

July 12, 1932.

J. H. McCORMICK ET AL

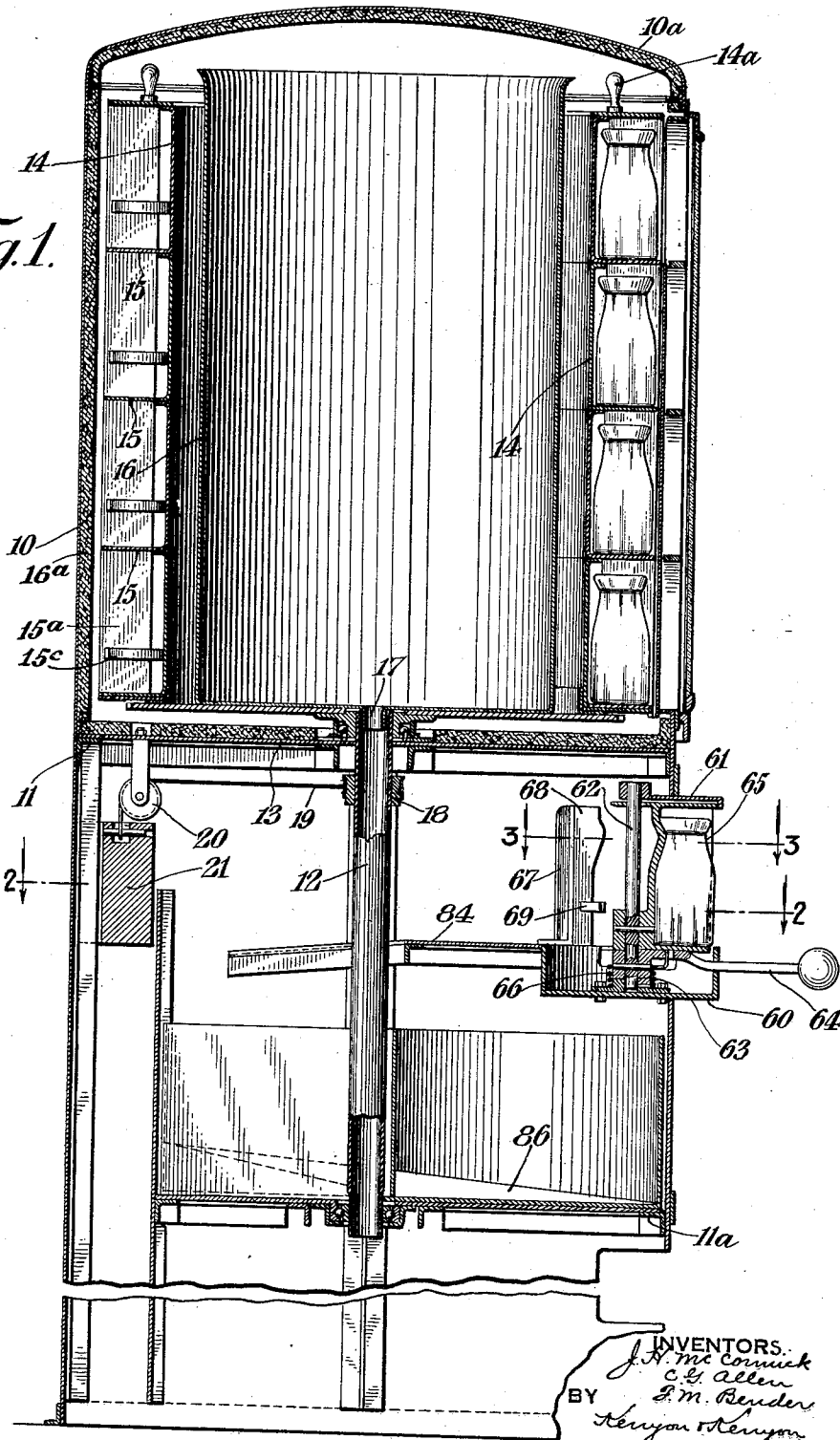
1,866,716

VENDING MACHINE

Original Filed Feb. 16, 1929

4 Sheets-Sheet 1

Fig. 1.



