

No. 698,547.

Patented Apr. 29, 1902.

G. A. OWEN.
MAIL SERVICE APPARATUS.

(Application filed Apr. 25, 1901.)

(No Model.)

3 Sheets—Sheet 1.

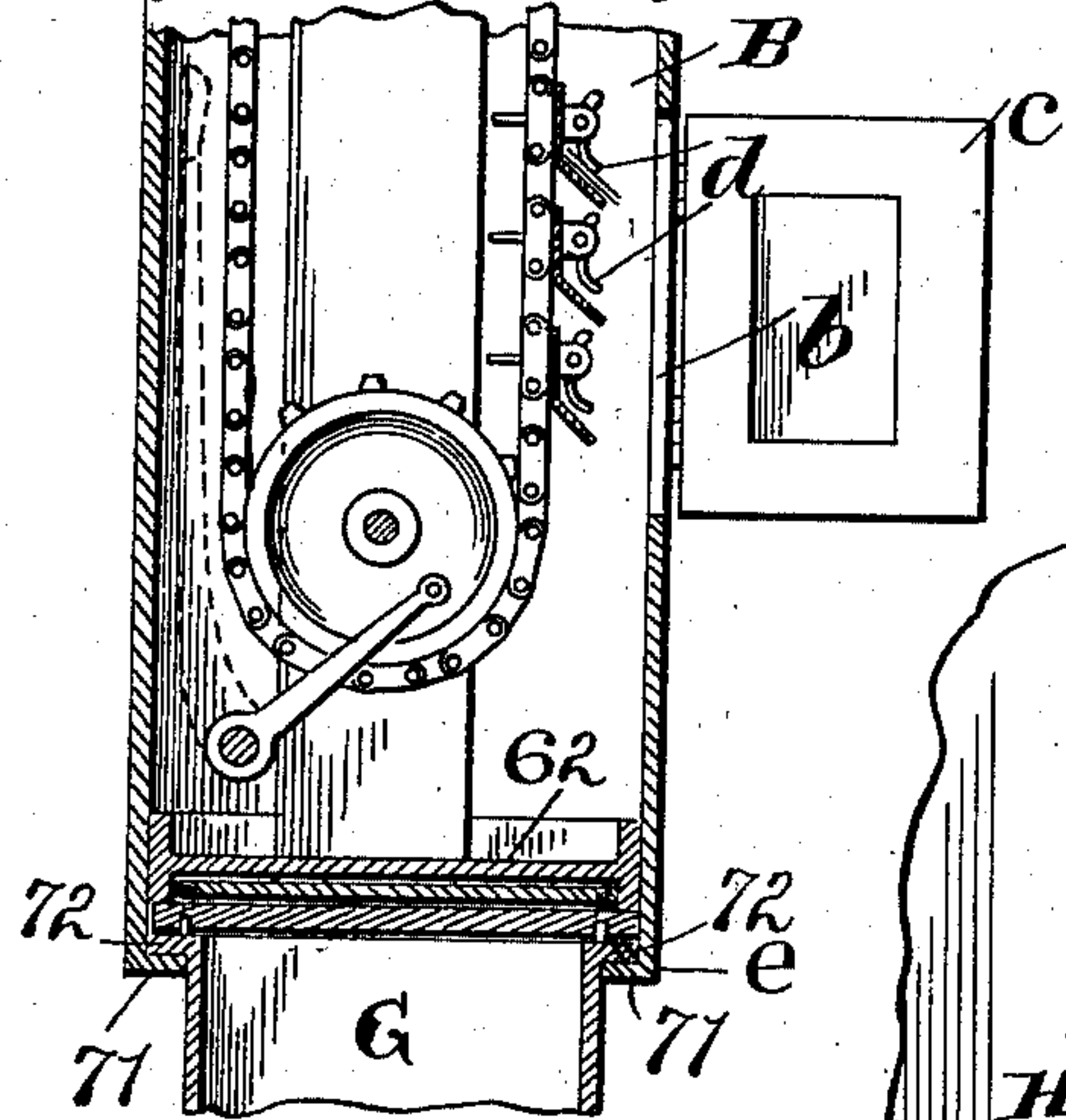
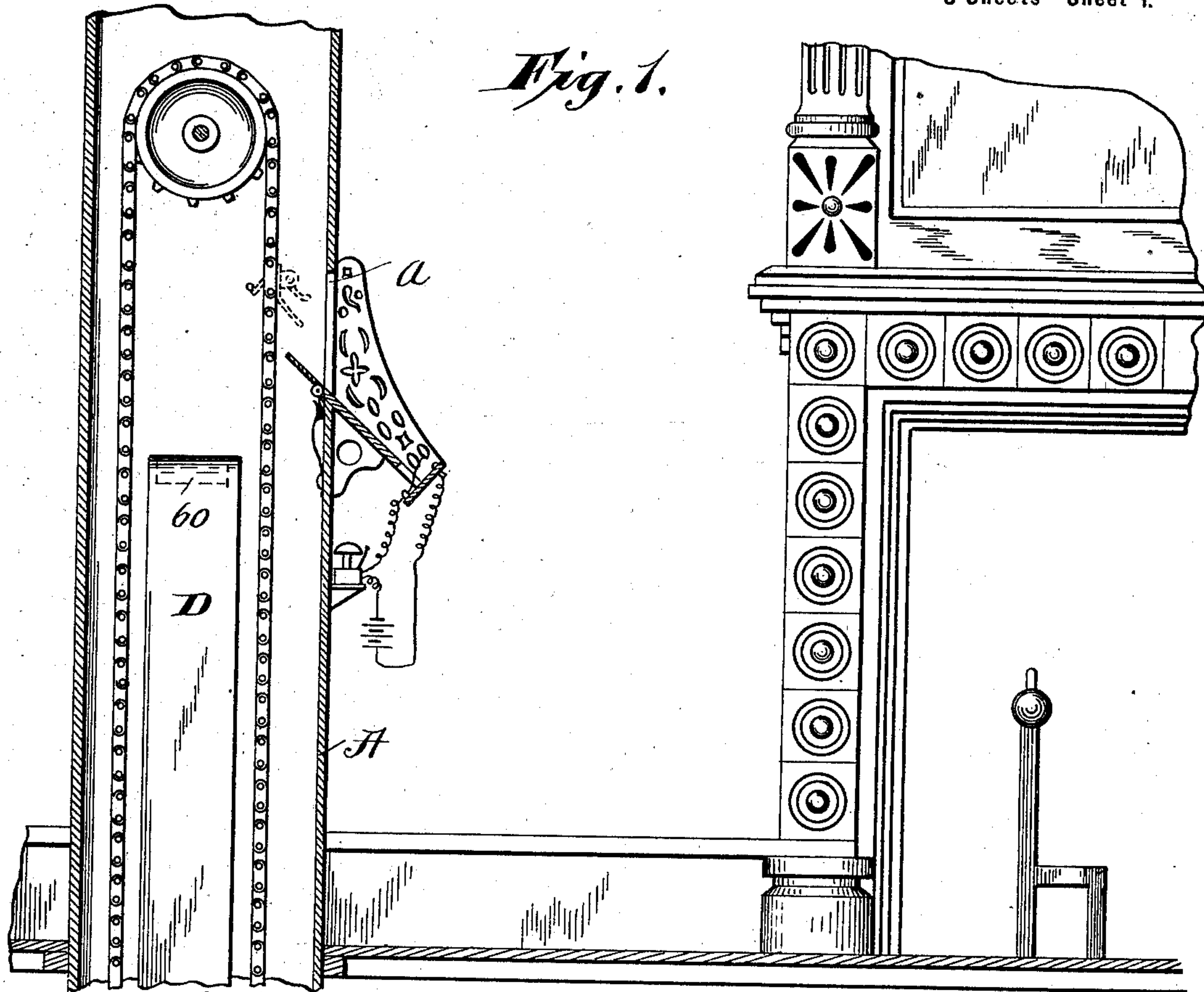
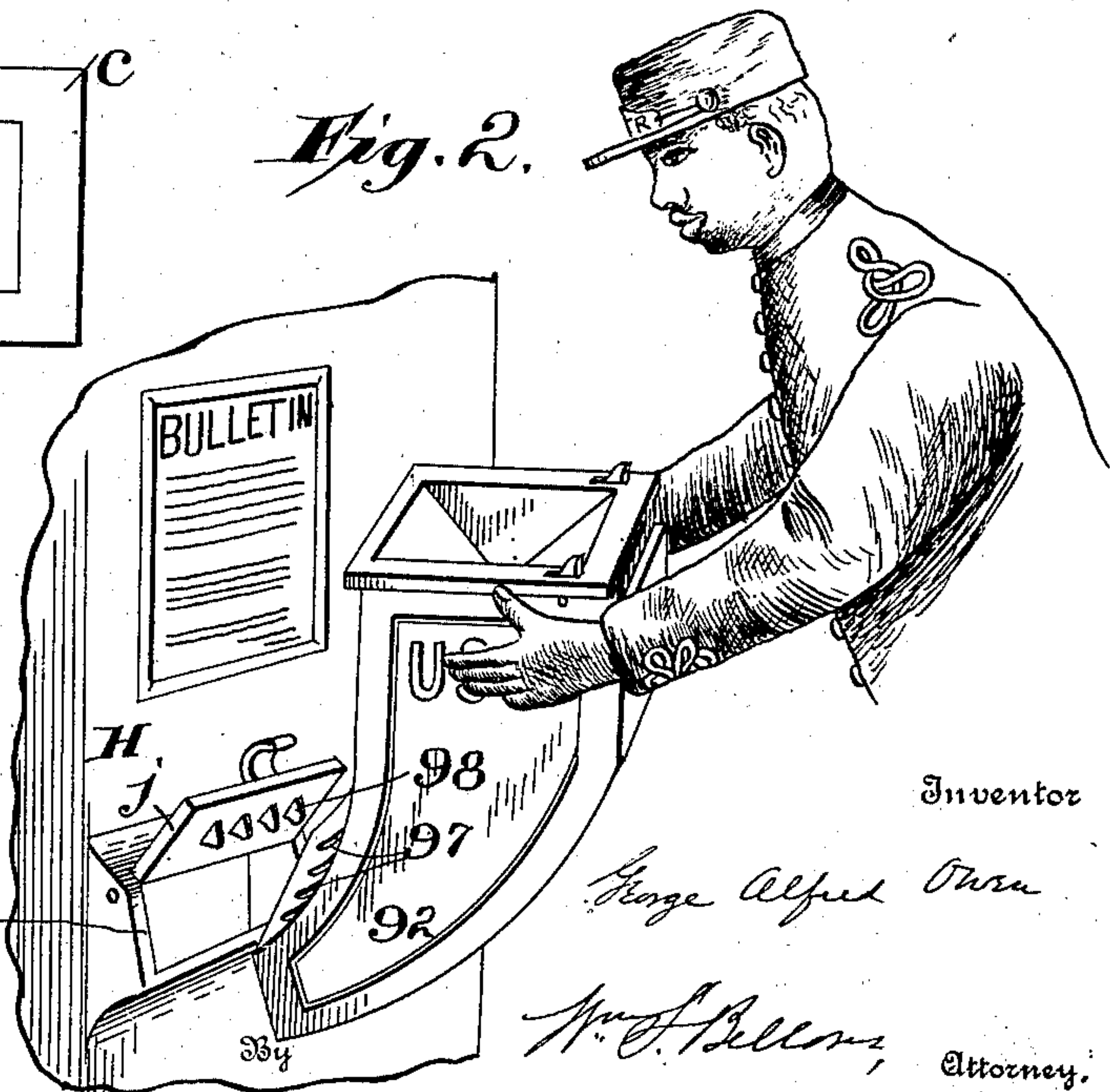


Fig. 2.



