(No Model.) 3 Sheets—Sheet 1.

T. R. H. JOHNSON.

CAR FENDER.

No. 588,226. Patented Aug. 17, 1897.

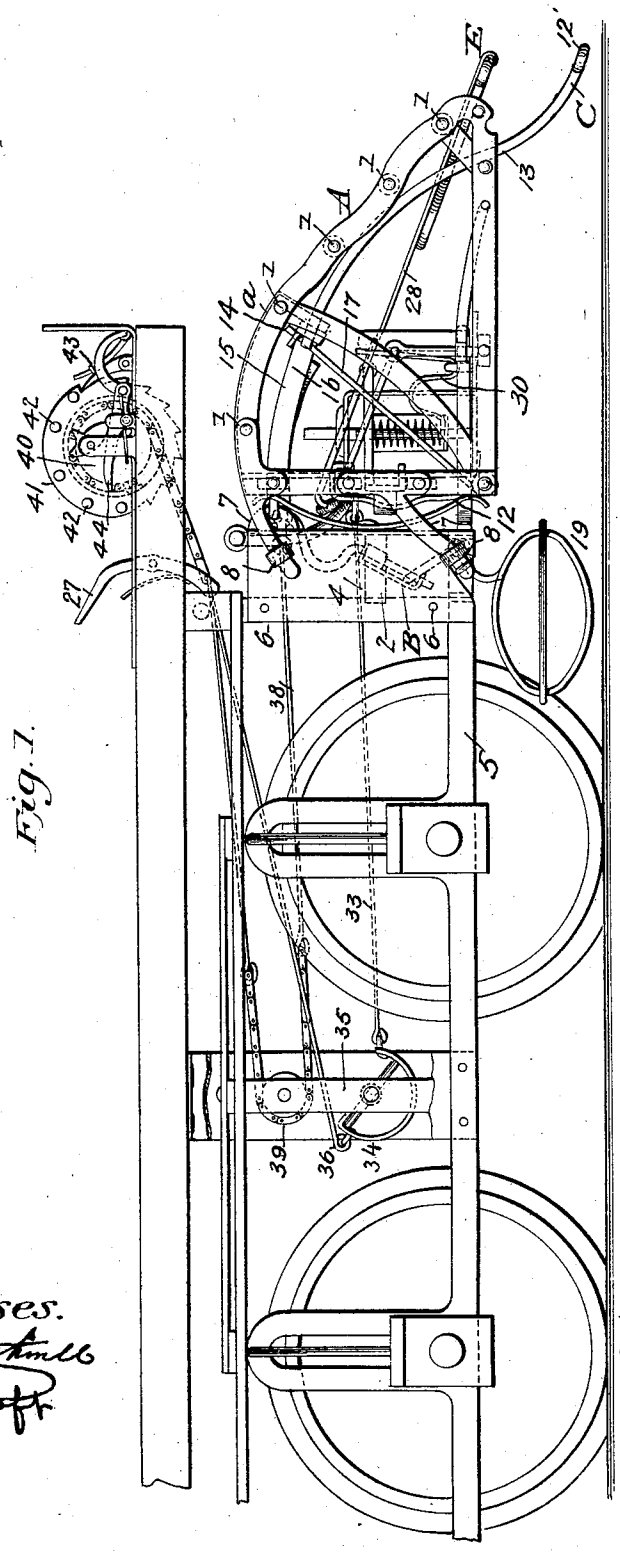

Fig. 1.

Witnesses.
J. W. Rothwell
J. S. Croft

Inventor.
Thomas R. H. Johnson

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 3 Sheets—Sheet 2.

T. R. H. JOHNSON.

CAR FENDER.

No. 588,226. Patented Aug. 17, 1897.

