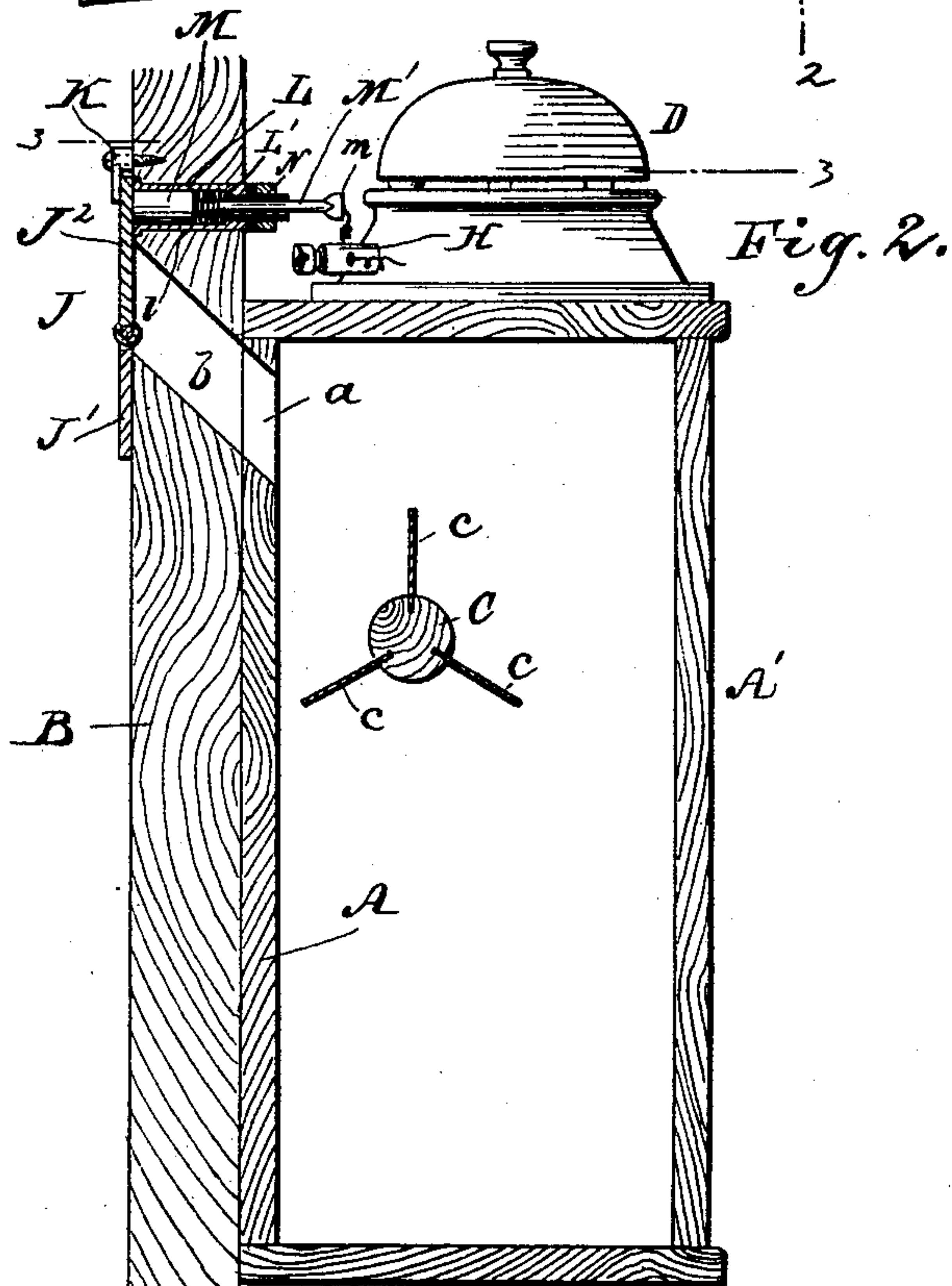


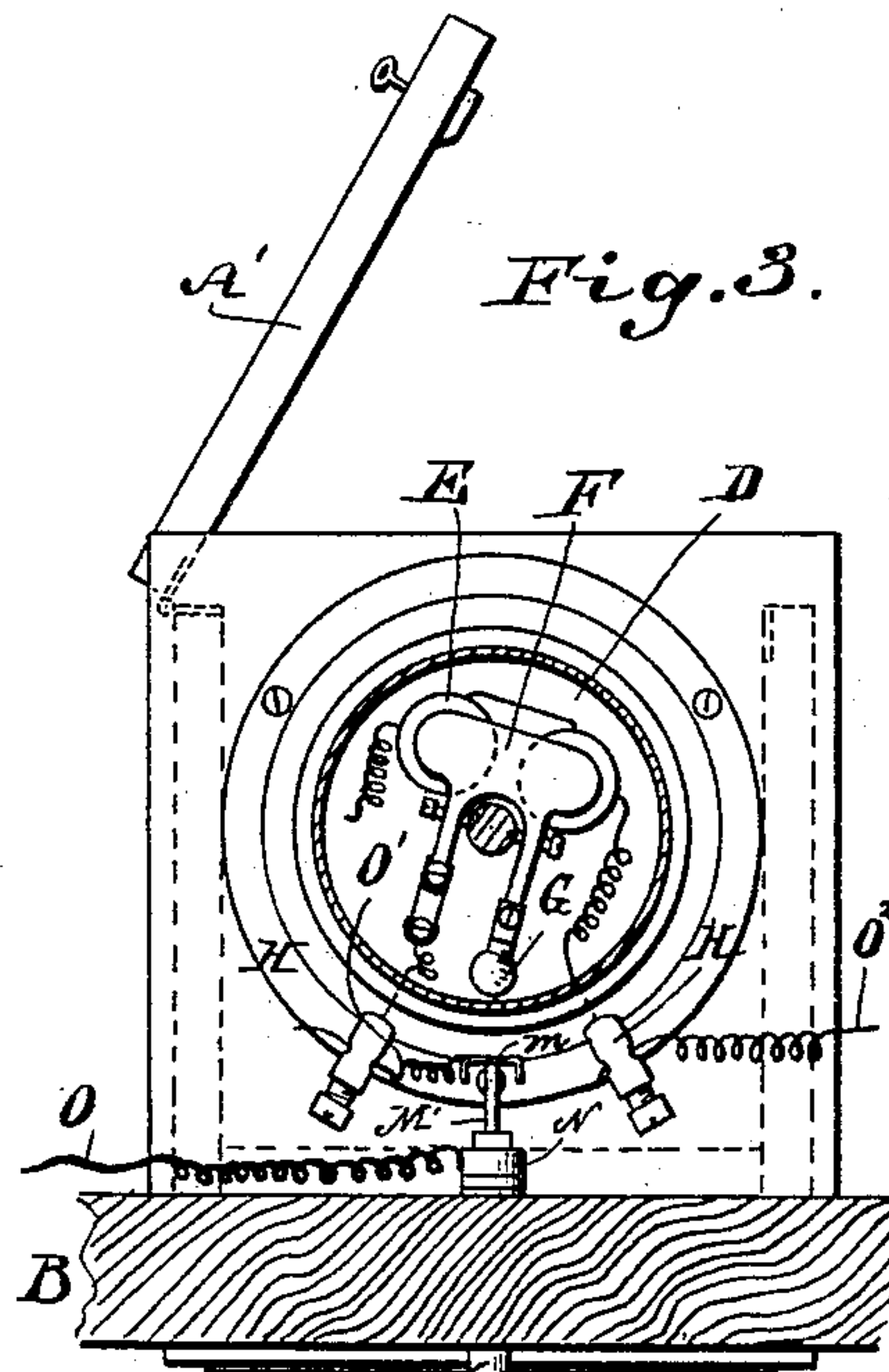
Patented May 12, 1891.

Fig. 1.



WITNESSES:

John H. Deane
C. Sedgwick



J. M. INVENTOR:

E. C. Hudson

BY *Munn & Co*

ATTORNEYS

UNITED STATES PATENT OFFICE.

EMMA C. HUDSON, OF SEATTLE, WASHINGTON.

HOUSE-DOOR LETTER-BOX.

SPECIFICATION forming part of Letters Patent No. 452,223, dated May 12, 1891.

Application filed October 22, 1890. Serial No. 368,945. (No model.)

To all whom it may concern:

Be it known that I, EMMA C. HUDSON, of Seattle, in the county of King and State of Washington, have invented a new and Improved Letter-Box, of which the following is a full, clear, and exact description.

My invention relates to improvements in that class of letter-boxes which are attached to the interior of the doors of buildings to receive the mail for the inmates, and also to an improved door-plate and bell to be used in connection with the letter-box. When letter-boxes are attached to the outside of doors they are unsightly objects, and are likely to be robbed of their contents; and the object of my invention is to attach a letter-box to the interior of the door so that it cannot be easily reached; to provide a swinging door-plate for closing the entrance to the letter-box, so that the entrance will not be noticeable, and also to provide an electric bell which will connect with the door-plate, so that when it is opened to introduce matter into the box the bell will be sounded.

A further object of my invention is to provide means for preventing the abstraction of the mail-matter from the box through the entrance to the same.

With these ends in view my invention consists in certain features of construction and combinations of parts, which will be hereinafter fully described, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a broken front elevation of a door, showing the door-plate which is used in connection with the letter-box. Fig. 2 is a vertical transverse section on the line 2 2 of Fig. 1, through the door-plate and letter-box; and Fig. 3 is a horizontal section on the line 3 3 of Fig. 2, showing the electric bell and the connection between the bell and the door-plate.

The letter-box A is of the usual construction, and may be made of any size and shape, the box having on its front side a suitable door A', which is provided with a lock and key, and having an inclined opening *a* through its back side and near the upper end, through

which the mail-matter is introduced. The box is firmly attached to the inside of the door B, and the door has an upwardly-inclined opening *b*, which is made to align with the opening *a* of the box, so that mail-matter may be introduced through the openings *b* and *a* into the box A.

