E. C. GINGRICH.

POST BOX SIGNAL.

APPLICATION FILED FEB. 10, 1908.

**918,530.** Patented Apr. 20, 1909.

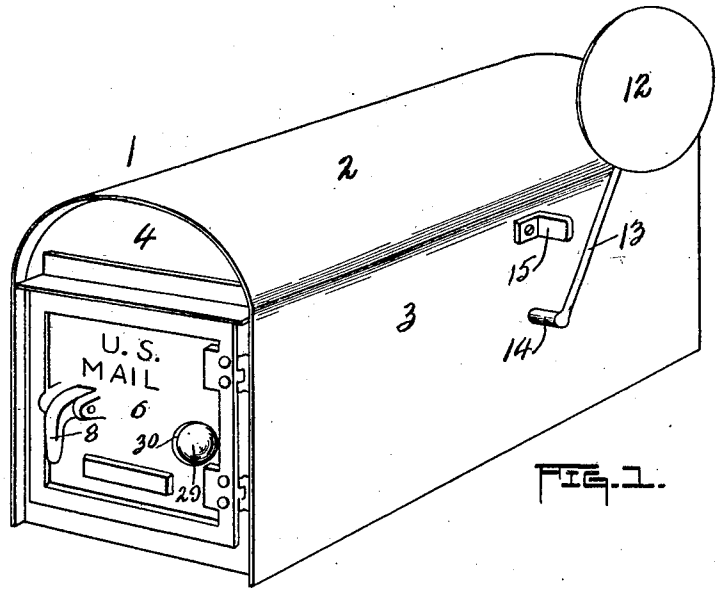
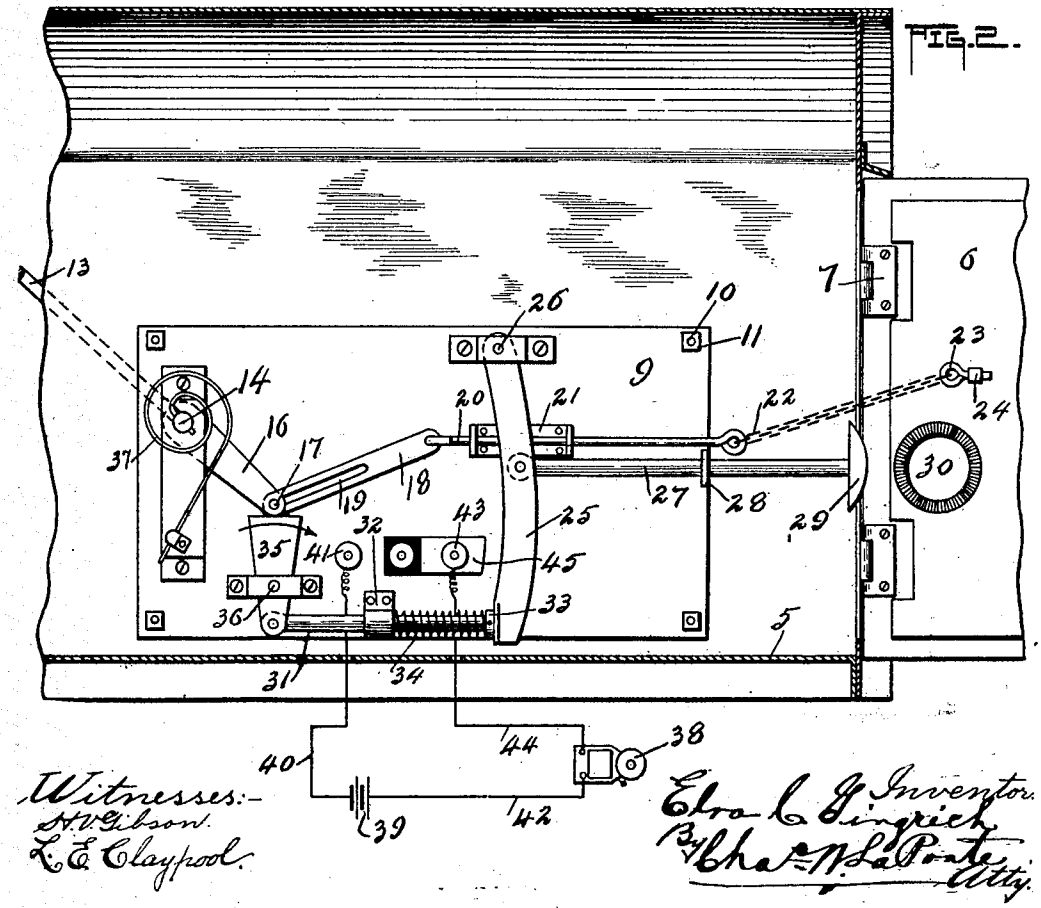



