

June 23, 1953

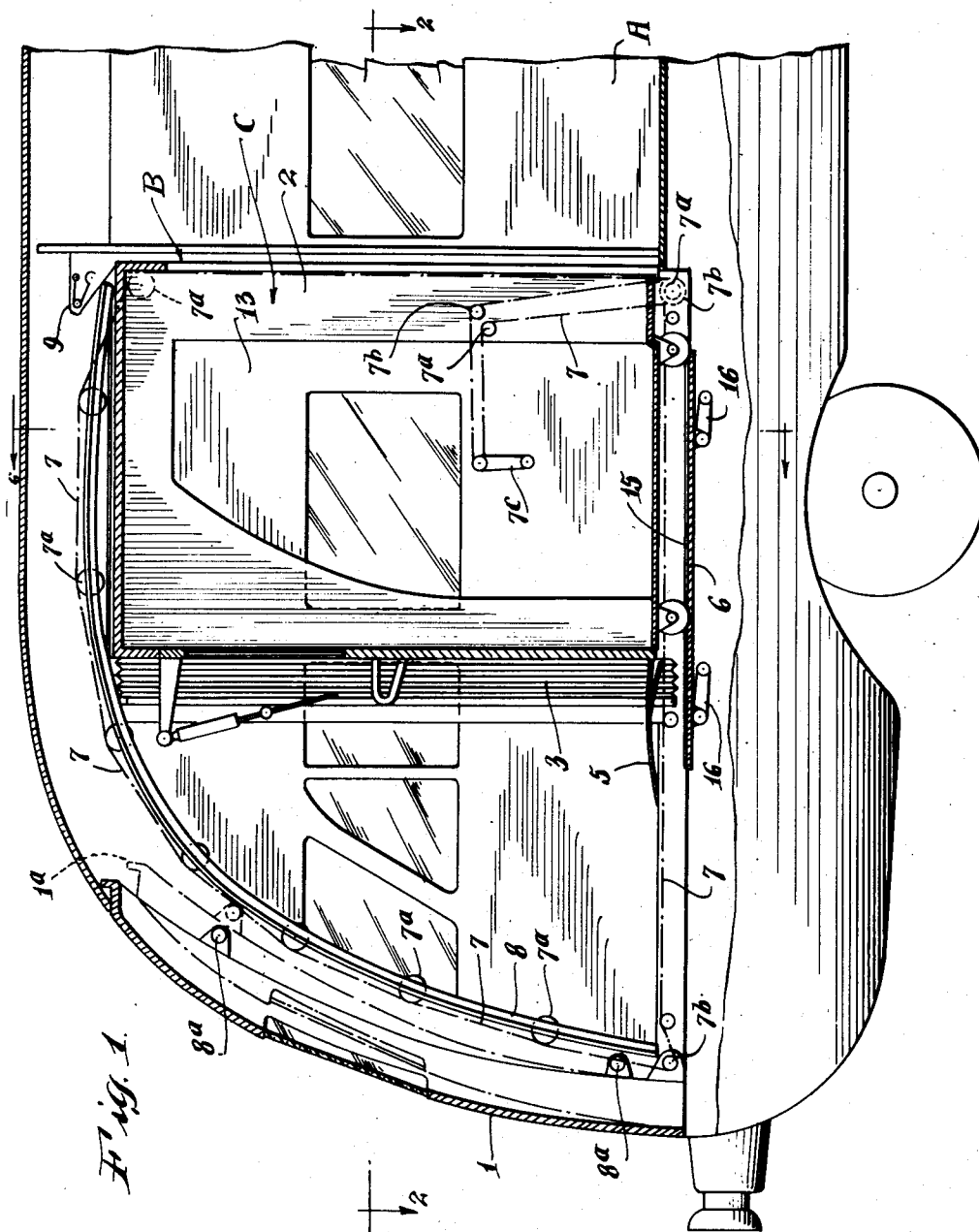
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2,642,816

