J. ARMSTRONG.

AUTOMATIC RUNNING BOARD FOR CARS.

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1,016,926. Patented Feb. 13, 1912.

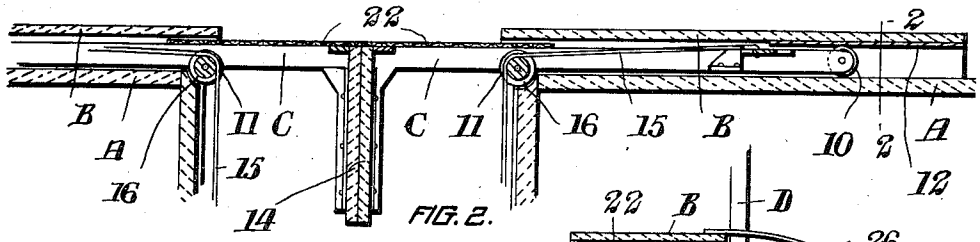

FIG. 2.

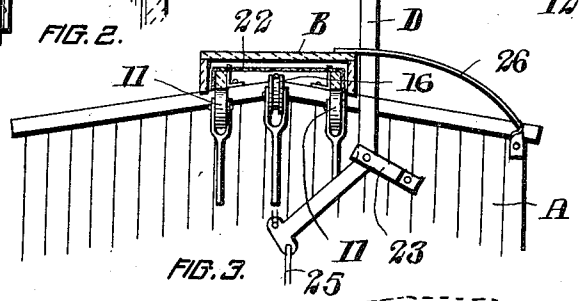

FIG. 3.

FIG. 1.

FIG. 4.

WITNESSES

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AUTOMATIC RUNNING-BOARD FOR CARS.

1,016,926. Specification of Letters Patent. Patented Feb. 13, 1912.

Application filed August 7, 1911. Serial No. 642,847.

To all whom it may concern:

Be it known that I, JOHN ARMSTRONG, of North Bay, in the Province of Ontario, Dominion of Canada, have invented certain new and useful Improvements in Automatic Running-Boards for Cars, of which the following is a specification.

My invention relates to improvements in automatic safety running boards for cars and the objects of my invention are to prevent accidents through persons falling between two freight cars while passing along the running board or walking off the end of the car when there is no other car connected thereto.

Further objects are to provide a continuous form of running board which, when the cars are coupled together, will enable the persons to pass quickly from one end of the train to the other.

The device includes an automatically movable safety running board adapted to slide inwardly and outwardly from the end of the car and be normally held in outermost position and to abut a similar member on an adjacent car.

Further objects of the invention are to cause the movable running board on opposite cars to project an equal amount; and further features of the invention relate to the provision of a barrier adapted to automatically move across the running board when the cars are separated, said barrier being conveniently operated by the movable running board. For fuller understanding of this, however, reference must be had to the accompanying drawings, in which the device is fully set forth and described in detail.

In the drawings: Figure 1 is a perspective view of the end of a car having the present invention applied thereto. Fig. 2 is a sectional view through the ends of two cars which are coupled together. Fig. 3 is an elevation partially in section of the end of the car. Fig. 4 is a section on the line 2—2, Fig. 2.

In the drawings like figures of reference indicate corresponding parts in all the figures.

Referring to the drawings A represents the end of an ordinary box car. It will be understood that the present invention may be applied to any desired form of box car. B represents the ordinary running board and top of the car and C my improved extensible running board or member. This member is adapted to slide inwardly and outwardly beneath the running board B and said running board B substantially forms a guideway therefor. To facilitate the inward and outward movement, rollers 10 are provided on the inner end of the movable board C and supporting rollers 11 are mounted on the car and adapted to bearings on the underside of the board C.

To protect the underside of the running board B and to take the upward pressure produced when the person steps on the outer end of the board C, reinforcing guideways 12 and 13 may be provided, adapted to engage the upper sides of the rollers 10, as shown in Fig. 4. The forward end of each movable running board carries an abutment member 14 adapted to meet a corresponding member on the movable running board of the adjacent car, as shown in Fig. 2.

In order to provide that the movable running board on the adjacent car may project outwardly at substantially an equal distance, means are provided for gradually increasing the resistance to the inwardly movement of each board as hereinafter described. Each movable running board is normally forced to outermost position by means of a cord or chain 15 extending from the inner end of the board over a pulley 16 to a weight 17, the lower end of which weight is connected by a short chain 18 to a second weight 19, which second weight is in turn connected to a flat spring 20 which extends substantially horizontally. Normally the weight 19 will rest on the bottom of a guiding member 21 mounted on the end of the car.

As the running board C is moved inwardly it will first raise the weight 17, then the weight 19 and finally the spring 21. The movable running board C is constructed of suitable light material so that it may be readily moved inwardly and outwardly and the top thereof may be conveniently formed by a netting 22.

In order to guard against the persons walking off the running board when the cars are not connected or adjacent to each other, a barrier member D is provided conveniently in the form of a lever pivoted to a bracket 23 on the end of the car having an arm 24 adapted normally to extend across the running board a distance above the same, the lever being fulcrumed near one

end and having the lower end connected to the cord or chain 15 and 25 intermediate of the length of the cord or chain, whereby when the movable board C is forced inwardly, the barrier member will be swung sidewise to clear the running board. The weight of the upper portion of the barrier member itself will also assist this movement as it is swung past the pivoted point.

In use, when two cars are coupled together, the abutment members 14 on each will abut each other and the movable running boards C will be moved inwardly a distance, said running boards forming a continual platform between the cars. At the same time as the running boards are moved inwardly, the barrier members on each will be swung to one side. When the cars separate the reverse action will take place, the running boards moving outwardly and the barrier members swinging across the top of the same. The movement of the barrier member may be conveniently guided by means of a guideway 26.

As many changes could be made in the above construction and many apparently widely different embodiments of my invention, within the scope of the claims, constructed without departing from the spirit or scope thereof, it is intended that all matter contained in the accompanying specification and drawings shall be interpreted as illustrative and not in a limiting sense.

What I claim as my invention is:

1. In a car, a running board movable outwardly from the end of the car, and a plurality of separated weights operatively connected to the running board and tending to force the same outwardly, said weights being thrown into operation successively.

2. In a car, a running board movable outwardly from the end of the same, a weight operatively connected to the running board and tending to force the same outwardly and a spring adapted to resist inward movement of the running board and thrown into operation with the weight.

3. In a car, a running board movable outwardly from the end of the same, means normally forcing the board to outermost position, a barrier member movable across the running board and means normally retaining the barrier member in position across the running board, but adapted to withdraw said barrier member when the running board is moved inwardly.

4. The combination with a car having a running board, of a barrier member adapted to normally extend across the running board, means operated by the adjacent car for withdrawing said barrier, said means including a longitudinally movable member adapted to be forced inwardly by the adjacent car, and connecting means connecting said member and the barrier member.

5. In a car, a running board movable outwardly from the end of the same, a weight connected by a cord running over a pulley to said running board and tending to force the same outwardly, and a pivoted barrier member operated by the movement of said cord adapted when the movable running board is in outermost position to extend across the top of the same.

6. In a car, a running board movable outwardly from the end of the same, a weight connected by a cord running over a pulley to said running board and tending to force the same outwardly, a pivoted barrier member operated by the movement of said cord adapted when the movable running board is in outermost position to extend across the top of the same, and a guideway for the barrier member.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

JOHN ARMSTRONG.

Witnesses:

DAN WILSON,

C. S. MCGAUGHEY.