

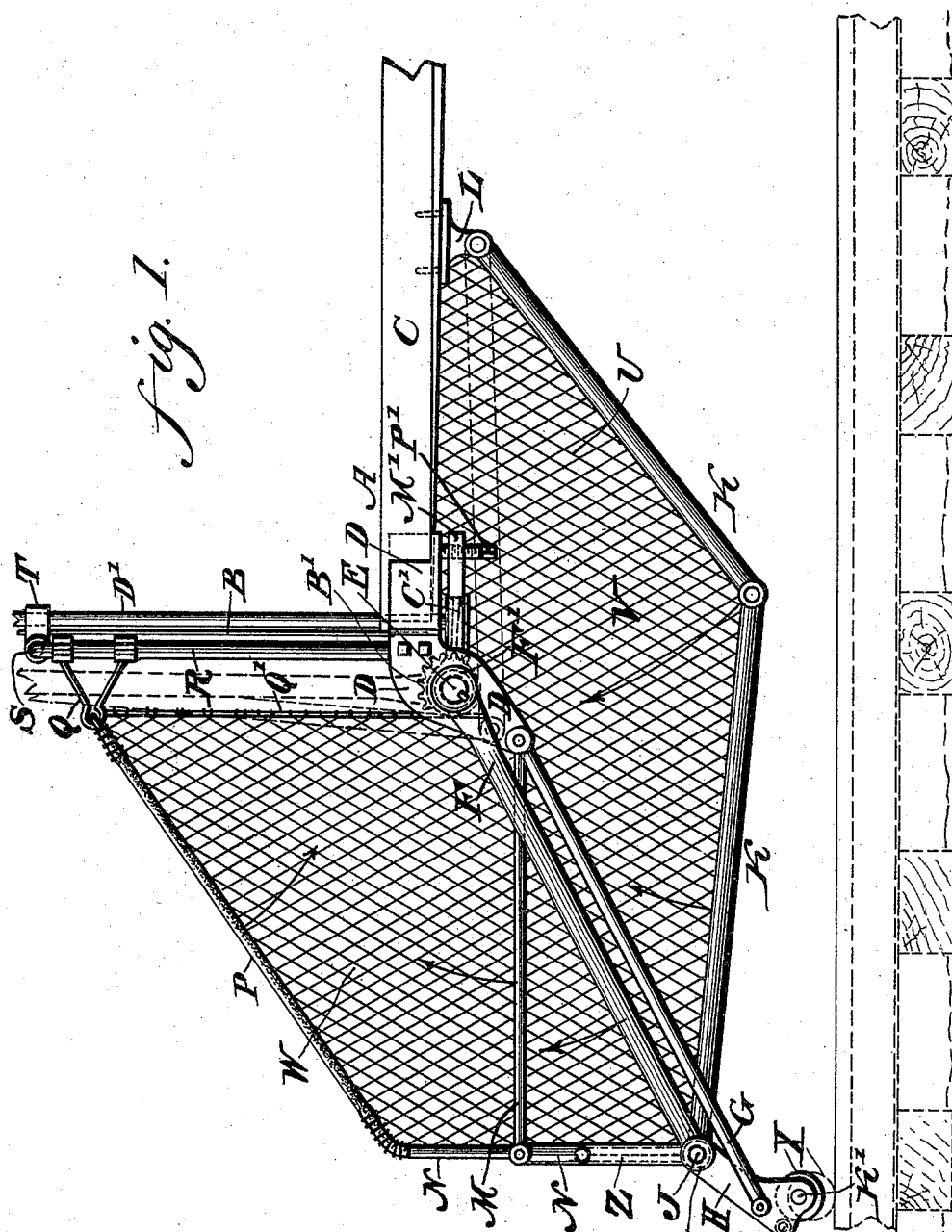
(No Model.)

2 Sheets—Sheet 1.

I. L. VANSANT.
CAR FENDER.

No. 537,809.

Patented Apr. 16, 1895.



WITNESSES:

L. Douville,
P. H. Chagle.

INVENTOR

Isaac J. Vansant,
BY *John A. Diederheim*

ATTORNEY.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

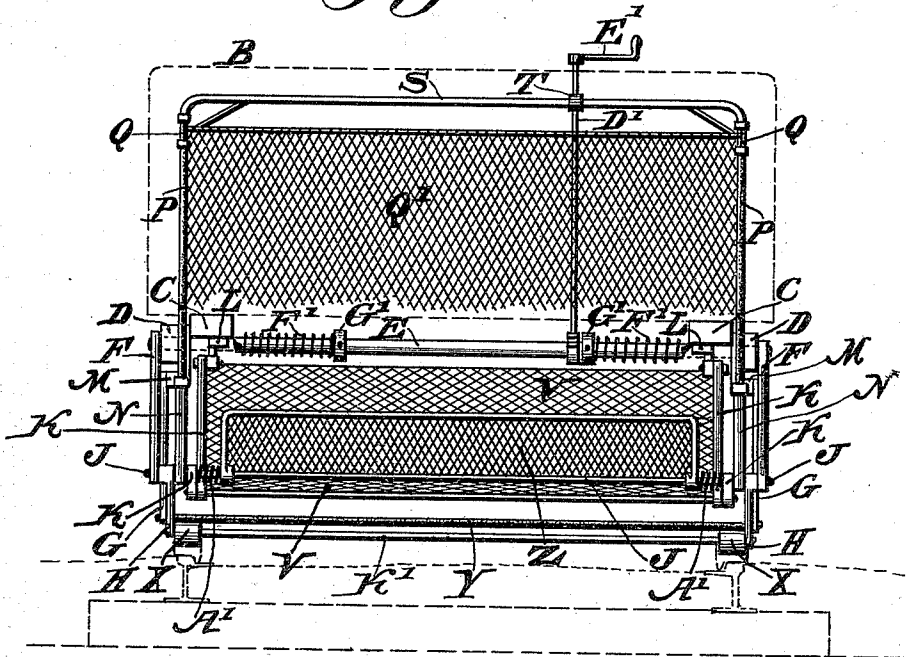


Fig. 3.



Fig. 4.

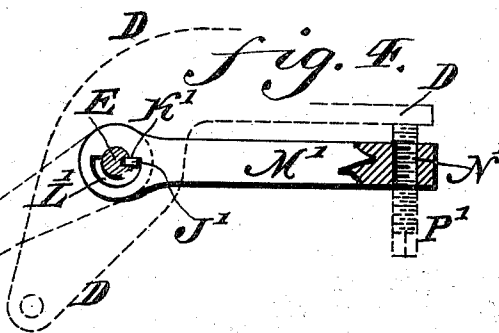
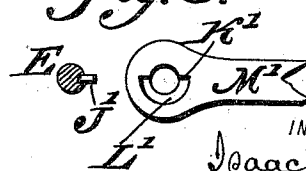


fig. 5.



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UNITED STATES PATENT OFFICE.

ISAAC L. VANSANT, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO EDWARD H. JOHNSTON, OF SAME PLACE.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 537,809, dated April 16, 1895.

Application filed May 3, 1894. Serial No. 509,967. (No model.)

To all whom it may concern:

Be it known that I, ISAAC L. VANSANT, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Car-Fenders, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of a car fender formed of a frame, and netting or other suitable material forming a yielding or comparatively soft basket or cage to receive the person that may be struck.

The fender is provided with means for conveniently raising and lowering the same, and with means for limiting the descending motion.

The fender is also provided with a cushion which projects in advance, so as to be the part of the fender which primarily strikes the person, thus avoiding injuring the same.

The fender is furthermore supplied with a gate which is adapted to yield or open by the contact of the person who may be struck by the fender, and then close when the person is within the cage, so as to prevent him from rolling back and out of said cage.

Figure 1 represents a side elevation of a car fender embodying my invention. Fig. 2 represents a front view thereof. Fig. 3 represents a top view of a detached portion. Fig. 4 represents a partial side elevation and partial vertical section on an enlarged scale of the means employed for adjusting the descent of the fender. Fig. 5 represents views of portions of Fig. 4, the parts being separated.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings: A designates a portion of the body of a car, and B designates the dasher thereof, the latter being shown in dotted lines Fig. 2. To the sides of the sills C of the car are secured the brackets D, on which is mounted the shaft E, which extends horizontally and transversely, and has secured to its ends, the radial arms F. To the lower ends of the brackets D are pivoted the braces G, whose front ends are mounted on plates H, which are connected by the rod J with said arms F.

K designates toggle-levers, one limb of each of which is mounted on hangers L, on the sills

C, and the other limbs are mounted on the rod J. To the brackets D are also pivoted the braces M, whose front ends are attached to the vertical rods N, which rise from and are mounted on the rod J. To the upper ends of said rods N are attached the elastic cords P which are secured to the brackets Q, the latter being fastened to rods R, fixed to the car in front of the dasher B, the upper ends of said rods being connected by the cross bar S, which is fastened to the dasher by the eye T.

Netting U is connected with the toggle-levers K, at the rear, bottom and sides thereof, forming the cage V, said netting being extended upwardly from the sides thereof as at W, and secured to the cords P. Mounted on the lower ends of the plates H, are rollers X, and above and in front of the same is a transversely-extending cushion Y, which constitutes the advance object of the fender that may strike a person in the path of the same.

The rollers X are mounted on the transverse rod K', which latter is connected with the plates H.

Z designates a gate which is mounted on the rod J, and held in vertical position by means of springs A', which are secured to said rod and gate, said gate in the present case being formed of a frame with netting attached thereto, and being so disposed that after a person is struck by the cushion Y, he may fall against the gate Z, and thus force the same backward, permitting the person to fall into the cage V.

