

No. 726,821.

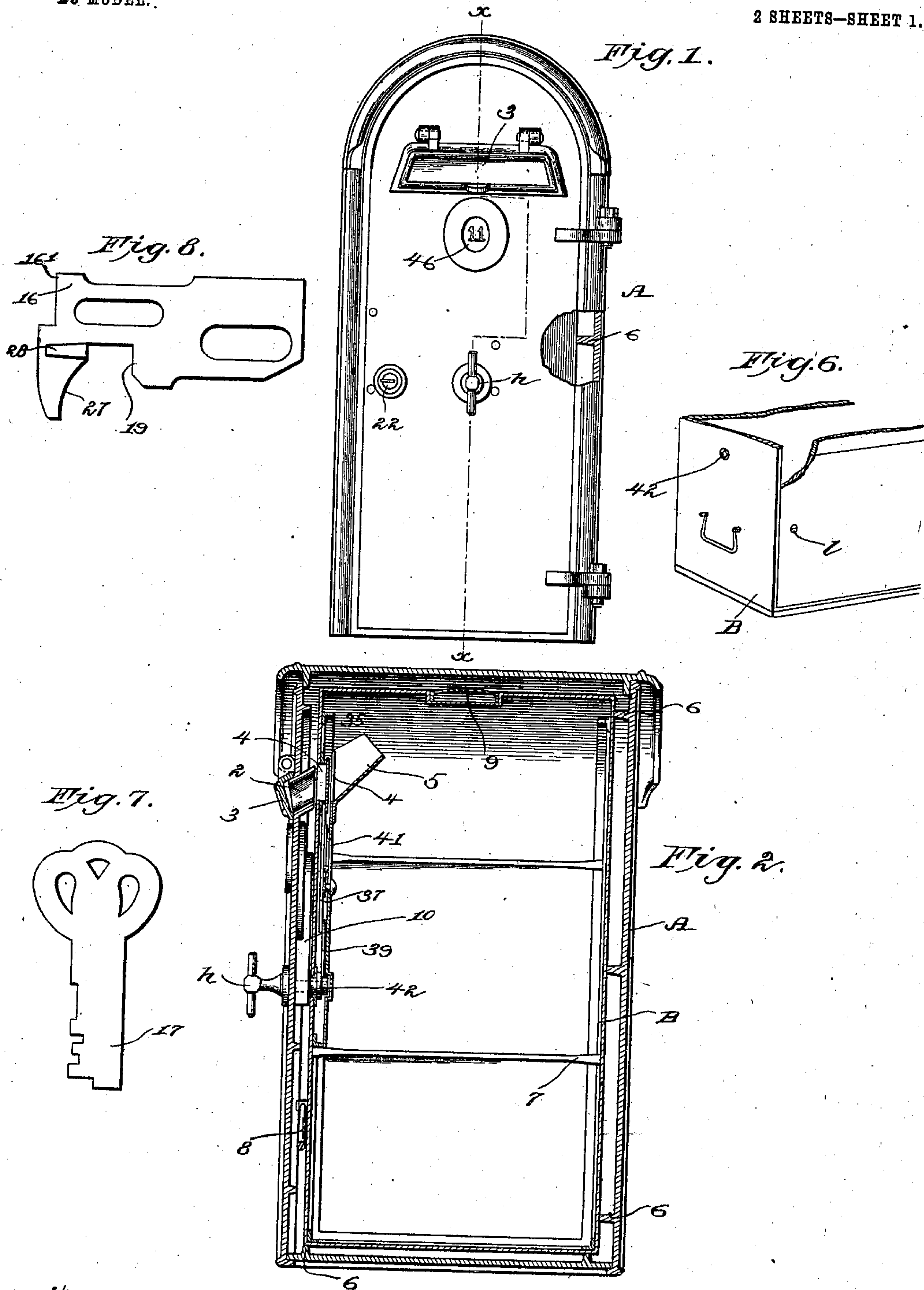
PATENTED APR. 28, 1903.

H. B. LAMBERT.
LETTER BOX.

APPLICATION FILED JULY 19, 1900. RENEWED SEPT. 22, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses.
W. C. Linsford.
Edward F. Allen.

Inventor.
Horace B. Lambert
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2 SHEETS—SHEET 2.

Fig. 3.