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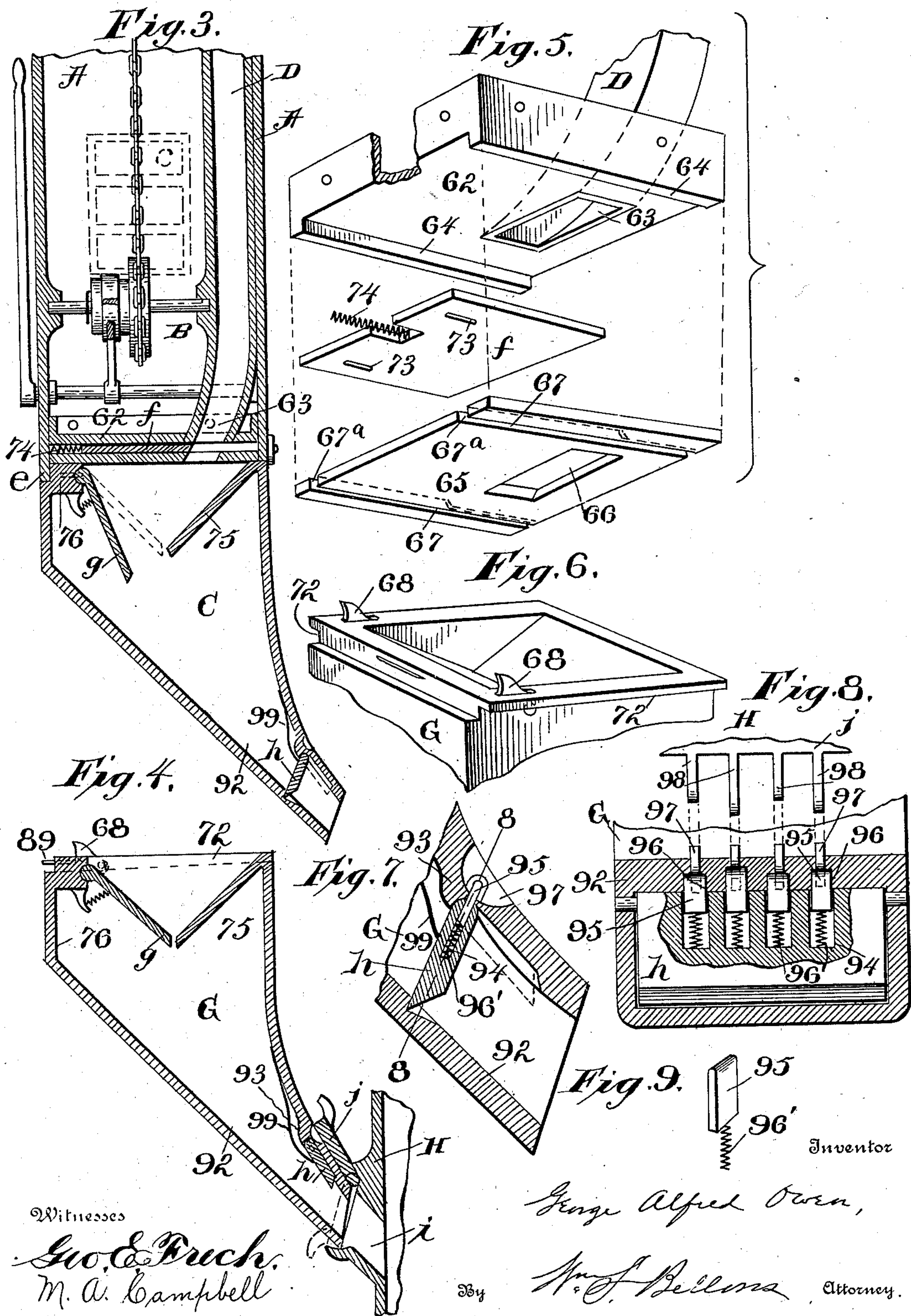
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Fig. 10.

