

No. 724,806.

PATENTED APR. 7, 1903.

J. L. CARTER.
ROTATING STORM DOOR.
APPLICATION FILED JULY 19, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.

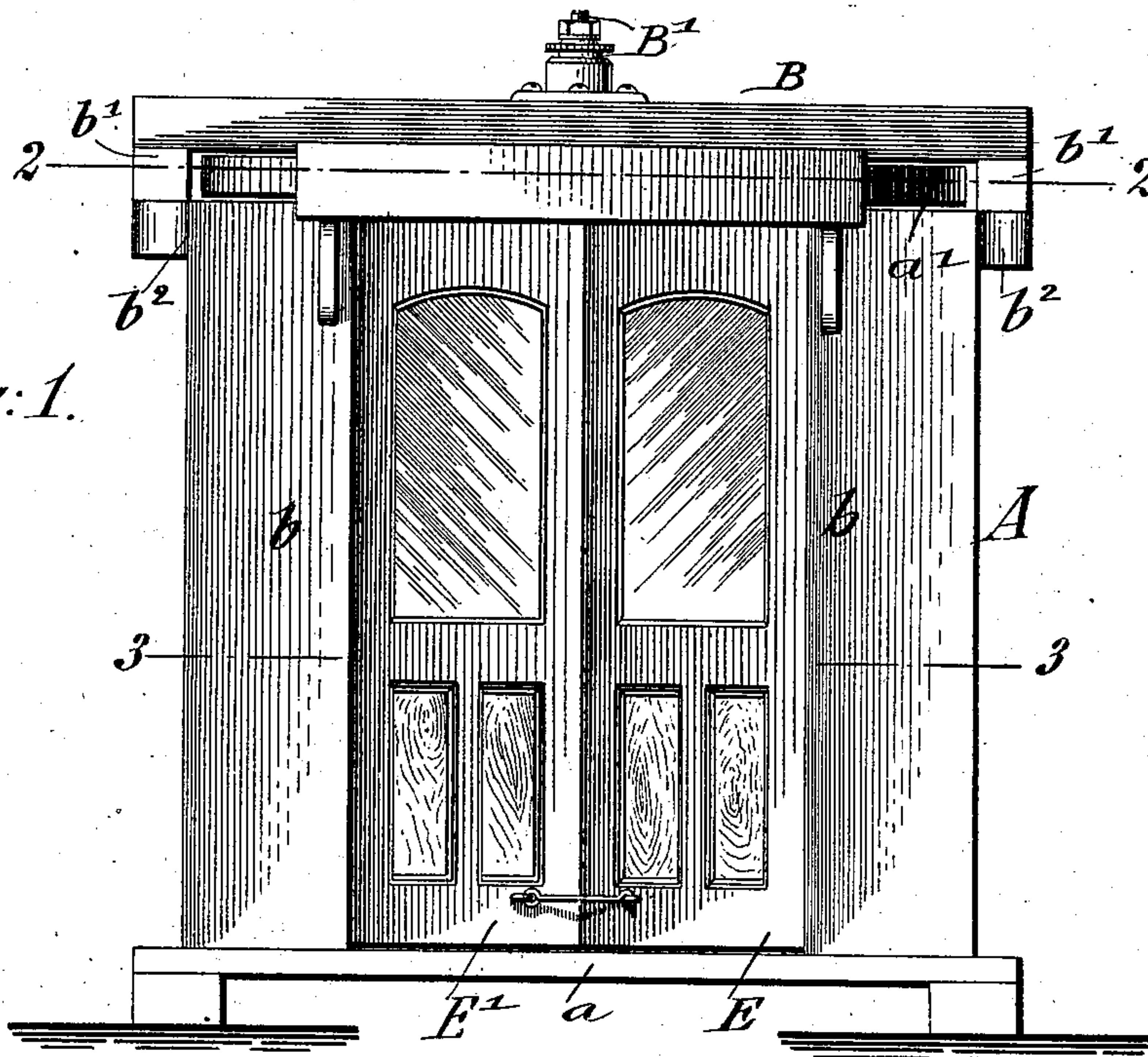
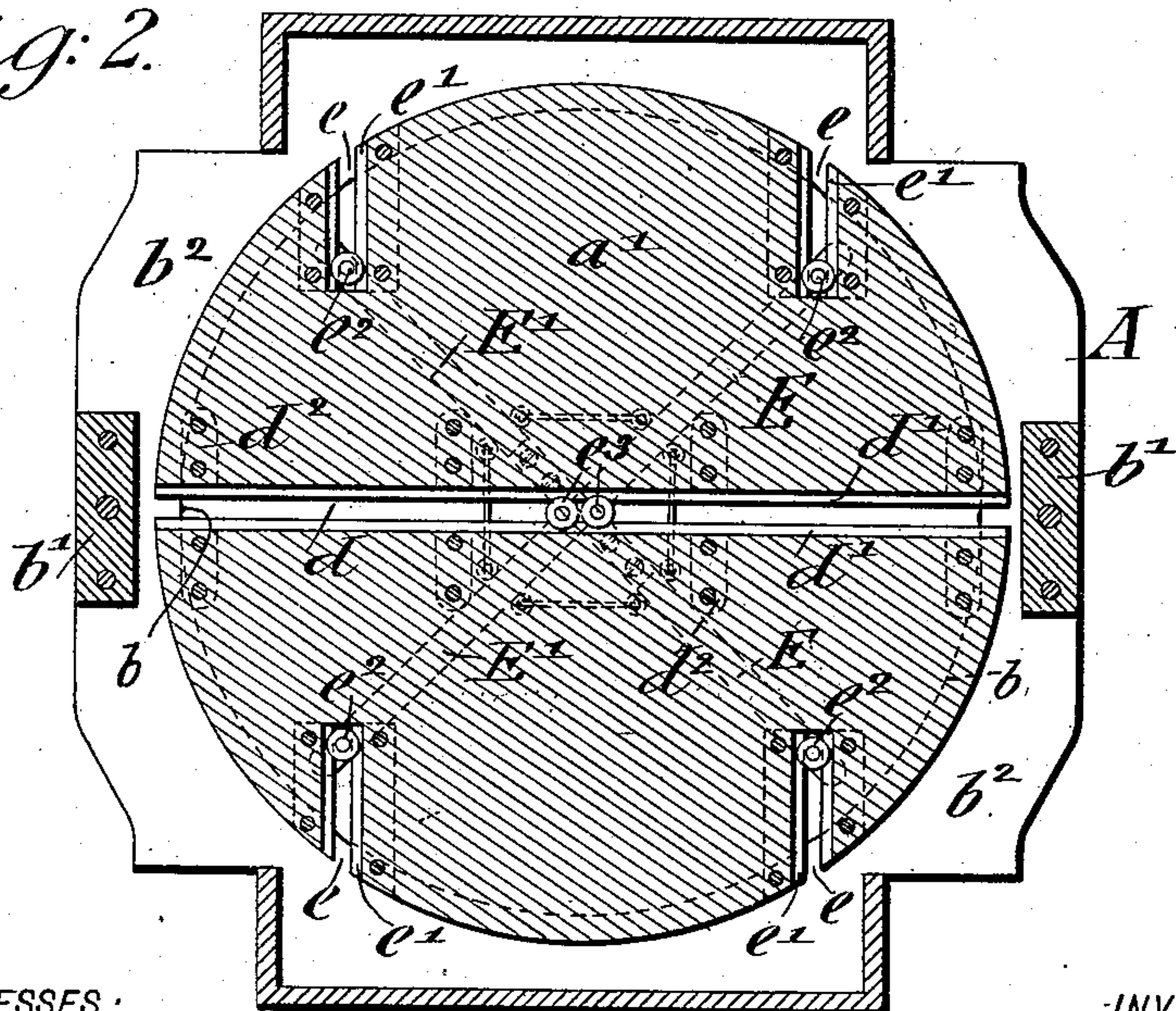


Fig. 2.



