2 Sheets—Sheet 1.

M. BRAGALDI.

LETTER-BOX.

No. 192,146. Patented June 19, 1877.

Fig. 1.

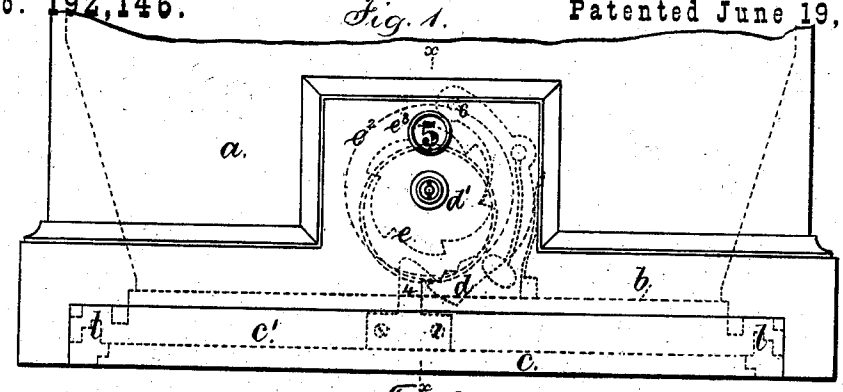


Fig. 2.

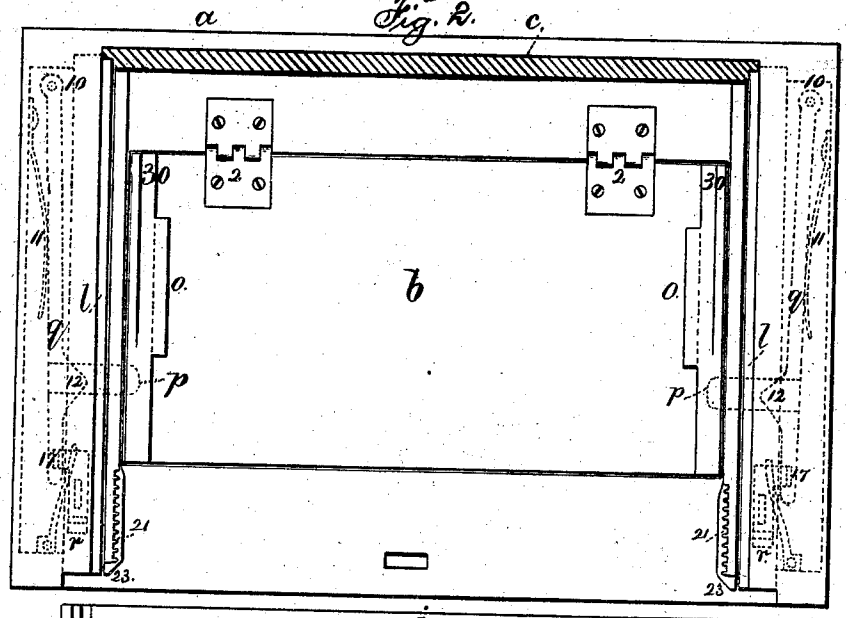
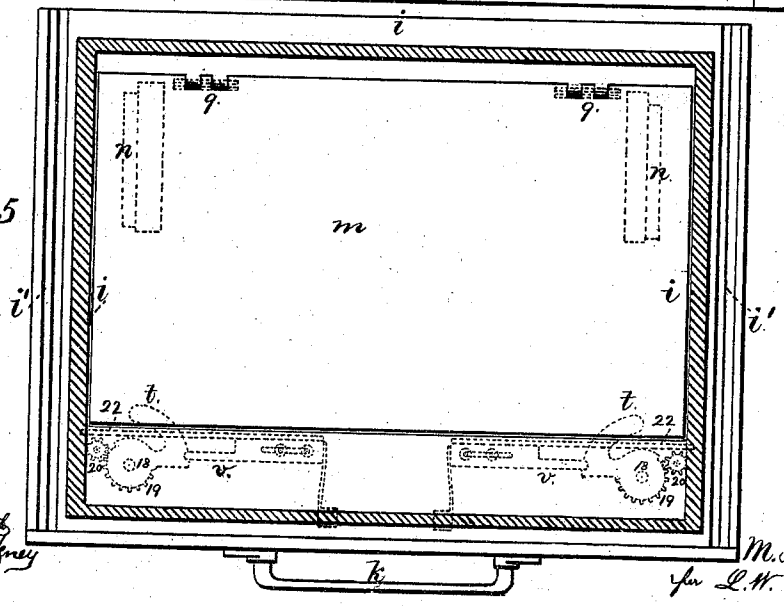


