

No. 818,873.

PATENTED APR. 24, 1906.

E. P. DANDRIDGE.  
GUARD RAIL FOR STREET CARS.  
APPLICATION FILED DEC. 7, 1905

2 SHEETS—SHEET 1.

Fig. 1.

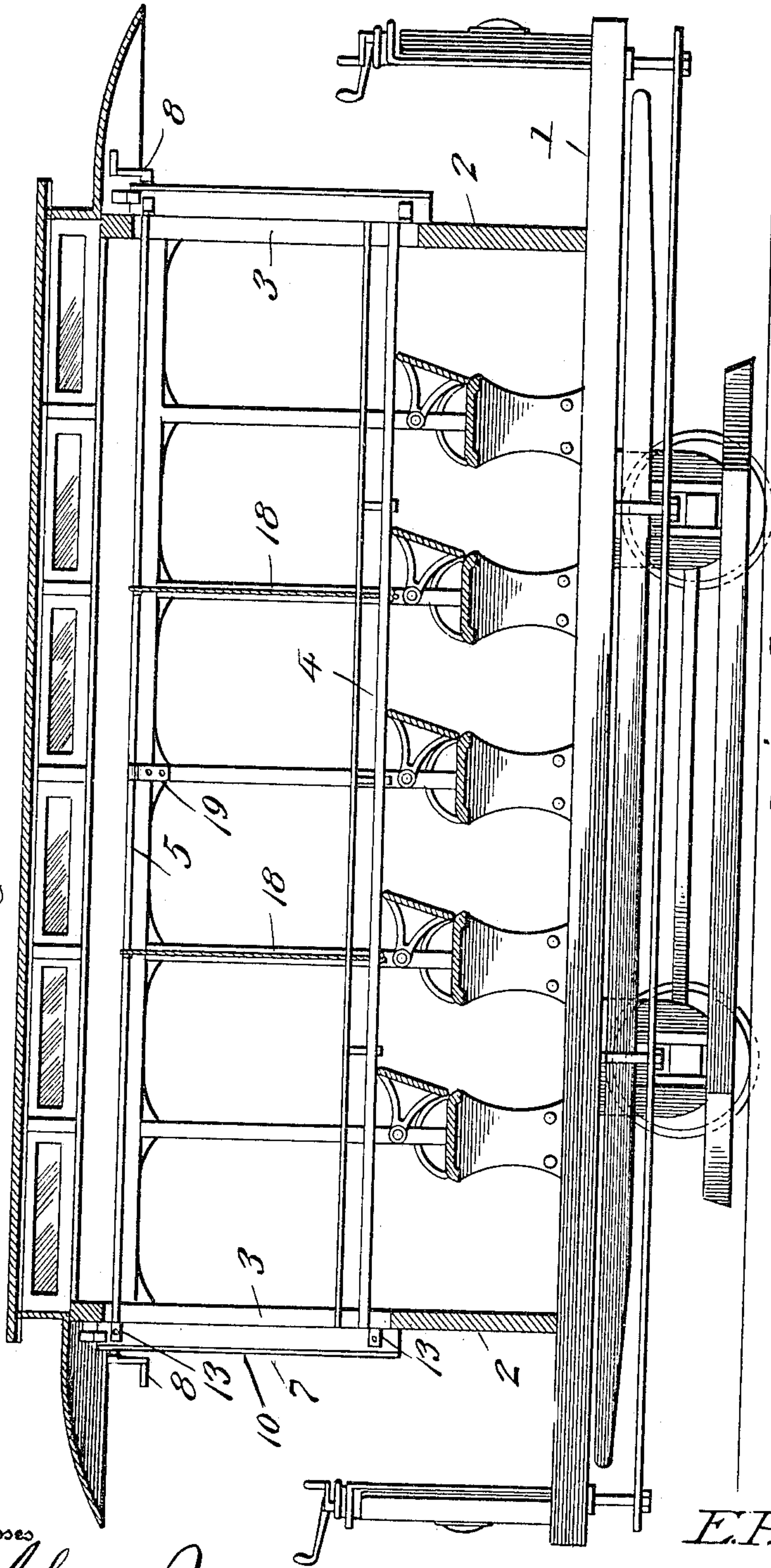
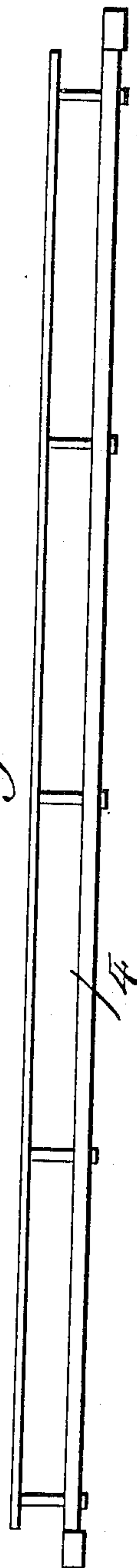


Fig. 5.



