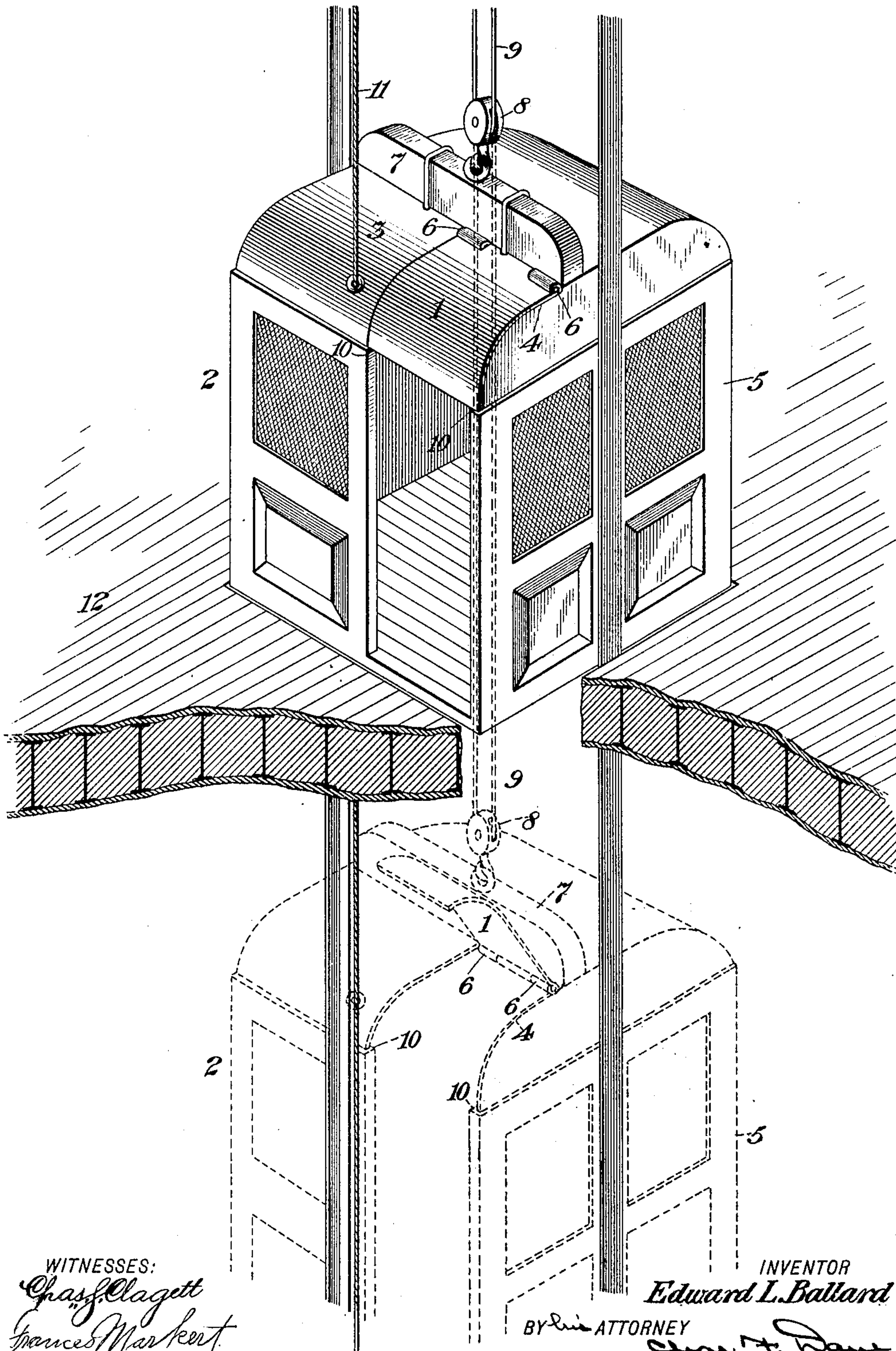


No. 849,357.

PATENTED APR. 9, 1907.

E. L. BALLARD.
PASSENGER ELEVATOR.
APPLICATION FILED SEPT. 23, 1905.



UNITED STATES PATENT OFFICE.

EDWARD L. BALLARD, OF NEW YORK, N. Y.

PASSENGER-ELEVATOR.

No. 849,357.

Specification of Letters Patent.

Patented April 9, 1907.

Application filed September 23, 1905. Serial No. 279,761.