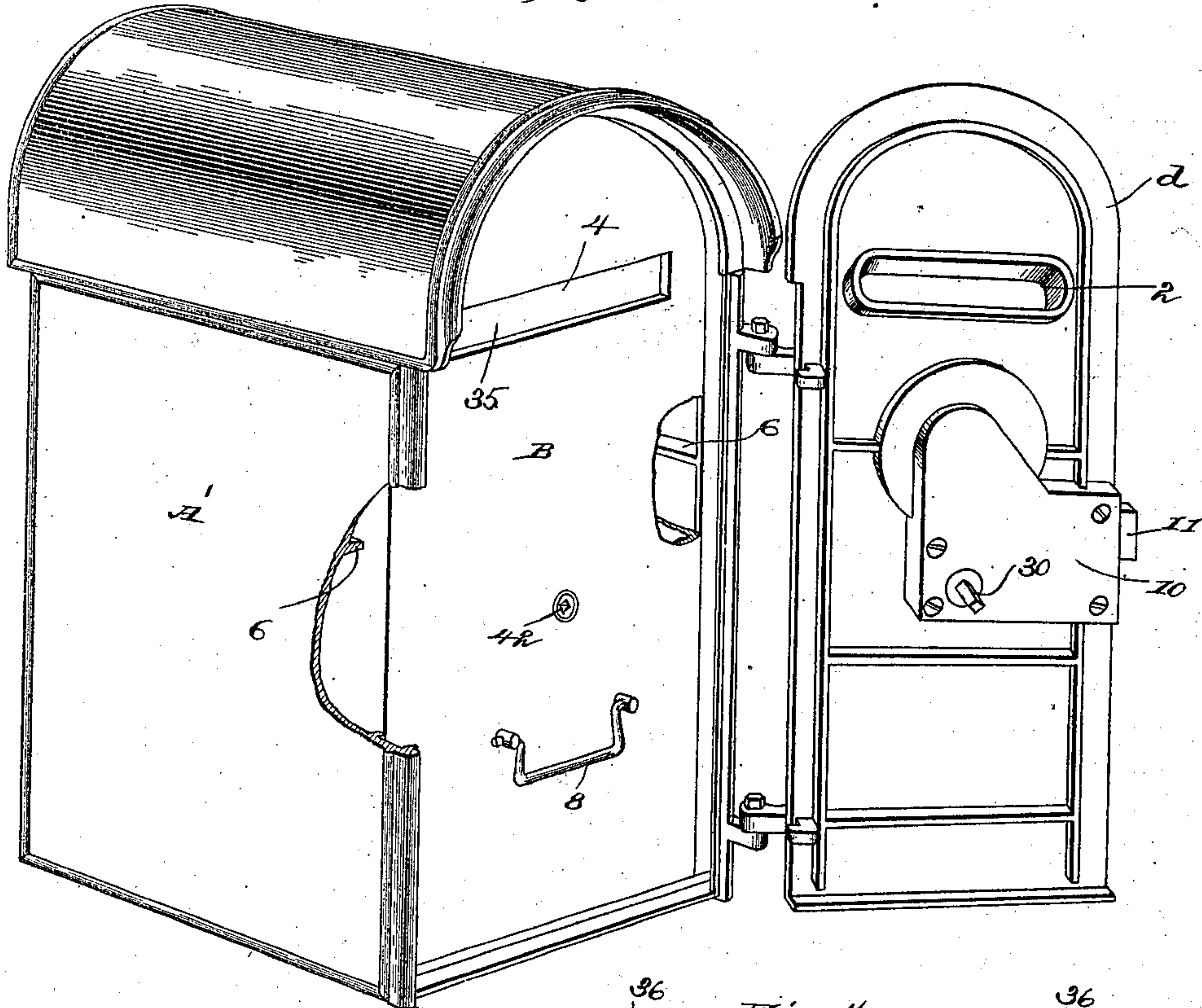
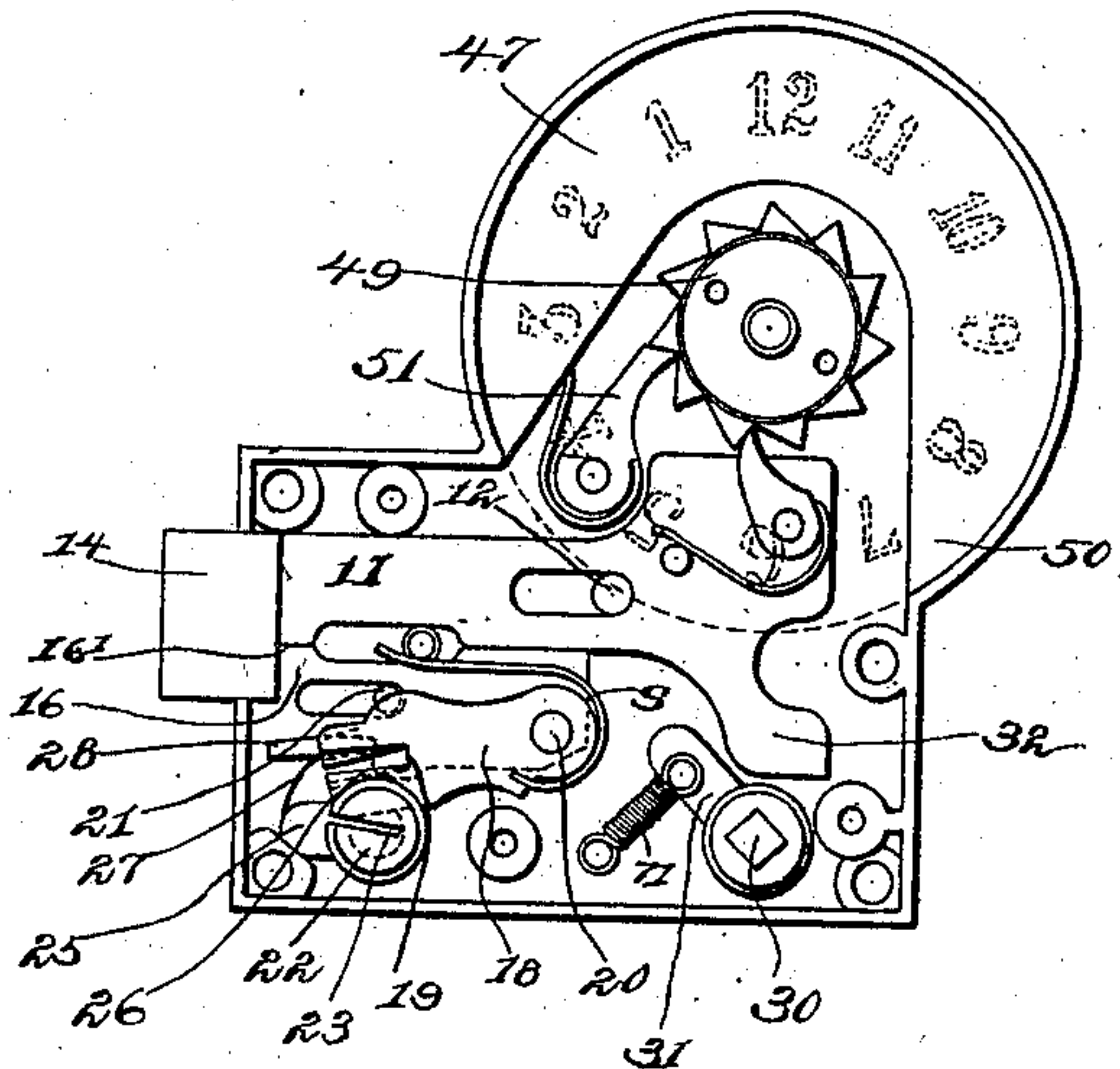


