

No. 796,026.

PATENTED AUG. 1, 1905.

F. G. WILLARD.
DOOR FASTENING DEVICE.
APPLICATION FILED JUNE 23, 1904.

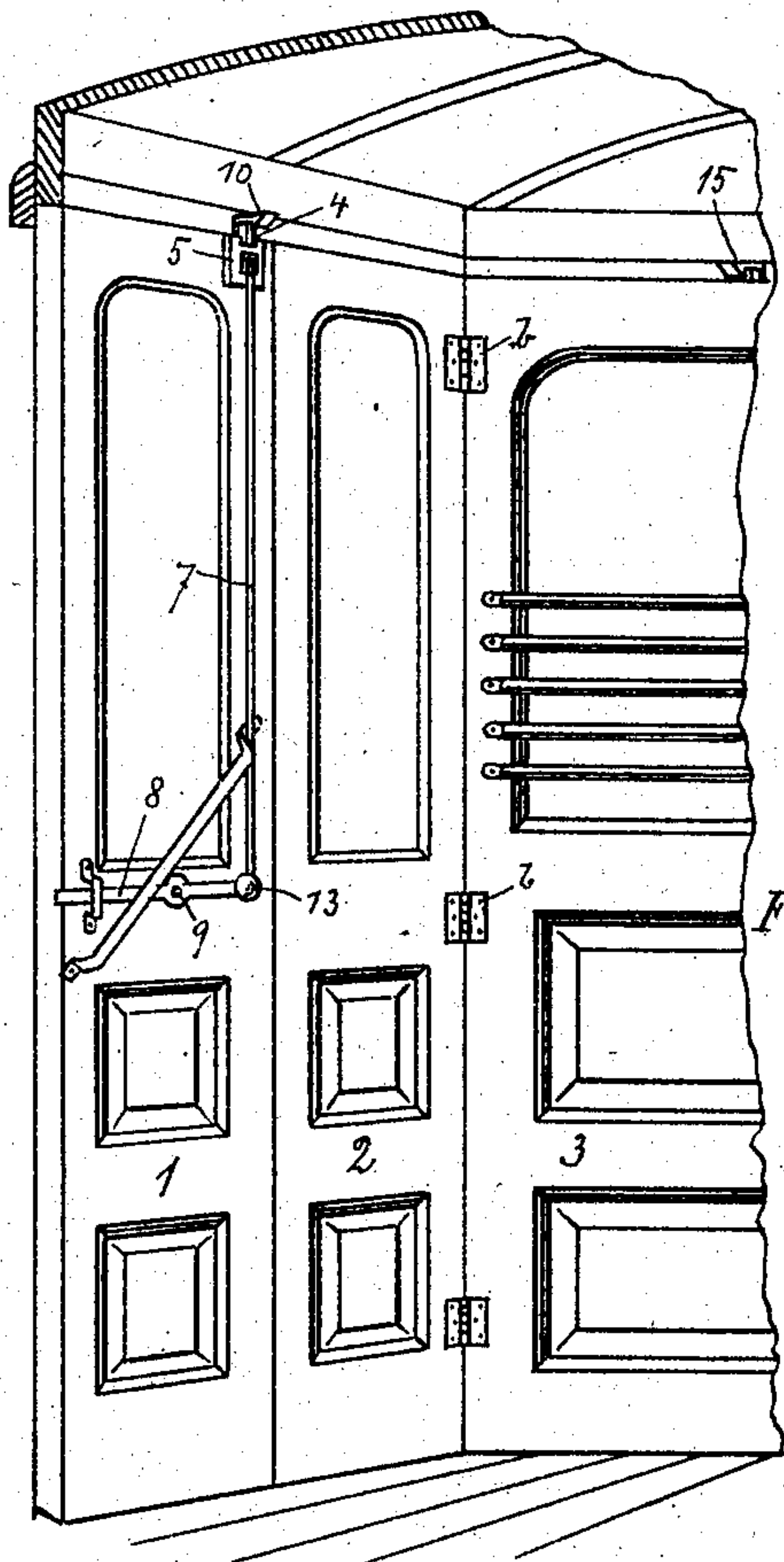


Fig. 1.

