

(No Model.)

2 Sheets—Sheet 1.

W. COX.

SAFETY APPARATUS FOR ELECTRIC OR OTHER STREET RAILWAY CARS.

No. 508,089.

Patented Nov. 7, 1893.

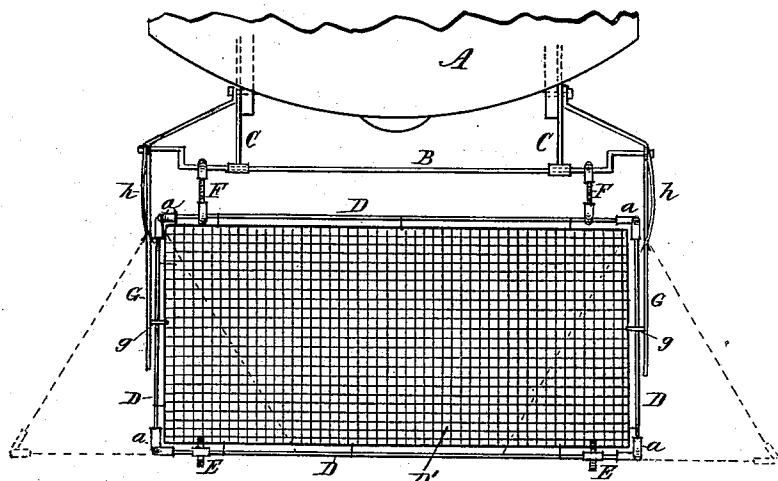


Fig. 1.

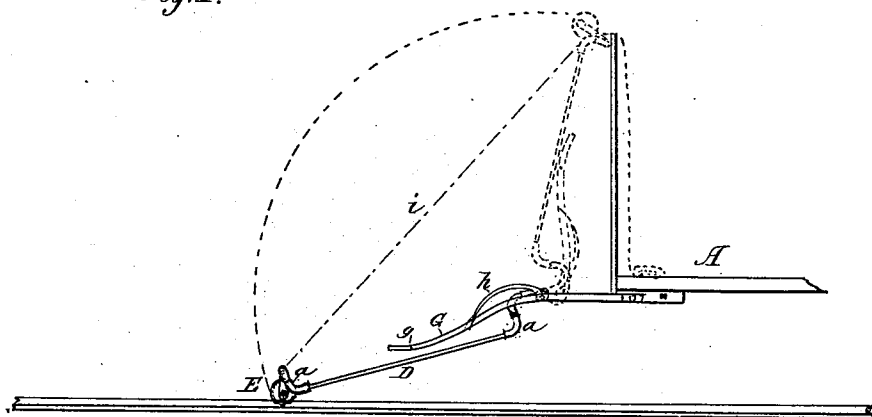


Fig. 2.

Witnesses

John Cooper
Thos. Hamphreys

Inventor

William Cox
By W. Bruce Atty

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

(No Model.)

2 Sheets—Sheet 2.

W. COX.

SAFETY APPARATUS FOR ELECTRIC OR OTHER STREET RAILWAY CARS.

No. 508,089

Patented Nov. 7, 1893.

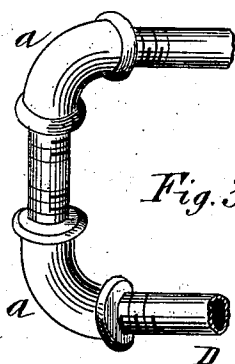


Fig. 3.

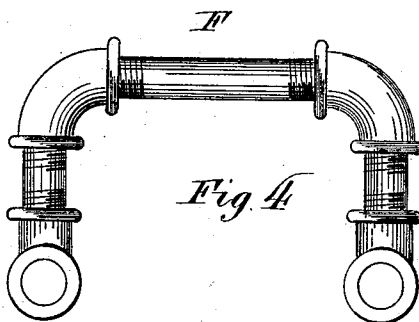


Fig. 4.

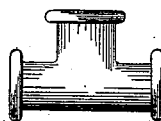


Fig. 5.

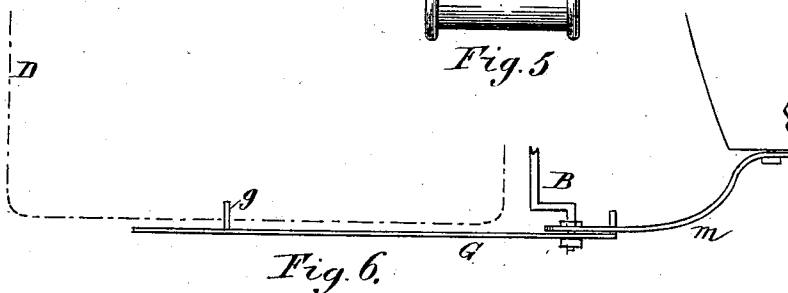


Fig. 6.

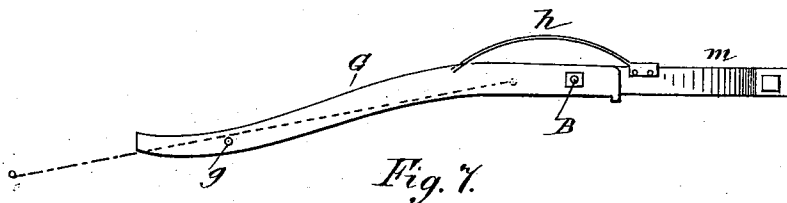


Fig. 7.

Witnesses
Jas. Gadsby
Chas. C. Burr,

Inventor's
William Cox
By W. Bruce
Att'y

UNITED STATES PATENT OFFICE.

WILLIAM COX, OF HAMILTON, CANADA.

