Nov. 29, 1932. L. G. MILLIS 1,889,689

DISPENSING DEVICE

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FIG. 1.

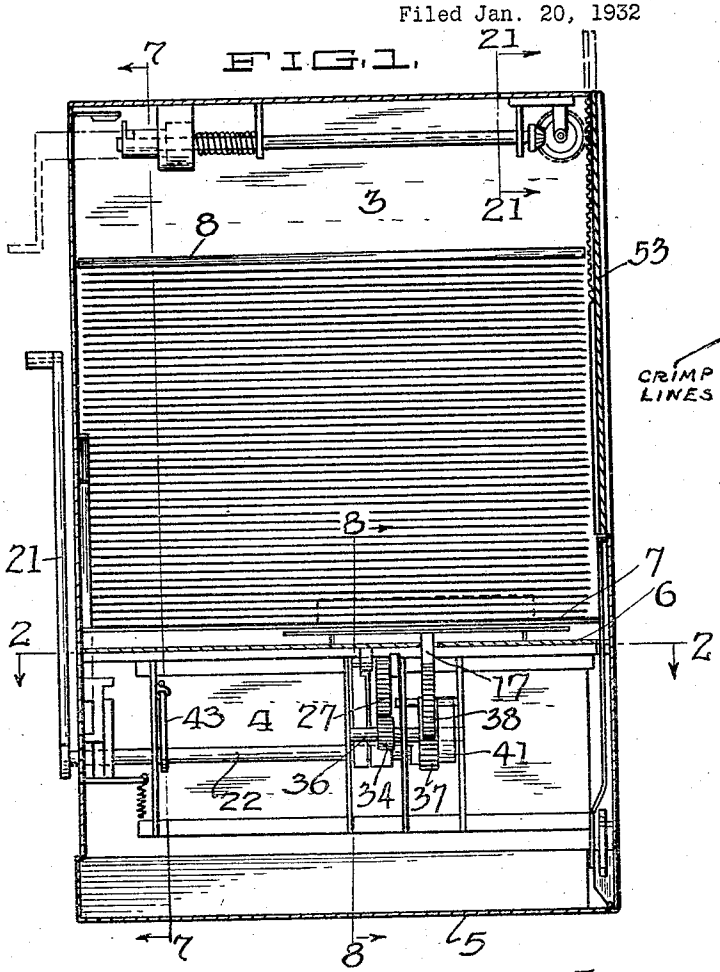


FIG. 2.

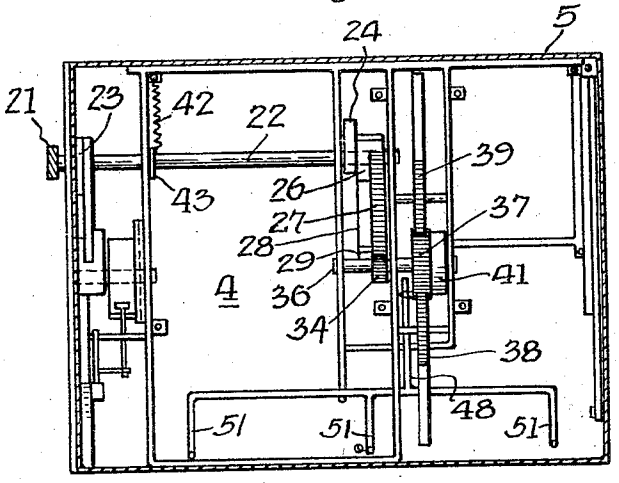


FIG. 3.

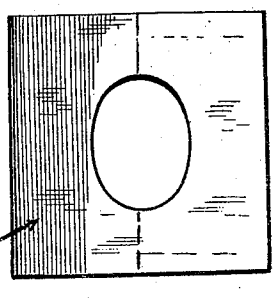


FIG. 4.

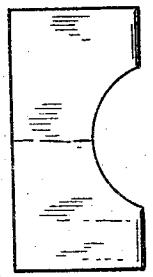


FIG. 5.



FIG. 6.