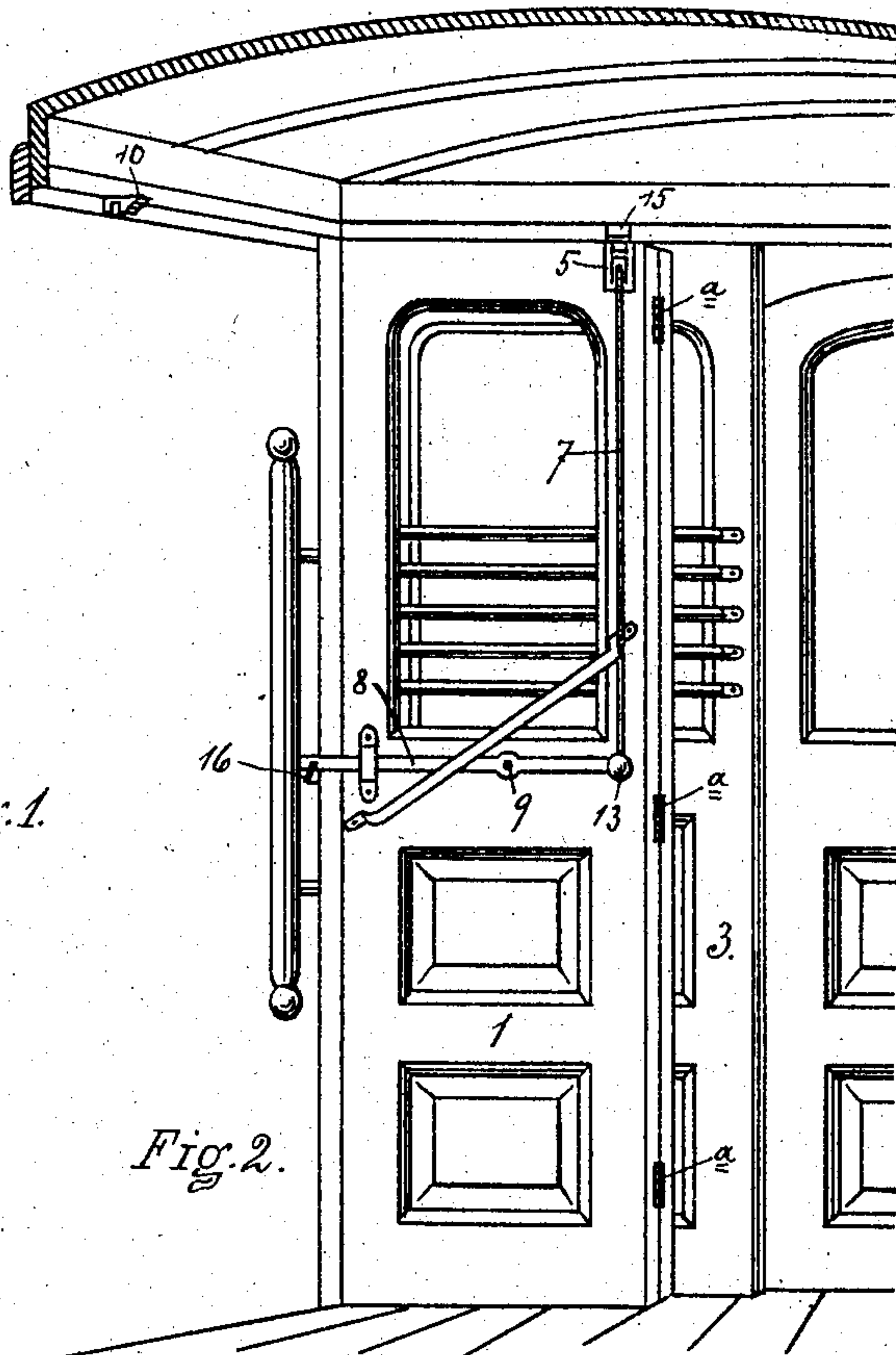


Fig. 2.

