

(No Model.)

M. S. STARKWEATHER.
FENDER FOR ELECTRIC OR OTHER CARS.

No. 489,207.

Patented Jan. 3, 1893.

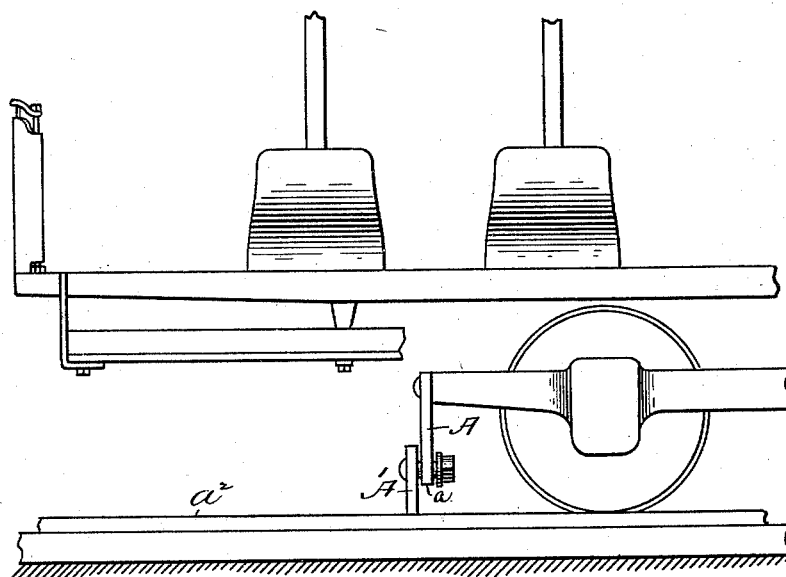


Fig. 1.

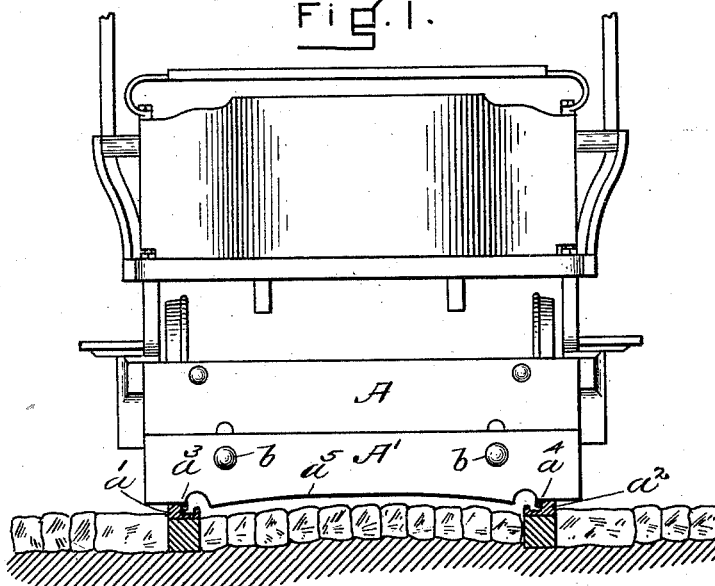


Fig. 2.

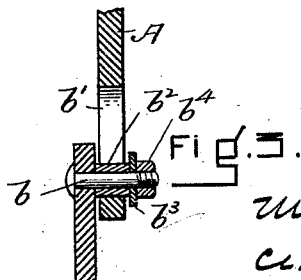


Fig. 3.

WITNESSES
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MARTIN S. STARKWEATHER, OF BOSTON, MASSACHUSETTS.

FENDER FOR ELECTRIC OR OTHER CARS.

SPECIFICATION forming part of Letters Patent No. 489,207, dated January 3, 1893.

Application filed July 18, 1892. Serial No. 440,396. (No model.)

To all whom it may concern:

Be it known that I, MARTIN S. STARKWEATHER, a citizen of the United States, residing at Boston, in the county of Suffolk, in the State of Massachusetts, have invented a new and useful Improvement in Fenders for Electric and other Cars, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

The invention relates to a fender in two parts attached to the sills or truck-frame of a car in front of its forward wheels, the first of which parts is a plank or board rigidly secured to the sills or truck-frame in a vertical position, the lower edge of the plank or board reaching to within a few inches of the tracks and pavement or ground between them. To this plank or board is secured another plank or board which is the second part of the device, and which is secured to the first part in a manner to permit it to yield or move upwardly vertically in relation thereto. This second section projects preferably over the rails, is preferably shaped to fit them or very nearly fit them, and rides either upon the rails and ground or in the closest relation to them. It is held vertically and is connected with the first part by connections which permit it to lift vertically to adjust itself to the level of the tracks or pavement. A fender of this construction will absolutely prevent the passage of the car over an opposing body or limb. It is very cheap in construction, and is readily applied, and is therefore on the score of expense practicable, and in operation it is as effective as any fender designed to prevent the car or its works from riding on to an obstructing body, and it has this advantage over many, that it is constantly in operative position and does not require the care or attention of the motor-man or driver.

Referring to the drawings, Figure 1 is a view in side elevation of a part of a car showing my attachment secured to the truck. Fig. 2 is a view in front elevation thereof. Fig. 3 is a detail view.

In the drawings, A represents the upper member of the fender. It is preferably made

of wood and is vertically arranged and is either secured to the car sills or to the truck-frame. Its lower edge *a* very nearly reaches the track and ground. It supports the lower section A' of the fender. This also preferably is of wood. It extends on to or beyond the rails *a'* *a*² and is shaped at *a*² *a*⁴ over the tracks to fit or very nearly fit them, and either these sections ride upon the rails or the intermediate section *a*⁵ rides upon the ground or pavement. This section has a slight vertical movement in relation to the section A sufficient to allow it to adjust itself automatically to any inequalities in the rails or pavement, but it maintains itself in constant operative position by gravity. There are a number of ways by which it can be secured to the upper section, and one that I prefer is represented in the drawings and comprises bolts *b* attached to the lower section and passing through slots *b'* in the upper section, the bolts preferably carrying sleeves *b*² or rolls somewhat longer than the thickness of the slots, and against which the washers *b*³ are held by the nuts *b*⁴. This construction provides great freedom of movement of the lower section upon the upper and allows each end to be lifted without of necessity lifting the other. It will be understood of course that this lower section A' is also straight or vertical. In use it is moved by the car upon the rails, and in case it meets with any obstruction such as an inequality or uplifting of the pavement it is lifted by it slightly at one end or the other, or bodily, according to where the obstruction is, passes over it and drops down again into its normal position upon the opposite side. The forward lower edge of the movable section may be somewhat rounded, if desired.

I do not confine myself to the use of the sections made of wood, one or both may be made of iron, but when so made I prefer to lighten them by either making them of thin sheet metal corrugated vertically to give them stiffness, or if made of cast metal by forming in the plates vertical openings.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States,

The combination of the section A rigidly

secured to the sills or truck-frame of a car in front of the wheels, and the lower edge of which extends very nearly to the rails, with the section A' shaped to ride on or immediately above the rails, and intermediate flexible connections between the section A and the section A' such as slots in one section and

studs in the other passing into said slots, substantially as described.

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Witnesses:

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