

No. 692,463.

C. B. LIVINGSTON.
DOOR LATCH.

Patented Feb. 4, 1902.

(No Model.)

(Application filed June 28, 1901.)

Fig. 1.

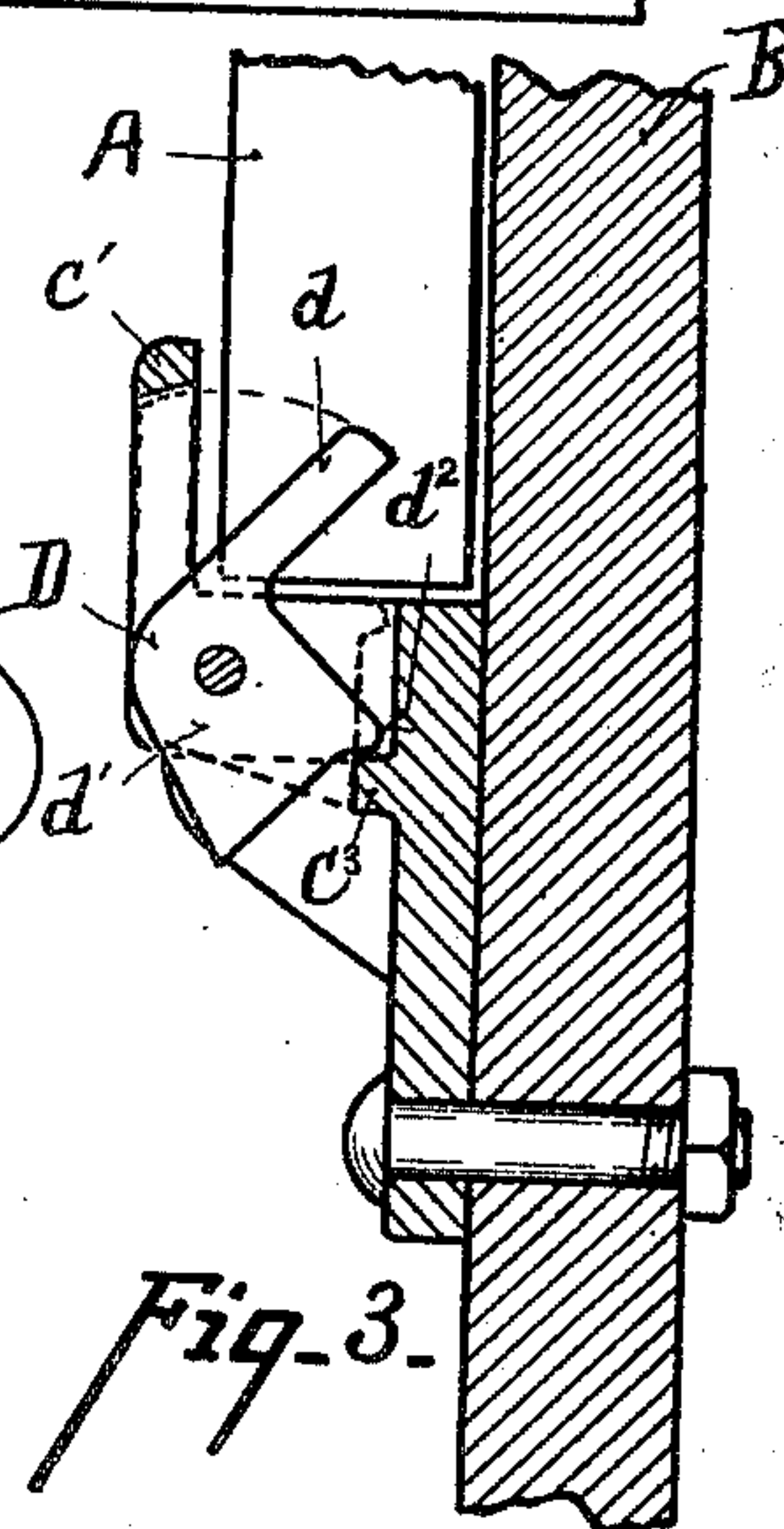
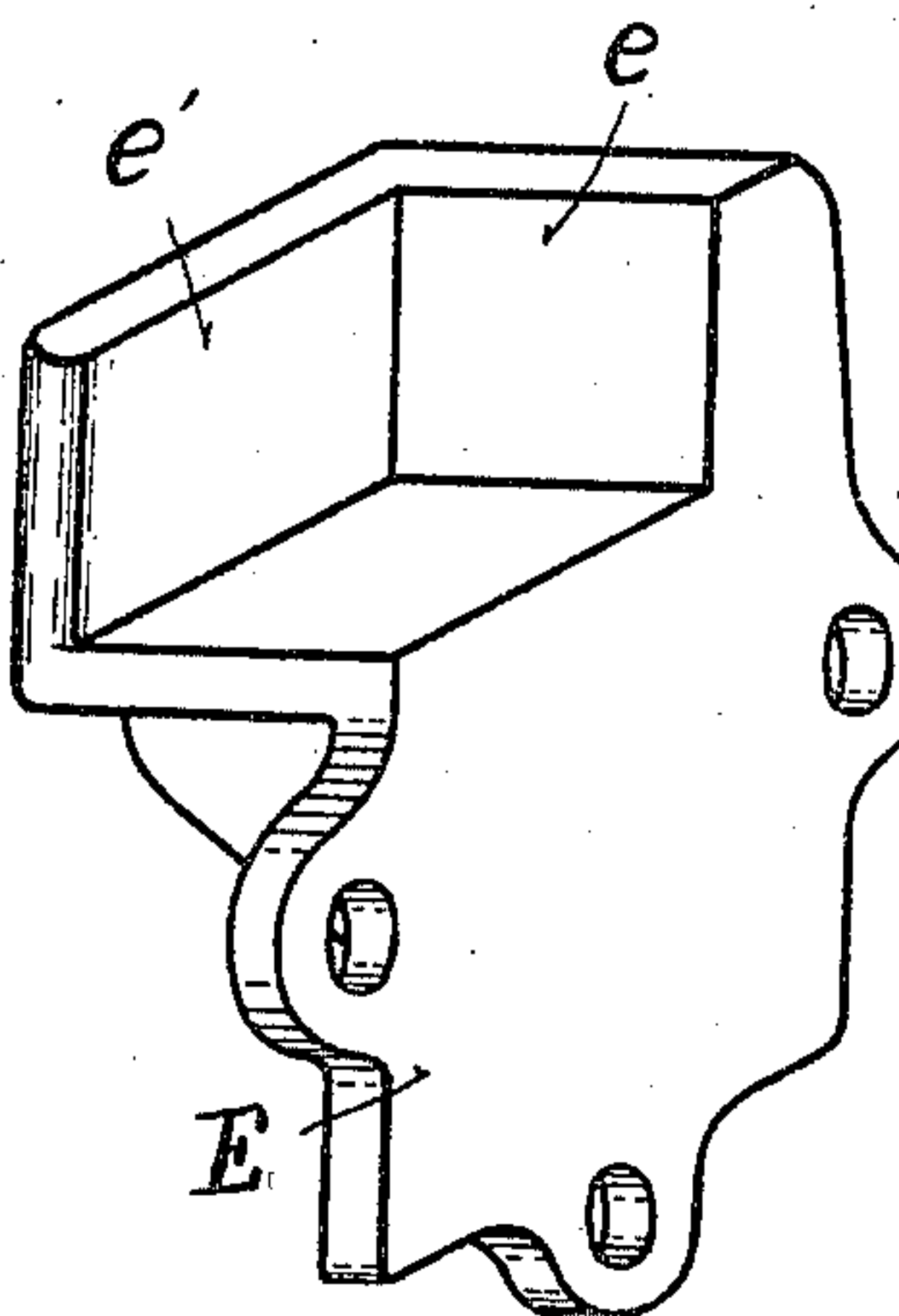