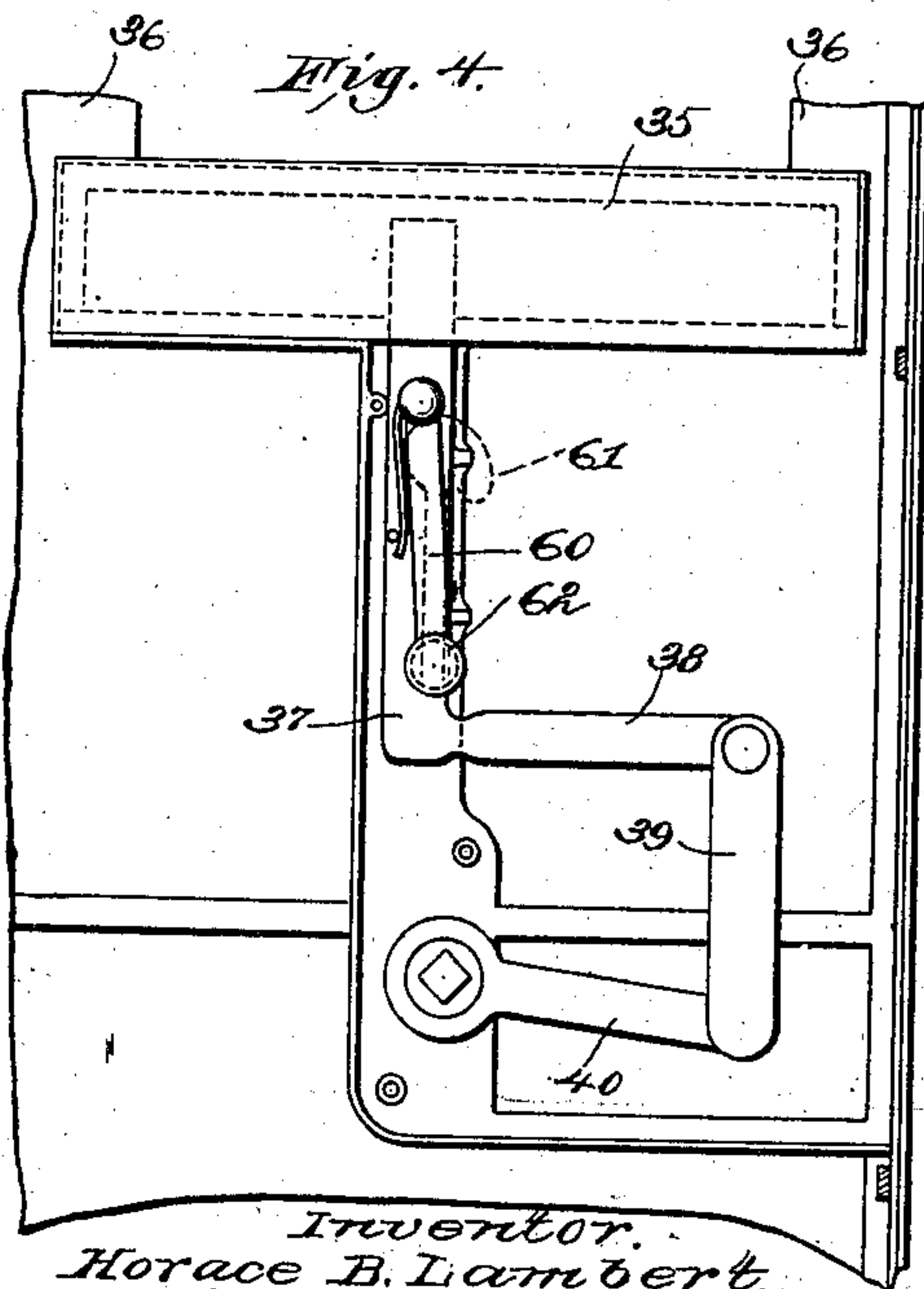
Fig. 5.



