

No. 751,935.

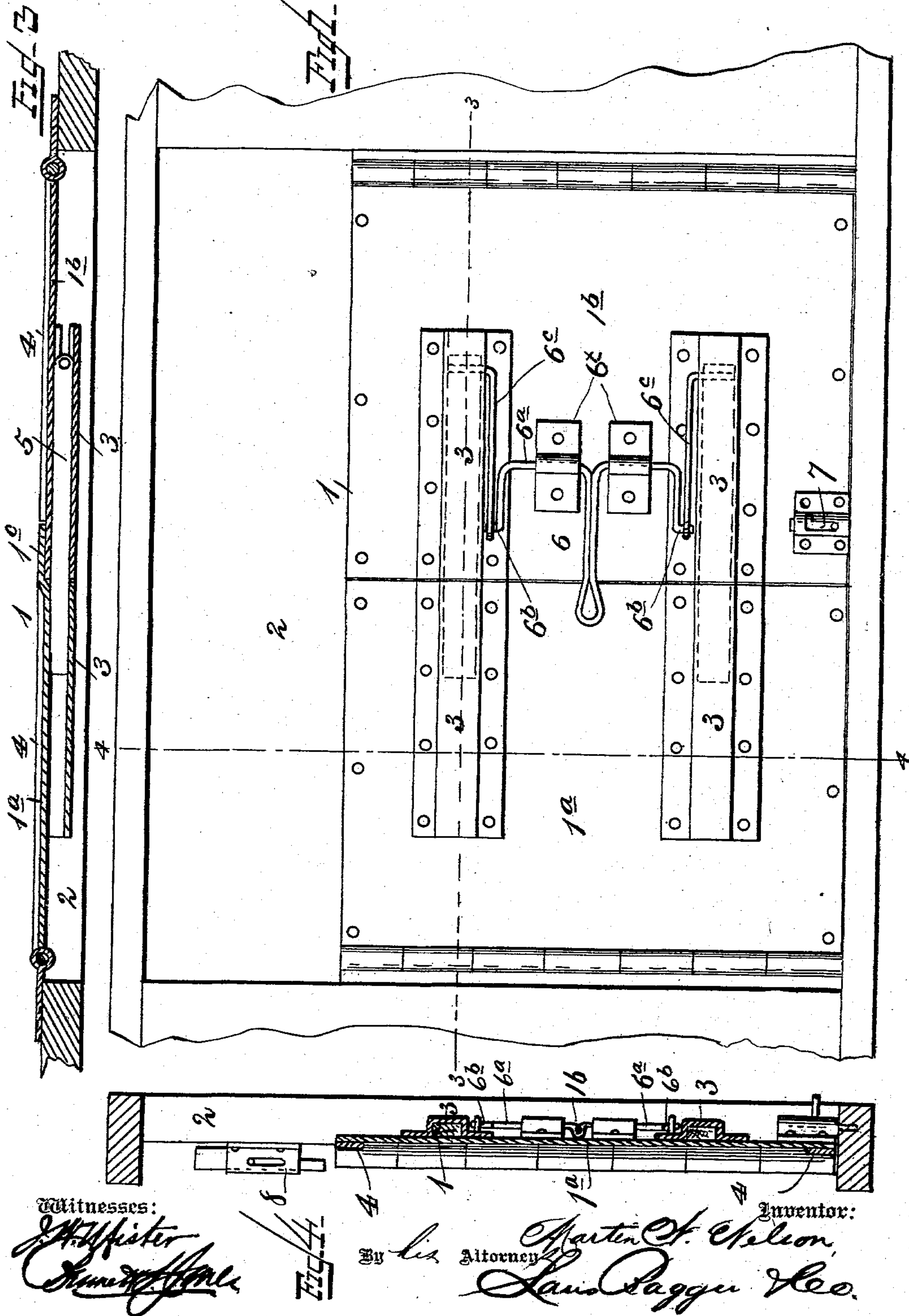
PATENTED FEB. 9, 1904.

M. W. NELSON.
CAR DOOR.

APPLICATION FILED SEPT. 8, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:

W. H. Foster
James H. Jones

By *his*

Attorney

Martin C. Nelson
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Inventor:

No. 751,935.

