No. 659,955. Patented Oct. 16, 1900.

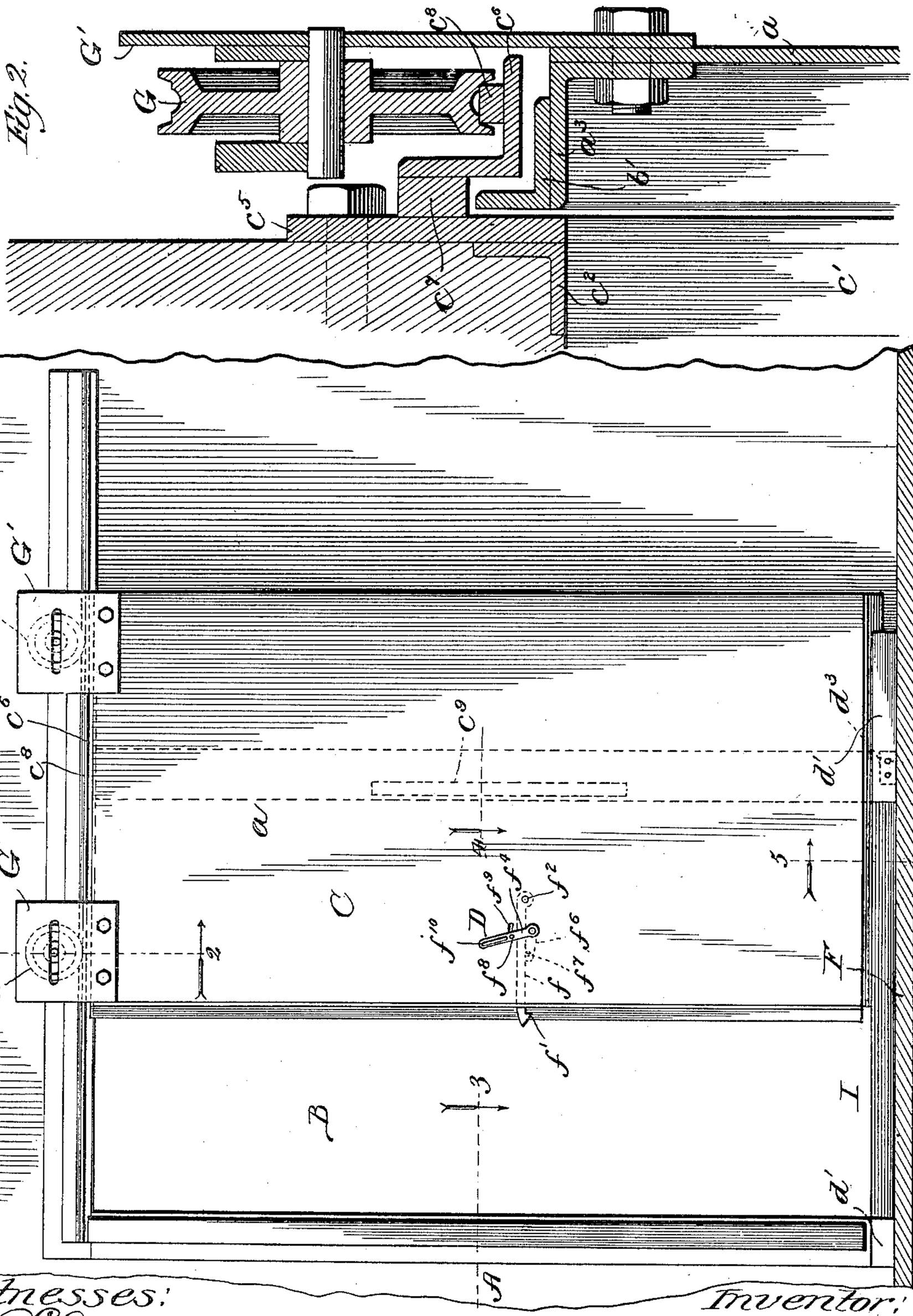
A. D. CAYWOOD.

DOOR.

(Application filed Feb. 12, 1900.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 2.



Witnesses:
Chas. E. Gaylord,
John Enders Jr.

Fig. 1.

Inventor:
Albert D. Caywood,
By Dyrenforth & Dyrenforth & Lee,
Att'ys.

