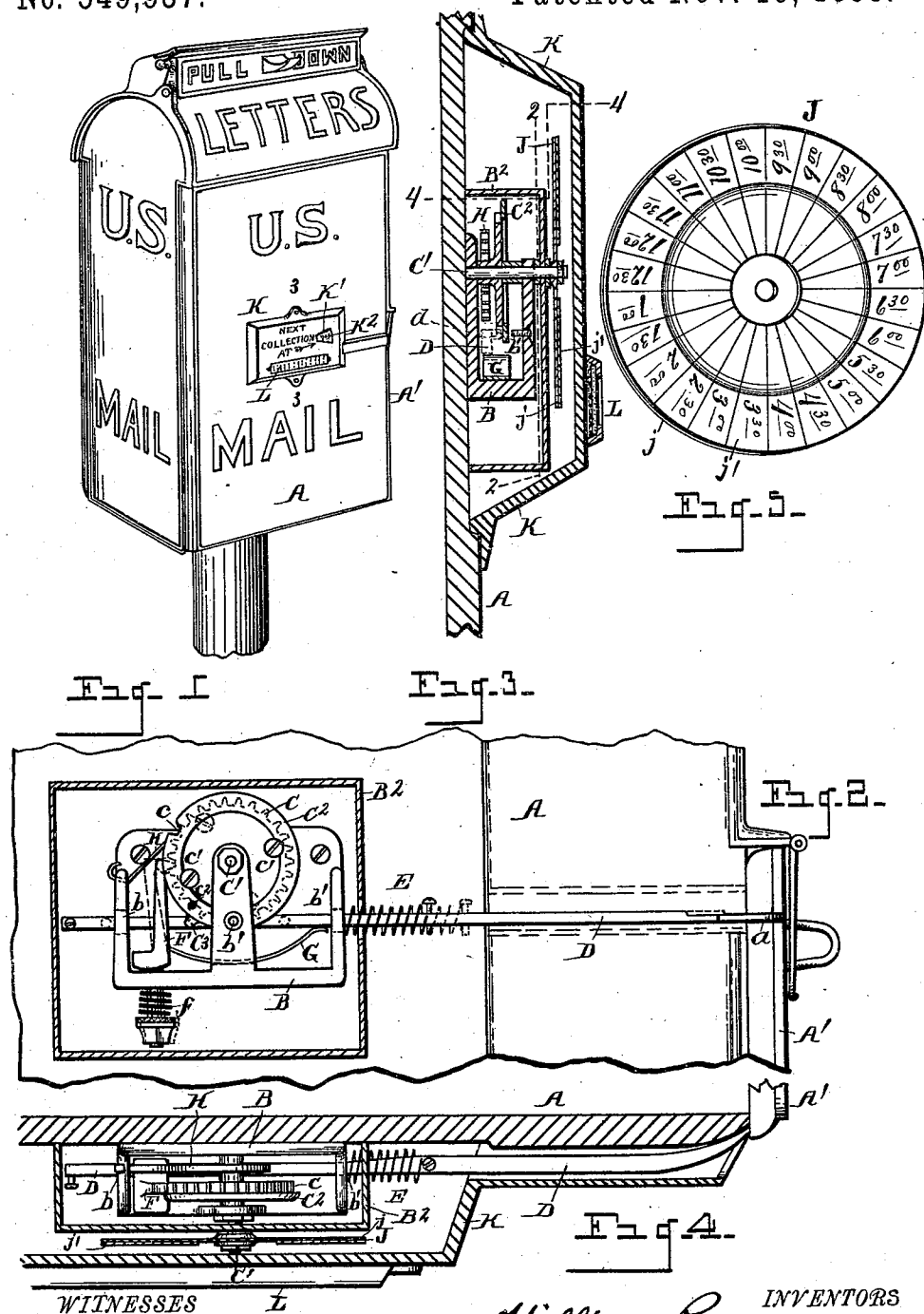


(No Model.)

W. RYMER & E. C. MADDEN.
LETTER BOX INDICATOR.

No. 549,937.

Patented Nov. 19, 1895.



WITNESSES
Otto B. Baenziger.
M. A. Martin.

INVENTORS
William Rymer
Edwin C. Madden
By Their Attorney
Newell S. Wright

UNITED STATES PATENT OFFICE.

WILLIAM RYMER AND EDWIN C. MADDEN, OF DETROIT, MICHIGAN; SAID RYMER ASSIGNOR TO SAID MADDEN.

LETTER-BOX INDICATOR.

SPECIFICATION forming part of Letters Patent No. 549,937, dated November 19, 1895.

Application filed February 13, 1895. Serial No. 538,212. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM RYMER and EDWIN C. MADDEN, citizens of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in a Letter-Box Indicator; and we 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, reference being had to the accompanying drawings, which form a part of this specification.