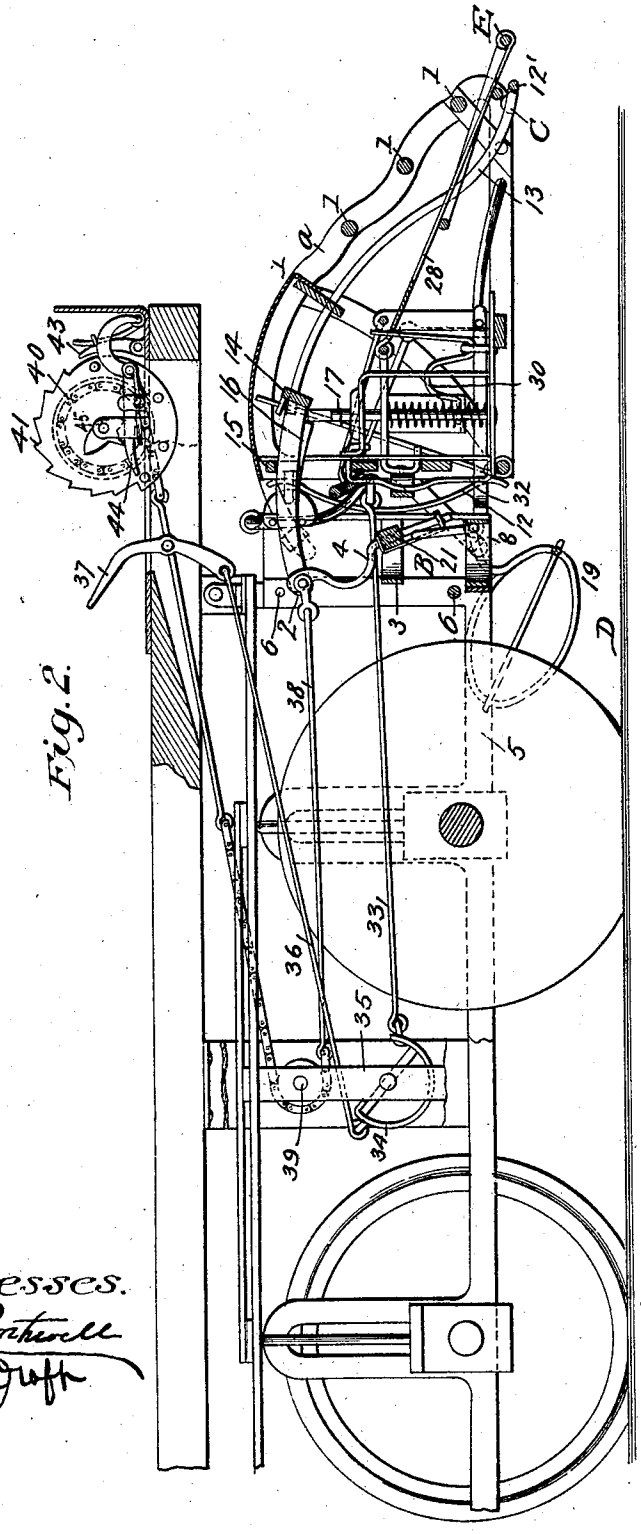

Fig. 2.

Witnesses.
J. W. Rockwell
J. S. Duff

Inventor.
Thomas R. H. Johnson

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(No Model.) 3 Sheets—Sheet 3.

T. R. H. JOHNSON.

CAR FENDER.

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Fig. 3.

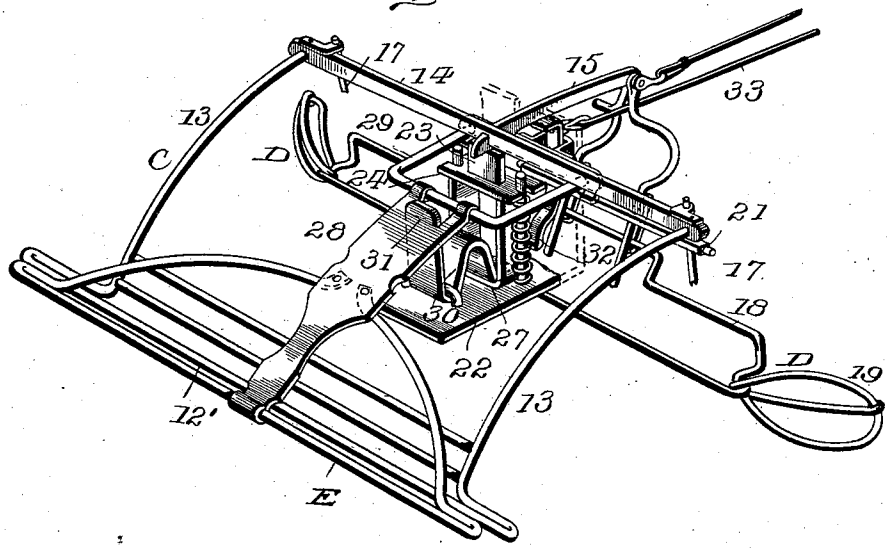


Fig. 4.

