

W. HOUGHTON.
INDICATOR.

APPLICATION FILED MAR. 15, 1909.

939,422.

Patented Nov. 9, 1909.

2 SHEETS—SHEET 1.

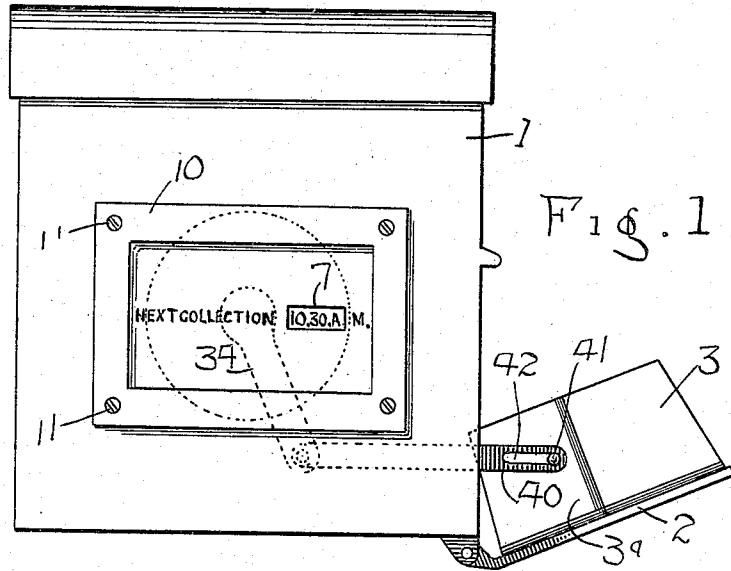
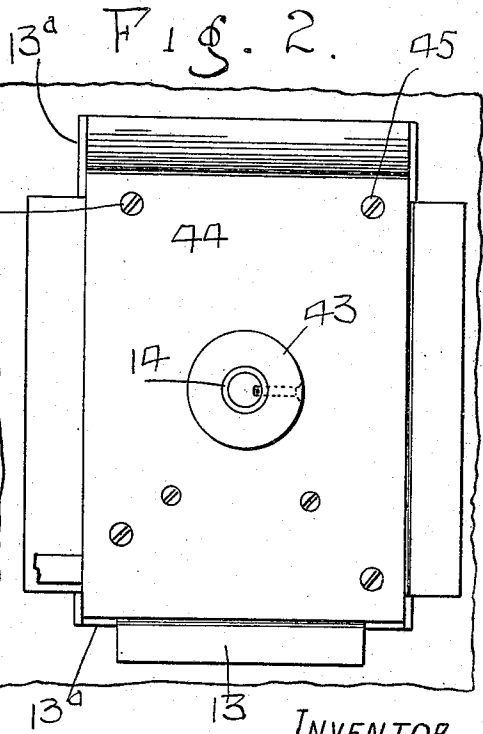
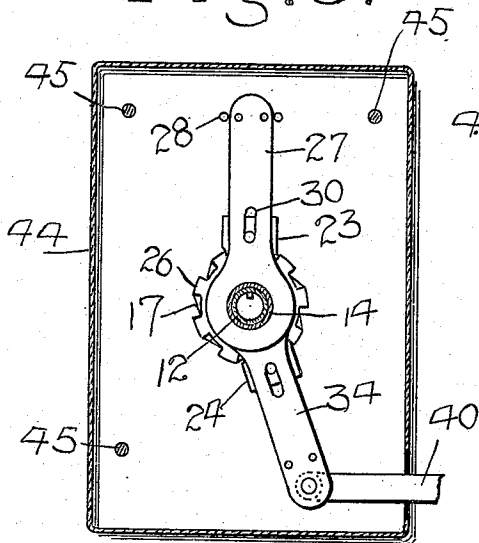


Fig. 1.

Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 4.

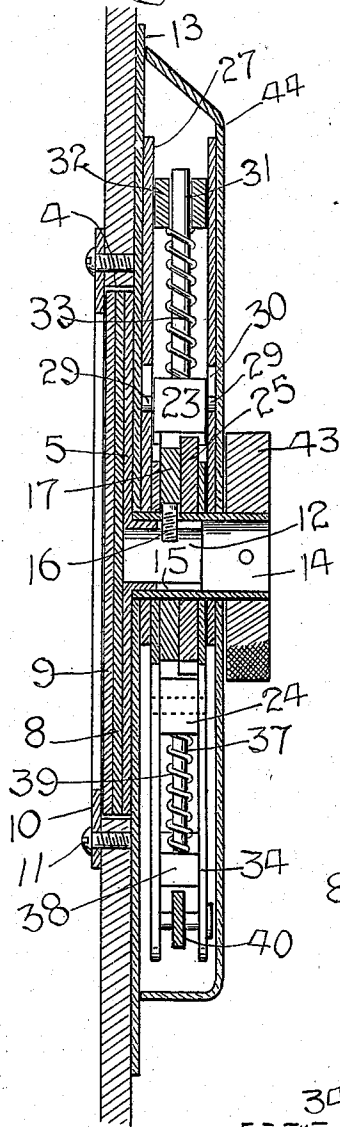


Fig. 5.