STREAMLINED CORRIDOR VEHICLE

Filed April 20, 1949

5 Sheets-Sheet 1



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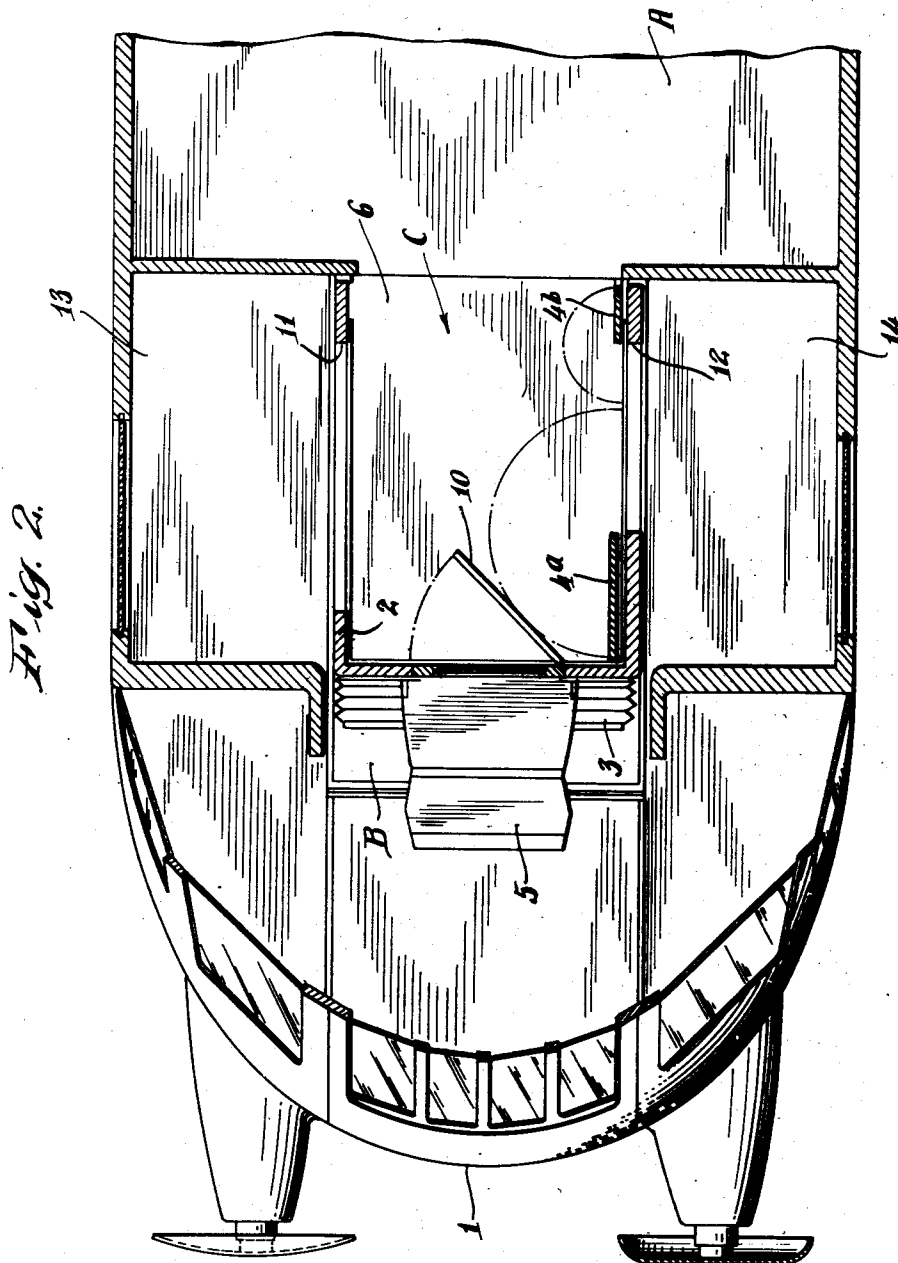
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STREAMLINED CORRIDOR VEHICLE

