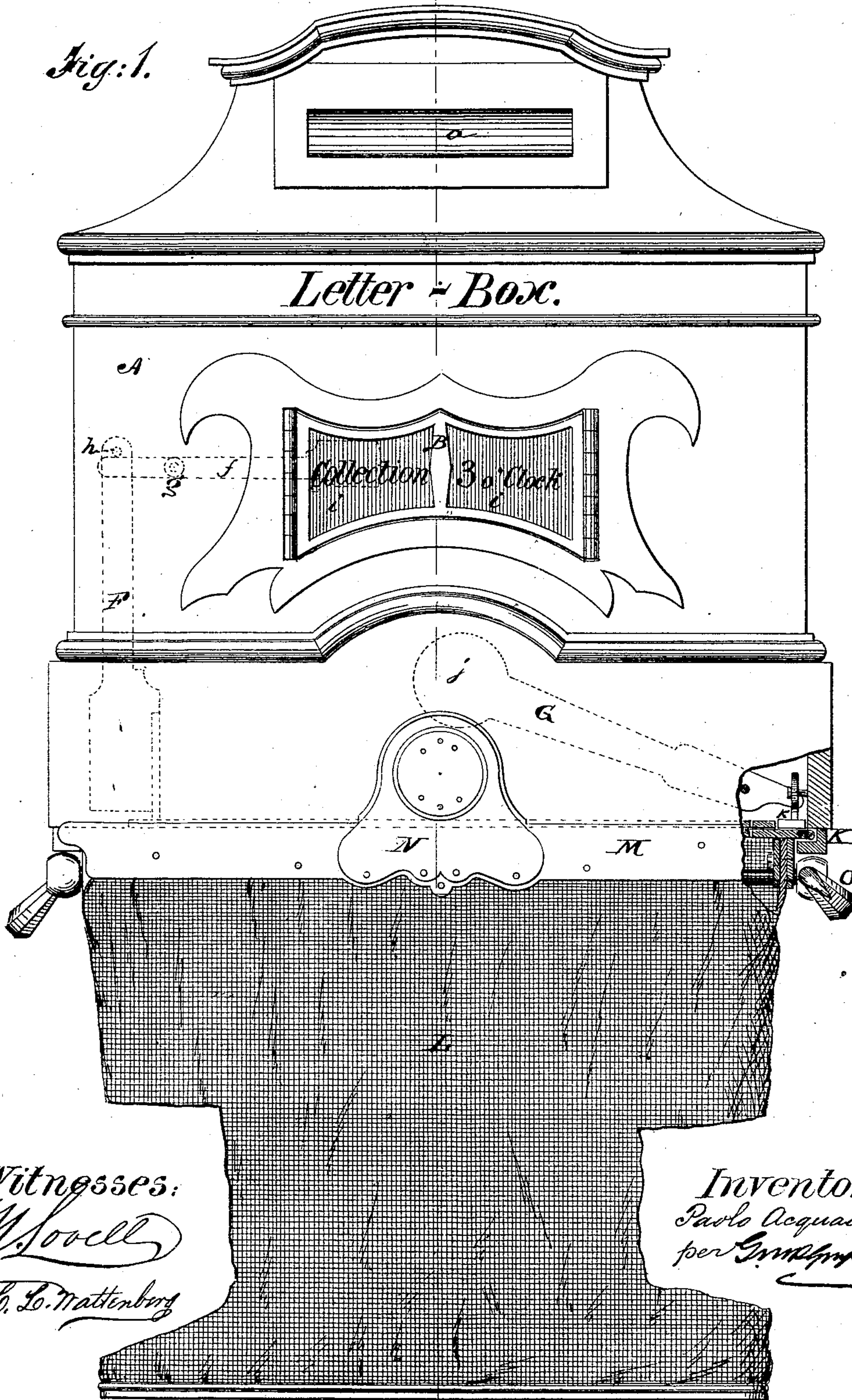


P. ACQUADRO.
Letter-Boxes.

No. 155,058.

Patented Sept. 15, 1874.

Fig: 1.

