D. R. HART.

Door for Street Cars.

No. 106,362. Patented Aug. 16, 1870.

Fig: 1.

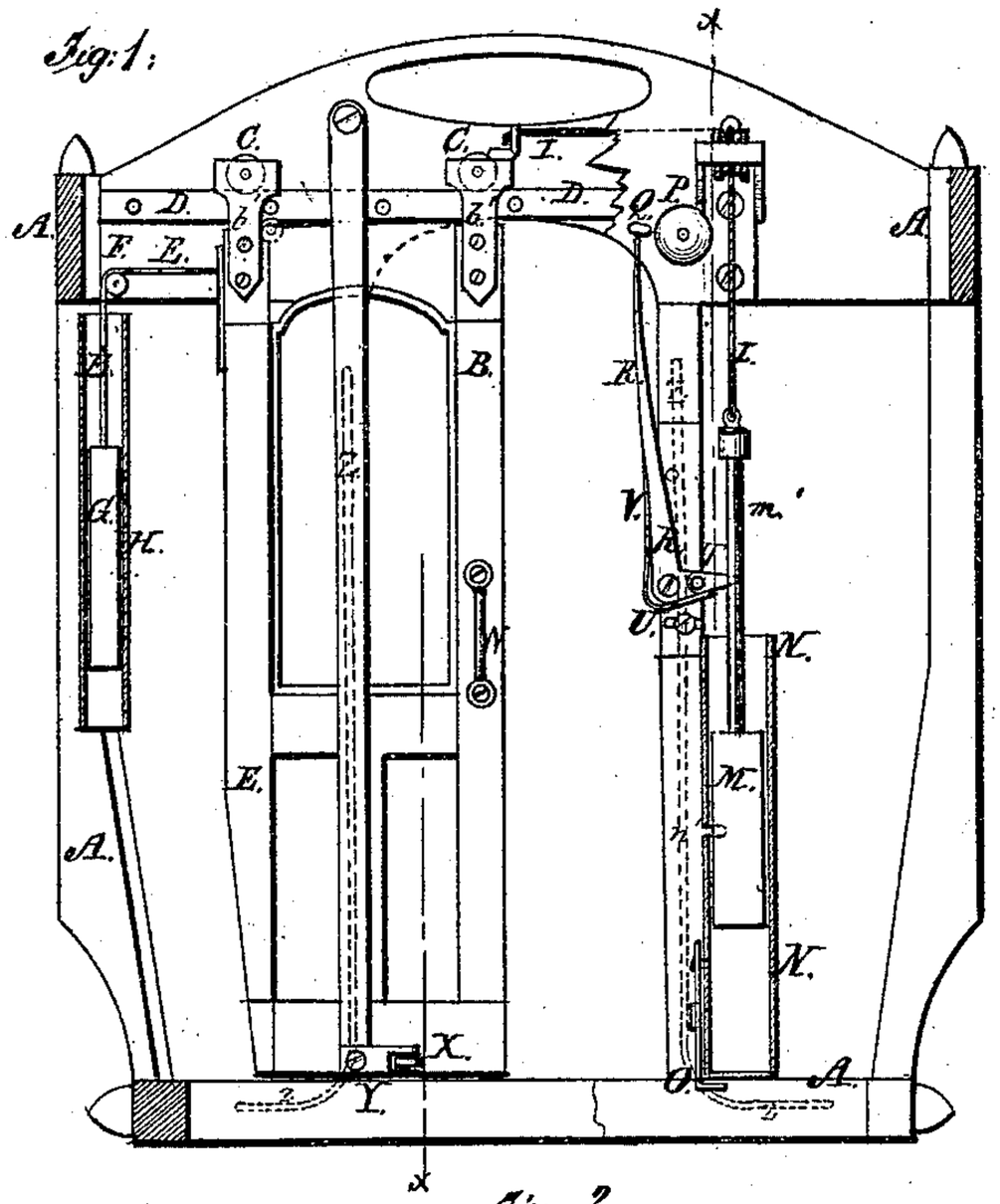
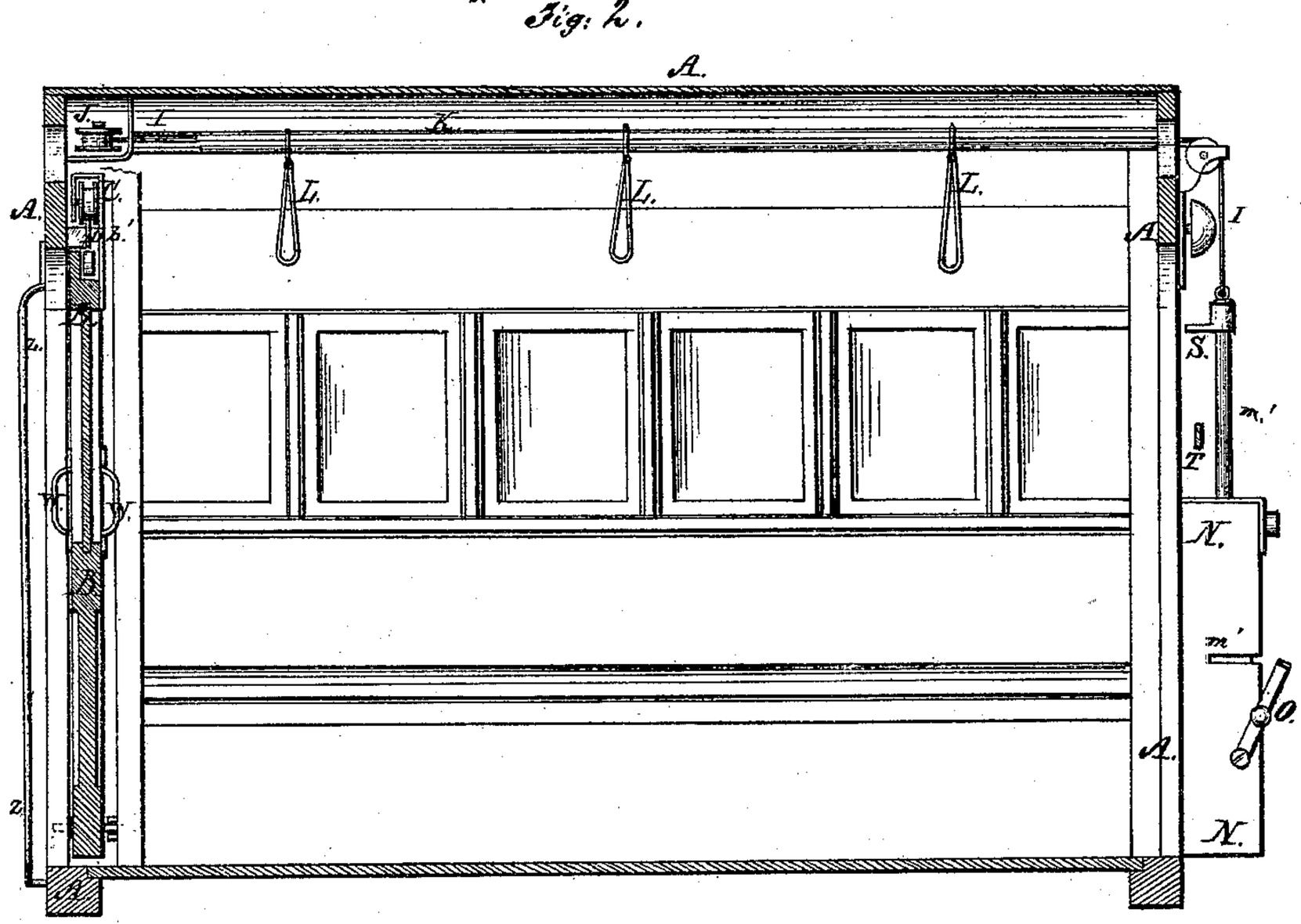