Filed April 20, 1949

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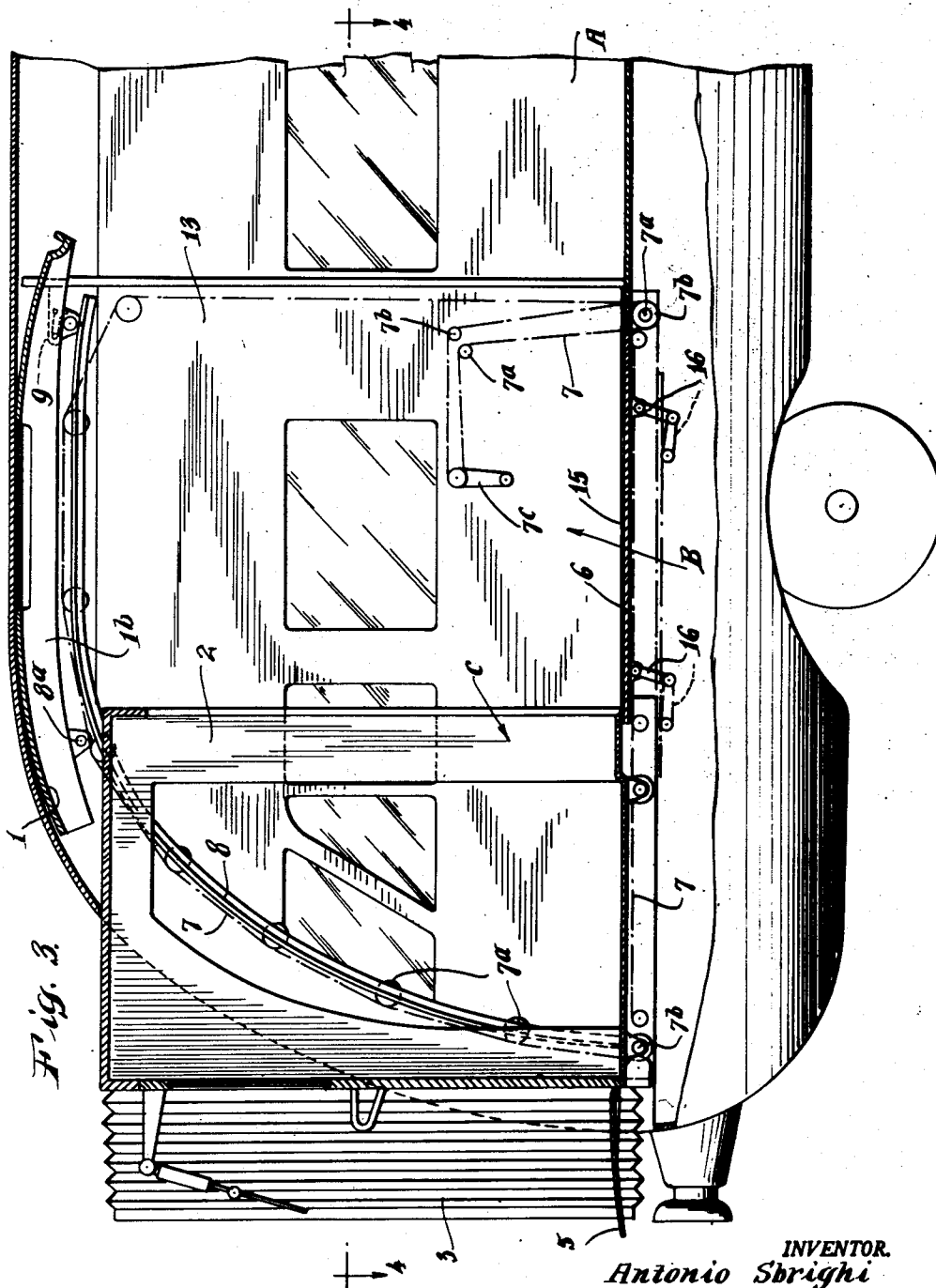
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STREAMLINED CORRIDOR VEHICLE

