(No Model.) 2 Sheets—Sheet 1.

J. D. SCHMIDT.

CAR FENDER.

No. 590,487. Patented Sept. 21, 1897.

Fig. 1.

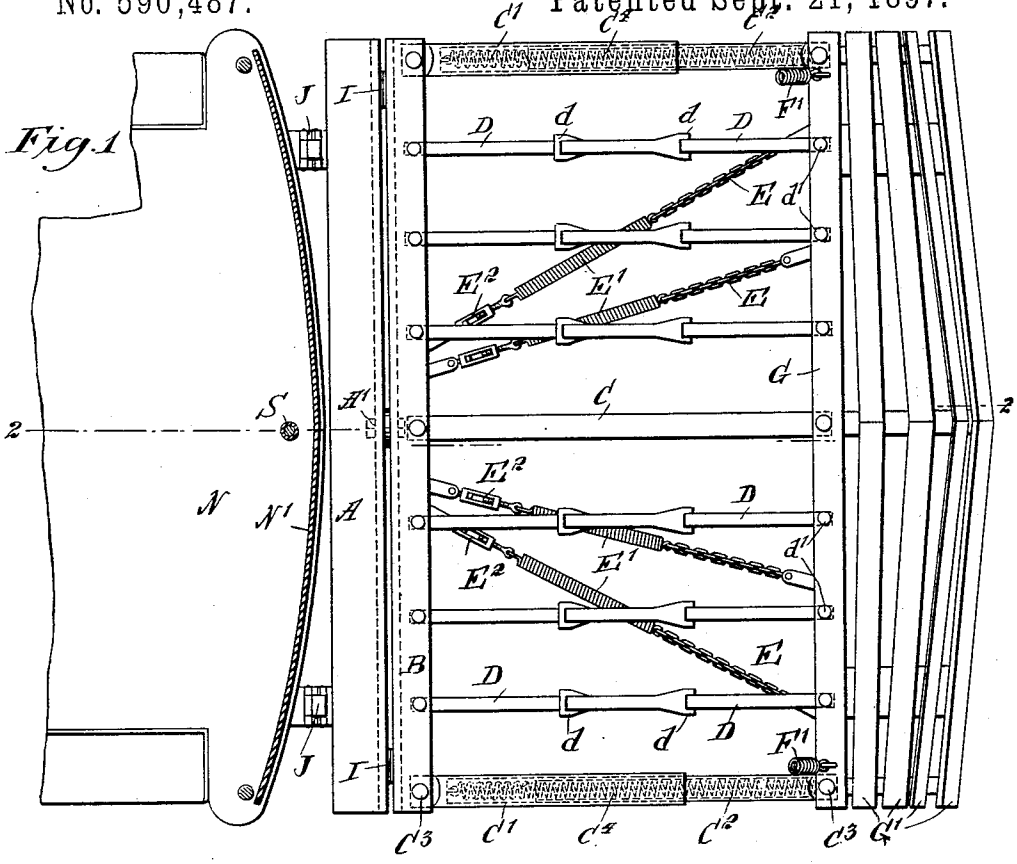
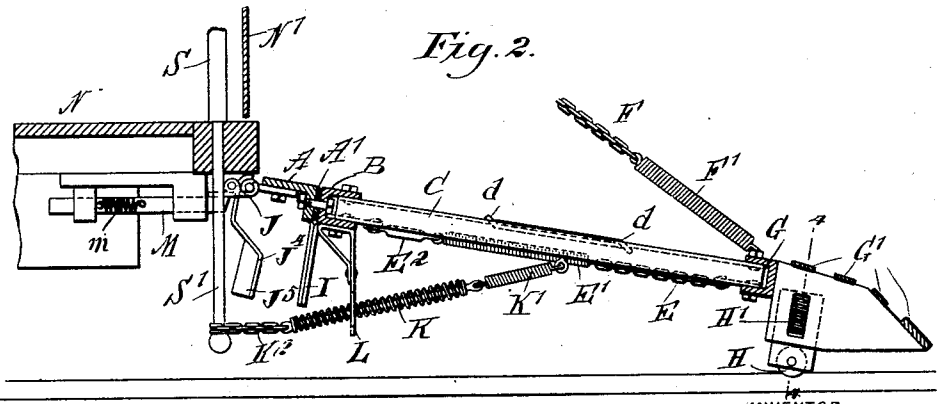


Fig. 2.



