

(No Model.)

J. L. HAWKEY.  
AUTOMATICALLY OPERATING DOOR.

No. 274,765.

Patented Mar. 27, 1883.

Fig. 1.

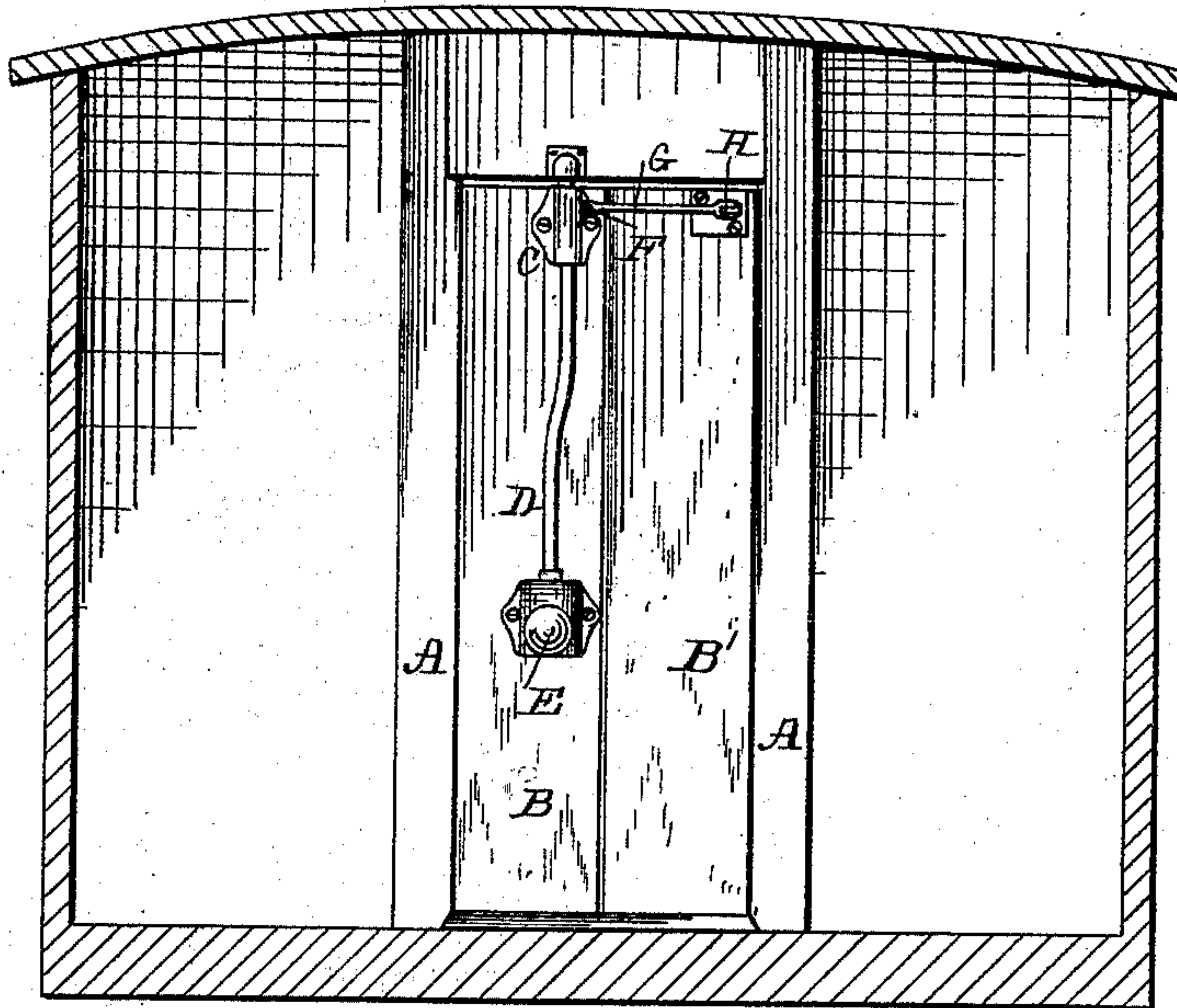


Fig. 2.