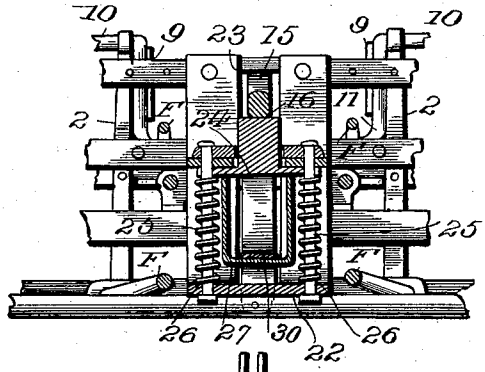
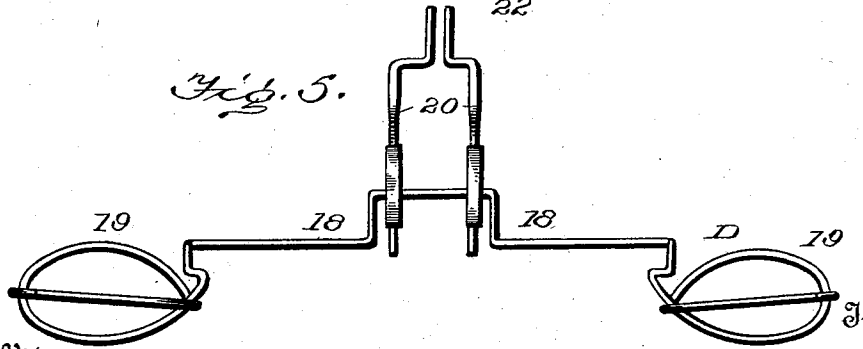


Fig. 5.



Witnesses
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David W. Gould.

Inventor
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

THOMAS R. H. JOHNSON, OF WASHINGTON, PENNSYLVANIA.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 588,226, dated August 17, 1897.

Application filed September 28, 1896. Serial No. 607,280. (No model.)

To all whom it may concern:

Be it known that I, THOMAS R. H. JOHNSON, of Washington, in the county of Washington and State of Pennsylvania, have invented a new and Improved Car-Fender, of which the following is a description.

My invention relates to an improvement in car-fenders of that class in which a movable buffer, normally held some distance above the track, is adapted to be projected downward into close proximity to the track when in operative position, the object of the invention being to so construct the fender that the buffer and wheel-guards may be projected to their operative position or drawn to their normal positions by the motorman from his position on the car, or they may be automatically projected into operative position through the contact of the fender with an object on the track.

The invention will first be described in connection with the accompanying drawings and then pointed out in the claims.

Figure 1 of the drawings is a side elevation of my improved fender in place on a car, the buffer being shown in the operative position. Fig. 2 is a vertical central sectional view of the same, the buffer being shown in the normal position. Fig. 3 is a perspective view of the buffer, wheel-guards, and the mechanism for automatically projecting the buffer into operative position. Fig. 4 is a broken view in elevation, partly in section, illustrating the mechanism for releasing the movable buffer. Fig. 5 is a view in elevation of the wheel-guards.

Referring to the drawings, A represents a fender comprising two side frames *a*, connected by suitable cross-bars 1.

B represents a frame to which the rear end of the fender is secured, this frame comprising vertical strips 2 and horizontal strips 3, the latter being projected inward at their central portions, as at 4, in order to permit necessary movement of the wheel-guards hereinafter described.

The vertical strips 2 at the side of frame B are removably secured to the truck-frame 5 of a car by pins 6, as shown. The fender is secured to the frame B by rearwardly-extending arms 7, passing loosely through bands 8, secured to the outer strips 2, and also by plates 9, pivotally secured to the upper cross-bar of the fender and to a bar 10, pivotally mounted in the upper ends of the vertical strips 2 of frame B, the bar 10 being downwardly bent at its central portion, as at 11, for a purpose hereinafter described. Leaf-springs 12, between the fender and frame B, serve to hold the fender in its normal position and yet permit a slight rearward movement of the fender when it contacts with an object on the track.

C represents a movable buffer comprising a metallic frame connected at its forward end by cross-bars 12, the forwardly-projecting curved bars 13 of the buffer passing through holes in one of the cross-bars 1 of the fender. The forward end of the buffer slides upon and is supported by one of the forward cross-bars of the fender, as shown in Fig. 2, the rear cross-bar 14 of the buffer being centrally provided with a rearwardly-extending arm 15, formed on its lower side with a notch 16, for a purpose hereinafter described. The buffer is maintained in the forward or operative position by springs 17, secured to one of the cross-bars 1 of the fender A and bearing against the cross-bar 14 of the fender, the end of each spring 17 preferably projecting through an opening in a small plate secured to cross-bar 14, as shown in Fig. 3.

