

(No Model.)

2 Sheets—Sheet 1.

M. & V. F. MAIDHOF.
CAR FENDER

No. 539,281.

Patented May 14, 1895.

Fig: 1.

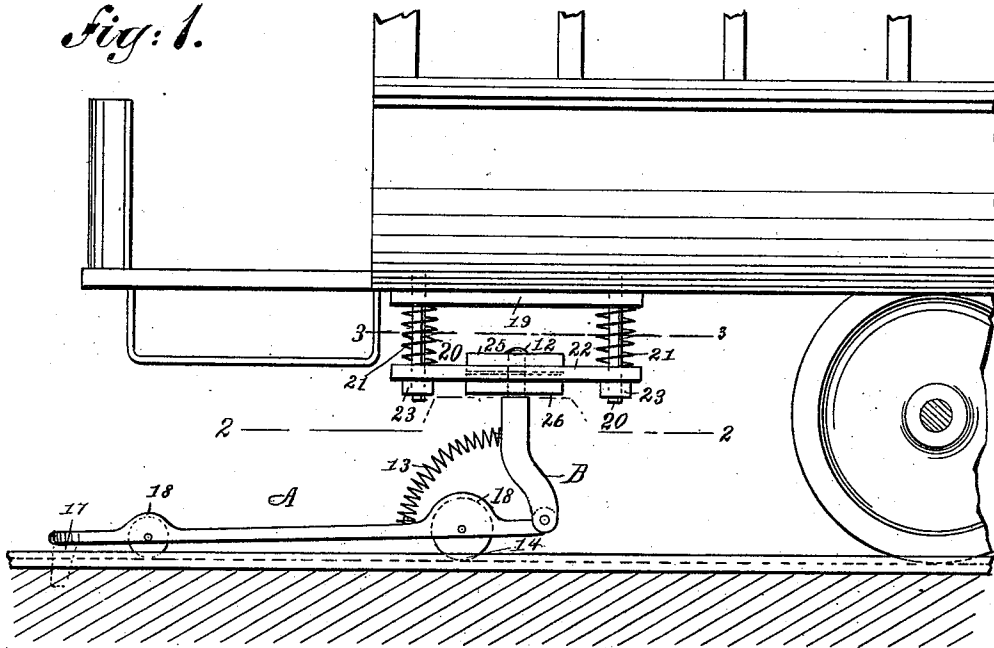
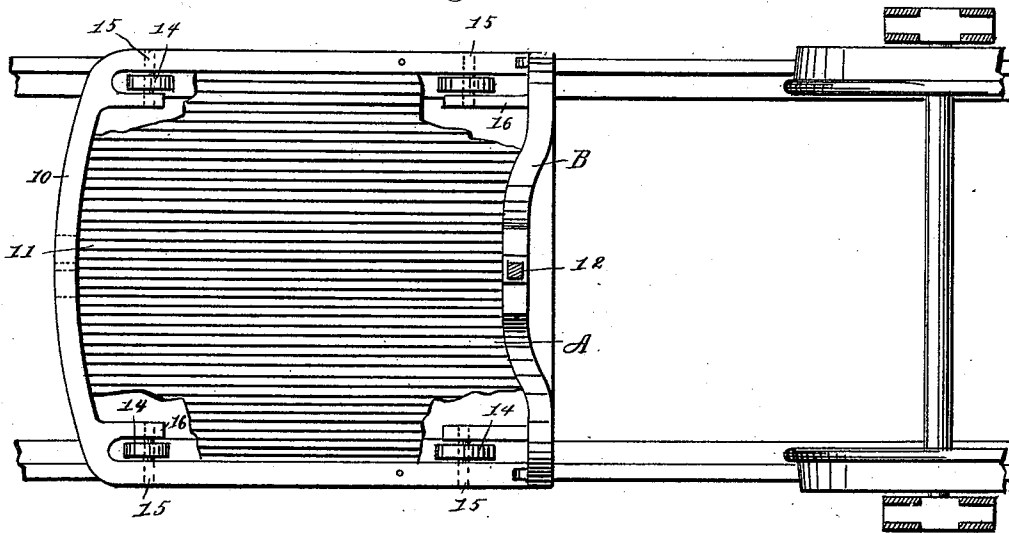


Fig: 2.