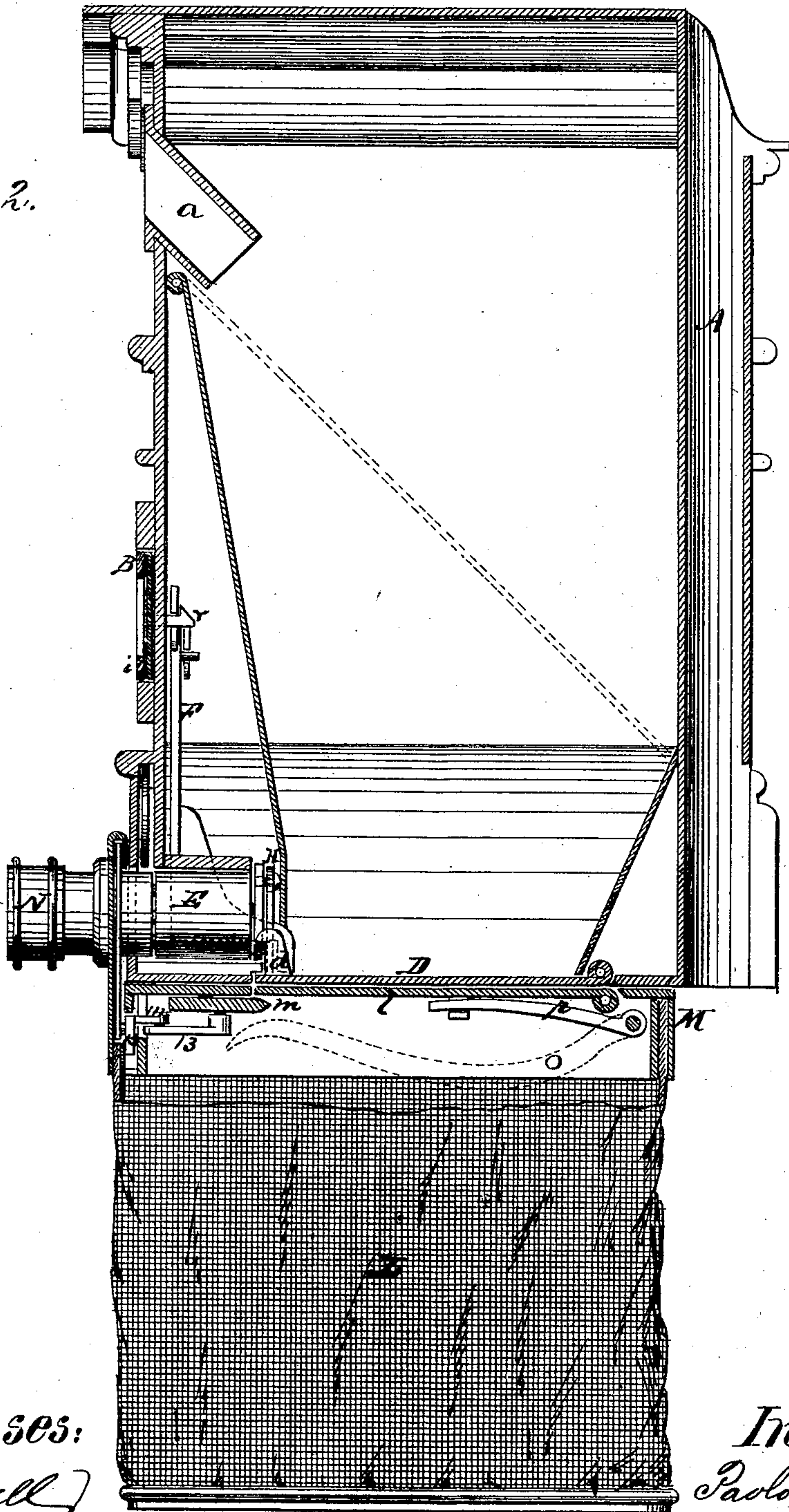


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Fig. 2.



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Atty

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Fig: 3.

