

(No Model.)

2 Sheets—Sheet 1.

J. T. VAN GESTEL.
AUTOMATIC STREET CAR FENDER.

No. 531,234.

Patented Dec. 18, 1894.

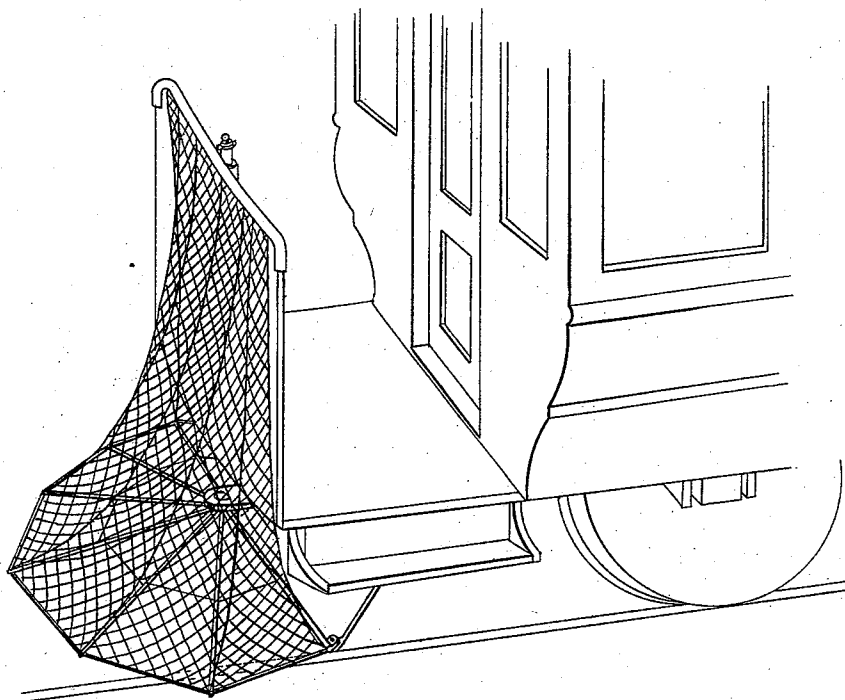


Fig. 1.