Our invention is designed to provide a letter-box indicator, the aim of our invention being to provide a simple, efficient, and automatic device to indicate the times when the mail in the box will be gathered, the device being so constructed and arranged that at each gathering of the mail the time for the next successive gathering of the same will be indicated to the public.

Our device also contemplates a device of this character which will work automatically without any care or attention from the carrier or collector, which will indicate the successive periods of gathering up the mail for the day, and which at the time of taking up the last gathering from the box will automatically set itself for the renewed operation of the following day.

It will be evident that it is quite desirable to provide a letter-box with a device of this kind, so that the public may see in placing mail in the box when the next gathering up of the mail will occur. This is often a matter of great convenience and a matter of much importance, and it is our purpose to provide for this long-felt want and in a simple and economical manner, the device being constructed to work accurately without liability of getting out of order and without requiring any attention of the carrier or collector.

Our invention consists of the construction, combination, and arrangement of devices and appliances hereinafter described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a view in perspective. Fig. 2 is a partial front elevation with the cover-plate K removed. Fig. 3 is a vertical section

on the line 3 3, Fig. 1. Fig. 4 is a horizontal section on the line 4 4, Fig. 3. Fig. 5 is a detail view in front elevation of the dial.

To these ends we carry out our invention as follows:

A represents a letter-box of any customary construction provided with a door A', through which the mail is taken out of the box by the carrier.

Upon the box, preferably on the front face thereof, we locate a supporting bracket or case B, which may be fastened to the letter-box in any desired manner. C is a toothed wheel journaled in said bracket or case, as indicated at C'. The wheel is preferably provided on its front face with an annular rim C² flush with the outer edges of the teeth of the wheel C, the rim C² forming a guard-plate, as hereinafter described.

D is a reciprocating operating bar or ratchet constructed, as shown, with a spur *d* to engage the teeth upon the wheel C; but the ratchet-bar D may engage the toothed wheel C in any desired manner. The bar D is led laterally adjacent to the door A' of the letter-box, and so that the door of the letter-box in closing will strike against the ratchet-bar D and throw it forward, engaging the bar with the toothed wheel and rotating the wheel correspondingly. A spring E is provided to retract the bar D when the door A' is opened to take out the mail from the box. The ratchet-bar is thus in position to be actuated in closing the door to engage it with the ratchet-wheel C and give to the wheel a corresponding rotation. A pawl F engages the ratchet-wheel C to prevent its retraction until the proper period. The bar D reciprocates in ways *b b'* through the bracket B.

G represents a spring to hold the bar D so as to engage the wheel C in the forward movements of the bar and also allow the bar D, when it is retracted upon the opening of the door A', to yield downward sufficiently to permit the spur *d* to ride back past the teeth on the wheel C. The pawl F is provided with a spring *f* to hold it in normal position. When the pawl F is in position to engage the teeth of the wheel C, its upper end is inside the rim C². Upon the periphery of the wheel C is located a cam or spur C³ to engage the pawl F

at a required revolution of the wheel C and throw its upper end upon the outside of the rim C², so that it cannot in that particular position lock or dog the ratchet-wheel C, in consequence of which the wheel C is then free to retract, a retracting-spring H being provided to throw the wheel C back into starting position or into position to indicate the first gathering up of the mail for the succeeding day. 5
The rim C² is cut away at a suitable point to form a notch or recess, as indicated at c, to permit the head of the pawl F passing to the rearward of said rim again as the wheel C is retracted into normal position, the spring f restoring the pawl F to its proper position. 10
Upon the journal of the wheel C is an indicator plate or dial J, which is constructed to indicate the various periods at which the mail will be taken up from the box. This dial is made to rotate with the wheel C. 20

K denotes a cover-plate secured upon the box over the registering apparatus hereinbefore described, provided with an observation-orifice, as at K¹, in which a glass K² may be secured, through which orifice the dial shows the corresponding time recorded thereupon. 25
We prefer to cover the entire registering apparatus, together with the extended operating-bar D when the door A' is in closed position, so that the mechanism cannot be tampered with. 30

The operation of the device will now be understood.

