
To all whom it may concern:

Be it known that I, CLARENCE L. WHEELER, a citizen of the United States, residing at Monroe, in the county of Green, State of Wisconsin, have invented certain new and useful Improvements in Mail-Box Attachments; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same:

My invention relates to new and useful improvements in mail boxes, and more especially to devices for opening and closing the lids thereof and the object of my invention is to provide a device adapted to be actuated by the passage of the mail wagon to both open and close the lid of the mail box without necessitating any work upon the part of the mail carrier.

A further object of my invention is to provide means whereby the lid is opened by the action of the forward wheel of the mail cart and in which the lid remains open until again acted upon by the passing of the rear wheel of the cart. And a still further object of my invention is the provision of a device which may be applied with equal facility to mail boxes in which the lid or cover is swung downwardly or upwardly.

With these and other objects in view, my invention will be more fully described, illustrated in the accompanying drawings which show a preferred embodiment of my device and then specifically pointed out in the claims which are attached to and form a part of this application.

In the drawings, Figure 1 is a side elevation of my improved device showing the same in application. Figure 2 is a front elevation. Figure 3 is a top plan. Figure 4 is a detail sectional view of a portion of the operating mechanism. Figure 5 is a fragmentary side elevation of a modified form.

Referring more specifically to the drawings, in which similar reference numerals designate corresponding parts throughout, 10 designates a mail box of a conventional type commonly employed in rural mail delivery routes, said box being supported upon a post 11 and provided with a lid or cover 12 adapted for vertical swinging.

My device consists of a base or platform 13 positioned upon the ground adjacent the mail box and is preferably secured in place at either end by stakes 14 and 15 the lower ends of which are passed through the base and a suitable distance into the ground and the upper ends of which extend above the base and form a supporting frame for the actuating mechanism of my device. A laterally directed stub shaft 16 is carried by the stake 15 and mounted for rotation upon this shaft is a ratchet wheel 17 provided with a plurality of teeth 18. A link 19 is pivotally secured by its upper end to the lid of the mail box as shown, and at its lower end to an eccentrically positioned pin 20 carried by the ratchet wheel. As will be readily seen a rotation of the ratchet wheel will cause the reciprocation of the link 19 and a consequent raising and lowering of the lid. The stake 14 is provided with a pivot pin 21 which pin, passes through a longitudinal slot 22 formed in a trip lever 23 the outer end of which is tenoned at 24 to engage in a longitudinal guide slot 25 formed in the inner face of an inclined stake 26 the lower end of which is firmly embedded in the earth, the stake 26 being so positioned that a mail cart in being driven past the post will pass over the stake 26 in such a manner that its outer wheels will successively engage with and pass over the trip lever 23 depressing the same. The outer end of this trip lever is normally held in raised position by means of a helical expansion spring 27 one end of which is secured to the tenon of the lever and the opposite end of which is secured to the upper end of the slotted portion 28 of the stake. Hingedly secured to the free end of the trip lever 23 by means of a hinge 29 is a bar 30 and secured to this bar and extending beyond the free end of the same is a spring pawl 30 which is slidably mounted through a keeper 31 carried by the stake 15 and which engages with the teeth 18 of the ratchet wheel to actuate the same. The ground is graded or trenched as at 32 to receive the trip lever 23 when in depressed position. As a means for holding the lid in raised position after the forward wheel of the cart has passed over the trip lever 23 I provide the stake 15 with a spring catch 33 adapted to engage with a lug 35 carried by the ratchet wheel 17 in such a position that when said wheel has been turned to raise the lid the pin will be engaged by the catch.

In practice the mail cart is so driven that its forward wheel in passing the mail box
passes over the trip lever 23 depressing the same and causing the pawl 30 to turn the ratchet wheel through an angle of slightly more than ninety degrees, at which point the ratchet wheel will be held against return movement by means of the spring catch thus holding the lid in raised position. When the mail cart is again started the rear wheel of the cart again depresses the trip lever 23 which lever, has been raised by the spring 27 immediately after the passage of the front wheel of the cart. This second depression of the trip lever further rotates the wheel, such rotation being sufficient to bring the pin 20 above and in advance of the shaft 16, as soon therefore as the rear wheel has passed over the trip lever the lid falls by gravity turning the ratchet wheel 17 around to its original position.

In Fig. 5 I have illustrated a slightly modified form of structure adapted to be employed with mail boxes the lid or cover of which is swung downwardly in opening and as shown, the sole differences between this structure and the one previously described being the positioning of the eccentric pin 20 upon the gear wheel 17 in such a manner that the rotation of the latter will exert a downward pull upon the link 19 and in the provision of a spring 36 adapted to raise the lid to closed position when the ratchet wheel is freed from the spring catch 34.

From the foregoing description it will be apparent that I have provided an extremely simple and efficient device for opening and closing the lids of mail boxes and that I have also provided means for maintaining the lid or cover of the mail box in open position during the time elapsing between successive passages of a vehicle wheel.

It will of course be understood that minor changes in details of construction may be made if desired without in the slightest degree departing from the spirit of my invention.

What I claim is:
1. In a device of the character described, the combination with a receptacle having a hinged closure, of a device operable by a passing vehicle for actuating said closure, said device comprising a supporting base, a ratchet wheel mounted for rotation in said base, a trip lever slidably and pivotally mounted on said base and having its outer end slidably mounted in an inclined guide, means for normally holding said outer end in raised position, a bar hinged to the inner end of said trip lever, and means carried by said bar and operable by the depression of said trip lever to rotate said ratchet wheel.

2. In a device of the character described, the combination with a receptacle having a hinged closure, of a device operable by a passing vehicle for actuating said closure, said device comprising a supporting base, a ratchet wheel mounted for rotation in said base and provided with a laterally directed lug, a spring catch carried by said supporting base and adapted to engage said lug in one position of the ratchet wheel to hold the same against counter-rotation, a trip lever slidably and pivotally mounted on said base and having its outer end slidably mounted in an inclined guide, means for normally holding said outer end in raised position, a bar hinged to the inner end of said trip lever, and a pawl carried by said bar and engaging with said ratchet wheel whereupon the depression of said trip lever will rotate said ratchet wheel.

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

CLARENCE L. WHEELER.
Witnesses:
W. G. BEAR,
WILLARD T. SACHS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."