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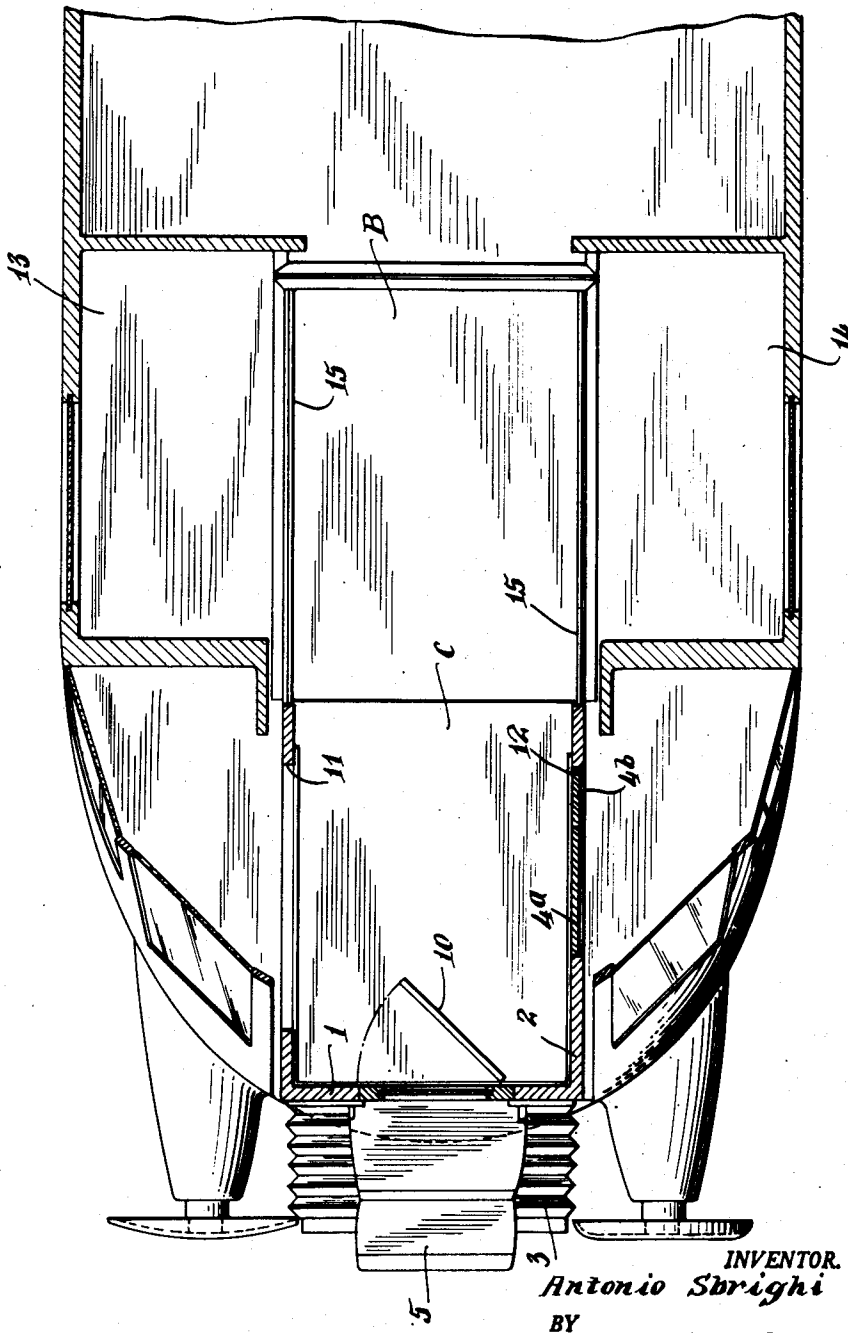
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Filed April 20, 1949

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Fig. 4.



