

R. LISTON.

Safety Hatches for Railroad Cars.

No. 135,923.

Patented Feb. 18, 1873.

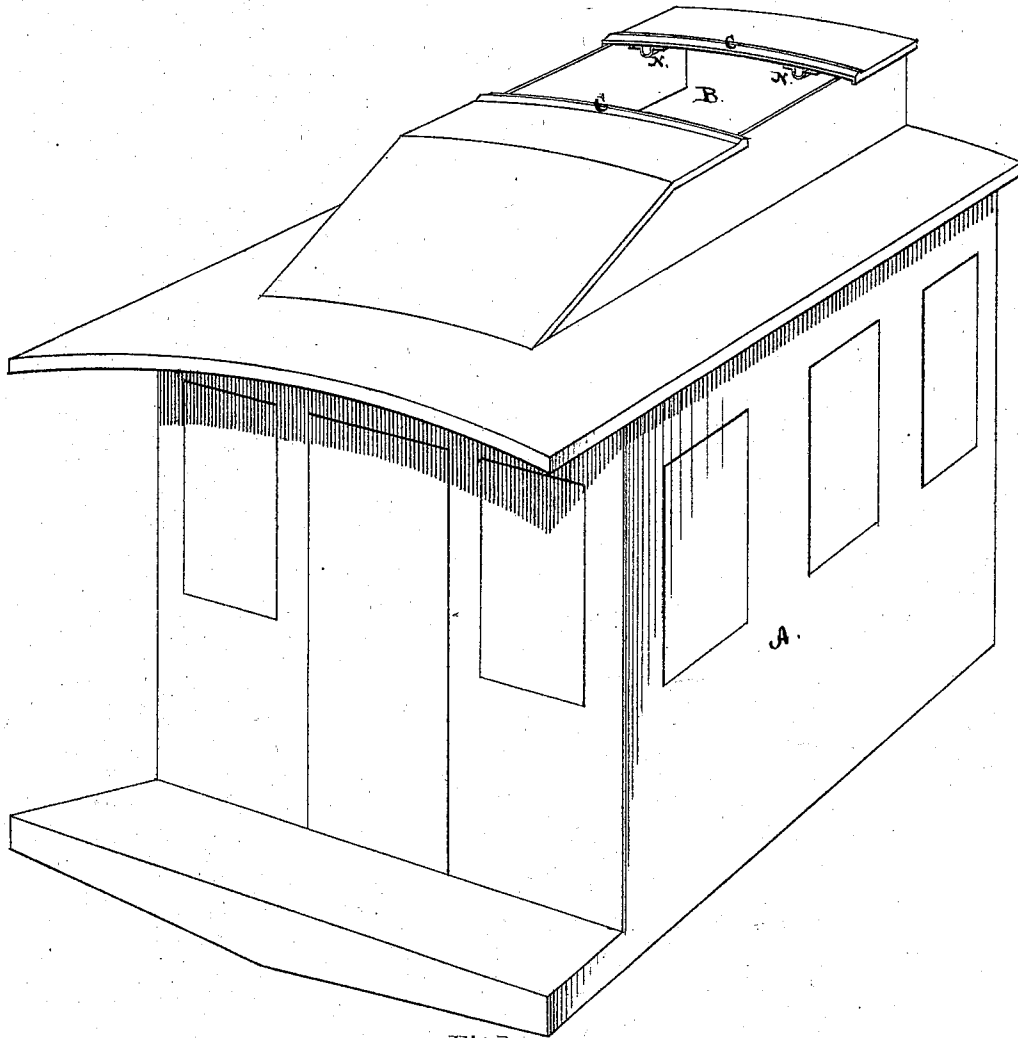


Fig. 1.



Fig. 2.

Mary C. Maskell
W. H. Pragg

Witnesses.

Robt. Liston M.D.

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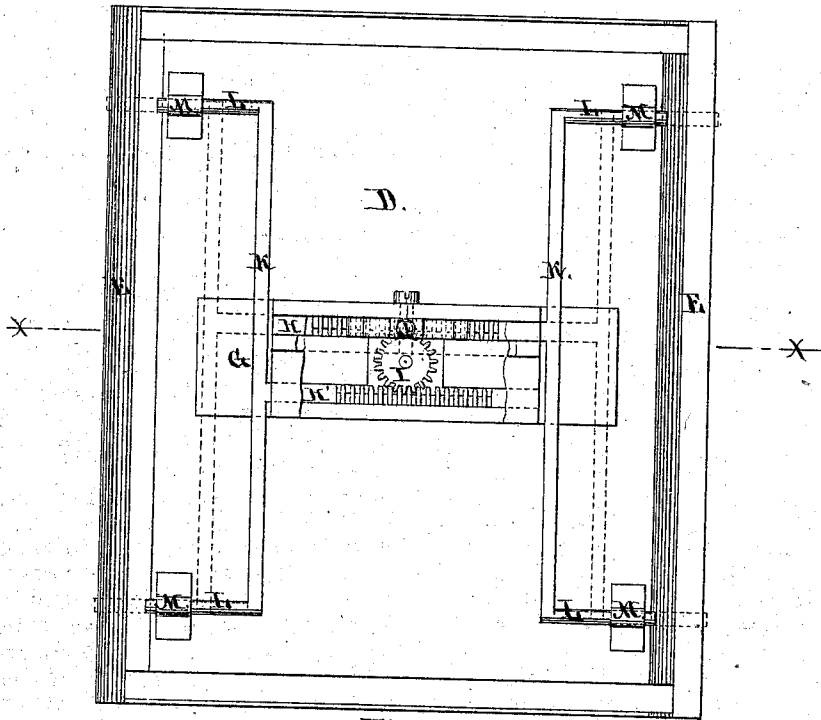


Fig. 3.