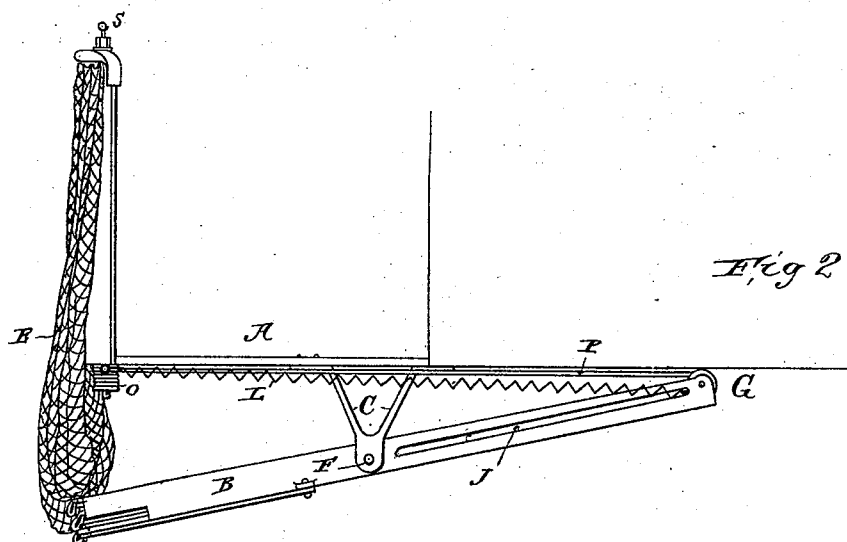


Fig 2

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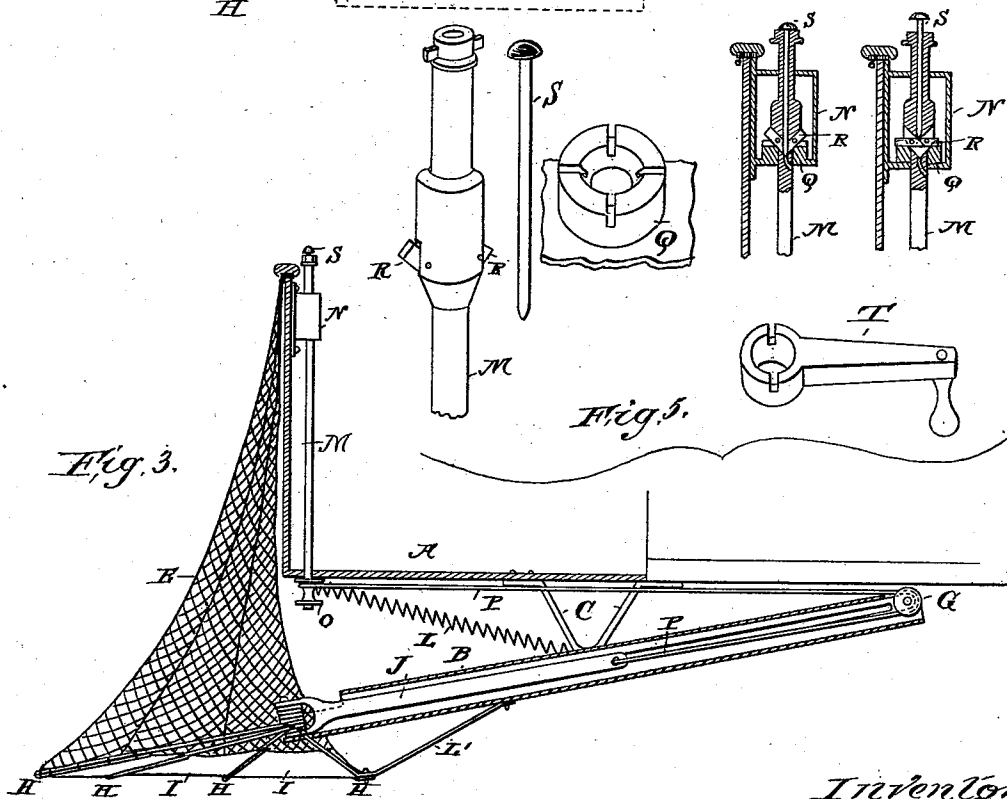
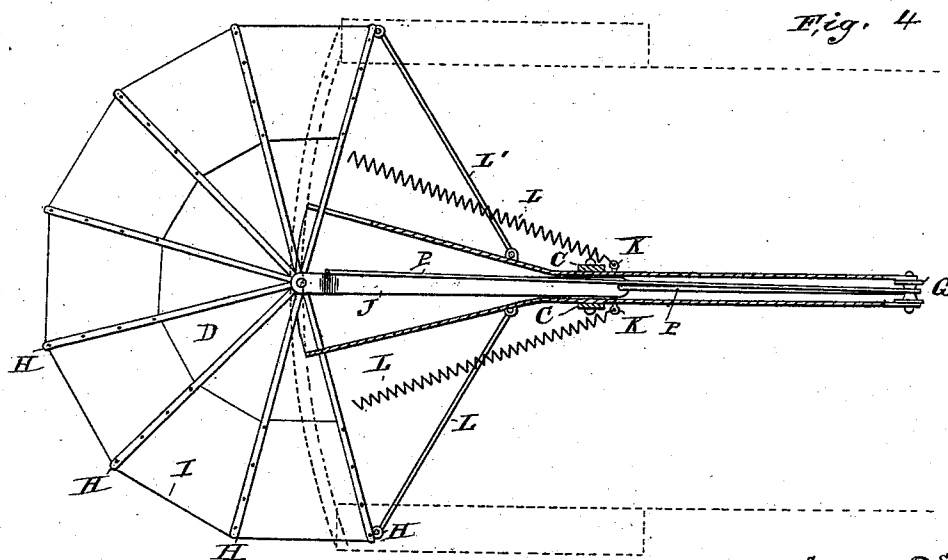
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UNITED STATES PATENT OFFICE.

JEAN TH. VAN GESTEL, OF NEW YORK, ASSIGNOR OF ONE-FOURTH TO R. H. SHERWOOD, OF BENSONHURST, NEW YORK.

AUTOMATIC STREET-CAR FENDER.

SPECIFICATION forming part of Letters Patent No. 531,234, dated December 18, 1894.

Application filed November 10, 1893. Serial No. 490,555. (No model.)

