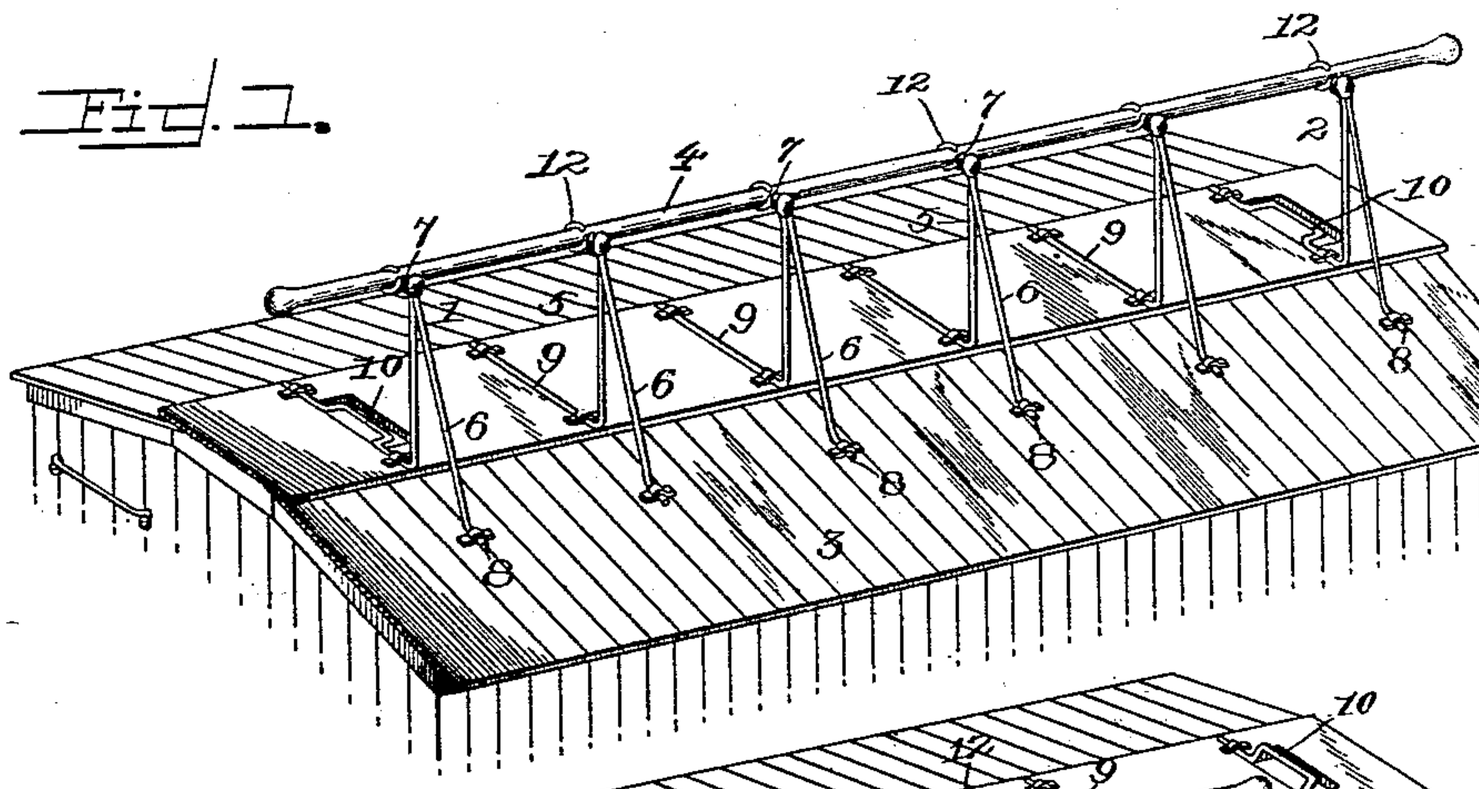
(No Model.)

