(No Model.)

E. GROAT.

CAR FENDER.

No. 589,651. Patented Sept. 7, 1897.

Fig. 1.

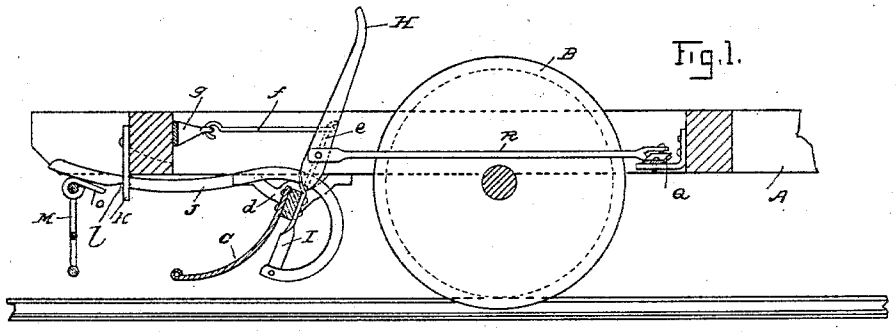
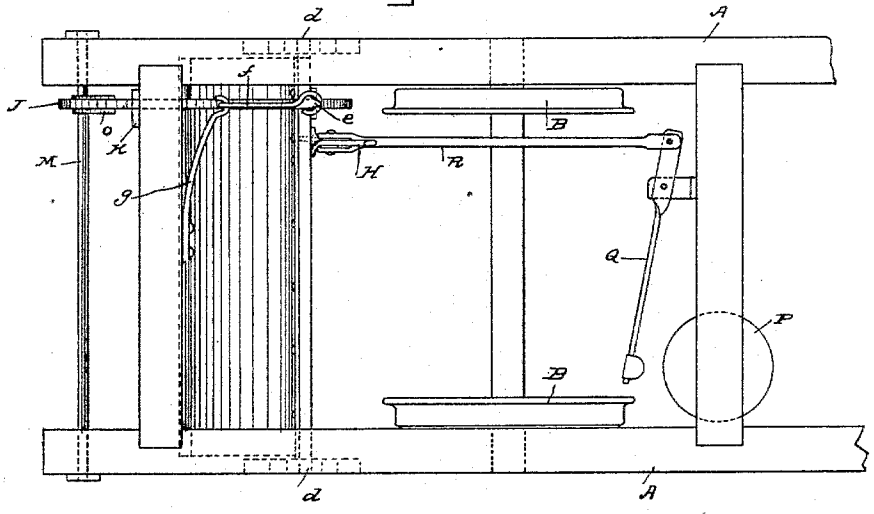


Fig. 2.



WITNESSES

Balcum Tale

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UNITED STATES PATENT OFFICE.

ELIAS GROAT, OF SAN LUIS OBISPO, CALIFORNIA.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 589,651, dated September 7, 1897.

Application filed September 10, 1896. Serial No. 605,426. (No model.)

To all whom it may concern:

Be it known that I, ELIAS GROAT, a citizen of the United States, residing at San Luis Obispo, in the county of San Luis Obispo and State of California, have invented certain new and useful Improvements in Car-Fenders; and I do hereby declare the following to be a full, clear, and exact description of said invention, such as will enable others skilled in the art to which it most nearly appertains to make, use, and practice the same.

My invention has reference to that class of car-fenders in which an apron or scoop is mounted at an inclination in front of the wheels and truck of a street or other car, so as to be hung up or set in a raised position, and in which a vertical trip board or frame suspended a short distance in front of the scoop or apron is employed to operate a trigger device and release the scoop or apron when the suspended trip board or frame is moved backward by a body striking against it, thereby allowing the spring to operate the scoop or apron so that its lower edge will come close to the ground or pavement and pick up the object that moves the trip board or frame.

My improvement consists of a simple and effective trigger device for connecting the hinged scoop with the suspended trip-frame when it is set in its raised position and releasing it when the trip-frame is moved backward by the obstruction on the track, all as hereinafter more fully described.

Referring to the accompanying drawings, Figure 1 is a longitudinal section of a car-truck, showing the invention in elevation. Fig. 2 is a plan view of a car-truck with the invention applied thereon.

Let A represent the frame, and B the forward wheels, of a street or other car.