Witnesses.

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Fig. 4.



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UNITED STATES PATENT OFFICE.

HORACE B. LAMBERT, OF CHELSEA, MASSACHUSETTS, ASSIGNOR TO UNITED STATES SECURITY MAIL BOX COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MAINE.

LETTER-BOX.

SPECIFICATION forming part of Letters Patent No. 726,821, dated April 28, 1903.

Application filed July 19, 1900. Renewed September 22, 1902. Serial No. 124,337. (No model.)

To all whom it may concern:

Be it known that I, HORACE B. LAMBERT, a citizen of the United States, and a resident of Chelsea, county of Suffolk, State of Massachusetts, have invented an Improvement in Letter-Boxes, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

15 This invention relates to letter-boxes, especially to street letter-boxes; and it is my aim to provide a letter-box which will positively prevent any tampering with the mail by any unauthorized persons. To this end I have provided a letter-box which comprises an outer stationary casing, adapted to be clamped to a lamp-post or other suitable support, and an inner removable letter-box proper, into which the mail is deposited, with a novel form of lock, whereby absolute safety to the mail is made possible.

Figure 1 is a front elevation of the letter-box. Fig. 2 is a vertical section on line *xx*, Fig. 1. Fig. 3 is a perspective view showing the door open. Fig. 4 is a detail showing the slide for closing the letter-receiving opening. Fig. 5 is a detail showing the lock. Fig. 6 is a view of part of the inner box. Fig. 7 shows the key, and Fig. 8 is a detail of part of the lock.

The outer stationary box or casing is designated in the drawings by A and is of any suitable shape and material, it having any suitable means to clamp it to a support. At one end the box or case has hinged thereto in any usual way a door *d*, which is locked by means hereinafter described, this door *d* being for the insertion and removal of the letter-receiver or letter-box proper, (designated in the drawings as B,) which is preferably of a shape to fit the interior of the outer box A and may be made of any suitable material.