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(No Model.)

2 Sheets—Sheet 2.

M. & V. F. MAIDHOF.
CAR FENDER.

No. 539,281.

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Fig: 3.

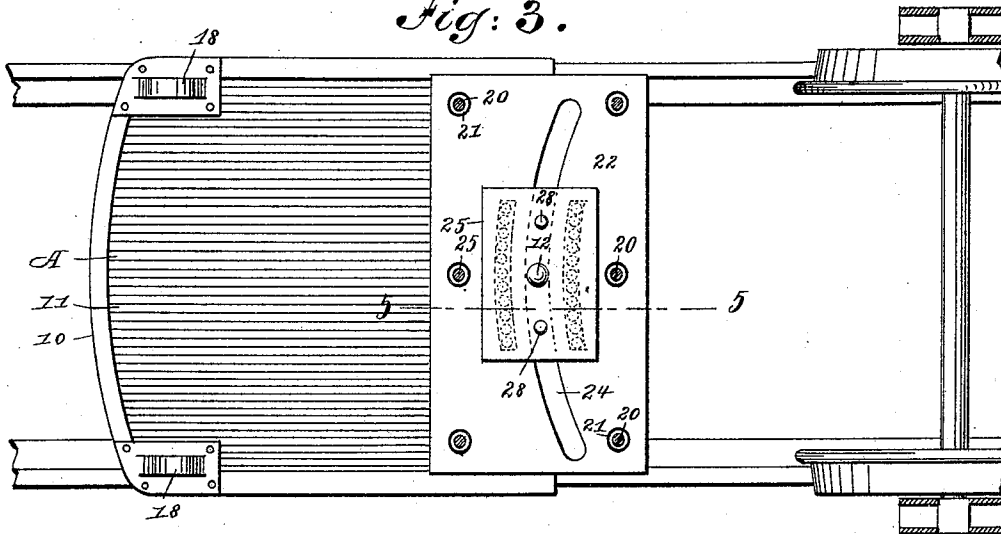


Fig: 4.

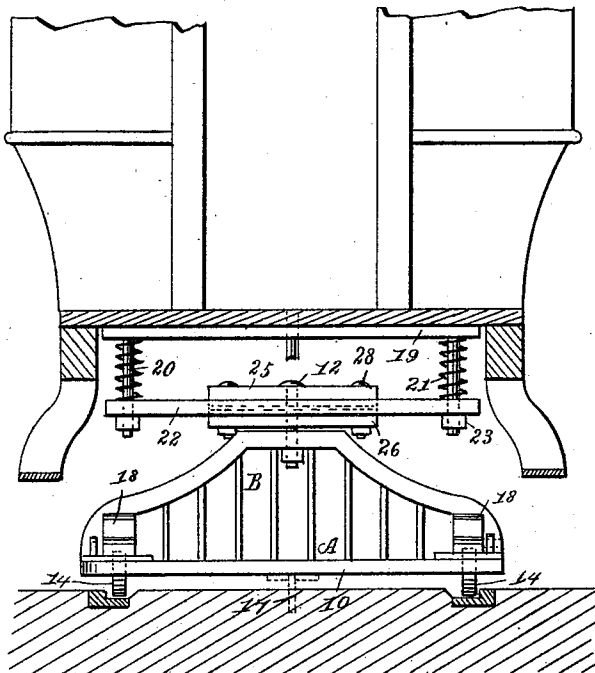


Fig: 5.

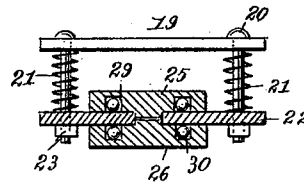
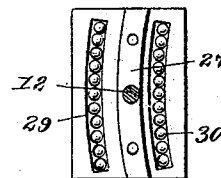


Fig: 6.



