F. J. OTTO.

ELECTRIC MAIL INDICATOR.

APPLICATION FILED APR. 1, 1918.

1,336,652. **Patented Apr. 13, 1920.**

Fig. 1.

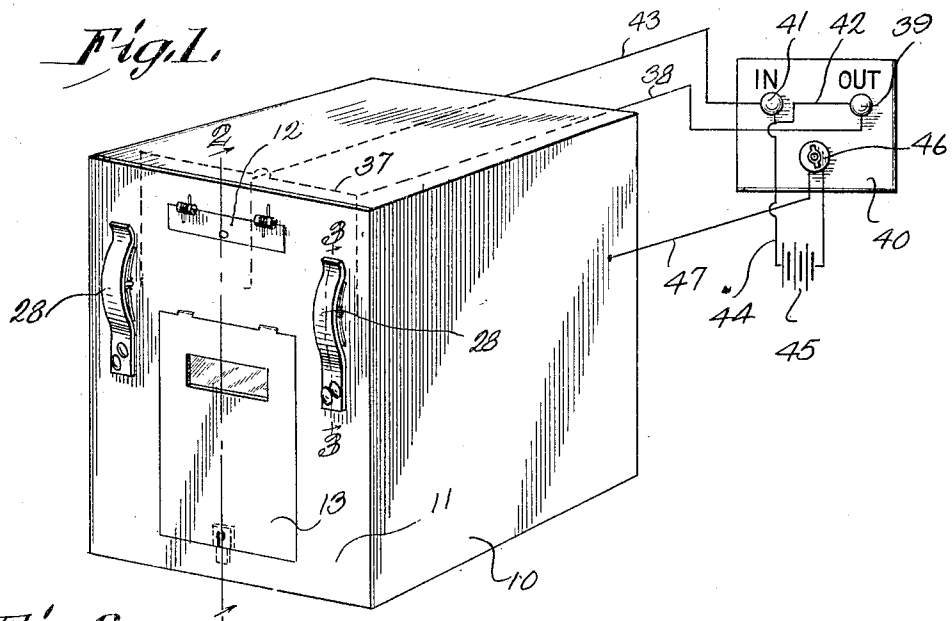


Fig. 2.

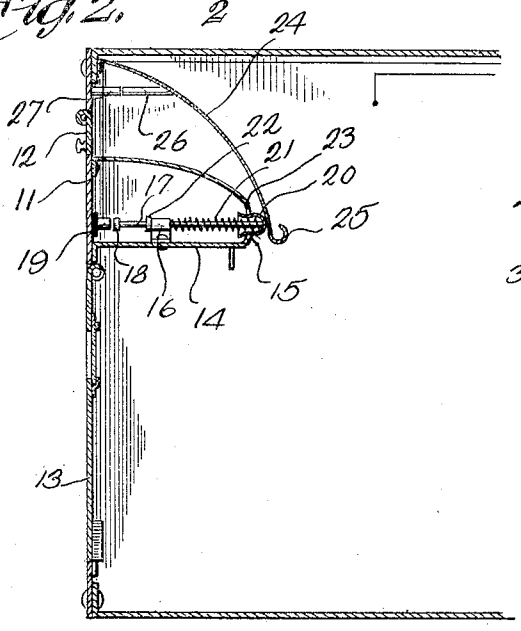
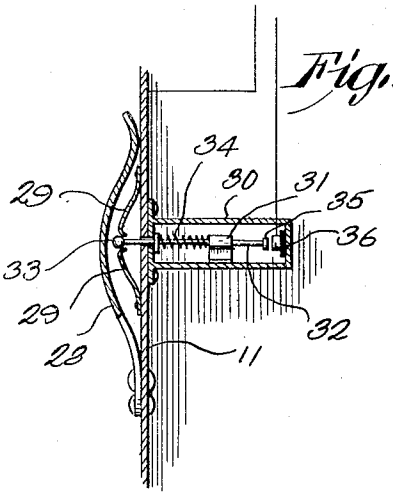


Fig. 3.



INVENTOR

Frank J. Otto,

WITNESSES

R. W. Hoagland

W. Seaman

BY *Richard Beaven.*

ATTORNEY

UNITED STATES PATENT OFFICE.