FIG. 1.

FIG. 2.




Witnesses:-
H. V. Gibson.
L. E. Claypool.

Inventor.
Elroe C. Gingrich
By Chas. P. LaPorte
Atty.

THE NORRIS PETERS CO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

ELVA C. GINGRICH, OF TOULON, ILLINOIS.

## POST-BOX SIGNAL.

No. 918,530. Specification of Letters Patent. Patented April 20, 1909.

Application filed February 10, 1908. Serial No. 415,043.

*To all whom it may concern:*

Be it known that I, ELVA C. GINGRICH, a citizen of the United States, residing at Toulon, in the county of Stark and State of Illinois, have invented certain new and useful Improvements in Post-Box Signals; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention has reference to mail-box signals and has for its object a signal, such as a target or flag which is operated through suitable mechanism by the postman when mail is deposited by him in the mail-box and also to a signal, such as an alarm, in the residence, which is sounded simultaneously with the operation of the target or flag.

For a further and full description of the invention herein and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result, reference is had to the following description and drawings hereto attached.

While the essential and characteristic features of the invention are susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which:—

Figure 1 is a perspective view of a mail-box, with my improvements attached thereto, and Fig. 2 is an enlarged partial longitudinal sectional view of the box, showing the door open and in elevation the mechanism within the box, which, when operated simultaneously, sets the target or flag, and sounds the alarm; the alarm and connections being diagrammatically illustrated in connection with the figure.

Like numerals of reference indicate corresponding parts throughout the figures.

In the drawings, the box is referred to generally as 1, having the oval top 2 vertical sides 3, ends 4 and bottom 5, which may be made of sheet metal or other suitable material, and one end is provided with a door 6 hinged as at 7 with a latch 8 arranged in a suitable manner for retaining the door closed and capable of being caught hold of by the postman or other person, for releasing the same when it is desired to open the door for gaining access to the interior of the box.

On the inside of the box and secured preferably to one of the side walls thereof is a supporting plate 9, to which is attached the mechanism to be described, which, when operated, imparts motion to the signal, such as the flag or target and also sounds the alarm in the residence. This plate is preferably detachable from the box by being secured therein by means of threaded studs or bolts 10 engaged by the nuts 11 as shown, making it possible to remove or replace the plate and its attached mechanism whenever it is deemed advisable.

The signal, that is the flag or target, operatively connected to the box, is indicated as 12, and may be of any desired configuration and colored if desirable; the same being attached to the outer end of a rod 13 secured at its opposite end to a short spindle 14 projecting through the side of the box and also through the plate 9, in which it has a bearing. The rod when operated in a manner to be described, is thrown into a vertical position and when assuming such position, engages a lip or extension 15 attached to or projecting from the side of the box, as shown.

Connected with the spindle 14 on the inside of the box, is a crank-arm 16 which, at its opposite or lower end is pivotally connected at 17 with a bar 18; said bar provided with a longitudinal slot 19 to enable the crank-arm to have a slidable relation therewith, when the flag or target is operated, and the outer end of the bar 18 has attached thereto a reciprocally supported rod 20 having a bearing in a bracket 21 secured to the plate 9, and to the outer end of said rod 20 is attached a chain 22, or other suitable flexible member which is in turn secured to the door, preferably, through an eye 23 adjustably connected with a threaded lug or extension 24 of the door.

