

No. 815,334.

PATENTED MAR. 20, 1906.

D. CARROLL.  
FIRE EXIT DOOR.  
APPLICATION FILED JAN. 29, 1904.

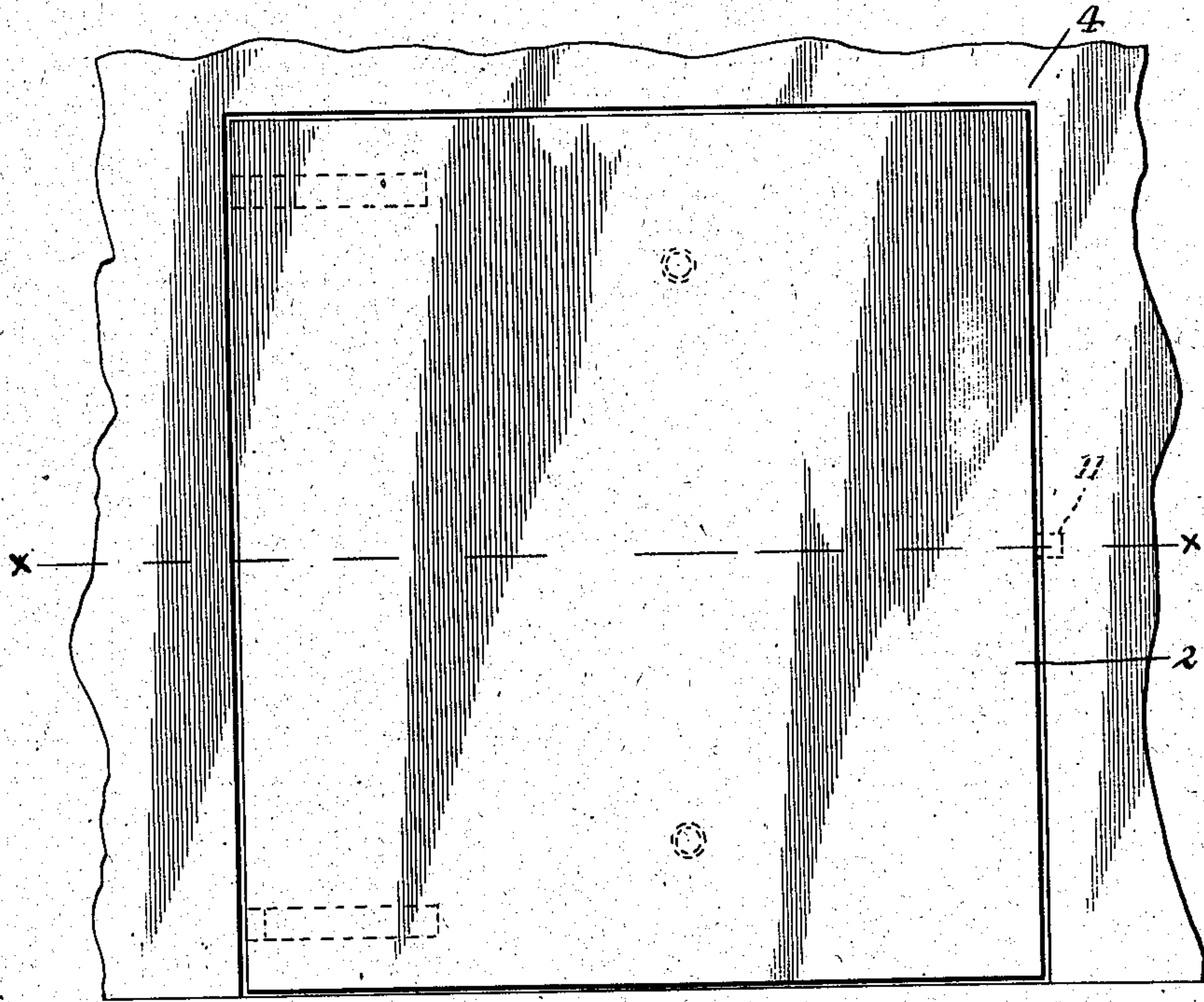


Fig. 1.