C is a scoop which is mounted across and underneath the frame in front of the forward wheels of the car by means of journal-bearings *d* at each upper corner, so that the frame can swing forward and upward on these bearings. The bearings *d* are in the lower ends of brackets D, which are bolted to the timbers of the car-frame. The scoop is of sufficient width to permit its lower edge to strike the ground or pavement before the scoop assumes a vertical position when it is dropped, thereby giving the inclination necessary to pick up an object lying on the ground in front of it when it is in its lowered position, and its lower front edge is provided with india-rubber or other cushion rollers which prevent shock and give a close contact with the pavement or ground.

At or near one end of the scoop an upward-projecting lever-arm *e* is secured to its upper edge. The upper end of this lever-arm is connected by a link *f* with one end of a flat spring *g*, the opposite end of which is securely fastened to the front cross-beam of the frame. A hand-lever H is also secured to the upper edge of the scoop and extends to within easy reach of the motorman or driver of the car. Another fixed lever-arm I extends downward from the upper edge of the scoop at some convenient point in its rear, preferably near one end, and to the lower end of this last-mentioned lever one end of a curved latch or locking bar J is connected. This curved locking-bar is bent upward, so as to pass over the top of the scoop, and then it extends forward through a guide or yoke K, which depends from the front cross-beam of frame A, and its front end is provided with a notch *l* on its under side which engages with the upper edge of the guide or yoke K, so as to form a setting device or trigger which will hold the scoop in a raised position clear of the track by its engagement with the suspended trip-frame. This trip-frame is suspended across the front of the car by journals at each upper corner, which journals are secured directly to the cross-beam, and the frame extends downward far enough to be struck by any body or large object that may lie on the track in front of the advancing car.

By grasping the lever-handle H and drawing backward upon it the lower edge of the scoop is raised toward the front, at the same time straining the spring *g* and moving the locking-bar J forward, so that its notch *l* will engage over the upper edge of the guide or yoke K, thus simultaneously latching the scoop in its elevated position and setting the trip-frame in its vertical position ready to be tripped. The trip-frame M has a short lug *o* extending backward underneath the locking-bar, which by its upward movement when the lower edge of the trip-frame is moved

back by an object striking against it lifts the latch-bar and releases the notch from the yoke K, so that the resistance to the spring action being released the scoop will be suddenly forced downward with a backward movement until its lower edge strikes the ground or pavement. The scoop in thus descending moves in an opposite direction from that in which the car is moving, or, in other words, it moves away from the object that trips the suspended frame, so that it is not liable to strike it, but gives sufficient time for the scoop to assume position before the object comes against it. As soon as the trigger device is liberated and the scoop instantly forced into position the suspended trip-frame is free to swing clear of any body that can pass under the car.

Another feature of my invention is a gong-bell F, which is secured to one of the cross-timbers of the car-frame. A small hammer Q has its handle pivoted to a bracket in proper position to permit of the short end of the handle being connected by a link R with the operating-lever handle H, so that when the scoop is dropped by the tripping mechanism the sudden forward movement of the lever-handle causes the hammer to strike the gong and sound the alarm, thus giving the grip-man or motorman notice that the scoop has dropped, in order that he may use his efforts to stop the car. This mechanism, it will be noticed, is quite simple and can be easily applied to cars already constructed. The scoop and its trip-frame are independently attached to the car-frame, and the latching mechanism is all that connects them when the scoop or fender is raised or set. The instant the trip is operated or sprung all connection is at once severed, and the scoop or fender being freed receives the full pressure of the spring *g*, which forces the forward edge of the scoop or fender instantly to the track. By my construction the fender is forced to the track simultaneously with the operation of the trip, and it is therefore impossible for an object or obstruction to pass under it even though the car be running at a high rate of speed. I thus provide a complete and effective device for preventing a body from passing underneath the wheels of the car, whether it be standing or lying down.

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

In a car-fender, a scoop hinged at its upper corners to the side beams of the car; an upward-projecting lever attached to said scoop and connected at its upper end by a link with a spring secured to the framework of the car; a suspended trip-frame mounted across the car in front of the scoop and having a tripping-lug at its upper edge and a latch-bar connected at one end with the scoop and having a notch at its opposite end adapted to engage with the upper edge of guide or yoke attached to and depending from the front beam of the car-frame so as to be detached by the trip-lug on the trip-frame when it is swung backward, substantially as described.

In testimony whereof I have hereunto set my hand this 20th day of July, 1896.

ELIAS GROAT.

Witnesses:

HARRY J. LASK,

CHAS. J. ARMBRUSTER.