

July 12, 1960

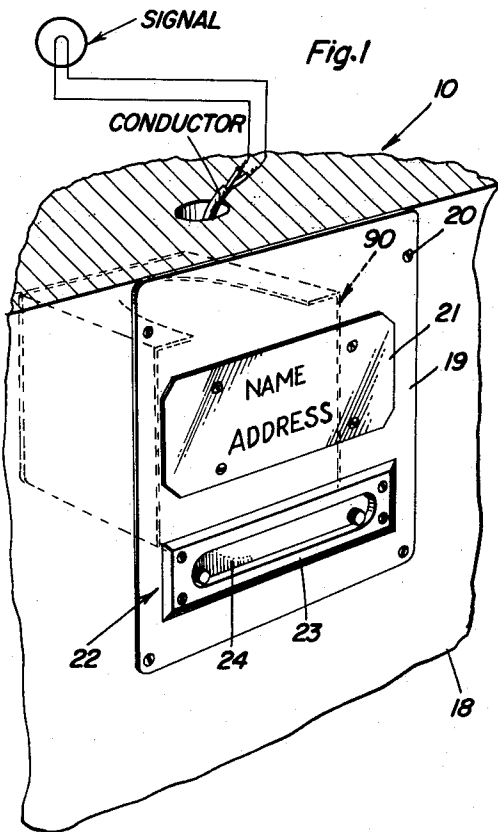
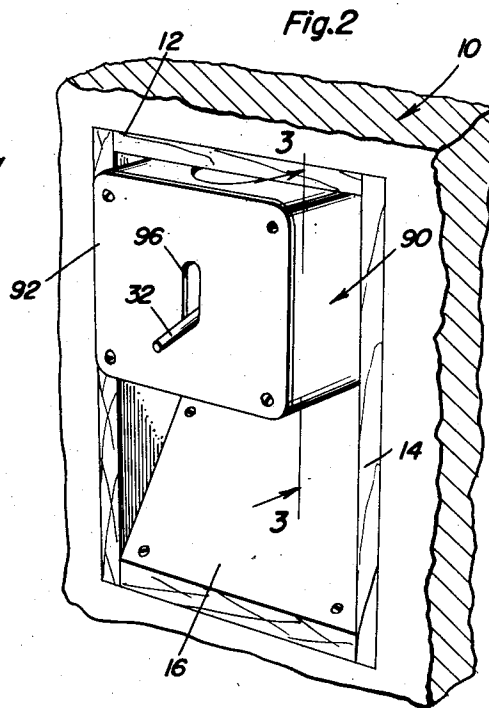
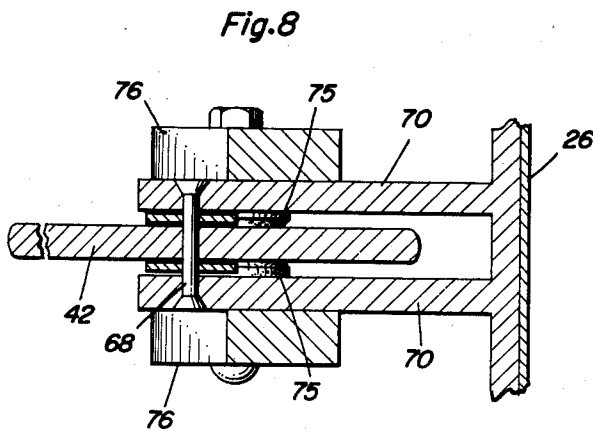
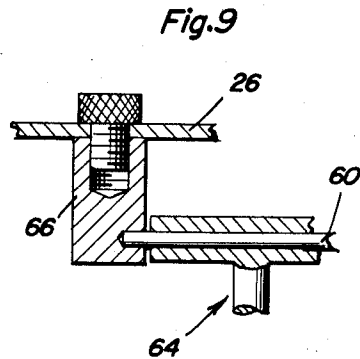
S. T. DUNN