The outer box A has at some suitable point, preferably in the upper part of the door *d*, as shown in Figs. 1 and 3 of the drawings, a letter-receiving opening 2, which is closed by the usual hinged flap 3, and the inner letter-receiving box B has also a corresponding opening 4 in alinement with that of the outer case,

so that a letter inserted in the opening 2 of the outer case will pass through the opening 4 of the inner box and be deposited therein.

In order to prevent any person from attempting to withdraw the letters by inserting their fingers or a piece of wire or other material into the letter-receiving opening, I provide the inside of the opening in the inner box with the upturned lip 5, which is set at such an angle that it is impossible to insert anything sufficiently far to effect the withdrawal of any mail.

The inside of the outer box is preferably provided with a series of projections, shown in this embodiment of my invention as ribs 6, on which the inner box is supported and guided, thus providing an air-space between the outer and inner box, the purpose of which is to prevent the boxes from getting frozen together in damp cold weather, as they would if the sides of the boxes were in direct contact. Although I have shown the projections or spacing means on the outer box in the form of ribs, I wish it to be understood that other well-known forms of spacing means may be used, it only being necessary that some suitable means be employed for this purpose.

The inner box is preferably made with some form of strengthening-ribs, so as to give to the box the requisite strength without having it too heavy, and, as shown in the drawings, these ribs are solid bars 7, which when put together form a sort of supporting-framework for the sheet-metal sides of the box. It is not essential, however, that these strengthening-ribs be in the form of bars, for I may make the inner box with corrugations in its sides, which will answer the same purpose.

The inner box is provided with any suitable handle 8 by which to remove it from the outer casing, and preferably with another handle 9 on the top to provide a ready means for carrying it.

The outer box is provided with a compound lock, which comprises a latch-bolt operated manually by a handle to unlock the door, and a lock proper operated by a suitable key, which unlocks the latch-bolt, so that in order to open the box the proper key must be employed to unlock or release the latch-bolt,

when the manual operation of the handle serves to withdraw it and unlock the door. This operation of withdrawing the latch-bolt to unlock the door throws in operation mechanism which raises a slide on the inside of the inner box to cover the letter-receiving opening therein. The door of the outer box is provided with a suitable time-dial, which has on its face the hours of collection, and this is so connected with the latch-bolt that when the same is advanced to lock the door again after the mail has been collected the dial will be turned to indicate the hour at which the next collection will take place. These several mechanisms will now be described. The lock and dial are mounted in any suitable housing 10, secured on the inside of the door *d* of the outer casing. The latch-bolt is designated by 11, and it is suitably guided, as by the pin 12 passing through a slot therein, its head 14 working in a slot in the outer edge of the housing 10. Said latch-bolt 11 is locked in its extended position by the slide 16, which slide is in turn operated by a suitable key 17. The slide 16 has a recess cut in its under edge, one side of which forms a square shoulder 19, while the other side forms the cam-surface 27, and in this recess the arm 25, fast on the cylinder or barrel 22, plays, said arm operating to advance and retract the slide as the cylinder is turned on its axis by a suitable key 17, the key being inserted in the slot 23 in the cylinder during such operation. Fast on the slide is a lug 28, which when the slide is advanced is engaged by the ends of tumblers 18, thereby locking the slide from movement, and in such advanced position of the slide the shoulder 16' thereon engages the head 14 of the latch-bolt 11, thus locking said latch-bolt in its extended position, as shown in Fig. 5. It will thus be seen that when the latch-bolt 11 is extended to lock the door of the outer box said latch-bolt is held in such extended position by the shoulder 16' on the slide 16, and said slide in turn is locked against movement by the lug 28, engaging the tumblers 18. The tumblers 18 are suitably pivoted to the housing 10, as by a pin 20, said tumblers being under the control of the spring *s*, so that normally their forward ends are thrown downward to bring them in line with the lug 28 on the slide 16, and when in such position the tumblers rest in a circumferential groove in the cylinder 22, said groove intersecting the slot 23. The forward end of each tumbler has a slot 26 therein, and the slots are arranged at different distances from the lower edges of the tumblers, so that when said tumblers are in their normal position the slots are out of alinement, as illustrated in the drawings.