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DISPENSING DEVICE

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FIG. 7

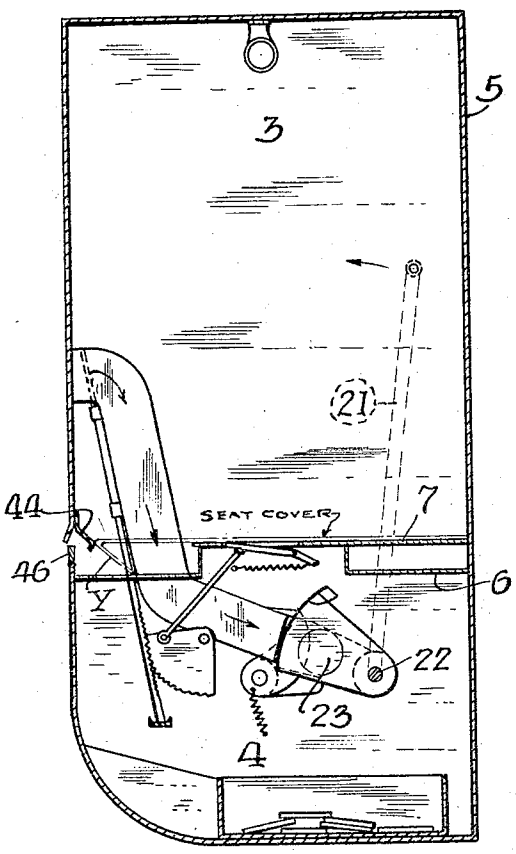


FIG. 8.

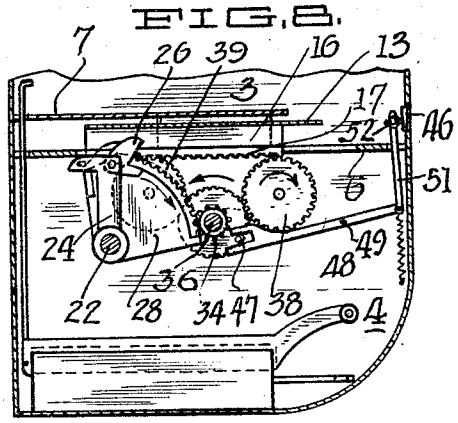


FIG. 10.

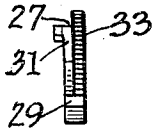


FIG. 11.

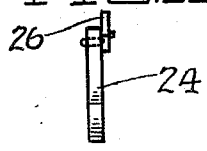


FIG. 12.

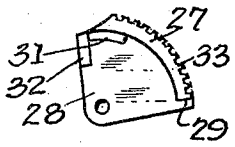


FIG. 13.

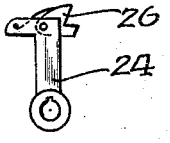


FIG. 14.

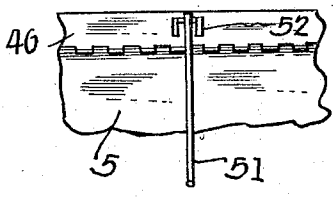


FIG. 15.

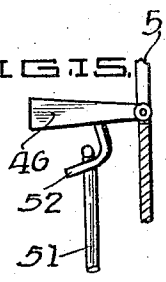
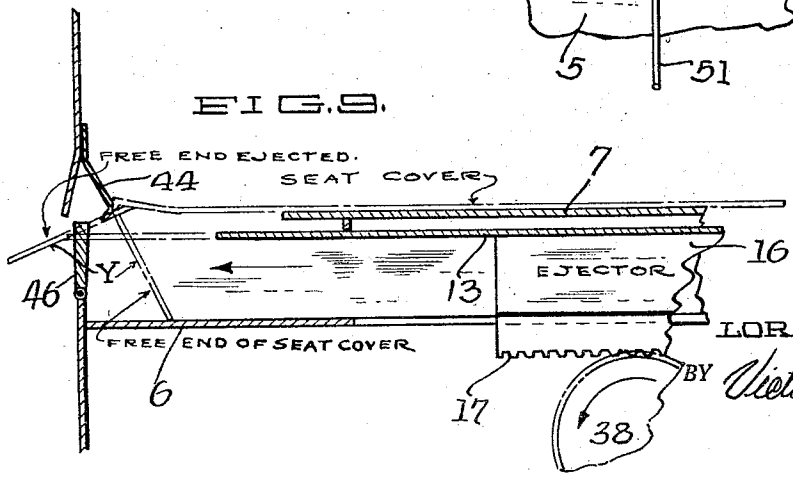


FIG. 9.



