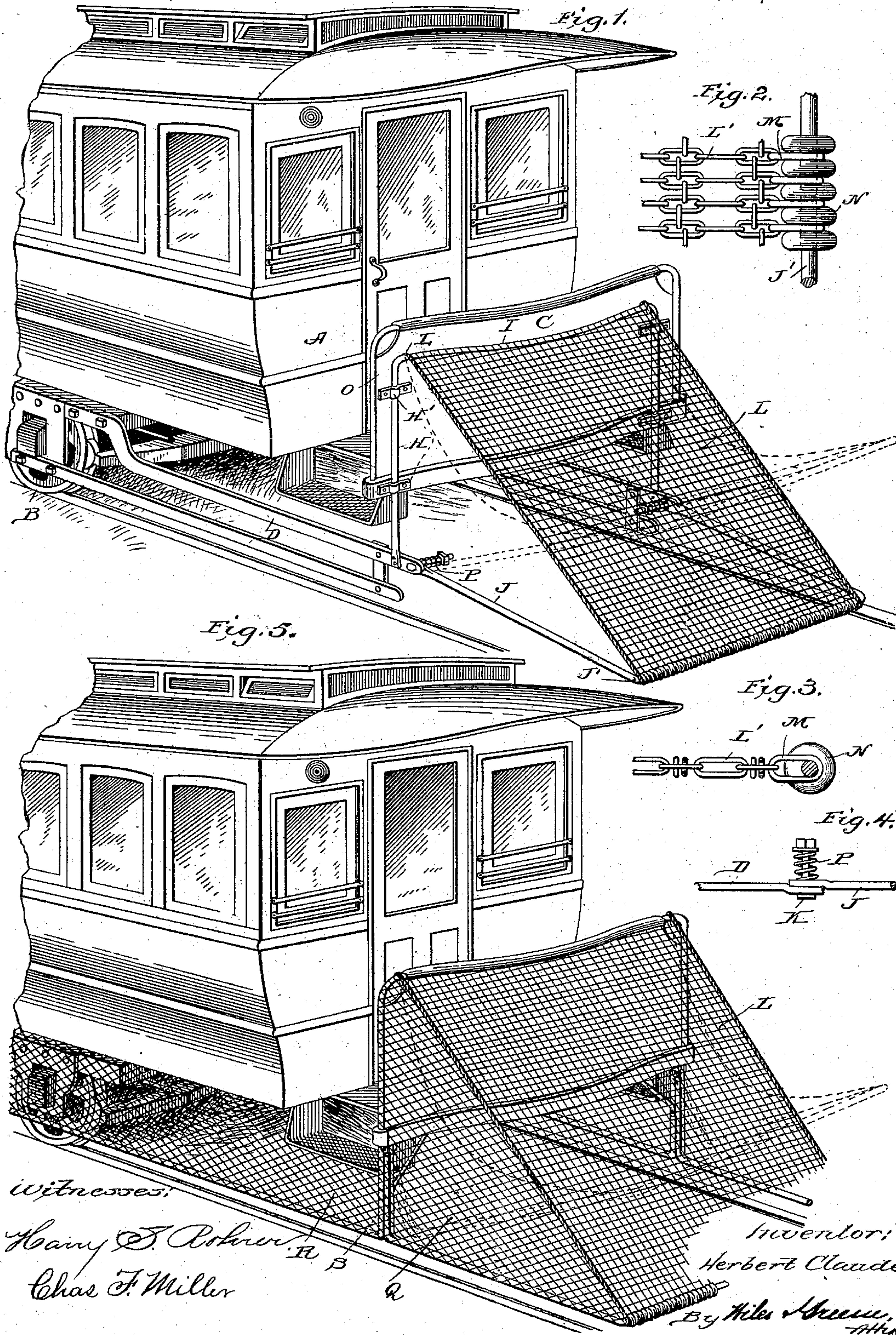


(No Model.)

H. CLAUDE.
WHEEL FENDER.

No. 547,482.

Patented Oct. 8, 1895.



Witnesses:

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UNITED STATES PATENT OFFICE.

HERBERT CLAUDE, OF ANNAPOLIS, MARYLAND.

WHEEL-FENDER.

SPECIFICATION forming part of Letters Patent No. 547,482, dated October 8, 1895.

Application filed May 8, 1893. Serial No. 473,855. (No model.)