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ELECTRICAL MAILBOX SIGNAL

Filed May 14, 1958

3 Sheets-Sheet 1



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Fig. 3

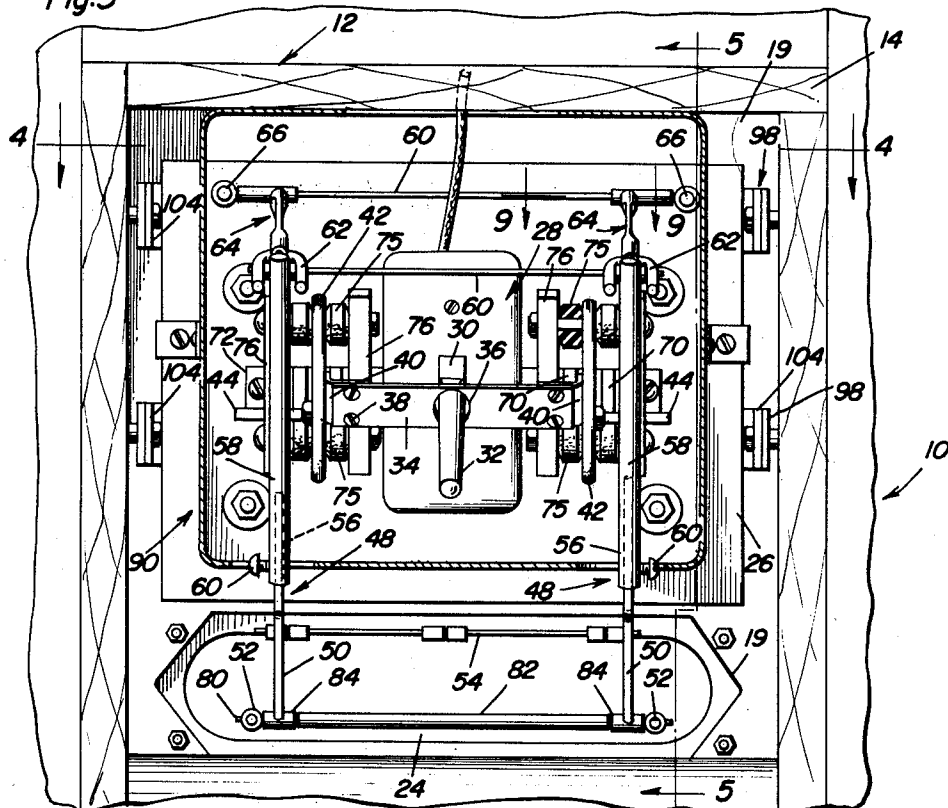
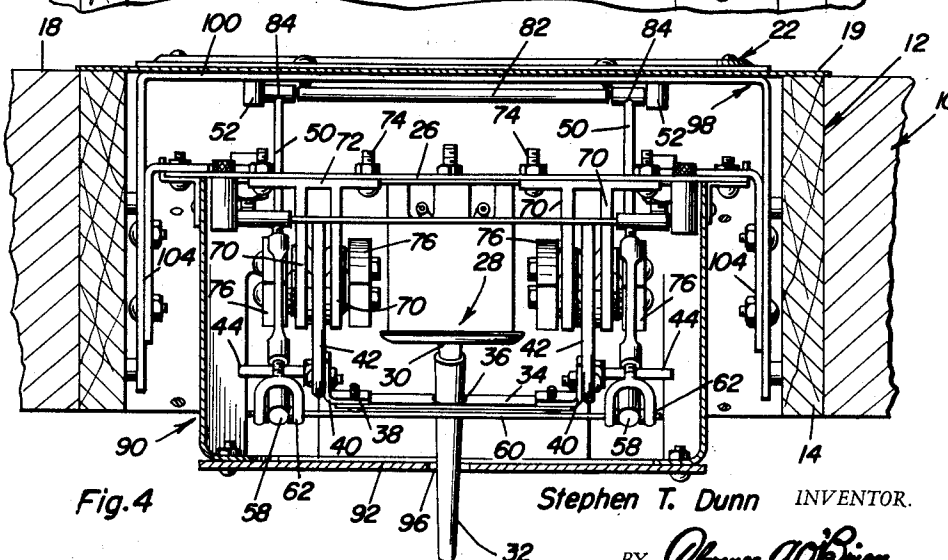