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DISPENSING DEVICE

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FIG. 16.

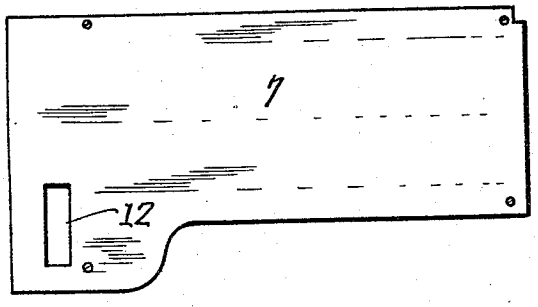


FIG. 19.

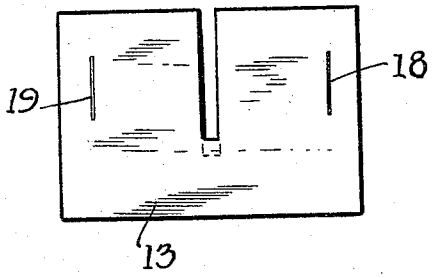


FIG. 17.

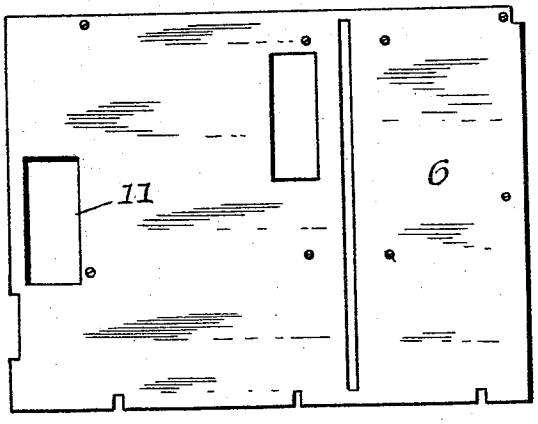
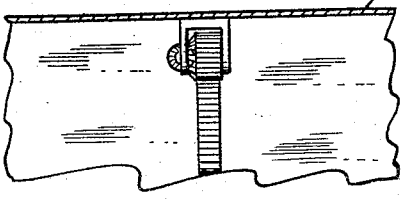


FIG. 21.



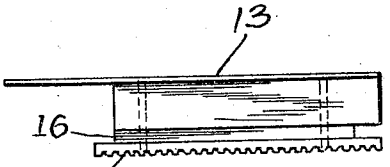
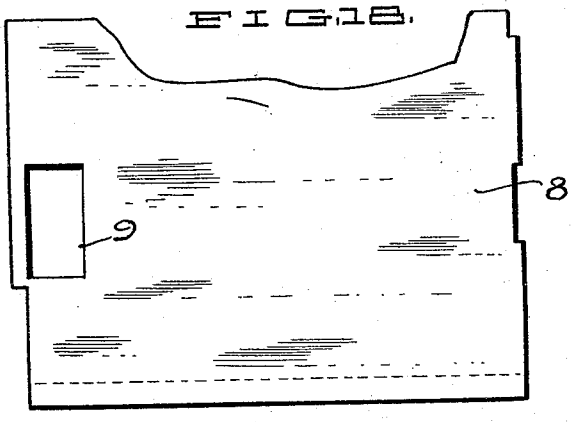


FIG. 20.

FIG. 18.



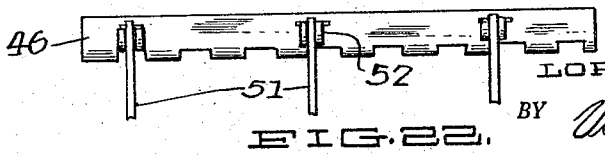


FIG. 22.