WITNESSES:

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H. L. Reynolds.

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

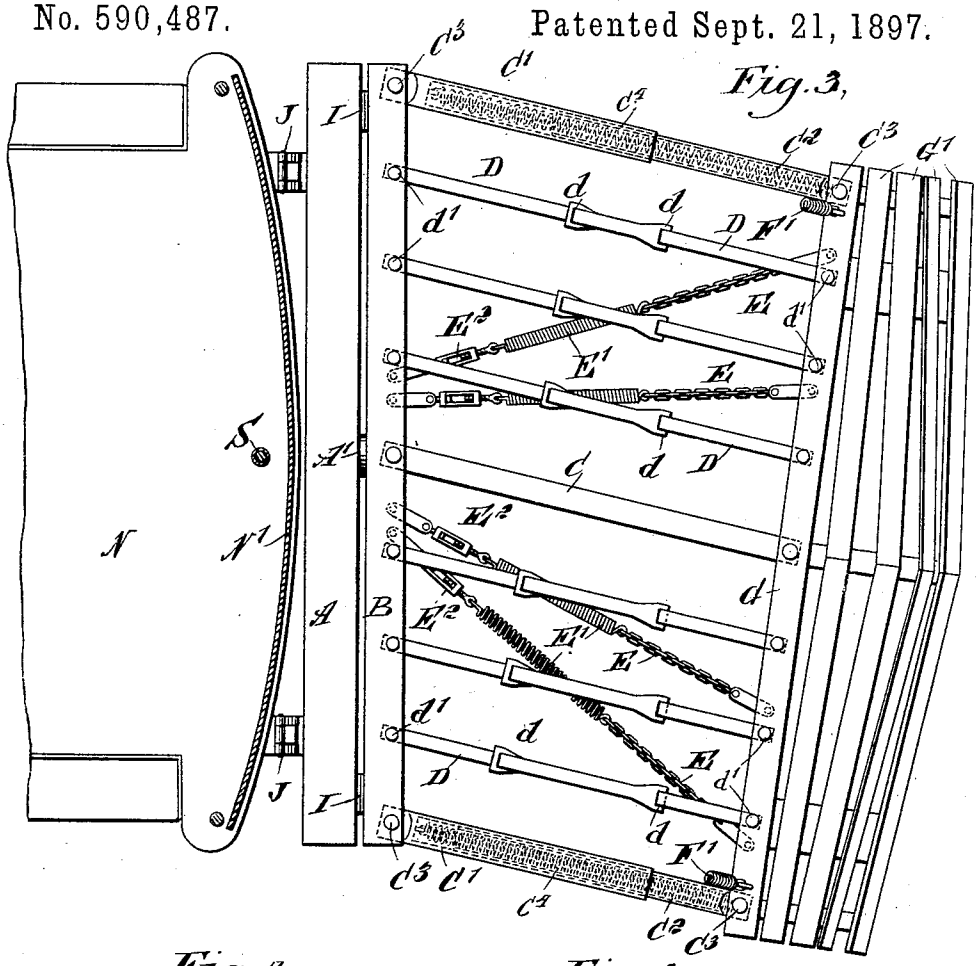


Fig. 4.

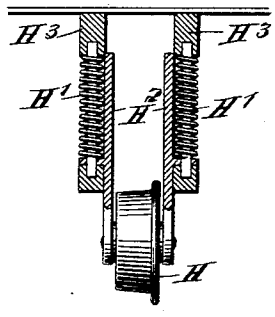
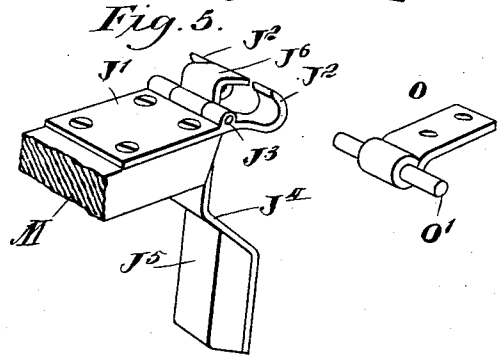


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN D. SCHMIDT, OF NEW YORK, N. Y.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 590,487, dated September 21, 1897.