A lever or swinging arm 25 pivoted at 26 to the plate 9 has pivotally attached thereto approximately midway of its length a plunger bar or rod 27, which passes through and has a sliding bearing in an ear or extension 28 of the plate and on its outer end is provided with a button or head 29, which, when the door is closed, as shown in Fig. 1 coincides with an opening 30 in the door, so that the button or head 29 of the plunger rod may be engaged after mail has been deposited in the box and the door closed, for throwing the flag or target and sounding the alarm. The lower end of the lever or swinging arm 25 normally engages one end of a reciprocally supported rod 31 having a sliding bearing in a lip or extension 32 of the plate

9. On the engaging end of said rod 31 is a collar or head 33 and on the rod between the collar or head 33 and the lip or extension 32 of the plate 9 is carried a spring 34 for yieldingly holding the rod 31 in that position shown in Fig. 2, and for returning it to that position after it has been operated and released. To the opposite end of the rod 31 is pivotally connected a stop-block 35 which is fulcrumed at 36 to the plate 9, and its upper end is normally in that position shown in Fig. 2 with the lower pivoted ends of crank-arm 16 and bar 18 engaging and resting thereon, remaining in that position with the flag or target, locked in inoperative position, until the plunger rod 27 is operated by pushing on the button or head 29, when the rod 31 is reciprocated under pressure of the lever or swinging arm 25 which will cause the stop-block 35 to be oscillated in the direction of the arrow in Fig. 2, riding from beneath and releasing the crank-arm 16 and bar 18, which assisted by a spring 37 in operative connection with the spindle 14, will rock said spindle and throw the flag or target 12 into an upright or vertical position, indicating that mail has been deposited in the box.

I have provided in connection with the mechanisms just described, an alarm, to be placed in the residence and operated through electrical connections with the box so that in the event the box should be so placed with respect to the location of the residence and to obviate the necessity of a person having to place himself in a line of vision of the box to see if the flag or target has been thrown, which will be an indication that mail is in the box.

In Fig. 2 an alarm-bell indicated as 38 may be suitably placed in the residence in connection with the usual battery indicated as 39. Leading from the battery is an electrical conductor 40 having connection with a post 41 in the box 1 and also leading from the battery 39 to the bell is a conductor 42 and leading from the bell to a post 43 insulated from the box 1 is a conductor 44. Associated with the post 43 and also insulated from the box 1 is a contact plate 45 which is adapted to be engaged by the lever or swinging arm 25, when the plunger rod 27 is projected inwardly which will complete the circuit through the box to the battery and bell and ring said bell, which alarm is an indication that mail has been deposited in the box. It will be seen that the circuit is completed when the lever or swinging arm 25 engages the plate 45, which is simultaneous with the release of crank-arm 16 and bar 18 upon the oscillation of the stop-block 35 in manner explained.

A person upon opening the door 6 to gain access to the box for taking possession of the mail therein, draws the rod 20 forward through the action of the chain 22 which is operated by the door and in so doing will raise the crank-arm 16 and bar 18, releasing the stop-block 35 which will be returned by the spring 34 to that position shown in Fig. 2, and the crank-arm 16 upon being raised will rock the spindle 14, throwing the flag or target into inoperative position.

Having thus fully described my invention, what I claim and desire to secure by Letters Patent of the United States, is:—

1. A mail-box having a hinged door provided with an opening, a target pivotally supported on said box, a plunger bar capable of being operated by engagement of said bar through the opening in the door, mechanism for locking the target in an inoperative position, means operated by said plunger bar for releasing the target locking mechanism, and operating connections between the door and said locking mechanism for operating said locking mechanism upon the opening of the door for throwing the target into inoperative position.

2. A mail box having a hinged door provided with an opening, a target pivotally supported on said box, a plunger bar having a head normally coinciding with the opening in the door and engaged through said opening for operating said plunger, a lever connected with said plunger, mechanism for locking the target in an inoperative position, means interposed between said lever and said locking mechanism, adapted to be operated by the lever upon moving the plunger inwardly for releasing said target locking mechanism; whereby the target is thrown into an upright position, and connections between the door and said target locking mechanism capable of being operated when the door is opened for throwing said target into inoperative position.