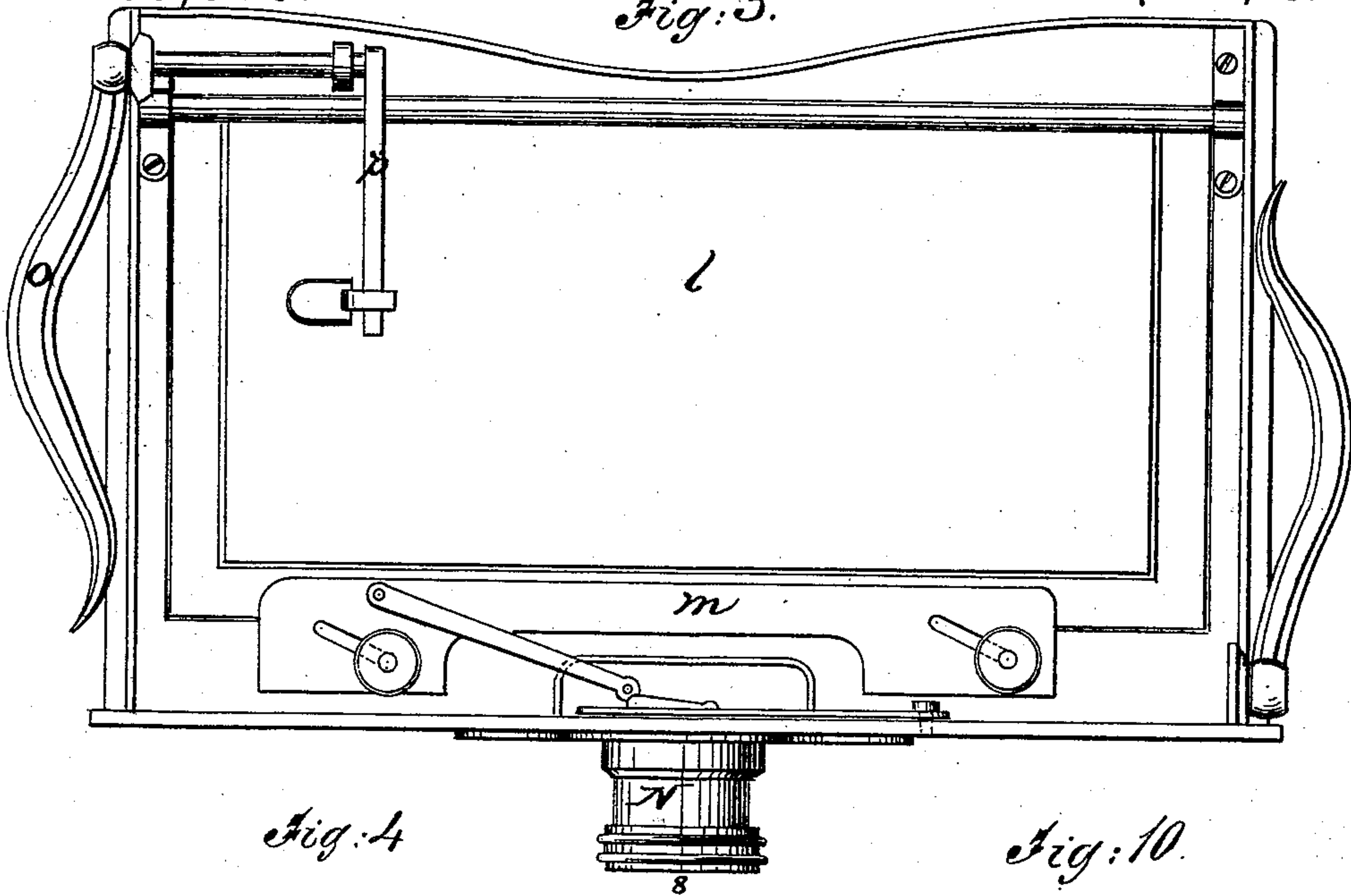


Fig: 4

Fig: 10.