A. M. SMITH, Jr.

GUARD FOR FREIGHT CARS.

No. 560,238. Patented May 19, 1896.

Fig. 1.



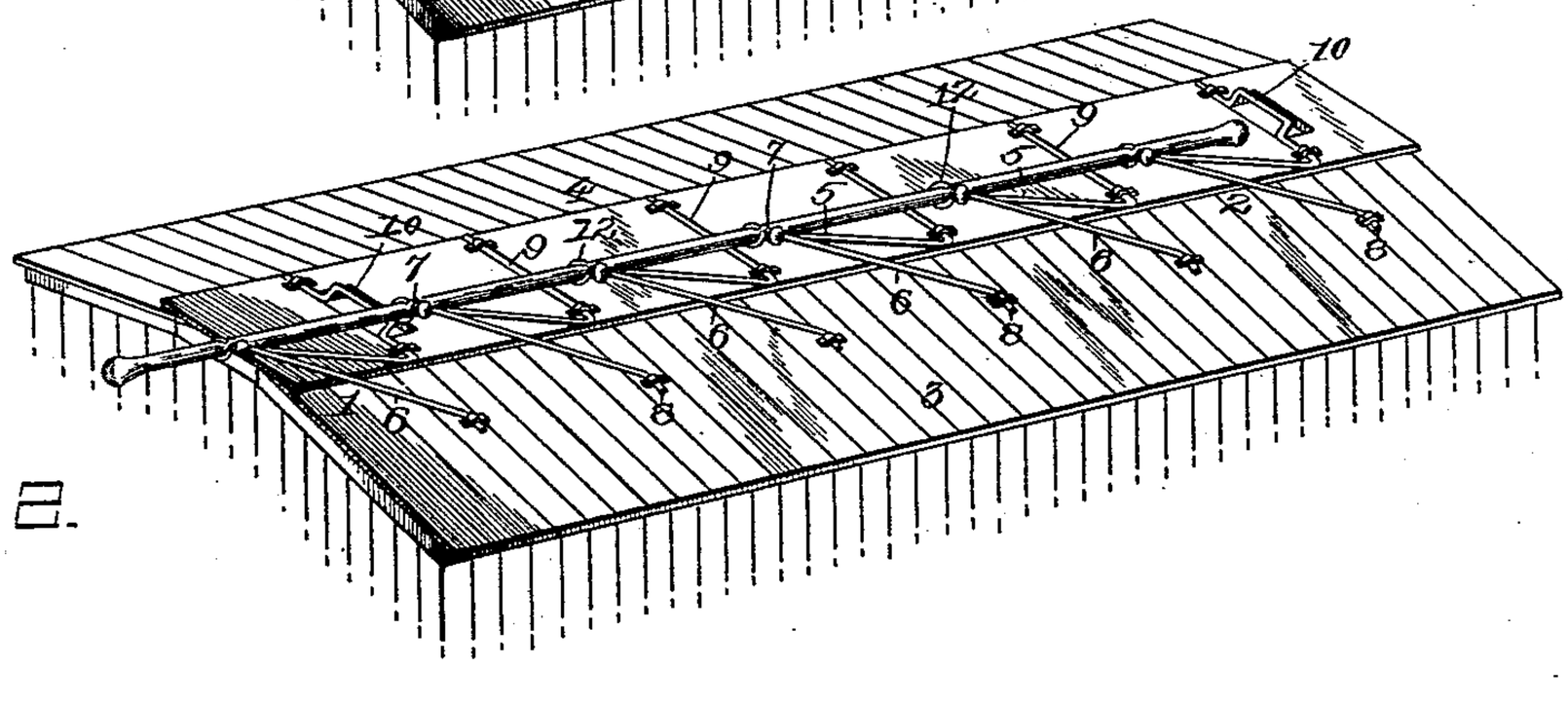


Fig. 2.

