No. 688,953. Patented Dec. 17, 1901.

D. JOHNSEN.

RAILWAY CAR DOOR AND PLATFORM.

(Application filed Oct. 14, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

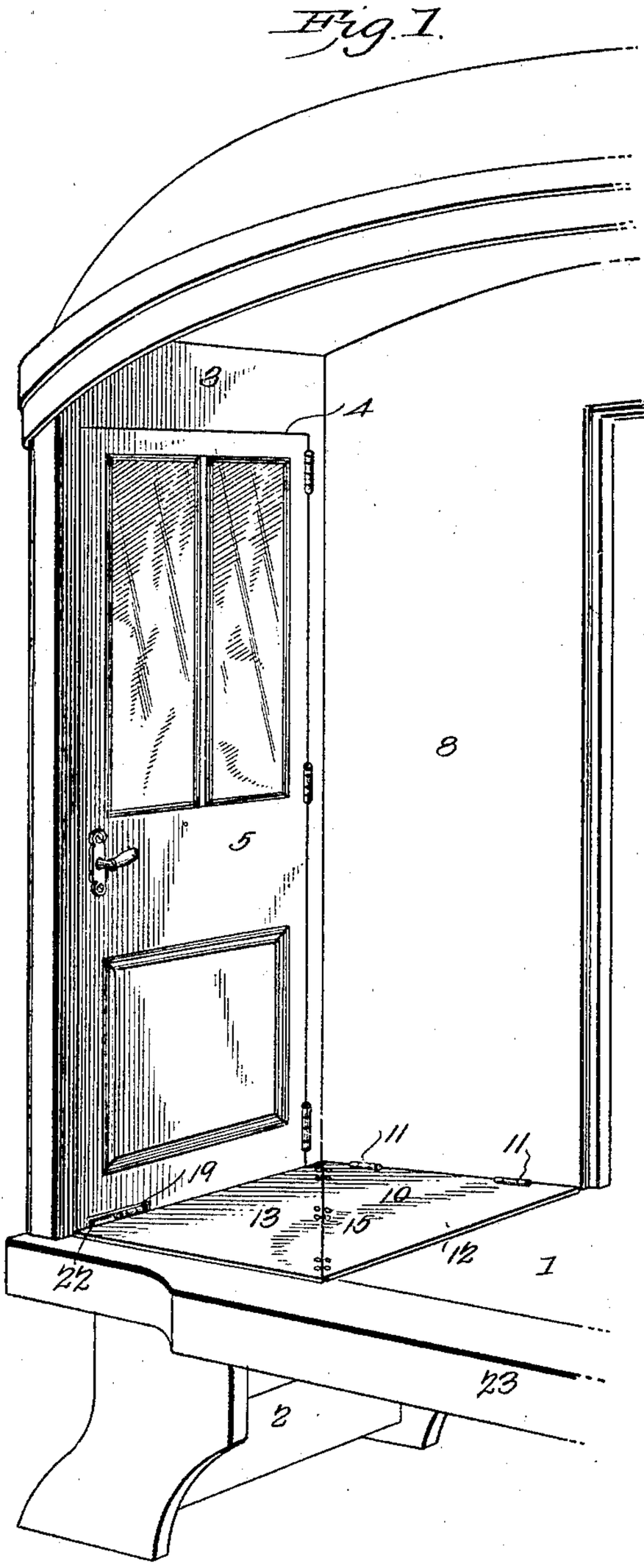

Fig. 2.

