

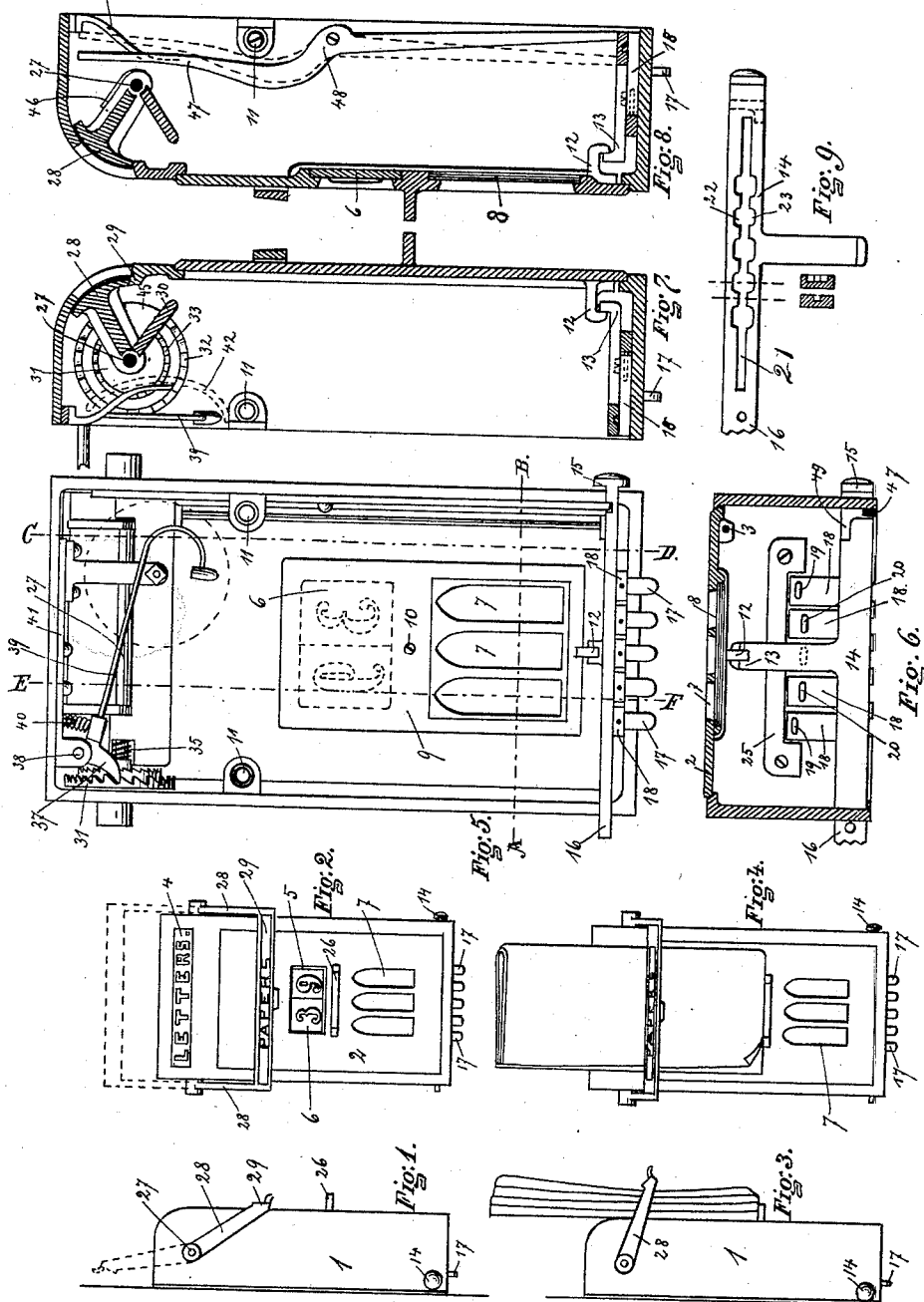
(No Model.)

2 Sheets—Sheet 1.

C. H. SCOFIELD.
HOUSE DOOR LETTER BOX.

No. 475,810.

Patented May 31, 1892.



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INVENTOR.

