

No. 745,962.

PATENTED DEC. 1, 1903.

S. E. JACKMAN.  
SAFETY DEVICE FOR INCLINED RAILWAYS.  
APPLICATION FILED AUG. 3, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.

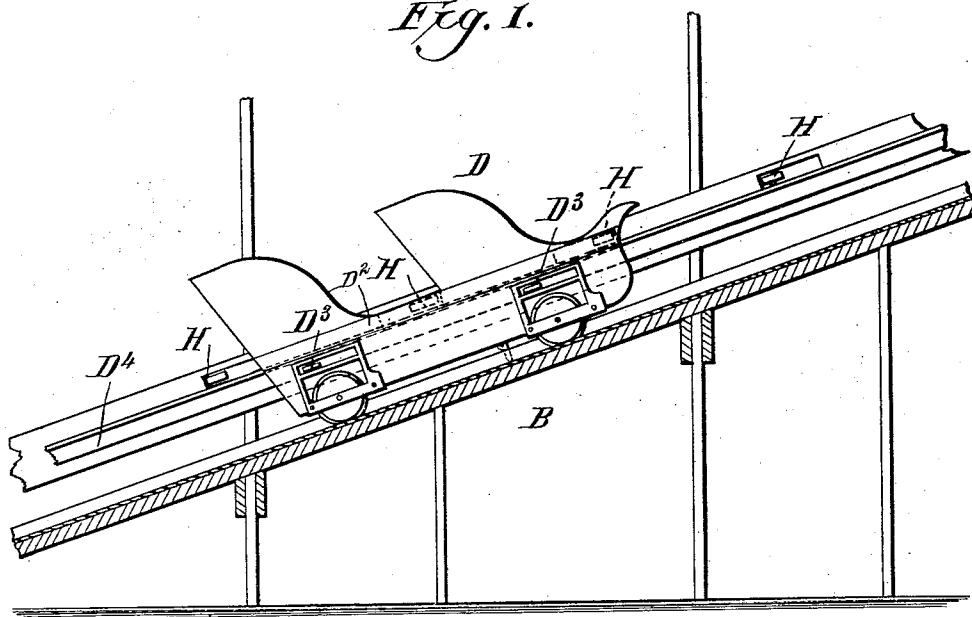
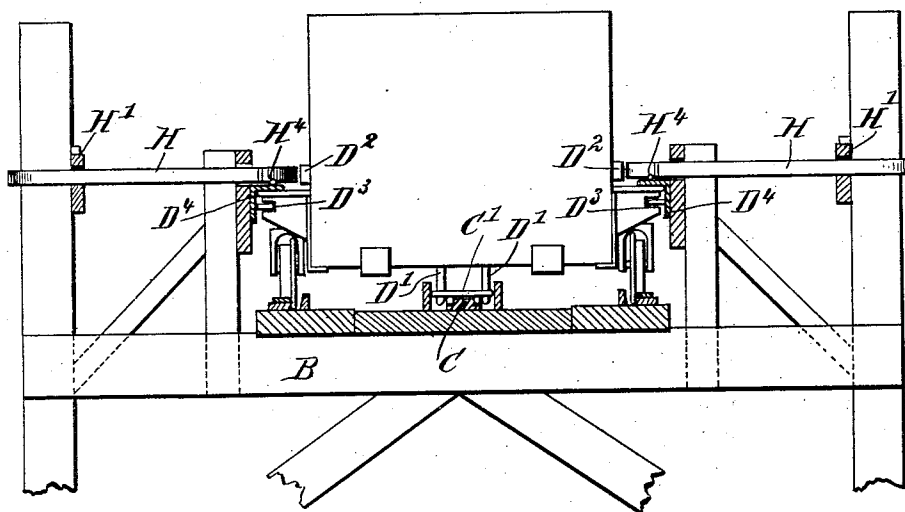


Fig. 2.



WITNESSES:

Paul Hunter  
New J. Hoster

INVENTOR

Stephen E. Jackman

BY Munn & Co.