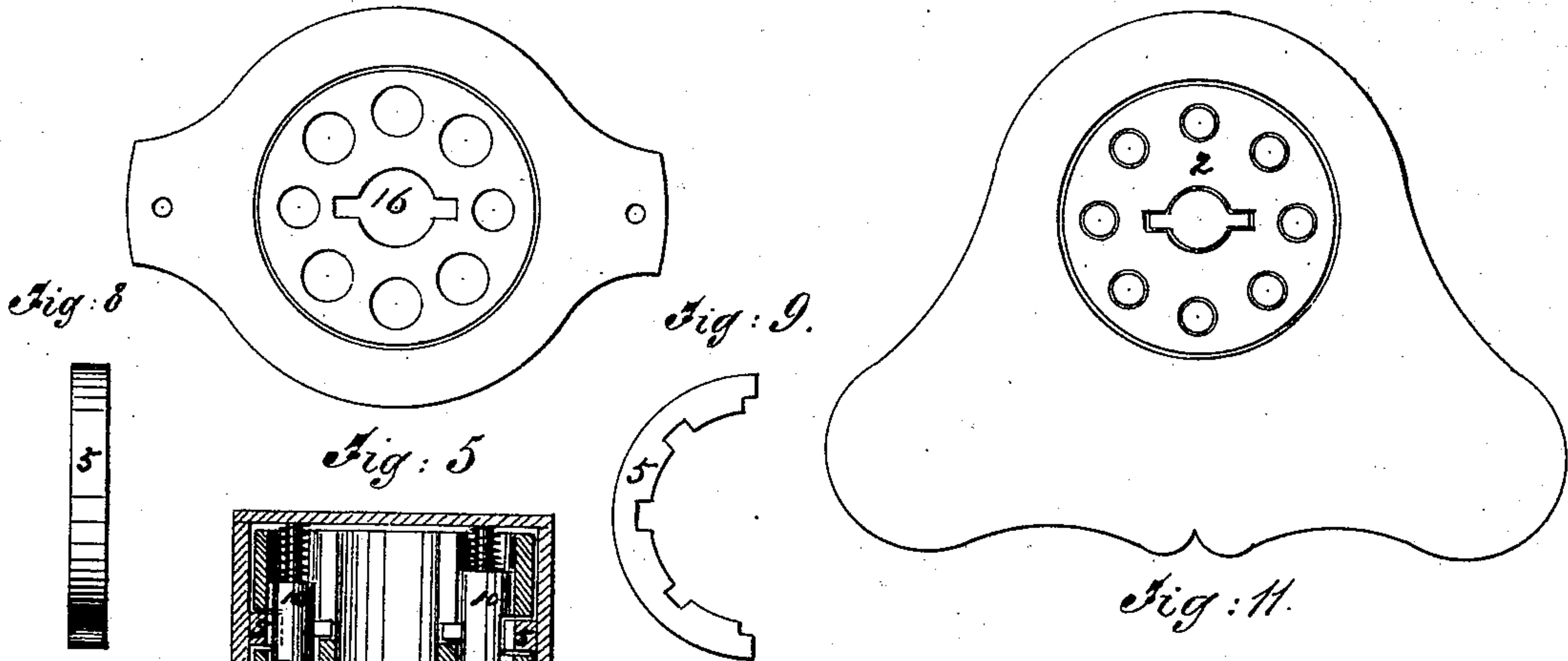
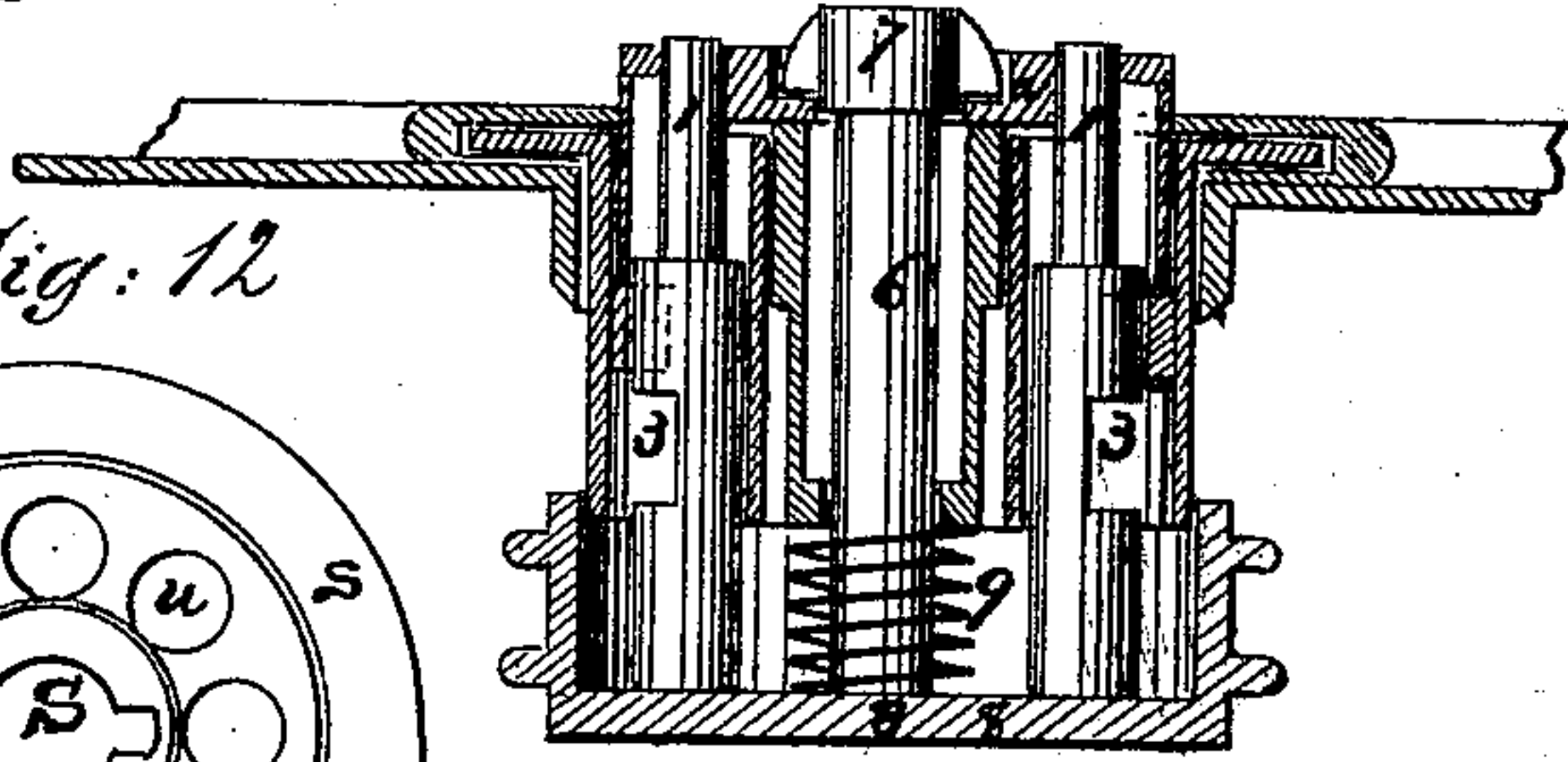