To all whom it may concern:

Be it known that I, EDWARD L. BALLARD, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Passenger-Elevators, of which the following is a specification.

This invention relates to passenger-elevators, and has for its object the prevention of injury to persons entering or leaving the car where such injuries are caused either by a premature starting movement of the car or through loss of control of the power mechanism operating the car.

Many accidents have occurred wherein persons under the circumstances noted have been caught between some portion of a building at or contiguous to a landing and a portion of the car at one end of its door-opening, resulting in either injury or death to the person so caught. Such accidents are especially liable in modern office and similar buildings where the passenger traffic is heavy and the quick starting and rapid running of the elevators becomes imperative. Furthermore, in many private apartment-houses and other dwellings the elevators, if not operated solely by the occupants of the building, are frequently run by inexperienced persons, which manifestly increases the danger referred to.

In accordance with my invention a car is provided having at one end thereof an open portion extending inwardly from the door opening, this open portion being normally closed by a movable closure or section mounted to yield under pressure, so as to prevent injury to a person caught between the same and a landing or like fixed part.

In the accompanying drawing, forming part of this specification, the figure is a perspective view, partly broken away, illustrating a portion of an elevator-landing and a car, the latter disclosing an embodiment of my invention and a dotted representation below the landing showing the movable closure or section associated with the open portion in the top of the car in raised position.

In the embodiment of my invention illustrated herein the car is designated 2, the entrance and exit door-opening thereof 10, the car-roof or car-top 3, the opening in the

latter extending inwardly from the door-opening 4, and the closure for this opening or movable section 1.

The section 1 may be pivotally connected to the car at its upper inner edge by any suitable means—as, for instance, by hinges 6 6—secured to the cross-beam 7, forming part of the car structure, which beam serves for the central location of the pulley or sheave 8, around which the suspending-cable 9 passes. When in its normally closed position, the lower outer edge of the section 1 bears upon rests presented by the upper ends of the vertical members of the door-frame and furnishing additional support for the said section.

11 indicates the cable for controlling the movements of the car, and 12 a landing incompletely shown.

From the description thus far it will be readily understood that the car under normal conditions will move up and down in its well or way and stop at the landings thereof, as may be required. In the event, however, of a car being opposite a landing and a passenger has but partly entered or left said car the sudden downward movement of the car, due to premature starting or other cause, will result in the person of the passenger coming in contact with the under side of the section 1, which latter will thereby be moved to the open position illustrated in the dotted representation in the drawing, to permit the head and upper portion of the passenger to project through the opening in the car-roof, and thus not only prevent injury to the passenger, but also afford ample opportunity for the passenger to assume a safe position either within the car or upon the adjacent landing, whereupon the section 1 can again close the roof-opening.

It will be noted that, as shown, the movable section 1 will normally tend to gravitationally swing to a closed position, and hence the movement of said section by hand is rendered unnecessary.

The specific manner of supporting the section 1 disclosed while providing for said section lying flush with the adjacent roof portion also avoids liability of any binding or sticking in position such as might tend to interfere with the quick yielding action of the section.

As the presence of the movable section involves but little change in the car structure, existing forms of structure can be readily equipped with my improvement.

5 Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

10 1. A passenger elevator-car having an entrance and exit opening through one side thereof and an open portion in one end of the car extending inwardly from said side opening and a displaceable closure normally closing said open portion.

15 2. A passenger elevator-car having an entrance and exit opening through one side of the same and a roof provided with an open portion extending inwardly from said entrance and exit opening and a light displaceable roof-section normally closing said open
20 portion.

3. An elevator car or cage having an entrance and exit door opening in its side and a roof or top which is provided with an open portion extending inwardly from the door-

entrance and exit-opening, for the purpose 25 set forth.

4. An elevator car or cage having an entrance and exit door-opening in its side and a roof or top which is provided with an open portion extending inwardly from the door- 30 entrance and exit opening, and a yieldable hinged closure for said opening in the roof or top, for the purpose set forth.

5. An elevator car or cage having an entrance and exit door-opening in its side, and 35 provided with a roof or top which is complete except opposite the door-entrance and exit-opening and is thereat provided with an open portion which extends inwardly from the door-entrance and exit-opening. 40

Signed at New York, N. Y., in the county of New York and State of New York, this 6th day of September, A. D. 1905.

EDWARD L. BALLARD.

Witnesses:

T. B. ROBERTS,
WM. JOHNSTONE.