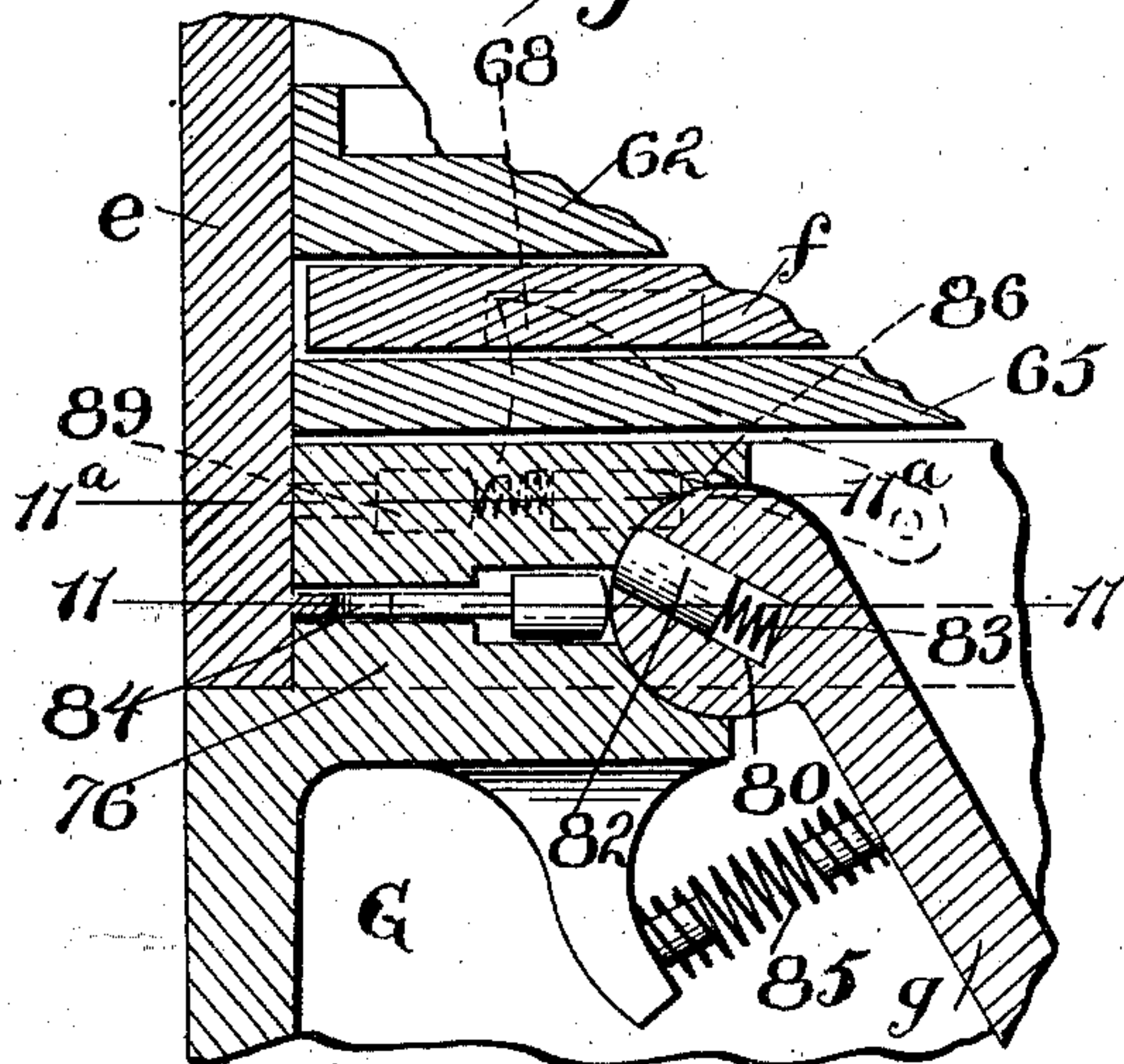


Fig. 12.

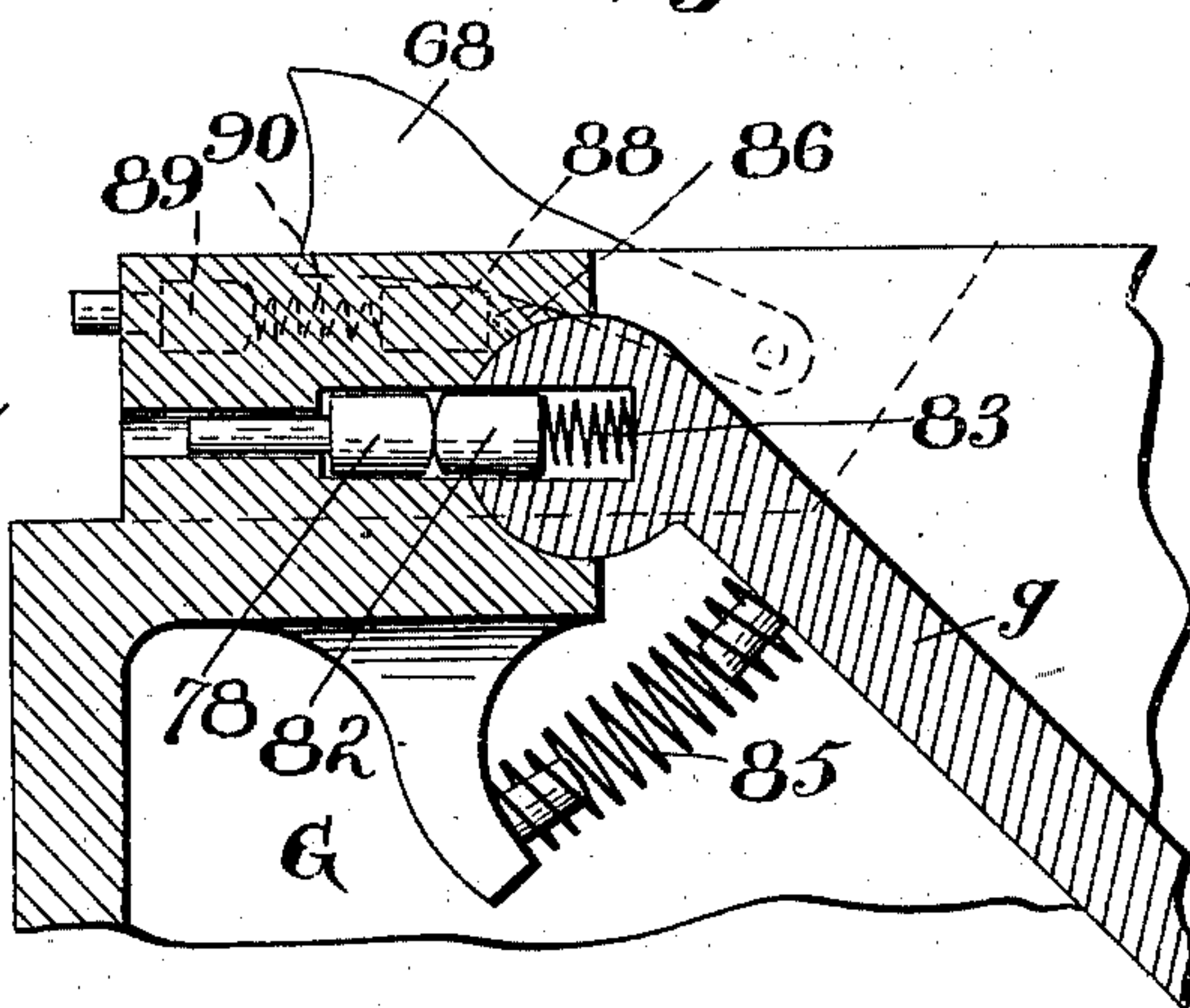


Fig. 11.