Fig. 5



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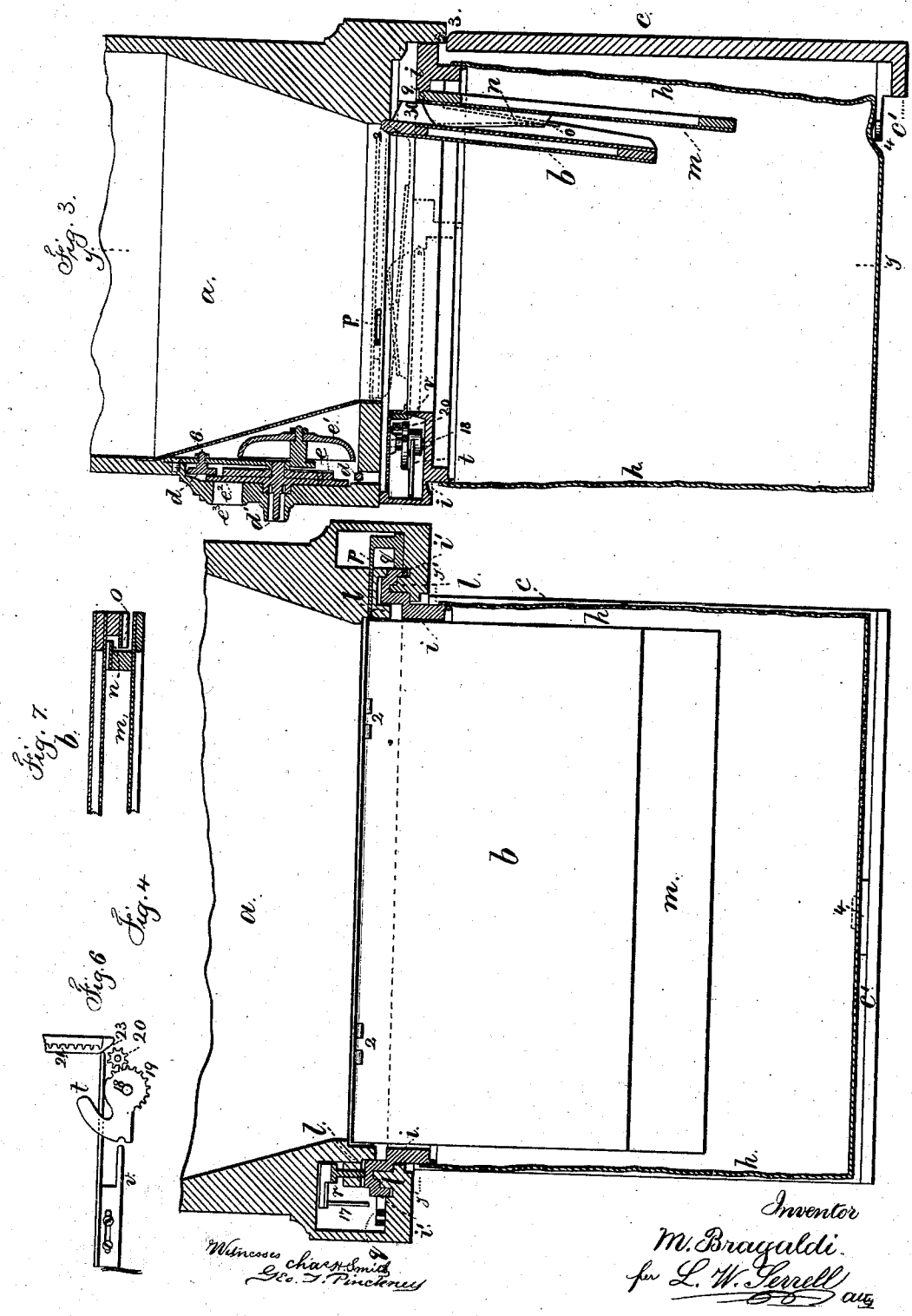
N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

2 Sheets—Sheet 2

M. BRAGALDI.

LETTER-BOX.