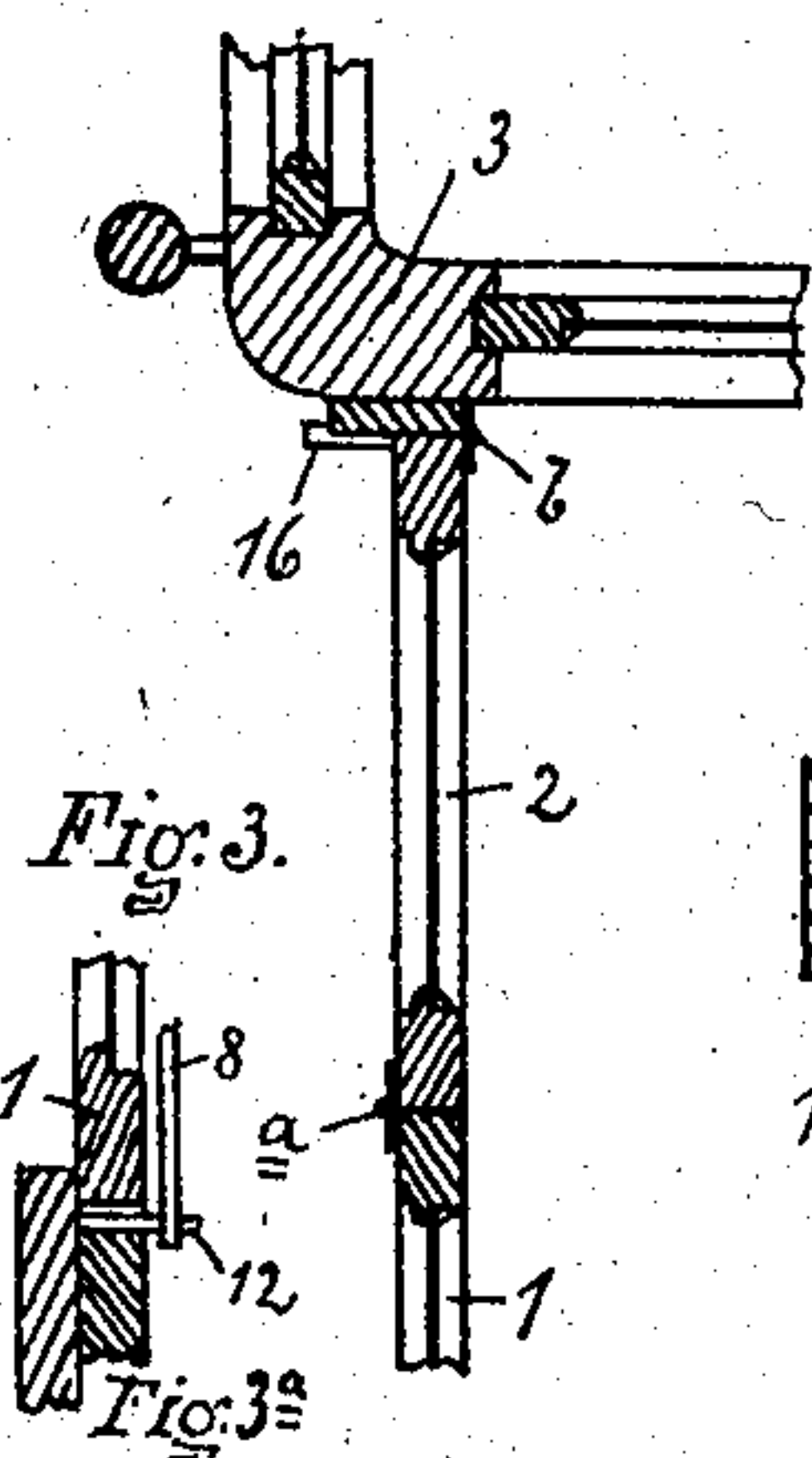


Fig. 3.

Fig. 3a.