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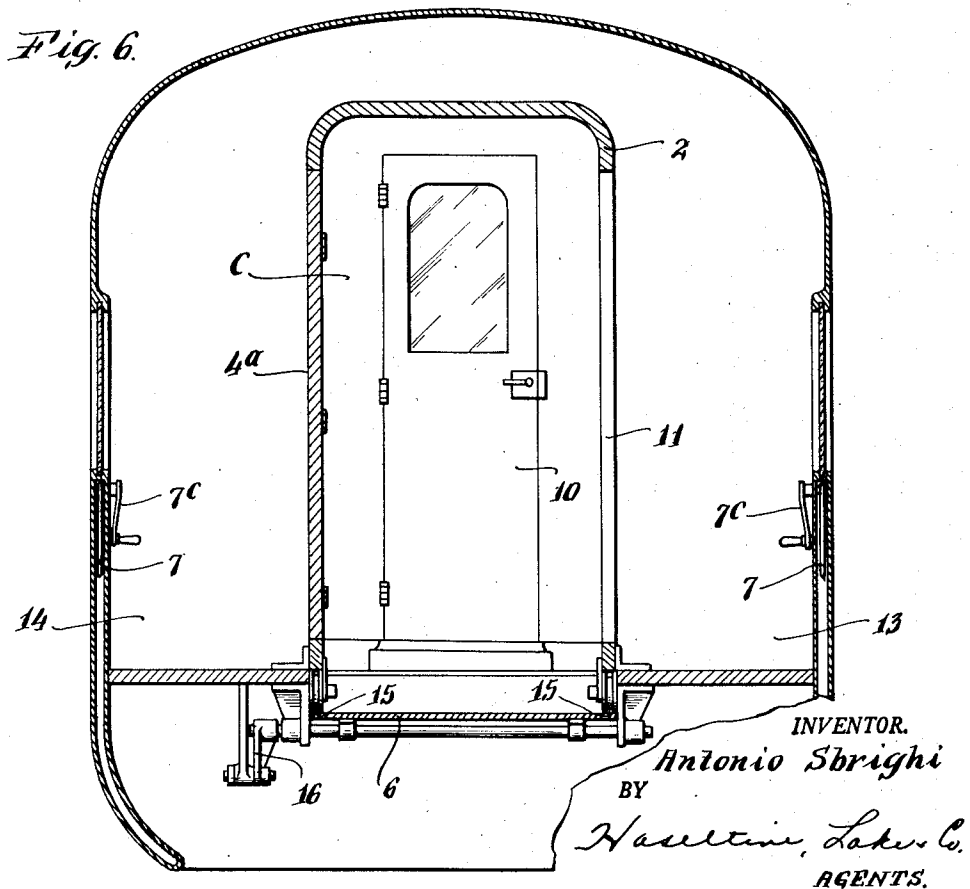
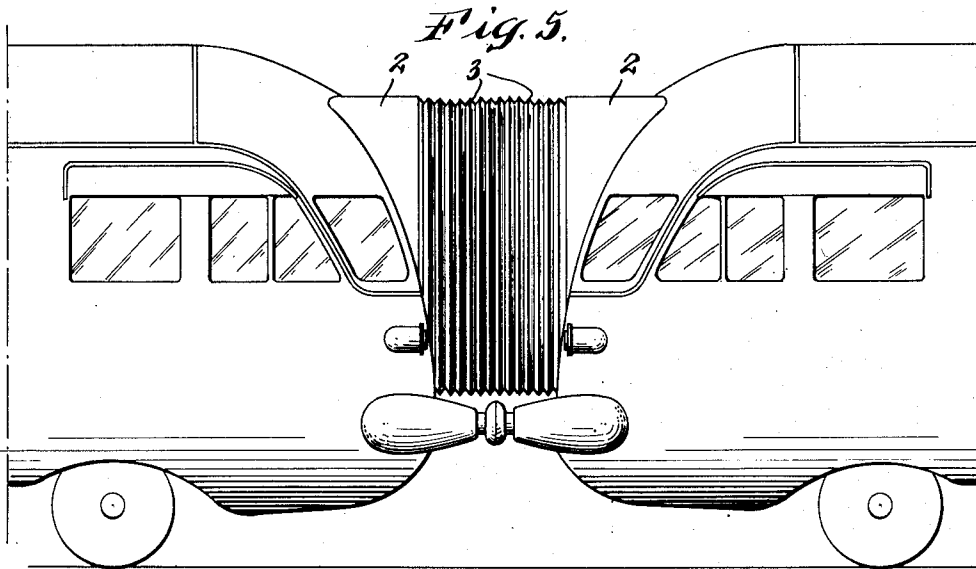
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STREAMLINED CORRIDOR VEHICLE

Filed April 20, 1949

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UNITED STATES PATENT OFFICE

2,642,816

STREAMLINED CORRIDOR VEHICLE

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Application April 20, 1949, Serial No. 88,535
In Italy October 15, 1948

1 Claim. (Cl. 105—8)

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This invention relates to structures defining passages for placing successive streamlined railway cars in communication with each other.