Fig. 4

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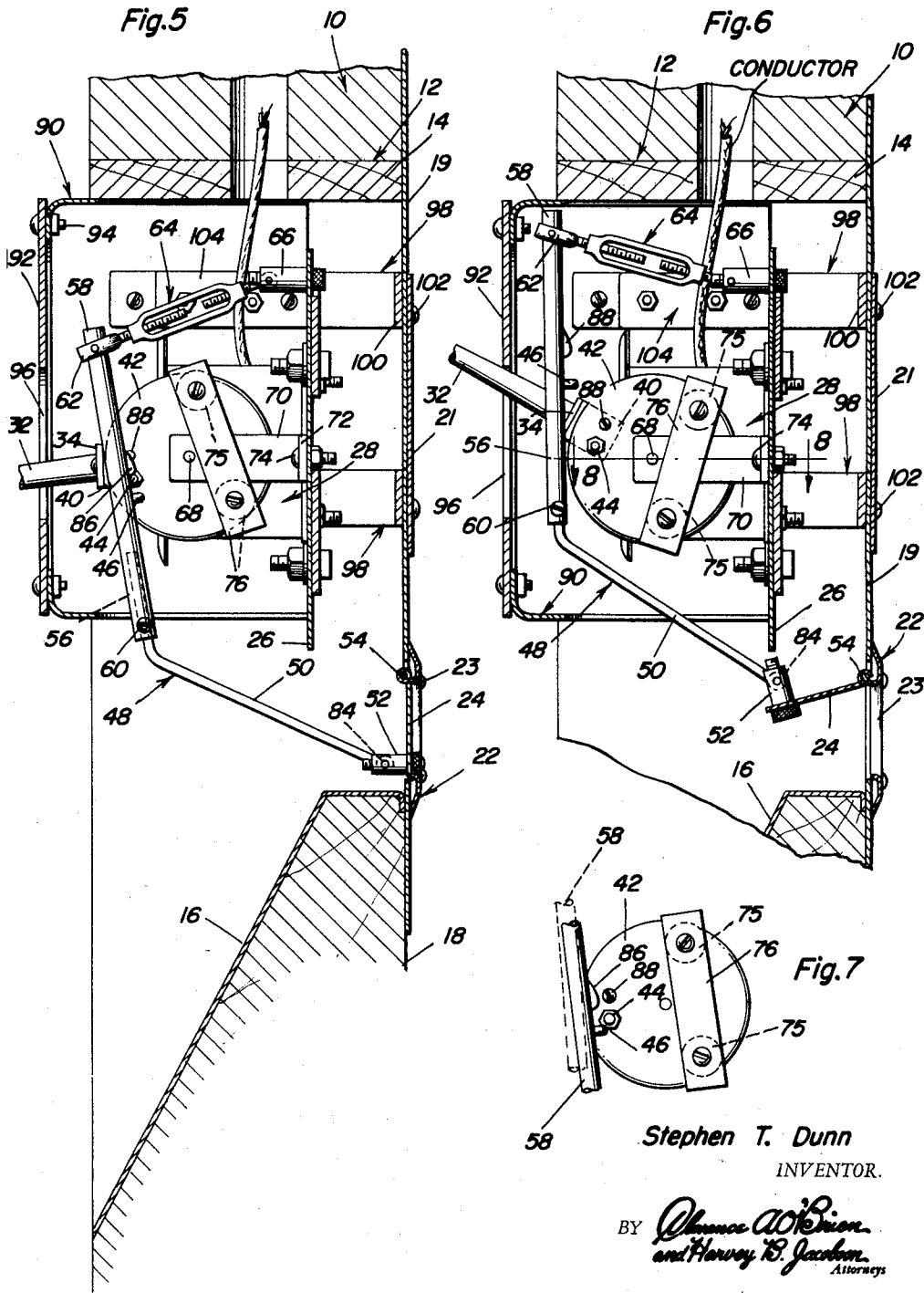
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2,945,219

## ELECTRICAL MAILBOX SIGNAL

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8 Claims. (Cl. 340—281)

The present invention relates to a mail delivery signal, preferably a suitable light which is adapted to be located in one's kitchen or some other place of vantage and which is automatically flashed on through the medium of a residential-type mail-drop or letter-slot which, as will be hereinafter evident, comes into play at the time mail is delivered by the mailman and which is adapted to function without in any manner delaying or inconveniencing the mailman.

