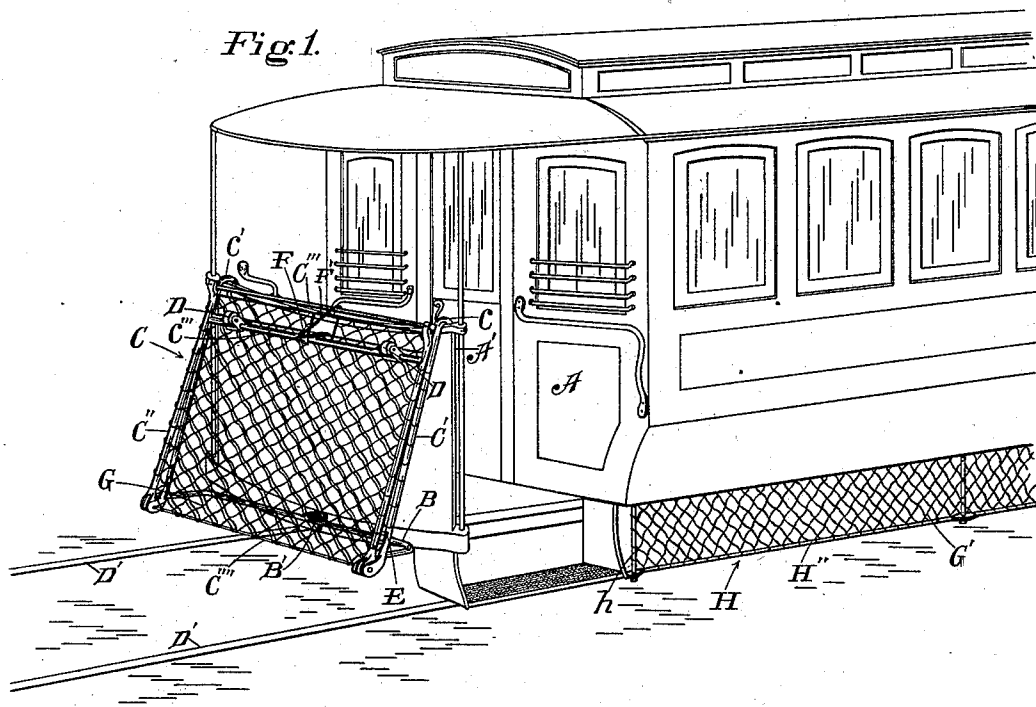


Fig. 2.

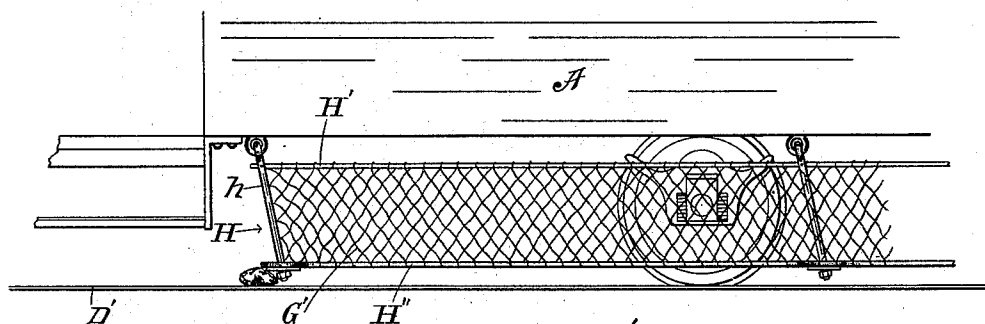
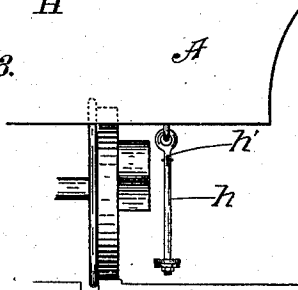


Fig. 3.



Witnesses

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 4.