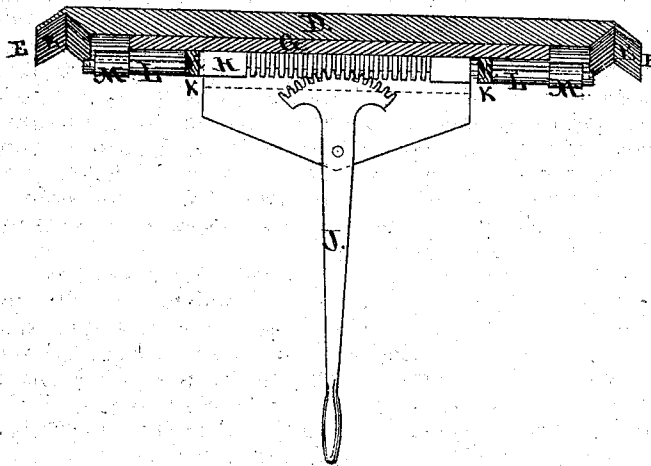


Fig. 4.

Henry C. Mackay
H. W. Bragg

Robt. Liston M.D.

Witnesses.

UNITED STATES PATENT OFFICE.

ROBERT LISTON, OF ALBANY, NEW YORK.

IMPROVEMENT IN SAFETY-HATCHES FOR RAILROAD CARS.

Specification forming part of Letters Patent No. **135,923**, dated February 18, 1873.

To all whom it may concern:

Be it known that I, ROBERT LISTON, of the city and county of Albany and State of New York, have invented a new Safety-Hatch for Railway Cars, of which the following is a full and exact description, reference being had to the accompanying drawing, making a part of this specification, in which—

Figure 1, Sheet 1, is a perspective view of one end of a passenger-car, showing the hatchway in the top of the car opened. Fig. 2 is an enlarged sectional view of one of the transverse joints between the hatch-cover and the top of the car, showing the manner of constructing them. Fig. 3, Sheet 2, is a plan view of the under side of the hatch-cover; and Fig. 4, a sectional view of the same through the line X X.

The nature of the first part of my invention consists in placing in the top of the car a hatch or a series of hatches that may be speedily and easily operated in case of an accident whereby the cars are thrown upon their sides, or when they run off into the water. The object of this part of my invention is to give greater protection to the lives of passengers by providing additional modes of egress in case of accidents of the kind above referred to. The second part of my invention relates to the device for securing and releasing the hatch-covers; and its object is to secure an instantaneous opening of each cover by one simple movement of a single lever.

General Description.

A is the body of the car. B is the hatchway, at both sides of which, and running transversely across the roof, the strips C C, each having reversed beveled sides, are placed.

D is the hatch-cover, which is made to fit snugly into the opening of the hatchway, and having the lap-pieces E E made to conform to the shape of the strips C C. Between the strips C C and lap-pieces E E a strip of India rubber, F, is interposed for the purpose of making a dust and water tight joint. The upound bolt for securing the cover upon the hatchway consists of a bed-piece, G, two

slides, H H', (on the top sides and one edge of each of which are cut racks to receive the cogs of the pinion I,) and segmental lever J. The cross-bars K K are attached to opposite ends of the slides and connect them to the bolts L L L L working through the guides M M M M. When the cover D is in its place on the car the bolts L L L L enter into the clasps N N and clamp the cover securely to the car. When it becomes necessary to detach the cover D the segmental lever J is moved backward, carrying with it the slide H, and this, through the pinion I, instantly imparts a motion in the reverse direction to the slide H', drawing back all the bolts L L L L simultaneously, allowing the cover to drop from its place if the car is thrown upon its side, or if floating in the water permitting it to be easily removed.

The portion of the car shown in Fig. 1 is of the variety having a raised middle roof for ventilation, in which the hatchway B is placed; but my invention can be applied with equal facility to any car having a different form of roof. It does not require a car to be constructed especially for it, as it can be readily applied to any of the various kinds used; nor does it weaken the structure in the least degree, as it may be placed between the "carlings" or frames of the roof, so that the clamping down of the cover by the bolts will retain a strength equal to a whole roof as commonly put on.

I claim as my invention—

1. In combination with the hatchway B, the edges of which are provided with the strips C C and rubber strips F, the cover D provided with the lap-pieces E E and clasps N N, and the combination bolt G H H' I J K L M, arranged as described, for the purposes hereinbefore set forth.

2. The combination bolt G H H' I J K L M, in combination with the cover D, as and for the purpose hereinbefore set forth.

ROBT. LISTON, M. D.

Witnesses:

HENRY C. HASKELL,
W. W. BRAGG.