To retract the slide 16, the key 17 is inserted in the slot 23 of the cylinder 22, and upon turning the same through a quarter-revolution the notched edge of said key operates on the lower edges of the tumblers, raising them

to different heights, and thereby bringing all the slots 26 therein into alinement and also into alinement with the lug 28, which lug, it may be remarked, is of such a width as to fit the slots 26. A further turning of the key 17 will, through arm 25 and shoulder 19, retract the slide 16, so as to release the latch-bolt 11, the lug 28 entering the alined slots 26 in the tumblers 18 in so doing. A reverse movement of the key will of course throw the slide 16 forward, the arm 25 in such operation co-operating with the cam-surface 27 of the slide. When the slide has been retracted as above pointed out, the latch-bolt is manually withdrawn to open the door by means of the handle *h*, said handle operating to turn the shaft 30, which has rigidly connected thereto an arm 31. The rear end of the latch-bolt has the projection 32, against which the arm 31 is adapted to impinge, whereby when said shaft 30 is turned the latch-bolt may be withdrawn.

From the above description it will be seen that in order to open the door of the outer box the slide 16 has first to be retracted by means of the key 17, and then, as a subsequent and independent operation, the latch-bolt must be withdrawn by the handle *h*, the key 17 serving only to unlock the latch-bolt.

The arm 31 is yieldingly connected to any fixed part of the housing by a spring 71, which operates to retract the arm after it has been turned to throw the latch-bolt 11 back.

The latch-bolt is thrown forward to lock the door by means of the key and not by the handle *h*, the handle serving only to retract or withdraw the said latch-bolt.

When the latch-bolt is in its retracted position, its head 14 is in engagement with the shoulder 16' on the slide 16, so that when said slide is thrown forward by the key, as described above, the latch-bolt is carried with it, and when the slide 16 has been moved forward until the lug 28 has been carried out of the slots 26 the spring *s*, assisted by gravity, throws the forward end of the tumblers downward, and thus locks the slide.

The inner letter-receiving box has the slide 35, which is adapted to be raised to close the letter-receiving opening therein simultaneously with the withdrawing of the latch-bolt, such operation being performed by means of connections operated by the shaft 30. As seen in Fig. 4, this slide 35, which normally is immediately below the letter-receiving opening 4, has suitable guiding means 36 and is provided with the downward extension 37, having the offset 38, to which is connected, by means of the link 39, the pivoted arm 40. This mechanism preferably is covered by any suitable housing 41 in the inner letter-receiving box. The pivot for the arm 40 is in alinement with the shaft 30 of the handle *h* when the door *d* is closed, and said pivot has any suitable socket 42, preferably square in cross-section, into which a correspondingly-shaped extension of the shaft 30 is adapted to project, as seen in Fig. 2. By

means of this connection it will be obvious that when the handle *h* is turned to withdraw the latch-bolt the turning of the shaft 30 will operate to positively close the slide 35 through the connections above described—that is to say, the slide 35 is given its upward movement to close the opening 4 in the inner box by connections which are positively operated by the handle *h*, so that should the slide in any way tend to stick such resistance may be overcome by said positive connections. Suitable locking means are provided, as herein-after described, to hold the slide in its raised position until the mail has been removed from the said inner letter-receiving box by the proper authorities. In raising the arm 40 to advance the slide over the letter-receiving opening, as above described, the socket 42 in the pivot of said arm is turned axially and remains in such position until the slide has been unlocked and lowered to its normal position, which operation is performed after the material has been removed from the letter-receiving box. When the empty box is inserted into the outer casing, it is necessary to provide means whereby the squared shank of the shaft 30 will be in exact angular alignment with the socket 42 in the pivot of the arm 40, and this object is accomplished by means of the spring 71, connected to the arm 31 on the shaft 30, said spring operating to normally maintain said arm, and consequently the squared end of the shaft 30, in the position shown in Fig. 5, which I will term its "normal" position. If the arm 30 and shaft 31 were positively connected to the latch-bolt 11, it would be impossible to close the door, because the socket 42 in the pivot of the arm 40 is in its normal position when the slide 35 is retracted from the opening 4, while the squared portion of the shaft 30 would be in its normal position only when the latch-bolt 11 was extended to lock the door; but by making the shaft 30 and arm 31 independent from the latch-bolt 11 and by providing the spring 71 the said shaft 30 is thrown into its normal position as soon as the door is opened sufficiently to clear the said shaft 30 from the socket 42, so that when the inner box is inserted into the outer casing the squared end of the shaft 30 will be in the correct position to enter the socket 42, and such correct position is not interfered with by the shooting forward of the latch-bolt 11 to lock the door.