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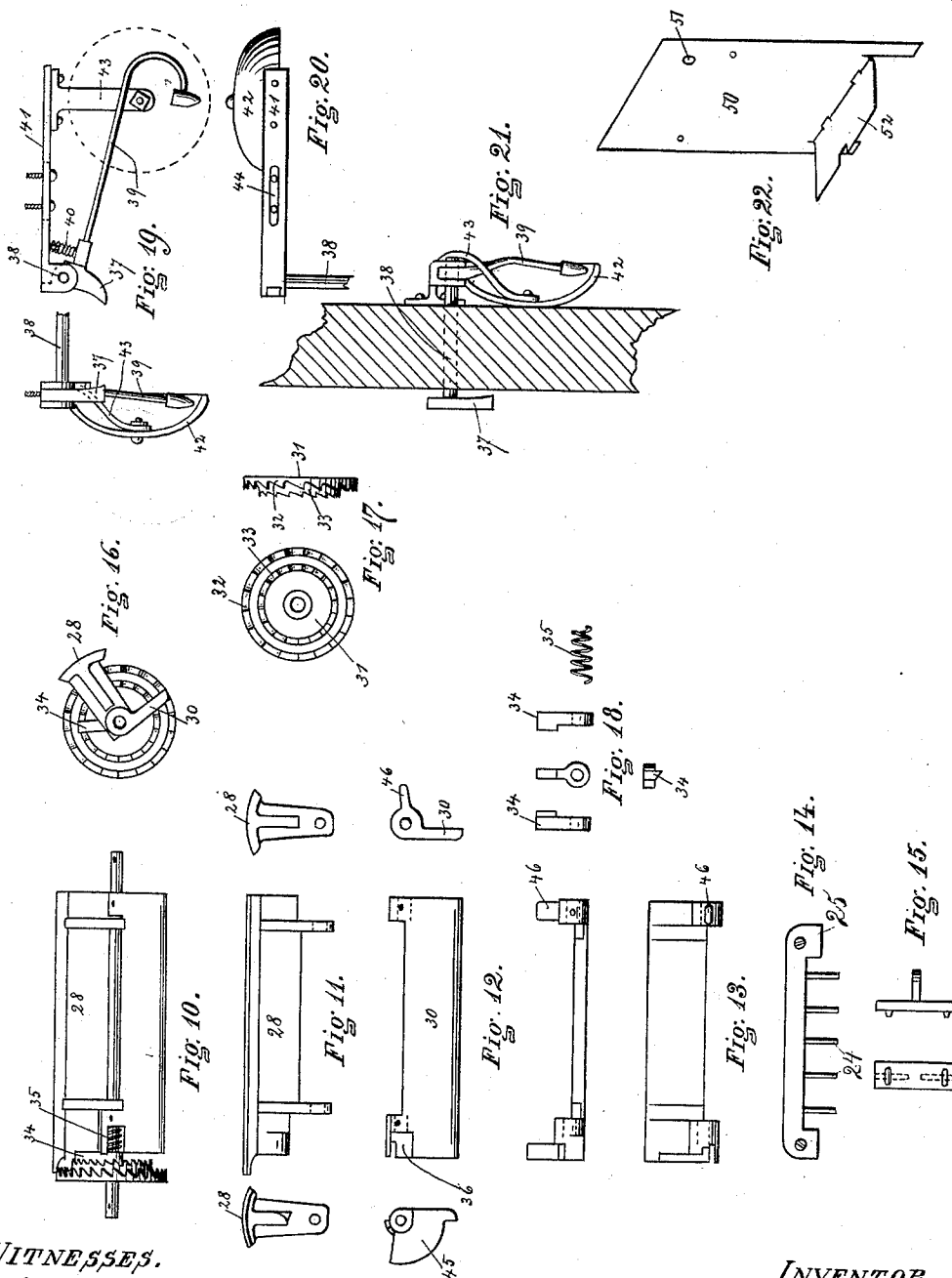
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UNITED STATES PATENT OFFICE.

CHARLES H. SCOFIELD, OF UTICA, NEW YORK, ASSIGNOR OF ONE-HALF TO
JUDSON T. STEVENS AND WILLIAM M. PHILLEO, OF SAME PLACE.

HOUSE-DOOR LETTER-BOX.

SPECIFICATION forming part of Letters Patent No. 475,810, dated May 31, 1892.

Application filed May 15, 1891. Serial No. 392,891. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. SCOFIELD, a citizen of the United States, and a resident of the city of Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Letter-Boxes; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form part of this specification.

My invention relates to a letter-box more especially intended for private use and in the various features of the construction.

The object of this invention consists more particularly in providing a letter-box having an alarm that must be operated whenever the box is opened or mail-matter introduced into the box and having a lock for securing the door or opening into the box of a peculiar construction and combination, and also in providing, in connection with the letter-box, a changeable house-number, and in other features hereinafter more fully pointed out and claimed.