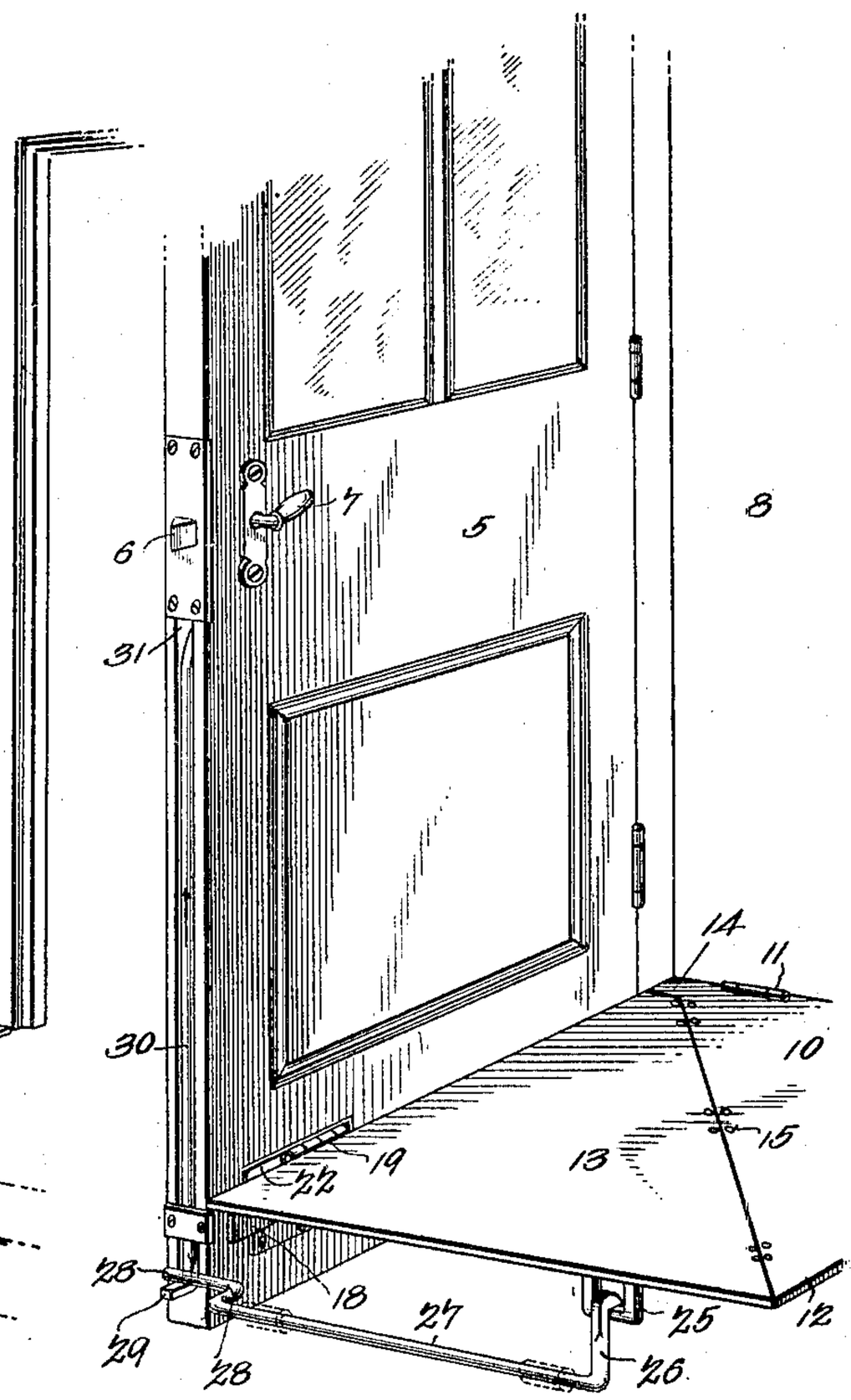

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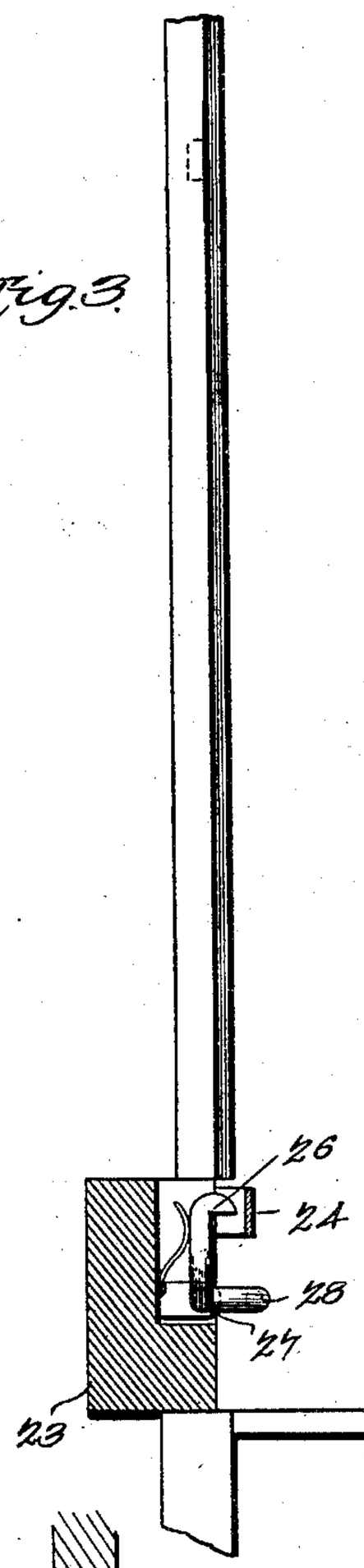
Fig. 3.