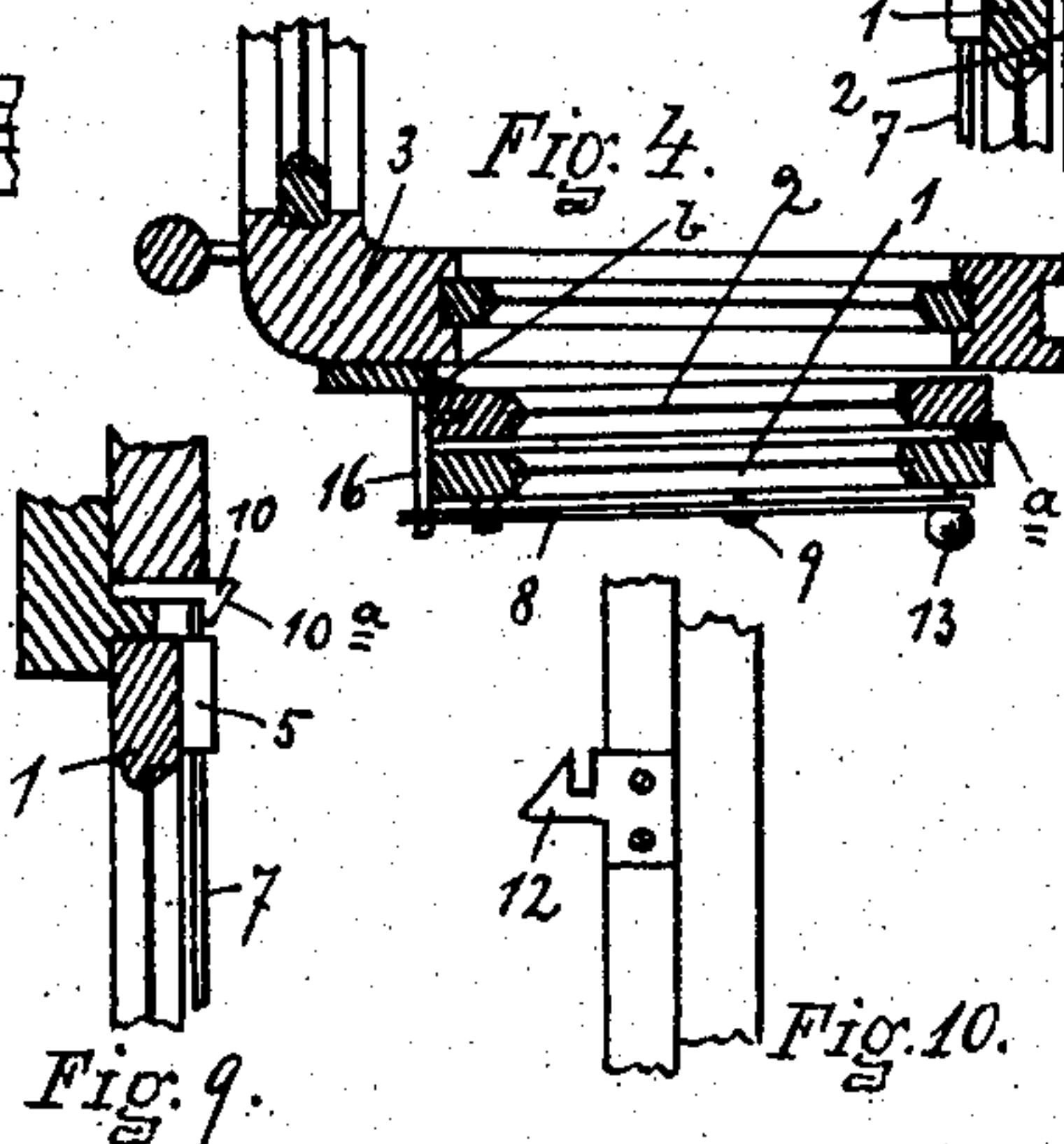


Fig. 4.

Fig. 9.

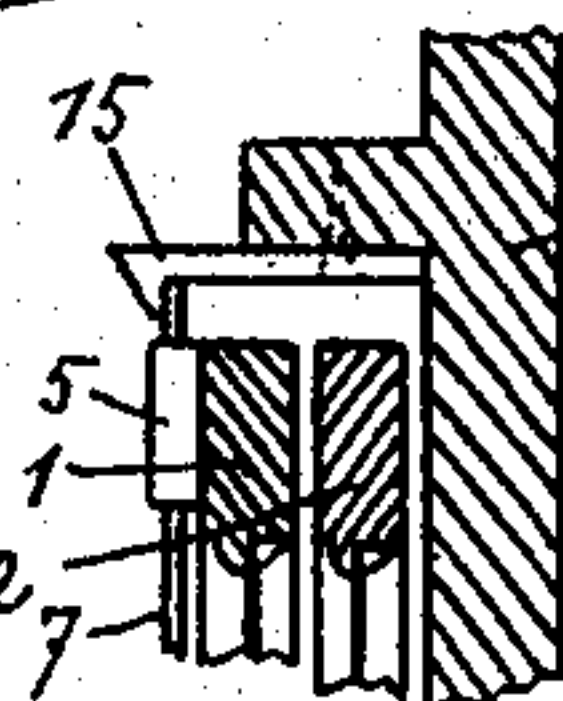


Fig. 7.