In the drawings which accompany and form a part of this specification, and in which similar figures of reference refer to corresponding parts in the several figures, Figure 1 shows a side elevation of my improved box. Fig. 2 shows a front elevation of the same. Fig. 3 shows the same box shown in Fig. 1 in connection with a paper inserted in the paper-holder provided in connection with the box. Fig. 4 shows a front elevation of the same part shown in Fig. 3 in the same position. Fig. 5 shows a rear view of the box as it would appear when removed from the back or base to which it is secured. Fig. 6 shows a cross-section on line A B of Fig. 5, looking downward. Fig. 7 shows a cross-section taken on line C D of Fig. 5, looking toward the left. Fig. 8 shows a cross-section taken on line E F, looking toward the right, the gong or bell and striker being omitted. Fig. 9 shows a bottom view of the door-securing device. Fig. 10 shows a side elevation of the letter-slot-closing devices, the shaft on

which they are mounted, and a portion of the alarm-operating devices. Fig. 11 shows a rear and both end view, of a swinging plate for closing the opening through which letters are introduced to the box and hereinafter referred to as the "letter-opening." Fig. 12 shows a rear edge and both end elevations of a swinging plate or guard. Fig. 13 shows the opposite side of the plate or guard shown in Fig. 12. Fig. 14 shows a tension and guiding device for locking-tumblers hereinafter described. Fig. 15 shows a top and edge elevation of the lock-tumbler. Fig. 16 shows the same devices shown in Fig. 10 as they would appear looking toward the left. Fig. 17 shows a side and edge elevation of a double ratchet-wheel used in connection with the alarm-operating devices. Fig. 18 shows various views of a pawl and an operating-spring which engages in the inner circle of the ratchet-teeth in the double ratchet shown in Fig. 17. Fig. 19 shows a side and end view of the gong-striking devices, the gong or bell being omitted from the right-hand portion of the figure. Fig. 20 shows a top view of the same parts. Fig. 21 shows an alarm device with the bell removed to the inner side of a door or wall to which the device is supposed to be secured. Fig. 22 shows the sheet-metal back including a box-bottom used in the box.

Referring more specifically to the reference-numerals marked on the drawings in a more particular description of the device, 1 indicates the box proper, which is preferably formed of cast metal and may be provided with suitable ornamentation. The box is intended to be secured against the door or wall by screws or bolts inserted through the openings 11 11 in projecting lugs on the inside of the box.

In the front of the box is provided an opening fitted by door 2, which door is hinged to the walls or body of the box at 3 on the inside of the box. The upper end of the box is preferably oval or rounded, and in the rounded outer corner is provided an opening 4 for the introduction of letters or mail-matter. In the face of the door is provided a number-opening 5, behind which and appearing through the opening are provided changeable figures 6, which are changed and arranged to be the

street-number of the dwelling-house to which the letter-box is attached. There is also provided in the face of the door a number of small openings, as 7, behind which is provided a glass 8 8, through which the contents of the box may be seen. The glass and numbers are secured in position by thin plate 9, applied over the numbers and around the glass as a frame and secured to the inner wall of the door by a screw 10. On the under side of the bottom of the door is provided a rigid hook 12. Adapted to engage this hook is a catch 13, formed integral with movable locking-bar 14. The movable locking-bar spans the bottom of the box and passes through the openings in either side, and is provided with a head 15 on one side and a perforated projecting end 16 on the opposite side, the perforation being intended for the application of a padlock when it is desired to use such in connection with the box.

The bottom wall of the box is slotted to receive a projection 17 of the tumblers 18, used for securing the locking-bar. Five of these tumblers are shown in the drawings, although a greater or less number could be used. Each tumbler is provided on its upper face with two projecting lugs or studs 19 and 20 at unequal distances from the ends. One or the other of these studs is designed to engage in the slot 21 on the under side of the locking-bar. The slot 21 is provided with notches on either side of the slot, as shown at 22 and 23, being a pair of notches for each tumbler. The tumblers 18 are provided with perforations in the end, as shown in dotted lines in Fig. 15 and by the dots on the ends of the tumblers in Fig. 5. In these openings engage the pins 24, Fig. 14, mounted in piece 25. The pins act as a guide and tension for the tumblers. There is also provided on the front of the door a shelf 26, which acts as a support for the lower end of papers inserted in the paper-holder, as will be understood from Fig. 3. It also answers the purpose of a handle for opening the door. Journaled in the top of the box adjacent to the letter-opening is a shaft 27, which is engaged on the outer ends by arms 28, which carry at their free ends a cross-bar 29, which acts as a clasp and paper-holder, as before stated. On the inside of the box on the shaft 27 is loosely mounted on suitable arms a closing-plate 28, adapted to close the letter-opening in the box. In closed position the plate 28 is supported on a wall or ledge 29 at the lower side of the letter-opening. Also rigidly mounted on the shaft 27 is guard-plate 30, adapted to swing inside of the ledge or shoulder 29 and closed by the letter-opening. Loosely mounted on one end of the shaft 27, next the outer wall of the box, is a ratchet-wheel 31, having two rows of ratchet-teeth 32 and 33. Mounted loosely on shaft 27 adjacent to the ratchet 33 is a pawl or dog 34, shown in detail in Fig. 18 and backed by a spring 35, coiled around the shaft 27, the dog adapted to engage in the in-

