

(No Model.)

A. L. PECK & L. H. TAFT.
DOOR OPENING DEVICE.

No. 581,132.

Patented Apr. 20, 1897.

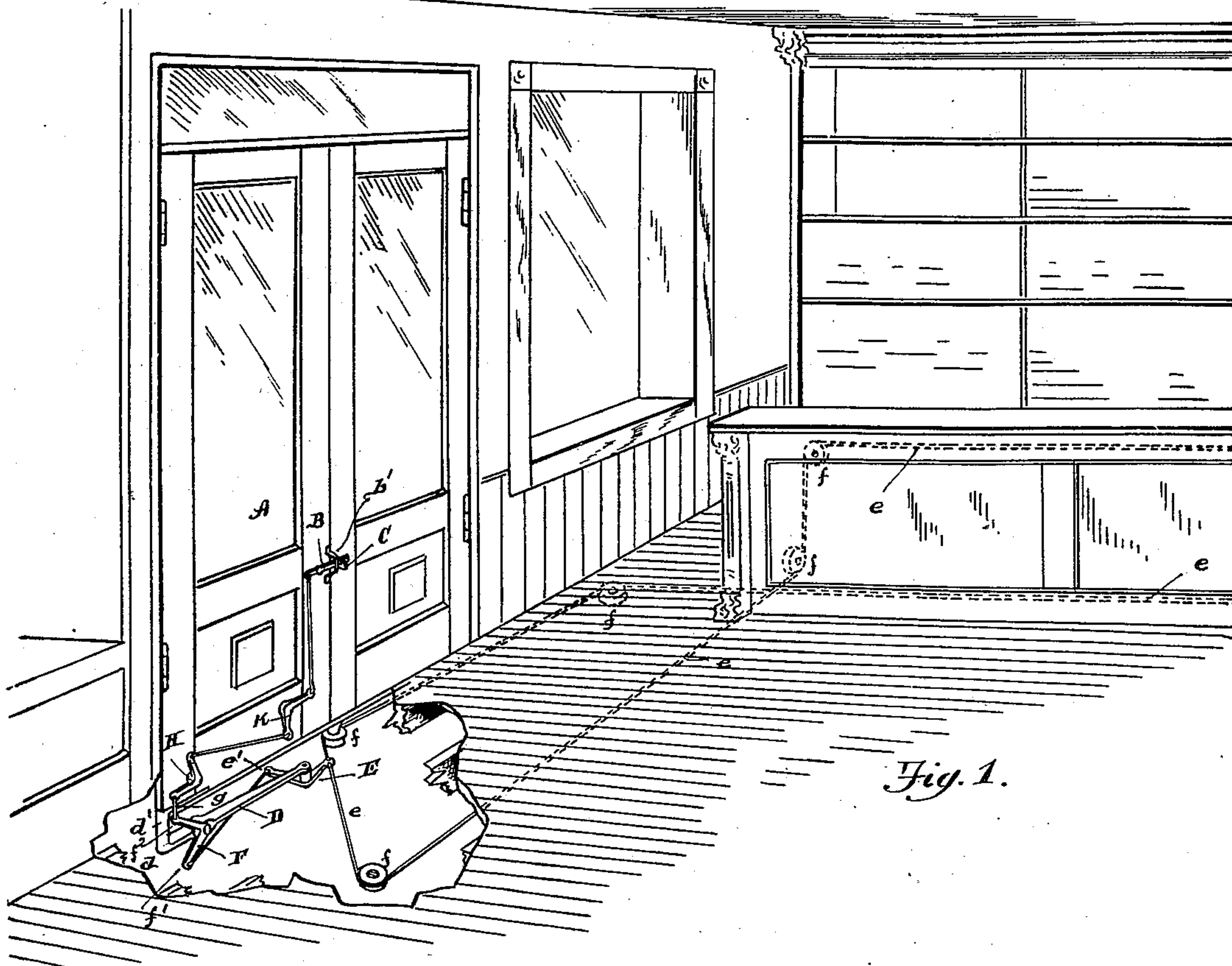


Fig. 1.

Fig. 2.