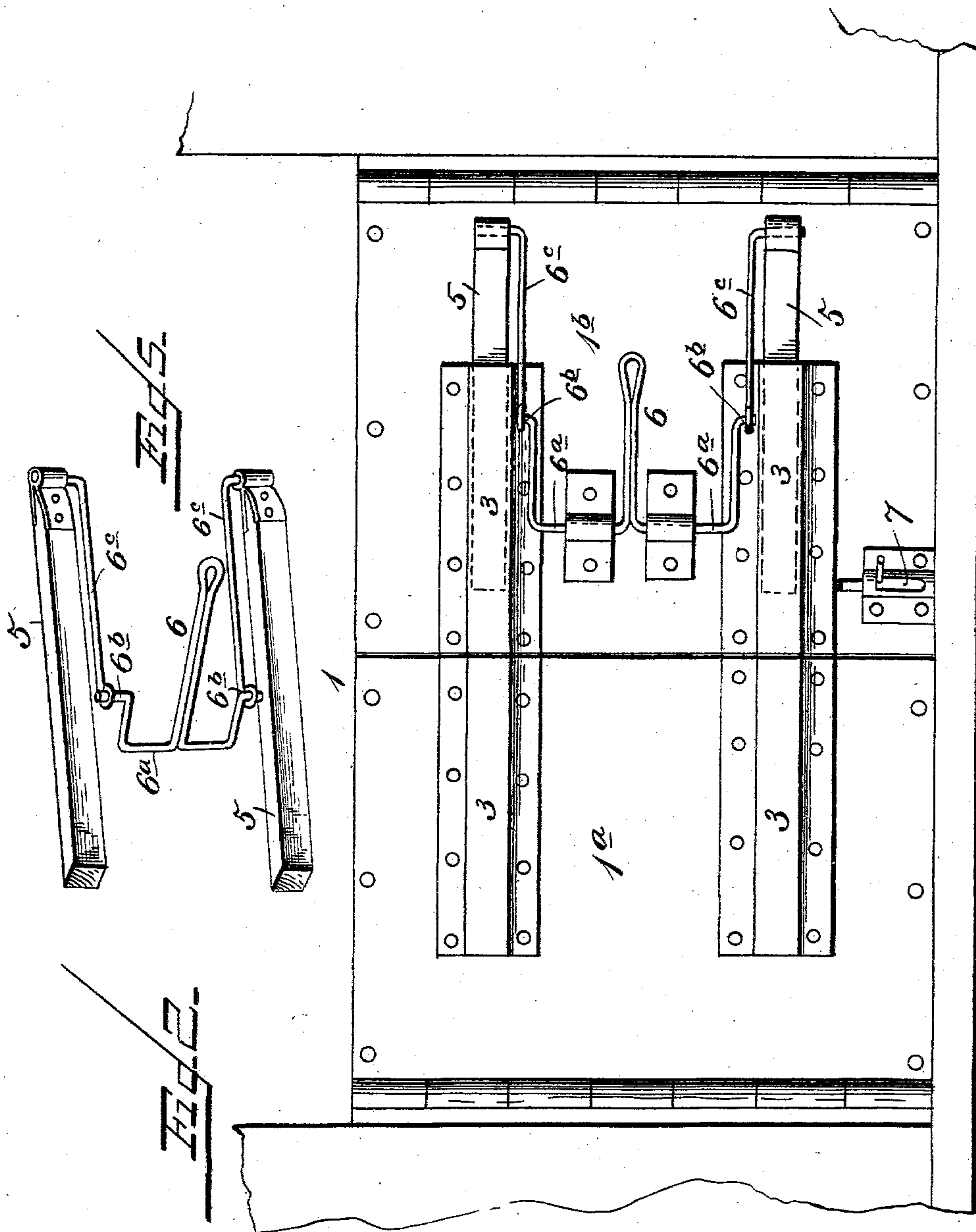
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2 SHEETS—SHEET 2.



Witnesses:

J. W. Webster
James H. [unclear]

Inventor:

By *Martin C. Nelson*
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UNITED STATES PATENT OFFICE.

MARTIN W. NELSON, OF KENT, MINNESOTA.

CAR-DOOR.

SPECIFICATION forming part of Letters Patent No. 751,935, dated February 9, 1904.

Application filed September 8, 1903. Serial No. 172,406. (No model.)

To all whom it may concern:

Be it known that I, MARTIN W. NELSON, a citizen of the United States, residing at Kent, in the county of Wilkin and State of Minnesota, have invented new and useful Improvements in Car-Doors, of which the following is a specification.

This invention relates to improvements more especially in doors for cars, as for freight, &c., and covers subject-matter previously claimed in my concurrent application filed May 19, 1903, and bearing Serial No. 157,871. It has for its object to provide for readily removing the contents of a loaded car without wasting said contents or initially opening the door its full width, thus permitting more advantageous access to said contents for such purpose. It is also simple, easily constructed, and cheap of manufacture.

Said invention consists of the novel combination and arrangement of the parts, including their construction, entering into or constituting said door, all substantially as herein-after more fully disclosed, and specifically pointed out by the claims concluding the following specification.

In the accompanying drawings, illustrating the preferred embodiment of my invention, Figure 1 is a front view with the door closed and locked. Fig. 2 is a like view showing the door closed and unlocked. Fig. 3 is a horizontal section taken on the line 3 3 of Fig. 1. Fig. 4 is a vertical section taken on the line 4 4 of Fig. 1. Fig. 5 is a detached perspective view of the locking mechanism.