3. A mail-box provided with a hinged door having an opening, a target pivotally supported on said box, a crank-arm connected with said target, locking means for holding the crank-arm and target in inoperative position, a plunger bar reciprocally mounted in the box and capable of being operated by engagement therewith, through the opening in the door, means operated by said plunger for releasing the locking means, whereby said target may assume an upright position, and connections between said door and said crank-arm of the target for throwing the target into inoperative position, when the door is opened.

4. A mail-box having a hinged door provided with an opening, a target pivotally supported on said box, a plunger bar having a head normally coinciding with the opening in the door whereby said plunger bar may be operated by pressure upon the head through said opening, means releasable through the operation of the plunger bar for locking the

target in inoperative position, and connections operable by the opening of the door for throwing said target to inoperative position.

5. A mail-box having a hinged door provided with an opening, a target pivotally supported on said box, a crank-arm connected with said target, a bar pivotally connected with said crank-arm, releasable means for locking said crank-arm and bar whereby the target is held in inoperative position, a spring for throwing the target to operative position when said locking means is released, means disposed coincident with the opening in the door, and capable of being engaged for operation through said opening for releasing said locking means, and means operable by opening the door for actuating the crank-arm and bar and throwing the target to inoperative position.

6. A mail-box having a hinged door provided with an opening, a target pivotally supported on said box, a crank-arm connected with said target, a bar pivotally connected with said arm, a lock-block for holding the crank-arm, bar and target in inoperative position, a spring for throwing the target to operative position upon the release of said lock-block, a plunger bar having a head normally coinciding with the opening in the door, means operable by the operation of said plunger bar for releasing said crank-arm and bar connected therewith, and means operated by opening the door for throwing the target to inoperative position.

7. A mail-box having a hinged door provided with an opening, a target pivotally supported on said box, a crank-arm connected with said target, a bar pivotally connected to have a slidable relation with said arm, a lock-block normally holding the arm and bar in inoperative position, a spring for throwing the target to operative position upon the release of the lock-block, a lever, means operative by engagement of the lever for releasing the lock-block, a plunger bar operatively connected with said lever and provided with a head normally disposed coincident with the opening in the door, and flexible connections between the first mentioned bar and said door, whereby when said door is opened, said target is thrown to inoperative position.

8. A signal for mail-boxes, comprising a target operatively connected with said box and an electrical alarm, an electric circuit in which the box and alarm are included, means for locking the target in inoperative position manually operated means for releasing the target locking means, whereby said target may be thrown to operative position, said last mentioned means also capable of completing the electric circuit for sounding the alarm simultaneous with the throwing of the target.

9. A signal for mail-boxes, comprising a target operatively connected with said box and an electrical alarm, an electrical circuit in which the box and alarm are included, means for locking the target in inoperative position manually operated means for releasing the target locking means, whereby said target may be thrown to operative position, said last mentioned means also capable of completing the electric circuit for sounding the alarm simultaneous with the throwing of the target, and means operable when the door of the box is opened for throwing the target to inoperative position.

10. A signal for mail-boxes, comprising a target pivotally supported on said box, mechanically operated means for throwing the target to operative position, an alarm, an electric circuit including the alarm, having as one terminal the box and the other a plate insulated from said box, and a contact in said mechanically operated means adapted to engage said insulated terminal in the box and complete the circuit for sounding the alarm simultaneous with the throwing of the target.

11. A signal for mail-boxes, comprising a target pivotally supported on said box, means for locking the target in inoperative position manually operated means for releasing the target locking means, whereby said target may be thrown to operative position, an alarm, an electric circuit including the alarm, having as one terminal the box and the other a plate insulated from said box, a contact associated with said manually operated means adapted to engage said insulated terminal in the box and complete the circuit for sounding the alarm simultaneous with the throwing of the target, connections between the door of the box and said target locking means, for throwing the target to inoperative position when said door is opened, and means for automatically separating the contact from the insulated terminal for breaking the circuit simultaneous with the throwing of the target to inoperative position.

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

ELVA C. GINGRICH.

Witnesses:
CHAS. W. LA PORTE,
LAURA E. CLAYPOOL.