FRANK J. OTTO, OF DETROIT, MICHIGAN.

ELECTRIC MAIL-INDICATOR.

1,336,652. Specification of Letters Patent. Patented Apr. 13, 1920.

Application filed April 1, 1918. Serial No. 226,031.

To all whom it may concern:

Be it known that I, FRANK J. OTTO, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Electric Mail-Indicators, of which the following is a specification.

This invention has relation to mail receptacles, and the nature and objects thereof will be readily apparent to those skilled in the art to which this invention appertains, in the light of the following explanation of the accompanying drawings, illustrating what I now believe to be the preferred embodiment or mechanical expression of my invention, from among other forms and arrangements within the spirit thereof and the scope of the appended claims.

An object of the invention is to provide a mail receptacle for residences, apartment houses or the like, designed to be placed adjacent the point of entrance of the building, with a signal mechanism associated therewith to indicate at some remote point when mail has been inserted into the receptacle.

Another object of the invention is to provide a mail receptacle of the character above described including a container provided interiorly with a switch mechanism designed to close a circuit when mail is inserted in the box, a switch and audible or visible signals located at a remote point, and electrical connection between the signals, and container whereby the closing of the circuit by means of the switch at said remote point will actuate the signal in the event that mail has been inserted in the container to inform the operator to that effect.

Another object of the invention is to provide a mail receptacle having the characteristics above set forth and including in addition thereto means such as spring fingers located exteriorly of the container to receive and retain a piece of bulky mail, such as a magazine, newspaper or the like, with a switch mechanism actuable to close the circuit when the mail is inserted in a clip or clips to close a circuit with a signal of the character above set forth and electrical connections, operable in the same manner to indicate when mail has been delivered.

In addition to the foregoing my invention comprehends improvements in the details of construction and arrangement of the correlated parts to be hereinafter more fully described and particularly set forth in the appended claims.

In the accompanying drawings in which similar and corresponding parts are designated by the same characters of reference throughout the several views in which they appear:—

Figure 1, is a view in perspective of a mail receptacle constructed in accordance with my invention illustrating diagrammatically the wiring in connection with the signal mechanism.

Fig. 2, is a view in vertical section taken on line 2—2 of the immediately preceding figure, and

Fig. 3, is a detail vertical section taken on the line 3—3 of Fig. 1.

With reference to the drawings 10 indicates a casing which may be rectangular in configuration, provided in its front wall 11 with an opening adjacent its upper end normally closed by means of a spring held door 12, to permit mail to be inserted therein, said door closing automatically, after the mail is inserted. A large opening is provided in the front wall adjacent the lower portion closed by means of a door 13 whereby the mail may be removed from the container. The door 13 is held in place by means of any suitable locking mechanism, and is provided with an opening closed by a transparent material, to permit the interior of the container to be seen. Mounted upon the inner surface of the front wall 11 adjacent the upper opening is a horizontal supporting plate 14 having its rear edge curved upward slightly as at 15. Mounted upon the plate 14 is a bracket 16 in which is slidably held a longitudinally movable rod 17 carrying a contact 18 upon its forward end. A contact 19 for engagement by the contact 18 is mounted in insulated relation upon the inner surface of the wall 11 in closely spaced relation to said contact 18, and the rear end of the rod is provided with a spherical enlargement 20. A coil spring 21 is encircled about the rod and interposed between said spherical enlargement and the bracket 16 to nor-

mally urge the rod in a rearward direction, such movement being limited by means of a collar 22 mounted upon the rod. It will be noted that the upwardly curved edge 15 of the plate 14 is adapted to contact with the spherical member 20 and to normally engage the same in the groove thereof on the under side. A guide plate 23 is secured at its forward edge to the front wall 11 of the container, at a point just below the mail introducing opening, the rear edge of the plate 23 being then curved rearwardly and downwardly to engage the groove in the spherical member 20 on the upper side. It will be noted that the clamping action of the spherical member 20 is between the rear edges of the plates 14 and 23 and acts to retain the rod 17 in a rearward direction in addition to the force exerted for the same purpose by the spring 21. An arcuate spring plate or finger 24 is then provided, being secured at its forward edge to the front wall 11 at a point above the mail introducing opening, the opposite edge being curved downward and formed into a loop 25, with said looped end engaging the spherical member 20 to urge the rod 17 in a forward direction. The plate 24 is resilient, and its action to urge the rod 17 forward in the manner stated is limited by the engagement of a stud 26 carried thereby with a stop 27 mounted upon the front wall 11 of the container.