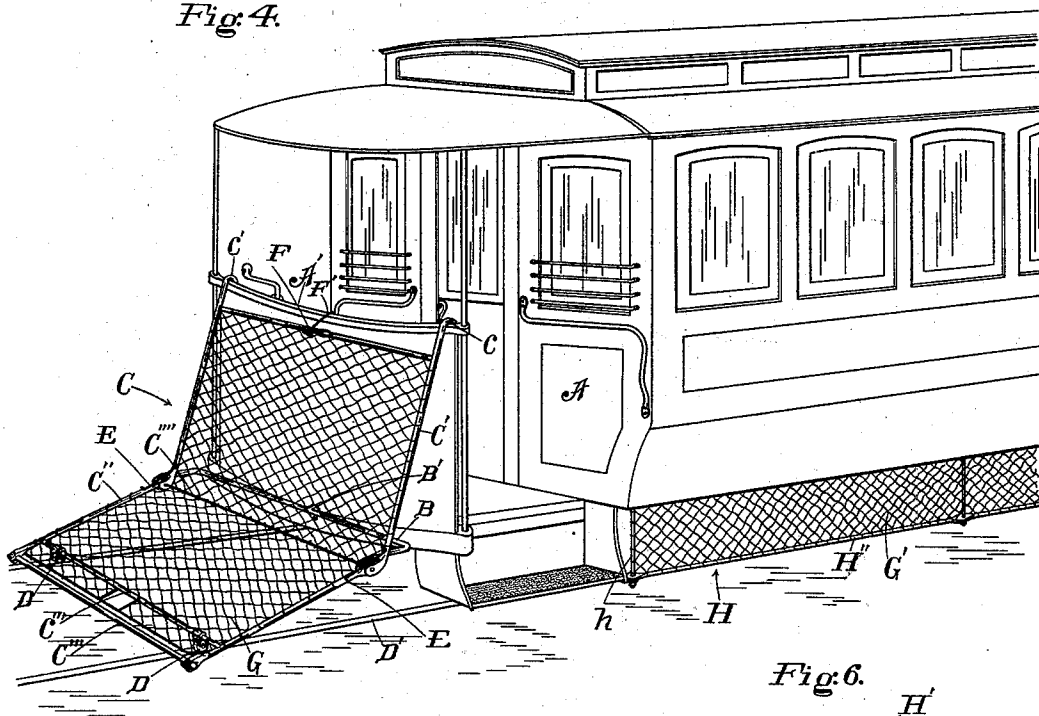


Fig. 6.

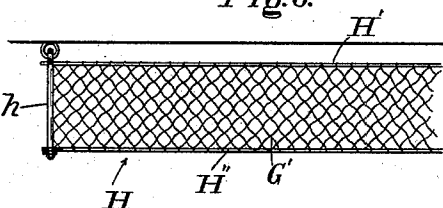


Fig. 5.

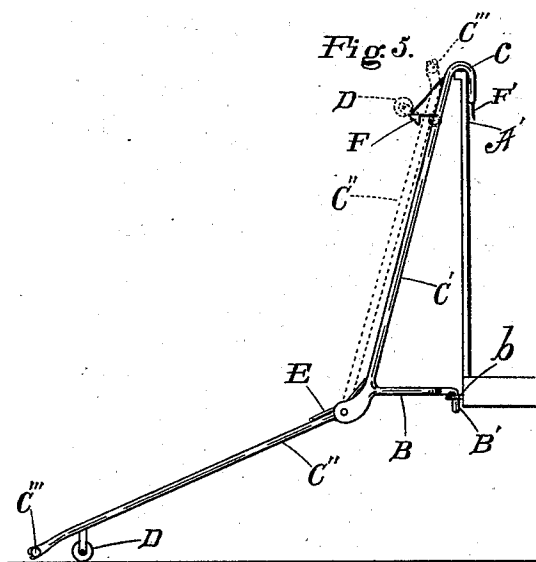
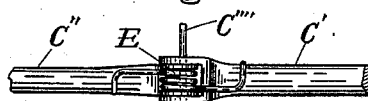


Fig. 7.



Witnesses

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UNITED STATES PATENT OFFICE.

MANUEL FERNANDEZ, OF LOS ANGELES, CALIFORNIA.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 560,849, dated May 26, 1896.

Application filed October 25, 1895. Serial No. 566,852. (No model.)

To all whom it may concern:

Be it known that I, MANUEL FERNANDEZ, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Street-Car Fenders, of which the following is a specification.