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Patented Nov. 29, 1932

1,889,689

UNITED STATES PATENT OFFICE

LOREN G. MILLIS, OF SANTA ANA, CALIFORNIA

DISPENSING DEVICE

Application filed January 20, 1932. Serial No. 587,777.

This invention relates to improvements in dispensing devices and has particular reference to a protector dispenser.

The principal object of this invention is to provide means for dispensing toilet seat protectors.

A further object is to produce a device of this character where at each operation of an ejector a single toilet seat protector will be removed from a stack and the end thereof exposed so that the protector may be withdrawn and used.

A further object is to produce a device of this character wherein when the last protector has been used, the coin actuating mechanism will be sealed.

A further object is to provide means whereby the dispensing slot will be protected against a person inserting a hook or other instrument there-thru for the purpose of removing protectors without depositing a coin in the apparatus.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a vertical cross-section of my device with the front plate thereof removed,

Figure 2 is a cross-sectional view taken on the line 2—2 of Fig. 1,

Figure 3 is a plan view of my protector in full open position,

Figures 4, 5 and 6 illustrate the manner of folding my protectors previous to placing in the machine,

Figure 7 is a vertical cross-section taken on the line 7—7 of Fig. 1,

Figure 8 is a fragmentary view taken on the line 8—8 of Fig. 1,

Figure 9 is an enlarged detail view showing the ejector mechanism,

Figure 10 is an edge elevation of the actuating segment,

Figure 11 is an edge elevation of the actuating lever,

Figure 12 is a side elevation of the actuating segment.

Figure 13 is a side elevation of the actuating lever,

Figure 14 is a fragmentary view of the dispensing door,

Figure 15 is a fragmentary side elevation of the dispensing door,

Figure 16 is a plan view of the platform,

Figure 17 is a plan view of the floor piece,

Figure 18 is a plan view of the weight,

Figure 19 is a bottom plan view of the dispensing slide,

Figure 20 is a side elevation of the dispensing slide,

Figure 21 is a fragmentary view taken on the line 21—21 of Fig. 1, and

Figure 22 is an elevation of the dispensing door, per se, on an enlarged scale.

In the accompanying drawings wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 5 designates a cabinet having a floor 6 dividing the cabinet into compartments 3 and 4. Positioned on the floor 6 and spaced therefrom is a platform 7, which platform serves to support within the compartment 3 a plurality of toilet seat covers, best illustrated in Figs. 3, 4, 5 and 6. These covers are preferably made of a suitable material such as crepe paper, first being in the shape shown in Fig. 3, thence folded to the shape shown in Fig. 4, and thence folded to the shape shown in Fig. 5. The one edge of the cover so folded is then bent so as to form a flap Y, (see Fig. 6). The covers thus folded are placed upon the platform in such a manner that the flap Y of the bottom seat cover falls to the position shown in dotted lines in Fig. 9, and designated as free end of said cover.

In order to feed these seat covers downwardly, I place on the top of the stack a weight 8. This weight has an opening 9 formed therein which corresponds to an opening 11 formed in the floor, the purpose of which will be later seen. A similar opening 12 is also formed in the platform 7. In order to eject these seat covers, I provide a dispensing slide 13 which underlies the platform 7. This ejector is mounted upon a support 16 to which is secured a rack 17. Down-

wardly extending guides 18 and 19 have their lower ends spaced a short distance from the floor 6 so that should the plate 13 tip, it will be maintained in substantial alignment. In order to actuate this dispenser plate, I provide a lever 21 which is connected to the shaft 22 thru a coin connector mechanism designated as a whole by the numeral 23. This shaft 22 has mounted thereon an actuating lever 24 rigidly connected thereto upon the free end of which lever is mounted a dog 26 which rides in a recess 27 formed in an actuating segment 28. A stop 29 is formed at the end of the recess, the purpose of which will be later seen. A locking recess 31 is also formed in the actuating segment, while a stop 32 projects from the side of the segment. This segment carries teeth 33 which are adapted to mesh with a gear 34 mounted upon a shaft 36 upon which is mounted a gear 37 which in turn meshes with gears 38 and 39. The gears 38 and 39 in turn mesh with the rack 17 carried upon the ejector support 16. A spring 41 is connected to the shaft 36 and to the supporting frame of the driving mechanism. A spring 42 is connected to the frame and to a lever 43 secured to the shaft 22.

