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E. W. PFAFFENBERGER

1,744,333

MAIL BOX SIGNAL SWITCH

Filed Sept. 15, 1928

Fig. 1.

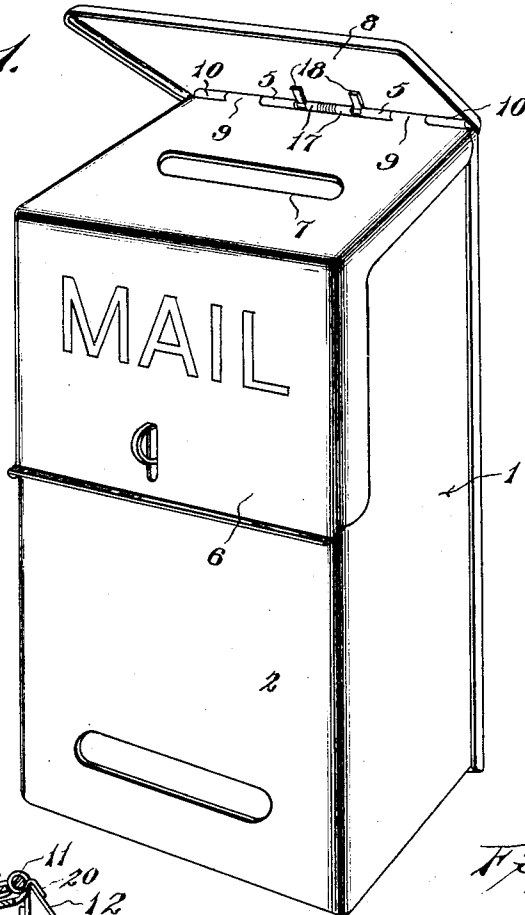


Fig. 2.

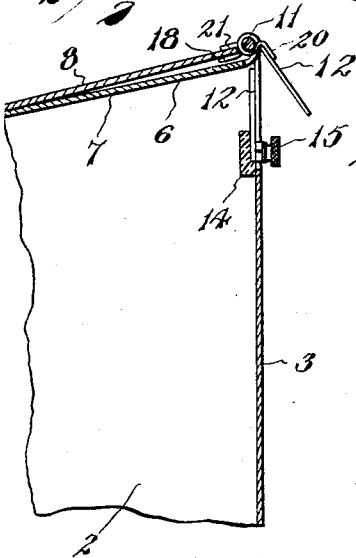


Fig. 4.

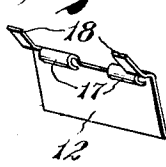
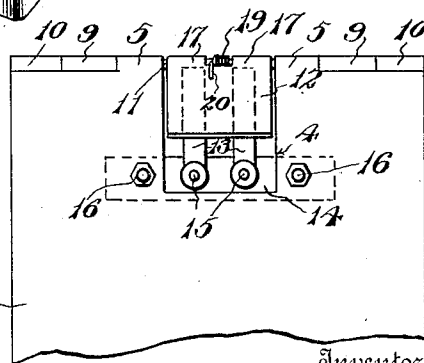


Fig. 3.



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MAIL-BOX SIGNAL SWITCH

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This invention relates to a mail box and more particularly to circuit closing means carried by the box and by means of which a circuit through an electrically operated bell or the like may be closed when a closure for the mail box is moved to an open position in order to allow mail to be inserted and thereby indicate that mail has been placed in the mail box.

Another object of the invention is to provide the mail box with a circuit closer which will only be closed when a closure for the mail box is opened and to further so form a closure engaging element of the circuit closer that when the mail box closure is opened a spring mounted upon a hinge pin for the closure and having portions bearing upon the closure and movable element of the circuit closer, will be placed under tension and insure return of the mail box closure to a closed position.

Another object of the invention is to provide the movable element of the circuit closer with portions which engage the mail box closure and cause the movable element of the circuit closer to be swung away from stationary elements carried by the mail box when the closure of the mail box is closed.

The invention is illustrated in the accompanying drawing, wherein:

Figure 1 is a perspective view of a mail box having the improved circuit closer applied thereto.

Figure 2 is a sectional view taken through the upper portion of the mail box with the closure, shown open in Figure 1, moved to its closed position.