It is very desirable that some form of indicating mechanism be employed to indicate automatically the hour when the next collection occurs, and such a device I have employed in the time-dial 47, the figures on which are brought one by one, as required, in front of an opening 48 in the door *d* of the outer box. The mechanism for automatically rotating the time-dial is operated by the latch-bolt 11, so that the dial is advanced every time that said latch-bolt is extended to

lock the door, said mechanism comprising the ratchet-wheel 49, fast on the dial, and the spring-controlled pawl 50, cooperating with said ratchet-wheel, the pawl being pivoted on the slide, as shown in Fig. 5. A second spring-controlled pawl 51, pivoted to the housing 10, may be employed, if desired, to prevent any backward rotation of the dial.

It will be understood, of course, that the ratchet-wheel 49 will have as many teeth therein as there are numbers on the face of the dial, and said numbers will correspond to the hours of collection, whatever they may be, for any given locality. For instance, if the mail was collected from the box at 8 a. m., 11 a. m., 3 p. m., and 9 p. m. these numbers would be placed at equal intervals on the face of the dial and the ratchet-wheel would have four teeth. Every time the door was opened for the collection of the mail, therefore, the dial would be advanced to indicate the hour of the next collection.

In the locality where my street letter-boxes are used it is contemplated that the collection will be made by removing the inner letter-receiving box into which the mail has been deposited and substituting an empty box therefor. By this system the collector does not handle the mail at all, but merely collects the inner boxes, substituting at the same time empty boxes for those that have been collected and carries the collected boxes to the post-office building, where the proper official unlocks them and takes the mail therefrom. It will be noted that the inner letter-receiving box has any suitable lock *l*, to which only the proper official in the post-office has the key.

Since the slide 35 is closed when the latch-bolt is withdrawn to open the door, it will be seen that when the inner box is removed it is absolutely tight, so that nothing can get into the box to soil the letters during their transportation to the post-office, nor can any unauthorized person withdraw or remove any of the mail. This provides for absolute security to the mails.

The projection 37 of the slide 35 is preferably provided with a pivoted spring-catch 60, having a button 62, which plays in a slot in the housing-plate 41 as the slide moves up and down, and the slot has at its upper end a recess 61, into which the button 62 swings when the slide is elevated. The slot and recess 61 are shown in dotted lines in Fig. 4. By this means the slide 35 is locked in its closed position, and when the mail has been removed from the box *B* by the proper authorities the button 62 may be moved laterally from the recess 61 and the slide 35 lowered.

Various changes may be made in the details of the invention without departing from the spirit thereof. For instance, the handle *h* may be made detachable from instead of being integral with the shaft 30, or the arm 31 may have a square hole centrally through

its hub, through which a suitable key device comprising a handle with a square shank may be inserted, the shank being long enough to project into the socket 42 in the side of the inner box, said handle operating to withdraw the latch-bolt and close the inner slide 35 the same as in the construction illustrated.

It will be understood, of course, that some suitable transparent material will be used in the opening 46 in the outer box, so as to make the box tight and yet permit the reading of the figures on the dial, such transparent material preferably being in the form of a lens which will magnify the figures.

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

1. In a letter-box, an outer casing having a door, an inner letter-receiving box, a letter-receiving opening extending through both boxes, a slide in the inner box adapted to be moved over the letter-receiving opening therein, and means on the outer door to positively advance the slide.

2. In a letter-box, an outer casing having a door, an inner removable letter-receiving box, a letter-receiving opening extending through both boxes, a slide in the inner box adapted to cover the letter-receiving opening therein, a latch-bolt on the door of the outer casing to lock the same, a handle to withdraw the latch-bolt, and means operated by the handle to advance the slide over the mail-receiving opening in the inner box.

3. In a letter-box, an outer casing having a door, an inner removable letter-receiving box, a letter-receiving opening extending through both boxes, a latch-bolt on the door of the outer casing, key-operated means to lock the latch-bolt in its extended position, means independent of the latch-bolt to retract the same when unlocked by said key-operated means, a slide in the inner box adapted to cover the letter-receiving opening therein, and means operated by the latch-bolt-retracting means to advance the slide over the letter-receiving opening.

4. In a letter-box, an outer casing, an inner removable letter-receiving box, a letter-receiving opening extending through both boxes, a slide in the inner box adapted to cover the letter-receiving opening therein, a pivoted arm in the inner box operatively connected with the slide, and means on the outer box to positively operate said arm to advance the slide over the opening.

5. In a letter-box, an outer casing, an inner removable letter-receiving box, a letter-receiving opening extending through both boxes, a slide in the inner box adapted to cover the letter-receiving opening therein, a pivoted arm in the inner box operatively connected with the slide, a lock on the outer door, said lock including a latch-bolt, means to withdraw the latch-bolt to unlock the door,

said latch-bolt-withdrawing means cooperating with the arm on the inner box to positively advance the slide simultaneously with the withdrawal of the latch-bolt.