To all whom it may concern:

Be it known that I, HERBERT CLAUDE, a citizen of the United States, residing at Annapolis, in the county of Anne Arundel and State of Maryland, have invented certain new and useful Improvements in Wheel-Fenders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of this invention is to reduce the chance of serious injury to persons who get in the path of cars that run without "locomotive" or horses. A pilot that has rigid bars to receive the person struck may prevent such person from passing beneath the wheels; but if the speed be high, as it often is with this class of cars, the bars themselves cause grave results. To avoid such evils I provide an apron flexible throughout, attached along one edge to the end of the car, extending obliquely to a point near the rails and at some distance in front of the car and attached here to the free end of a nearly horizontal frame hinged at its rear side to swing upward upon an axis at some distance below the apron's upper edge. The end of the car and the swinging frame form two sides of a practically-clear triangular space, of which the apron alone is the third and longer side. Now, although all the materials be unyielding, impact upon the apron causes it to yield by drawing upward the free end of the swinging frame. At the same time the weight of the person and the downward component of the force of impact resist this yielding, and the whole force is finally expended upon the upper support of the apron and upon the pivot or axis of the horizontal frame.

In the drawings, Figure 1 is a perspective view of the end of a car provided with my devices. Figs. 2, 3, and 4 are detail views. Fig. 5 shows a modified construction.

In the figures, A is the body of a car, having trucks B and a dashboard C. To each side of the truck-frame are rigidly fastened bars D, which extend forward to the end of the car. To the bars is secured a frame H, which slides vertically in guides or bearings H', secured upon the front of the dashboard and which has a horizontal upper member I,

and to the ends of the same bars D is pivoted an approximately horizontal frame J, whose front end is a transverse bar J' near the rails and at some distance in front of the car. This latter frame swings freely upon its axis K, and its free end is supported solely by an apron L, connecting it directly to the bar I. The apron is preferably made up of a series of metal links L, forming a kind of chain fabric, and is provided at its lower edge with a series of rings M, through which the bar J' passes. Its upper margin is attached in the same or in any suitable manner to the bar I. Its lateral margins are flexible, and if it be pressed inward no obstruction is met until it meets the vertical or the horizontal frame. Between the rings M are placed large rubber disks or washers N to serve as buffers, mitigating the blow given by the frame when any person is struck by it. Now, when one is so struck and is thrown against the apron, the free end of the frame J rises, allowing the apron to yield under the blow. In yielding it forms a transverse trough for the body, and as the parts are wholly inelastic there is no recoil to throw the body out and the worst probable result is a severe shaking up for the person in question. When the car is to be coupled behind another, or when for other reason the devices are not to be used, the frame J is folded up against the dashboard and secured by any suitable device, the apron offering no obstacle to the folding. To hold the apron taut at all times when it is in working position a suitable spring is provided to act upon the frame J and press it downward with a yielding force. This may be a coil P, upon the pivotal axis K, arranged so that its end engages the frame and tends to produce downward rotation about that axis. The coil should be of such length that there may be no danger of "set" in the coil when the frame is swung upward out of use. As this frame is in effect hinged like a door, it is evident that the hinge described may be replaced by other well-known forms of spring-hinges—such, for example, as any of the forms that reverse when the door is fully opened and thus hold the door either shut or open. It is also plain that the construction may be modified in other respects without destroying the most important features of

the invention, and I have shown in Fig. 5 the frame J hinged directly to the car and the apron as having its upper edge attached directly to the dashboard. In this figure the
5 apron is shown as having its lateral margins connected with the dashboard and the frame J by a vertical netting Q, which, like the apron, is flexible throughout, and there is also shown a netting R, serving as a curtain, cut-
10 ting off the possibility of one's being thrown laterally beneath the car. The netting may be of the same character as the apron, except that it should have some support S at its lower edge. This netting may be added
15 to the construction shown in Fig. 1, if desired, as it does not in any material way change the operation of the other parts.

What I claim is—

1. The combination with the car, of bars
20 fixed to the truck frame only and extending forward to the end of the car, the frame secured to said bars and sliding vertically in guides upon the dashboard, a second frame pivoted to the front ends of said bars and
25 projecting in front of the car, and a flexible apron connecting the upper member of the sliding frame with the parallel member of the pivoted frame, substantially as set forth.

2. The combination with a car of the class described, of a frame hinged to swing up- 30
ward about an axis near the bottom of the car, a spring arranged to offer yielding resistance to such motion, and an inclined flexible apron supporting the free front end of
35 said frame from a point upon the end of the car at some distance above the hinge axis.

3. The combination with a car, of bars fixed to the truck frame only and extending forward to the end of the car, an approximately vertical frame rigidly fixed to said 40
bars just in front of the car, a frame pivoted to said bars and projecting forward therefrom, and a flexible apron connecting the upper member of the vertical frame with the front member of the pivoted frame, substantially 45
as set forth.

4. A wheel fender having at its lower front edge a transverse rod bearing slightly separated rubber disks, for the purpose set forth.

In testimony whereof I affix my signature 50
in presence of two witnesses.

HERBERT CLAUDE.

Witnesses:

DENIS J. DOWNING,
J. WM. HENRY.