To all whom it may concern:

Be it known that I, JEAN TH. VAN GESTEL, a citizen of the United States, and a resident of New York city, in the county of New York and State of New York, have invented a certain new and useful Automatic Street-Car Fender, of which the following is a specification.

My invention relates to fenders for street cars and is particularly designed for use on trolley and other electric cars and also on cable cars. I style it an automatic fender because it is so constructed that it is normally drawn up out of sight and out of the way and in case of need it is thrown into operative position.

The main objection to those fenders which are permanently attached to a car in a manner to be always in operative position is, that, to be at all effectual, they must project to such an extent as to be always in the way when shifting the cars at the termini of the road; again they must be placed so close to the pavement, in order to be of any practical use, that when the car is crossing other tracks or switches or running fast over an uneven road, such fenders are liable to strike the pavement and be utterly demolished. Even when such fenders are placed as close as practical to the pavement they are still sufficiently removed therefrom to allow the arm or leg of a person to be caught thereunder and so maim the person for life.

My fender is designed to be in use only for an instant at a time and is so located that the projecting edge thereof can come down upon the pavement rendering it impossible for an arm or leg of a person to be caught under it and at the same time the parts thereof lie at such a slight angle to the pavement that it is impossible for them to catch thereon. Their inclination is such that they would ride easily over such obstruction.

A very desirable feature of my fender is found in the net which I use for preventing the victim caught by the fender from striking against the draw-head or the brake-rod, or the edge of the car platform. This net also furnishes a means by which the person can sustain himself upon the fender until the car stops.

To the ends above specified my invention consists in the construction and combination of parts as hereinafter specified and set forth in the claims.

Referring to the accompanying drawings which form a part of my invention and in which corresponding parts are indicated by like reference characters: Figure 1, is a view in perspective showing my automatic fender projected into position ready for action. Fig. 2, is a side elevation, partially in section, showing said fender retracted into its normal position. Fig. 3, is a longitudinal sectional view showing the fender projected. Fig. 4, is a plan view of the fender, the casing thereof being partially in section and the relation of the car thereto being indicated by dotted lines; and Fig. 5, is a view showing the details of the releasing and retracting mechanism for the fender.

In the drawings, A, indicates the platform of a car; B, the sheath for the fender; C, the bracket by which said sheath is pivotally supported from the under side of the platform; D, the fender proper, and E, the guard net.

The sheath B, has an expanded portion at one end for the reception of the fender while the other end is cylindrical and may be formed of gas pipe; trunnions being secured thereto at F, for supporting it in the bracket C, and bearings being formed at the end thereof for the sheave G.

The fender is in the form of a fan and is composed preferably of steel rays H, and a canvas web I, which is secured to the rays by means of bars screwed to said rays as shown in Fig. 3. The rays are flattened and perforated at their inner ends and are pivoted in the end of the bar J, which bar is fitted to slide in the stem of the sheath so as to guide the fender and to support it when projected. To this bar J, are secured eyes K, which project laterally therefrom through slots in the sides of the stem of the sheath. These eyes keep the fender in the proper plane and at the same time limit the projection thereof. To them are connected the springs L, which are attached at their other ends to the car platform as indicated and which are for the purpose of projecting the fender when released by the motor man. To the two outer

rays near their ends are hinged the stays L', which are also hinged at their other ends to the sheath as shown in Fig. 4. These stays are for the purpose of spreading the fan-shaped fender as it is projected by the springs L.

The releasing device is shown in detail in Fig. 5. A shaft M, is located against the dash-board at the middle thereof, its lower end passing through and extending below the platform and a portion of its upper end being enclosed in the box N. A small drum O, is secured to the lower end of the shaft M, and from it extends a rope or chain P, back over the sheave G, and into the stem of the sheath to an eye at the end of the bar J. Within the box N, on the bottom thereof is located a coned bearing Q. Above this bearing is an enlargement of the rod M, which is coned to fit said bearing. This enlargement is also slotted to receive catches R, which are pivoted in said slots. The inner ends of these catches are halved so that they may overlap when lying in a horizontal position. This horizontal position is their normal position and when so lying they rest in notches formed in the bearing Q. The catches prevent, in this position, the shaft M, from turning. This shaft is bored at its upper end, to a point below the enlargement, for the reception of the trip pin S, said bore being extended out through the side of the shaft to allow the escape of any dirt that may enter the bore. This pin normally rests in said bore and is supported upon the inner ends of the catches R, said ends of the catches being beveled to receive the end of the pin and to allow it when struck to enter between them and throw their outer ends out of the notches in the bearing Q, in which position they will be retained until the pin is withdrawn.