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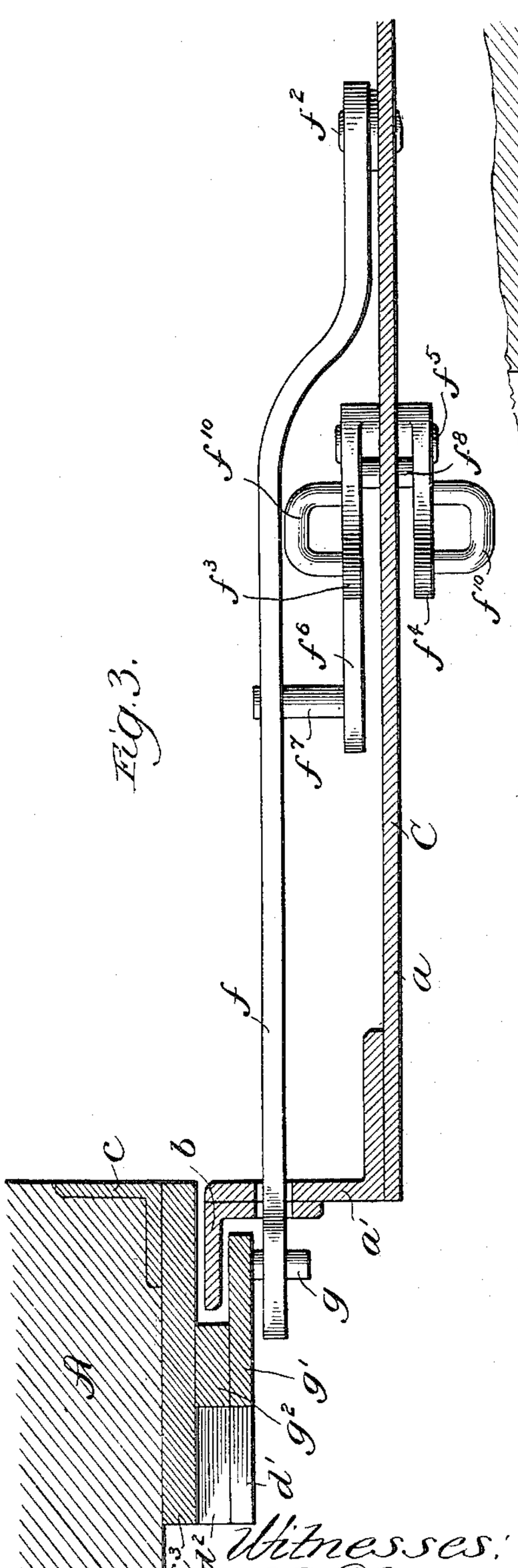

Fig. 3.