INVENTORS.
J. H. McCORMICK
C. L. Allen
D. M. Bender
BY
Kenyon & Kenyon
ATTORNEYS.

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J. H. McCORMICK ET AL

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Fig. 2.

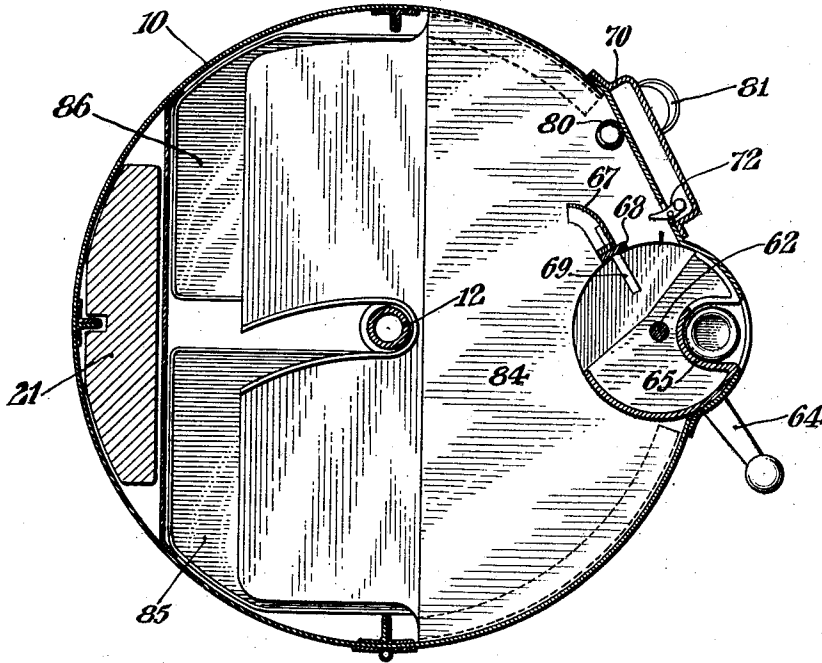
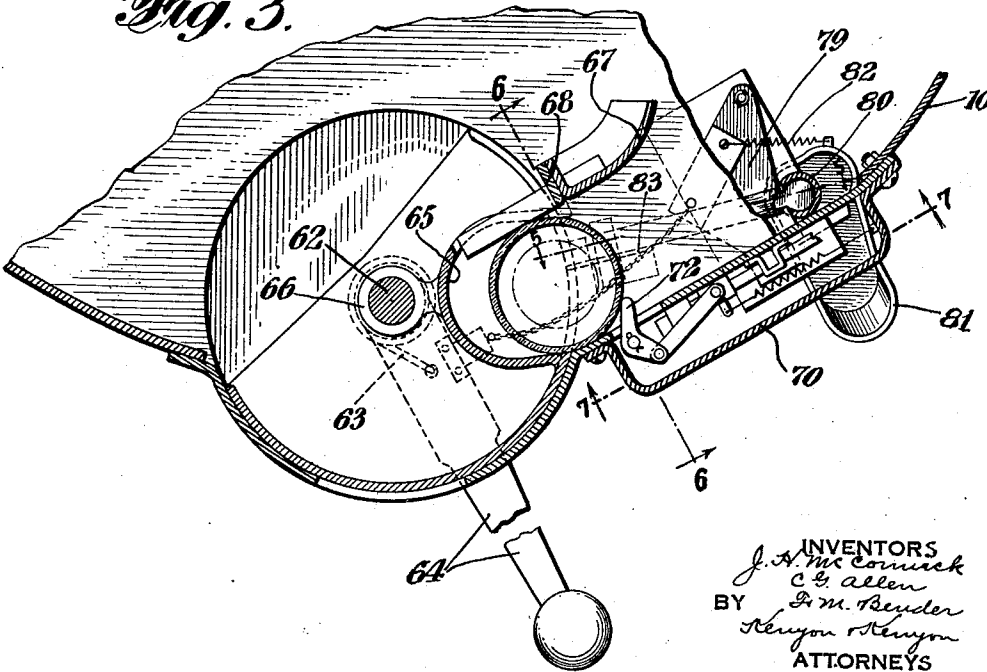


Fig. 3.



