J. C. DUNER.

DOOR.

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1,022,661.

Patented Apr. 9, 1912.

Fig. 1.

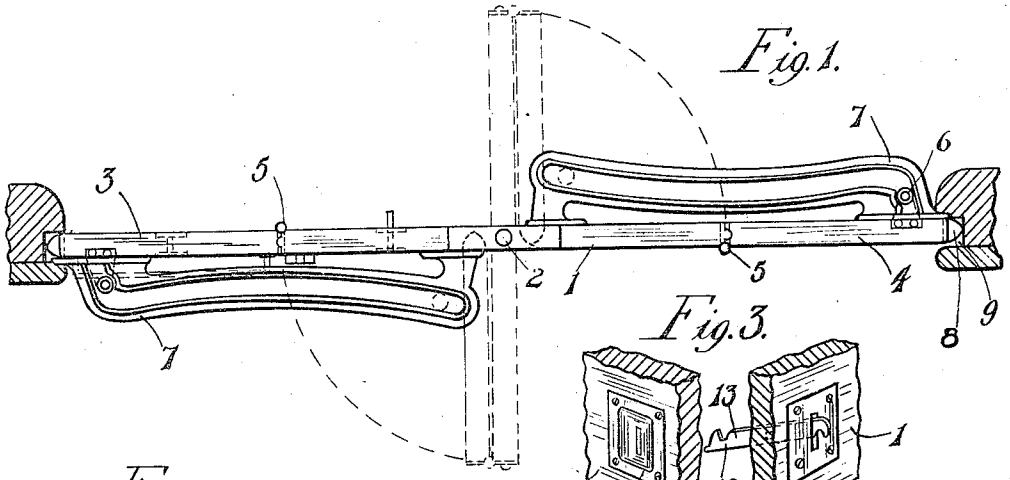
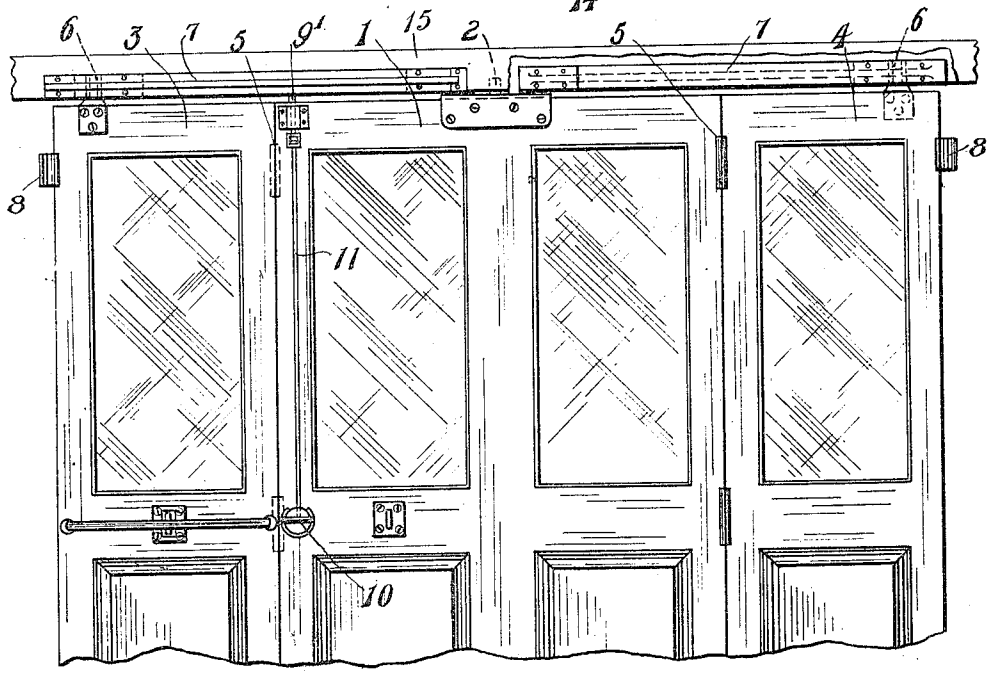


Fig. 3.

Fig. 2.



WITNESSES

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DOOR.

1,022,661. Specification of Letters Patent. Patented Apr. 9, 1912.

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To all whom it may concern:

Be it known that I, JOHN C. DUNER, a citizen of the United States, residing at Wheaton, in the county of Dupage and State of Illinois, have invented certain new and useful Improvements in Doors, of which the following is a specification.

