

(No Model.)

J. FINCK.

DOOR OPERATING DEVICE.

No. 328,114.

Patented Oct. 13, 1885.

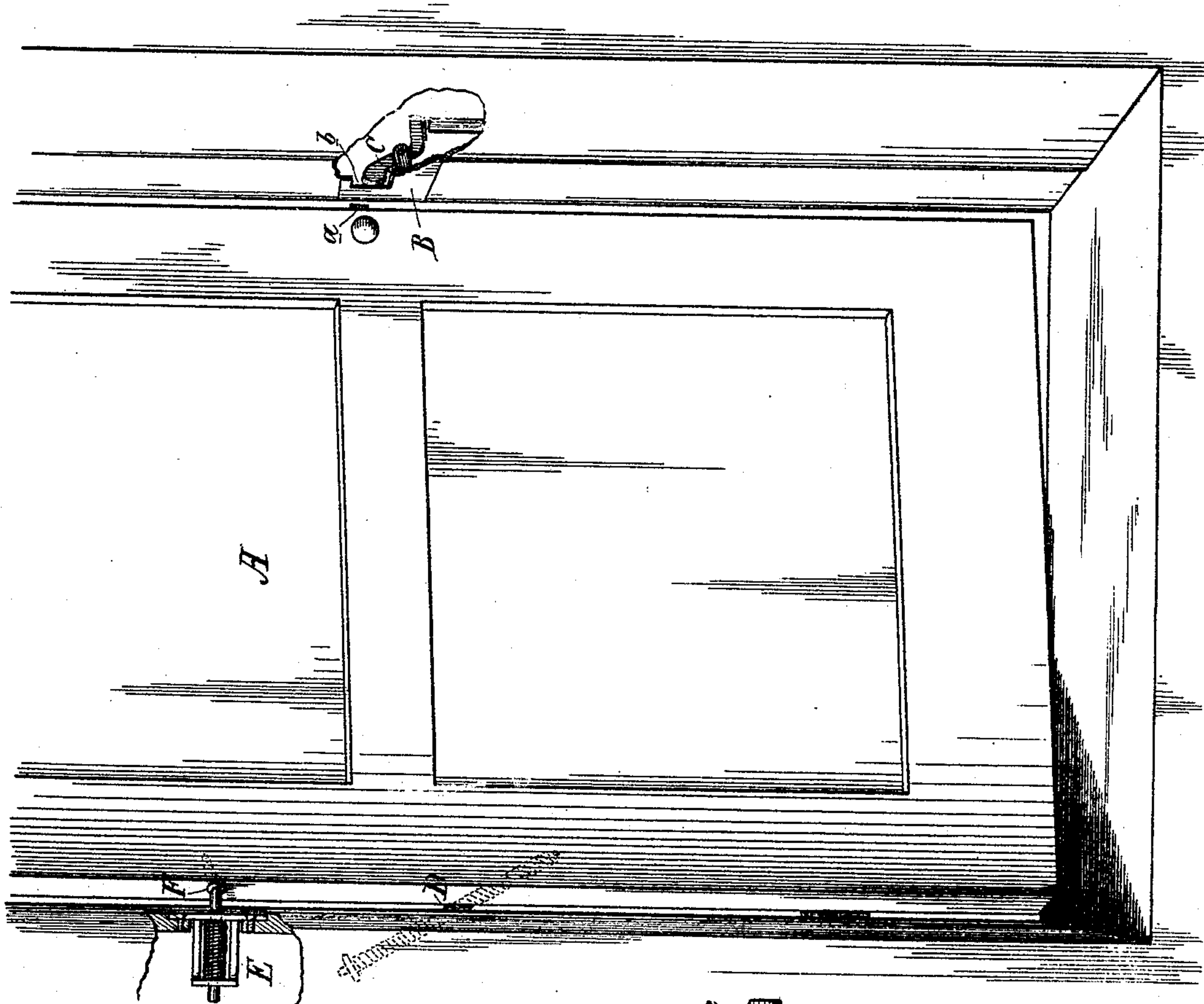


Fig. 1.