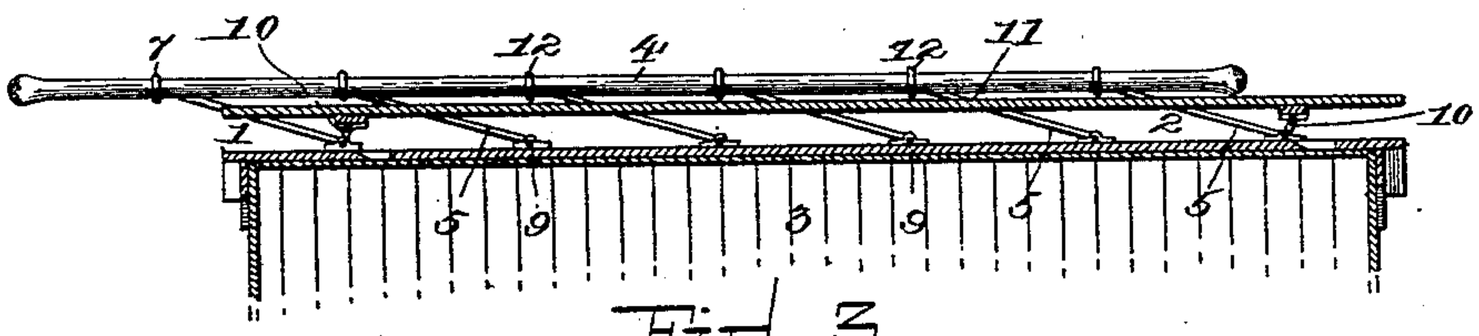


Fig. 3.

Fig. 4.

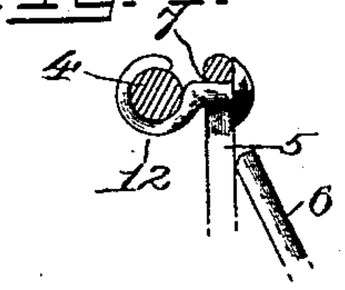


Fig. 5.

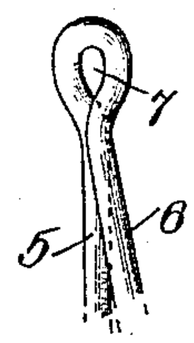


Fig. 6.

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UNITED STATES PATENT OFFICE.

ALVEY MARIUS SMITH, JR., OF COCKEYSVILLE, MARYLAND.

GUARD FOR FREIGHT-CARS.

SPECIFICATION forming part of Letters Patent No. 560,238, dated May 19, 1896.

Application filed March 17, 1896. Serial No. 583,593. (No model.)

To all whom it may concern:

Be it known that I, ALVEY MARIUS SMITH, Jr., a citizen of the United States, residing at Cockeysville, in the county of Baltimore and State of Maryland, have invented a new and useful Guard for Freight-Cars, of which the following is a specification.

The invention relates to improvements in guards for freight-cars.