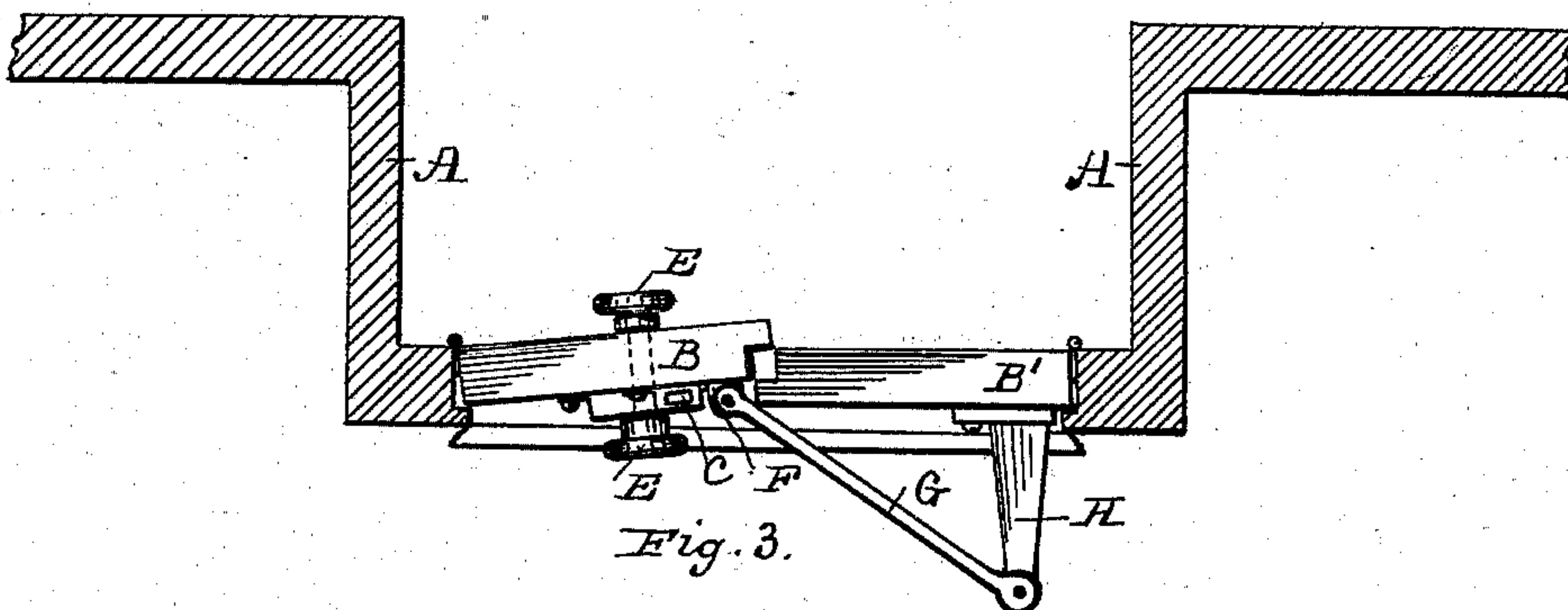
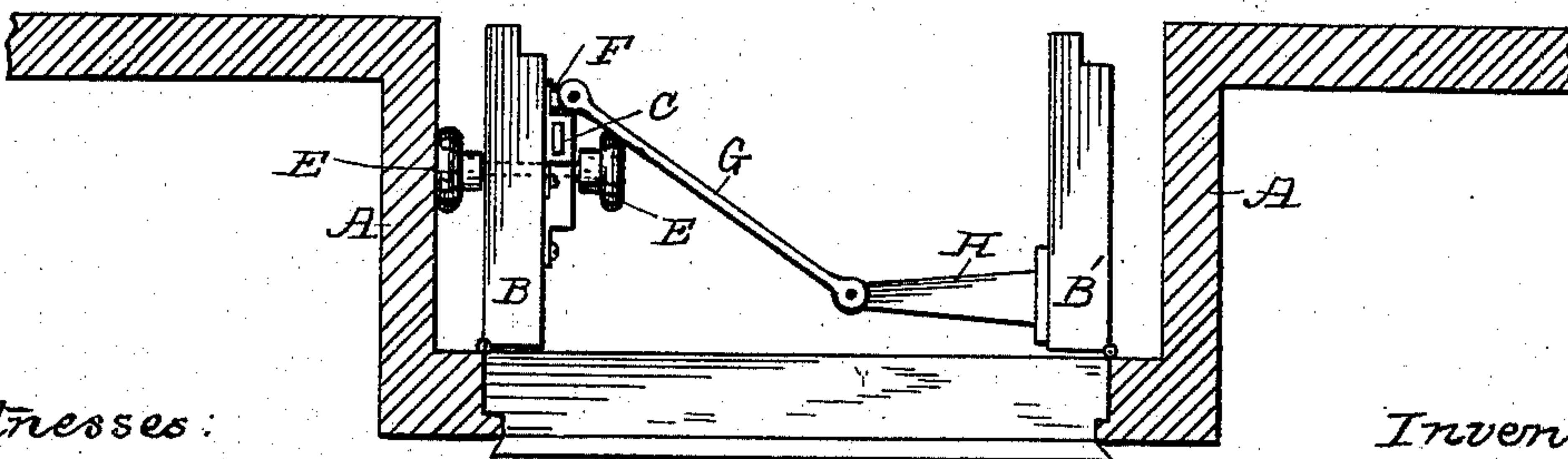


Fig. 3.