My invention particularly relates to that class of fenders which are designed to be normally carried folded against the front end of the car and to be retained in such folded position by means of a catch, and having springs whereby when the catch is released the fender will be thrown down into its operative position.

The object of my invention is to produce a fender of this class which will be of the utmost simplicity, cheap, light, durable, and will be so arranged that if the fender is thrown into its operative position and the supporting-wheels engage the rails when the car is passing around a curve, or if the fender is brought into contact with any obstruction in the street, it may yield sidewise, but will be so arranged that it will return to its normal position as soon as the strain is removed, thus to allow the fender when thrown into its operative position to accommodate itself to curves or to obstructions upon the street, and to prevent breakage, to which any unyielding fender is subject, without such fender is made so heavy and strong as to prove cumbersome and unwieldy.

The accompanying drawings illustrate my invention.

Figure 1 is a fragmental perspective elevation of a street-car provided with my invention. In this view the fender is shown in its closed position. Fig. 2 is a fragmental side elevation showing my improved lateral fender. In this view the fender is shown striking an obstruction. Fig. 3 is a fragmental front elevation showing my improved lateral fender. Fig. 4 is the same as Fig. 1, excepting that in this view the fender is shown in its operative position. Fig. 5 is a fragmental side elevation of the car with my improved fender in the position shown in Fig. 4. Fig. 6 is a fragmental side elevation showing my lateral fender in its normal position. Fig. 7 is a fragmental detail showing the spring

arranged to throw the folding section of the fender into its operative position.

In the drawings, A represents a street-car. C represents my improved fender, which consists of an upper or main frame C' and a lower or folding member C''. The main frame C' is provided with hooks c c', which are arranged to hook upon the front guard A' of the car. To the lower portion of the main frame C' is secured a supporting-bracket B, which projects rearwardly from the frame, and is provided at its mid-length with a stud B', which is adapted to enter an eye b, which is secured to the car A.

The frame of the fender is made of very light elastic or spring metal, and by reason of the single lower support being arranged at the mid-line of the fender if the fender engages with an obstruction or the supporting-wheels D engage with the track while passing around a curve the elasticity of the frame allows the fender to swing to one side, and as soon as the strain is removed will carry the fender back into its normal position. This would not be true were the upper portion of the fender attached to the car by a central pivot, for in such case other means of returning the fender to its normal position would have to be provided. I consider this feature one of great importance and lay special claim thereto.

To the lower edge of the frame C' is pivoted or hinged the frame C'', which is adapted to fold upward against the front of the car and to rest upon the first frame C', as shown in solid lines in Fig. 1 and in dotted lines in Fig. 3, and to be unfolded therefrom and to extend outward and downward in an inclined position toward the ground in front of the car, as shown in solid lines in Figs. 4 and 5. This frame is provided with suitable casters or supporting-wheels D, which are adapted to run upon the rails D' of the railway or upon the ground if by mischance they should not strike the rails when the fender is thrown into its operative position. The ends of the side members of the folding frame C'' project in front of the cross member c''' of such frame, and an elastic edge member C''', of rubber or other suitable material, is secured to the projecting ends and stretched tightly across in

front of the cross-rail c''' of the frame, so that when the fender strikes any person upon the track the elastic edge member C''' will yield, thus to prevent breaking of bones or bruising of flesh.

One special advantage of my invention is that the fender is folded in such a manner that it is entirely out of the way excepting at those periods when its use is demanded. A further advantage of my invention is that by dispensing with the complicated mechanism usually employed I produce a fender which is extremely light and is adapted to be folded into a compact flat shape convenient to handle, so that the motorman or conductor can transport it from one end of the car to the other. This can only be accomplished by hinging that portion of the fender which projects in front of the car, so it can be folded up, thus bringing the entire fender into flat shape, so that one person can readily grasp the folded fender, detach it from one end of the car, and transport it to the other end thereof. This is not possible where the forwardly-projecting portion of the fender is not hinged to fold, for the reason that the non-folding fender is of such inconvenient shape that the possibility of one person carrying it is extremely doubtful. By means of the hooks $c\ c'$ and the eye b the fender can be easily attached to and detached from the car. By securing the lower portion of the fender to the car by means of the stud and eyebolt the fender is pivoted to the car and can swing to one side or the other in case of pressure upon the fender.

