(No Model.) 2 Sheets—Sheet 1.

C. RONDELL.

SELF ACTING DOOR.

No. 526,461. Patented Sept. 25, 1894.

Fig. 1.

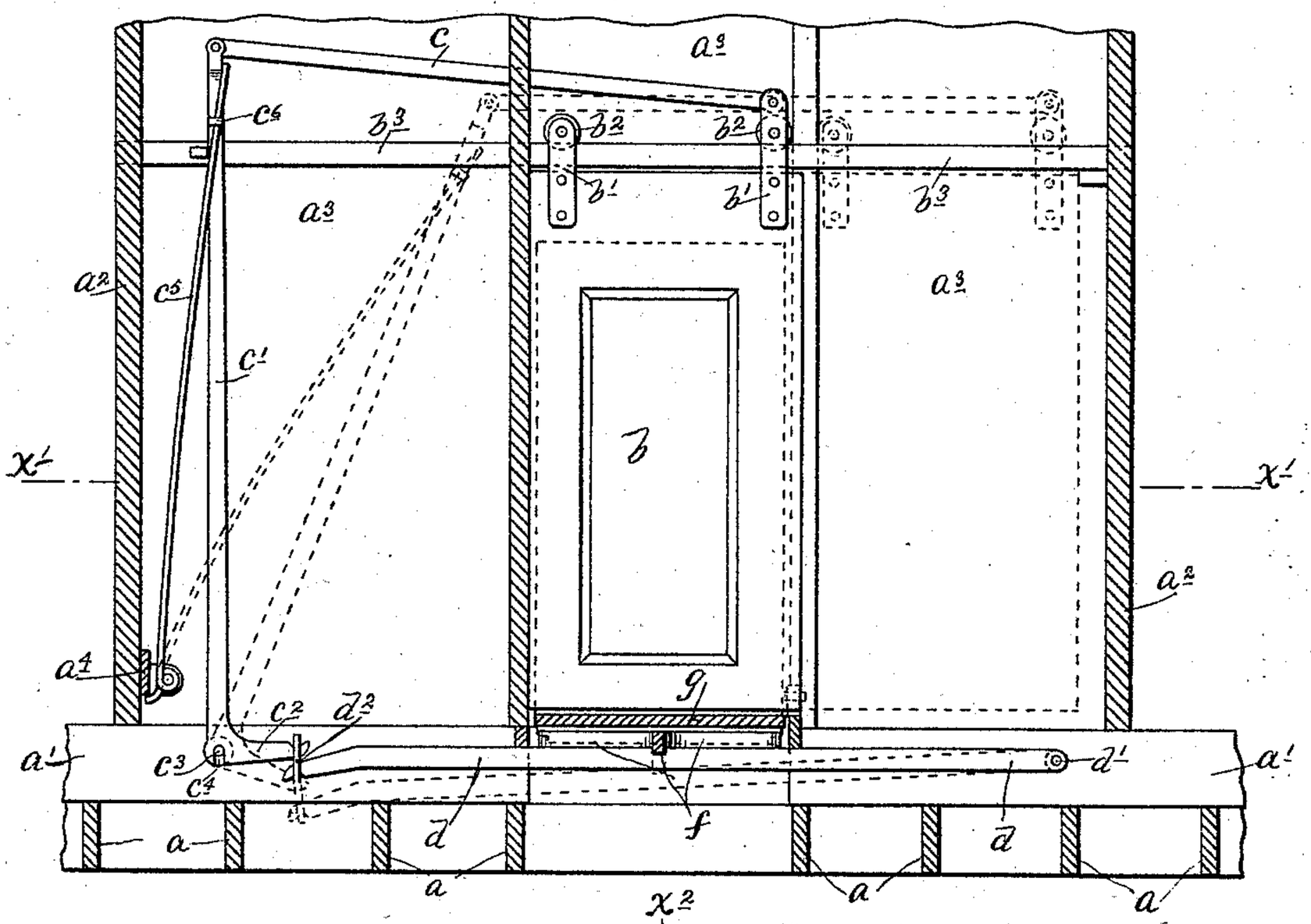
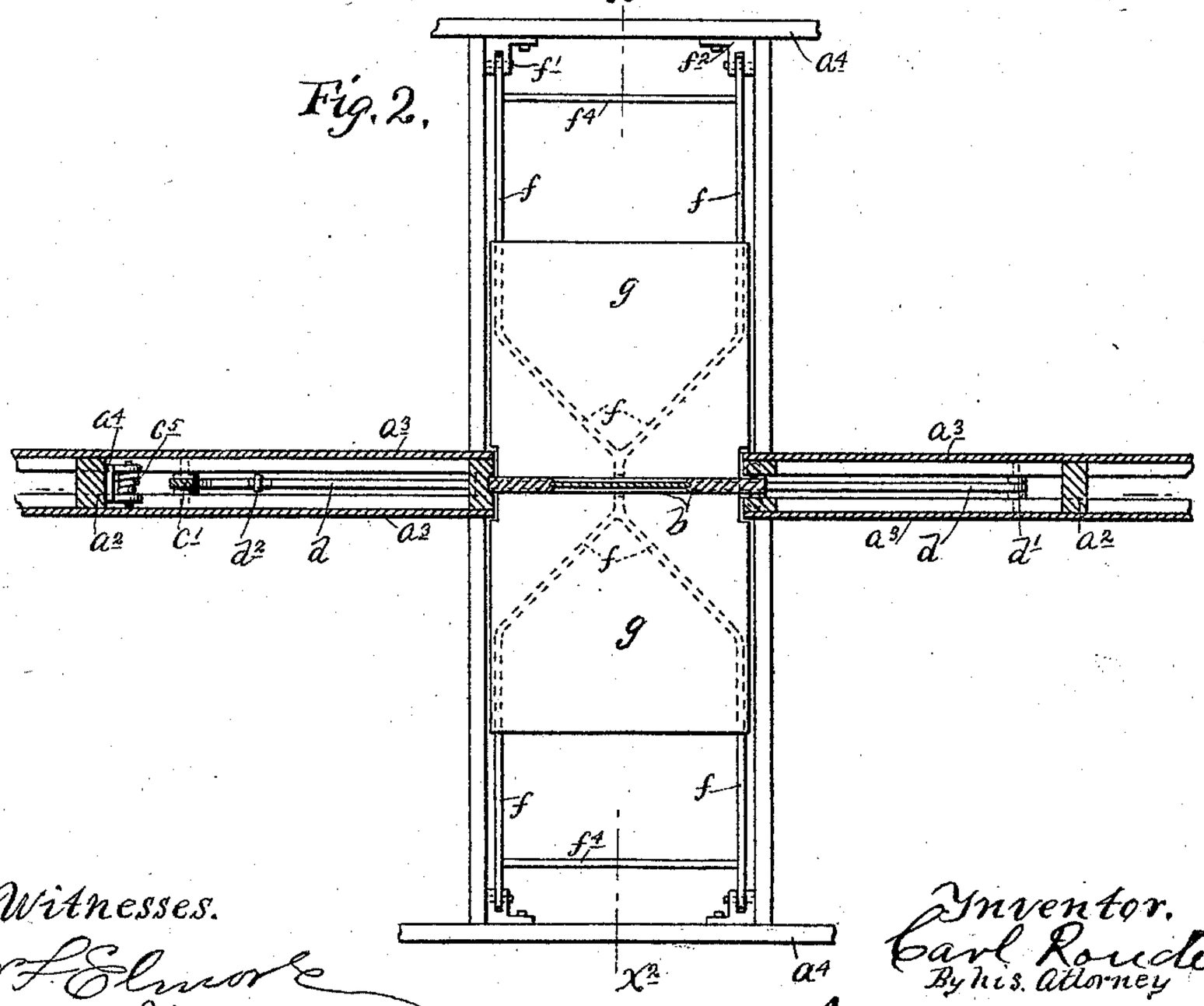