In the carrying out of my invention I construct the door 1 in two parts or sections 1^a 1^b, hinged at their rear vertical edges to the car at opposite sides of the doorway or opening 2, respectively, in any usual way, preferably, however, as shown, said door serving as a closure for about the lower two-thirds of said opening. Upon each door-section is secured a series of two keepers 3, arranged a suitable distance apart one above the other, the keepers upon one door-section having their outer or forward ends about flush with that edge of the door-section, while the corresponding ends of the other keepers are distant from that edge of the opposite door-section,

said ends of said keepers, however, meeting when said door-sections are brought together. The latter door-section has preferably applied or riveted thereto upon its inside, along the upper and lower edges thereof, strips or bars 4, whose forward or outer ends terminate about at points in a line parallel with the forward or outer ends of the keepers secured to said door-section. Said door-section is extended at this point, as at 1^c, to suitably underlap the opposite door-section as said door-sections come together, said extension being slightly deflected inwardly to permit the outer surfaces of said sections to stand flush with each other.

Bolts 5 are arranged or housed in the keepers upon one door-section and in their projected position engage the keepers upon the opposite door-section to effect the holding of said sections together, as in locking the door, as will fully appear later. The bolt-actuating lever 6 comprises, preferably, a T-shaped member 6^a with its cross-head portion pivoted, preferably, in eye-forming straps or plates 6^x, suitably secured to the door-section, said cross-head portion having its right-angled or rebent terminals 6^b connected to the rear ends of the bolts 5 by means of links or members 6^c, pivoted to said terminals and bolts, respectively. The action of said lever, with its adjunctive parts, is to slide or move the bolts so as to engage them with the keepers upon the opposite door-section, as above noted, or to be withdrawn therefrom according to the direction of movement given to the handle or stem of the T of the lever, thus providing for the ready locking and unlocking of the door-sections. Of course the eccentricity of connection thus provided for between said bolts and lever forms an effectual locking action for the former, while the latter is permitted to lie flat upon the door-section and itself also be locked against involuntary movement in either of its extreme positions, as when the bolts are full-way projected or full-way retracted in locking and unlocking the door-sections.

An additional bolt 7, applied to the same door-section bearing the previously-referred-to bolts 5 and engaging a keeper or socket in the sill or car-floor, is provided especially for

initially holding the door-sections, thus effecting the alinement of the bolts 5 and the keepers receiving the latter when projected, as in locking the door-sections.

5 Upon the inside of the car, at each side of the doorway or opening, is a bolt or catch 8, suitably arranged to provide for engaging and holding each door-section when swung inwardly, the door-sections being adapted to be
10 swung in that direction as well as outwardly.

It is observed that in opening the car the door-sections being initially retained by the bolt 7 the unlocking operation is readily effected, as the locking-bolts 5, thus relieved of
15 pressure from the contents of the car, which would otherwise be transmitted by the door-sections thereto, are adapted to be slid or moved out of the opposite series of keepers with the application of simply the requisite force only
20 necessary to actuate the lever 6.

It will be understood that I do not limit myself herein to details of construction, as these may be modified in many particulars without departing from the spirit of my invention.

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

1. A car-door comprising two hinged parts or sections, having upper and lower alining series of keepers, upper and lower bolts housed
30 in one of said series of keepers and, when projected, engaging the other of said series of keepers, and a common crank-lever for actuating said bolts, having two arms arranged
35 parallel with itself and means connecting said arms to said bolts.

2. A car-door embracing two hinged parts or sections having upper and lower alining se-

ries of keepers and the forward edge of one underlapping that of the other, upper and
40 lower bolts housed in one of said series of keepers and, when projected, engaging the other of said series of keepers, a common crank-lever for actuating said bolts, having
45 two arms arranged parallel with itself and means connecting said arms to said bolts, and an additional bolt for initially holding said door-sections.

3. A car-door embracing two hinged sections or parts having upper and lower alining
50 series of keepers, upper and lower bolts arranged in one of said series of keepers and, when projected, engaging the other of said series of keepers, and a T-shaped lever pivoted
55 upon one door-section and having crank-arms extending parallel with itself and links connected to said arms and to said bolts:

4. A car-door embracing two hinged sections or parts and provided with upper and lower alining series of keepers, upper and
60 lower bolts arranged in one of said series of keepers and, when projected, engaging the other of said series of keepers, and a T-shaped lever having its cross-head fulcrumed upon
65 one door-section, and said cross-head provided with right-angled terminals arranged parallel with the stem or handle of said lever, and links connecting said terminals and said bolts.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses. 70

MARTIN W. NELSON.

Witnesses:

A. S. LE MAY,
W. A. LAUGERIN.