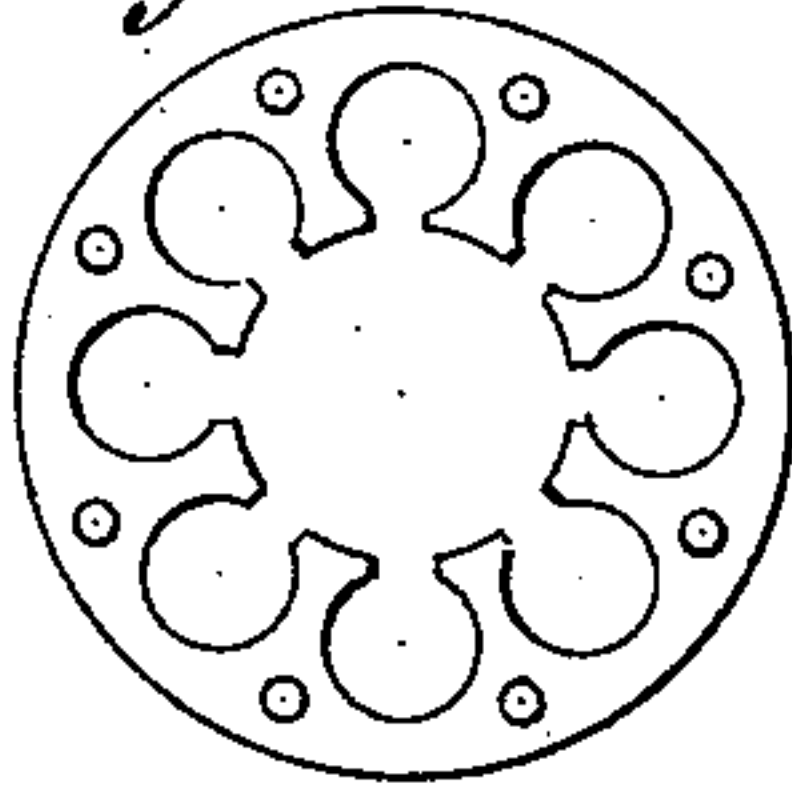
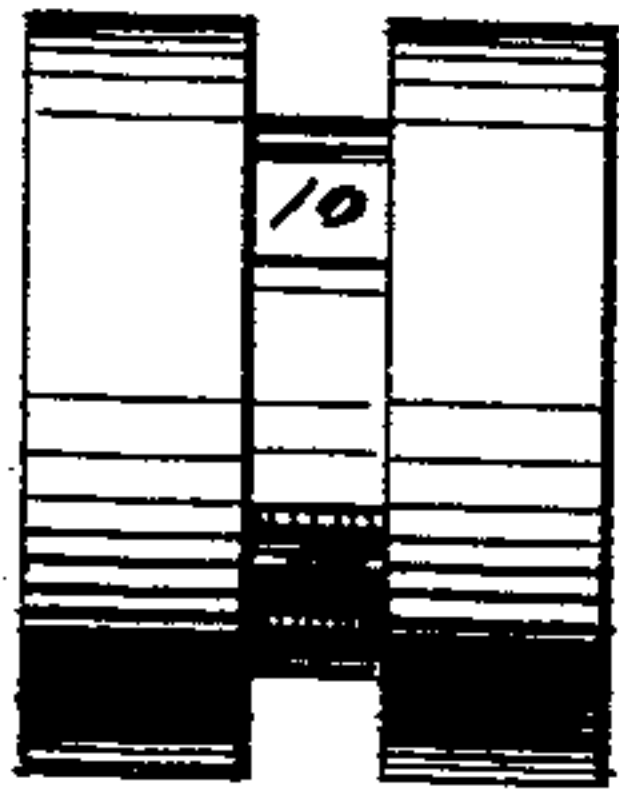