D represents the wheel-guards, comprising a metallic strip 18, having an elliptical-shaped frame 19 at each end adapted to rest in front of the wheels. The strip 18 is loosely secured to rods 20, which are secured to a rock-shaft 21, mounted in the inwardly-extending portion 4 of strips 3, the upper ends of rods 20 being pivotally secured to the rear end of arm 15 of the buffer. By this construction movement of the buffer causes a corresponding movement of the wheel-guards.

The mechanism for holding the buffer raised from the track comprises a frame 22, secured to the cross-bars 1 of fender A, and a vertically-reciprocating catch 23, the latter projecting upward from a plate 24, having vertical movement upon rods 25. Springs 26, encircling rods 25, serve to force the catch up-

ward. A U-shaped band 27, depending from plate 24, serves to lower the catch 23, as hereinafter described.

E represents a release-guard comprising a metal frame to which a rearwardly-projecting plate 28 is secured. The rear end of plate 28 is secured to a band 29, extending around the framework 22. Another plate 30, pivotally supported on framework 22, bears at one end upon the U-shaped band 27, its other end entering an opening 31 in plate 28. By this construction rearward movement of the release-guard will depress the catch 23, as will be evident. An upright strip 32, pivoted at its lower end to the lower rear cross-bar of fender A, bears against the inner side of band 29, serving to operate the release-guard from the rear.

F represents a framework comprising a number of bars pivotally secured to each other, to the cross-bars of the fender, and to the cross-strips of frame B. This framework is designed to permit the lowering of the rear end of the fender to correspond with the lowering of the front end when an object is picked up by the fender.

33 represents a rod secured at one end to the upper end of strip 32, its other end being secured to a semicircular band 34, pivoted to a frame depending from the truck-frame. To the other end of band 34 is pivoted another rod 36, which extends upward and is secured to a foot-lever 37, pivoted in the car-platform. By this construction the catch 23 may be lowered by the motorman by the operation of the foot-lever 37.

38 represents a rod extending rearward from the rear end of arm 15, passing around a roller 39, secured in frame 35, and then up to the car-platform, being secured to a small roller 40. Alongside the roller 40 and movable therewith is a toothed wheel 41, having a series of lateral studs 42 extending therefrom, the movement of the wheel 41 being limited by a pawl 43, secured on the platform, a suitable spring-lever 44 controlling the engagement of pawl 43 with the teeth on wheel 41.

The motorman by pressing on studs 42 revolves wheel 41, thereby causing roller 40 to draw the buffer C upward away from the track until the catch 16 on arm 15 of the buffer is engaged by the spring-catch 23. The wheel-guards D, owing to their connection with buffer-arm 15, are at the same time drawn up away from the wheels, as shown in Fig. 2. The pawl 43 being now drawn away from the teeth in wheel 41 by the operation of lever 44, any suitable mechanism, such as a cam 45, serving to keep the pawl from engagement with the toothed wheel, the fender is ready for operation.

Should the fender contact with an object on the track, the release-guard will be first contacted with, resulting in a withdrawal of catch 23 from notch 16 in arm 15, permitting the springs 17 to force the buffer forward and downward to its operative position close to the track, the wheel-guards D descending at the same time and covering the wheels, all as shown in Fig. 1.

Though the contact of any object with the release-guard renders the operation of the parts automatic, it will be evident that the motorman by simply pressing on the foot-lever 27 may cause the above-described operation of the parts at any desired time.

Though the buffer is adapted to be drawn up until the catch 23 enters the notch 16, the motorman may, if desired, only withdraw the buffer from the track a slight distance, the pawl through engagement with the toothed wheel 41 serving to hold the buffer at any distance from the track desired.

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

1. A fender, a buffer movable within the fender and adapted to be raised into normal position and automatically projected into operative position, means for holding said buffer in normal position, wheel-guards secured to the buffer and operative therewith, and mechanism connected to the car-platform for releasing the buffer from said holding means, whereby the buffer and wheel-guards may be simultaneously projected into close proximity to the track, substantially as described.

2. A fender, a buffer movable within the fender, said buffer being provided with a rearwardly-extending arm, a spring-catch adapted to engage with a notch in said arm to hold the buffer in a raised or normal position, wheel-guards secured to said arm and movable with the buffer, and means connected with the car-platform for releasing the buffer from the catch, whereby the buffer and wheel-guards may be projected downward into close proximity to the track, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 8th day of August, A. D. 1896.

THOMAS R. H. JOHNSON. [L. S.]

Attest:
P. W. FREEMAN,
H. T. BAILEY.