6. In a letter-box, an outer casing having a door, an inner removable letter-receiving box, a letter-receiving opening extending through both boxes, a slide in the inner box adapted to cover the letter-receiving opening therein, a latch-bolt on the door of the outer casing to lock the same, a shaft projecting from the inside of said door, said shaft having an arm thereon which operates to withdraw the latch-bolt as the shaft is turned, and means on the inner letter-receiving box cooperating with the shaft whereby the slide is advanced over the letter-receiving opening as the shaft is turned to withdraw the latch-bolt.

7. In a letter-box, an outer casing, an inner removable letter-receiving box, a letter-receiving opening extending through both boxes, a slide in the inner box adapted to cover the letter-receiving opening therein, a pivoted arm in the inner box operatively connected with the slide, means on the outer box to positively operate said arm to advance the slide over the opening, and a spring-catch to maintain the slide in its position over the opening.

8. In a letter-box, an outer casing, an inner removable letter-receiving box, a letter-receiving opening extending through both boxes, a slide in the inner box adapted to cover the letter-receiving opening therein, a pivoted arm in the inner box operatively connected with the slide, a lock on the outer door, said lock including a latch-bolt, means to withdraw the latch-bolt to unlock the door, said latch-bolt-withdrawing means cooperating with the arm on the inner box to advance the slide simultaneously with the withdrawal of the latch-bolt, and a spring-catch to maintain the slide in its advanced position.

9. In a letter-box, an outer casing, an inner removable letter-receiving box, a letter-receiving opening extending through both boxes, a slide in the inner box adapted to cover the letter-receiving opening therein, a lock on the door of the outer box, said lock including a latch-bolt, key-operated means to lock said bolt extended, a shaft carrying means to engage said latch-bolt to withdraw the same when released by said key-operated means, and means connected with said shaft to close the slide as the shaft is turned to withdraw the latch-bolt.

10. In a letter-box, an outer casing having a door, an inner removable letter-receiving box, a letter-receiving opening extending through both boxes, a latch-bolt on the door of the outer casing, means to lock the latch-bolt in its extended position, a handle to retract said latch-bolt when it is unlocked, a slide in the inner box adapted to cover the letter-receiving opening therein, means operated by the handle to positively advance the slide over the opening, an

indicator, and means connected with the latch-bolt to advance the indicator as the said latch-bolt is extended.

11. In a letter-box, an outer casing having a door, an inner mail-receiving box, a latch-bolt on the door, key-operated means to lock the latch-bolt, means independent from the key-operated means to retract the latch-bolt when it has been released, a slide on the inner box, and connections between the slide and latch-bolt-retracting means whereby the slide is operated when the latch-bolt is retracted.

12. In a letter-box, an outer casing, an inner removable letter-receiving box, a letter-receiving opening extending through both boxes, a slide in the inner box adapted to cover the letter-receiving opening therein, an arm pivoted in the inner box and connected with the said slide, a lock on the door of the outer casing, said lock including a latch-bolt, means for locking said latch-bolt in its extended position, a shaft on the bolt having a projection adapted to engage the arm on the inner box when said door is shut whereby the turning of the shaft advances the slide over the mail-opening, means connected with said shaft to withdraw the latch-bolt, and means to return the shaft to its normal position after the door has been opened.

13. In a letter-box, an outer casing, an inner removable letter-receiving box, a letter-re-

ceiving opening extending through both boxes, a slide in the inner box adapted to cover the letter-receiving opening therein, an arm pivoted on the inner box and connected with the slide, a handle on the door of the outer box, having means adapted to engage the arm when the door is shut, whereby the turning of the handle operates to advance the slide over the opening, and means connected with the handle to turn the same into its normal position whereby when the door is closed the engaging means on the handle will be in the correct position to engage the arm on the inner box.

14. In a letter-box, an outer casing having a door, an inner removable letter-receiving box, a letter-receiving opening extending through both boxes, a slide in the inner box adapted to cover the letter-receiving opening therein, a latch-bolt on the door of the outer casing to lock the same, a handle independent from the latch-bolt to withdraw it, means operated by the handle to advance the slide over the letter-receiving opening in the inner box, and a registering-dial operated by the latch-bolt.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HORACE B. LAMBERT.

Witnesses:

GEO. W. GREGORY,
LOUIS C. SMITH.