WITNESSES:

John A. Rennie
C. B. Bradley

INVENTOR

John Lawrence Carter
BY
Goepel & Viles,
ATTORNEYS.

No. 724,806.

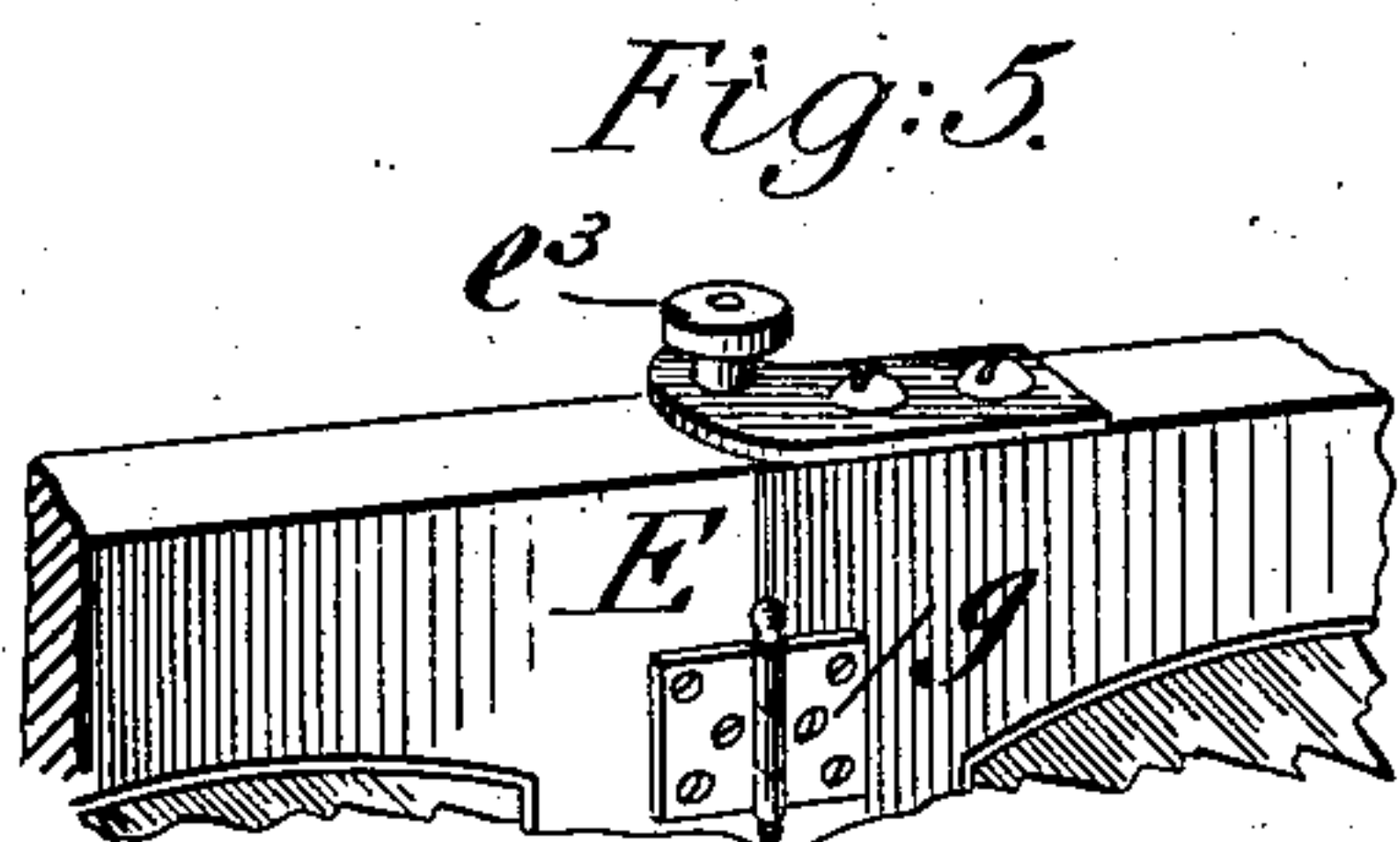
