

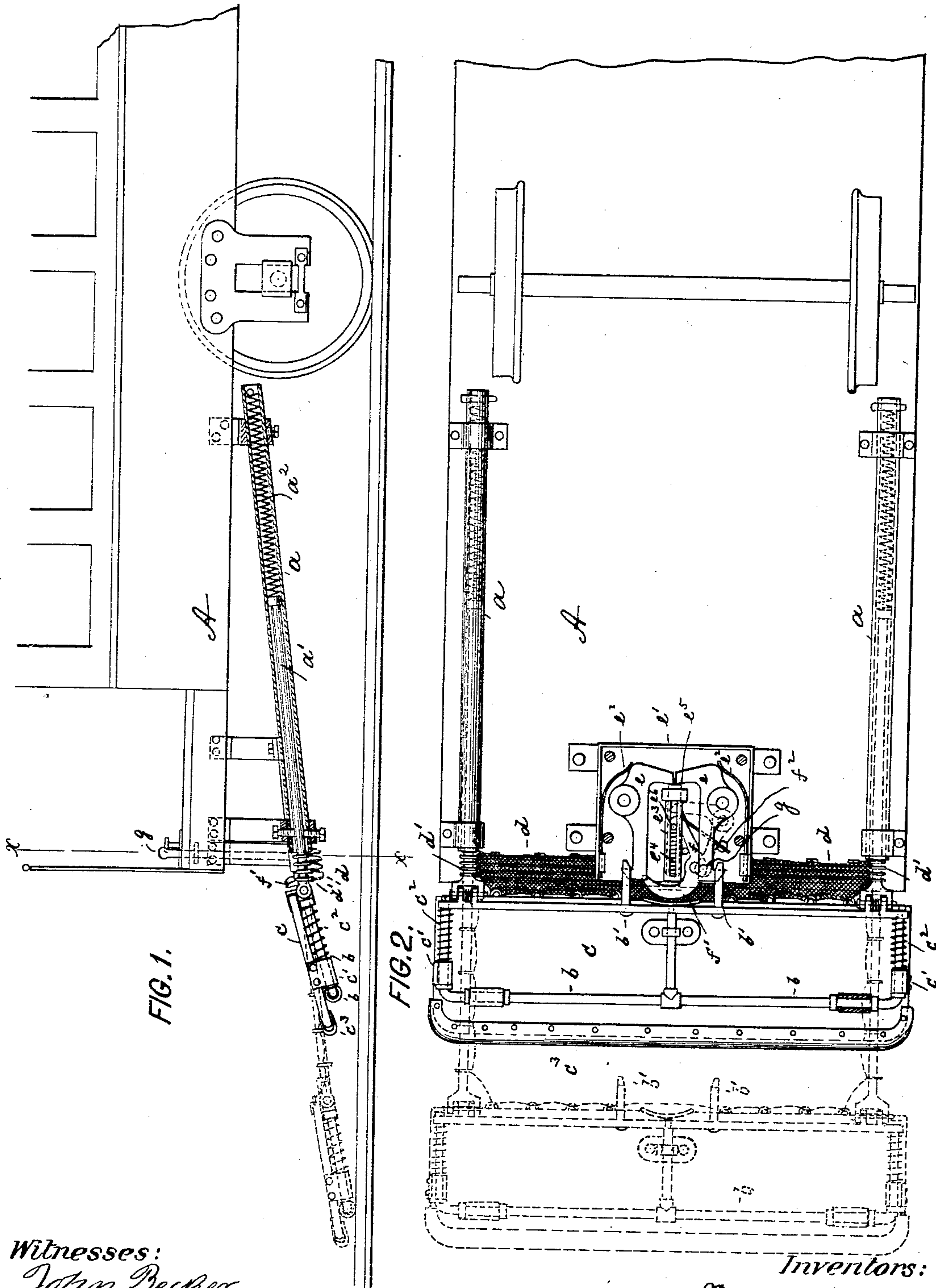
(No Model.)

2 Sheets—Sheet 1.

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CAR FENDER.

No. 520,354.

Patented May 22, 1894.



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# UNITED STATES PATENT OFFICE.

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## CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 520,354, dated May 22, 1894.

Application filed December 8, 1893. Serial No. 493,144. (No model.)

*To all whom it may concern:*

Be it known that we, BERNHARD CRON and WERNER VON MÜNCHHAUSEN, both of New York city, New York, have invented an Improved Car-Fender, of which the following is a specification.

This invention relates to a fender for street cars, which is so constructed that when it strikes a human or other body, it is automatically thrown forward, to project the same into a net between the fender and the car.

In the accompanying drawings Figure 1 is a side elevation, partly in section, of our improved car fender; Fig. 2 a bottom view thereof, with the lock case open; Fig. 3 a vertical cross section on line *x, x*, Fig. 1; Fig. 4 a longitudinal section on line *y, y*, Fig. 3; Fig. 5 a plan of part of the fender, with the car bottom removed, and Fig. 6 a top view of the lock case.