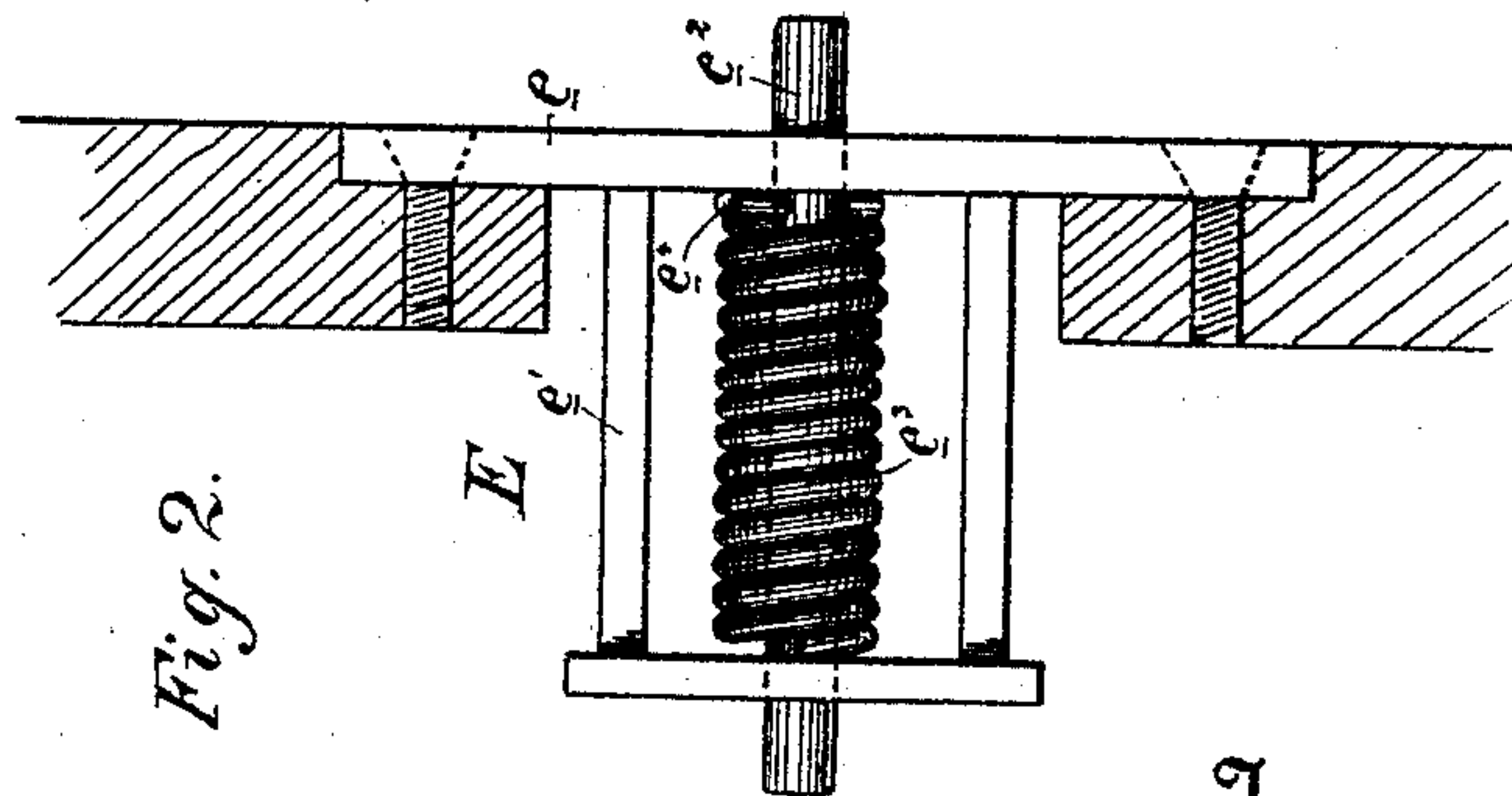


Fig. 2.

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# UNITED STATES PATENT OFFICE.

JULIUS FINCK, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO WILL  
& FINCK, OF SAME PLACE.

## DOOR-OPERATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 328,114, dated October 13, 1885.

Application filed July 18, 1885. Serial No. 172,022. (No model.)

*To all whom it may concern:*

Be it known that I, JULIUS FINCK, of the city and county of San Francisco, State of California, have invented an Improvement in Door-Operating Devices; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the class of devices or mechanism used for operating doors from a distance; and my invention consists in a spring tending to open the door and a spring tending to close it, both being preferably used in connection with a device for pushing back or releasing the door-latch.

It consists, further, in the construction of the opening mechanism and its location and adjustment, all of which I shall hereinafter fully explain.