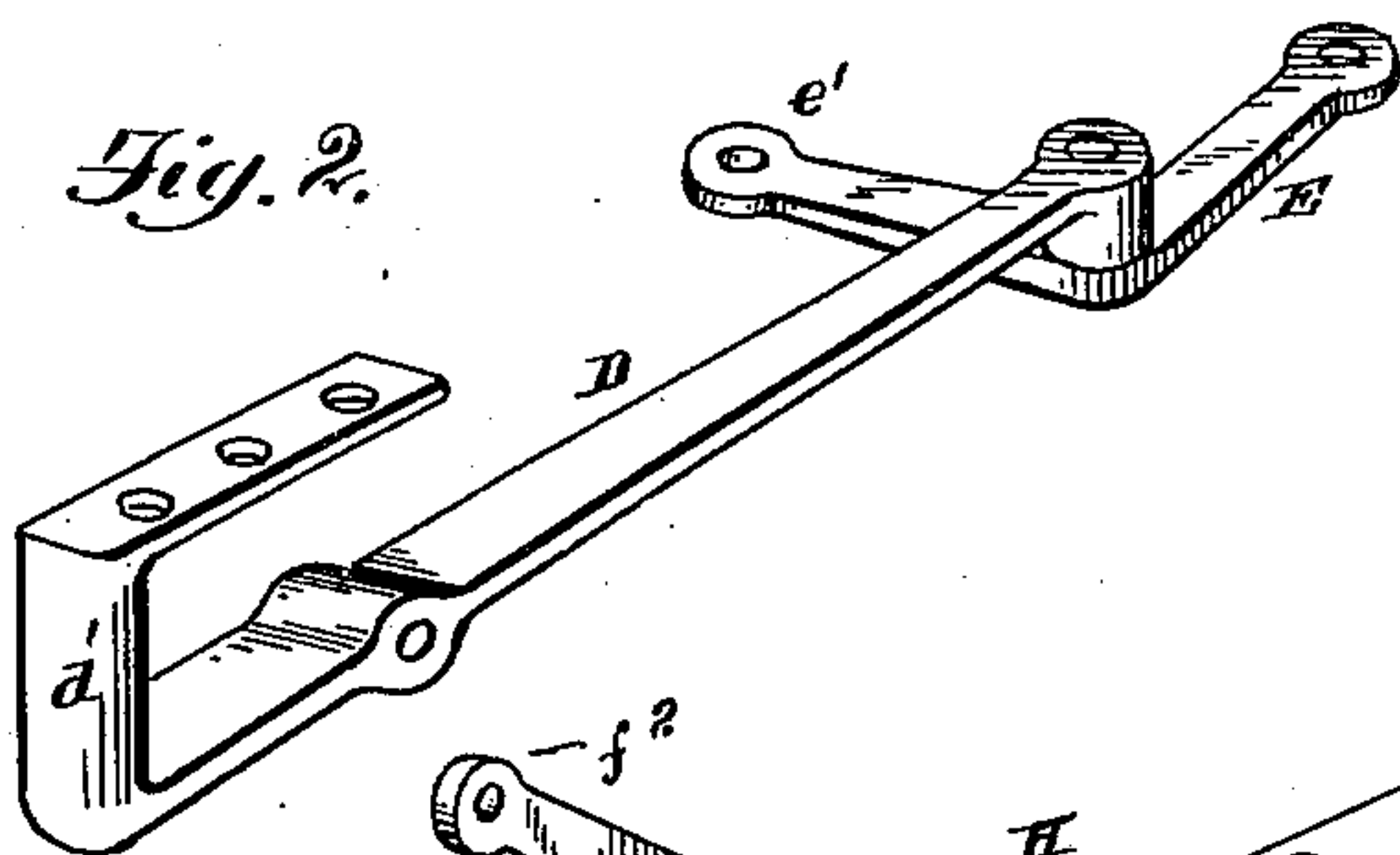