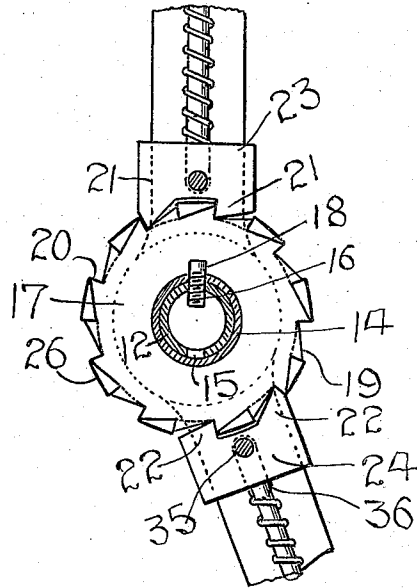


Fig. 6.

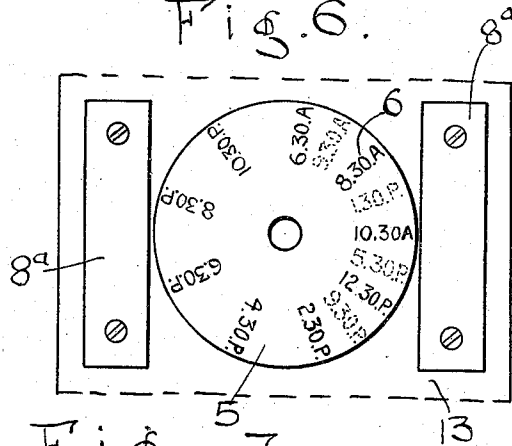
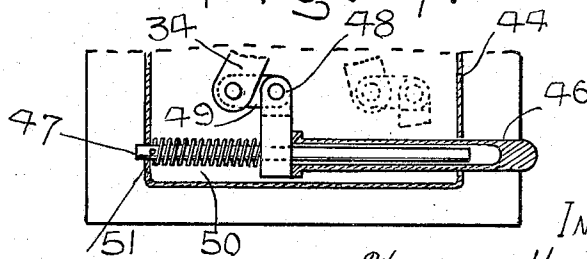


Fig. 7.



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WILLIAM HOUGHTON, OF BATH, MAINE.

INDICATOR.

939,422.

Specification of Letters Patent.

Patented Nov. 9, 1909.

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To all whom it may concern:

Be it known that I, WILLIAM HOUGHTON, a citizen of the United States, residing at Bath, in the county of Sagadahoc and State of Maine, have invented certain new and useful Improvements in Indicators, of which the following is a specification.

My invention relates to new and useful improvements in indicators and is adapted more particularly to be used in connection with mail boxes and my object is to provide means for indicating at what time the mail will be collected from the box.

A further object is to provide means in connection with the door to the mail box to operate the indicator and display the hour at which the next collection will be made and a still further object is to provide means for manually operating the indicator when desired.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the claims.

In the accompanying drawings forming part of the specification Figure 1 is a side elevation of a mail box, which may be constructed in the usual or any preferred form showing the door thereof in its open position. Fig. 2 is a detail elevation of the interior of the box, showing my improved indicator thereon. Fig. 3 is a sectional view through the indicator housing showing the mechanism for operating the dial of the indicator. Fig. 4 is a vertical central sectional view through the indicator on an enlarged scale. Fig. 5 is a detail elevation partly in section of parts of the operating mechanism for the indicator. Fig. 6 is a detail view of the dial of the indicator, and Fig. 7 is a detail sectional view of a modified form of device for operating the indicator.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates a mail box, which may be constructed in the usual or any preferred form and is preferably provided at one end with a door 2, said door being hinged at its lower edge to the lower end of the mail box and is provided at its opposite edges with flanges 3, as is the usual construction.