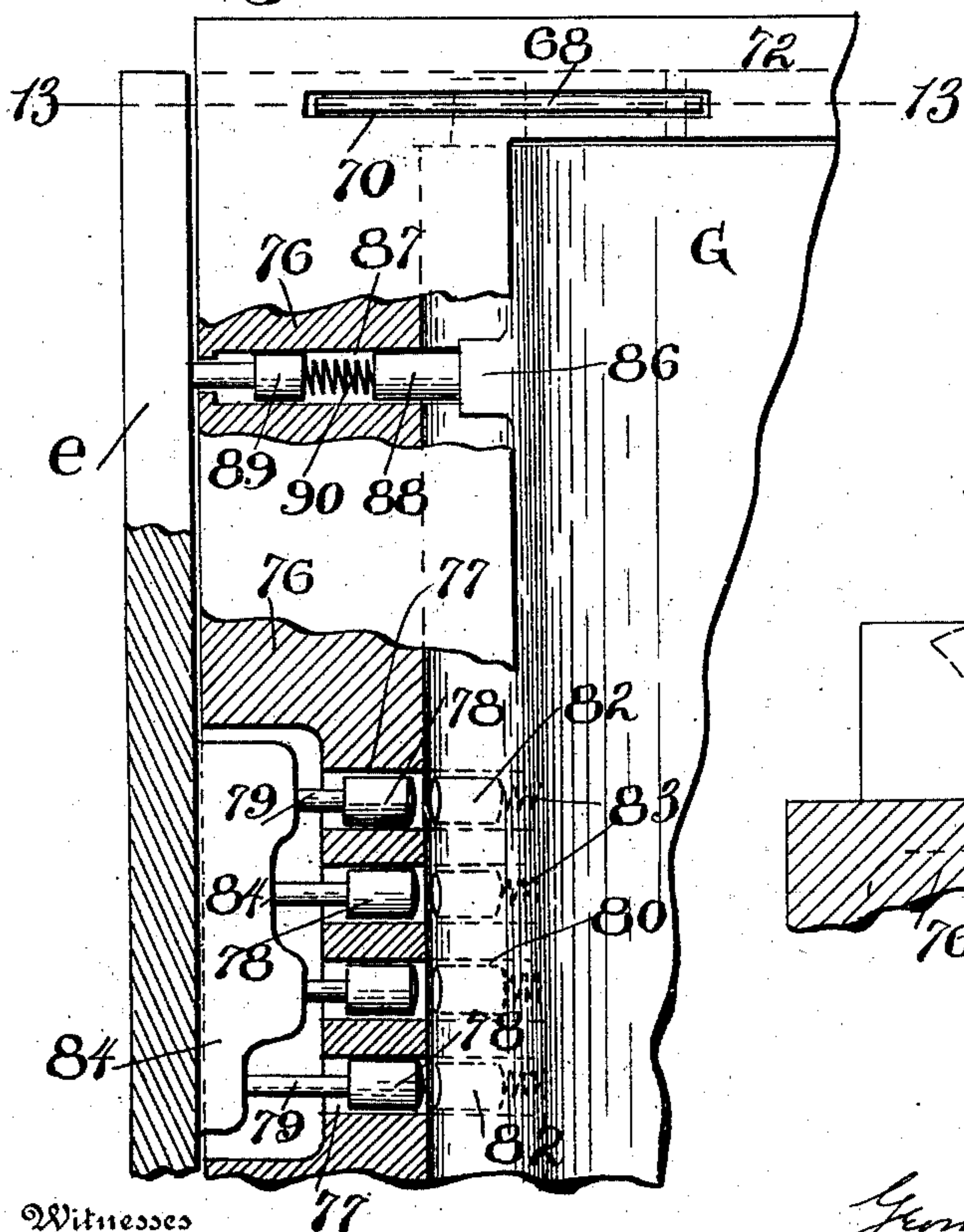
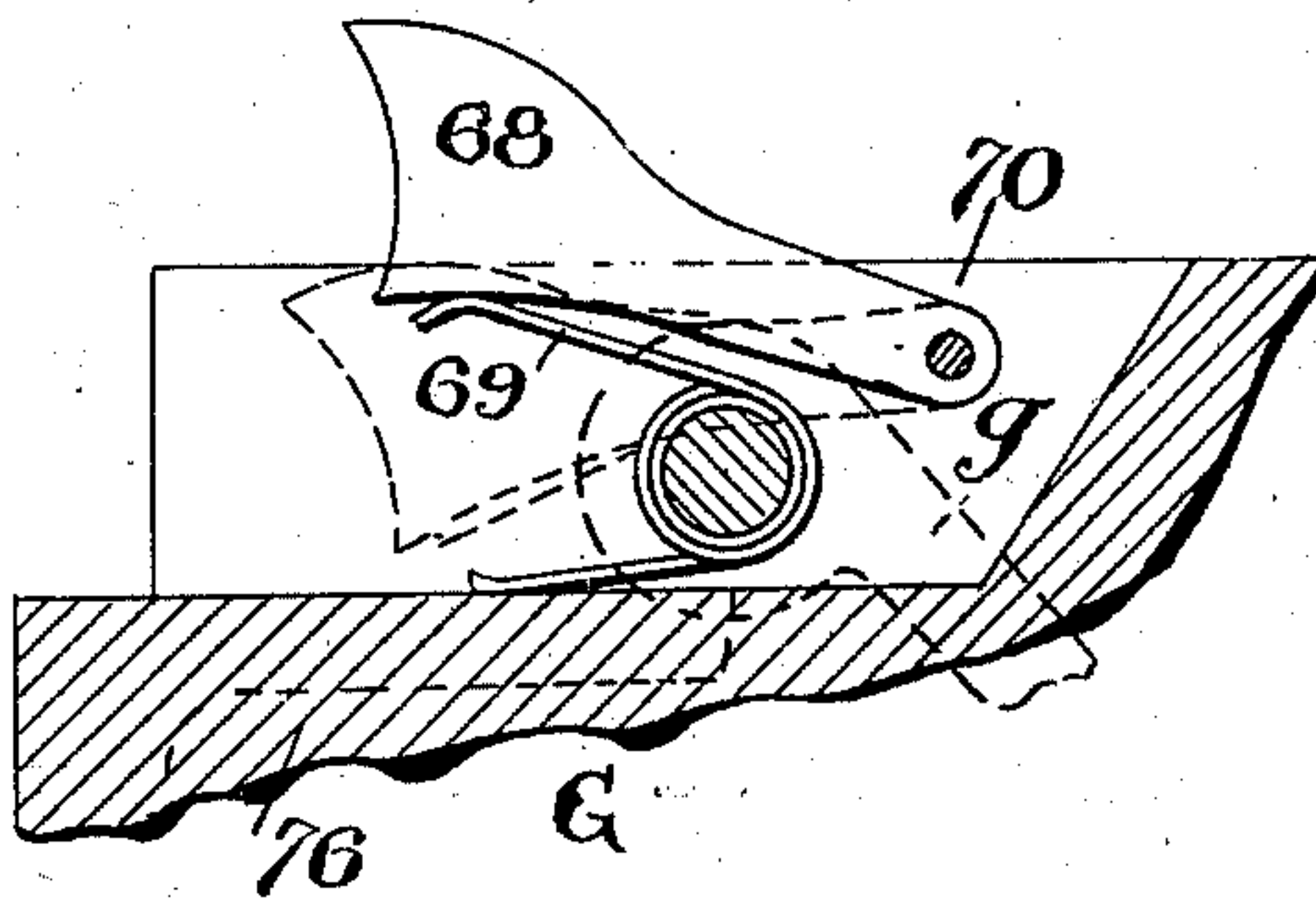