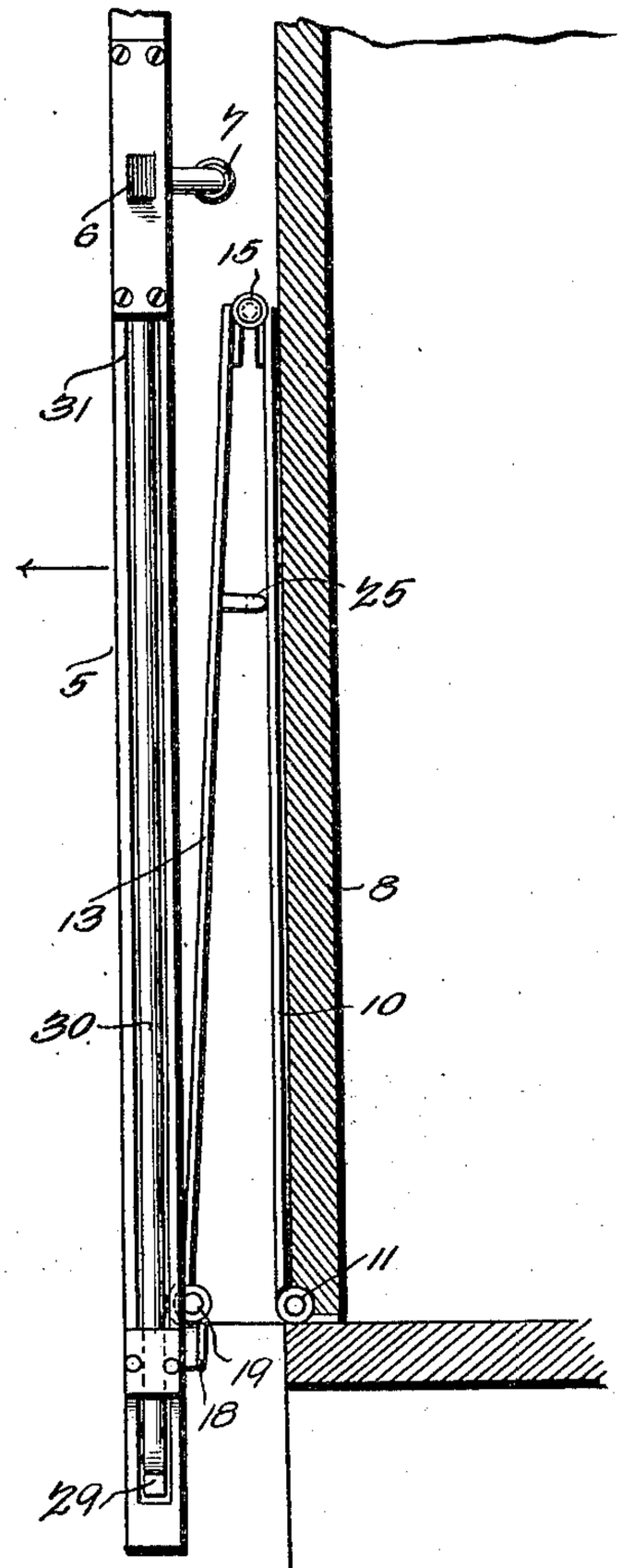


Fig. 6.

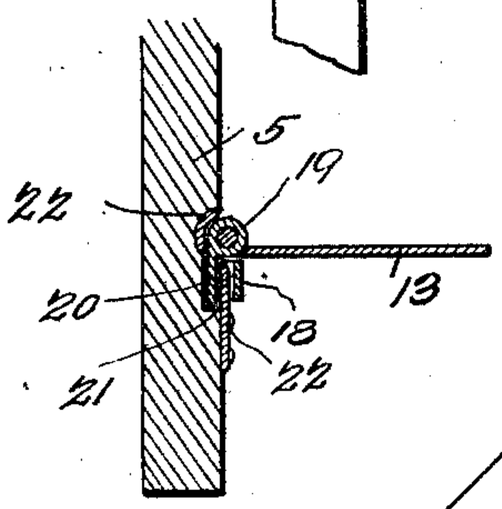