ner circle of ratchet-teeth 33. The dog 34 is mounted on the shelf 27 within a recess 36 in the end of piece 30, (see Fig. 12,) so that the dog has a positive rotation with the shaft, but a sufficient movement allowed by spring 35 to allow it to be retracted over the ratchet-teeth 33. The outer circle of the ratchet-teeth 32 is engaged by tripper 37, which is mounted on shaft 38, which shaft 38 is mounted on a bearing carried by the movable piece 41. From the shaft 38 extends the arm 39, carrying the hammer for operating the alarm bell or gong 42. The tripper is held in engagement with the ratchet-teeth 33 and the hammer operated in one direction by the spring 40. The gong 42 is mounted on arm 43, which also is on or a part of movable piece 41, and piece 41 is secured to the inside top of the case by a screw or screws passing through slotted opening 44, whereby the tripper 37 is adjusted to the teeth of the ratchet 32. The shaft 38 is preferably of the length to allow it to project through the wall, (of the door or otherwise,) so as to allow the alarm mechanism to be placed on the inside of the wall or door, as shown in Fig. 21. On the end of guard-piece 30 adjacent to the compound ratchet-wheel 31 is provided a segmental-shaped wall 45, which projects in front of the teeth of ratchet 31 on the side next to the letter-opening, so that the device cannot be wrongfully "picked" or operated by raising the latch-plate 28 from the outside. On the opposite end of plate 30 is provided a projecting ear or lug 46, which is adapted to swing into engagement with and operate locking-lever 47, which lever is pivoted to the wall of the box at 48 and extends downward, so that the lower end thereof engages in L-shaped notch or slot 49 in locking-bar 14. (See Fig. 6.)

Over the open back of the box before it is applied to a wall or surface I prefer to place a sheet-metal back 50, as shown in Fig. 22, having a perforation 51 for the shaft 38 and L-shaped bottom 52, covering the tumblers and locking mechanism in the bottom of the case.

The operation of the device is substantially as follows: Starting with the device in the position shown in Figs. 1, 2, and 5, letters and mail-matter may be inserted in the box through the letter-opening 4 after raising or turning the handle 29 and arms 28 from the position shown in the full lines in Figs. 1 and 2 to that shown in dotted lines in the same figures. This operation gives the shaft 27 a partial rotation and turns the guard-piece 30 up until it engages the arm carrying the latch-piece 28 and, continuing, carries the latch-piece 28 upward until the letter-opening 4 is opened. At the same time the shaft 27 is rotated in the foregoing-described operation the dog 34, engaging in the ratchet-teeth 33, carries the compound ratchet-wheel 31 ahead, the ratchet-teeth of which, engaging the tripper 37 and connecting mechanism, give numerous strokes of the gong, sounding an alarm by which it