Application filed December 11, 1896. Serial No. 615,261. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. SCHMIDT, of New York city, in the county and State of New York, have invented a new and Improved Car-Fender, of which the following is a full, clear, and exact description.

My invention relates to that class of car-fenders provided with rollers or wheels running upon the track.

It consists, essentially, of a forward portion or pilot connected to the front end of the car-platform by a bar pivoted both to the pilot and to the car, the pilot being free to swing upon said bar, but being restrained by springs which limit the extent of its swinging. The fender is also provided with telescopic or extensible bars connecting the pilot with the front end of the car-platform.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the device. Fig. 2 is a longitudinal sectional elevation thereof on the line 2 2 in Fig. 1. Fig. 3 is a plan view showing the manner in which the pilot or front portion of the fender may be swung to one side, as will be necessary in passing about curves. Fig. 4 is a detail sectional view showing the pulleys or wheels upon which the pilot runs, and Fig. 5 is a detail view showing the construction of the hinge by which the fender is attached to the car.

The straight bar A, which forms the rear portion of the fender, is connected by means of hinges J to the car-platform. This bar is provided near each end with a downwardly-extending plate I, which forms a bearing-surface in connection with a similar plate upon the movable portion of the fender and permits the same to move up and down thereon. The bar B, forming the rear portion of the movable part of the fender, is pivoted to the bar A by a horizontal bolt A′, located in the center thereof. This leaves the forward portion of the fender free to swing upon the pivot A′, as might be necessary in passing over inequalities in the road-bed or if the fender should ride upon an object at one side of the road-bed.

In the center of the bar B is pivoted a rod C, which extends forward and is pivoted at its forward end to the bar G, forming a part of what I have herein called the "pilot." This pilot consists of a framework formed by the bar G and the slats or strips G′, which are placed upon a suitable framework and provided with two pulleys or wheels H, placed at such a distance apart that they will run upon the rails of the track. These pulleys, which are shown in detail in Fig. 4, are flanged and supported in bars H^2, which slide in the framework H^3, and are held down by springs H′.

The bars B and G are connected with each other at their outer ends and by the two telescopic rods C′ and C^2, which are respectively pivoted to the bars B and G at C^3. Between these end bars and the center bar C are a series of bars D, each of which consists of two strips of flat metal having an enlarged or expanded eye *d* at one end, and the body of these bars is passed through the eye of the other bar and the ends opposite the eyes are respectively pivoted to the bars G and B.

The pilot is also connected to the rear bar B by means of chains E, springs E′, and swivel E^2, also by springs C^4 within the telescopic tubes C′ and C^2. The chains E and springs E′ run in a diagonal line from the outer portion of the pilot toward the center of the bar B and serve, together with the springs C^4, to maintain the pilot in the position shown in Fig. 1. This construction of the fender makes it possible for the pilot to be moved bodily to one side of the center of the car without interfering with its operation, and it also makes it possible for one side to be pressed back nearer to the car than the other. This latter position is indicated in a measure in Fig. 3, where the pilot has been moved to one side of the center and also at an angle with the bar B. The spring connections between the bars G and B will give to permit this motion, and when freed from restraint will return the pilot to the central position. As soon as the car gets upon a straight track the engagement of the wheels H with the track will tend to draw the fender back to the central position. This will also be influenced by the action of the springs E′.

To the upper side of the pilot are attached two chains F by means of an interposed spring F′. These chains are carried to the upper

portion of the dashboard or other suitable point upon the car and serve to support as much of the weight of the fender as is desired. These chains may be readily attached to or detached from the car.

To the under side of the bar B in the middle of its length is fixed a bracket L, which at its lower end receives a bar K, attached by means of the spring K′ to the under side of the bar C. A chain K^2, attached to the bar K, is also connected with the lower end S′ of the brake-shaft S. In consequence of this attachment when the brake is operated the fender is pulled toward the track or held securely down upon the track. The pilot ordinarily is supported by its springs H′ and F′ at a little distance above the rails. When the brake is operated, however, the pilot is pulled down toward the track until it comes very close thereto, so that nothing of any size can possibly get beneath it.