More specifically, the concept has to do with a construction which is essentially mechanical and which does not in any sense of the word impose a needless duty or objectionable activity on the mailman. This is so because when pressing, or forcing magazines and other mail matter through the letter-drop-slot it is currently necessary to press the usual spring-retained shutter plate when doing so. Therefore, and insofar as the mailman is concerned he goes through the usual routine and is unaware of the presence of the invention and the fact that it automatically comes into play to flip a switch and, in so doing, turns the signalling light on. Furthermore and since the person who picks up the mail on the inside has to set the switch in order to turn the light off there is nothing whatsoever about the over-all invention which could be objected to by the mailman or the postal authorities, a condition which is usually and not aptly met in most mailbox signalling devices and inventions currently offered.

It follows that it is an object of the invention to provide a simple, practical and reliable mechanical-electrical invention which lends itself to practical utilization in conjunction with a simple type letter-drop-slot and shutter combination. It facilitates handling of mail by the mailman in the delivery of mail because the slotted plate and operable and closable shutter are made of brass and thereby makes the mailman's work easier and safer. It speeds the mailman's delivery thus enabling him to be more efficient. It saves time for the occupants of the house. That is to say, it will be no longer necessary for the person who is expecting mail to go to the door time and again since it will be unnecessary to make such trips until the signal light, comes into play to give the signal that the delivery of mail has been effected.

Another object of the invention is to provide an adaptation in this line of endeavor which is such in construction that neither the occupant of the house nor the mailman, will have any trouble, that is, under normal circumstances, because of the addition of the signalling means to the letter-drop-slot whether in a wall or similar surface. In carrying out the invention the parts adopted for practical association and use are such that they are readily available on the open market thus offering a saleable and usable invention to members of the public that will appeal to and be endorsed by manufacturers by reason of the fact that the parts may be assembled with requisite expediency and economically.

Considered more particularly and from a structural point of view a preferred embodiment of the invention

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is that shown and which is characterized, in part, by a conventional toggle-type silent operating switch, that is a unit which is self-contained and may be readily applied as such, requiring the electrician to merely connect leads to the contacts in the switch box and to carry the line to the kitchen or some other room in the house where the incoming mail delivery light signal has been or will be installed.

Novelty is also predicated upon the supporting of a toggle switch unit on a simple master panel which panel also carries the other principal parts. That is to say, a yoke is provided and connected with freely turnable weighted disks, said disks having outstanding lifting and starting pins which are contacted by abutments or equivalent elements on a pair of push-pull levers embodied in a suitable linkage construction effectually connected with the inner side of the flap or shutter carried by the aforementioned letter-drop-slot.

Other and more specific objects, features and advantages of the invention will become more readily apparent from the following description and subjoined claims.

In the drawings and wherein like numerals are employed to designate like parts throughout the views:

Fig. 1 is a view showing a fragmentary portion of a wall, or the like and looking at the exterior side and observing the face plate, name plate or tag thereon, and the frame and shutter components of the letter-drop, also a conductor connected with a signal lamp or an equivalent silent visible signal.

Fig. 2 is a perspective view observing the interior side and showing the handle or extension which is used for re-setting the device and turning off the light by the occupant of a house.

Fig. 3 is a view based on Fig. 2 and on a larger scale and showing the housing for the mechanism broken away and appearing in section and therefore illustrating, primarily in elevation, the various components of parts supported on the master panel.

Figs. 4 and 5 are sections on the lines 4—4 and 5—5 respectively of Fig. 3.

Fig. 6 is a view in section similar to Fig. 5 but showing the relationship of parts when the shutter or cover plate has been pushed into an open letter dropping position.

Fig. 7 is a detail view which brings out certain features to be hereinafter pointed out.

Fig. 8 is a detail section on the line 8—8 of Fig. 6. Fig. 9 is a section on the line 9—9 of Fig. 3.