In order to insure the quick unfolding of the folding member of the frame, I arrange strong springs E , connecting the two frames $C' C''$, and provide a catch F to hold the frame in its folded position. When the folding frame C'' is released, the springs E will forcibly throw the folded frame downward into its operative position, as shown in Figs. 4 and 5. The catch F is secured to the frame C' and is arranged to hook upon the frame C'' . To this catch is secured a cord F' or other suitable device, the end of which is arranged within convenient reach of the motoneer, so that in case of danger the cord can be pulled, thus lifting the catch out of engagement with the frame C'' and instantly releasing the frame and allowing the springs E to throw it outward and downward into its operative position. It is to be understood that any other suitable device may be arranged to hold the frame in its folded position, and I do not limit my invention to any special means for this purpose.

The frames $C' C''$ are constructed of light spring metal, so that when the netting G is secured in place upon the frames if a body is forcibly thrown into the netting the netting and the frame will yield sufficiently to prevent injury to the body and will not be so rigid as to cause the body to rebound and be thrown from the netting into the street or

upon the track. This netting may be of any suitable material, such as cord or crimped wire, or any other material having sufficient elasticity to answer the purpose.

The pivot-rod C''' , which hinges the two frames $C' C''$ together, extends entirely across the frame and serves as a support for the netting G . This rod is flexible and comparatively small in cross-section, so that if a body is projected into the net and against the rod the rod will give, so that no injury to the body will be caused thereby.

In order to insure that the net of the upper frame shall be supported in such a manner as to insure its yielding, I secure such frame to the front of the car in such a manner that it inclines from the top downward and outward away from the front guard of the car, as shown in Fig. 3. By these means the netting is held free from the guard, and if a person is forcibly thrown against the netting the netting will be sufficiently elastic to yield and prevent any injury to the person, but will not yield sufficiently to allow the body to be brought into contact with the guard of the car.

It oftentimes occurs that a person may be struck by the front end of the car or the fender thereupon and knocked down. Usually if the person lies quietly after falling all danger is avoided, but instinctively in such cases a person attempts to struggle away from the car, and in so doing is extremely liable to thrust a limb beneath the wheels. My improved lateral fender H is designed to prevent such accidents. This fender is formed of a framework comprising two side bars $H' H''$, connected by wire-netting and suspended beneath the side of the car. This frame is suspended by means of eyebolts I , secured to the car, and swing-rods h , having eyes linked in the eyes of the eyebolts. The upper side bar H' is pivoted in slots h' , which are provided in the swing-rods h . The lower bar H'' is loosely mounted upon the lower ends of the swing-rod h , so that such bars are free to move up and down and also to swing back and forth along the length of the car without the rods cramping in the holes in the bar H'' . These two bars are connected with each other by means of wire-netting G' . By this construction the frame of the lateral fender is made capable of movement longitudinal the car, as indicated in Fig. 2, thus to allow the fender-frame to swing toward the rear and backward out of the way of any obstruction which it may encounter. The lower bar H'' is also free to slide along the swing-rods h , the netting yielding sufficiently to allow the bar to be forced upward in such case.

The lateral fender is thus arranged so that it can be swung outward and upward to give access to the wheels when necessary; but in case of pressure from the outside the fender will swing in against the trucks and will thus prevent the lateral entrance of any object beneath the wheels.

Now, having described my invention, what

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

1. A street - car fender comprising two frames covered with suitable netting, pivoted
5 or hinged together at one edge to fold together, one frame being provided near its top with hooks to hook upon the front guard and provided near its bottom with a rearwardly-projecting bracket having a stud or pivot arranged
10 at its mid-length and adapted to enter a suitable socket on the car; springs arranged to force the two frames apart; a catch arranged to hold the frames folded, and suitable means for releasing the catch.

2. A street-car fender comprising a frame 15 of light spring metal, provided at its top with means for attaching both sides of the fender to the car and provided below the top with a single pivotal point of attachment to the car, arranged at the mid-line of the fender, where- 20 by the fender is adapted to yield to sidewise strain and the elasticity of the frame returns the fender to its normal position after the strain is removed.

MANUEL FERNANDEZ.

Witnesses:

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JAMES R. TOWNSEND.