Figure 3 is a view showing the upper portion of the mail box in rear elevation.

Figure 4 is a perspective view of the movable contact element of the circuit closer.

The mail box which is indicated in general by the numeral 1, is of a conventional construction and includes a receptacle or body portion 2 having a rear wall 3 formed with a recess 4 leading from its upper edge between

hinge ears 5. The receptacle is open at its upper end and this open upper end of the receptacle is adapted to be closed by a main closure 6, which closure is formed with a letter passage 7 in its upper portion and in order to prevent rain from passing inwardly through the opening 7, there is provided the usual auxiliary closure 8. Hinge ears 9 and 10 project from the rear edges of the closures 6 and 8 and align with the hinge ears 5 so that a pivot pin 11 may be passed through the ears in order to mount the closures for swinging movement into and out of closed position. It will thus be seen that the mail box is of a conventional construction except for the recess 4 formed in the upper portion of its rear wall.

The circuit closer, by means of which a circuit is to be established through a bell or other signal located within a house, includes a movable contact or bridge plate 12 and stationary contacts 13. The stationary contacts, which are formed from strips of resilient metal, are disposed in spaced relation to each other longitudinally of an insulating strip or bar 14 and secured thereto by bolts 15 constituting terminals to which wires of a bell circuit are to be secured in the usual manner. The supporting bar is secured against the inner face of the rear wall 3 by securing bolts 16 and its intermediate portion having the contacts 13 secured thereto extends across the lower portion of the recess with the contacts extending upwardly therefrom, as shown in Figures 2 and 3, and since the contacts are insulated from each other, the circuit will be open until the stationary contacts are engaged by the movable bridge plate 12.

This bridge plate 12 is of less width than the recess 4 so that it may be moved into the recess for engagement with the stationary contacts and at the upper end of the bridge plate there has been provided hinge ears 17 spaced from each other as shown in Figure 4, and tongues 18, between which the hinge ears 17 are located. The hinge ears 17 are engaged

with the portion of the pivot pin which extends across the upper end of the recess and the tongues 18 project forwardly for engagement with the under surface of the auxiliary closure 8. It will thus be seen that when the auxiliary closure is swung downwardly to a shut position its engagement with the tongues 8 will cause the bridge plate to be swung rearwardly and held out of engagement with the stationary contacts 13. Therefore, when the closure is in its normal position the circuit will be broken and the signal bell will remain silent. This bridge plate is loosely engaged with the pivot pin and upon the pivot pin between the hinge ears 17 is disposed a coiled spring 19 having at one end an extension or arm 20 bearing against the rear face of the baffle plate and at its other end a similar arm or extension 21 which bears against the upper surface of the auxiliary closure. By this arrangement, upward movement of the auxiliary closure, either independent of or together with the main closure, will cause the auxiliary closure to act against the arm 21 and cause the spring to turn about the pivot pin so that the depending arm 20 will apply pressure against the bridge plate and swing the bridge plate downwardly and forwardly until it bears against the spaced contacts 13. Continued upward movement of the auxiliary closure after the bridge plate contacts with the stationary contact strips will cause the spring to be wound and thereby placed under tension so that when the closure is released after mail has been placed in the mail box the spring will cause the closure to be moved downwardly toward its closed position. As the auxiliary closure swings downwardly towards closed position, pressure against the arm 21 will be removed and since the auxiliary closure bears against the tongue 18 the bridge plate will be swung rearwardly to the inoperative position shown in Figure 2.

From the above it will be readily understood that when the auxiliary closure is moved upwardly in order to place mail in the mail box, the signal bell will ring during the time the bridge plate is in engagement with the spaced contact strips and as soon as the closure moves downwardly to a closed position after mail has been deposited in the mail box, the circuit will be broken and ringing of the bell discontinued. By this arrangement a signal will be sounded whenever mail is placed within the mail box and it will not be necessary for a person to go to the door in order to see if mail has been deposited by the letter carrier. It should be noted that the strips 13 not only constitute stationary contacts to be bridged by the bridge plate 12, but also constitute abutments which limit the forward swinging movement of the bridge plate and thereby insure tensioning of the spring so that when the closure has been swung upwardly it will be urged towards a closed position

and there will be no danger of its becoming hung and not closing properly. This prevents the batteries from being wasted by continued ringing of the signal bell after mail has been deposited in the mail box. In view of the fact that the auxiliary closure which is engaged by the tongues 18 and arm 21, is disposed over the main closure 6, upward movement of the main closure in order to place mail in the box which will not pass through the letter passage 7 will cause the auxiliary closure to be swung upwardly and therefore the signal will be sounded when either the main or the auxiliary closure is opened.