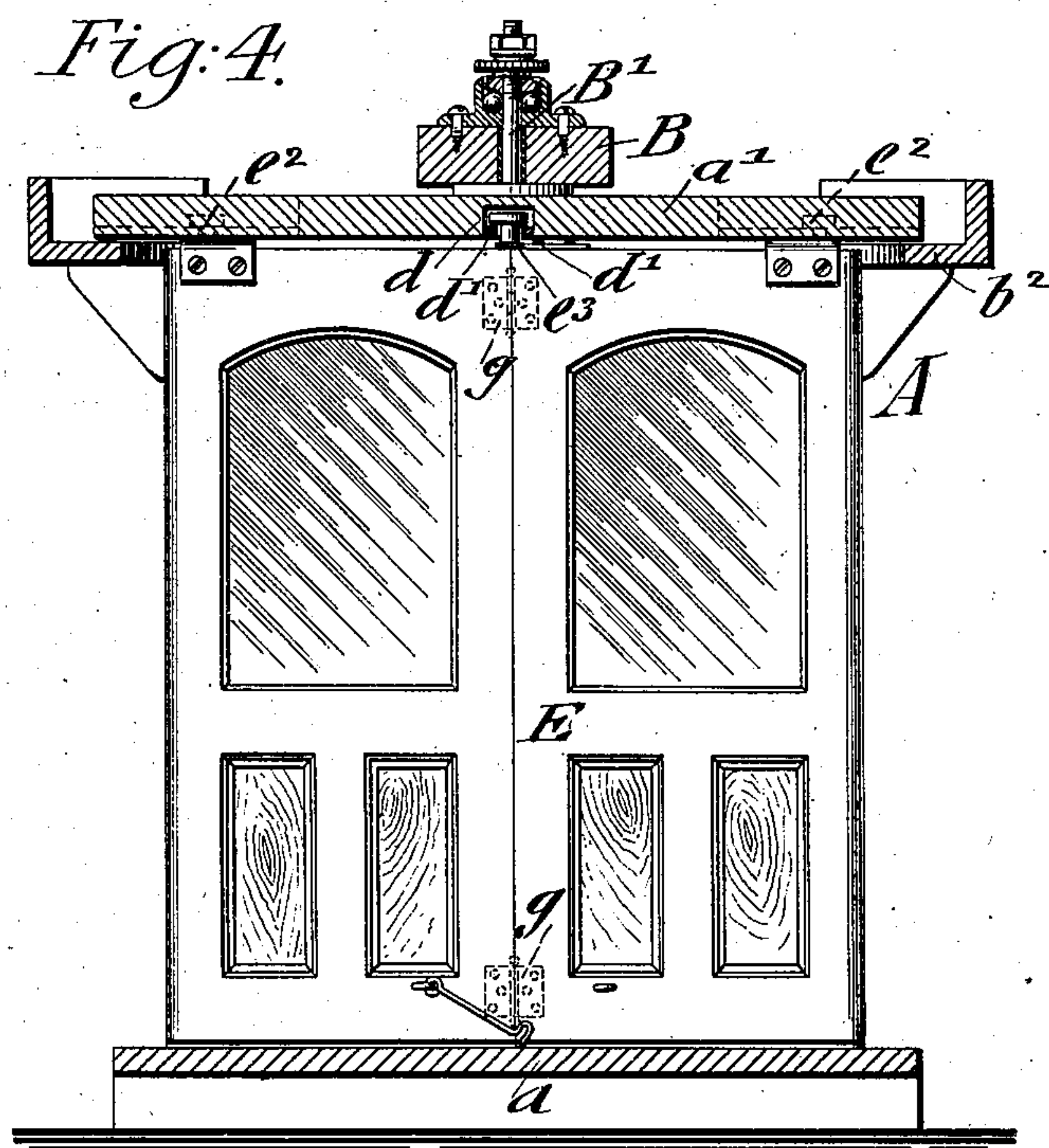
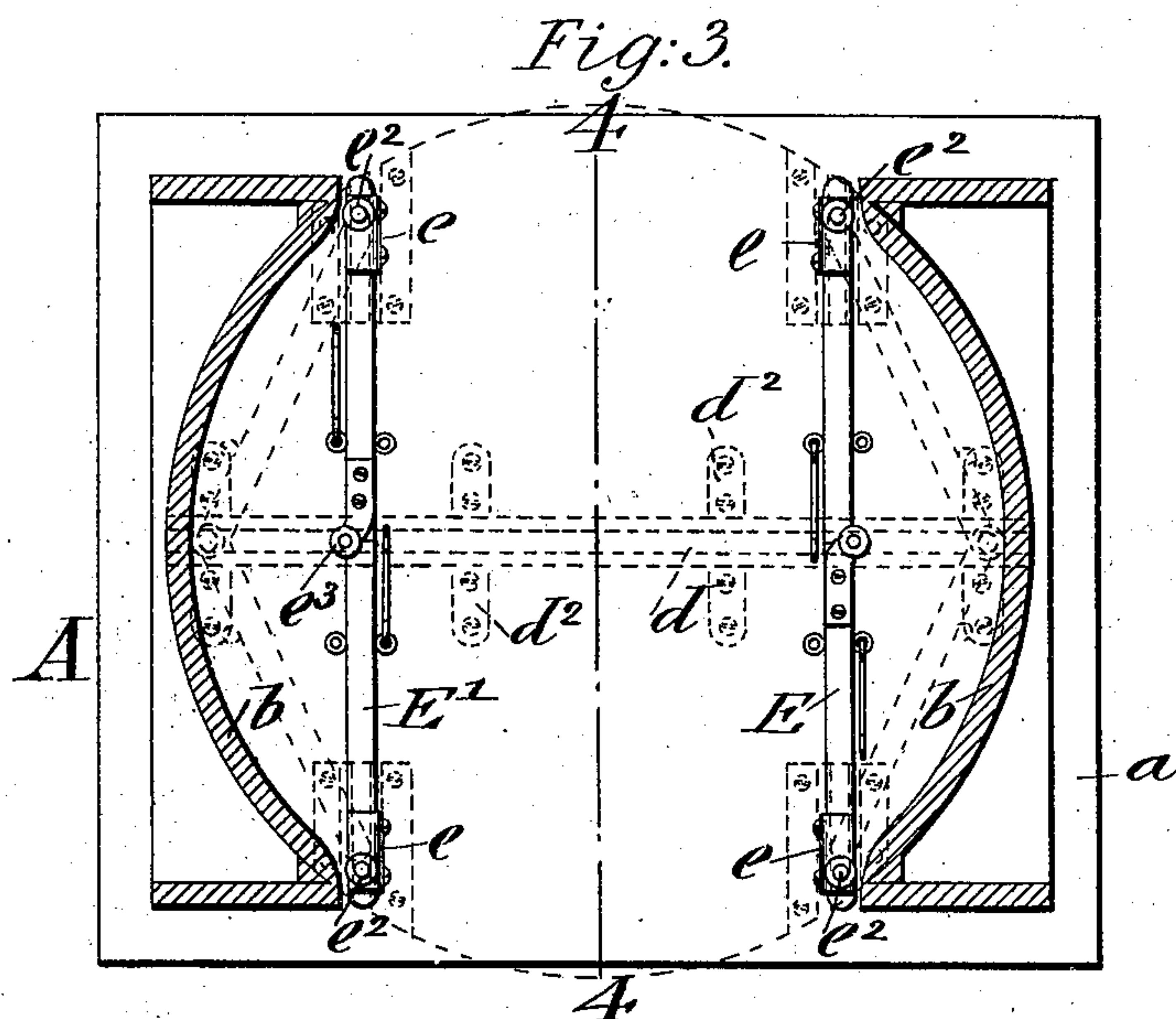
PATENTED APR. 7, 1903.