It is to be understood that the invention will be normally mounted in a wall or other stationary support in an apartment house mailroom, for example. The wall is here denoted generally by the numeral 10. The recess or opening in the wall in which the invention is mounted for operation is denoted at 12 and this is suitably and marginally lined with a frame as at 14. There is an inclined chute or plate 16 built in to assist in sliding the letters and other parcels and mail into the interior of the building. The mail may be allowed to drop on the floor as is most commonly done or a special receptacle may be installed (not shown) for apartment house use. Referring again to the exterior surface 18 of the wall, the face plate or outside panel which is suitably decorative, say made of stainless steel or the like, is denoted at 19. It is secured to the frame members by fasteners 20. Also fastened on the face plate, in any suitable way, is a name plate 21.

The letter-drop-slot means comprises a common brass or equivalent frame 22 with a slot 23 normally covered by the interiorly disposed downwardly and outwardly swinging door or shutter 24.

Referring now to the interior construction, attention is first invited to a plate which can perhaps be best referred to as a master panel 26 because all of the essential com-

ponents or mechanical parts are assembled and mounted thereon. Of first significance is the switch means denoted generally by the numeral 28. It is to be pointed out that this part is a regular switch box with a cover plate and a toggle switch such as is now on the market. There are many types available but the one shown in the drawings is typical and acceptable. The finger-lever (sometimes called a button) which is normally used to throw the switch off and on is denoted at 30. In the instant situation an extension trip lever 32 is provided and this has a socket which fits over the main lever so that the same may be conveniently operated. It is desired that this switch be closed when the mail carrier or mailman pushes mail through the slot and opens the door or shutter 24. This is accomplished in the present arrangement by a switch lever or trip actuating device or actuator. A principal part of the actuating device is conveniently referred to as a yoke. In any event it comprises a yoke forming plate 34 which bridges the forward side of the switch and which has an opening 36 therein through and beyond which the lever tripping extension 32 extends. The end portions of this plate (forming the bight portion of the yoke) are fastened removably at 38 to L-clips 40 which clips in turn are fastened by bolts or otherwise to a pair of spaced parallel oscillating disks 42 (Fig. 4). These disks are provided on their vertical outer sides with outstanding actuating studs or pins 44. The pins 44 are engaged and forcibly tripped by cooperating trip lugs 46 (Fig. 7) mounted on the shutter operated push-pull levers each denoted generally by the numeral 48. One lever (alternatively, linkage means) is located on the right (Fig. 3) of the toggle switch 28 and the other lever or linkage means is located at the left thereof. Each lever embodies a pair of cooperating upper and lower links 58 and 50 respectively. The lower ends of the lower links 50 are bracketed or otherwise connected at 52 to the lower end portion of the shutter 24 which is hinged in place at 54 as illustrated. The upper ends of the links 50 are extended into axial sockets 56 provided therefor and the lower ends of the upper vertical links 58. A setscrew 60 serves to permit the two links 50 and 58 to be adjusted for exactness of operation whenever such adjustments are regarded as necessary during the installation or whenever repairs are to be made. In any event, each pair of links 50 and 58 provides a push-pull arm or lever which is under the control of the shutter or door 24. With further reference to this linkage construction the numeral 60 (Fig. 3) designates a cross-brace with which forks 62 (Figs. 5 and 6) on the turnbuckles 64 are connected. The right hand ends of the turnbuckles of Fig. 5 are bracketed at 66 on the upper portion of the master panel. This pivotal association of the turnbuckles with the panel 26 and push-pull levers permits the levers or linkage means, as an entity, to function in conjunction with the shutter in an almost obvious manner. More specifically and assuming that the shutter is closed, as seen in Fig. 5, when the mail carrier passes mail through the slot to drop it into the chute 16 the links 50 at the bottom are pushed up to the elevated position seen in Fig. 6. This in turn pushes up on the vertical links 58 and they in turn lift the cross rod or brace 60 and also the upwardly swinging hingedly mounted turnbuckles 64. Each link 58 is provided with the aforementioned trip lug and the trip lug comes and engages the outstanding pin 44 on one of the two spaced parallel disks and causes the disks, which are rotatably mounted, to rotate from the down (Fig. 5) to the up position Fig. 6. The fact that the yoke means is carried by the disks and the bight-bar 34 in the yoke is now brought into play it will be evident that the operation results in tripping the lever 32 automatically. To assist in making the parts operate with ease and with a minimum of pressure against the shutter 24 it will be obvious that counterweights are provided on the disks 42. However, and before describing same it is to be pointed