Fig: 1.

Fig: 6

Fig: 12



Witnesses:

Fig: 14

Fig: 13.

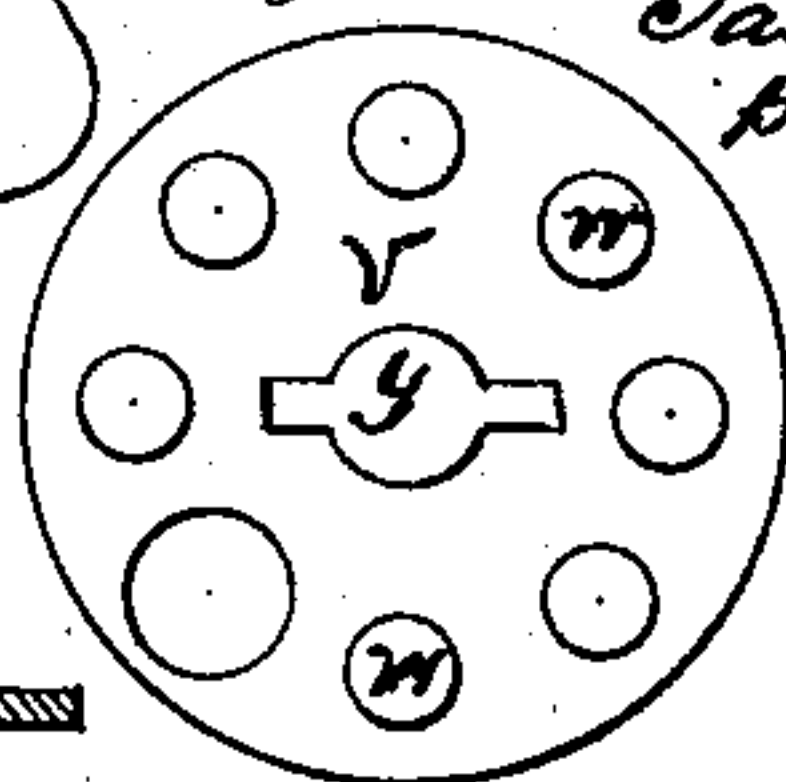
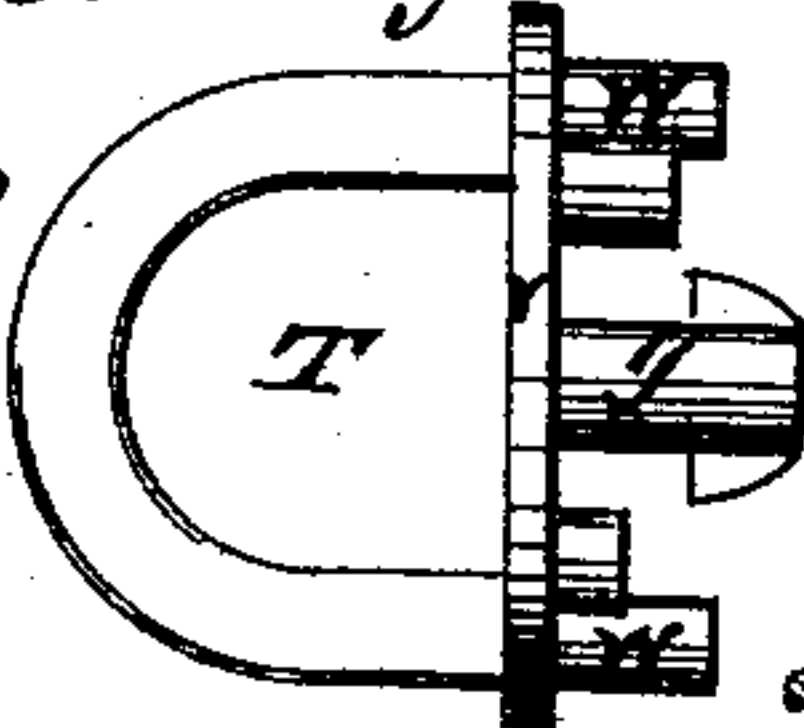
Fig: 15.

Inventor:

Paolo Acquadro

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UNITED STATES PATENT OFFICE.

PAOLO ACQUADRO, OF TURIN, ITALY.

IMPROVEMENT IN LETTER-BOXES.

Specification forming part of Letters Patent No. 155,058, dated September 15, 1874; application filed June 3, 1874.

To all whom it may concern:

Be it known that I, PAOLO ACQUADRO, of Turin, in the Kingdom of Italy, have invented a new and Improved Letter-Box; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

This invention is in the nature of an improvement in letter-boxes; and it applies more particularly to that class of letter-box known as street-boxes, or such as are secured to lamp-posts and other like fixtures, as herein-after set forth and claimed.