The letter-box has a revoluble shaft C, mounted transversely therein immediately below the opening *a*, said shaft having blades *c*, arranged radially thereon, there being three blades shown in the drawings, although any convenient number may be used, and it will thus be seen that when a letter or other article is inserted in the box it will drop upon one of the blades, thus turning the shaft C, so that it may pass the blades to the bottom of the box; but after it has been inserted the shaft and blades will prevent it from being abstracted through the openings *a* and *b*.

On the top of the box is an electric bell D of the usual construction, the bell having the ordinary gong, the magnets E, and the armature F, which is counteracted by a spring and provided with a hammer G in the usual manner. The construction of the bell is not material, as it forms no part of my invention, and any electric bell may be used, if desired.

On the front of the door B is a door-plate J, which consists of two similar parts J' and J², the lower part J' being fixed to the door immediately below the opening *b*, and the upper part J² being hinged to the lower part, so as to swing downwardly and close the opening to the door, the hinges *j*, by which it is hinged, being arranged on the inside of the plate, so as not to be noticeable from the outside. The lower part J' is adapted to have the number of the building produced thereon, and the upper part may be used to display a name. A button K or other suitable fastening is placed upon the door immediately above the upper part J² of the plate, so as to hold the plate against the door.

I have shown a rectangular aperture *b* through the door, and the upper part of the door-plate is adapted to cover the aperture; but it is obvious that the aperture may be made in any desired shape and that the door-plate may be made to correspond with it. A sleeve L extends transversely through the door B immediately above the opening or aperture

b, the sleeve having a shoulder L' near its inner
 end, and a plunger M is slidably mounted in
 the sleeve, the plunger having a reduced end
 M' , which projects inwardly through the in-
 5 ner end of the sleeve, and which terminates
 in a metallic strip m , the ends of which are
 bent outward at right angles and notched, as
 best shown in Fig. 2. A spiral spring l is in-
 10 troduced between the shoulder L' of the
 sleeve L and the plunger M , so that the plun-
 ger is normally pressed outward.

On the inner end of the sleeve L is a ring
 N , which encircles the elongated end M' of
 the plunger M , and which is insulated from
 15 the plunger and from the sleeve. The ring
 N is connected with one pole of a battery by
 the wire O , the wire being attached to the
 ring in such a manner that when the plunger
 is pushed outward a notched end of the me-
 20 tallic strip m will come in contact with the
 wire, and the metallic strip is connected with
 one of the binding-posts H of the bell by a
 wire O' , so that when the strip m contacts
 with the wire O the circuit will pass through
 25 the strip and through the two wires to the
 bell. The wire O^2 , which connects with the
 opposite pole of the battery, is attached to the
 opposite binding-post H , and it will thus be
 seen that when the strip m contacts with the
 30 wire O the circuit will be closed through the
 bell, thus causing it to ring.

When a letter or other mail-matter is in-
 serted in the box, the button K is turned up
 and the upper part J^2 of the plate turned
 35 down, so as to permit the mail-matter to be
 inserted through the opening b , and when this
 is done the spring l forces the plunger M out-
 ward and brings the metallic strip m in con-
 tact with the wire O , thus closing the circuit
 40 through the bell and causing it to ring.
 This notifies the inmates of the house that
 mail-matter has been inserted in the box, and
 it is also an additional precaution against the
 box being tampered with, as in case the up-

per portion of the door-plate is turned down 45
 the bell is sure to ring, and it will continue
 to ring until the door-plate is turned back to
 its normal position, so as to open the circuit.
 The mail-matter is removed through the front
 side in the usual manner. 50

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

1. The combination, with a letter-box hav-
 ing an opening and provided with a movable 55
 plate for closing said opening, of a plunger
 provided with a spring, pressing it outward
 into the path of the said plate, said plate nor-
 mally closing the said opening and pressing
 the plunger inward against the action of its 60
 spring, and an electric bell having circuit-
 wires, one of which is in electric connection
 with the plunger and the other insulated there-
 from, but in the outward path of a part there-
 of, whereby when the plate is moved to un- 65
 cover the opening the plunger will be thrown
 out to close the circuit and sound the bell un-
 til again pressed inward by the plate to break
 the circuit, substantially as set forth.

2. The combination, with a letter-box hav- 70
 ing an opening, a door-plate also having an
 opening and hinged plate for said opening,
 and a catch for holding the plate closed, of a
 plunger provided with a spring, pressing it
 outward and having a metal strip on its inner 75
 end, and an electric bell provided with circuit-
 wires, one of which is electrically connected
 with said strip and the other one of which is
 in the outward path of the strip, whereby the
 circuit will be closed when the plate is swung 80
 outward to sound the bell continuously until
 the plate is again swung inward to break the
 circuit, substantially as set forth.

EMMA C. HUDSON.

Witnesses:

W. R. HUDSON,
 E. J. CATCHINGS.