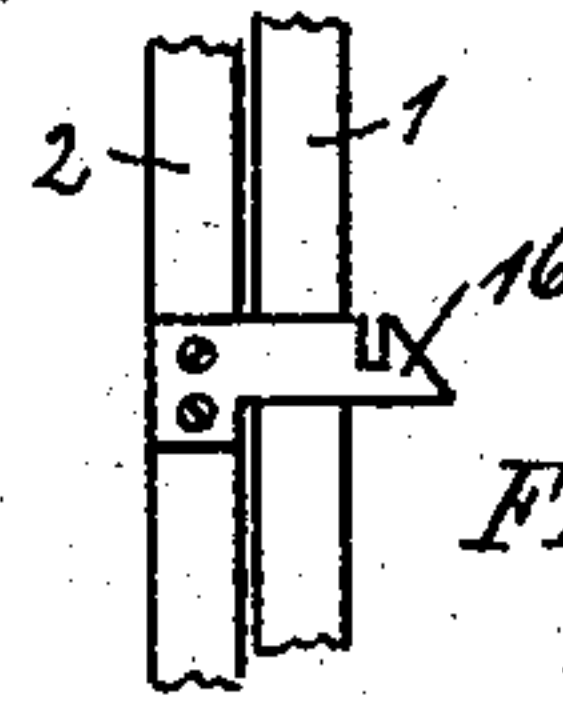


Fig. 8.