Fig. 13.



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GEORGE ALFRED OWEN, OF SPRINGFIELD, MASSACHUSETTS.

MAIL-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 698,547, dated April 29, 1902.

Original application filed March 23, 1899, Serial No. 708,984. Divided and this application filed April 25, 1901. Serial No. 57,422. (No model.)

To all whom it may concern:

Be it known that I, GEORGE ALFRED OWEN, a citizen of the United States of America, and a resident of Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Mail-Service Apparatus, of which the following is a full, clear, and exact description.

This invention contemplates means and appliances operating in conjunction with a mailing-chute having mailing-openings at the different floors whereby mail-matter mailed at any of such floors down through said chute will fall into a receptacle at the bottom thereof, which receptacle is removable, so that the porter may convey such receptacle and the mail therein to the nearest street letter-box and discharge such mail from the receptacle into such street letter-box, and under this department of the invention provision is made whereby the porter cannot see any of the superscriptions or other characteristics of the letters in said receptacle or handle the letters, it only being possible for him to so manipulate the receptacle in presenting the discharging-mouth thereof opposite the receiving-opening of the street letter-box as to temporarily open the door, which at all other times closes such mouth, it being furthermore understood that immediately such receptacle is removed from the lower end of the mailing-chute the entrance-opening thereinto is closed, as is also the lower end of the mailing-chute, the latter remaining closed until the portable receptacle has been replaced.

Reference is to be had to the accompanying drawings, in which an exemplification of means for carrying out my present invention is shown, and in which—

Figure 1 is a sectional view vertically through the hoistway, showing an elevating and self-discharging mechanism for the letters for delivery at different floors of the building, the mailing-chute also being shown, as is also a portion of the mail-receiving box at the lower end of the hoistway or well in which the mailing-chute is by preference located. Fig. 2 is a perspective view showing the porter as in the act of discharging the mail-matter from the portable receptacle into the street letter-box. Fig. 3 is a vertical sectional view,

taken on a plane at right angles to Fig. 1, through the lower portion of the hoistway and the mailing-chute and through the portable receptacle in place at the bottom of the chute, this view showing the entrance-opening into the top of such receptacle suitably uncovered, while the door at its discharging-mouth is closed. Fig. 4 is a vertical sectional view through the receptacle, which is understood as removed from its connection with the chute and in position in relation to the mailing-opening shown of the street letter-box, the door for the discharging-opening being now opened, as required, while the entrance-opening at the top of the receptacle is closed. Fig. 5 comprises representations in perspective of the lower end of the mailing-chute and the base of the hoistway, the door or shutter for temporarily closing the lower end of the mailing-chute, as is done on the removal of the portable receptacle, and the part for holding or supporting the said door. Fig. 6 is a perspective view of the upper part of the portable receptacle, particularly showing certain devices provided thereon which coact with the shutter or check-door for the mailing-chute. Fig. 7 is a sectional view, on a larger scale, of the discharging end of the portable receptacle and the closing-door therefor, Fig. 8 being a transverse section of the same, taken on the line 8 8, Fig. 7, this view also showing lugs or wards provided on the street letter-box adjacent its receiving-opening, which wards coact with the tumblers that lock the aforesaid door in the discharge-opening of the portable receptacle. Fig. 9 is a detail view of one of the locking-tumblers for the last-mentioned door. Fig. 10 is a vertical sectional view, on a larger scale than Fig. 3 and through the parts shown in Figs. 5 and 6, designed to make clearer the construction, arrangement, and coöperative action of these parts. Fig. 11 is a partial plan view and horizontal sectional view in part taken on the line 11 11, Fig. 10, while an upper portion of this view, which is in section, is taken on the line 11^a of Fig. 10. Fig. 12 is a view similar to Fig. 10, but showing different relative positions of the parts. Fig. 13 is a vertical sectional view as taken on the line 13 13, Fig. 11, all of these views, Figs. 10 to 13, inclusive,

relating to the means for operating the check-door at the base of the mailing-chute and the automatic door in the entrance of the portable receptacle.