In many houses it is customary to provide means by which, when a summons is heard at the front door, the latch may be released from a distant portion of the house. Such a device I have shown and claimed in my application No. 162,135, filed April 13, 1885; but it is obvious that this device is, to a certain extent, incomplete, from the fact that with many doors, so evenly hung as to remain in the position set, the mere pushing back of the latch would not notify the person outside that the door is ready to be opened.

It is the object of my present invention to provide a spring which will, when the latch is released, throw the door open; and as on many doors there are closing-springs it is necessary that my opening-spring shall be of such a nature as, while performing its own function, it will not interfere with that of the closing-spring.

Referring to the accompanying drawings for a more complete description of my invention, Figure 1 is a perspective view of my door-operating device, showing its application to a door, the door being shown partially open. Fig. 2 is an elevation of the opening mechanism.

A is a door, the latch *a* of which is adapted to engage the socket *b* of the striking-plate B, secured in the adjacent door-frame. In the frame is made a socket in which is the bell-crank or angle lever C, pivoted to lugs on the back of the striking-plate and adapted, when

its lower arm is forced up, to bear with its upper arm against and force back the latch. The means by which the lever is operated are unnecessary to show, it being sufficient for my present object to state its mere effect as above.

Screwed to the door and to the frame is the closing-spring D, which may be of any style or located in any other position in which it will close the door. I have here shown the ordinary spiral spring crossing the line of the meeting edges of the door and frame.

E is my opening device, which, as in the case of the closing-spring, may be of suitable style and suitably located. I have found the following novel construction to be preferable: It consists of a plate, *e*, having a backwardly-extending slotted frame, *e'*, in which works a spindle, *e''*, encircled by a strong coil-spring, *e'''*. The spindle projects and works through the plate *e* and the base of the slotted frame, and is limited in its front projection through plate *e* by a cross-pin, *e'''*, bearing behind it. The spring rests between this pin and the base of the slotted frame. A socket is made in the jamb of the door, and the slotted frame (with its spindle and spring) is inserted, the plate *e* being screwed to the jamb and lying flush therewith. When the door is swung to, its edge, bearing against the projecting end of the spindle, forces it back on its spring, and it remains in this position as long as the door is held by its latch.

The operation is as follows: The latch being released by the lever C, the spindle *e''*, influenced by its strong spring, bears outwardly against the door and swings it open slightly, the movement of the door being regulated by that of the spindle, which is limited by its cross-pin. The visitor seeing the door swing slightly, enters, and as he lets it go, being opened wide to permit his ingress, it gathers momentum under the influence of the closing-spring D sufficient to overcome the spring *e'''* and to latch itself. It will be seen, therefore, that the relative strength of the two springs must be such that the spring *e'''* will overcome the spring D sufficiently to swing the door open slightly, while the latter spring, assisted by the momentum, will close the door. In order to obtain as much leverage as possible for the action of the spring-spindle *e''*, it is lo-



cated in such a position in the jamb that it bears as near the edge of the door farthest from the hinges or center of pivotal action as is practicable. To adjust the degree to which the door may be opened, I insert in the door a screw, F, against the head of which the spindle is made to bear. By setting this screw farther in or out the action of the spindle on the door is less or greater, as the case may be.

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

1. In a door-operating device, a spring tending to open the door, in combination with a spring tending to close it, the former being of a strength to overcome the latter sufficiently to partially open the door, and the latter having a strength sufficient, assisted by the momentum of the closing door, to close said door, substantially as herein described.

2. A door-operating device comprising the combination of a mechanism for releasing the door-latch, a spring for slightly opening the door when the latch is released, and a spring of greater strength for closing it, substantially as herein described.

3. In a door-operating device, a spindle located in the jamb and adapted to bear on the door, a slotted guide-frame for the spindle, and a spring actuating said spindle to open the door, substantially as herein described. 30

4. In a door-operating device, the door-opener consisting of the plate *e*, the slotted frame *e'* on its back, the sliding spindle *e<sup>2</sup>* in the frame and projecting through the frame 35 *e*, and the spring *e<sup>3</sup>* on the spindle, the whole being let into the jamb, whereby the spindle bears on the edge of the door, substantially as herein described.

5. In a door-operating device, the door-opener in the jamb of the door, and consisting of the sliding spring-actuated spindle *e<sup>2</sup>*, in combination with the adjustable screw F in the door, against the head of which the spindle bears, substantially as herein described. 40 45

In witness whereof I have hereunto set my hand.

JULIUS FINCK.

Witnesses:

C. D. COLE,  
J. H. BLOOD.