In the accompanying sheets of drawings, Figure 1 represents a front elevation of my letter-box, with the sack or pouch attached thereto; Fig. 2, a longitudinal section of same; Fig. 3, a plan view of box; Fig. 4, a plan view of back plate of lock; Fig. 5, longitudinal section of lock; Fig. 6, plan of roll-back of lock; Fig. 7, side view of lock; Fig. 8, edge view of rib or block; Fig. 9, plan view of same; Fig. 10, back view of lock; Fig. 11, longitudinal section of same and knob, showing center-pin; Fig. 12, plan view of key; Fig. 13, section of the same; Fig. 14, side view of second key; Fig. 15, plan view of same.

Similar letters of reference indicate like parts in the several figures.

A represents a letter-box, which may be of any desired size and made of any suitable material. Through the front and near the top of this box is formed the usual mouth or letter-slip, *a*. Below the mouth *a*, or in any other suitable position, is a frame, B, hinged at one end to the front of the box; and below the hinged frame B is a circular opening, C. To the under side of the box A is a bottom plate, D. This plate is hinged at its rear side to the box A. The front inner side of said bottom plate has attached to it two catches, *d* *d*. Within the box A, and secured to the edge of the lower part thereof, is a sliding bolt, *e*, and within the box A, and immediately in rear of the circular opening C, is secured a lock, E. Within the box A is affixed a lever, *f*, working on a fulcrum, *g*, and working in suitable guides affixed within the box is a sliding plate, F, the upper end of this

plate having affixed to it a pin, *h*. Immediately beneath the hinged frame B are plates *i* *i*, one of which has engraved upon it the word "collection," and the other one of which has engraved upon it any given hour, as, for instance, "3 o'clock." Within the box A is affixed a lever, G. This lever is pivoted at one end, and its other end is formed into a disk, *j*. Near the pivoted end of this lever is a small tripping-lever, *k*, one end of which protrudes slightly through the bottom of the box A. The under side of the box A is provided with slideways K, into one of which the tripping-lever *k* rests. In combination with the above-described box is a sack or pouch, L, the upper end or mouth of which has secured to it a metallic frame, M. Within this frame is hinged a metallic plate, *l*, and to the under side of its front edge is secured a sliding bolt, *m*. To the outer and front edge of the frame M is attached a lock, N. The sides of the frame M have formed upon them flanges *n n*. Passing through one side of the frame M is a lever, O. This lever is secured to the metallic plate *l* by means of a small arm or lever, *p*. The lock N, which is attached to the pouch or sack of the frame aforesaid, is cylindrical, and has fitted within it a series of tumblers or pins, 1 1. The front ends of these tumblers work through a face-plate, 2, of the lock, the rear ends resting on coiled springs. Each of the tumblers 1 has cut into it gatings 3, and within the cylindrical lock-case of the lock is a rib or projection, 5, and within the lock is a central pin, 6, the upper end of which has affixed to it a T-shaped head, 7. The inner end of this central pin is secured within the knob 8. This knob is fitted over the outer end of the cylindrical case of the lock, so as to slide thereon, as shown in Fig. 11. The inner end of the central pin 6 is surrounded by a coiled spring, 9.

My letter-box and pouch, together with the lock thereon, being constructed substantially as above described, it is operated as follows: The letters are introduced through the mouth or slip *a*, whence they fall into the interior of the box A, to the bottom thereof, on which they rest. To remove the letters from the box, the frame M, with the pouch or sack L depending there-

from, is slipped into the slideways K of the box; the flanges *n n* of the frame readily entering therein; and as they enter they come in contact with the tripping-lever *k*, which forces down the end of the lever G, causing the disk *j* at the other end of said lever to uncover the circular opening C, so that when the frame M of the pouch or sack is fully within the slideways K, the circular opening being uncovered, as aforesaid, the lock N, or a projecting part of the same, enters within said circular opening. The several tumblers 11 of said lock come in contact with similar tumblers 10 10 in the lock E; and the several tumblers in the two locks being coincident, the knob 8 of the lock N is forced inward by the hand, the tumblers 11 of the lock N being in this way forced out from the face-plate 2. The tumblers 10 10 of the lock E are forced inward until the gatings 3 in the tumblers of each lock are brought, respectively, coincident with the projections or ribs 5 5 in each lock, when the knob 8 may be freely turned to the right; and as the knob is turned by means of a suitable connection, 13, which is operated by levers 14, 14, and 15, connected to said knob, the sliding bolt *m* is withdrawn from the edge of the frame M, and the sliding bolt *e* within the box is caused to slide until slots formed therein shall be coincident with the catches *d d* of the hinged bottom plate D, when, from gravity, the metallic plate *l* and the hinged bottom plate D will simultaneously drop downward within the mouth of the sack or pouch L, and the letters, &c., contained in the box, having nothing to obstruct them, will also fall into the sack or pouch before mentioned. The pouch cannot now be detached from the letter-box until the bottom plate D of the box and the hinged plate *l* of the pouch are raised, closing the bottom of the one and the mouth of the other, respectively; and they are closed by means of the lever O, which is lifted to a horizontal position, by which operation the lever *p* forces the plate *l* upward, closing the mouth of the pouch, and as this plate is raised upward it lifts with it the bottom plate D of the box, bringing it in a position to close the box; and the box and pouch being thus closed, the knob 8 of the lock N is turned to the left, when the sliding bolt *m* is projected under the plate *l*, and the sliding bolt *e* is moved so as to bring its edge within the catches *d d* of the bottom plate D, and in this manner said bottom plate and the plate *l* of the pouch are held in position, in which condition the pouch may be slipped free from the slideways K and removed with the letters therein securely inclosed.