Formed in one side wall of the box, is an opening 4, in which is located a dial 5, on one face of which are printed any suitable characters, such as numerals 6 to indicate

hours and fractions thereof, which numerals are adapted to be consecutively moved into registration with a slot 7 formed in a cover plate 8 and in order to protect the cover plate, which is preferably constructed from paper, and at the same time leave the same in plain view, a glass, or other transparent strip 9 is placed over the cover plate and held in position thereover by means of a frame 10, which frame is secured to the wall of the box by means of screws 11 or other preferred means.

The dial 5 is provided with an inwardly extending tubular shaft 12, which extends through a plate 13 on the inner face of the box 1 and into a tubular socket 14, the shaft 12 being provided with channels 15 while the tubular socket 14 has extended there-through a screw 16, the lower end of which enters one of the channels 15 and forms a fixed connection between the tubular socket and the shaft 12. The cover plate 8 is supported away from the dial 5 to prevent wear of the cover plate by the rotation of the dial by means of guards 8^a which are secured in any preferred manner to the plate 13 said guards being of greater thickness than the dial 5.

Surrounding the tubular socket 14 is a disk 17, which is held in fixed relation on the tubular socket and caused to rotate therewith by extending the head of the screw 16 into a notch 18 in the disk, the periphery of said disk being provided with a plurality of teeth 19, said teeth being spaced a uniform distance apart and having vertical faces or shoulders 20, with which are adapted to engage tongues 21 and 22 of latches 23 and 24 respectively. A similar disk 25 is rotatably mounted on the tubular socket 14 and in the rear of the disk 17 the periphery of the disk 25 having teeth 26 thereon, said teeth being spaced a uniform distance apart and in number corresponding to the intervals between the regular set of numerals on the dial 5.

Disk 17 having twice as many teeth as there are teeth on disk 25 allows by means of a turn button 43 of exchanging from one set of numerals to another set that are placed in between the regular set on the dial 5. Teeth 26 are likewise provided with shoulders to engage the tongues 21 and 22 of latches 23 and 24 respectively, the upper faces of said teeth are straight to cause

latches 23 and 24 to move out of the path of teeth 19, upper faces of teeth 19 being tapered.

It will be seen that disk 25 controls and causes dial 5 to rotate a sufficient distance to bring numerals thereon to view.

The latch 23 is located above the disks 17 and 25 and between a pair of arms 27, the lower end of said arms surrounding the tubular socket 14, while the upper ends thereof are held in a fixed position by means of pins 28, the latch 23 being held in position between the arms by introducing pins 29 carried by the latch, into slots 30 in the arms 27.

A shank 31 is extended upwardly from the latch 23 and through a block 32 adjacent the upper ends of the arms 27, a spring 33 being introduced around the shank 31 and between the latch 23 and block 32, the elasticity of the spring normally holding the latch in engagement with the peripheries of the disks 17 and 25, but permitting the latch to elevate when said disks are rotated.

The latch 24 is likewise positioned between arms 34, which arms surround the tubular socket 14 and between the ends of the arms 27, the latch 24 having pins 35 which enter slots 36 in the arms 34, said latch also having a shank 37, which passes through a block 38 between the arms 34, a spring 39 extending between the block and latch 24 to normally hold the latch in engagement with the disks.

The lower ends of the arms 34 are extended a distance beyond the block 38 and have pivotally mounted therebetween a link 40, which link extends into engagement with a stud 41 on one of the flanges 3 of the door, said stud extending through a slot 42 in the outer end of the link and by this construction it will be readily seen that when the door is closed, the arms 34 will be swung inwardly and the latch 24 moved into engagement with the new set of teeth on the disks and as the door is again opened, the downward swinging movement thereof will swing the arms 34 outwardly and cause the dial 5 to rotate a sufficient distance to bring the next numerals thereon before the slot 7 in the cover plate 8, said numerals indicating the time at which the next collection is to be made. The flange 3 is provided with an offset 3^a to compensate for the thickness of the link 40 and stud 41 to which the link is attached. In this manner, it will be seen that the door cannot be opened without operating the dial and should the postman fail to visit the box, the dial will so indicate.

As the collections are made less frequently on Sundays and holidays, it becomes necessary to provide means for manually operating the dial to bring the proper numerals into view and to this end a turn button 43 is secured to the extended end of the tubular socket 14, whereby the mail carrier can in-

sert his hand into the box and rotate the dial through the medium of the button and if preferred, the numerals indicating Sunday and holiday collections may be printed in different colors from those used to indicate the collections on week days.