Fig. 2.



Witnesses.
E. F. Elmore
Frank D. Merchant

Inventor.
Carl Rondell
By his Attorney
Jas. F. Williamson

(No Model.)

2 Sheets—Sheet 2.

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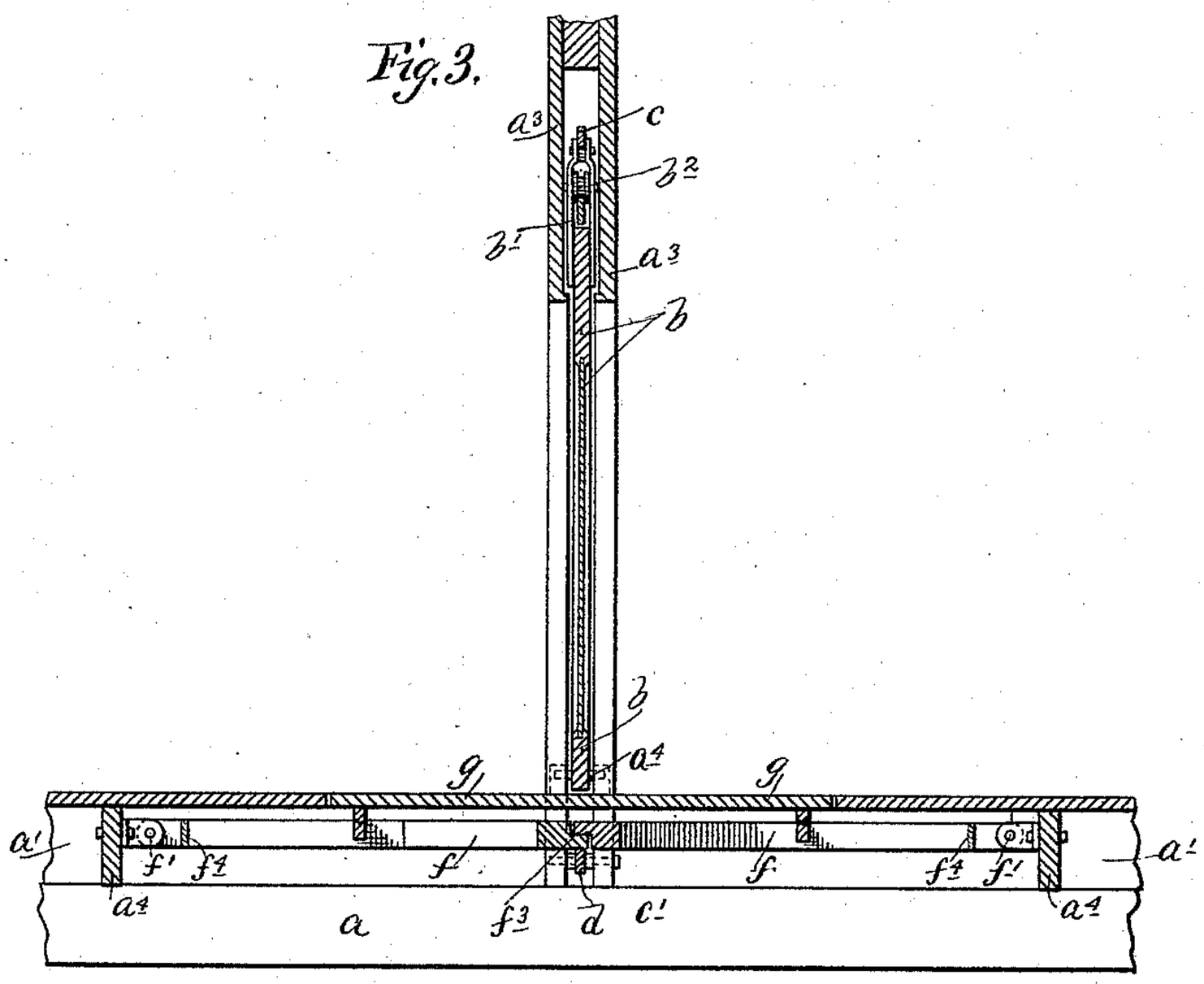
Fig. 3.



Witnesses.
E. F. Elmore
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Inventor.
Carl Rondell
By his attorney.
Jas. F. Williamson

UNITED STATES PATENT OFFICE.

CARL RONDELL, OF MINNEAPOLIS, MINNESOTA.

SELF-ACTING DOOR.

SPECIFICATION forming part of Letters Patent No. 526,461, dated September 25, 1894.

Application filed May 8, 1894. Serial No. 510,463. (No model.)