out that the disks are pivoted for rotation at 68 between arms 70 on brackets 72 which are fastened at 74 on the master panel 26. In addition each disk is provided with bar-like or block-like counterweights 76 which are disposed on opposite sides of the disks and do not collide, of course, with the arms 70. These are counterweights and it will be obvious that when once an impetus is given to the disks and the weights come into play, the weights swing the disks over automatically from left to right considering Figs. 5 and 6 respectively. It follows that these weighted disks virtually operate the yoke means automatically. The yoke in turn operates the extension 32 and consequently the toggle switch 30. Once the switch is turned on, it will be necessary, of course, for the attendant to return it to its normal or set position. This means that all that is necessary to do is to push down on the extension lever 32 which trips the yoke and returns the weighted disks to their intended normal or ready-to-operate positions.

Attention is also directed to the rubber bumpers denoted by the numerals 75 and which are arranged above and below the arms 70 so that when they occupy the positions seen they function as buffers or bumpers. They also silence the operation of the parts. In Fig. 1 the lower bumpers are shown engaging the lower edges of the arms 70. In the other position seen in Fig. 6 the upper bumpers are engaging the upper edges of the arms 70.

With reference to Fig. 3 the aforementioned brackets 52 are more in the nature of posts which are spaced apart and fastened suitably to the end portions of the shutter. These posts also support a cross rod 80, a spacing sleeve 82 and the rod provides for operating connection of the hinging bearings 84 on the ends that is the lower ends of the links 50. Thus, the linkage means is so constructed that the component parts operate with desired ease.

It is understood that as the door or shutter 24 is pushed in the linkage devices or levers 48 operate in the manner shown in these two figures. The trip lugs 46 engaging the outstanding lifting pins 44 serve to bring about the desired result. The links 58 are provided as seen in Fig. 7 with spring catches 86 which as seen in Fig. 5 exert a downward push on the pins 44 to regulate the cooperation of the parts and so that these catches will not interfere with the movement of the levers 48 from the position seen in Fig. 5 to that seen in Fig. 6 there is a spring depresser stud 88 provided eccentrically on each disk.

If desired and such is generally the case a housing or casing for the mechanism will be provided and this is denoted generally by the numeral 90 and is of suitable construction to fit over the parts and is suitably attached and supported on the master panel. The cover 92 of the casing as seen in Fig. 5 is removably bolted in place at 94. Slots are provided at 96 to permit passage therethrough of the extension lever 32.

In practice suitable hanger brackets are provided and the upper and lower brackets are of U-shaped form as shown in Figs. 5 and 6 and these brackets are denoted generally by the numerals 98. The bight portion 100 of the bracket is riveted or fastened otherwise as at 102. Auxiliary and cooperating support brackets 104 are provided to support the master panel. In other words the brackets 98 support the brackets 104 and the brackets 104 in turn support the insertable and removable master panel on which all of the main parts are assembled and mounted. This makes it easy to assemble, repair and adjust the various components which go to make up the over-all construction.

It will be obvious that in order to operate all that is necessary is to push, with a light pressure, an envelope or a post card against the openable and closable shutter. This will have the effect of operating the switch which turns on the light, said light being intended, of

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course, to be located in some convenient place within the premises. The light will remain on until the user goes to the mailbox picks up the mail and by manual operation pushes down the yoke by way of the lever extension 32. It becomes locked after the yoke has been pushed down by the user. This, of course, has the effect of turning the light off.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. In combination, a stationary wall having a mail delivery opening, a panel accommodating and mounting support secured in and lining the marginal walls of said opening, an exterior panel mounted on said support and spanning and covering said opening, said panel being provided with an opening, a frame superimposed on and secured to said panel, said frame having a mail slot and being provided with a hingedly mounted pressure opened shutter for opening and closing the slot, a visual remote controlled signal, a second panel supported on the interior of said first panel, a self-contained toggle-type switch mounted on an accessible interior side of said second panel, means providing an operating connection between the signal and switch, and an operating connection between the shutter and switch, said switch having an off and on trip lever, a yoke pivotally supported from said second panel, said yoke being operatively connected with said trip lever for tripping the lever to off and on positions, and adjustable push-pull lever means embodying operatively joined links operatively connected with the shutter and yoke respectively, whereby to automatically transmit motion imparted to the shutter, by way of the links, to said yoke and, alternatively, to transmit motion from the yoke to the shutter, when the yoke is manually and intentionally operated.