INVENTORS
J. A. McCornick
C. E. Allen
BY F. M. Bender
Kerion Kerion
ATTORNEYS

July 12, 1932.

J. H. McCORMICK ET AL

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Fig. 4.

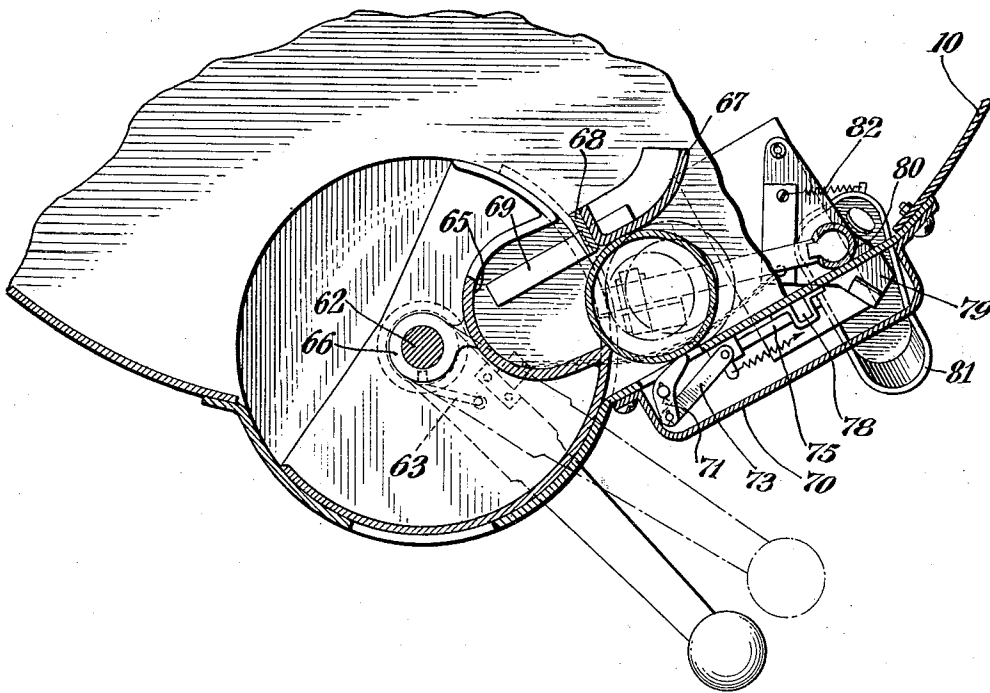


Fig. 6.

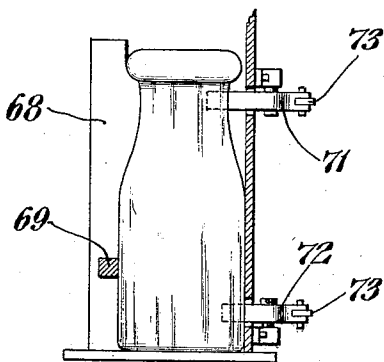
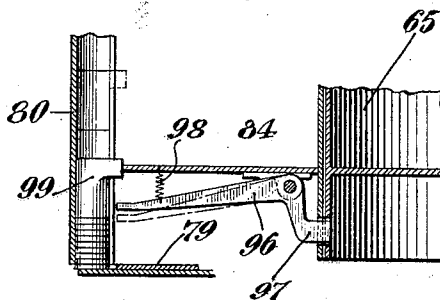


Fig. 5.



INVENTORS.
J. A. McCormick.
C. E. Allen
BY F. M. Bender
Rayson Rayson
ATTORNEYS.

July 12, 1932.