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UNITED STATES PATENT OFFICE.

MARGUERITE MAIDHOF AND VICTOR F. MAIDHOF, OF NEW YORK, N. Y.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 539,281, dated May 14, 1895.

Application filed July 30, 1894. Serial No. 518,953. (No model.)

To all whom it may concern:

Be it known that we, MARGUERITE MAIDHOF and VICTOR F. MAIDHOF, 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.

Our invention relates to an improvement in car fenders, and the object of the invention is to improve upon the construction of the fender for which Letters Patent were granted to us June 26, 1894, No. 522,070, the improvements being such that the yielding connection between the fender and the car body is so constructed as to effectually prevent the motion of the car body, whether it be an end motion or a side motion, from interfering in the least with the fender, or disturbing its position, and whereby also the said yielding connection will serve to hold the fender at all times in the position in which it is intended that it shall travel.

Another object of the invention is to provide rolling bearings and guides for the pivot of the fender where it operates in conjunction with the yielding connection adapted for the fender and for attachment to the car body.

A further object of the invention is to provide a better rolling support for the receiving member of the fender, and to likewise provide a guide for the fender in the event it is used upon cable roads, or underground trolleys, or other roads in which a slot occurs between the rails of the track.

The entire fender is so constructed that it will at all times remain in a position close to the pavement and directly under the platform of the car, not projecting beyond said platform. The supporting wheels of the receiving section of the fender travel at all times on the rails, whether the car is going up or down grade, or traveling on a level or around curves; while the fender travels so close to the ground or pavement that it will pick up without injury any object upon or between the rails of a track, and will pass any ordinary obstruction, as for example, irregularities in the pavement, that may be in its path.

The invention consists in the novel construction and combination of the several

parts, as will be hereinafter fully set forth, and pointed out in the claims.

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

Figure 1 is a side elevation of a portion of a car and the improved fender applied thereto. Fig. 2 is a section taken horizontally and substantially on the line 2 2 of Fig. 1. Fig. 3 is a horizontal section taken practically on the line 3 3 of Fig. 1. Fig. 4 is a vertical section through the platform of the car, illustrating the improved fender in front elevation. Fig. 5 is a section taken practically on the line 5 5 of Fig. 3, said section being taken through the supporting-plate adapted for attachment to the car, through the pivot-plate, and likewise through the guide-blocks for the fender; and Fig. 6 is an inner face view of one of the said guide-blocks.

In carrying out the invention the fender consists of a platform or receiving section A and a back or guard section B. The platform section A is horizontally located, and it may be made in any approved manner, being illustrated as consisting of a skeleton frame 10, of a width substantially that of the distance between the rails of the track, and a bed 11 of a yielding character supported by the frame. The front of the frame is preferably made somewhat convexed or cylindrical, and is rounded off at its outer corners.

The guard section B of the fender stands substantially at right angles to the rear portion of the platform section and is pivotally connected therewith, the guard section being provided at its upper central portion with a pivot pin 12, the pin being rigidly attached to the guard section, as shown in Fig. 2. Springs 13, are usually employed to maintain the platform A at a proper angle to the guard section.

The platform section of the fender is provided with four wheels 14, one being located at each side of the front, and the other two wheels being placed in similar positions at the back. These wheels are preferably located within the frame 10 of the fender, and

said wheels are usually mounted upon short spindles 15 carried by the frame, and by off-sets 16 from the front and rear of the frame parallel with its sides, as shown in Fig. 2; but if in practice it is found desirable but two axles or spindles may be employed, one for the front and the other for the rear set of wheels. In the drawings the wheels are illustrated as traveling upon the flanged portion of the rails, but preferably the wheels are flanged and made to travel upon the tread of the rails.

In the event the fender is used upon a road having a slot between the rails of the track, a guide stud or finger 17, is secured to the platform section of the fender at any appropriate point enabling it to enter said slot, as shown in Fig. 4. Under this construction it will be impossible for the fender, under lateral strain, to leave the track.