J. L. CARTER.
ROTATING STORM DOOR.

APPLICATION FILED JULY 19, 1902.

NO MODEL.

2 SHEETS—SHEET 2.



WITNESSES:

Glenn H. Niles

C. Bradway

INVENTOR

John Lawrence Carter

BY

Goepel & Niles,
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN LAWRENCE CARTER, OF BROOKLYN, NEW YORK, ASSIGNOR TO THE
CARTER ROTARY DOOR COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

ROTATING STORM-DOOR.

SPECIFICATION forming part of Letters Patent No. 724,806, dated April 7, 1903.

Application filed July 19, 1902. Serial No. 116,147. (No model.)

To all whom it may concern:

Be it known that I, JOHN LAWRENCE CARTER, a citizen of the United States, residing in New York, borough of Brooklyn, and State of New York, have invented certain new and useful Improvements in Rotating Storm-Doors, of which the following is a specification.

This invention relates to an improved rotating storm-door of that class having a centrally-supported rotatable ceiling arranged in the nature of a turn-table, on which four wings can be placed in radial position or placed in line with each other alongside of the side walls of the casing or structure of the storm-door, so that a storm-door is obtained the wings of which may be readily changed from their radial position into side-wise position, so as to form an open passage-way; and for this purpose the invention consists of a rotating storm-door comprising stationary segmental side walls, a centrally-pivoted rotatable ceiling provided with a diametrical groove and rails along both sides of said groove, and shorter guide-grooves provided with rails extending from points on the circumference of the ceiling inwardly at right angles to the diametrical guide-groove, and wings provided with guiding means adapted to be guided inwardly and outwardly in said diametrical and circumferential arranged grooves at right angles thereto, so as to change said wings from radial position on the ceiling into position in line with each other alongside of the stationary walls, as will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 is a front elevation of my improved rotating storm-door. Fig. 2 is a horizontal section on line 2 2, Fig. 1. Fig. 3 is also a horizontal section on line 3 3, Fig. 1, the wings being in lateral position. Fig. 4 is a vertical transverse section on line 4 4, Fig. 3, showing the wings of the storm-door arranged alongside of the segmental side walls, so as to form an open passage-way; and Fig. 5 is a detail perspective view showing the hinged connection of each pair of wings and means for guiding the same in the guide-grooves of the ceiling.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the casing or stationary supporting portion of my improved rotating storm-door. The supporting portion comprises a base *a*, a ceiling or turn-table *a'*, and segmental side walls *b*. At the upper ends of the stationary posts of the side walls are supported transverse pieces *b'*, that are connected by means of bolts to the open ceiling *b''*, and on them is supported the transverse beam B. From the center of the beam B is suspended by means of a central suspension-bolt B', that is supported in suitable ball-bearings, the ceiling *a'*, as shown clearly in Figs. 1 and 4. The ceiling is preferably of disk shape in the nature of a turn-table and is provided at its under side with a diametrical groove *d*, to each side of which is attached a guide-rail *b'* by means of lugs *d''*, that are bent up at right angles thereto and attached by fastening-bolts to the ceiling *a'*. The ceiling *a'* is further provided at each side of the diametrical groove *d* with short inwardly-extending grooves *e*, that are located in a direction at right angles to the diametrical groove *d*, and provided with guide-rails *e'* at each side thereof. The short guide-grooves on each side of the diametrical groove *d* are in line with each other and parallel with the pair of grooves at the opposite side of the ceiling, as shown clearly in Fig. 2.

From the center of the ceiling are suspended four wings that are arranged in pairs E E'. The outer corner of each wing is guided by means of guide-pins *e''*, having antifriction-rollers in the short transverse guide-grooves *e* of the ceiling, while the guide-pins *e'''*, that are attached to one of each pair of wings, but located above the meeting edges of the same, are guided in the diametrical groove *d*. The inner edges of the wings E E and E' E' are connected by hinges *g*, as shown clearly in Figs. 4 and 5, so as to permit the bodily shifting of the wings of each pair in the diametrical and transverse grooves from a radial position, as shown in Fig. 2, into a position in line with each other alongside of the segmental side walls, as shown in Figs. 3 and 4.