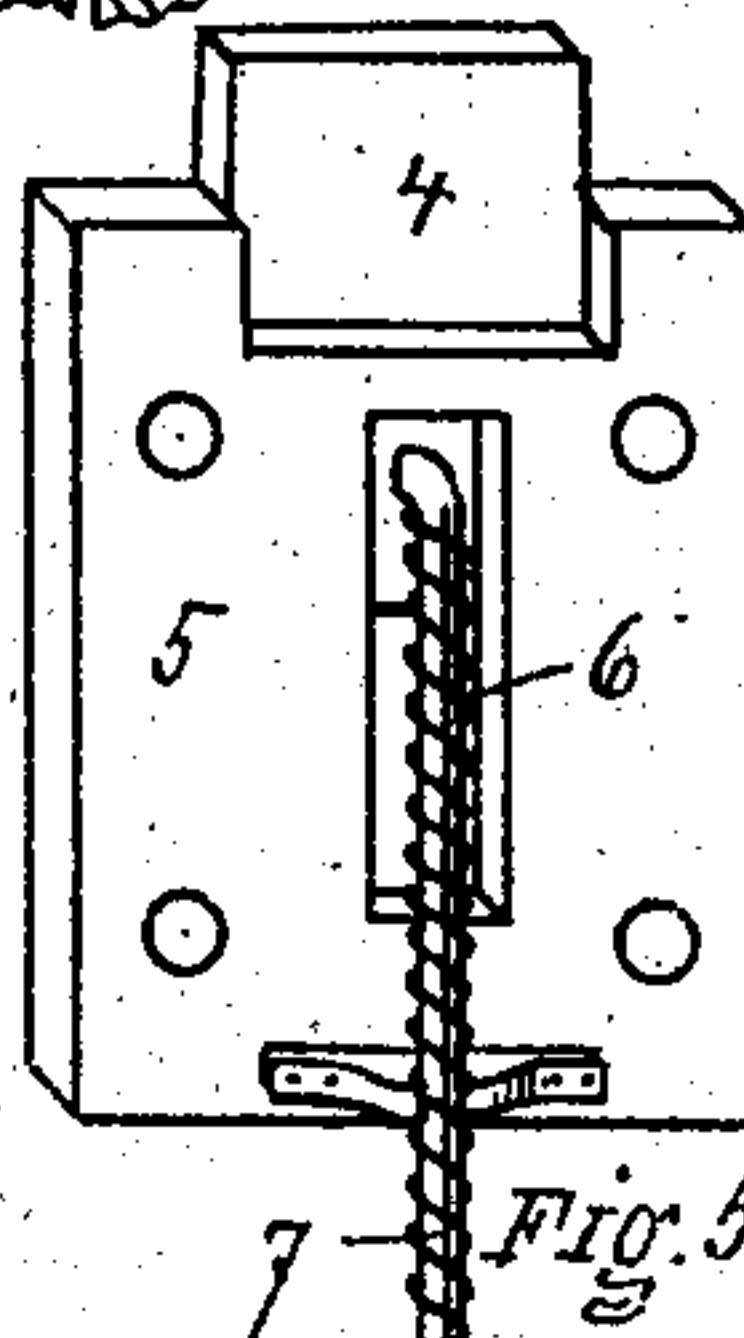


Fig. 5.

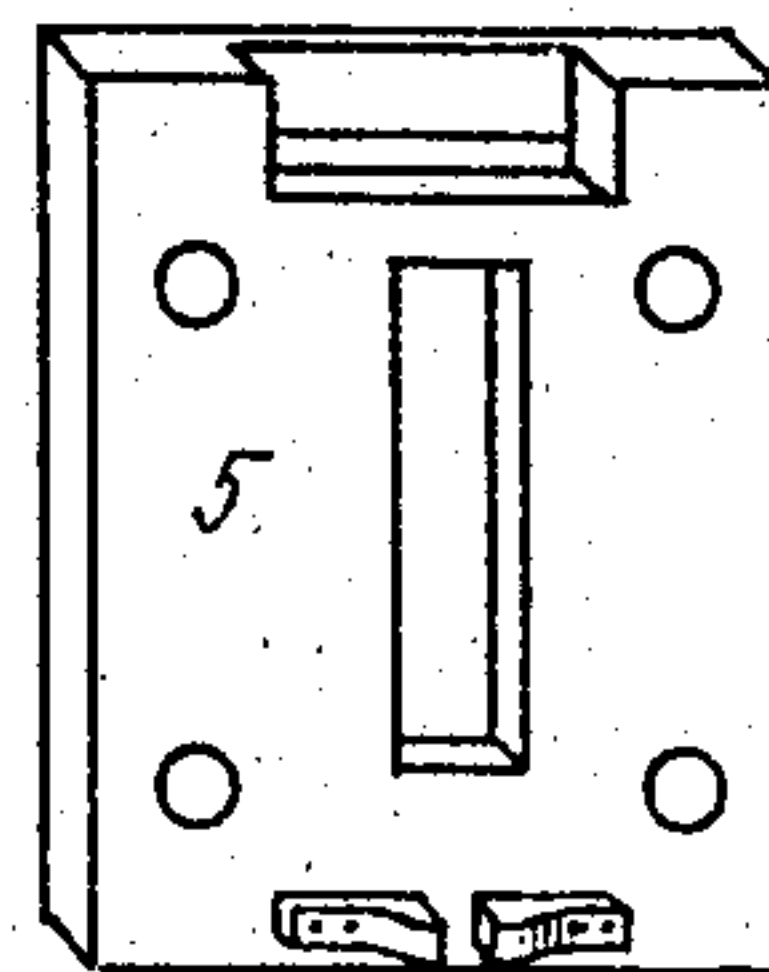


Fig. 6.

WITNESSES.

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DOOR-FASTENING DEVICE.

No. 796,026.

Specification of Letters Patent.

Patented Aug. 1, 1905.

Application filed June 23, 1904. Serial No. 213,749.

To all whom it may concern:

Be it known that I, FREDERICK G. WILLARD, of Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Door-Fastening Devices; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form part of this specification.

The object of my invention is to provide means for conveniently and securely securing folding doors, and particularly such doors as are used in connection with the vestibules of cars.