Fig. 4.

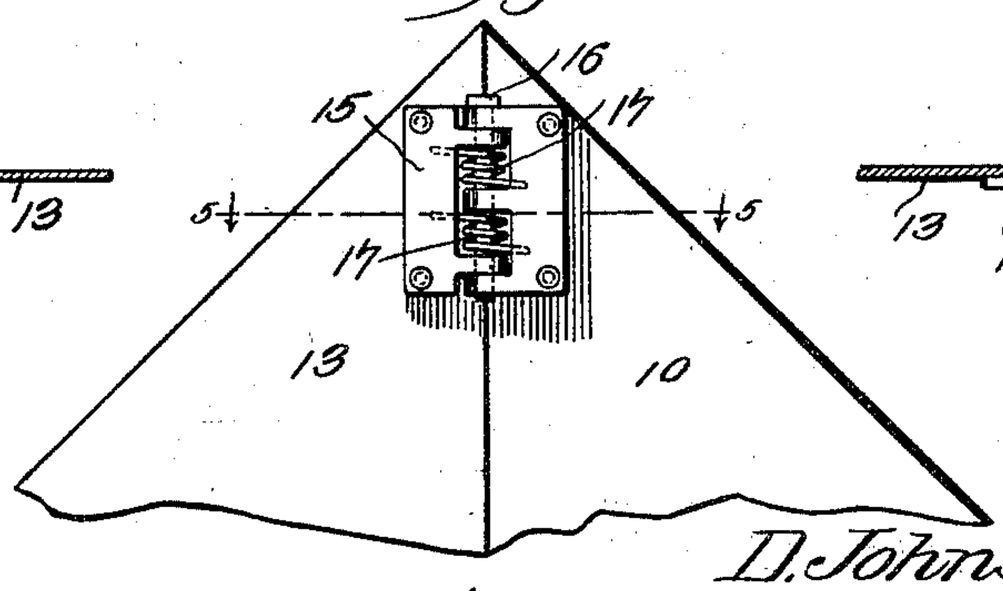
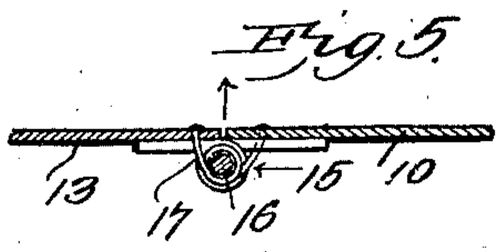


Fig. 5.