The letter A represents a car, provided with a pair of tubes, *a, a*, that extend longitudinally beneath the bottom, to a short distance from the dash board. These tubes contain the telescoped rods *a', a'*, and springs *a²*, the latter having a tendency to throw the rods outward, a considerable distance beyond the front end of the car. To the forward ends of the rods *a'*, there is hinged by pins surrounded by coiled springs (Fig. 5) a frame *b*, having a pair of rearwardly extending eyes *b'*. This frame is attached to a buffer *c*, by means of eyes *c'*, through which the frame passes and is surrounded by springs *c²*, so that a yielding connection between frame and buffer is established. The buffer may be provided with a padded striking edge *c³*, of rubber or other material. The rods *a'*, are surrounded back of the buffer by rings *d'*, to which a net *d*, is attached, said net being also attached to the rear edge of the buffer and the front edge of the car.

To the front of the car body, there is secured, below the center of the platform, a spring catch adapted to engage the eyes *b'*. Normally the buffer is thus locked to the car and the net is folded, but when a body strikes the buffer, the catch is automatically released and thus the springs *a²*, are free to throw the buffer forward and to spread the net. The body that has been struck, will in this way be

precipitated over the buffer and into the net, to escape serious injury.

The spring catch consists of a pair of jaws *e*, within lock case *e'*, and adapted to be held normally in engagement with eyes *b'*, by the springs *e²*. Centrally between the jaws *e*, there is secured within the lock case, a slotted cylinder *e³*, containing a spiral spring *e⁴*, which is stronger than the springs *e²*. Through the rear end of the cylinder *e³*, there projects a plunger *e⁵*, in contact with the ends of jaws *e*, and provided with a pin *e⁶*, projecting upwardly through the slotted cylinder and out of the lock case. The pin *e⁶*, is engaged by the hook-shaped rear end of a spring lever *f*, the curved front contact edge *f'*, of which projects slightly in front of the car and is adapted to be struck by the buffer. Normally no pressure is exercised upon this lever by the buffer and its rear hook-shaped end will engage pin *e⁶*, and will hold the spring *e⁴*, compressed (Fig. 2) so that the springs *e²*, are free to throw the jaws *e*, outward and into engagement with the eyes *b'* of the buffer. In this way the buffer is securely locked to the car. As soon however, as the buffer strikes an object, it is forced back slightly, against the action of the springs *a²*, and against the contact edge *f'*, of lever *f*. In this way the lever will be vibrated to release pin *e⁶*, when the spring *e⁴*, will at once throw the plunger *e⁵*, backward, to oscillate the catches *e*, and withdraw them from eyes *b'*, (Fig. 5.) The buffer being thus unlocked from the catch and from the car body, will be at once propelled forward by the springs *a²*, to spread the net and catch the body in the manner already described.

After the buffer has performed its work, it is thrust back by hand and the lever *f*, is brought back into its normal position by means of a foot bar *g*, adapted to operate an elbow lever *g'*, and which in turn engages the pin *e⁶*, above the lock case *e'*, (Fig. 6.) The foot bar projects upward through a slot in the car platform, and when it is moved laterally, it will vibrate elbow lever *g'*, to move the plunger *e⁵*, forward, by means of pin *e⁶*, and to compress spring *e⁴*. The lever *f*, will now, by a small spring *f²*, be thrown back into engagement with the pin *e⁶*, so as to lock the spring



$e^4$ , in its compressed position, while the spring  $e^2$ , will be free to throw the jaws  $e$ , outward and back into engagement with the eyes  $b'$ . Thus all the parts will be placed again into the normal position, shown in Fig. 2. The foot bar  $g$ , may be locked temporarily, by a pressure upon the button  $h'$ , of a spring catch  $h$ , (Fig. 3,) that will then engage a pin  $g^2$ , of the foot bar. As long as the foot bar is thus locked, its lever  $g'$ , will hold the plunger  $e^5$ , locked in its forward position and prevent the mechanism from being set off, by pressure upon lever  $f$ . This locking attachment is desirable, because when the car strikes trucks and similar inert objects, the buffer should not be projected forward. As soon as pressure on button  $h'$ , is released, the apparatus is again put into working order.

What we claim is—

1. The combination of a car with a catch, a movable yielding buffer engaged by the catch, propelling springs and a spring actuated rod put in action by the rearward movement of the buffer and adapted to open the catch and liberate the buffer when pressed backward, substantially as specified.

2. The combination of a car with a pair of tubes, a buffer having rods that are telescoped by said tubes, springs for throwing the buffer outward and an automatic catch for locking the buffer to the car, and a spring bolt to release the same upon impact of an object on the track with the buffer substantially as specified.

3. The combination of a car with an independently movable buffer, spring jaws secured to the car and engaging the buffer, and a lever adapted to be operated by concussion with the buffer and to oscillate the jaws, substantially as specified.

4. The combination of a car with an independently movable buffer, spring jaws, a spring plunger operating the same, a lever operated by concussion with the buffer and engaging the plunger, and with a foot bar, for setting the plunger, substantially as specified.

5. The combination of a car with an independently movable buffer, spring jaws, a spring plunger, an operating lever, a foot bar and a catch for locking the foot bar, substantially as specified.

6. The combination of a car with a pair of tubes, a spring buffer having rods telescoped by the tubes, a catch on the car body and a lever operating the catch and adapted to be vibrated by contact with the buffer, substantially as specified.

7. The combination of a car with a pair of spring propelled rods, a frame hinged to the rods, a spring buffer secured to the frame and a catch for locking the buffer to the car, substantially as specified.

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