What is claimed is:

1. A mail box comprising a receptacle open at one end, a closure for the open end of said receptacle hinged to one wall of the receptacle, stationary contacts carried by the receptacle and including contact strips spaced and insulated from each other, a bridge pivoted adjacent said contact strips, abutment means projecting from said bridge for engagement with said closure to swing the bridge away from the contact strips when the closure is shut, and a spring engaged with the closure and bridge acted upon to move the bridge into engagement with the contact strips when the closure is opened and serving to urge the closure toward a closed position when opened.

2. A mail box comprising a receptacle open at one end, a closure for the open end of said receptacle hinged to one wall of the receptacle, stationary contacts carried by the said wall and including contact strips spaced and insulated from each other, a pivotally mounted bridge, said bridge having engagement with the closure to retain the same spaced from the contact strips when the closure is shut, and resilient means engaged with the closure and bridge to move the bridge into engagement with the contact strips when the closure is opened and urge the opened closure towards a closed position.

3. A mail box comprising a receptacle open at its upper end, a closure for the upper end of said receptacle hinged to the rear wall of the receptacle, the said rear wall having a recess therein, stationary contacts carried by the rear wall and including insulated contact strips spaced from each other and extending into the recess, a bridge pivotally mounted and extending downwardly for engagement with the contact strips, the closure having engagement with a portion of the bridge to hold the bridge spaced from the contact strips when the closure is shut, and yieldable means engaged with the closure and bridge to move the bridge into engagement with the contact strips when the closure is opened and urge the closure toward a closed position.

4. A mail box comprising a receptacle open at its upper end, a closure for the upper end of said receptacle hinged to the rear wall of

the receptacle, the said rear wall having a recess therein, stationary contacts carried by the rear wall and including insulated contact strips spaced from each other and extending into the recess, a bridge pivotally mounted and extending downwardly for engagement with the contact strips, the closure having engagement with a portion of the bridge to hold the bridge spaced from the contact strips when the closure is shut, and means actuated by the closure to move the bridge into engagement with the contact strips when the closure is opened constituting means to urge the closure toward a closed position when opened.

In testimony whereof I affix my signature.

EDWARD W. PFAFFENBERGER. [L. S.]

5. A mail box comprising a receptacle open at its upper end and having its rear wall formed with a recess leading from its upper edge, a closure for the upper end of said receptacle, the closure and rear wall of the receptacle having hinge ears at opposite sides of the recess, a hinge pin passed through said ears to pivotally mount said closure and extending across the upper end of the recess, a mounting bar extending across the lower portion of the recess, stationary contact strips carried by the mounting bar and extending upwardly therefrom within the recess in spaced relation to each other, a bridge for said contact strips pivoted to said hinge pin and extending downwardly therefrom to enter the recess and bear against said stationary contacts in bridging relation thereto, means projecting from said bridge for engagement by said closure to swing the bridge out of engagement with the contacts when the closure is shut, and a spring loose upon the hinge pin and having portions engaged with the closure and bridge to cause tensioning of the spring and move the bridge into engagement with the contacts when the closure is swung upwardly to an open position.
6. A mail box comprising a receptacle open at its upper end and having a recess leading from the upper edge of its rear wall, a main closure for the upper end of said receptacle formed with a letter passage, an auxiliary closure disposed over the main closure for closing the letter passage thereof, hinge ears at the upper end of the rear wall of said receptacle and at the rear edges of said closures, a hinge pin passed through said ears to pivotally mount the closures, an intermediate portion of the hinge pin being exposed between ears of the receptacle and extending across the upper end of the recess, an insulating strip extending across said recess, contact strips secured to said insulating strip and extending upwardly in the recess in spaced relation to each other, a bridge plate pivoted upon the exposed portion of said pivot pin and of dimensions to enter the recess and bear against said contact strips, tongues extending upwardly from said bridge plate to engage the under surface of