

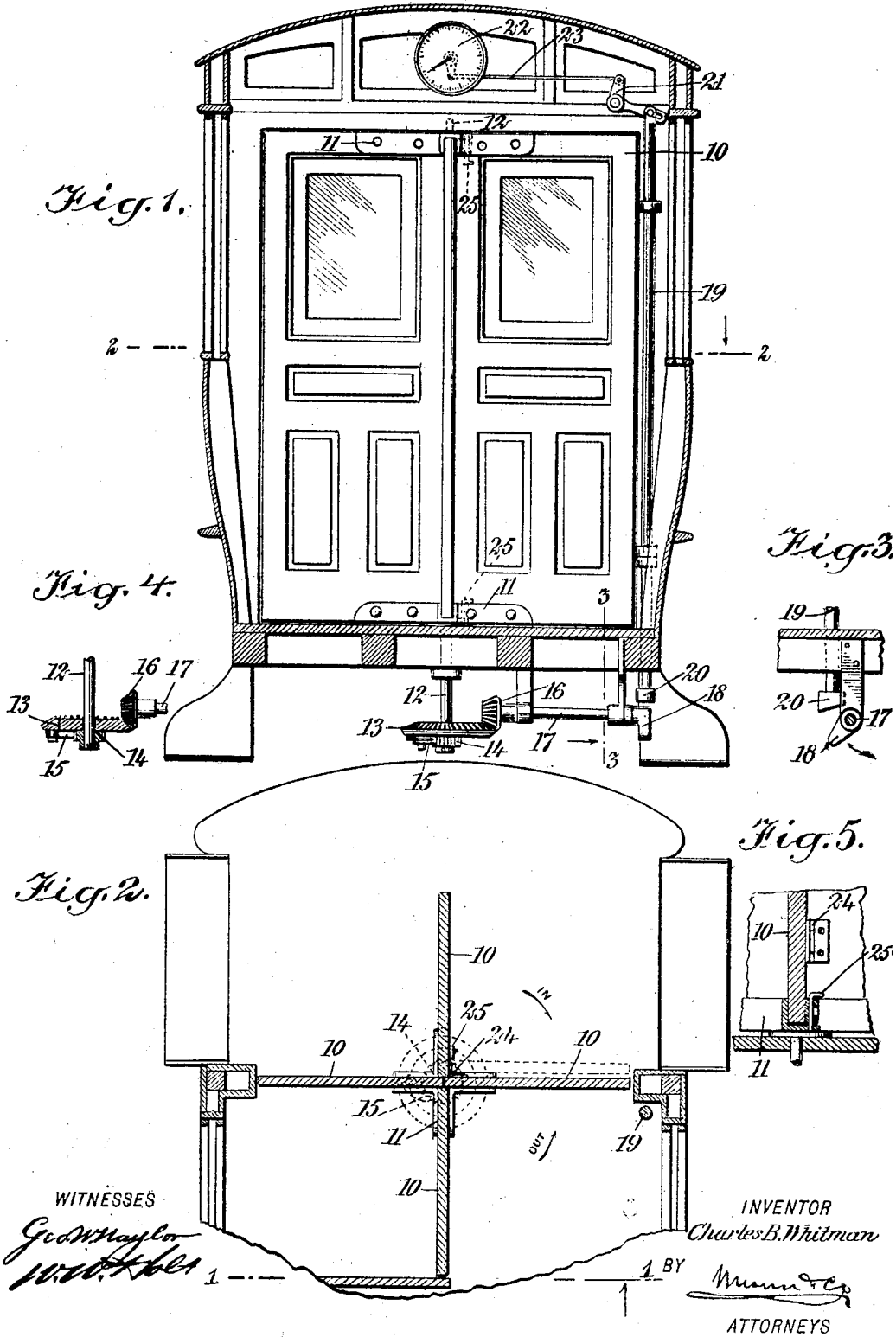
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DOOR.

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933,512.

Patented Sept. 7, 1909.



UNITED STATES PATENT OFFICE.

CHARLES B. WHITMAN, OF WATERVLIET, NEW YORK.

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Specification of Letters Patent.

Patented Sept. 7, 1909.

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To all whom it may concern:

Be it known that I, CHARLES B. WHITMAN, a citizen of the United States, and a resident of Watervliet, in the county of Albany and State of New York, have invented a new and Improved Door, of which the following is a full, clear, and exact description.