No. 192,146. Patented June 19, 1877.



N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

MARIO BRAGALDI, OF NEW YORK, N. Y.

IMPROVEMENT IN LETTER-BOXES.

Specification forming part of Letters Patent No. **192,146**, dated June 19, 1877; application filed February 9, 1877.

To all whom it may concern:

Be it known that I, MARIO BRAGALDI, of the city and State of New York, have invented an Improvement in Letter-Boxes, of which the following is a specification:

This improvement relates to the local drop-letter boxes and the pouch for collecting the letters from the same.

Letter-boxes have been made with an opening at the bottom, a swinging flap, and a movable pouch, that receives the letters from such box.

In my improvement a letter-box is made use of with double swinging flaps at the bottom. The outer flap is held by a lock that is operated by a key, and in connection therewith a dial may be used, indicating the time of the next collection from the box. The inner flap is opened by the act of applying the pouch and its frame to slides upon the under edges of the stationary box, and the flap of the pouch is connected with the flap of the box, so that they move together downwardly into the pouch. In forcing in the frame of the pouch the two flaps are unlocked and allowed to swing downwardly into the pouch, and in withdrawing the pouch-frame the flap of the letter-box is raised by said frame and the pouch-flap is lifted by the flap of the letter-box, and the locks of both become operative. After the pouch and its frame have been withdrawn the swinging outer bottom of the letter-box is closed up by hand.

The advantages of this construction are that the letters are securely held in the letter-box, the outer bottom protects the slides and bolts of the inner bottom from dust and dirt, the pouch is opened and closed by the act of applying it to the letter-box, the bolts and locks are reliable and not liable to get out of order, and the pouch is tightly closed, so that it cannot be opened except by applying it to a frame similar to the bottom of the letter-box. Thus the letter-box and pouch are mutually and automatically operative upon each other, the pouch-frame opening and closing the letter-box, and the letter-box opening and closing the pouch.

In the drawing, Figure 1 is an elevation of the lower part of the letter-box with the swinging bottom closed. Fig. 2 is an inverted plan of the box-bottom. Fig. 3 is a section at the line $x\ x$, Fig. 1. Fig. 4 is a section at the line $y\ y$, Fig. 3; and Fig. 5 is an inverted sectional plan at the line $y'\ y'$, Fig. 4, of the frame of the pouch.

The letter-box *a* is made of any desired style, with an opening through which letters are inserted, and a cover is to be applied over that opening. There is an inner flap, *b*, hinged at 2, to close the bottom of the letter-box, and there is a second flap or swinging bottom, *c*, that is hinged at 3, and swings up against the under side of the letter-box, and there is a front piece, *c'*, that serves to close the bottom of the box against dust and dirt, and also to cover up the bolts, slides, and operative parts of the mechanism.

The catch 4 of this bottom *c* is shown by dotted lines, Fig. 1, as passing up into a mortise in the lower part of the box *a*, where it is caught by a spring-dog, *d*, and held. This spring-dog *d* swings upon a fulcrum, 6, and is adjacent to the cam-wheel *e*, (see Figs. 1 and 3,) which is operated by a key put in through the key-hole *d'*. I remark that any suitable tumblers, wards, or guards may be used with the key that turns the cam-wheel *e*, so as to serve as a protection, as in ordinary locks. I, however, have shown a simple cam-wheel, into the hub of which the key passes, and, as the wheel is turned, one of its cams unlocks the spring-catch *d*, allowing the bottom *c* to swing down into the position shown in Fig. 3, ready for the pouch and its frame. The reverse movement takes place when the bottom is closed by hand, and, if desired, a hammer upon the spring-catch may be employed to strike the bell e^1, and thereby attract attention, if any effort is made to open the box at other than the regular known periods.