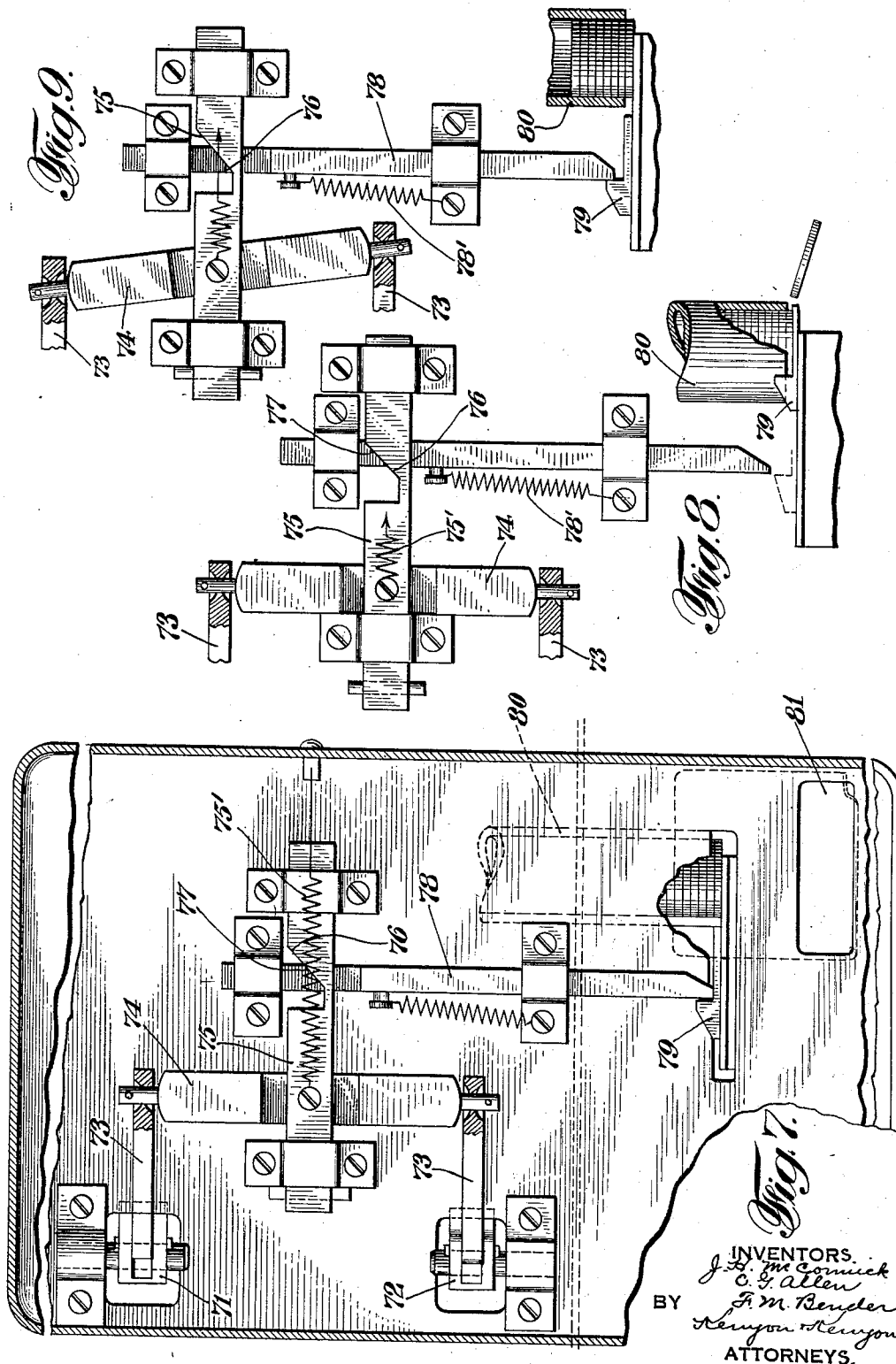
J. H. McCORMICK ET AL

1,866,716

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Original Filed Feb. 16, 1929

4 Sheets-Sheet 4



INVENTORS.
J. H. McCORMICK
C. F. Allen
BY
F. M. Bender
Kempson & Kempson
ATTORNEYS.