The object of the present invention is to improve the construction of guards for freight-cars and to provide a simple and inexpensive device adapted to be readily mounted on a freight-car adjacent to the running-board thereof, to provide a hand-rail to prevent train-hands from falling off a car and capable of automatically assuming an upright or operative position when a train-hand steps upon a running-board and of automatically folding when he leaves the same, so that the freight-car guard will not present an obstruction to or be injured by a bridge, tunnel, or the like.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a freight-car guard constructed in accordance with this invention and shown applied to a car, the guard being in operative position and the running-board being removed to illustrate the rock-shafts and pintles of the standards or supports. Fig. 2 is a similar view, the rear guard being folded. Fig. 3 is a longitudinal sectional view of the same. Fig. 4 is a detail sectional view, illustrating the manner of connecting the standards to the rod or rail. Fig. 5 is a detail view of one of the hooks. Fig. 6 is a detail view of the eye of one of the standards or supports.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 and 2 designate end and intermediate standards or supports arranged at intervals along the top of a freight-car 3 and hingedly connected at their lower ends with the same and adapted to swing upward in a vertical position, as illustrated in Fig. 1 of the accompanying drawings, to support a longitudinal rod or guard-rail 4 in an elevated position, and to provide a hand-rail for train-hands to prevent them from falling off the top of the car. The standards or supports consist of vertical inner portions 5 and inclined outer portions or braces 6, preferably constructed integral with each other and forming an eye 7 at their upper adjacent terminals, and the lower ends 8 of the inclined portions or braces 6 are bent outward to form journals, which are arranged in suitable bearings of the car. The lower ends of the inner or vertical portions of the intermediate supports or standards are formed integral with pintles or shafts 9, extending across the central portion of the car, as clearly shown in Figs. 1 and 2 of the accompanying drawings, and arranged in suitable bearings, and the vertical or inner portions of the end supports are preferably formed integral with rock-shafts 10, journaled in suitable bearings similar to the shafts 9, and provided with crank-bends, upon which is supported a running-board 11, which is normally arranged in a slightly-elevated position, as the weight of the freight-car guard, which may be constructed of any suitable material, is sufficient to swing the crank-bends upward and lift the running-board, which is depressed by a person stepping on it, whereby the guard is automatically brought into operative position, and as soon as the weight is removed from this depressible running-board or platform the guard swings downward and folds automatically.

The crank-bends are disposed substantially at right angles to the end supports or standards and are in nearly a vertical position when the supports or standards are folded upon the top of the car, a sufficient inclination being given to the crank-bends to enable them to be readily depressed by the platform or running-board, and when the supports or standards are in a vertical position the crank-bends are depressed substantially horizontally, suitable recesses being provided to permit the crank-bends to be forced downward sufficiently to produce the desired elevation of the rod 4, which forms the hand-rail.

The tops of the standards or supports are hingedly connected with the longitudinal rail or rod 4 by hooks 12, embracing the rod or rail and adapted to be closed to confine it in them, and their shanks, which are provided

with heads, are arranged in the eyes of the standards or supports.

It will be seen that the rail-guard is exceedingly simple and inexpensive in construction, that it is positive and reliable in operation, and that it is automatically brought into operative position when a train-hand steps upon the running-board of a car. It will also be apparent that when the weight of a person is removed from the running-board the freight-car guard will fold automatically upon the top of the car to avoid offering any obstruction to a bridge, tunnel, or the like, and to prevent injury to them.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What I claim is—

1. The combination with a freight-car, of a guard comprising a guard-rail, supports or standards hinged to the guard-rail and to the car, and adapted to swing upward to elevate the guard-rail, and capable of swinging downward to fold the freight-car guard upon the car, and means for automatically swinging the standards upward when a person steps upon the top of the car, and for automatically folding it when a person leaves the car, substantially as described.

2. The combination with a freight-car, of a guard comprising a longitudinal guard-rail, a series of standards hinged to the guard-rail and to the top of the car, and capable of swinging upward and downward, a rock-shaft connected with the supports or standards, and a depressible platform or running-board arranged to engage the rock-shaft, whereby the freight-car guard is swung upward by the weight of a person on the platform or board, and is adapted to fold downward on the car automatically when the weight is removed, substantially as and for the purpose described.

3. The combination with a freight-car, of a guard comprising a longitudinal rod or guard-rail, a series of substantially V-shaped intermediate and end standards arranged at intervals on the top of the car and comprising the inner vertical portions and the inclined outer portions or braces, the lower ends of the inclined portions or braces being provided with journals or pintles and arranged in suitable bearings of the car, transverse pintles or shafts connected with the lower ends of the vertical portions of the intermediate standards and arranged in suitable bearings, transverse rock-shafts journaled in suitable bearings, connected with the end standards and provided with crank-bends, and a depressible platform or running-board supported by the crank-bends, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ALVEY MARIUS SMITH, JR.

Witnesses:

GEO. C. DUNCAN,

JOHN D. C. DUNCAN.