Mounted exteriorly of the casing upon the front wall 11 is a pair of horizontally spaced upwardly directed spring clips 28 whereby a piece of bulky mail such as a magazine may be inserted between the clips and the front wall of the casing and securely held in place by said clips. The clips are curved outwardly, and mounted beneath each clip upon the front wall 11 of the casing is a pair of spring guide members 29. The remote ends of said guide members 29 are secured by rivets or the like to the front wall of the casing, and their adjacent ends are directed in spaced relation away from the front wall of the casing and in spaced relation to each other, and then curved rearwardly slightly. A casing 30 is mounted upon the inner surface of the front wall 11 at a point in proximity to each spring clip 28, a bracket 31 being mounted in each casing to receive and guide a slidable rod 32, adapted to move in a horizontal plane. The forward end of the rod 32 projects through an opening in the front wall 11 of the casing, and between the adjacent ends of the guide springs 29, the extreme forward end of said rod being then provided with a spherical enlargement 33 normally in advance of the spring fingers 29 and behind which said spring fingers 29 engage. A coil spring 34 is encircled about the rod 32, and interposed between the bracket 31 and the inner surface of the casing 30 to also urge said rod forward. The rear end of the rod is provided with a contact member 35 adapted for engagement with a stationary contact 36 mounted in insulated relation upon the inner surface of the casing 30. Each spring clip 28 is associated with the mechanism of the character described, as shown in Fig. 3, and the insulated contacts 36 are connected together electrically by means of a conductor 37 as shown in Fig. 1. The conductor 37 is then connected by means of a lead 38 to an incandescent globe 39 or an audible signal as preferred. The signal member 39 is mounted upon a suitable base board 40, and also mounted on said base board is a second signal 41. Adjacent terminals of said signals 41 and 39 are connected together, as at 42, and the free terminal of the signal 41 is connected by means of a lead 43 to the stationary contact 19 described above, and shown in Fig. 2. The connected terminals or the conductor 42 is then connected to a lead 44 which leads to one pole of the source of current 45, the other pole being connected to a switch 46 of conventional type the other terminal of the switch being connected by means of a lead 47 to the casing 10 upon which it is grounded.

In use, it will be obvious that if the door 12 is opened, to permit the introduction of mail, as soon as mail is introduced, it must pass beneath the spring plate 24, and engage the spherical head 20 of the rod 17. Because the resistance to movement of the spring member 24 is greater than the resistance to movement of the resilient members urging the rods 17 rearwardly, said rod 17, is urged forward thereby causing the plates 23 and 14 to spread apart and again move together after the spherical head 20 has passed therebetween. The contact member 18 will then be brought into engagement with the contact member 19, and retained in contacting engagement. The mail is then permitted to pass into the container by the introduction of other mail, or may fall thereinto by its own weight. If bulky mail is to be delivered of a size incapable of entrance into the opening, it is engaged behind the clips 28. The act of inserting the mail behind said clips will press the rod 32 inward by engagement of the mail with the spherical head 33, the spring members 29 separating slightly to permit the spherical member to pass therebetween. The rearward movement of the rod 32 will engage the contacts 35 and 36 in both instances and will be retained in such engagement. If the switch 46 is in an off position, obviously no circuit will be completed by engagement of the contact in the manner mentioned above. The occupant of the residence may deter-