2. The structure defined in claim 1 and said yoke having an opening therein, an extension carried by said lever and extending through said opening.

3. In a construction of the class described, a relatively stationary support having a recess, an outer cover panel fixedly mounted on said support and provided with an opening having a mail slot frame and a hingedly mounted cooperating shutter normally closing the slot in said frame, an inner panel supported from said outer panel, a toggle-type switch supported from said inner panel, and an operating mechanical connection between the shutter and toggle switch, said operating connection embodying a yoke provided with an aperture to accommodate the usual trip lever embodied in said switch, said lever being provided with an extension extending through and beyond said aperture for use by the user in resetting the yoke and switch, and linkage means including an adjustable lever one end hingedly connected with the shutter and the other end hingedly supported from the inner panel, and an intermediate portion provided with a trip lug, said yoke having at least one weighted disk provided thereon and said disk having an outstanding trip pin with which said trip lug is alternately and releasably cooperable.

4. The structure defined in claim 3 and wherein said lever embodies an upper link, a turnbuckle connection between said upper link and inner panel, and a lower link, said lower link being oblique angled relative to said panels and having an upper end adjustably connected with the lower end of the upper link, and having a lower end hingedly bracketed to said shutter.

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5. For use in conjunction with a mail chute access opening in a wall provided for delivery of mail, mail delivery signalling means comprising an exterior panel adapted to be fixedly mounted on an exterior surface of the wall in registry with said opening, said panel having an opening, a mail-slot frame mounted on said panel and having a slot aligned and cooperating with said opening, a hingedly mounted closing shutter hingedly mounted on the inner side of said panel and cooperable with the slot in said frame, at least one U-shaped hanger bracket having a bight portion fastened on an interior side of the exterior panel, an inner master panel parallel to and spaced from said exterior panel and supported by said hanger bracket, a switch box mounted on said master panel and containing a toggle type switch and including a trippable operating lever provided with an extension to facilitate the operation of said operating lever, a pivotally mounted yoke, a pair of spaced parallel disks, said yoke bridging the space between and being operatively connected with said disks, brackets mounting said disks for rotation on said master panel, said disk being provided with counterweights and further provided with bumpers cooperable with the brackets, linkage means having operating connection with said shutter and including links having trip lugs cooperable with trip pins mounted on and extending outwardly from said disks.

6. In a construction of the class described, a master panel, a switch box operatively mounted on said panel and embodying a toggle switch, said switch having an operating lever, a remote signal light, an operating connection between the signal light and the switch box, brackets supported on said panel, a pair of spaced parallel disks mounted for rotation on said brackets, said disks being provided with counterweights and further provided with outstanding operating pins, a yoke attached to and bridging the space between said disks and having an opening through and beyond which an end portion of said lever extends, and operating means for said disks embodying a pair of push-pull levers, each lever having links, said links being adjustably connected together, there being upper and lower links and said lower links being adapted to be hingedly connected with an interior side of a closing shutter, and an adjustable and hinging connection between the upper links and upper portion of said master panel.

7. The structure defined in claim 6 and wherein said disks are provided on outwardly disposed sides with outwardly projecting trip pins, said upper links being provided with trip lugs movable in the path of operation of the trip pins and releasably engageable with the trip pins in a manner to impart movement to said disks and consequently to the yoke which bridges the space between and is operatively connected to the respective disks.

8. The structure defined in claim 6 and wherein said disks are provided on outwardly disposed sides with outwardly projecting trip pins, and said upper links being provided with trip lugs movable in the path of operation of the trip pins and releasably engageable with the trip pins in a manner to impart movement to said disks and consequently to the yoke which bridges the space between and is operatively connected to the respective disks, and, in combination, a housing attached to and carried by said panel and encasing and protectively enclosing the switch box, brackets, disks, yoke and push-pull levers.

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