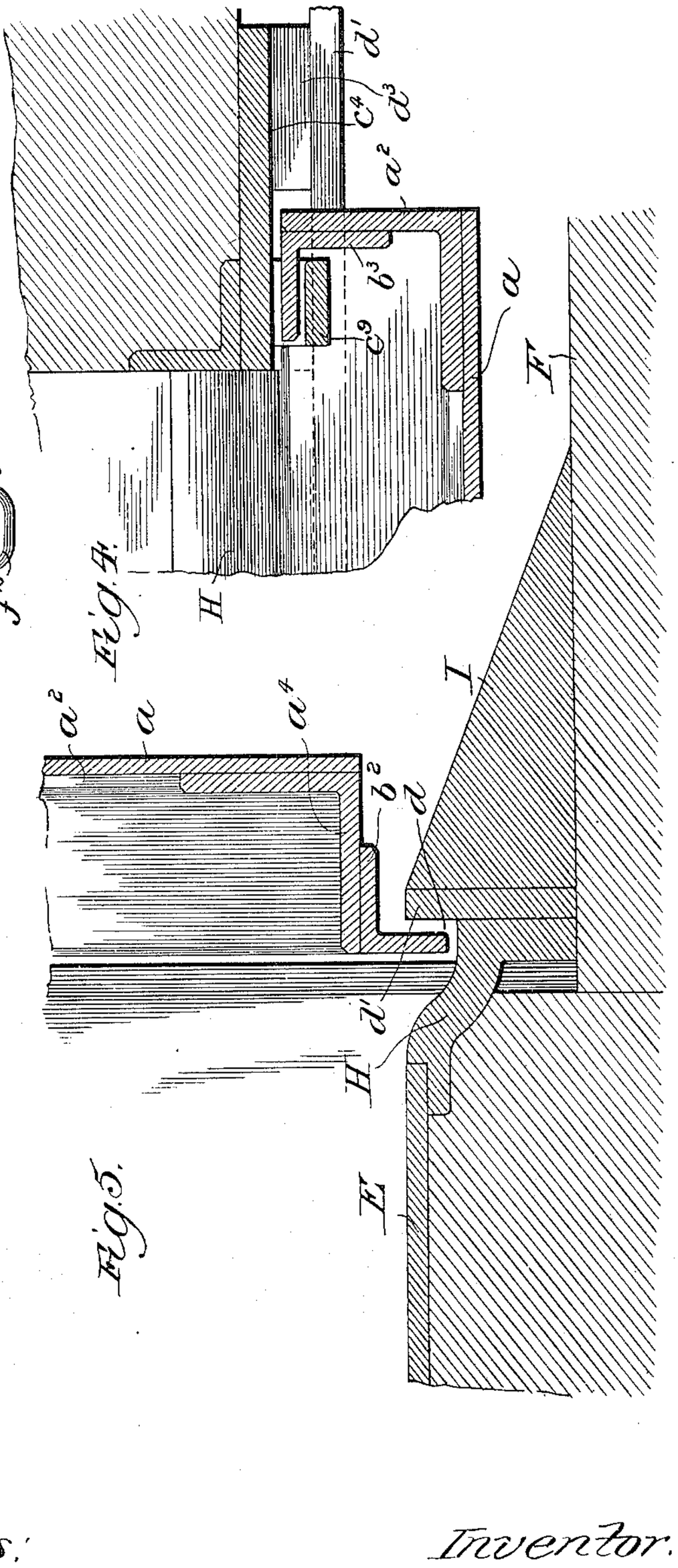

Fig. 4.

Fig. 5.

Witnesses:
Chas. E. Gaylord,
John Enders Jr.

Inventor:
Albert D. Caywood,
By Dyrenforth, Dyrenforth & Lee,
Attys.

UNITED STATES PATENT OFFICE.

ALBERT D. CAYWOOD, OF CHICAGO, ILLINOIS.

DOOR.

SPECIFICATION forming part of Letters Patent No. 659,955, dated October 16, 1900.

Application filed February 12, 1900. Serial No. 4,922. (No model.)

To all whom it may concern:

Be it known that I, ALBERT D. CAYWOOD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Doors, of which the following is a specification.

My invention relates particularly to an improvement in fire-wall doors; and my object is to provide an improved threshold and improved mounting.

The accompanying drawings represent my improvements applied to a fire-wall and a door therefor.

In the drawings, Figure 1 represents a portion of a wall and a partially-opened door; Fig. 2, an enlarged vertical section at line 2 of Fig. 1; Fig. 3, an enlarged horizontal section at line 3 of Fig. 1, but with the door represented as closed; Fig. 4, a section similar to Fig. 3, but showing the rear door-jamb and rear edge of the door, the section being taken as indicated at line 4 of Fig. 1; and Fig. 5, an enlarged vertical section at the base of the door, as indicated at line 5 of Fig. 1.

It will be understood that where a fire-wall separates two compartments a door commonly is employed at each side of the wall. In the drawings but one door and a portion of the threshold are shown; but preferably the arrangement at the other edge of the threshold is an exact duplicate (in reverse) of that shown.

A represents a fire-wall; B, a door-opening; C, a door; D, a door-latch; E, a threshold-plate, and F the floor.

The door comprises a metallic plate a, to which are secured inturned front, rear, top, and bottom edge angles a', a^2, a^3, and a^4, respectively, the wings whereof, which are perpendicular to said plate, being flush with the edges thereof. To the front, top, and bottom edge angles are secured guide-angles b, b', and b^2, respectively, having outturned wings which are flush with the inner edges of the wings of the angles to which the guide-angles are attached. To the rear edge angle a^2, centrally of the length thereof, is attached a short rear fastening-angle b^3, having an inturned wing which serves to interlock with a member fixed to the wall and to hold the rear edge of the door when the door is closed.

The margins of the wall at the door-opening are bound by vertical angle-irons c c' and a top angle-iron c^2, all set in flush with the wall. Vertical and top marginal plates c^3, c^4, and c^5 are secured to the wall outside the angles, as shown. To the top marginal plate c^5 and above the angle-iron b' is secured a track-bearing angle-iron c^6, the vertical wing of which is separated from the plate c^5 by a spacing-strip c^7 to afford a groove for the vertical wing of the guide-angle b'. On the upper surface of the horizontal wing of the angle-iron c^6 is a track c^8, which receives track-wheels G, journaled in blocks G', fixed to the door. At the rear of the door-opening and fixed to the plate c^4 is a yoke c^9 for receiving the rear fastening angle-iron b^3.