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UNITED STATES PATENT OFFICE.

DIDRIK JOHNSEN, OF ANACONDA, MONTANA.

RAILWAY-CAR DOOR AND PLATFORM.

SPECIFICATION forming part of Letters Patent No. 688,953, dated December 17, 1901.

Application filed October 14, 1901. Serial No. 78,628. (No model.)

To all whom it may concern:

Be it known that I, DIDRIK JOHNSEN, a citizen of the United States, residing at Anaconda, in the county of Deerlodge and State of Montana, have invented a new and useful Railway-Car Door and Platform, of which the following is a specification.

This invention relates to certain improvements in vestibuled railway-coaches, and has for its principal object to provide an improved form of platform for covering the space above the car-steps.

A further object of the invention is to provide, in connection with a platform of this character, a side door operably connected to the platform in such manner that the opening or closing of the door will effect the raising or lowering of the platform; and a still further object is to provide both the door and platform with locking-catches operable from the door-handle.

With these and other objects in view the invention consists in the novel construction and combination of parts hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a portion of the end of a car, illustrating a step-covering platform and door arranged and constructed in accordance with my invention. Fig. 2 is a similar view illustrating in detail the connections between the locking-catches of the door and platform. Fig. 3 is a sectional elevation taken longitudinally of the car-platform and showing the door and platform in open position. Fig. 4 is a view, looking from the under side, of a portion of the platform, illustrating a construction of spring-hinge connecting the sections of the platform. Fig. 5 is a transverse sectional elevation of the same on the line 5 5 of Fig. 4. Fig. 6 is a sectional elevation on the line 6 6 of Fig. 2, showing a construction of sliding hinge employed to connect one of the platform-sections to the door.

Referring to the drawings, 1 represents the stationary platform, and 2 the steps, of an ordinary form of railway-coach. The side of the coach is continued to the end of the platform, as indicated at 3, and is provided with a doorway-opening 4, which may be closed by a hinged door 5, said door being provided with a locking-catch 6, connected to a handle 7 and adapted to a suitable keeper in the door-jamb.

The auxiliary platform, which forms the principal part of the invention, is designed to cover the space above the steps between the stationary platform and the side door, and said platform when in position is substantially rectangular in form, as clearly shown in Figs. 1 and 2. The platform, which may be formed of wood or metal, or a combination of both, is divided diagonally into two sections, each having a substantially triangular contour and connected one to the end wall 8 of the car and the other to the door 5 and the adjacent edges of the two sections being hinged together, so that when the door is opened they may fold together in the space between the door and the end wall of the car, as shown in Fig. 3, occupying but very little space and leaving the steps clear for the ingress and egress of passengers.

The section 10 of the auxiliary platform is connected by hinges 11, of any ordinary character, to the rear wall of the car, and one of its edges, as 12, is designed to rest upon the edge of the main platform 1. The divisional point between the section 10 and the section 13 of the platform is in the main on a diagonal line; but at that corner of the platform adjacent to the doorway-hinges the line of separation is at a right angle to the door when closed, as shown at 14 in Fig. 2. The section 13 is connected to the section 10 by three hinges 15, at least one of which should be a spring-hinge, as shown in Figs. 4 and 5, the pintle 16 of the hinge being provided with torsion-springs 17, having their opposite ends bearing against the opposite leaves of the hinge, the tendency of the springs being to move the parts to the closed position, as indicated by the arrow in Fig. 5. The door 5 is provided with a transversely-disposed strip 18, forming a support for the adjacent edge of the section 13 of the platform, and said section 13 is connected to the door by a sliding hinge 19, one of the leaves of which is secured to the under side of the section 13, the opposite leaf 20 being adapted to a suitable guideway 21, formed in the rear of the door and permitting a movement of the hinge in a di-

rection parallel with the pintle thereof. In order to prevent any vertical play or displacement, the pintle portion of the hinge is partially housed within a longitudinal casing 22, as shown. The outer edge of the section 13 is supported partly on the end platform or buffer-beam 23 and partly by a strip 24, secured to the inner side of said beam, as illustrated.