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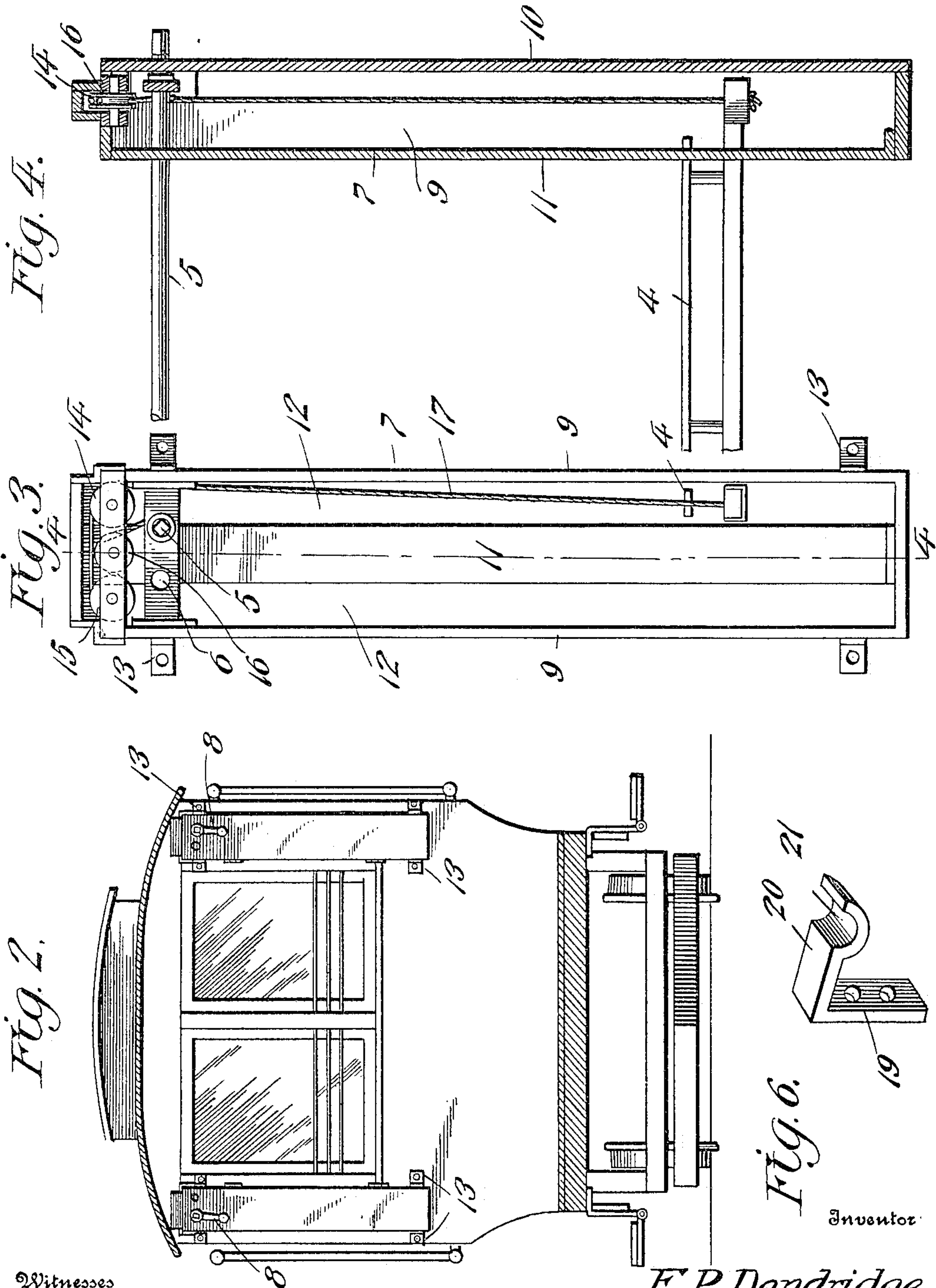
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2 SHEETS—SHEET 2.



Witnesses  
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# UNITED STATES PATENT OFFICE.

EDWARD P. DANDRIDGE, OF PHILADELPHIA, PENNSYLVANIA.

## GUARD-RAIL FOR STREET-CARS.

No. 818,873.

Specification of Letters Patent.

Patented April 24, 1906.

Application filed December 7, 1905. Serial No. 290,715.

*To all whom it may concern:*

Be it known that I, EDWARD P. DANDRIDGE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented new and useful Improvements in Guard-Rails for Street-Cars, of which the following is a specification.