An object of the present invention is to provide structures which are operative to define corridors or passages between coupled railway cars and which may be retracted or withdrawn to an inoperative position at the ends of the train so as not to interfere with the streamlining of the train.

Another object is to provide a passage defining structure for a railway car having a control cabin at the end, wherein the passage defining structure, when in its retracted position, does not interfere with access to the control cabin or with visibility from the latter.

A further object is to provide a passage or corridor defining structure of the described character, wherein a smooth and continuous floor surface is provided through the structure when the latter is in its inoperative or withdrawn position as well as when it is extended to provide a communicating passage between successive railway cars.

In accordance with the present invention, the railway car is provided with a compartment for passengers and control cabins at the opposite ends which communicate with the compartment through relatively narrow connecting passageways. Each end of the railway car has a door covering an end opening and mounted for movement upwardly and away from the related end to a substantially horizontal position for uncovering the end opening. A corridor section is mounted for linear movement between a retracted or withdrawn position within the related narrow connecting passageway and an extended position in the control cabin and projecting through the end opening. The corridor section is open at its opposite ends and carries a bellows at the end facing toward the related end of the railway car for connection to a similar bellows on the adjacent end of a railway car which is next in line. The floor of the corridor section is at substantially the same level as the floor of the passenger compartment, and the floor of the connecting passageway is vertically movable between a depressed or lowered position, which it occupies when the corridor section is retracted or withdrawn, and a raised position flush with the floor of the passenger compartment for bridging the floor space between the passenger compartment and the corridor section when the latter is extended.

In order that the invention may be fully un-

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derstood, an illustrative embodiment thereof is hereinafter described in detail and shown in the accompanying drawings, which form a part hereof, and wherein:

Fig. 1 is a side elevational view, partly broken away and in section, showing a streamlined railway car having retractible mechanism for connecting the car to another with intercommunicating corridors in accordance with the present invention, and with such mechanism shown in its retracted or withdrawn position;

Fig. 2 is a top plan view, partly broken away and in section, of the railway car and retractible mechanism shown in the same condition as that represented in Fig. 1;

Fig. 3 is a view similar to Fig. 1, but showing the mechanism in its extended position for connection to the corresponding structure of an adjacent railway car;

Fig. 4 is a view similar to Fig. 2, but showing the mechanism in the same condition as is represented in Fig. 3;

Fig. 5 is a side elevational view showing two successive railway cars in a train coupled together and communicating with each other through mechanism embodying the present invention; and

Fig. 6 is a vertical sectional view taken along the line 6—6 of Fig. 1.

Referring to the drawings in detail, and initially to Figs. 1 and 2, it will be seen that the railway car or vehicle includes a compartment A occupying a substantial proportion of the length of the car for accommodating the passengers or other pay load. At each end of the railway car or vehicle, a control cabin C is provided and the latter is connected to the adjacent end of the passenger compartment through a relatively narrow connecting passageway or intermediate corridor B with stowage spaces 13 and 14 being provided at the opposite sides of the passageway B.

A doorway is formed at each end of the car or vehicle and is closed by a door 1 which has a sealing packing along the edges thereof and is shaped to follow the streamlined curvature of the related end of the car. The door 1, when released from its locked position in the related doorway, tilts to the position 1a of Fig. 1 and is mounted, by means of rollers 8a, on curved tracks 8, for movement upwardly and away from the related end of the car to a stowed position 1b (Fig. 3) against a stop 9. When in its stowed position 1b, the door is conveniently out of the way and it occupies space which is not usable for any other purpose. The movement of the door 1 along the

curved tracks 8 may be effected by a cable 7 having its ends fixed to the door 1 and a pulley arrangement 7a and 7b over which the cable is suitably trained to form a complete circuit. A crank 7c is provided for rotating a driving pulley engaging the cable 7 so that the door may be raised or lowered along the tracks 8 and stopped in any intermediate position between the positions 1a and 1b without the danger of its sliding or slipping.