The two disks 17 and 25 and parts co-operating therewith are held in their assembled position by means of a cover 44 which cover is held in any suitable manner, as by means of screws 45, or the like, thereby protecting the operating parts of the indicators from dust or injury by coming in contact with the contents of the box. In addition to providing the screws for holding the cover in position, the corners of the plate 13 may be arranged to form supports 13^a which supports serve to guide the cover to its proper position when being placed over the operating parts.

Should it become necessary to remove the dial, which frequently occurs in changing the numerals thereon in view of the change in the hours of collection, the frame 10 is to be removed from the face of the box when by lifting the glass and cover plate out of the opening 4, the dial 5 may be readily removed or introduced into position in the channels 15, into which the screw 16 is entered, permitting the shaft 12 to readily leave or enter the tubular socket 14.

In Fig. 7 of the drawings I have shown a slightly modified form of device for operating the arms 34, in which instance the plunger 45 is introduced through an opening in the cover 44, which plunger is hollow and adapted to extend over a rod 47, one end of the rod 47 being introduced through one wall of the cover 44 and held stationary therewith.

The plunger 46 has at its inner end a standard 48, to the upper end of which is pivotally secured a link 49, the opposite end of the link being likewise pivoted to the arms 34 and by placing the plunger in position to be engaged and moved longitudinally when the door to the box is closed, the arms 34 will be moved in one direction, while the plunger when the door is opened is moved in the opposite direction by means of a spring 50, which spring is introduced around the rod 47 and placed between a pin 51 extending through the rod and the standard 48, the tension of said spring being such as to swing the arms 34 in one direction or to the position shown by dotted lines in Fig. 7, thereby operating the dial and bringing a new set of numerals to view. This form of register may be readily applied to any form of mail box and as the operation thereof depends on the opening and closing of the door of the box, the proper time will be displayed for the next collection of the mail providing the carrier visits the box at the proper time and will likewise indicate the omission to

collect the mail and it will further be seen that ready access may be had to the dial to change the numerals thereon when the hours for collecting the mail have been changed.

What I claim is:

1. An indicator of the class described, comprising the combination with a dial having sets of numerals thereon and means to expose and exchange each set of numerals singly; of a pair of disks, one of which is fixed to the dial, teeth on the peripheries of said disks, the upper surface of one set of said teeth being tapered, a pair of latches, each having a pair of tongues thereon adapted to engage the teeth on the disks, means to normally hold the latches in engagement with the disks and means to move one of said latches, whereby the disks and dial attached thereto will be rotated a predetermined distance.

2. An indicator of the class described, comprising the combination with a dial having sets of numerals thereon and a shaft extending from said dial; of a tubular socket disposed over said shaft, means to fix the socket to the shaft, a disk fixed to the socket, said disk having teeth around its periphery, a similar disk rotatably mounted on the socket and having teeth on its periphery, the upper faces of which are straight, a pair of latches, each latch having tongues adapted to engage said teeth, arms supporting said latches, means to normally hold the latches in engagement with the disks and additional means to move one set of said arms and rotate the disk and dial attached thereto.

3. An indicator of the class described, comprising the combination with a dial having sets of numerals thereon, a cover plate for said dial having a slot therein, through which the numerals of the dial are exposed, a tubular shaft fixed to said dial having

channels in its free end, a socket surrounding said shaft, a screw extending through the socket and entering one of said channels, a disk having a notch therein adapted to engage the outer end of the screw and fix the disk to the socket, said disk having teeth thereon, the edges of which are vertical to form shoulders, a similar disk rotatably mounted on the socket and having teeth thereon, upper faces of which are straight, a latch above and below said disks, each having a pair of tongues adapted to engage the teeth on the disks, supporting arms for each of said latches, means to movably mount the latches between the arms, means to yieldingly hold the latches in engagement with the disks and additional means to swing the arms supporting the lowermost latch, whereby the disks and dial attached thereto will be rotated in one direction.

4. An indicator, the combination with a box having an opening in one wall thereof and a swinging door for said box; of a dial positioned in said opening, said dial having a shaft thereon, a cover plate for the dial, means to retain the dial and cover plate in the opening, a socket engaging the shaft on the dial, means to fix the socket to the shaft, a pair of disks on said socket, one of which is fixed thereto, said disks having teeth around their peripheries, spring actuated latches having tongues thereon adapted to engage said teeth, arms to support said latches and means to connect one set of arms to the door of the box, whereby when said door is opened and closed, said arms will be moved back and forth and the disks and dial rotated in one direction.

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

WILLIAM HOUGHTON.

Witnesses:

JOHN DAVIS,

JAMES B. LEMONT.