This invention is an improvement in doors, especially designed to be used in connection with street railway cars, and has for its purpose to automatically register the number of passengers entering the car; and which will permit of the exit of the passengers without operating the registering mechanism; also to so construct the door that the movements of the motorman on the platform will not be more restricted than when the usual type of door is employed.

This I accomplish by providing the door opening of the car with revolving intersecting doors having a suitable connection with the register to advance the latter one passenger each time a door moves from an open to a closed position. One of the doors is hinged to swing or fold against an adjacent door to remove it from the platform, and is provided with means for rigidly connecting it in operative position with the remaining doors, as when the latter are in operation.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a cross-section through a street railway car substantially on the line 1—1 of Fig. 2, showing it supplied with a door embodying my invention; Fig. 2 is a horizontal section through the door and a portion of the car substantially on the line 2—2 of Fig. 1; Fig. 3 is a fragmentary sectional view substantially on the line 3—3 of Fig. 1; Fig. 4 is a section through the gears operated by the door; and Fig. 5 is a sectional fragmentary view showing the locking means for the hinged door.

The invention is adapted to be applied in the usual door opening between the body of the car and the platform, and embodies in its construction a plurality of doors 10, four being shown, equally spaced apart and rigidly connected together at opposite ends at their intersection between the flanges of castings or center plates 11, each casting having a centrally projecting stud or shaft

12, respectively journaled in the top of the door frame and the floor of the car, the bottom shaft being extended a short distance below the floor sills, where it has a gear 13 mounted thereon.

Rigidly attached to the bottom shaft 12, preferably adjacent to the under face of the bevel gear 13, is a ratchet wheel 14 engaged by a spring-pressed pawl 15 pivoted to the gear 13. In mesh with the gear 13 is a smaller bevel gear 16, which in the present form of the invention has one-fourth as many teeth as the gear 13, and is rigidly secured to a horizontal shaft 17 transversely arranged and carrying a cam 18 on its opposite and outer end. This cam is arranged directly under a vertical shaft 19, the lower end of which is preferably headed and fashioned as indicated at 20 to provide a substantially beveled bearing surface. The top of the shaft 19 has a connection with the slotted outer end of one of the arms of a bell-crank lever 21, the opposite arm of which is directly connected to the operating arm of any usual or other form of register 22, by a link 23. By this construction as each passenger enters the car at the side indicated by the arrow in Fig. 2, the doors are given a quarter revolution, which, by reason of the connection with the register just described, advances the latter one point. In this manner the total number of passengers entering the car will be recorded on the register, and as the passengers leave the car they go out on the same side as when entering, which in no wise interferes with the registering mechanism by reason of the revolution of the lower shaft 12 independent of the gear 13, afforded by the ratchet wheel and engaging pawl.

In order that the movements of the motorman on the platform will not be more restricted than when the usual sliding door is employed, the side flanges of the top and bottom castings are removed at one side of one of the doors, as shown in Fig. 5, and this door is hinged to the adjacent door at this side, as indicated at 24, adapting the hinged door to be swung or folded to a removed position, as indicated in dotted outline in Fig. 2. When the hinged door is returned to operative position, as when it is arranged at the rear end of the car, it is locked rigidly with the castings and the remaining doors by bolts or latches 25.

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

1. The combination of intersecting doors
5 rigidly connected and revolubly mounted, a
gear carried by the axis of said doors, a
second gear in mesh with the first, a shaft
having a cam to which the last mentioned
gear is secured, a vertical shaft arranged
10 over and in working relation to said cam, a
register having an operating arm, a bell-
crank lever, one arm of which is connected
to the vertical shaft, and a link between the
15 opposite arm of the bell-crank lever and the
operating arm of the register.

2. The combination of intersecting doors
revolubly mounted, a gear carried by the
axis of said doors, a register, an approxi-
mately vertical shaft operatively connected
with the register, a second gear in mesh with 20
the first, and a cam rigid with the second
gear and arranged in working relation to
the vertical shaft.

In testimony whereof I have signed my
name to this specification in the presence of 25
two subscribing witnesses.

CHARLES B. WHITMAN.

Witnesses:

GEORGE F. SIEGER,
THOS. G. ROSS.