In order to raise and lower the fender, there is keyed or otherwise secured to the shaft E, the worm wheel B', with which meshes the worm C', the latter being connected with a vertical rod D', whose upper end is provided with a crank or other suitable handle E', said rod passing through the eye T. On the shaft E are springs F', which are attached to said shaft by means of the collar G', or other suitable means, and also to the brackets D or other part of the body of the car, as at H', see Fig. 3, the same serving to balance the weight of the fender both in lowering and raising the same, whereby the fender may descend without abruptness, and be assisted in its elevation.

In order to limit the descent of the fender, the shaft E has projecting from its periphery

the shoulder J', which is adapted to abut against the shoulder K', which is formed at the termination of the circular recesses L' in the end of the adjusting arms M', it being noticed in Fig. 4, that the shaft E enters said ends of the arms M', and the projection or shoulder J' is adapted to play in the recess L'. The arms M' are loosely fitted on said shaft E, and have threaded openings N' to receive the screws P', whose points bear against the rear portions of the brackets D or any proper portion of the sills or floor of the car, it being evident that by turning said arms M', the shoulder K' may be placed higher or lower, as the case may be, and thus the shaft E may be turned to a greater or less extent, whereby the degree of descent of the radial arms F, and consequently of the fender may be adjusted.

It will be seen that when the rod D' is operated by the handle E', so that the shaft E is turned, and the arms F are lowered, whereby the connected parts of the fender follow said arms, thus placing the fender in operative position, as shown in Fig. 1, the parts of the same being sufficiently elastic or springy in their nature, so that while the fender hangs firmly it is sufficiently yielding in its nature to avoid actual rigidity.

When a person is struck, he will receive the blow of the cushion Y, which is elastic in its nature, as has been stated, so as not to be seriously injured, and he may fall toward the fender and strike the gate Z, which will yield and allow him to enter the cage V, said gate then returning to its normal position, and preventing the person from rolling out at the front of the fender, the netting or soft nature of the cage preventing the person from being injured, and its location being such that a person will be prevented from striking the body of the car.

Secured in front of the dasher by suitable ropes or other means, to the brackets Q, and side nettings W, is a piece of vertically-arranged netting Q', which prevents a person when struck from being forced against said dasher, the lower end of said netting Q' terminating above the cage V, so as not to interfere with the person being directed into the cage V. As the cords P are elastic, should the person strike the same, he will not be seriously injured by the same.

When the fender is not required for use, say when the car enters a depot or station, or when the fender is on the rear of a car, the rod D' is rotated so as to properly turn the shaft E, so that the radial arms F are raised, and thus the parts of the fender are folded in front above the dasher and others just below the sills, the same being in compact form and ready to be unfolded or opened and placed in operative position.

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

1. A car fender formed of a frame, the ra-

dial arms F carrying the same, the toggle levers K, and the braces M which are mounted on the bearings of said arms, and pivotally connected with said frame, substantially as described.

2. A car fender having a pivotal frame, the swinging plates H mounted on said frame, the rollers or wheels X on said plates, and a brace which is pivotally connected with the bearings D and with said plates, substantially as described.

3. A car fender formed of a frame, a rotating shaft, radial arms secured to said shaft and frame, and toggle-levers pivotally connected with said frame, and provided with means for connection with a car, substantially as described.

4. A car fender having a frame with netting thereon, said frame consisting of a shaft, radial arms secured to said shaft, a cross rod attached to the lower end of said arms, toggle levers secured to bearings on the car and to said cross rod, vertical rods secured to said cross rod, elastic cords secured to said vertical rods, and to suitable connections on the car, said parts being combined substantially as described.

5. A car fender having a frame, connected with an oscillating shaft, the swinging plates H pivoted to a cross bar on said frame, the rollers or wheels X mounted on said plates, and the brace rods G which are pivotally connected with the bearings of the shaft of said frame and with said plates H, substantially as described.

6. A car fender having a frame with an oscillating horizontal shaft, a vertical rod suitably journaled, meshing gearing on said shaft and rods, springs connected with said shaft and its bearings, said parts being combined substantially as described.

7. A car fender having a frame with a shaft provided with projecting shoulder J', an adjusting arm having a recess L', with a shoulder K' at its termination said shaft and shoulder being in said recess, and an adjusting screw for securing said arm to a suitable support, said parts being combined substantially as described.

8. A car fender formed of the toggle-levers K, the radial arm F which is connected with one of the limbs of said lever, the other limb thereof is pivotally attached to a car, the shaft E which is mounted in bearings on the car, and has the arm F secured to it, the brace M pivoted to a bracket on said shaft, and the vertical parts of the frame, the swinging gate N mounted on said frame, the roller-carrying plates which oscillate on the frame, and the braces G which are mounted on the bearings of the shaft E, and pivotally connected with said plates, substantially as described.

ISAAC L. VANSANT.

Witnesses:

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A. P. JENNINGS.