mine whether or not the container is supplied with mail by closing the switch 46. If mail has been introduced interiorly of the container, obviously a circuit will be completed beginning at the source of current 45, passing through the conductor 44, signal 41, lead 43, contact 19, contact 18, casing 10, returning through the lead 47, and switch 46 to the source of current. The base board 40 may be supplied with the word "In" adjacent the signal 41 whereby the energization or operation of the signal 41 by the completion of the circuit just stated will indicate to the operator that the mail has been inserted interiorly of the container. If bulky mail has been delivered, and has been inserted behind the clip 28, it will be obvious that a circuit will be completed beginning at the source of current, traversing the conductor 44, conductor 42, signal 39, lead 38, conductor 37, contact 36, contact 35, casing 10, returning through the lead 47 to the switch 46 and the source of current 45. The signal 39 may be named "Out" to indicate that mail is located exteriorly of the box. Obviously, if mail has been both introduced and also disposed behind the clip 28, the fact will be made known by the simultaneous energization of both signals 39 and 41. When the mail is removed from the container or from behind the clip 38, the mechanism should be reset. To this end, the hand is inserted through the large opening of the mail box when the door 13 is opened, and the plate 14 pulled downward slightly under its own tension, which will be sufficient to release the rod 17, the spring 21 urging the rod rearwardly to dispose the spherical enlargement 20 rearwardly of the plates 14 and 23 for a subsequent actuation. The same thing is done with regard to the other switch members, the spring fingers 29 behind the spring clip 28 being moved outward slightly by any suitable means sufficient to permit the rods 32 to be urged forwardly by the springs 34. The switch controlling the point of entrance of the container should be set or the contact 19 should be so spaced, that the introduction of a thin piece of mail such as a postcard may be sufficient to close the contact.

Thus it will be seen that I have provided a mail container of a new and novel character which will result as very convenient to occupants of tall buildings, such as hotels, apartment houses or the like, thereby precluding the necessity of travel to and away from the mail box to determine whether or not mail has been delivered. The mechanism it will be noted is extremely simple in construction and will therefore be positive in operation.

The foregoing description and the drawings have reference to what may be considered the preferred, or approved form of my invention. It is to be understood that I may make such changes in construction and arrangement and combination of parts, materials, dimensions, et cetera, as may prove expedient and fall within the scope of the appended claims.

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

1. A circuit closer adapted for use with a mail receptacle having a mail receiving opening, a slidably mounted member, a fixed contact, a movable contact carried by the said slidably mounted member, a spherical member carried by the said slidably mounted member, resilient members engaging opposite sides of the spherical member, whereby engagement of the mail, when entering the receptacle, with the spherical member will urge said slidably mounted member to a position to cause the contacts to engage each other, said resilient members separating to permit the said slidable member to pass the adjacent ends of the said resilient members to retain the contacts in engagement until released.

2. A circuit closer adapted for use with a mail receptacle having a mail receiving opening, a slidable rod, a contact carried thereby, a stationary contact, a spherical member carried by the rod, resilient plates engaging opposite sides of the spherical member, a guide member to insure engagement of mail with the spherical member when entering the box whereby to urge the rod to close the contacts, said spring plates separating to permit the spherical member to pass by, and resilient means engaging the rod to urge the same to a position to open the contact.

3. A circuit closer adapted for use with a mail receptacle having a mail receiving opening, a slidable rod, a contact carried thereby, a stationary contact, a spherical member carried by the rod, a spring plate engaging the spherical member at one side, a combined guide and spring member located adjacent the opening to engage the other side of the spherical member, means to insure contact of mail when entering the box with the spherical member to move the rod in a position to close the contact, and resilient means engaging the rod to urge the same in a position to open the contact.

4. A circuit closer adapted for use with a mail receptacle having a mail receiving opening, spring plates mounted interiorly thereof, a bracket carried by one of the plates, a rod slidably mounted in the bracket, a contact carried by the rod, a stationary contact, a spherical member carried by the rod, said spring plate engaging the spherical member at one side thereof, a combined

guide and spring plate secured at a point adjacent the opening and engaging the other side of the spherical member, a second spring guide secured at a point adjacent the opposite side of the mail receiving opening, engaging at its opposite edge the spherical member to urge the same toward a positon to close the contact, and resilient means surrounding the rod to urge the same toward a position to separate the contact.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK J. OTTO.

Witnesses:

PAUL M. SCHMIDTKE,

LOUIS T. SCHIAPPACASSE.