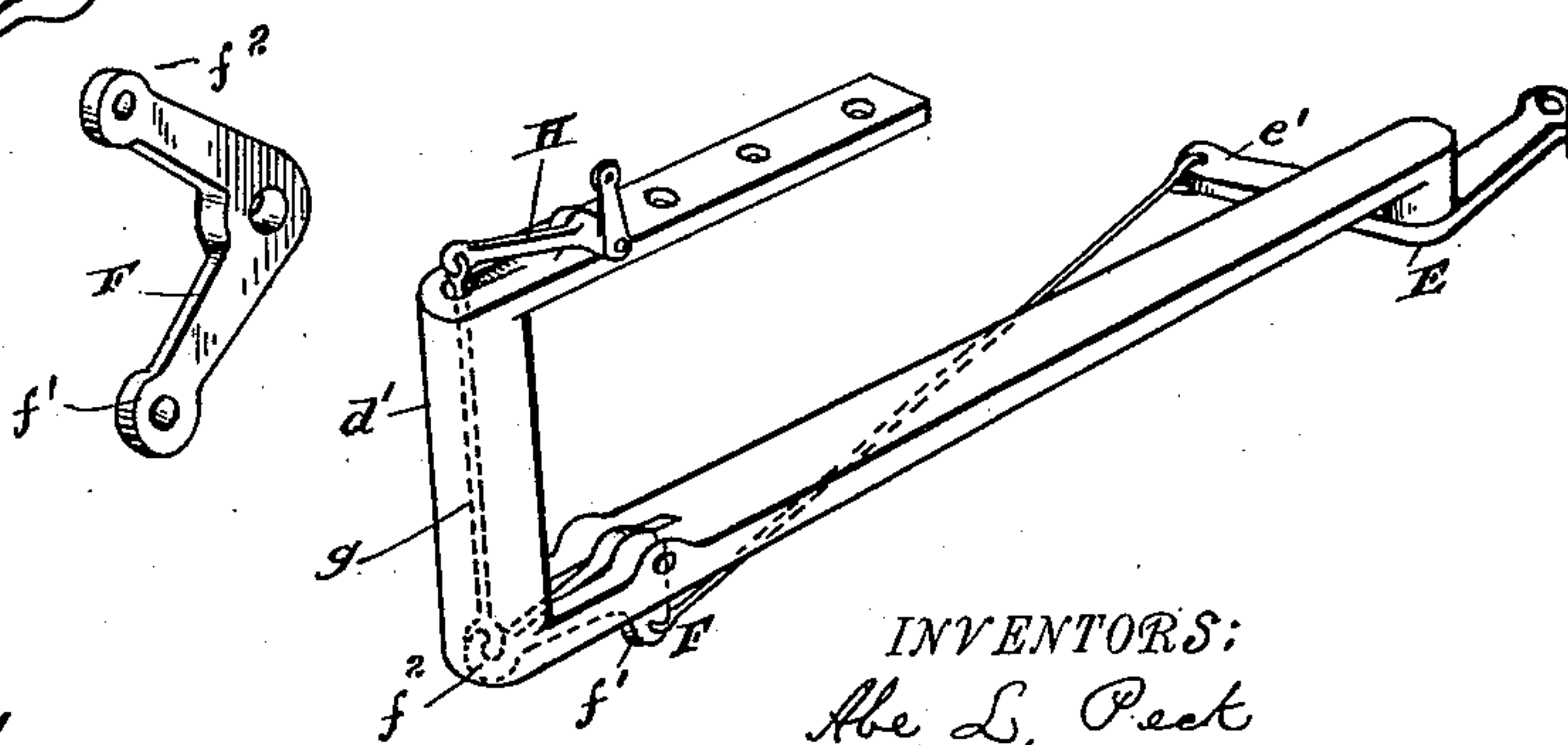