When the structure is to be used as a storm-door, the wings of each pair are shifted so that they are located in position radially to the center of the ceiling, as shown in dotted line in Fig. 2. In this portion the wings are locked together by means of hooks that are attached to an eye on one wing of each pair and inserted into an eye on the adjacent wing, or any other approved locking device by which the four wings can be locked together in radial position may be used. Each locking device is preferably arranged at the lower part of the wings, so as to impart steadiness to the same.

When it is desired to move the wings sideways, so as to leave an open passage-way for moving furniture or permitting ventilation, or when a large number of people desire to leave the building at one time, the locking devices are unlocked, the ceiling placed in a position relatively to the side walls that the center groove is in line with the transverse diameter of the same, and each pair of wings then shifted in lateral direction toward the segmental side walls and placed parallel and in line with each other, as shown in Fig. 3, so as to form an open doorway.

In place of moving the wings alongside of the segmental side walls with the two wings of each pair in line with each other their inner hinged ends may be moved outwardly toward the side walls, in which position the adjacent edges of the wings of each pair are placed close to the segmental side walls in such manner that an obtuse angle is formed between the wings of each pair, as shown in dotted lines in Fig. 4. This position of the wings may sometimes be preferred, as it facilitates the passing of people when entering or leaving the building.

The wings of my improved rotating door structure can be readily changed from radial position for use as a storm-door to a position alongside of the side walls when an open passage-way is desired without requiring anything on the floor to support the wings, the structure being a comparatively simple construction, so that it can be furnished at a small expense, while it accomplishes its different functions in a very reliable and effective manner.

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

1. The combination of a rotatably-suspended ceiling, and pairs of hinged wings carried by said ceiling, said pairs of wings being adapted to be separably united at a central line and independently shiftable diametrically each side of the central line into inward radial or outward lateral positions, substantially as set forth.

2. The combination, of a rotatably-suspended ceiling having a diametrical groove and transverse grooves in its circumference,

and pairs of hinged wings carried by said ceiling and rotatable therewith, said pairs of wings being adapted to be guided at their upper ends into radial position or outwardly into lateral position, substantially as set forth.

3. In a rotating storm-door, the combination, with a casing having segmental side walls, of a rotatably-suspended ceiling provided with a diametrical groove and transverse grooves in its circumference, and two pairs of wings hinged together at their inner edges and movably suspended in said grooves, said wings being adjustable inwardly into radial relation to each other or outwardly into lateral position adjacent to said segmental side walls, substantially as set forth.

4. The combination, with a rotatably-suspended ceiling provided with a diametrical guide-groove at its under side and inwardly-extending transverse guide-grooves at circumferential points said latter guide-grooves being arranged at right angles to the diametrical groove, of two pairs of hinged wings guided at their outer upper corners in said transverse guide-grooves and at their upper inner corners in the diametrical guide-groove, and means for locking said wings together in radial position, substantially as set forth.

5. In a rotating storm-door, the combination, with a casing of stationary segmental side walls, of a rotatably-suspended ceiling provided with a diametrical groove having guide-rails at each side of said groove and shorter grooves extending inwardly from circumferential points of the ceiling, said latter grooves being disposed at right angles to the diametrical groove and also provided with guide-rails, wings provided with pins at their upper corners, said pins being guided in the central and transverse grooves to permit said wings to be arranged in radial position to each other or alongside of the segmental side walls, substantially as set forth.

6. In a rotating storm-door, the combination, with a centrally-suspended rotatable ceiling provided with a central diametrical guide-groove and two shorter transverse guide-grooves extending inwardly from the circumference of the ceiling at each side of said diametrical guide-groove, of wings hinged together in pairs, the wings of each pair being guided in the central groove and two side grooves and adapted to be moved from a radial position into a position parallel with each other of the side walls of the casing, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

JOHN LAWRENCE CARTER.

Witnesses:

PAUL GOEPEL,

HENRY J. SUHRBIER.