To all whom it may concern:

Be it known that I, CARL RONDELL, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Self-Acting Doors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to doors; and has for its object to provide a construction, whereby the door may be opened by the weight of a person on a threshold platform against gravity or a spring, which will return the door to its closed position, after the person has stepped off the platform.

To this end, the invention consists of the novel devices and combinations of devices, which will be hereinafter fully described and be defined in the claims.

The invention is illustrated in the accompanying drawings, wherein, like letters referring to like parts—

Figure 1 is a view, partly in front elevation and partly in vertical section, showing the door in its closed position. Fig. 2 is a horizontal section, on the line X′ X′ of Fig. 1; and Fig. 3 is a vertical section, on the line X^2 X^2 of Fig. 2.

a a' represent the floor timbers or sills, a^2 the side walls and a^3 one of the partition walls of a room, in which the door b is located. The door b is provided with hangers b' at its top, having rollers b^2 resting on a track-rail or runway b^3, which construction mounts the door for a sliding movement on the said track or runway. One of the hanger-brackets b' is, as shown, extended upward above the roller and has pivoted thereto a rod or link c, which extends to and is pivotally connected with the upper arm c' of a bell-crank lever c' c^2, pivoted at its angle to a stud c^3, fixed to the cross timber a', for rocking or pivotal motion in the vertical plane. As shown, the said bell-crank lever has a pivot slot c^4 at its angle, which adapts the same for ready attachment to and removal from its pivot-stud c^3. A spring c^5 is attached at one end to one of the walls a^2 or a bracket-block a^4, projecting therefrom; and has its other end extended through a keeper-lug c^6, fixed to the upper part of the pivoted bell-crank lever arm c'. Under the action of the spring c^5, the door is returned to and held in its closed position.

A horizontal lever d is pivoted, at one end to the floor timber a', as shown at d', and has its other end connected by a link d^2, or otherwise, with the lower or short arm c^2 of the bell-crank lever c' c^2.

At right angles to the lever d', are located a pair of horizontal levers f, which diverge from angular inner ends and have their divided arms pivoted, as shown at f', to lugs f^2, fixed to floor timbers a^4, spaced apart from the timber a', on the opposite sides of the door. The inner ends of the levers f, are reversely notched, as shown at f^3, so as to join with an overlapping joint, and overlie the pivoted lever d. The divided arms of the said levers f, may be braced by cross-ties f^4. On the levers f, is located a threshold platform g, directly under the door and extending a short distance from each side of the same.

The spring c^5 or any equivalent which might be substituted therefor, such as a weight and cord, has sufficient strength to hold the door in its closed position and the horizontal levers d and f, together with the platform g carried thereby, in their uppermost position. Hence, it is obvious, that, when an approaching person steps onto the platform g, his weight will lower the platform and the levers f and d, thereby rocking the bell crank lever c' c^2, against the resistance of the spring c^5; and through the link c, throwing the door b into its open position, as shown in dotted lines in Fig. 1. When the person has passed through the door and stepped off the platform, the spring c^5, or substitute therefor, will become effective to return the door and the platform to their normal position, as shown in full lines in Fig. 1.

From the foregoing description, it is obvious that the door is self opening and closing, under the action of a person stepping onto and off from the threshold platform.

A door of this kind is a great convenience in many places, especially where floor space is scarce, or it is desirable not to block or interfere with the passage way on either side. For example, such a door is especially adapted

for cars, and for compartments, toilet rooms, &c., inside of cars. It is also a serviceable form of door, for connecting dining-rooms and kitchens, especially for the reason, that it will open in advance of the person, with sufficient clearance to enable him to see through the passage-way, and avoid collision. Many other places where such a door would be a convenience, or advantage, will suggest themselves to the reader.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination with the sliding door *b*, of the link *c*, bell-crank lever $c' c^2$, the spring c^5, the lever *d*, the link d^2, the transverse levers *f* and the threshold platform *g*, all arranged and operating substantially as described.

2. The combination with the sliding door *b*, of the link *c*, bell crank lever $c' c^2$, fulcrumed on pin and slot $c^3 c^4$, the spring c^5, the lever *d*, the link d^2, transverse levers *f* and the threshold plate *g*, all arranged and operating substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CARL RONDELL.

Witnesses:

JAS. F. WILLIAMSON,

E. F. ELMORLE.