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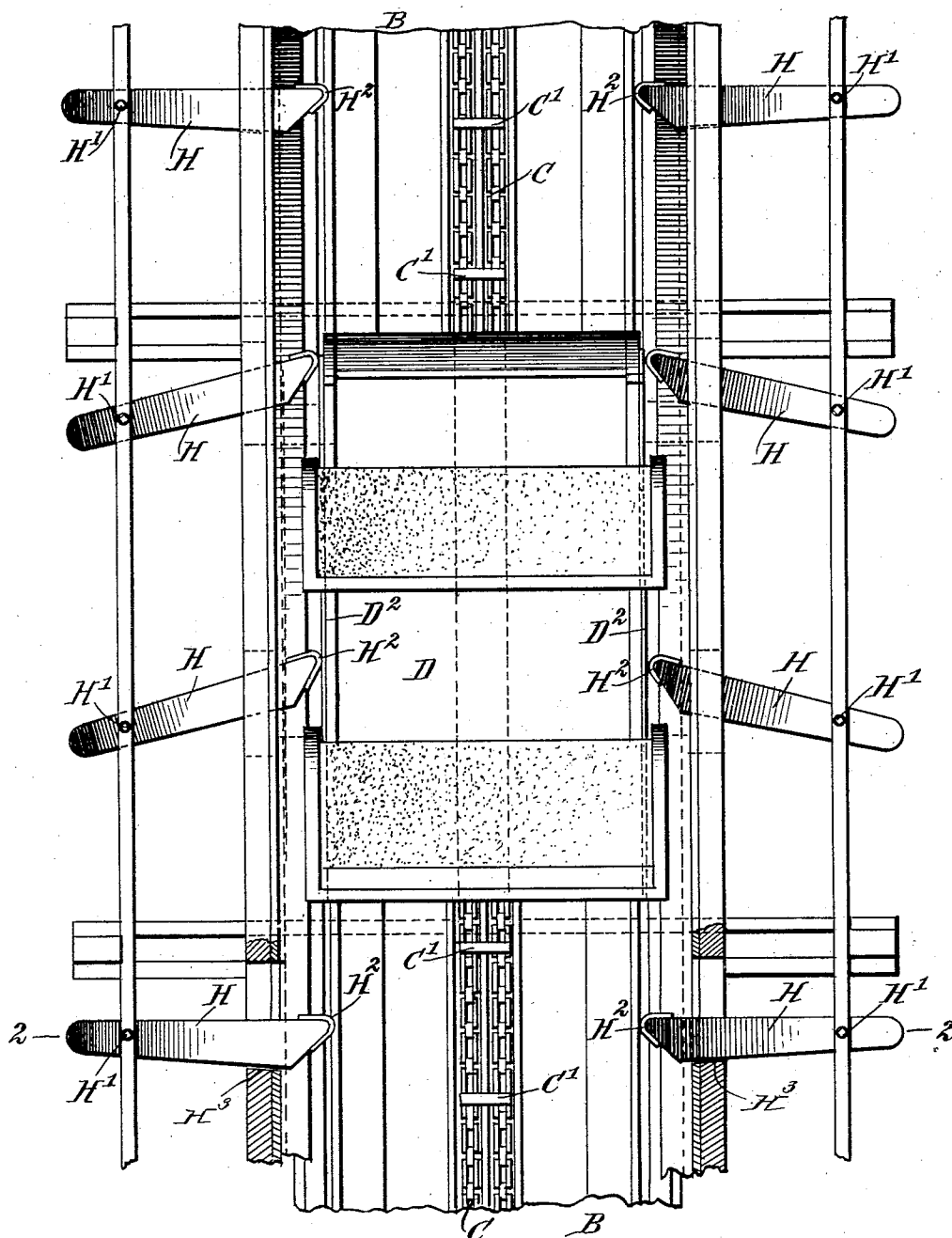
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2 SHEETS—SHEET 2.



WITNESSES:

*Paul Hunter*  
*Rev. J. Hoover*

*Fig. 3.*

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*Stephen E. Jackman*

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## UNITED STATES PATENT OFFICE.

STEPHEN E. JACKMAN, OF NEW YORK, N. Y.

## SAFETY DEVICE FOR INCLINED RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 745,962, dated December 1, 1903.

Original application filed September 27, 1902, Serial No. 125,091. Divided and this application filed August 3, 1903. Serial No. 168,017. (No model.)