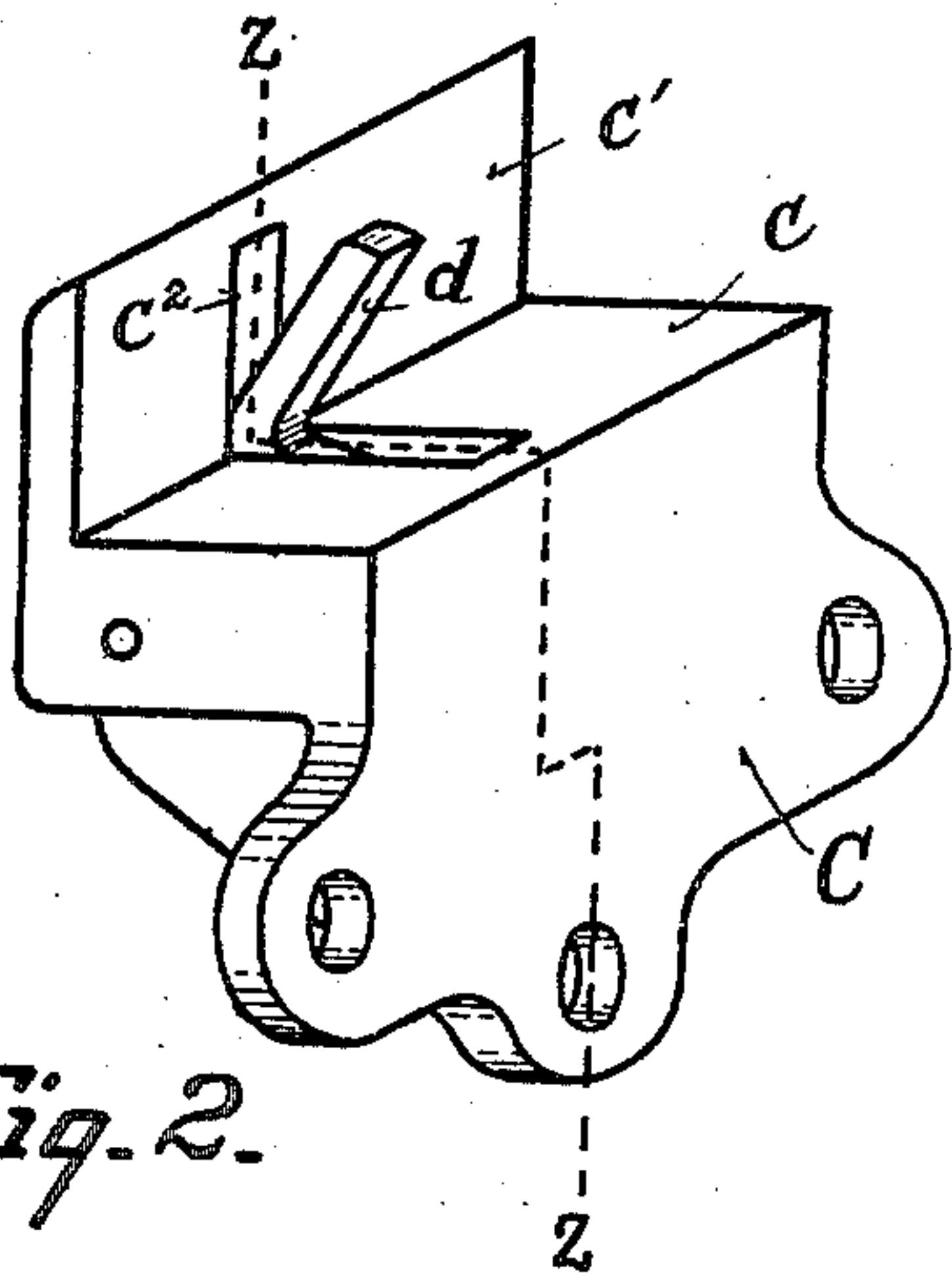
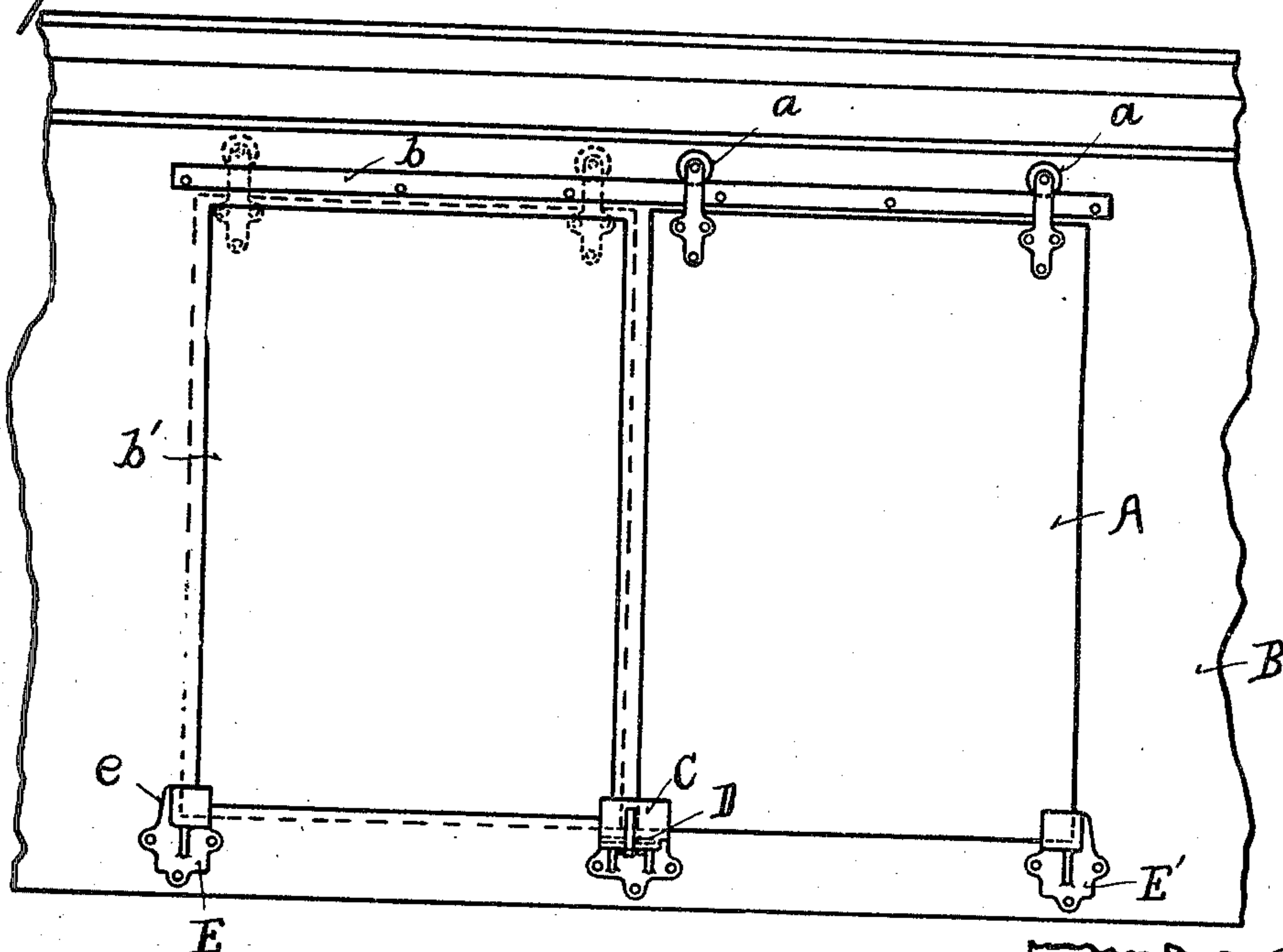