That portion of the wheels extending above the top of the fender is guarded or protected through the medium of shields 18, and said shields are removable in order that the bearings may be properly oiled. Preferably the wheels are placed in spring-controlled bearings of any approved construction, which will enable the platform section of the fender to be carried upward a certain distance by an obstruction which it must pass, without causing the wheels to leave the rails.

The yielding connection between the fender and the body of the car is accomplished in the following manner: The platform section of the fender is located beneath the platform of the car, and its outer end is substantially flush with the outer end of the car platform. A surface plate 19 is secured in any approved manner to the bottom of the car, back of the platform and the steps, and the said surface plate is made to carry a predetermined number of bolts 20, six being illustrated in the drawings, one located at each corner of the plate, and one centrally at each side, as shown in Fig. 3. These bolts, beneath the surface plate, have springs 21 coiled around them, and a pivot plate 22, of substantially the same size as the surface plate, is located beneath the latter, and has free movement upon the bolts 20, the springs 21 being interposed between the two plates, as shown in Figs. 1, 4, and 5. The downward movement of the pivot plate is limited by nuts 23, or their equivalents, located upon the extremities of the bolts 20. The pivot plate 22 is provided with a longitudinal segmental or semi-circular slot 24, as illustrated in Fig. 3, and at top and bottom of the slotted portion of the pivot plate guide blocks are located, as shown in Figs. 4 and 5, the said blocks being designated the upper one as 25 and the lower one as 26. Each block is provided with a rib 27 upon its inner face, correspondingly shaped to the slot 24, the ribs being adapted to enter said slot and extend half way therein, whereby the rib of the upper block will substantially meet the rib of

the lower one. In this manner the blocks are guided in their movement upon the pivot plate. The two blocks are connected by bolts 28, rivets, or their equivalents, as shown in Fig. 3, located preferably one at each side of the center, and in order that these blocks may move upon the pivot plate with the least possible amount of friction, grooves or channels 29, are produced in their inner faces, one at each side of the center, extending longitudinally of said blocks. These grooves or channels are preferably made somewhat curved owing to the semi-circular path of travel of the blocks; and in each channel of each block, a predetermined number of balls 30 are placed, said balls being brought in engagement with the pivot plate, affording the guide blocks a rolling bearing thereon. The pivot pin 12 of the fender is passed loosely through the central portion of the guide blocks and therefore through the slot 24 in the pivot plate, the head of the pivot resting upon the upper surface of the upper block. Under this construction it is evident that the springs 21 will effectively prevent the pivot plate rising sufficiently high for the pivot to contact with the car; and furthermore, the springs prevent any movement of the car body from interfering with the fender. Again, the springs serve to press downward the fender and maintain it in position on the rails of the track. The latter influence on the fender is considerable owing to the wide expanse of spring bearing obtained. It is also evident that the fender is not in the least interfered with when the car turns a curve, no matter how sharp, since the guide blocks have easy movement upon the pivot plate and therefore preserve the fender from displacement, permitting the car body to move in a lateral direction independently of the fender.

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

1. In a car fender, the combination with a spring controlled plate adapted to be suspended beneath a car and having limited movement to and from the car, of a fender pivotally connected with said plate, the pivot of the fender having lateral movement in the pivot plate, substantially as and for the purpose set forth.

2. In a car fender, the combination, with the fender, of a pivoted plate, spring-controlled and adapted for limited movement to and from the car body, the pivot plate being provided with a curved slot, and guide blocks having guided movement in said slot, located above and below the pivot plate, each guide block being provided with roller bearings engaging with said plate, the guide blocks having pivotal connection with the said fender, substantially as and for the purpose specified.

3. The combination, with a fender, of supports adapted for attachment to a car, a pivot

plate having yielding connection with said supports and provided with a curved slot, springs having downward bearing upon the said pivot plate, guide blocks located one 5 above and the other below the pivot plate, the said blocks being connected and provided with ribs entering the slot in the pivot plate, each block being provided with roller bearings engaging with the pivot plate, and a pivot pin loosely mounted in the said blocks and rigidly attached to the fender, as and for the purpose specified.

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