may be known that the letter-box is being opened. After the mail-matter has been inserted in the box the clasp-bar 29 and carrying-arms are returned to their normal position, as shown in full lines in Fig. 1, and should there be any mail-matter—as papers, &c.—too large to be inserted in the box they may be inserted through the clasp or retaining-bar 29, where they will be held on the shaft 26, as shown in Figs. 3 and 4. The latch-piece 28, being free on the shaft, may be raised from the outside with the fingers or some other instrument; but the contents of the box are protected by the guard-plate 30, so that the contents of the box cannot be extracted while the plate 28 is thus held in open position. As the shaft 27 is rotated backward as the arms 28 are returned to the normal position, the dog or pawl 34 is retracted over the ratchet-teeth 33 and is in position after such retraction to again operate the alarm mechanism when the swinging bar or clasp 29 is again operated. To remove the contents from the letter-box, the door must be opened. To do this, catch 13 must be disengaged from catch 12. As before stated, the several tumblers 18 are provided with projections 19 and 20 at unequal distances from the end by placing these tumblers in various positions, (the device being capable of thirty or more changes,) and by having a portion of the tumblers with the projection 19 in use and a portion of the tumblers with the projection 20 in use in engagement with the securing-bar 14, and the various arrangements of these tumblers make the various combinations for the locking device. For instance, in the device, as shown, (see Fig. 6,) three of the projections 19 and two of the projections 20 are in position to engage the locking-bar 14, the remaining projections being out of use and merely of use in changing the combination, which is done by changing any of the tumblers end for end. To unlock the locking-bar 14 from the position of the tumblers shown in Fig. 6, it is only necessary to force back, by means of projections 17, the two tumblers at each end of the row of five. When this is done, all of the projections under the bar 14 will be moved into the same straight line and as to run in slot 21 of the under side of bar 14, when the bar is free to be pushed endwise so far as the tumblers are concerned; but the bar is still held stationary by the lower end of locking-bar 47 engaging in the narrow portion of the L-shaped slot 49. To remove this, it is necessary to raise the clasp-bar 29 from the position shown in Fig. 1 to the position shown in the dotted lines in the same figure, which movement sounds the alarm and also causes projection 46 to engage the upper end of locking-bar 47 and swing it on its pivot until the lower end is in the long portion of L-shaped slot 49, when the locking-bar 14 may be slid by pushing on the end 16 until the hook 13 is disengaged from hook 12, when the door is free to be opened, and the mail-matter

may be then removed from the box. Upon closing the door, the same is locked by pushing on the end 15 of the bolt 14 until the bolt is in the position shown in Fig. 6, when the locking-bar 47 will swing into the narrow portion of the L-shaped slot 49, securing the locking-bar, and the tumblers should all be forced back to their farthest position toward the back of the case, when the device is securely locked, and to unlock it the three central tumblers (while arranged as shown) may be drawn forward in unfastening the locking-bolt. It will be understood that the projections of the tumblers engage in notches 22 or 23 when not in the central line, and thus secure the bolt.

It is evident that numerous changes in and from the mechanism described may be made without departing from the equivalents of my construction.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a letter-box having a door, of a bolt for securing the door, an alarm device, and a lever for securing the bolt, and means for operating the lever in connection with or from the alarm device, substantially as set forth.

2. The combination, with a letter-box having a door, of a locking-bar for securing the door, an alarm device, a lever adapted to engage the locking-bar and extending to and operated with the alarm device, and two or more movable tumblers for engaging the locking-bar, substantially as set forth.

3. The combination, with a letter-box having a door, of a locking-bar for securing the door, capable of endwise movement, having a longitudinal slot with notches or recesses therefrom, movable tumblers having studs adapted to engage in the slot and notches or recesses, and projections projecting to the outside of the case, whereby the tumblers may be operated, an alarm device, and a lever adapted to secure and engage the locking-bar and extending to and operated with the alarm device, substantially as set forth.

4. The combination, with a letter-box having a letter-opening, of a shaft journaled in the box adjacent to the opening, a swinging guard for the letter-opening on the shaft, and a ratchet engaging with a rotary alarm-striking device, substantially as set forth.

5. The combination, with a letter-box having a letter-opening, of a shaft journaled in the box adjacent to the letter-opening, carrying a guard-plate for said opening, a lever connected to the shaft on the outside of the box and carrying an arm projecting across the face of the box, a rotary ratchet-plate mounted loosely on the shaft, a dog or pawl connected to the shaft engaging with the ratchet-plate, the tripper engaging with the ratchet-teeth, and a gong and hammer, substantially as set forth.

6. The combination, with a letter-box having a door, of a locking-bar for securing the door, a locking-lever engaging the bar, a shaft

5 journaled in the top of the box, a projection on the shaft for engaging the locking-lever, an alarm mechanism connecting with the shaft, and a lever for operating the shaft, substantially as set forth.

10 7. The combination, with a letter-box having a letter-opening, of a bail or paper-holder mounted on a shaft journaled in the top of the box, a swinging latch-piece for closing the opening, a guard-plate mounted on the shaft, a gong, and gong-striker, substantially as set forth.

8. The combination, with a letter-box, of a shaft journaled in the top of the box, an alarm device operating from the shaft, and a bail or paper-holder mounted on the shaft and passing across the front of the box, substantially as set forth. 15

In witness whereof I have affixed my signature in presence of two witnesses.

CHARLES H. SCOFIELD.

Witnesses:

JOHN S. CASEY,
M. E. ROBINSON.