Fig. 2.

Fig. 4.

Fig-3-

Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES B. LIVINGSTON, OF CINCINNATI, OHIO.

DOOR-LATCH.

SPECIFICATION forming part of Letters Patent No. 692,463, dated February 4, 1902.

Application filed June 28, 1901. Serial No. 66,326. (No model.)

To all whom it may concern:

Be it known that I, CHARLES B. LIVINGSTON, a citizen of the United States of America, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Door-Latches, of which the following is a specification.

The object of my invention is a latch especially adapted for the doors of freight-cars, which automatically latches the door in either its opened or closed position, so that it does not sway back and forth.

In the accompanying drawings, in which like parts are indicated by similar reference-letters wherever they occur throughout the various views, Figure 1 is a side elevation of so much of a freight-car as is necessary to show a door and the latch embodying my invention attached thereto, the full lines showing the door open and the dotted closed. Fig. 2 is a perspective view, upon an enlarged scale, of the latch and its journal-plate. Fig. 3 is a central sectional view of the same, taken upon line *z z*, Fig. 2, showing it attached to the side of a car. Fig. 4 is a similar view of one of the check-plates for limiting the length of the path of the door.

Referring to the parts, door A is hung by rollers *a* from a horizontal guide-rail *b*, which is attached to the side B of a freight-car above doorway *b'*, and upon which the door slides to and fro to open and close the doorway. The aforesaid parts are of ordinary construction and need not therefore be more specifically described.

To side B of car, at bottom of that side of doorway *b'* toward which the door opens, an angle-plate C is attached, so that its horizontal member *c* is on a level with the bottom of door A, and, together with its vertical member *c'*, forms a way in which the door slides.

Members *c* and *c'* of angle-plate C have a transverse slot *c²* cut in them, in which a pawl D is pivoted. Pawl D has two angle-arms *d* and *d'*, the latter heavier than the former, so that when free its weight causes the pawl to hang with its upper arm *d* projecting across the path of the door, further forward rotation of the pawl being limited by a forward-projecting lug *d²* of arm *d'* contacting with a cross-piece *c³* in slot *c²*. Cross-piece *c³* like-

wise limits the backward rotation of the lug D, so that arm *d* stands in a vertical position outside of the path of the door.

Upon the lower edge of doorway *b'*, opposite angle-plate C, a check-plate E is secured, so that its transverse member *e* abuts against the end of the door in its closed position, and its vertical member *e'* contacts the front face of the door to hold it from vibration. A plate E' similar in construction to plate E is secured to side B of the car at a distance from angle-plate C equal to the width of the door.

In use, to either open or close door A pawl D is rotated so that its arm *d* stands in its vertical position. The door is then pushed along upon its guide-rail *b*. When it is fully closed or opened, it abuts against check-plate E or E' and at the same time its edge has passed pawl D, the weight of whose arm *d'* then automatically rotates it so that arm *d* projects across the end of the door, which is then held securely between a check-plate and the pawl.

What I claim is—

1. In a door-latch the combination of a doorway, a reciprocating door to open and close the same, a pawl journaled upon one side of the doorway to be projected automatically across the path of the door when it has passed it, and a check-plate secured to the opposite side of the door between which and the pawl the door is held in its closed position, substantially as shown and described.

2. In a door-latch the combination of a doorway, a reciprocating door to open and close the same, a pawl journaled upon one side of the doorway to be projected automatically across the path of the door when it has passed it, a check-plate secured to the opposite side of the door between which and the pawl the door is held in its closed position, and a check-plate in the path of the door at a distance from the pawl equal to the width of the door and upon the side of the pawl opposite from the aforesaid check-plate, substantially as shown and described.

3. The combination of a reciprocating door to open and close a doorway, an angle-plate secured at a lower corner of the doorway and having a horizontal member to come beneath the lower edge of the door and a vertical member forming a way for the door to slide in, a

pawl pivoted upon the angle-plate to be projected automatically across the path of the door when the door has passed it, and a check-plate secured to the opposite side of the doorway from the angle-plate and between which and the pawl the door is held in its closed position.

4. The combination of a reciprocating door to open and close a doorway, an angle-plate secured at the lower edge of one side of the doorway having a horizontal member to come beneath the door a vertical member forming with said horizontal member a way for the door to slide in and a transverse slot in said vertical and horizontal members, a pawl pivoted in the slot having a vertical and a horizontal arm the horizontal arm by its weight

normally to hold the vertical arm in the path of the door, a check-plate secured to the opposite side of the doorway having a transverse member to stop the motion of the door and a vertical longitudinal member to bear against the front face of the door, and a similar check-plate secured in the path of the door upon the side of the angle-plate opposite the aforesaid check-plate and at a distance from the angle-plate equal to the width of the door, substantially as shown and described.

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Witnesses:

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