The threshold-plate E is raised above the floor a couple of inches to prevent water from passing in case the floor on one side is flooded. Said plate is secured at its lateral edges (one only being shown) to cast-metal threshold extension members H, the upper surfaces of which slant downwardly and outwardly to form channels d with the upper portions of guide plates or members d', to which said extensions are secured. The plates d' are firmly fixed to the upright marginal plates c^3 and c^4, from which they are separated by spacing-blocks d^2 and d^3. Each casting H extends the length of the threshold-plate, projects beneath the bottom of the door, and has at its inner edge a recess to receive said threshold-plate and at its outer edge a vertical face to receive the plate d'. Thus a way or groove is formed for the bottom guide-angle of each door, said groove having an inclined inner wall up which any dirt which may collect in the path of said angle-iron is readily forced.

Inclined blocks I serve to raise trucks or the like passing from room to room to the level of the threshold.

The latch D comprises an arm f, having a catch f' and pivoted at f^2 to the inner side of the plate a, operating-arms f^3 and f^4, lying on opposite sides of the plate a and connected by a pivot f^5, and an arm f^6, rigid with the arm f^3 and provided with a stud f^7, which projects beneath the catch-bearing arm f. The arms f^3 and f^4 move together and for this purpose are joined above their pivot by a pin f^8, moving in a slot f^9 in the plate a. The op-

erating-arms are provided with hand-loops f^{10}. The arm f projects through a slot in the angle-irons a' and b and engages a stud g on a vertical plate g', fixed at its outer margin to the plate c^3, from which it is separated by a spacing-strip g^2 to receive the outturned wing of the angle-iron b. In opening the door the latch is lifted from either side, the operating-arms turning on their pivot till the pin f^8 traverses its slot, after which the door moves back. The latch is shown as a convenient one for the purpose, but no claim is made thereto.

The construction provides against passage of water and flame, and a practically even surface is secured at the threshold for the passage of trucks.

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

1. The combination with a wall provided with a door-opening, of a threshold extension projecting beyond the door-frame and provided with a guide-groove having a sloping inner wall, and a sliding door provided at its bottom with a guide-piece projecting into said groove, substantially as and for the purpose set forth.

2. The combination with a wall provided with a door-opening, of a sliding door mounted at one side of said wall and provided with a bottom guide-piece, a threshold-plate in said opening, and a threshold extension provided at its inner edge with a seat for the edge of said plate, and at its outer edge with a groove for said guide-piece, substantially as and for the purpose set forth.

3. The combination with a wall provided with a door-opening, of a sliding door mounted at one side of said wall and provided with a bottom guide-piece, a threshold-plate in said opening, a cast-metal threshold extension member provided at its inner edge with a seat for said plate and having a sloping top surface, and a plate d' secured to the outer edge of said member and forming with said sloping surface a groove for said guide-piece, substantially as and for the purpose set forth.

4. The combination with a wall provided with a door-opening, of a sliding door provided at its top with an angle-iron b' having an upturned wing at the inner side of the door, a spacing-strip c^7 above said angle-iron, a track-supporting angle-iron secured to said spacing-strip and projecting downward to form a groove for said first-named angle-iron, a track c^8 on the upper surface of the horizontal wing of the track-bearing angle-iron, blocks secured to said door and wheels journaled in said blocks and running on said track, substantially as and for the purpose set forth.

5. The combination of a wall provided with a door-opening, of a sliding door, means for securing said sliding door at its front edge, an angle-iron secured to said door at its rear edge and having one wing flush with the inner side of the door and projecting toward the front edge of the door, and a yoke secured to said wall at the rear side of the door-opening and serving to receive the projecting wing of said angle-iron and thereby secure the rear edge of the door, substantially as and for the purpose set forth.

6. The combination of a wall provided with a door-opening, of a sliding door comprising a plate a, edge angles a' a^2 and a^3, guide-angles b b' secured to the front edge and the top edge of the door respectively, a guide for the top guide-angle, and a groove for receiving the front guide-angle when the door is closed, substantially as and for the purpose set forth.

ALBERT D. CAYWOOD.

In presence of—
D. W. LEE,
A. D. BACCI.