UNITED STATES PATENT OFFICE

JOHN H. McCORMICK, CARL G. ALLEN, AND FRANK M. BENDER, OF WILLIAMSPORT, PENNSYLVANIA, ASSIGNORS TO VENDI CATER, INC., OF WILLIAMSPORT, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA

VENDING MACHINE

Original application filed February 16, 1929, Serial No. 340,462. Divided and this application filed August 27, 1929. Serial No. 388,652.

This invention relates to vending machines and pertains more especially to a machine for vending bottled goods.

In the co-pending application of McCormick, et al. Ser. No. 340,462, filed February 16, 1929, of which this is a division, there is disclosed a machine for vending bottled goods and having provision for redeeming empty bottles. The machine is designed for operation by the use of a dime which permits access to a compartment containing the article to be vended. This bottle, when empty, may be presented to the redeeming device, the operation of which will refund a nickel to the operator.

An object of this invention is a new and improved redeeming mechanism which will refund to the operator the proper coin upon the presentation to the mechanism of a bottle of predetermined size and shape.

Other objects, novel features and advantages of this invention will be apparent from the following description and accompanying drawings, wherein:

Fig. 1 is a vertical section through a machine embodying the invention.

Fig. 2 is a section on the line 2—2 of Fig. 1.

Figs. 3 and 4 are fragmentary sections on the line 3—3 of Fig. 1.

Fig. 5 is a section on the line 5—5 of Fig. 3.

Fig. 6 is a section on the line 6—6 of Fig. 3.

Fig. 7 is an enlarged section on the line 7—7 of Fig. 3, and

Figs. 8 and 9 are fragmentary views largely similar to Fig. 7 and showing different positions assumed by the various parts.

The machine comprises a cylindrical casing 10 which is divided into an upper and a lower chamber by a partition 11, the upper chamber being provided with a removable cover 10a. In the lower chamber there is provided a shelf 11a and a vertical hollow shaft 12 is suitably journaled in the shelf and partition and projects slightly into the upper chamber. At its upper end this shaft 12 carries a circular plate 13 by which is supported an annular frame 14 which is made up of a plurality of superposed shelves 15 divided into compartments by radial partitions 15a. Clips 15c may be provided in the com-

partments to hold the bottles. Within the frame 14 and supported by the plate 13 is provided a tank 16 to receive ice or within which may be provided any suitable refrigerating apparatus, the tank 16 having an outlet 17 leading to the hollow shaft 12. The shaft 12 is provided with a drum 18 around which is wound a cable 19 which passes over a pulley 20 and is attached to a weight 21. The weight 21 and cable 19 are effective to cause rotation of the plate 13 when released, the plate normally being held against rotation by means subsequently to be described. A lining 16a of heat insulating material is provided for the upper chamber.

As described in the co-pending application of McCormick, et al. Ser. No. 340,462, filed Feb. 16, 1929, the bottle may be obtained by presentation to the machine of a dime. The device hereinafter described provides for redeeming the empty bottles and delivering a nickel for each bottle redeemed.

In order to obtain a refund for an empty bottle, the bottle is placed in the carrier 65 which is normally maintained in the position shown in Fig. 2. The operating handle 64 is then swung from the position shown in Fig. 2 through the position shown in full lines in Figs. 3 and 4 and to the position shown in dot and dash lines in Fig. 4. The arm 69 is effective to direct the bottle out of the carrier into the chute where it passes between the gauge plate 68 and the feelers 71 and 72. If the bottle is of the proper size and configuration, both feelers 71 and 72 are actuated, thereby pulling the lever 74 to the left (see Fig. 7) and with it the slide 75. Contact of the oblique surfaces 76 and 77 causes the bar 78 to be lifted to disengage the ejector 79, which under the influence of the spring 82 swings forward to eject the bottom coin of the pile of coins into the coin return chute 81. If the bottle presented is of improper shape or size either the feeler 71 or the feeler 72 will not be operated its full extent. As a result the slide 75 will not be pulled to the left as far as usual with the result that the detent 78 will not be sufficiently lifted to disengage it from the ejector 79, so that there will be no ejection of a coin,