The invention relates to an improvement in gates or doors and has for its principal objects; the provision of a simplified and improved type of folding door construction constructed and arranged to swing out of its plane of closure a minimum distance in opening. One embodiment of the invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a diagrammatic plan view showing the door in closed position in full lines, and in open position in dotted lines, the lintel of the door being removed to more clearly show the parts beneath.

Figure 2 is a partial elevation of the door in closed position, and

Figure 3 is a partial enlarged perspective detail showing the means for locking the doors together.

The construction is particularly designed for use in street cars, where it is desirable to divide the door-way into two passages, one for entrance and the other for exit, such an arrangement being especially applicable where the "pay as you enter" system is employed. The door is so constructed as to swing out from the position of closure only a limited distance when opening and closing, and is so arranged that when open it will serve as a dividing partition between the two sides of the door-way.

Referring to Figures 1 and 2 of the drawing, it will be seen that the construction consists of the central supporting section 1 pivoted at 2 and carrying at its opposite edges the foldable sections 3 and 4. The sections 3 and 4 are secured to the section 1 by means of the hinges 5, and are provided at their upper ends with the studs 6 engaging the slotted members 7, which slotted members are secured to the door lintel 15 (Figure 2). The outer edges of the sections 3 and 4 are thus made to follow the course of the slots in the members 7 when the doors are opened or closed, and such outer edges are thus positively carried to their proper positions when the central section 1 is moved either to open or closed position. The outer edges of the sections 3 and 4 are beveled as shown at 8, and when closed fit into the grooves 9 (Figure 1) in the door-jamb. The sections are held in closed position by means of the lock 9′ operable from the handle 10 by means of the connecting rod 11. The doors are held securely in open position by means of the locking construction shown in Figure 3, which locking means consists of the pivoted lever 12 mounted in the section 1 and having its outer end 13 constructed to engage the plate 14 on the member 3, when the doors are in the folded position shown in Figure 1, the slots shown being so positioned as to register when the section 3 folds up against the section 1. This means secures not only the section 3 in locked position, but also holds all of the sections in the position shown in dotted lines in Figure 1 for the reason that the guides 7 prevent any swinging motion of the section 1 until the sections 3 and 4 are permitted to swing out with their studs 6 following the slots in the member 7. It will be seen that the construction comprises in effect two doors swinging respectively inward and outward, and provided at their outer edges with folding members so guided as to swing away from the position of closure a minimum distance. The area occupied by the doors in swinging to open position is limited substantially to the space inclosed by the curved dotted lines in Figure 1, and the full line positions of the doors.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent is the following:—

1. A door construction for dividing a doorway into two passages, comprising a central door pivoted to swing about a fixed vertical axis intermediate its edges, a side door pivoted to each of the vertical edges of the central door, a guide-way above each door, and means adjacent the free edge of each side door for engaging one of the said guide-ways, whereby each side door is swung to one side of the plane of the door-way and transversely thereto as the central door swings to a position transverse to the plane of the door-way.

2. A door construction for dividing a door-way into two passages, comprising a central door pivoted to swing about a fixed vertical axis intermediate its edges, a side door pivoted to each of the vertical edges of the central door, guide-ways above the side doors on opposite sides of the plane of

the door-way and means adjacent the free edge of each of the side doors for engaging one of the said guide-ways whereby each side door is swung against the central door when the central door swings to a position transverse to the plane of the door-way.

3. A door construction comprising a main door pivoted to swing about a fixed vertical axis intermedate its ends, a plurality of doors having a hinged connection thereto and free to move longitudinally of the door-way, locking means carried by one door and adapted to engage another door when folded thereagainst, and guide means for the plurality of doors for guiding them positively to folded position when the main door swings to open position, the said guide means being so positioned that when the doors are in folded position with two doors locked together, the guide means prevent any movement of any of the doors.

4. A folding door construction comprising a main door pivoted to swing about a fixed vertical axis intermediate its ends, a second door pivoted to the free edge of the first door, locking means carried by one door and constructed to engage the other door when the doors are in open position, and a guide means for causing the second door to move to folded position against the main door as the main door swings to open position so positioned that when the doors are in open position and locked together, such guide means prevents any movement of the two doors.

5. A door construction for dividing a door-way into two passages comprising the section 1 pivoted in fixed bearings intermediate its edges, the sections 3 and 4 pivoted at opposite edges of the section 1, a pair of curved guide members 7, 7, placed on opposite sides of the plane of the door-way, and means located adjacent the free edges of the sections 3 and 4 for engaging the guide members 7, 7.

In testimony whereof I have hereunto signed my name in the presence of the two subscribed witnesses.

JOHN C. DUNER.

Witnesses:

PAUL CARPENTER,

ALFRED YEWELL ANDREWS.