In order to maintain the platform in open position, as indicated in Figs. 1 and 2, the section 13 is provided with a keeper 25, which passes between the inner edge of the beam 23 and the strip 24 and is engaged by a spring-pressed latch 26, the latch serving to hold the platform in proper position against the tendency of the spring hinge or hinges. The latch 26 is carried on a rod 27, adapted to suitable bearings within a recess formed in the inner face of the beam 23, and the outer end of the rod is provided with a crank-pin 28, which when the door is closed is in engagement with a finger 29, projecting from the lower end of a vertically-disposed rod 30, adapted to a suitable recess 31 in the door, the upper end of said rod being operatively connected to the handle 7 and adapted to be vertically reciprocated thereby.

The device when in use will present the appearance illustrated in Fig. 1, a continuous platform being provided between the doors at the opposite sides of the platform. When the handle 7 is turned to open the door, it will withdraw the catch 6 from its keeper and at the same time will move the bar 30 in an upward direction, causing through the finger 29 and crank-pin 28 a rocking movement of the rod 27 and withdrawing the catch 26 from engagement with the keeper 25 of the section 13 of the platform. As soon as the platform-sections are released, the springs of the hinges will act to fold them together, and the springs may be made, if necessary, of sufficient strength to complete the opening movement of the door and to move the door and platform-sections to the fully-closed position illustrated in Fig. 3. Generally such a complete movement will not be necessary, the springs being usually of sufficient strength to effect only an initial movement of the sections, and the door being then opened by pulling or pushing on the same. The connection between the parts is such that a slidable hinge is usually considered necessary, the section 13 during the closing movement being moved transversely of the door in a direction away from the hinge thereof. This movement is provided for by the sliding hinge 19, as hereinbefore described. If desired, the sliding hinge or hinges may be placed between the section 10 and the end wall of the car.

Although the construction herein described and illustrated is the preferred form of the device, it is obvious that many changes may be made in the form, proportions, and minor details of construction without departing from the spirit or sacrificing any of the advantages of my invention.

Having thus described my invention, what I claim is—

1. A device of the class specified, comprising two sections hinged to the side door and to the end wall of a car respectively, and a hinge connection between the adjacent edges of said sections.

2. A device of the class specified, comprising a door, a platform-section hinged thereto, a second platform-section hinged to the end wall of a car, a hinge connection between the adjacent edges of said sections, said sections being adapted to be folded together between the end wall of the car and the door when the latter is in open position.

3. A device of the class specified, comprising two substantially triangular sections hinged one to the car-door and one to the end wall of a car, and a hinged connection between said sections.

4. In a device of the class specified, the combination of a platform formed in two sections, a side door hinged to one of said sections, the opposite section being hinged to the end wall of a car, a hinge connection between the adjacent edges of said sections, and means for simultaneously unlocking the door and the platform.

5. The combination of the platform formed in two sections, a spring tending to move said sections to a closed position, hinges connecting one of said sections to the end wall of a car, a side door, a sliding hinged connection between said side door and the opposite section, and a closing latch or lock for said door.

6. The combination of the platform formed in two hinged sections, a spring tending to move said sections to a closed position, hinges connecting one of said sections to the end wall of a car, a side door, a sliding hinged connection between said side door and the opposite section, a keeper carried by the platform, a latch for engagement therewith, a handled latch on the car-door, and means for connecting the car-door latch with the platform-latch, substantially as specified.

7. The combination of the car-platform formed of two substantially triangular-hinged sections, a hinged connection between one of said sections and the end wall of the car, a sliding hinged connection between the opposite section and the side door, the side door, and supports carried by the side door and by the car structure for the support of said second section, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

DIDRIK JOHNSEN.

Witnesses:
NATHALIE WYAN,
RASMUS O. WYAN.