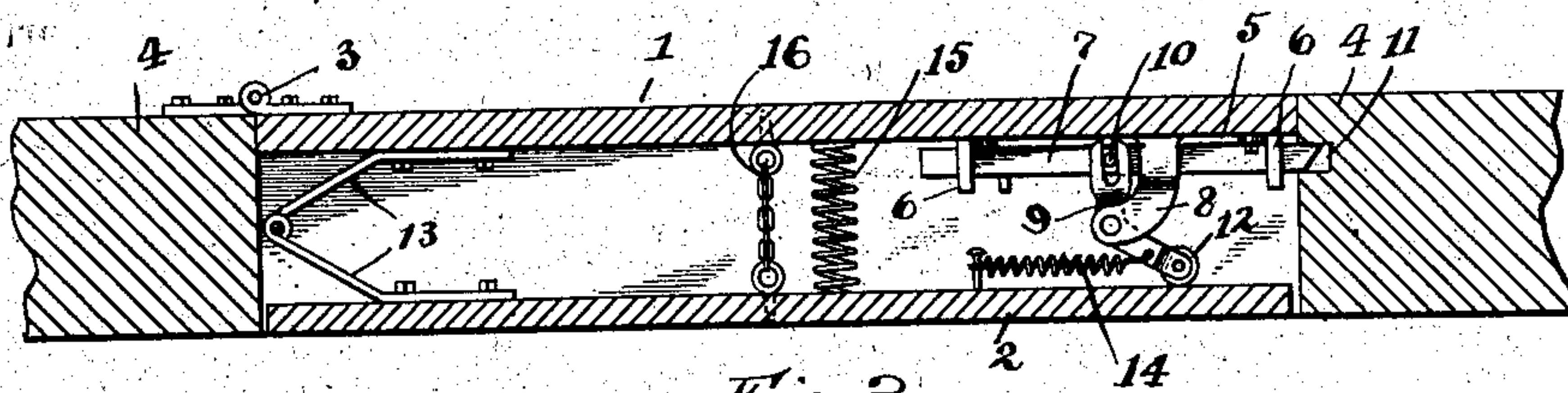


Fig. 2.

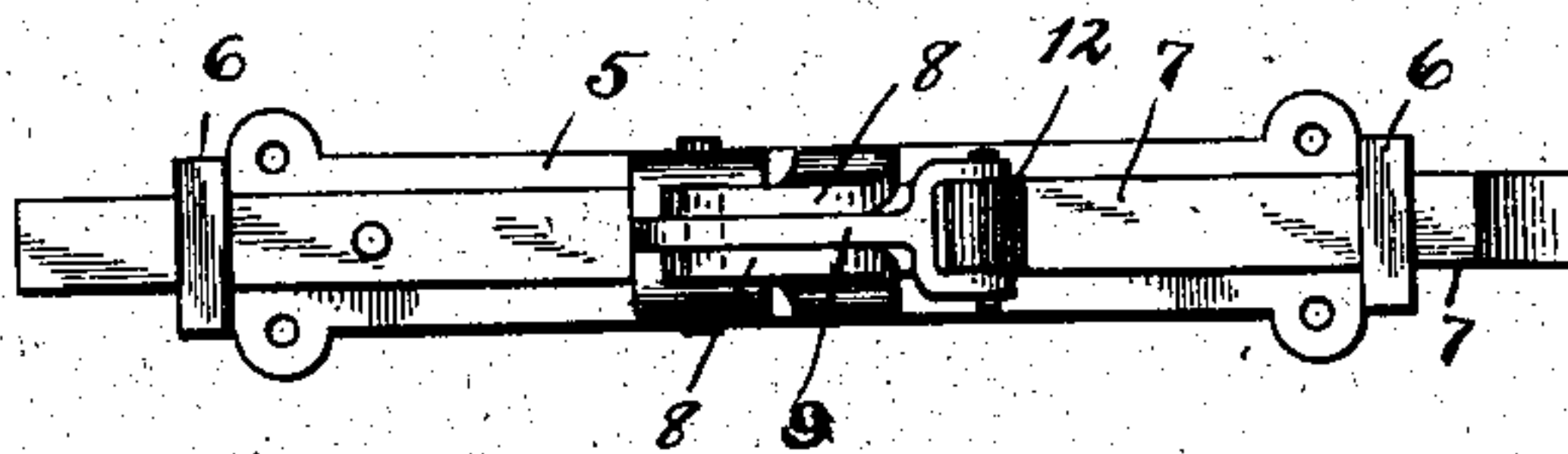


Fig. 3.

WITNESSES:

H. B. Bradshaw  
A. L. Phelps

INVENTOR

Daniel Carroll.

BY

Shepherd and Parker  
ATTORNEYS



# UNITED STATES PATENT OFFICE.

DANIEL CARROLL, OF COLUMBUS, OHIO.

## FIRE-EXIT DOOR.

No. 815,334.

Specification of Letters Patent.

Patented March 20, 1906.

Application filed January 29, 1904. Serial No. 191,236.

*To all whom it may concern:*

Be it known that I, DANIEL CARROLL, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Fire-Exit Doors, of which the following is a specification.

My invention relates to the improvement of fire-exit doors of that class which are particularly adapted for use in theaters, public halls, and auditoriums.