In the drawings, Figure 1 shows a perspective view from the inside of the vestibule of a street-car of a pair of doors in their closed position with my improved fastening devices applied thereto. Fig. 2 shows the same with the doors in open and folded position. Fig. 3 shows a detail view, partially in section, of the doors and their support, the doors being in their closed position. Fig. 3^a shows a more detailed view of the latch or lock engaged by the catch-piece when the door is closed. Fig. 4 shows in a similar manner the doors in their open or folded position. Fig. 5 is a perspective view of one portion of the fastening devices. Fig. 6 is a detail view of one of the parts of the construction shown in Fig. 5. Fig. 7 is a detail view showing the doors in folded position. Fig. 8 is a detail view of a catch employed in the construction. Fig. 9 is a detail view, partially in section, showing the catch for securing the doors at the top in closed position. Fig. 10 shows detail inside elevation of a catch employed in the construction.

Referring to the reference letters and figures in a more particular description, 1 indicates one of the folding doors, which is hinged at one edge at *a* to the door 2, which is the other of the folding doors and which door 2 is hinged at its edge at *b* to the fixed support 3, which is in this case a street-car body. At its hinged edge the door 1 is provided at the top with a sliding bolt 4, mounted in a case 5, secured on the upper end of the door and operated by means of the spring 6 and the rod 7. At the lower end the rod 7 connects at 13 with the postero extension of the latch 8, which latch extends substantially the entire

width of the door 1 and is pivoted thereto at 9. The bolt 4 is adapted to engage with a catch-plate 10, secured to the door frame or casing at the top in suitable position and which catch is preferably provided with an inclined face 10^a. The latch 8 is adapted to engage with a fixed hook or catch 12, secured on the door-jamb in suitable position to engage therewith when the door is in closed position. The latch 8 is preferably provided on its rear end (that is to say, the end which connects with the rod 7) with a knob 13, by means of which the device can be conveniently operated.

It will be observed from Fig. 1 that when the bolt 4 is engaged with the catch-plate 10 and the latch is engaged with the catch 12 the two doors 1 and 2 are securely held in closed position and that by means of the knob 13 the two can be conveniently and simultaneously operated to release both the bolt and the latch to permit the doors to be operated. Other catches are provided for securing the doors in folded position. The one at the top is indicated by 15 and is secured at a suitable point to the end of the car. The other catch is indicated by 16 and is secured on the edge of door 2 in suitable position to be engaged by the operating end of the latch 8. When in folded position, the bolt 4 engages with the catch-plate 15, while the operative end of the latch 8 engages with the catch 16, holding the doors together and securely in folded position. The catch 16 projects but a trifle from the edge of door 1, so that it is not objectionable when the doors are in their open and folded position.

When the doors are closed, the catch projects beyond the jamb only a trifle, as shown particularly in Fig. 3, and it will not be found objectionable in that position.

It will be noted that the device is exceedingly simple in construction and convenient for operation and may be closed and latched automatically or folded and latched automatically and not liable to get out of order even in such hard usage as street-car appliances are subjected to.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a pair of doors hinged to each other and one of which is hinged to a fixed casing, of a bolt provided at the top of the door which is hinged to the other adjacent to this hinge, a latch extending substantially the full width of the same

door and pivoted intermediate its length thereto, a connection between the bolt and postero extension of the latch and catch-pieces 10 and 12, 15 and 16, arranged to coöperate with the bolt and latch, substantially as set forth.

2. The combination of a pair of doors, one of which is hinged directly to the casing and the other hinged thereto, fixed catch-pieces supported substantially in the plane of the top of the door in the positions to secure the doors in folded open and in closed positions respectively, a locking-bolt mounted on the top of that door which is hinged to the other adjacent to its hinged edge, and adapted to engage either of said catch-pieces, a latch at the free edge of the door which is hinged to the other, catch-pieces arranged on fixed supports to be engaged by said latch when the doors are open and closed respectively and a connection between the locking-bolt and said latch, substantially as set forth.

3. The combination with a pair of doors of fixed catch-pieces, supported substantially in the plane of the top of the doors in positions to secure the doors in open and in closed positions respectively, a locking-bolt mounted on the top of the doors and adapted to engage either of said catch-pieces, a latch having a postero extension pivotally mounted on the side of the door, a connection between the postero extension of the latch and the catch and catch-pieces arranged on fixed supports to be engaged by said latch when the doors are opened and when closed respectively, substantially as set forth.

In witness whereof I have affixed my signature, in presence of two witnesses, this 20th day of June, 1904.

FREDERICK G. WILLARD.

Witnesses:

JOSEPH R. HORIGAN,
E. S. HESSE.