(see Fig. 8). On the return of the handle 64 to normal position the ejector 79 will lift the detent 78 against the action of its spring 78' and when the ejector passes beyond the detent 78 it will be returned to latching position by such spring. As soon as the bottle is fully pushed in, the feelers return to normal position. Should the carrier not be rotated forwardly sufficiently to push the bottle past the feelers, the return movement of the carrier will cause the bottle to be engaged by the edge of the bottle recess thereby forcing the bottle past the feelers. The redeemed bottles are gradually pushed by succeeding bottles along the shelf 84 until they reach the edge after which they drop into the receptacle 85. The lower compartment is provided with a door 107 through which the empty bottles may be removed or access be had to the compartment.

In the particular machine above described, a dime is required to operate the lock releasing means to permit access to the bottle of milk or the like in the compartment in register with the door. The refund mechanism is designed to pay back to the customer a nickel for the return bottle. The machine may, however, be designed to be operated by and make refund of coins of other denominations than these. The bottles used in the vending mechanism above described may be a standard type of bottle or may be a bottle particularly designed for the machine. A special design of bottle might be desirable as it would effectively prevent improper operation of the refunding mechanism. The character of use to which the machine is to be put will be largely determinative of whether a standard type or a special type bottle will be used. The machine may be adapted with any type bottle simply by proper adjustment of the feelers and the use of a proper gauge plate.

Means are provided to prevent operation of the carrier 65 when the supply of nickels in the coin tube 80 is exhausted. A lever 96 is pivoted to the shelf 84 and is provided with a horn 97 which is adapted to project into an aperture in the bottle carrier 65 to lock the same against rotation. A spring 98 normally holds the lever 96 in inoperative position. A weight 99 is slidably arranged in the coin tube 80 and rests upon the pile of coins therein. This weight is provided with a lug which projects through a slot in the coin tube and when the coins are exhausted engages the end of the lever 96 to swing the same into operative position whereby the horn 97 locks the carrier 65.

It is of course understood that various structural modifications may be made in the device above described without in any way departing from the spirit of the invention as defined in the appended claims.

We claim:

1. In combination, a carrier for receiving and transferring bottles, a coin ejector, a spring for actuating said ejector to deliver a coin, a detent for said ejector, means operable by a bottle to effect release of said detent and means operable by said carrier for resetting said ejector.

2. In combination, a carrier for receiving and transferring bottles, a coin ejector, a spring for actuating said ejector to deliver a coin, a detent for said ejector, means operable by a bottle to effect release of said detent, and means connecting said bottle carrier and ejector for resetting the latter by the former.

3. In combination, an oscillatory carrier for receiving and transferring bottles, an oscillatory coin ejector, a spring for actuating said ejector to deliver a coin, a detent for said ejector, means actuatable by a bottle to release said detent, and means connecting said bottle carrier and said ejector for resetting the latter by the former.

4. In combination, oscillatory bottle receiving and transferring means, a spring actuated coin ejector, a detent for said ejector, means actuatable by a bottle to release said detent from said ejector and a flexible connection between said detent and said oscillatory bottle receiving and transferring means.

5. In combination, a carrier for receiving and transferring bottles, a chute, means extending across the path of the carrier for discharging a bottle from said carrier into said chute, a coin ejector, a detent for said ejector, and means operable by a bottle entering said chute to render said detent inoperative.

6. In combination, a bottle carrier, a chute, means extending across the path of the carrier for discharging a bottle from said carrier into said chute, a spring actuated coin ejector, a detent for said ejector, and means operable by a bottle entering the chute for rendering said detent inoperative.

7. In combination, a bottle carrier, a chute, means extending across the path of said carrier for discharging a bottle from said carrier into said chute, feeling mechanism projecting into said chute and operable by a bottle entering said chute, a spring actuated coin ejector, a detent for said ejector, and connections between said feeling mechanism and ejector for rendering said detent inoperative.