The pouch L cannot be detached from the box A until the pouch and box are closed, as before stated, for the reason that when the knob 8 is pushed in by the hand, in the manner hereinbefore described, the central pin 6 is forced outward, and the T-shaped head 7 enters into a slotted opening, 16, of the lock E, so that when the knob 8 is turned to unlock

the bottom plate D of the box, and the metallic plate *l* of the pouch, this T-shaped head is turned across the opening 16, and prevents the lock N of the pouch from being detached from the lock E of the box; by this means holding the pouch to the box perfectly secure until the bottom plate D thereof and the metallic plate *l* close their respective apertures in box and pouch, in which state the knob 8 may be revolved, locking the aforesaid two plates in position; and when they are so locked, the T-shaped head 7 is brought coincident with the slotted opening 16, and the two locks may then be readily separated, and the pouch detached from the box.

As a further safeguard against turning the locks, so that the pouch may not be removed from the box before closing the bottom and top plates, a dog, H, is pivoted back of the sliding bolt *e*, in such manner as that, when the bottom plate D is open, this dog will drop by gravity, and effectually "dog" the bolt *e*, so that the lock E cannot be turned to the right or left. As the bottom plate D is brought in position to close the box, this dog is forced upward, clear from the bolt *e*, enabling it to work, and the locks to turn and become detached, as before described.

When the pouch is withdrawn from the slideways K of the box the lever G descends by gravity, and the disk *j* on the end thereof drops behind the circular opening C and closes it, so that it cannot be tampered with, and dirt is excluded from the lock.

When the bottom plate D is opened, as before described, the sliding plate F descends by gravity until the pin *h* comes in contact with the end of the lever *f*, throwing said lever out of a catch, *r*, which is secured to the frame B. As soon as the lever *f* is disengaged from said catch, the frame B is thrown open by a suitable spring, and the person collecting the letters inserts beneath the frame B an engraved plate, *i*, having upon it the hour at which the collection is made. (See Fig. 1.) This being done, the frame B is closed, and the lever *f* again engages in the catch *r*, and secures the frame over the plate *i*, when the bottom plate D is restored to its closed position.

When the pouch L, with the letters inclosed therein, is delivered at the post-office, a key, R, is applied by the proper official, and the pouch is opened and the letters removed. This key is simply a box, *s*, within which is a roll-back, *t*, having holes *u u* drilled therein to receive the tumblers 11 of the lock N of the pouch, and a slotted opening, S, for the reception of the T-shaped head 7 of the central pin 6.

The holes *u* in the roll-back *t* are drilled of the proper depth to permit the gatings 3 of the tumblers 1 to become coincident with the projection 5, so that the lock may be revolved in the manner hereinbefore stated.

To enable a proper person—as, for instance, an inspector—to open the box A for repairs or otherwise, a second key, T, is provided.

This key is formed of a disk, *v*, and a series of tumblers, *w w*, and a central pin with T-shaped head, *y*. This key, when applied to the lock E of the box A, enables the inspector to unlock the same, and gain admission to the interior of the box when the bottom plate D drops out.

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

1. In a letter-box having a stationary receiver, A, and removable collecting-receptacle L, the combination, with the mechanism for locking and unlocking the two when connected, of lever O, arranged and operating as specified.

2. In a letter-box having a stationary receiver,

A, and removable collecting-receptacle L, a lever, G, having a disk, *j*, in combination with a tripping-lever, *k*, projecting into the slideways of the box, substantially as and for the purpose described.

3. The combination, with the bottom plate D and plate B, of a sliding plate, F, and lever *f*, arranged and operating substantially as and for the purpose specified.

4. The combination, with the bottom plate D and slidingbolt *e*, of a safety-dog, H, substantially as and for the purpose described.

PAOLO ACQUADRO.

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J. B. LYSOKOURSKI.