The objects of my invention are to provide an exit-door of this class of simple construction, said door having improved means in connection therewith for normally retaining the same fastened or locked against being opened from the outer side and for permitting the unlocking and opening of the door from the inside of the room or building by pressure against the face of the door and to produce certain improvements in details of construction, which will be more fully pointed out hereinafter. These objects I accomplish in the manner illustrated in the accompanying drawings, in which—

Figure 1 is an inner face view of a door-frame and one of my improved doors therein. Fig. 2 is a sectional view on line *xx* of Fig. 1; and Fig. 3 is an enlarged face view of the lock and its operating parts, showing the same disconnected from the door.

Similar numerals refer to similar parts throughout the several views.

In carrying out my invention I employ a double-door construction which comprises an outer door-body 1 and an inner door-body 2, said doors being normally parallel one with the other and separated by a suitable interspace, as shown. As indicated in the drawings, the outer door 1 is adapted to have one of its sides suitably hinged, as indicated at 3, to the door-frame post 4. Secured to the inner face of the outer door adjacent to the unhinged side thereof is a transverse lock or latch plate 5, the latter having formed therewith suitable projecting bolt-keepers 6, in which is adapted to slide a bolt 7. I also cause to project from the plate 5 above and below the bolt curved bearing or bracket arms 8, between the ends of which is pivoted at the junction of its arms a bell-crank lever 9. This bell-crank 9 has one of its arms pro-

vided with a slotted termination which engages a pin or stud 10 on the bolt 7.

As indicated in the drawings, the outer end of the bolt is preferably beveled and adapted to enter a bolt-receiving socket 11 in the adjoining face of the door-frame. That arm of the bell-crank 9 which is toward the interior of the building has rotatably mounted therein a friction-roller 12. The inner door 2, which is, as shown, contained in the same doorway or opening as the outer door 1, is hinged in connection with said outer door through the medium of suitable jointedly-connected hinge members 13, which are secured, respectively, to the inner faces of the door-bodies 1 and 2.

14 represents a spring one end of which is connected with the inner arm of the bell-crank 9 and the remaining end of which is suitably connected with the inner face of the door-body 2 at a point in rear of said bell-crank, the tendency of said spring being to exert such pull on the bell-crank as to insure the normal retention of the bolt 7 within the socket 11 of the door-frame. At desirable intervals the door sections or bodies 1 and 2 may be connected by coiled or other springs 15, and in order to limit the separating movement of said doors the same may be connected, as indicated at 16, by a chain or other equivalent connecting device. The construction shown and described, as will readily be seen, permits of the inner door being, if desired, hung flush with the inner wall-surface or inner surface of the door-frame.

As will readily be understood, the method of unlocking and permitting the outward-swinging movement of the two door-bodies consists in pushing against the inner door-section, this operation serving by pressure on the friction-roller 12 of the bell-crank to throw the remaining arm of said bell-crank toward the hinge side of the door, thereby drawing the bolt from its socket and permitting the door members or bodies to swing outward together.

From the construction which I have shown and described it will be seen that the necessity of providing the inner door with projections of any character is obviated and that the door can be quickly and easily unlocked and opened from the inside without any



prior manipulation of lock-operating device or other parts.

While in the construction shown no means are disclosed for unlocking the door from the outer side, it will be understood that any well-known or desirable means may be employed for throwing the bolt from the outer side of the door by the employment of a key or other suitable device.

It will be observed that a door constructed as described and possessing the advantages set forth will be of great utility in theaters and other public buildings and that such instructions as "Fire exit," "Push," &c., may be printed on the door or adjacent thereto.

It is also to be observed that by positioning the doors so that their exterior surfaces lie flush with the outer and inner sides of the door-frame a practically-smooth surface or wall is provided both inside and outside of the structure. In this manner the number of doors or exits may be increased without marring the appearance or symmetrical effect of the structure for the reason that by causing the said doors to lie flush with the wall in which they are supported recesses or projections are obviated, and while the doors are readily perceptible the general interior decorations and pleasing finish are not affected and the walls are given a solid appearance.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a fire-exit door, the combination with a door-frame, an outer door hinged therein, an inner door hinged to the outer door, of a sliding locking-bolt carried by the outer door, a bracket supported from the outer door, a lever pivoted in the bracket having one end in contact with the bolt and the other end bearing against the inner door, and means for connecting the doors.

2. In a fire-exit door, the combination with a door-frame and an outer door hinged therein so as to lie flush with the outer side of the door-frame, of an inner door completely filling and lying flush with the inner side of the door-frame and supported from the outer door so as to provide a substantial space therebetween, the said inner door being hinged to the outer door so as to swing in the full half of a circle out of the door-frame with the outer door and in the same horizontal plane, and locking means for the outer door, operated by the inner door, arranged in the space between the doors.

DANIEL CARROLL

in presence of—

J. W. JONES,

G. E. GUSTAFSON