The guard net E, is secured at its lower edge to the rays of the fan-like fender, preferably at the end of said rays, and at the upper edge to the metal strip across the top of the dash-board, as shown in Fig. 3. This net normally hangs down against the front of the dash-board and may have openings formed therein for the head-light and the draw-head.

The fender is operated as follows:—When a car approaches a child or any person who from some cause or another is apparently unable to get out of the way of the car before it gets to them, or when a car is approaching a crowd and there is liability of danger to some of its members, the motor-man strikes upon the pin S, which may be provided with a broad-head, and forces it down between the catches R, which are thereby thrown out of the notches. This releases the shaft M, and allows it to rotate as the chain P, is unwound therefrom by the stress of the springs L, exerted upon the bar J, to which said chain is attached. Under the influence of said springs, the fender and net are projected and assume the positions shown in Figs. 1, 3 and 4, the stays L', spreading the fender as it is shot for-

ward. After the accident has been averted or the danger is passed, the pin S, is withdrawn, the motor switch handle T, or one purposely provided is placed upon the upper end of shaft M, the pin is again inserted and forced down between the catches and said shaft turned until by winding the chain P, upon the drum O, the fender has been drawn back into its sheath as shown in Fig. 2. The pin is then raised sufficiently to allow the catches to fall into place after which the handle T may be removed.

The fender projects sufficiently at the sides of the car to prevent any person who may be shoved thereby off the track from getting under the wheels or being struck by the steps.

I prefer to construct the fender substantially as above set forth, but it is obvious that many changes might be made therein. The net might be made of sufficiently small mesh to allow the omission of the canvas web from the fender and the rays simply held together by cords or chains extending from one ray to another; also instead of the springs L, being located as shown they may extend along the sides of the sheath and be connected at one end thereto. They may also be supplemented or replaced by a spring located in the stem of the sheath between the end thereof and the end of the bar J.

Various other changes in the details of construction and arrangement may be made without departing from the spirit of my invention.

What I claim as my invention is—

1. The combination with a sheath, of a folding fender retractible therein, and means for automatically projecting and unfolding said fender.

2. The combination with a car, of a sheath supported thereunder, a fan-like folding fender retractible within said sheath, means for retracting said fender, springs for projecting said fender, and releasing mechanism controlling the projection of said fender.

3. The combination with a car, of an automatically projectible folding fan-like fender, normally retracted under the car and a net connected thereto and to the dash-board of said car, for the purpose set forth.

4. The combination with a car, of an automatically projectible fender of fan-like construction, means for retracting the same, a sheath for receiving said fender when retracted, and a net connected at one edge to the fender and at the other to the dash-board of the car.

5. The combination with a car, of a retractible folding fan-like fender, a shaft upon the platform of said car connected with means for retracting said fender, catches for holding said shaft in position, a releasing device for said catches, and springs for projecting said fender rendered operable by the release of said catches.

6. The combination with a car, of an automatically projectible fender, a sheath therefor pivotally supported under the car in a

manner such that when the fender is projected it will meet the track at such an oblique angle as to over-ride any roughness therein.

7. The combination with a car and an automatically projectible fender therefor, of a combined retracting and releasing device, substantially as shown, consisting of the shaft M, with its drum and catches, notched bearing Q, the pin S, and the handle T.

8. The combination with a car, of a folding-fan-like fender normally retracted under the car, a net connected to the forward end thereof and to the dash-board above the drawhead, and means under the control of the driver for projecting the folding fan-like fender.

9. A fan-like fender normally folded under the car, and means for projecting and spreading the same, as and for the purpose described.

10. The combination with a car, of a retractible fan-like fender, means for projecting the same, and stays connected to the terminal rays thereof for spreading said fan-like fender as it is projected.

11. The combination with a car, of a retractible fan-like fender, a sliding stem connected to the rays thereof, means for guiding and holding said stem, and stays connected to the terminal rays of the fan for spreading the same as it is projected.

Signed at New York, in the county of New York and State of New York, this 6th day of November, A. D. 1893.

JEAN TH. VAN GESTEL.

Witnesses:

WM. H. CAPEL,
THOS. F. CONREY.