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

ABE LINCOLN PECK AND LYMAN H. TAFT, OF LOWELL, MICHIGAN.

DOOR-OPENING DEVICE.

SPECIFICATION forming part of Letters Patent No. 581,132, dated April 20, 1897.

Application filed February 18, 1896. Serial No. 579,725. (No model.)

To all whom it may concern:

Be it known that we, ABE LINCOLN PECK and LYMAN H. TAFT, citizens of the United States, residing at Lowell, county of Kent, State of Michigan, have invented a certain new and useful Improvement in Door-Opening Devices; and we 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 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention has for its object a device which is adapted to open a door from a distant point. It is especially applicable to stores, shops, and similar places of business where it is desirable to open the door for an incoming or outgoing customer and close the door after the customer has passed through, either entering the building or emerging from it.

In the drawings, Figure 1 shows the inside of a building having a door with an ordinary thumb-latch to which the improved device is applied. Fig. 2 shows in detail the fixtures used at the bottom of the door. Fig. 3 shows in detail the preferred form of said fixtures.

A indicates the door. B indicates the latch, and C the catch of the latch.

Under the floor beneath the door is swung a lever D, whose fulcrum *d* is in line with the pintle of the hinges of the door, and the lever itself is provided with a stem *d'*, that rises through the floor and is secured at its upper end to the body of the door.

To the lever D, near its free end, is fulcrumed a bell-crank lever E, and to one end of this bell-crank lever E is attached an endless cord or cable *e*, that passes around suitably-disposed sheaves *f f f* and leads to any distant part of the apartment. This endless cord *e* would generally be disposed partly under the floor of the apartment and partly above it, that part which is under the floor traversing spaces where the cord would be in the way if it were disposed above the floor, and that part which is above the floor traversing spaces where the user can have access to it, and through its use actuate first the bell-crank lever E and next the lever D and the door.

From the second end of the bell-crank lever

E suitable cords or rods reach to the latch *b*. The arrangement of the cords or rods may be varied from that shown in the drawings, the main essential being that there shall be a link reaching from the end *e'* of the bell-crank lever E to the end of the bell-crank lever F, which lever is adapted to actuate a vertical link *g*, and it is also essential that the vertical link *g* shall rise through the floor at or near the center of rotation of the door A, and that a connecting-link shall pass forward from thence to a device suitably disposed to lift the latch-lever B.

Figs. 2 and 3 show different forms of levers by which the motion that is required to actuate the latch is carried from the main actuating-cord upward through the floor that lies below the door and thence to the levers and links which actuate the latch. The auxiliary lever E is the same in both instances, and near the vertical stem *d'* there is in both instances a bell-crank lever which is hung on a horizontal pin. In Fig. 2 this bell-crank lever is at one side of the arm D, and in Fig. 3 it is shown as hung in a notch or slot that is cut longitudinally in the arm D. From the end of this bell-crank lever F a link passes upward to another bell-crank lever H, that is properly located above the floor. In the form shown in Fig. 2 this link *g* passes up at one side of the stem *d'*, and in the form shown in Fig. 3 it passes up through the interior of the stem *d'*, which is hollowed out for that purpose. In the first form (that shown in Fig. 2) the bell-crank lever that lies above the floor may be attached directly to the door, as shown in Fig. 1, while in the second form it may preferably be attached to the fixture shown in Fig. 3, the variation in the place of attachment not making any change in the principle of action of the parts, though in the form shown in Fig. 3 the fixture becomes more of a unitary structure than in the form shown in Fig. 2.

As shown in the drawings, a second bell-crank lever F is pinned to the main lever D, and one end *f'* of this lever F is linked to the end *e'* of the first bell-crank lever. The other end *f''* is linked by a vertical link *g* to the bell-crank lever H. The lever H is linked to the lever K on the front of the door, and

this lever K is linked to the latch-lever. An operator pulling on the cable *e* at any point first actuates the lever D. If he is pulling in a direction to lift the latch-lever B, the first
5 result is to lift the latch-lever until further motion of the latch-lever is stopped by engagement of the upper edge of the latch and the keeper *b'*. The door is now free to swing on its hinges, and the further pull on the cable
10 *e* draws the end of the lever D around and opens the door. A pull in the opposite or reverse direction closes the door, first, of course, turning the lever E until it is stopped with respect to the lever D.

15 What we claim is—

1. In a door-opening device in combination with the door, a lever provided with a hollow stem secured to the door with its hollow stem in line with the pintles of the door-hinges and
20 also provided with an auxiliary lever on its free arm, an endless cable engaging the auxiliary lever, link connections leading from the auxiliary lever through the hollow stem and adapted to actuate the latch of the door,

and means for supporting the endless cable, 25 substantially as described.

2. In a door-opening device, the combination with a door-actuating lever provided with means for attachment to the door, and a stem
30 adapted to be placed in line with the pintles of the door-hinges, of a latch-actuating lever pivoted to the free end of the door-opening lever, suitable link and lever connections leading upward in substantial alinement with the hinge-pintles of the door, an endless cable
35 and supports therefor secured to the latch-actuating lever and adapted to actuate first the latch-actuating lever and subsequently the door-opening lever, substantially as described. 40

In testimony whereof we sign this specification in the presence of two witnesses.

ABE LINCOLN PECK.
LYMAN H. TAFT.

Witnesses:

F. O. HOLMES,
JOSEPH W. OLIVER.