8. In combination, a bottle carrier, a chute, means extending into the path of said carrier for discharging the bottle from said carrier into said chute, a spring actuated coin ejector, a detent for said ejector, and means extending into said chute and operable by a bottle entering said chute to release said detent.

9. In combination, a bottle carrier, a chute, means for discharging a bottle from said

carrier into said chute, a pair of feelers slidably mounted in one wall of said chute, a spring actuated coin ejector, a detent for said ejector, and connections between said feelers and detent for actuating the latter by the former.

10. In combination, a pair of feelers to engage the surface of a bottle, a slide differentially operated by said feelers, a coin ejector and a detent for said ejector, said detent being rendered inoperative by said slide.

11. In combination, a pair of feelers to engage the surface of a bottle, a slide, connections between the feelers and said slide for effecting differential operation of the latter, a coin ejector and a detent for said ejector, said detent being rendered inoperative by said slide.

12. In combination, a pair of feelers to engage the surface of a bottle, a slide, connections between said feelers and said slide to effect differential operation of the latter, a coin ejector, resilient means for operating the same, a detent for said ejector and connections between said detent and slide to render the latter inoperative upon predetermined movement of the former.

13. In combination, a pair of feelers to engage the surface of a bottle, a slide, connections between said feelers and said slide to effect differential operation of the latter, a coin ejector, resilient means for operating the same, a slidable detent for said ejector, said detent and slide having contacting oblique surfaces whereby predetermined movement of the former is effective to render the latter inoperative.

14. In combination, a rotatable bottle carrier, a chute, means to effect transfer of a bottle from said carrier to said chute, a pair of feelers to engage the surface of a bottle passing through said chute, a slide, connections between said feelers and said slide to effect differential operation of the latter, a coin ejector, and a detent for said ejector, said detent being rendered inoperative by full movement of said slide.

15. In combination, a casing, means to receive empty bottles and transfer the same into the interior of said casing, a pair of feelers to engage the surface of the bottle while being transferred to the interior of the casing, a slide, connections between said feelers and slide to effect differential operation of the latter, a coin ejector, a detent for said ejector, said detent being rendered inoperative upon full movement of said slide.

16. In combination, a casing, bottle receiving means operable to transfer an empty bottle within said casing, a pair of feelers for engaging the surface of the bottle during transfer, a slide, connections between said feelers and slide for effecting differential operation of the latter, a spring actuated coin ejector and a detent for said ejector, said de-

tent being operable to release said ejector upon the full movement of said slide.

17. In combination, a bottle chute, means to receive empty bottles and deliver the same to said chute, a pair of bottle feelers mounted in one wall of said chute, a slide, connections between said feelers and said slide to effect differential operation of the latter, a spring actuated coin ejector, and a detent for said ejector, said detent being operable to release said ejector upon full movement of said slide.

18. In combination, a bottle carrier, feelers for engaging the surface of the bottle, a spring actuated coin ejector, a detent for said ejector, connections between said feelers and said detent for rendering said detent inoperative, and connections between said bottle carrier and ejector for re-setting the latter by the former.

19. In combination, bottle receiving and transferring means, a pair of feelers for engaging the surface of a bottle, a coin ejector, a detent therefor, and connections between said feelers and detent for effecting differential operation of the latter.

20. In combination, bottle receiving and transferring means, a pair of feelers for engaging the surface of a bottle, a coin ejector, a detent therefor, connections between said feelers and detent for effecting differential operation of the latter, and connections between said bottle receiving and transferring means and said ejector for resetting the latter by the former.

21. In combination, bottle receiving and transferring means, a coin ejector, a detent therefor, a pair of feelers for engaging the surface of a bottle, a slide, and connections between said feelers and slide for effecting differential operation of the latter, said detent being operable by said slide.

In testimony whereof, we have signed our names to this specification.

JOHN H. McCORMICK.
CARL G. ALLEN.
FRANK M. BENDER.