SAFETY APPARATUS FOR ELECTRIC OR OTHER STREET-RAILWAY CARS.

SPECIFICATION forming part of Letters Patent No. 508,089, dated November 7, 1893.

Application filed December 31, 1892. Serial No. 456,874. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM COX, a citizen of the Dominion of Canada, residing at the city of Hamilton, in the county of Wentworth, in the Province of Ontario, Canada, have invented a certain new and useful Safety Apparatus to be Attached to Electric or other Street-Railway Cars, of which the following is a specification.

My invention relates to devices employed with and attached to both ends of any street car not propelled by horses, which can be adjusted instantly by the driver in front of a car when any object, such as a man, woman, or child, is on the track and liable to be run over before the car can be stopped, can be caught on the netting of the device and carried with the car until it is stopped, instead of being crushed under the wheels.

My invention consists: First. In a square shaped frame preferably of gas piping (about three-quarters of an inch bore) double jointed at each corner, so as to produce double action and covered with wire netting, &c., and provided in front with two small wheels to run upon the track when the frame is down. Second. The said frame is attached to a straight horizontal bar by means of hinged adjustable coupling pipe elbows, and the said bar being hinged to brackets attached to the floor beams of a car. Third. Two hinged guide bars one on each side of the frame will be hinged to the gage bar at one end and thence pass in a curve on each side of the frame for the purpose of guiding the frame downward when necessary so that its wheels fall on the track, and the guide bars being provided each with a pin projecting horizontally from each, inward, so that when the frame is raised it will strike the pins and draw the guide bars back out of the way, when they are not needed.

Referring to the drawings forming part of this specification,—Figure 1, is a plan view of my device. Fig. 2 is a side view. Fig. 3 is an enlarged view of the double jointed corners of the frame. Fig. 4, is a side view of the coupling joints, enlarged. Fig. 5, is a side view of 1 tube of which the bottom ends of Fig. 4 are the end views. Fig. 6, is a top view of one of the guide bars with spring re-

moved. Fig. 7, is a side view of the same, enlarged, with spring attached.

A, represents an end section of a street car.

B, is a gage bar attached to a car by means of iron brackets C, C, the front parts of which are rounded into enlargements having openings large enough through which to admit the said bar B where it is held, but allowed to turn in the sockets.

D, is the frame formed of gas tubing, the sides and ends screwed into elbows of the same material so as to be double jointed at each corner as at *a, a, a, a*, so as to enable the said frame to take the form of a rhomboid, which it will take to adapt itself in following a railway track curve.

E, E, are small wheels secured by proper brackets to the front part of the frame, and when the said frame is down, the wheels will run on the inside portion of a street car track, and carry the front of the frame a short distance above the level of the rails.

D', is the covering of the said frame which may be of any flexible material such as wire cloth or its equivalent, so as to be strong enough to carry a heavy weight and at the same time adapt itself to the frame when a car moves on a curve of the track. The frame D is secured to the gage bar B by means of coupling joints F, F, which allow the frame D to swing automatically either way (as shown by dotted lines, Fig. 1) to adjust itself to the curves of the track. The frame D will always be made to stand in a vertical position up against the dash-board of a car and be held there by a catch, out of the way until it is ready for use to be dropped in front in cases of emergency. A device is employed to guide the frame D downward to its proper place so that the wheels E, will rest on the inner side of the rails. It consists of a hinged guide bar G on each side attached to the ends of the gage bar B where they are hinged. A pin *g* projects horizontally from each guide-bar, on the inner side of the front portion so that when the frame D is raised (that is, the front of it) the sides will come in contact with the said pins *g* and by that means draw up the guide bars G along with it, and so keep them out of the way when they are not needed.

When the frame D is released from its catch on the dash-board and the outer portion drops down, the hinged guide bars also drop on each side of the frame by means of a flat spring *h*, made fast to the end part of the braces *m*, and the forward end of the spring being double pointed, straddles the guide-bars G and presses the front hinged portion downward about two-thirds of the distance to the track, but not below the frame which works underneath the said guide-bars.

i represents a cord to draw up the frame to a vertical position when not in use.

Having thus described my device and its advantages, what I claim as my invention is—

1. In combination with an electric or other street railway car, a safety device consisting of a rectangular frame double jointed at the corners, covered with wire cloth, netting or the equivalent material, and hinged to a gage bar secured to the ends of a street car, substantially as and for the purpose specified.

2. In combination with an electric or other street railway car, a rectangular shaped frame D, covered with wire cloth D', or the equivalent material, double jointed at each corner as at *a, a, a, a*, provided with wheels and secured to a gage bar B, by adjustable devices, the said bar B being secured to the car A by brackets C, C, substantially as and for the purpose specified.

3. The combination with the double-jointed corner frame D, and its covering D', of the double jointed couplings F, F, guide-bars B, B, and brackets C, C, substantially as and for the purpose specified.

4. In combination with the double-jointed corner frame D, and gage-bar B, of the hinged guide-bars G, G, substantially as and for the purpose specified.

5. The combination of the frame D, with wheels E, E, netting or wire cloth D', couplings F, F, gage bar B, brackets C, C, attached to a street car, and guide bars G, G, substantially as and for the purpose specified.

6. In combination with the frame D, and the gage bar B, of the couplings F, F, secured adjustably to the bar B, substantially as and for the purpose specified.

7. The combination of the frame D double-jointed at the four corners, and provided with wire cloth or netting &c., and wheels, the couplings F, F, gage bar B, brackets C, C, guide bars G, G, springs *h, h*, all constructed substantially as and for the purpose specified.

Dated at Hamilton, Ontario, this 22d day of November, 1892.

WILLIAM COX.

In presence of—

RICHARD BRIERLEY,
WM. BRUCE.