There is a dial, e^2, upon the face of the wheel *e*, and an opening, e^3, through the box, so that one figure at a time of the dial can be examined. The figures are to indicate the times at which the collections are made, and upon the box adjacent to the opening there should be the words "Next collection of letters at—o'clock;" hence, as the box is opened by the key turning the wheel *e*, the next figure is brought around to denote the time the letters are next removed.

The bag or pouch *h* is, upon the under side of the metal frame *i*, secured thereto in a very strong manner by rivets or otherwise, and there are ribbed flanges *i'* upon the right and left hand edges of the frame, and a handle, *k*, at the front edge of said frame, and upon the under edges of the letter-box there are the ways or slides *l*, that are adapted to receive the ribs *i'* of the pouch-frame *i;* hence when the bottom *c* is swung down the pouch-frame can be slipped horizontally in beneath the letter-box, and the slideways *l* will hold it in position.

Within the pouch-frame there is a swinging flap, *m*, that is hinged at 9, and swings downwardly into the pouch, and the opening in this frame is large enough to allow the inner flap *b* of the letter-box to swing down into the pouch; and I connect these two flaps together, so that they are free to swing, but one cannot move without the other. For this purpose I attach to the top of the flap *m* the flanges *n*, that are made with projections at one side, (seen detached, Fig. 7,) and these pass above the similar side flanges of the projections *o*, that are upon the under side of the flap *b;* hence, when these flanges interlock, as the frame *i* is shoved into place the swinging movement of the flaps will not be interfered with, as the flanges slide one on the other, but the two flaps will swing down together and up together, so that as the frame *i* is drawn out from beneath the flap *b*, and it is swung up in the act of so doing, the flap *m* will be lifted up horizontally.

There are locks that hold up both the flaps, one set of locks being in the frame *i* to hold up the flap *m*, and the other set upon the box itself for holding the flap *b*.

Both sets of bolts are unlocked in the act of forcing the frame in beneath the letter-box, and both sets of bolts are self-acting to hold the respective flaps after they have been closed up in the act of drawing out the frame, so that access cannot be had to either the box or the pouch, because the box is locked until the pouch is applied, and both are relocked before the pouch can be drawn out from the lower part of the letter-box.

The locks or bolts that secure the flap *b* are shown by dotted lines in Fig. 2, and the locks and bolts that are upon the frame of the pouch are shown by dotted lines in Fig. 5 and full lines, Fig. 6.

The bolts *p p* for securing the flap *b* in place are upon arms *q q*, pivoted at 10 in recesses made at the base of the box *a*, and said arms are acted upon by springs 11, that tend to press the bolts toward the flap *b*. There is a double incline, 12, upon each arm *q*, that projects into the space between the ways *l*, and these inclines are acted upon by the back of the frame *i* as it is shoved in place, and it forces back the bolts *p p* and releases the flap *b*.

As an additional means of security, I provide the swinging spring-dogs *r r*, that are each made with a finger, 17, (see Figs. 2 and 4,) that either enters a hole in the arm *q*, or passes behind the arm and holds it until the finger 17 has been raised by the frame *i* passing under the part *r* of the dog that projects down through an opening in the ways *l*.

This dog *r*, being nearest the front of the box, is first raised by the upper part of the frame *i*, and that releases the bolt-arm *q;* then the frame acts upon the inclines 12, and forces back the bolts *p* and bolt-arm *q*, and liberates the flap *b*.

t t are the bolts for holding the flap *m* in place. (See dotted lines in Fig. 5.) Each bolt is pivoted at 18, and made with teeth at 19, that mesh with a pinion, 20. Upon the under side of the box *a* there are teeth 21, that turn the pinion as the frame *i* is shoved in place, and said pinion, in turning, partially rotates the bolt *t* and releases the flap *m*. I provide a safety-bolt, *v*, that holds the bolt *t*, and prevents it being moved by the pinion 20 until this bolt is withdrawn. This safety-bolt is made with an arm, 22, the outer end of which is in the path of an incline, 23, that is slightly in advance of the teeth 21; hence as the frame *i* is shoved in place the incline acts upon the arm 22, and forces back the safety-bolt from the bolt *t*, and allows the latter to be moved by the pinion 20 as the teeth 21 engage therewith.