The hinges J, by which the bar A is attached to the car, are of a peculiar design, which readily adapts them for a quick attachment or detachment of the fender. Each hinge consists of a plate J′, placed horizontally upon a suitable portion of the car and provided with a pivot J^3. The forward end of said plate is divided or provided with two separated ears J^2, which are bent upward and backward, so as to form hooks. A bar J^4 is pivoted on the pivot J^3 between the ears J^2, and the upper end of this bar J^4 is bent forward, forming a hook J^6, which in connection with the ears J^2 is adapted to surround a pin and hold the same in place. The lower end of the bar J^4 is curved under in such a position that its weight will throw the hook J^6 toward the ears J^2. To increase the weight of the bar J^4, a block of iron, lead, or other suitable material J^5 is fastened to the lower end thereof.

The bar A is provided with a hinged member adapted to coöperate with that just described. This consists of a plate O, which at its rear end incloses a pin O′, the latter projecting from each side of the plate. The plate O is of such a width that it will lie between the ears J^2, and the pin O′ will be held by the ears J^2. In attaching the fender by this hinge the bar J^4 is swung forward, thus making an opening between the hook J^6 and ears J^2, by which the plate O and pin O′ may be put in place. The bar J^4 is then released and swings over the end of the plate O, holding the same in place.

To release the device, all that is necessary is to lift the end of the plate O and pull it backward slightly, when it will clear the pin O′ from the ears J^2 and permit the pin to be lifted out. In order to make this attachment so that it will give forward or backward slightly, the plate J′ is shown mounted upon a bar M, which latter slides in guides attached to the car-frame and is held back by a spring *m*.

This fender, it will be seen, is free to bend or twist in any direction in which it may be necessary when passing around curves or over inequalities in the track. After passing the same it will immediately resume its normal position.

Fenders which are attached directly to the car and do not have these qualities at such times as when the car is passing about curves project straight forward from the end of the car, which is itself projecting over one side of the track. In consequence the track is not completely protected upon curves, in some cases as much as one-half of the track being left unprotected. My invention is designed to cure this defect and to give protection to the full width of the track at all times. The attachment of the chain K^2 also insures a firm holding of the fender down upon the track whenever the brakes are applied. As the brakes will be applied whenever any object gets upon the track and it is desirable to stop, the fender will be held firmly to the track, so that it cannot ride upon such object. The chains by which the fender is attached to the car are all provided with means for ready attachment or detachment.

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

1. In a car-fender, a front and rear section connected by a centrally-pivoted bar, connecting-bars on each side thereof composed of two bars having expanded eyes at one end and with the body of one bar passing through the eye of the other, substantially as described.

2. In a car-fender, the combination of a pilot-fender provided with wheels and adapted to run upon the track, with a central bar connecting the pilot to the car and pivoted at each end to the car and pilot, and telescopic or extensible bars extending from the pilot to the car on each side of the center, substantially as described.

3. In a car-fender, the combination of a pilot-fender provided with wheels and adapted to run upon the track, with a central bar connecting the pilot to the car and pivoted at each end to the car and pilot, telescopic or extensible bars extending from the pilot to the car on each side of the central bar, and spring connections from each side of the pilot to the rear and adapted to hold the pilot straight, substantially as described.

4. In a car-fender, the combination of a pilot-fender provided with wheels and adapted to run upon the track, with a central bar connecting the pilot to the car and pivoted at each end to the car and pilot, telescopic or extensible bars extending from the pilot to the car on each side of the central bar, and consisting of two bars each having an expanded eye at one end and with the body of one bar passing through the eye of the other bar, substantially as described.

5. A car-fender, provided with wheels adapted to run on the rails, and having a central pivotal connection at its rear to the car, whereby the fender may work independently

of the car, and vertical bearing-plates attached to the fender and car at each side, substantially as described.

6. A hinge for the attachment of car-fenders, consisting of a horizontal plate having two separated ears turned upward in the form of a hook, a bar pivoted between said ears and with its upper end bent forward and its lower end weighted so as to throw said hook forward, and a plate forming the other leaf of the hinge, adapted to pass between the said separated ears, and having a pin projecting on each side thereof and engaging said ears, substantially as described.

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Witnesses:
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JAMES M. HENLEY.