5 The same or corresponding parts are designated by like characters throughout the drawings.

In the drawings, A represents a suitably-constructed well or hoistway in the building, 10 in which way is inclosed the elevator or mechanical mail-carrier B for the letters to be delivered, respectively, through openings *a* in the side of the hoistway, which openings communicate into apartments on different 15 floors, one above another, in the line of the elevator-way.

The hoistway A, comprised within the suitable vertical casing, preferably of metal, has at its lower portion, which is in the reception- 20 hall or entrance of the apartment-house, the opening through its side, (shown at *b*,) for which is provided the hinged door *c*.

The elevating device is represented by the general letter B and forms no part of the present invention, it being fully described and 25 claimed in my application for Letters Patent of the United States filed March 23, 1899, No. 708,984, of which this application is a division.

For convenience and compactness the mailing-chute D, which has a mailing-opening 60 30 leading thereinto at each floor, is disposed within the vertical casing forming the boundary of the hoistway A.

At the lower end of the chute D is the horizontal plate or casting 62 of considerably 35 greater area than that cross-sectionally of the mailing-chute, said plate 62 having the opening 63, which constitutes the terminal of the chute. The said plate or casting 62, which 40 incidentally constitutes the base or lower end closing wall for the hoistway, has the depending ribs 64 64 at opposite edges, against which is screwed the horizontal plate 65, provided with the opening 66 directly under the 45 opening 62, there being between the plate 65 and the one 62 the space for occupancy of the slide or check door *f*, which is designed to be automatically closed when the portable receptacle G is removed from its place of sup- 50 porting engagement under the mailing-chute. The said plate 65 is provided with the parallel grooves 67 near the opposite edges, said grooves, as indicated in the lower part of Fig. 6 at the left and as represented by 67^a, 55 being for half of their length extended entirely through the thickness of the part 65.

The portable receptacle and safety letter-box G has its upper end portion, which is of rectangular form, provided with the opposite 60 pivoted pawls 68, under which are the springs 69, as shown in Fig. 13, each of these pawls and its spring operating within the vertical narrow recess 70 therefor, as shown in said Fig. 13 and in Fig. 10. The springs 69 exert 65 the tendency to normally keep the pawls elevated above the upper edge of receptacle G. Said part G has at opposite sides the out-

standing ledges or shoulders 72 to be engaged by lugs or flanges 71 for the support thereof under the plate 65, said lugs being comprised 70 in any suitable supporting part provided therefor.

When the receptacle G is slid into its position under the chute, (shown in Figs. 1 and 3,) the pawls 68 slide in the grooves 67 of plate 75 65 and finally rise upwardly through and extend beyond the slot extensions 67^a and engage in the apertures 73 73 of the check-door *f*, forcing the same rearwardly against the reaction of the spring 74, so as to cause the part 80 *f* while the receptacle H is in place to be away from under the mouth 63 at the lower end of the chute, leaving unobstructed the passage of letters down through the latter into the receptacle G. As the receptacle is removed by 85 sliding it out from its supporting engagement under the chute the check-door *f*, because of the reaction of the spring 74, which is behind it, forces such door to cover the opening 63, so that no letter can fall from the chute ex- 90 cepting when the receptacle G is thereunder to receive it.

In the upper wall of the receptacle G, at its forward side, is the shield or guard 75, ex- 95 tending about half-way across the top obliquely downwardly. (See Figs. 4 and 5.) Approaching this shield from the opposite upper edge of the receptacle, also obliquely downward, is the upper door or cover *g* of the receptacle, this never being closed except 100 when the receptacle is removed from under the chute, provision being made that when removed and the door *g* closed the same becomes automatically locked, so remaining until the part G has been replaced, whereupon 105 it is by the act of replacement automatically unlocked and opened.

The part G has the thickened upper marginal portion, (indicated at 76,) at the inner edge of which is hinged the rear edge of the 110 said cover *g*. Within the thickened part 76 there is a horizontal series of sockets 77 for tumblers 78, having stems or projections 79 rearwardly projected. The thickened rear edge portion of the cover *g* has also the series 115 of tumbler-sockets 80, in which are the tumblers 82, springs 83 being interposed between the bases of the sockets 80 and the tumblers therein.

The part *e*, which constitutes the support 120 for the receptacle G, has affixed thereto the projecting series of wards 84 of any suitable irregular arrangement, as practiced under Yale-lock principles.