A movable corridor section 2 is slidable on guides 15 extending from the connecting passageway or corridor B into the control cabin C so that the corridor section 2 is movable between a retracted position (Figs. 1 and 2), within the corridor B, and an operative position (Figs. 3 and 4), within the cabin C and projecting through the doorway. The end of the corridor section 2 facing toward the passenger compartment A is open, and the opposite end is provided with a door 10 and carries a bellows or collapsible hood 3 which projects through the doorway at the end of the car or vehicle when the corridor section is in its extended position (Figs. 3 and 4). The sides of the corridor section 2 are formed with openings 11 and 12 to permit access therethrough to the spaces 13 and 14 at the opposite sides of the corridor B when the section 2 is in its retracted position (Figs. 1 and 2) within the corridor B, and folding doors 4a and 4b are preferably provided to close the openings 11 and 12 when the corridor section 2 is in its extended position (Figs. 3 and 4) within the control cabin C.

A folding gangway 5 is connected to the floor of the corridor section 2 at the end of the latter carrying the bellows 3, and this gangway serves as a floor in the bellows, when the corridor section is extended (Figs. 3 and 4), and as a transitional incline from the floor of the corridor section 2 of the floor of the cabin C, when the section 2 is in its retracted position (Figs. 1 and 2).

As seen in Fig. 1, the floor of the corridor section 2 is at substantially the same level as the floor of the passenger compartment A so that, when the corridor section 2 is in its retracted condition, a smooth floor surface is provided between the compartment A and the corridor B. However, in order to bridge the gap or depression between the floor of the compartment A and the floor of the corridor section 2, when the latter is in its extended position, a vertically movable floor section 6 is mounted on rockable levers 16 within the intermediate corridor B, and the vertically movable floor 6 is raised (Fig. 3) to a position level with the floor of the passenger compartment A, when the section 2 is extended, or lowered to a position below the floor of the section 2, when the latter is retracted (Fig. 1). Finally, the cable 7 is also attached to the corridor section 2 so that, as the cable is displaced to move the door 1 out of the doorway and to its stowed position 1b, the corridor section 2 is simultaneously moved from its retracted position to its extended position to project the bellows 3 through the open doorway. Conversely, when the cable 7 is manipulated, by actuation of the crank 7c, to retract the section 2 into its inoperative position in the intermediate corridor B, the door 1 is

lowered and returned to its position for closing the doorway at the end of the railway car.

When the structure described above is provided at the adjoining ends of successive railway cars and the corridor sections 2 of such structures are extended, as in Fig. 5, the bellows 3 abut and with the corridor sections 2 provide a communicating passageway between the successive cars. When the corridor section 2 at each end of the train is retracted and the door 1 installed in its closed position, the ends of the train are again streamlined. Further, when the corridor section 2 is retracted, access may be had through the door 10 thereof into the control cabin C at the front end of the train, and the retracted section 2 in no way interferes with the visibility out of the control cabin. Finally, with the section 2 in its retracted position, access can still be had through the openings 11 and 12 into the storage spaces 13 and 14 at the opposite sides of the corridor B.

While I have illustrated a preferred embodiment of the invention and described the same in detail, it is to be understood that the present invention is not limited to that precise embodiment and that various changes and modifications can be effected therein without departing from the scope or spirit of the invention as defined in the appended claim.

I claim:

In a stream-lined vehicle having a passenger compartment, a control cabin at the end of the vehicle and an intermediate corridor between the compartment and cabin, the provision of retractable means for connecting the vehicle to another with intercommunicating corridors, said means comprising a doorway centrally located in the forward wall of the cabin, a door retractible from a vertical closed position in the doorway to a horizontal raised position above the cabin, a corridor section movable from a retracted position in the intermediate corridor to an extended position in the doorway, said corridor section having a floor and at least one side open for access laterally thereof, and including a folding door adapted to close the open side when the section is extended, a collapsible hood and a folding gangway connected to the forward part of said movable corridor section, a vertically movable floor section in the intermediate corridor whereby the floor of the movable corridor section may be lowered, when in retracted position on said movable floor, to the level of the passenger compartment floor, and the movable floor may be raised to said level when the movable corridor section is extended, and a cable transmission, including a crank mechanism, for coordinating the movements of the door to and from its raised position and of the movable corridor section to and from its extended position.

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