Fig. 6 shows these parts detached from the pouch-frame, and I remark that the bolts *t* are at a lower level than the pinions, the arms from the pinions to the bolts being bent downwardly, so that the bolts *t* pass in below the flap *b;* but the pinion 20 is sufficiently high to be acted upon by the racks 21 that come above the said flap *m*, and are upon the under side of the box.

A spring may be employed to act against the bolt *t*, and tend to keep it toward the flap *m*.

When the pouch-frame is pressed in beneath the letter box the operations are in the following order: The frame *i* lifts the dogs *r*, releasing the bolts *p*, and then the frame, acting on the inclines 12, unbolts the said bolts *p*, liberating the flap *b*, but that cannot fall, because the flap *m* is still closed.

The flanges *n* of *m* now run above the flanges *o* of the flap *b*, and the two flaps are connected; then the ends 23 move back the bolts *v* and liberate the turning-bolts *t*, and the racks 21 revolve the pinions 20 and 19 as the latter are moved along with the frame *i* and pouch, and the bolts *t*, swinging back, liberate the flap *m*, and the two flaps swing down together into the position shown in Fig. 3, and the contents of the letter-box fall into the pouch.

As the pouch-frame *i* is drawn forward the flaps *m* and *b* are raised and closed the first thing by the back part of the frame acting against the portion 30, that extends to the rear of the flanges *o*.

The slight inclination of the flanges *n o* as

n is drawn forward along upon *o* now causes the flap *m* to be fully lifted, in order that the bolts may operate in the reverse order, the bolts *t* operating the first to hold said flap *m*, then the bolts *v* drop to hold the bolts *t*, and the rear portions of the flanges *n*, now coming forward beneath the forward part of the flap *b*, insure that that flap is properly lifted for the bolts *p* to pass into the recesses in the edges of the flap *b*, and hold the same up. After this the dogs *r* and 17 are relieved and hold the bolts *p*, and the frame *i* and pouch are withdrawn, and the covering-flap *c* turned up to its place.

I have shown the inner portion of the letter-box slightly contracted by the inclined sides; but it will be apparent that if the base of the letter-box was enlarged outwardly to give the necessary room for the bolts, slides, &c., the interior of the letter-box may be the same size all the way down, to insure the delivery of all the letters.

I also remark that a skeleton frame with the racks 21 and inclines 23 thereon is conveniently employed in opening the pouch at the post-office for the removal of the contents of the bag.

This improvement may be applied to the removal of cash or tickets, or other similar matter, from collection-boxes or tills as well as in letter-boxes, and a box or bag may take the place of a pouch, they being well-known equivalents.

I claim as my invention—

1. The letter-box having slides at the bottom, with bolts for the swinging flap *b*, that are withdrawn by the frame of the pouch as it is inserted into the slides, in combination with the pouch, frame, flap, and bolts, that are operated by projections on the box, substantially as set forth.

2. The flaps *b*, and *m*, in combination with the connecting-flanges *n o* and frame *i*, substantially as set forth.

3. The bolts *p*, dogs 17 and *r*, in combination with the letter-box, flap *b*, frame *i*, and supporting-slides *l*, substantially as set forth.

4. The combination, with the letter-box, pouch-frame, pouch, and flap *m*, of the bolts *t*, pinions, and racks 21, substantially as and for the purposes set forth.

5. The bolt *t*, pinions 19 and 20, and locking-bolt *v*, connected to the pouch-frame *i*, in combination with the rack 21 and incline 23 on the letter-box, substantially as set forth.

6. The covering-flap or bottom *c*, in combination with the letter-box and locking bolt or dog *d*, substantially as set forth.

7. The combination, with the locking-bolt *d* and cam-wheel *e*, of the dial *e'* and opening in the letter-box, whereby the time of delivery is indicated by the movement of the wheel *e* in opening the lock, as set forth.

Signed by me this 7th day of February, A. D. 1877.

MARIO BRAGALDI.

Witnesses:

GEO. T. PINCKNEY,

CHAS. H. SMITH.