85 represents a spring, which is compara- 125 tively light, but of sufficient stress to elevate and hold in such position the cover *g* when the latter is freed therefor. The hinged edge of the cover is provided with the lug 86, against which a leverage-pressure may be ex- 130 erted, and opposite this lug and the aforesaid thickened portion 76 of the receptacle is the horizontal transverse socket 87, in which are two plungers 88 and 89, with a comparatively

heavy spring 90 between them. Now assuming that the receptacle having its cover *g* upwardly closed and so locked, as shown in Fig. 12, after having been removed from under the chute is replaced the replacement insures by the engagement of the wards 84 against the stems of the tumblers 78 that the latter will all be so crowded forwardly as to also crowd the tumblers 82 to stand with their outer ends exactly at the surface of the hinged edge portion of the cover *g*, so that the latter is free to be swung downwardly into its open position, (shown in Figs. 3 and 10,) and simultaneously with this action the rear plunger 89 contacting against the supporting-fixture *e*, crowded forwardly thereby, imparts through the comparatively heavy spring 90 and the plunger 88 a thrust for leverage against the lug 86, positively opening the cover, and, on the other hand, on the withdrawal of the receptacle from its supporting engagement under the chute the leverage pressure imparted, as described, on the lug 86 being relieved the spring 85 insures the closing of the cover, and the springs 83 insure that the tumblers 82 will be projected outwardly beyond the end of the sockets therefor and into locking engagement in the sockets 77, formed in the part 76 of the receptacle into registry with which the cover-tumblers have come when the cover has assumed its fully-closed position, which transpires before the receptacle has been withdrawn from its engagement with the support *e* under the chute.

Referring now to Figs. 2, 4, 7, 8, and 9, the automatic mechanism for locking the door in the discharging and opening of the receptacle will be described in conjunction with a peculiar device to cooperate therewith which is provided at the street letter-box. The receptacle *G* is formed with the convergent and inclined lower end portion, as shown at 92, and has within its upper wall a suitably-thickened part 93, at which is hinged the door *h*. Said door is provided with a series of tumbler-sockets 94, in which are the tumblers 95 and the tumbler-spring 96. In the thickened part 93 of the wall of the receptacle *G* are also tumbler-sockets 96, opening inwardly, but not extending through such wall; but narrow slots or recesses 97 lead from the exterior of the receptacle-wall to communication with the said tumbler-sockets 96.

H, Figs. 2 and 8, represents portions of the mailing letter-box in the street, *i* representing the mail-receiving opening and *j* the hinged cover therefor. This cover has on its inner side the several projecting stubs or wards 98.

99 represents a spring for forcing the door *h* open when unlocked and free to be opened. When the door is in its closed position, (indicated in Figs. 3, 7, and 8,) the tumbler-sockets 96 and 94 being in line the tumblers are by their springs forced into the locking relation. (Shown in Figs. 7 and 8.) When the porter, after having lifted the cover *j* of the street letter-box opening, forces the lower

tapered end of the receptacle within said opening, this act brings the projections 98 through the slots 97 and against the tumblers, so that their outer ends are just coincident with the hinged edge of the door *h*, and the latter now, being consequently unlocked, is thrown open by the spring 99, and the letters are free to slide from the portable receptacle into the street letter-box. The door *h* after the receptacle has been removed from adjacent the letter-box opening may be forced to its closed and locked position by hand.

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

1. In a mail service in a building, a downwardly-extending mailing-chute and a portable receptacle removably supported thereunder provided with the spring-pawl 68, the check-door *f* horizontally movable between the mouth of the chute and the top of the receptacle having the spring 74 applied thereto, and having portions thereof engaged by said pawls in the placing of the receptacle beneath the chute, for the purpose set forth.

2. In combination, the mailing-chute having at its lower end the plate or support 62 provided with the depending opposite edge portion 64, the plate 65 secured against and under said portions 64 and provided with the opening 66 and the grooves 67, 67, and the slot extension 67^a, the check-door *f* located to slide between said parts 62 and 65 provided with the recesses 73, the spring 74, and the portable receptacle and means for removably supporting it under said part 65, said receptacle being provided with the pawls 68 arranged to operate substantially as described.

3. The combination with a mailing-chute, of a portable receptacle, and means on which the latter is removably supported under the chute, said receptacle having in the upper opening thereof the hinged cover *g* provided with tumbler-sockets 80 and spring-pressed tumblers 82 therein, the corresponding series of tumbler-sockets provided in the upper marginal portion of the receptacle having tumblers therein and a tumbler-adjusting device provided on the support for the said receptacle subject to which the locking devices are brought on the replacement of the receptacle under the chute.

4. The combination with the supporting part *e*, of the portable receptacle provided with the tumbler-sockets 77 and the tumblers 78, and provided with the socket 87 and a plunger-like forcing device therein, the hinged cover *g* provided with the tumbler-sockets 80, and the spring-pressed tumblers 82, and having the lever-lugs 86 and the stationary part 84 comprising the tumbler-operating wards, substantially as described.

5. The combination with a mailing-chute and a receptacle-support thereunder, of the receptacle having the hinged cover and automatic locking and unlocking devices substantially as described, the elevating-spring for

the cover and the cover-opening device consisting of the lug 86 on the cover and the double plungers 88, 89, and intermediate spring 90 in a socket in the marginal portion of the cover, as shown.

5 6. The combination with a mailing-chute, of a portable receptacle removably supported thereunder, having a discharging-mouth, and a closing-door therefor, locking devices between such door and the wall of the receptacle consisting of tumbler-sockets in the door and in the wall adjacent thereto, with slots in said wall leading to said sockets, and an opening-spring for the door.

15 7. The portable receptacle having the entrance-opening and a discharging-mouth, a cover hinged in the entrance-opening, automatic locking and unlocking means for said cover, the closing-door having tumbler-sockets, the wall of the receptacle adjacent said door also having sockets with openings from

without leading thereto, and the spring-pressed tumblers 95, substantially as described.

8. The combination with the street letter- 25 box having a receiving-opening and a series of projections 98 adjacent thereto, of the portable receptacle having the delivery-mouth provided with a hinged door therewithin, and locking devices between the door and adjacent receptacle-wall comprising tumblers and sockets therefor in both the wall and door, and apertures leading from the exterior of the receptacle-wall through which said projections 98 may enter, substantially as and for the purpose set forth. 35

Signed by me at Springfield, Massachusetts, this 18th day of April, 1901.

GEORGE ALFRED OWEN.

Witnesses:

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WM. S. BELLOWS.