Fig: 2.



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UNITED STATES PATENT OFFICE.

DANIEL R. HART, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN DOORS FOR STREET-CARS.

Specification forming part of Letters Patent No. **106,362,** dated August 16, 1870.

To all whom it may concern:

Be it known that I, DANIEL R. HART, of St. Louis, in the county of St. Louis and State of Missouri, have invented a new and useful Improvement in Sliding Door for Street-Cars; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

Figure 1 is a front view of the street-car, partly in section, through the weight-box, and part being broken away to show the inner side of the rear end. Fig. 2 is a detail sectional view or the same, taken through the irregular line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved sliding door for that class of street-cars known as the "fare-box car," and which has heretofore been made with a swinging door and covered step, so as to render said cars more convenient in use, both for driver and passengers; and it consists in the construction and combination of various parts, as hereinafter more fully described.

A represents the frame or body of the car, which should be made with a front and rear platform, over which there should be a canopy or cover. B is the door, which is placed in the rear end of the car, and which, when opened, slides back into a slot or recess formed for it in or along the rear end of the car-body A.

To the upper end of the door B are attached brackets *b'*, to the upper ends of which are pivoted rollers or pulleys C, that roll along the upper edge of a rail or bar, D, attached to the rear-end wall of the car.

To the upper part of the rear edge of the door B is attached an end of the cord E, which passes over a guide-pulley, F, pivoted to the upper part of the rear end of the car, near the corner. To the other end of the cord E is attached a weight, G, which should be sufficiently heavy to draw the door B open when its action is unresisted.

The weight G should be surrounded with a case, H, to conceal it, and to prevent it from being obstructed or tampered with.

To the upper part of the forward edge of the door B, or to the forward bracket, *b'*, is attached the end of a cord, I, which passes around a guide-pulley, J, pivoted to the support attached to the upper part of the car A.

The cord I extends longitudinally through the rail K, to which the hand-straps L are attached, said rail being made hollow to receive the said cord. The cord I passes out through the front end of the car A, and to its end is attached the weight M.

The weight M should be sufficiently heavy, when left free to act, to overbalance the weight G and draw the door B shut. The weight M may be located at any convenient point of the front platform where it can be most readily reached by the driver, so that the driver, by raising the weight M, may allow the door B to be opened by the weight G. The weight M, when released, will at once close the door B. The weight M should be covered with a casing, N, to prevent it from being impeded or interfered with.

When it is desired that the door B should be allowed to stand open, the stop-bar O is turned up, so that its bent upper end may pass in through a slot, *n'*, in the casing N, to support the weight M, and thus release the door from its action. When not required for use, the stop-bar O may be turned down with its bent end below the casing N, so as to be out of the way.

P is a gong, secured to the forward end of the car A in such a position as to be struck by the hammer Q, attached to the end of the arm or lever R, the lower end of which is pivoted to the car A in such a position that the arm S, attached to the short rod *m'*, that connects the cord I to the weight M, when the said weight is raised in opening the door B, may strike against the toe T, pivoted to the lower end of the lever or arm R. The toe T is so formed that, when struck by the arm S in its upward movement, it will throw back the arm R, but when struck by the said arm S in its downward movement, the said toe will yield, and will not move the lever R.

The toe T is held up in proper position to be operated by the arm S by the small spring U, attached to the lower end of the lever R, and which rests against the lower side of the said toe T. When the toe E is released from the arm S in its upward movement, the upper

end of the lever R is thrown forward, causing the hammer Q to strike the gong P, by the spring V, which rests against the rear side of the lever R. By this construction it will be impossible for a passenger to enter or leave the car without sounding the gong P, and thus notifying the driver.

To the opposite sides of the forward part of the door B are attached two handles, W, by means of which the door may be opened and closed by the passengers, and by which the passengers may steady themselves both when entering and when leaving the car.

X are two rollers, which rest against the opposite sides of the lower part of the door B, and which assist in supporting the door against lateral pressure when being opened and closed. The rollers X are pivoted to short arms *y*, attached to the rear part of the car.

To the side posts of the doorway, at the rear end of the car, are attached two hand-rails, Z, only one of which can be used when the car is made with a swinging door, and which enable passengers to readily enter the car from either side of the street, and which also are very convenient when the car may be crowded and more than one person may be standing upon the step.

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

1. The combination of the lighter and heavier weights G M and cords E I with the door B and car-body A, substantially as herein shown and described, said weights and cords being arranged and operating as and for the purposes set forth.

2. The combination of the gong P, hammer Q, arm or lever R, toe T, springs U V, and arm S with each other and with the car-body A, weight M *m'*, cord I, and door B, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the stop-bar O with the casing N *n'*, weight M, cord I, and door B, substantially as herein shown and described, and for the purpose set forth.

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