Witnesses:

W. B. Masson

Wm Turner

Inventor

John L Hawkey  
per J. W. Robertson  
Atty



# UNITED STATES PATENT OFFICE.

JOHN L. HAWKEY, OF CAPE MAY, NEW JERSEY.

## AUTOMATICALLY OPERATING DOOR.

SPECIFICATION forming part of Letters Patent No. 274,765, dated March 27, 1883.

Application filed September 29, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN L. HAWKEY, a citizen of the United States of America, residing at Cape May city, in the county of Cape May and State of New Jersey, have invented certain new and useful Improvements in Automatically Operating Doors, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to an improvement in that class of door-operating devices in which one door is operated by the motion of another; and the invention consists in the peculiar arrangement and construction of parts, as will be more fully hereinafter described, and then pointed out in the claims.

15 In the accompanying drawings, Figure 1 shows a vertical transverse section of a car provided with a pair of doors having mechanism connecting them constructed according to my improvement. Fig. 2 is a horizontal section above the doors, with one door partly open; and Fig. 3 shows a similar view with the doors wide open.

25 A represents a frame-work projecting into the car, which I prefer to make about as deep as each door is wide, though I do not limit myself to this.

30 B B' are doors hung upon the door-frame by any suitable hinges, and the door B is provided with a bolt, C, connected by a rod, D, with the handle E. This handle may have connected to it any of the ordinary arrangements for moving the rod and bolt, and it is therefore unnecessary to further describe its construction, as there is nothing new claimed on this feature.

40 Attached to or forming part of the casing of the bolt is a short stud, F, to which is pivoted the rod G, having its other end pivotally secured in the arm H, which is made fast to the door B'. With this arrangement of the studs on the different edges of the doors it will be seen that although both doors will close tight, 45 as shown in Fig. 1, yet, owing to the necessary lost motion in the joints and the fact that the rod G may swing a considerable distance without pulling on the arm H, the door B can first be opened slightly, as shown in Fig. 2, 50 without opening the door B', which does not commence to move until the rabbet on the door B has cleared the door B'. By continuing the

opening of the door B the rod G pulls on the arm H, and the other door is automatically opened by the opening of the door B.

55 It will thus be seen that the doors can be made a tight fit and yet readily open; whereas if the doors were both made to move simultaneously and equally they would jam or bind against each other, and would not open easily, 60 as most people are aware who have tried to open two closely-fitted doors both at once, and for this reason such doors that are intended to be opened simultaneously have to be loosely fitted together.

65 It is important that the arms or studs to which the rod G is connected should bear the peculiar relation to each other and the edges of the doors shown in the drawings, for if the stud F and arm H were in substantially different positions from those which they now occupy, the doors B would not open before the other, and the result would be that their edges would jam and bind against each other, instead of opening freely and easily, as do mine, although they are closely fitted together.

75 This improvement will be found particularly adapted for use in car-doors, theaters, and other places where it is important that doors should be rapidly and easily opened, because, 80 although the doors may be closely shut, yet by a simple motion of one hand both doors may be readily opened to the fullest extent. It may, however, be applied to doors for stores, houses, or any other places.

85 I have shown the doors arranged to open at right angles to the position they occupy when closed; but it is obvious that by changing the proportions of the parts the doors may be carried beyond a right angle.

90 I do not wish to be understood as confining my invention to operating doors, as it is evident that the same arrangement and apparatus may be applied to shutters, French windows, &c. By the attachment of the doors to 95 a framing extending into the car, having about the depth of the width of a door, said doors do not interfere with the passage on the platform, and by causing the doors to swing outward, instead of inward, there is no possibility of the 100 doors being kept closed by the pressure of the people inside of the car, in case of a panic or fright.

I do not make any claim here to the pecu-



liar arrangement of the doors in the inwardly-projecting framing, as this may form the subject-matter of a separate application.

It is evident that in some positions the bolting device may be dispensed with, and either some other mode of fastening adopted; or the door closed by springs; and it is also evident that the stud F may be made separate from the bolt-casing, if preferred, or the rod G may be pivoted direct to the door.

I am aware of the patents for hatchways granted to E. C. Ford, September 25, 1860, and claim nothing shown therein.

What I claim as new is—

1. The combination, with a pair of doors, of a rod having both ends connected to the same face of the doors and constructed and arranged to allow one door to partly open without opening the other, and then to open both doors equally, substantially as set forth.

2. The combination, with a pair of doors, of the rod G, pivoted at or near the free edge of one door and to an arm projecting from the hinged edge of the opposite door, both ends of the rod being pivoted to the same face of the doors, substantially as described.

3. The combination, with a pair of doors, of the stud F, arranged at or near the free edge of one door, the arm H, secured near the hinged edge of the opposite door, and the rod G, connecting the stud and arm, and all arranged on the same face of the doors, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 29th day of September, 1882.

JOHN L. HAWKEY.

Witnesses:

T. J. W. ROBERTSON,  
F. O. McCLEARY.