When the carrier unlocks the door of the box to take out the mail, the bar D is automatically thrown outward in position to actuate the wheel C on the return movement of the bar. The closing of the door of the box by the carrier causes it to strike against the end of the bar D, whereby said bar is forced forward and actuates the wheel C and the dial J, thereby exposing through the observation-glass in the cover K the period at which the next collection will be made. The device is so arranged that at the last collection made by the carrier for the day the cam on the wheel C will throw the pawl F out of engagement therewith, permitting the retraction of the wheel C and the dial into position to indicate the first collection for the succeeding day. 40
50

It will be seen that the indicating apparatus requires no attention whatever from the carrier or collector. At the same time the indicating mechanism serves as a check upon the carrier, for should he fail to make any given collection for the day of course the indicator will not be operated, and his failure to make the collection will thus be made obvious. By this means an inspector could readily detect any failure to make a required collection by the collector. 55
60

We prefer to provide the bracket or case B with a cover-plate B² to the rear of the dial-plate J to protect the parts thereunder when the dial-plate is removed. The dial-plates for different boxes may require to be changed

from time to time when the time for making collections is changed. It is obviously important, also, that the registering mechanism should be adjustable, so that it may be changed also or set so as to indicate any required periods of time at which collections are to be made. It will be necessary, of course, that essentially the same mechanism shall be adopted for use upon different boxes where the times of collection may be more or less numerous. To accomplish this result, we make the rim C², carrying the cam or spur C³, adjustable upon the ratchet-wheel C. This may be done in a suitable manner, as by means of set-screws c'. By loosening up the set-screws the rim may be changed to any required position to operate the pawl F at any required point, in order to provide for as many movements of the dial as may be required for the day upon a given box, and at the last collection to throw the indicator mechanism back into position for the commencement of the following day's collections. 70
75
80
85
90
95

It will be evident that the rim C² may be set so that the reciprocatory bar D will actuate the wheel C any desired number of times before the cam C³ will engage the pawl F to permit the wheel C to retract into its primary position. Thus we are enabled to set a given indicator device, as may be required, for any given box. 100

It will be obvious that instead of having the bar D actuate the wheel C when the door A' is closed the bar D and wheel C may be arranged so that the wheel will be actuated upon the opposite movement of the bar D; but such a change would not be material, and we would have it understood that our invention contemplates the actuation of the ratchet-wheel C by the bar D either when the door A' is opened or closed, as may be preferred. 105
110
115

The outer cover K may be provided with a time-table L, showing the different periods of the day at which collections are made from a given box. The cover may also be provided with the words "Next collection at" with a character pointing to the orifice in the cover-plate through which the corresponding portion of the dial is exposed to view. 120

It will be evident, moreover, that should the box be tampered with and the door be opened and letters be stolen from the box the indicator mechanism will be operated and thereby the fact made evident that the box had been tampered with by an unauthorized party. 125
130

Instead of having the bar D extend beyond the edge of the box when the door is opened, the door A' may be provided with a finger or rib, as shown at a, Fig. 2, the bar D being cor-

respondingly shortened, so as never to project beyond the cover K, said finger or rib *a* entering the open end of the cover and engaging the end of the bar D when the door is closed. This latter construction and arrangement will more effectually prevent any liability of tampering with the indicator mechanism.

The dial J may consist of a metal disk *j*, with a corresponding sheet of paper or other suitable material *j'*, having printed thereupon the times of gathering the mail. These printed sheets may be secured upon the metal disk in any suitable manner.

By constructing the dial as above described the printed sheets *j'* may readily be renewed or changed at pleasure, as when a different number of indications is desired to be made thereby. By such a device practically an unlimited number of indications can be made to suit any given circumstances.

What we claim as our invention is—

1. The combination with a box provided with a door, of a toothed wheel C, an adjustable guard rim adjacent to the wheel, a locking pawl F to prevent the reverse movement of the wheel, a cam C³ upon said wheel to throw the pawl out of engagement with the wheel and upon the outside of said rim to permit the retraction of the wheel, means to limit the retraction of the wheel, a dial mounted on the journal of the wheel, a spring actuated bar to operate the wheel, said pawl at the limit of the retraction of the wheel returnable into engagement with the wheel, said

bar extending into proximity to the door, the door when closed actuating the bar in one direction, and the spring actuating the bar in the opposite direction when the door is opened, substantially as set forth.

2. The combination of the box, a toothed wheel C, an adjustable guard rim engaged upon said wheel provided with a notch or recess *c* at its periphery, an operating bar to actuate the wheel, a locking pawl F to engage said wheel, a cam C³ on said wheel to disengage the pawl and throw it upon the outside of said rim to permit the retraction of the wheel, a stop to limit the retraction of the wheel, the head of said pawl at the limit of the retraction of the wheel returnable through said notch into engagement with said wheel, substantially as set forth.

3. In combination, a ratchet wheel C, an operating bar, a locking pawl engaging said wheel, an adjustable guard rim engaged upon said wheel, a cam C³ to throw the pawl out of engagement with the wheel and upon the outside of said rim to permit the retraction of the wheel, and a stop to limit the retraction of the wheel, said pawl at the limit of the retraction of the wheel returnable into engagement with said wheel, substantially as set forth.

In testimony whereof we sign this specification in the presence of two witnesses.

WILLIAM RYMER.

EDWIN C. MADDEN.

Witnesses:

O. B. BAENZIGER,
MARY A. MARTIN.