The result of the construction thus far described is that when the seat covers have been placed in the machine and it is desired to eject a cover, a coin is placed in the machine so as to drop into the coin connecting mechanism, the handle 21 is then rotated which will drive the shaft 22, and assuming that the parts are in the position shown in Fig. 8, the actuating lever will transmit motion thru the dog 26 resting in the locking recess 31 so that the actuating segment, in moving in the direction of the arrow of this figure, will transmit motion to the gear 34, shaft 36 to gear 37, winding up spring 41, and at the same time rotating the gears 38 and 39 in a clockwise direction. This will cause the rack 16 to move in the direction of the arrow of Fig. 9 and to come into contact with the free end of the folded sheet and as the fold of this free end has been temporarily held up by a cam plate 44, the same will drop down so as to overlie the end of the ejector plate, or in other words, the free end will hook itself over the edge of the ejector plate in such a manner that the sheet will be pulled from beneath the stack. At the same time, the dispensing door will open in a manner to be later described.

Assuming now that the ejector has moved to the limit of its forward movement, the upstanding end of the dog 26 will contact the shaft 36, freeing the dog from the locking recess 31, and immediately the spring 41 will cause the shaft 36 to rotate in a clockwise direction, withdrawing the ejector and returning the segment to its starting position. The spring 42 will also act as soon as the lever 21 is released to return the shaft 22 and lever 21 to their starting positions. Should this action for any reason be slow, the stop 29 will contact the nose of the dog and push the lever 24 and shaft 22 backwardly. Should the spring 41 fail to operate and only the spring 42 operate, then the backward movement of the lever 24 would contact the stop 32 and bring the segment and its connected parts back to its initial position. Thus, either one of the springs 21 or 42 will individually or jointly cause the return of the parts to their initial position. In order to actuate the dispensing door, 46, I provide a pin 47 on the side of the gear 37. This pin engages the bifurcated end of a pivoted lever 48 pivoted as at 49 and having forked extremities 51, the ends of which engage hooks 52 formed in the back of the door 46. As a result, as the pin 47 moves thru its cycle, it will actuate the lever 48 so as to open the door 46 just previous to the ejector passing to the outside of the case with its seat cover. At the top of Fig. 1, I have shown a preferred means of actuating a sliding filling door 53, but as the same forms no part of this invention, further reference thereto will be omitted. The same is true of the locking means for the coin drawer shown at the bottom of Fig. 8. It is of course understood, that any preferred form of coin mechanism may be employed, and if desired, coin slot closing mechanism may be projected thru the openings 9, 11 and 12, after the last seat cover has been dispensed.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that various changes relative to the material, size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claim.

Having thus described my invention, I claim:—

In a dispensing cabinet of the character described, a floor positioned therein, a platform positioned above said floor and spaced therefrom, said platform having a less area than said floor whereby a plurality of seat covers may be supported thereon in such a manner that a flap formed on the undersurface of said seat covers will successively pass below the plane of said platform, a dispensing slide positioned between said platform and said floor, means for actuating said slide whereby said slide will engage said flap extending below said platform for the purpose of ejecting the lower-most seat cover from said cabinet, said actuating means including a rack secured to said dispensing slide, gears engaging said rack and means for rotating said gears, said means including a shaft, a handle connected to said shaft, and spring means interposed between said casing

and said shaft for returning said shaft to initial position after its actuation, a dispensing door pivoted to said casing, a forked pivoted lever connected to said door, said lever having a bifurcated end and a pin positioned in one of said gears and engaging said bifurcated end whereby said ejector and said door will be simultaneously actuated.

In testimony whereof I affix my signature.

LOREN G. MILLIS.