This invention relates to movable guard-rails of the type employed on street-cars, being especially directed to means for supporting and moving the rail, and has for its objects to produce a comparatively simple inexpensive device of this character whereby the rail may be readily raised or lowered as circumstances require, one wherein the mechanism may be conveniently manipulated for moving the rail, and one in which the boxes or casings for holding the rail-operating mechanism are adapted for ready application to either end or side of the car.

With these and other objects in view the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a side elevation, partly in vertical longitudinal section, of a car equipped with a guard-rail embodying the invention. Fig. 2 is an end view of the car. Fig. 3 is a front elevation of one of the casings and its contained mechanism with the front wall or cover removed. Fig. 4 is a vertical section taken on the line 4-4 of Fig. 3 with the removable cover in place. Fig. 5 is a side elevation of one of the guard-rails. Fig. 6 is a detail perspective view of one of the bearing-brackets.

Referring to the drawings, 1 designates a car of usual construction having end walls 2 provided with vertical guide openings or slots 3, designed to receive and accommodate the ends of the guard-rails 4, which extend longitudinally of and at the sides of the car in the usual manner and for the usual purpose.

Extended longitudinally of the car and respectively above the guard-rails 4 is a pair of rotary shafts 5, journaled at their ends in bearing-openings 6, provided in the normally upper ends of boxes or casings 7, attached to the outer faces of the end walls 2 and covering the guide-slots 3, it being noted that a pair of the bearing-openings 6 is provided in each of the boxes 7 for a purpose which will hereinafter appear, while applied to the ends of the shafts 5 are suitable operating-cranks 8.

The boxes or casings 7, which are identical in construction, each comprise side walls 9 and a removable outer wall or cover 10, there being extended centrally and longitudinally through the box at its normally inner face a bearing member or strip 11, spaced from the walls 9 to provide a pair of guide openings or slots 12, one of which registers with the corresponding opening 3 in the end wall of the car and receives the adjacent end of the guard-rail 4, it being noted in this connection that by providing each of the boxes with a pair of bearing-openings 6 and a pair of guide-slots 12 the boxes are adapted for interchangeability and to be applied to either end wall of the car and at either side of the latter. Provided on the side walls 9 are perforated ears 13, designed for the reception of fastening members, by means of which the boxes are secured to the car.

Journaled in the upper end of each box 7 is a plurality of guide rollers or pulleys 14, 15, and 16, having arranged for travel thereon a flexible hoisting element or cable 17, connected at one end with the adjacent end of the guard-rail 4 and at its other end with and to be wound upon the corresponding shaft 5, it being noted that the cable 17 is extended over the pulleys 14 and 15 and thence backward over the intermediate pulley 16, from which latter a direct pull is exerted upon the cable by the shaft.

Connected with each shaft at suitable points between its ends is a pair of intermediate operating elements or cables 18, connected at their lower ends with the guard-rail 4 and at their upper ends with and to be wound upon the shaft, which latter is sustained at a central point between its ends by means of a bearing member or bracket 19, bolted to the adjacent car-standard and having a horizontal portion or arm 20 terminating at its outer end in a semicircular seat 21 for the reception of the shaft.

In practice when it is desired to raise the guard 4 to an unobstructing position the corresponding shaft 5 is rotated through the medium of one of the cranks 18 for winding the cables 17 and 18, thus raising the guard in a manner which will be readily understood, it being apparent that the guard will during such movement be guided in the slots 3 and 12, while, on the other hand, the cables will unwind freely to permit of the guard being moved downward to normal active position. It may be mentioned in this connection



tion that when the guard is in elevated position the crank-handles 8 serve as weights to counterbalance the guard and maintain the shafts against rotation, this function of the handles being facilitated owing to the specific arrangement of the cables 17 on their guide-rollers.

From the foregoing it is apparent that I produce a simple device admirably adapted for the attainment of the ends in view, it being understood that in attaining these ends minor changes in the details herein set forth may be resorted to without departing from the spirit of the invention.

Having thus fully described my invention, what I claim as new is—

1. In a device of the class described and in combination with a car having an end wall provided with a vertical guide-opening, a box or casing attached to the wall and having a pair of guide-openings, one of said openings being in registry with the guide-opening in the car-wall, a guard-rail having its end

arranged for movement in the guide-openings, a rotary operating-shaft journaled at one end in the casing, a flexible hoisting element terminally engaged with the shaft and guard-rail, and a plurality of guide-rollers over which the cable travels.

2. In a device of the class described and in combination with a car having an end wall provided with a vertical guide-opening, a guard-rail having its end arranged for movement in said opening, a casing attached to the car-wall over the opening, an operating-shaft journaled in the casing, a rotary guide, and a flexible hoisting element arranged for travel on said guide and terminally engaged with the shaft and rail.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD P. DANDRIDGE.

Witnesses:

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MARY F. MURPHY.