*To all whom it may concern:*

Be it known that I, STEPHEN E. JACKMAN, a citizen of the United States, and a resident of the city of New York, (Coney Island, borough of Brooklyn,) in the county of Kings and State of New York, have invented a new and Improved Safety Device for Inclined Railways, of which the following is a full, clear, and exact description, this being a division of the application for Letters Patent of the United States for an inclined railway, Serial No. 125,091, filed by me September 27, 1902.

The invention relates to apparatus for use in pleasure-resorts, exhibitions, and the like; and its object is to provide a new and improved safety device which is simple and durable in construction and more especially designed to prevent accidental return or downward movement of the car while traveling on the upwardly-inclined track portion of the continuous track in case of accident to the propelling mechanism, so that the complete safety of the passengers or occupants of the car is insured.

The invention consists of novel features and parts and combinations of the same, as will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional side elevation of the improvement as applied. Fig. 2 is an enlarged cross-section of the same on the line 2 2 of Fig. 3; and Fig. 3 is a plan view of the same, parts being in section.

The inclined railway on which the improved safety device is applied is provided with a single continuous track having a station, from which leads the up-track B, containing an endless propelling-chain C, having spaced cross-bars C' for engaging projections or arms D', depending from the bottom of the car or vehicle D, adapted to travel on the said up-track B, the said endless chain being driven by a suitable mechanism from a power-house. Now in order to provide for the safety of the cars D while traveling up the up-track B, I provide arms H in the sides of the up-track

and at right angles thereto, as plainly shown in Figs. 2 and 3, the said arms being preferably arranged in pairs on opposite sides, each arm being fulcrumed at H', with the free end H<sup>2</sup> extending into the path of an approaching car D. The latter is provided on its sides with metallic bearing-plates D<sup>2</sup> for engagement with the free ends of the pivoted arms H, so that when a car travels upward on the up-track B it imparts an upward swinging motion to the said arms, so as to move the latter into the upwardly-inclined position (indicated by some of the arms in Fig. 3) to prevent a car from moving accidentally downward should the propelling mechanism get out of order. It is understood that the arms H as soon as their free ends leave the bearing-plates D<sup>2</sup> at the rear end of the car swing back to their normal right-angular position by their own gravity or by the aid of springs, if necessary, the said arms then resting against fixed stops H<sup>3</sup>, formed in the sides of the up-track B. Now should a car D slide down the up-track B, past the inclined arms H, at the time in engagement with the car, then the next lowermost right-angular arms H, projecting into the path of the back of the car, positively prevent further downward movement of the said car to prevent accident and injury to the passengers or occupants of the car. The free end of each arm H is preferably provided on its under side with a ball or roller bearing H<sup>4</sup>, as indicated in Fig. 2, to insure the proper return movement of an arm after a car has passed.

Each of the cars D is provided on its sides with horizontally-disposed friction-rollers D<sup>3</sup>, adapted to travel on guard-rails D<sup>4</sup>, arranged in the continuous track at the sides thereof, to prevent undue swaying of the car during its journey over the continuous track.

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

1. An apparatus of the class described, provided with an inclined railway, and safety-arms pivoted in the track, projecting with their free ends into the path of a car, for the latter to impart a swinging motion to the arms to move the latter into an angular position relative to the car, to hold the latter

against return or downward movement on the inclined railway, as set forth.

2. An apparatus of the class described, provided with an inclined railway, safety-arms  
5 pivoted in the track and projecting with their free ends into the path of a car, for the latter to impart a swinging motion to the arms to move the latter against return or downward movement on the inclined railway, the  
10 said safety-arms being arranged in the sides of the track, and fixed stops to limit the return movement of the said arms, as set forth.

3. An apparatus of the class described, provided with an inclined railway, safety-arms  
15 pivoted in the track and projecting with their free ends into the path of a car, for the lat-

ter to impart a swinging motion to the arms to move the latter into an angular position relative to the car, to hold the latter against return or downward movement on the inclined railway, and bearing-plates on the sides  
20 of the car traveling up the inclined railway and arranged in alinement with the free ends of the said arms, as set forth.

In testimony whereof I have signed my  
25 name to this specification in the presence of two subscribing witnesses.

STEPHEN E. JACKMAN.

Witnesses:

THEO. G. HOSTER,

WILLIAM P. GOEBEL.