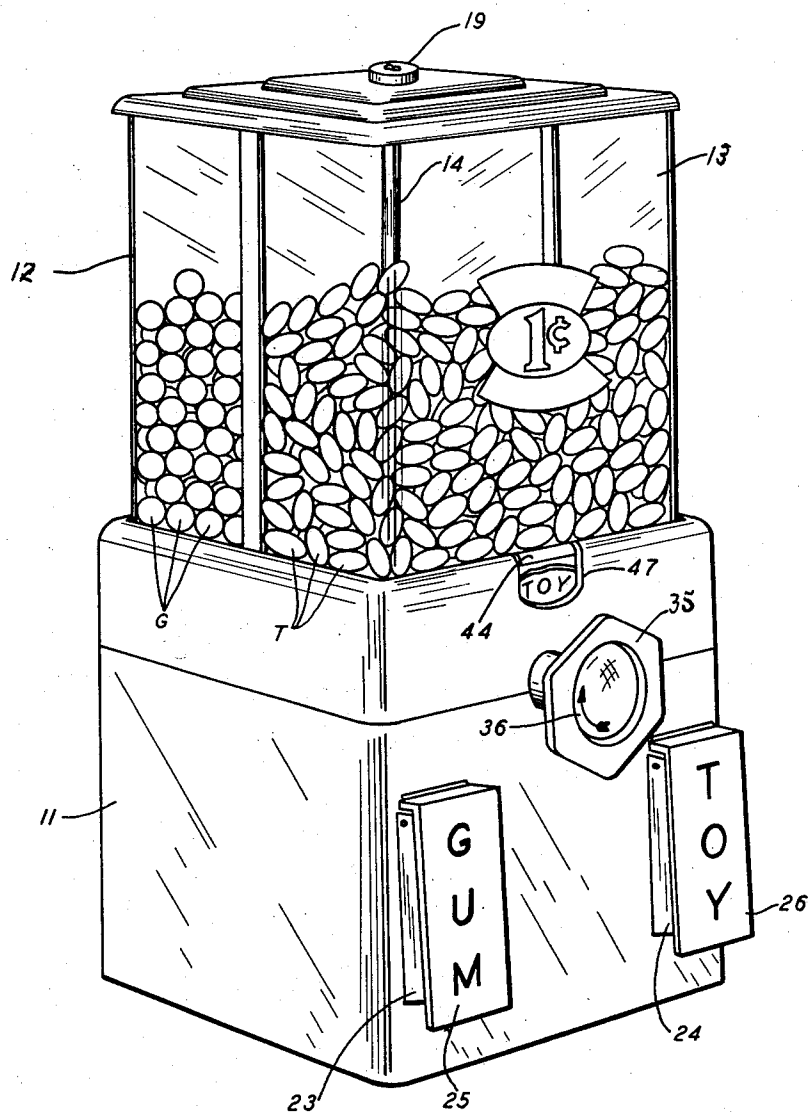


Filed Aug. 24, 1954

MULTIPLE VENDING DEVICE

2 Sheets-Sheet 1

FIG. 1



INVENTOR.
ELVIN D. ANGELL
BY
Jones, Trech & Darbo
ATTORNEYS

Sept. 23, 1958

E. D. ANGELL

2,853,172

MULTIPLE VENDING DEVICE

Filed Aug. 24, 1954

2 Sheets-Sheet 2

FIG. 2

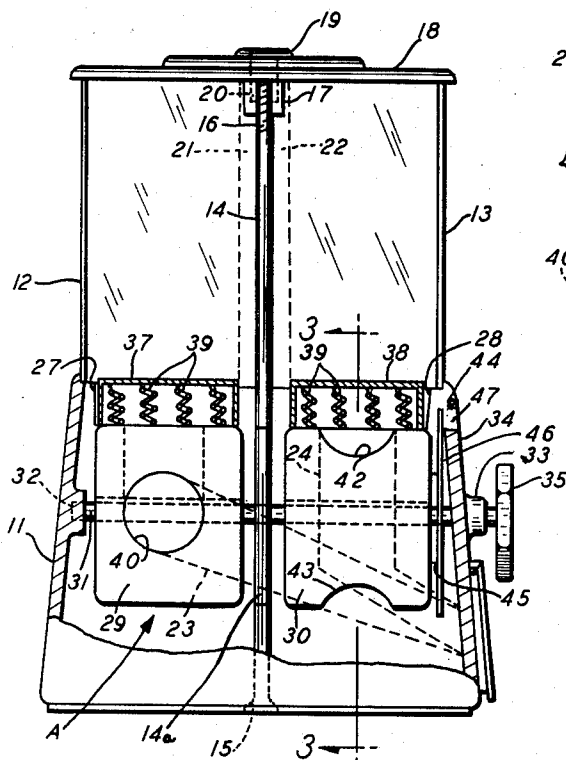


FIG. 3

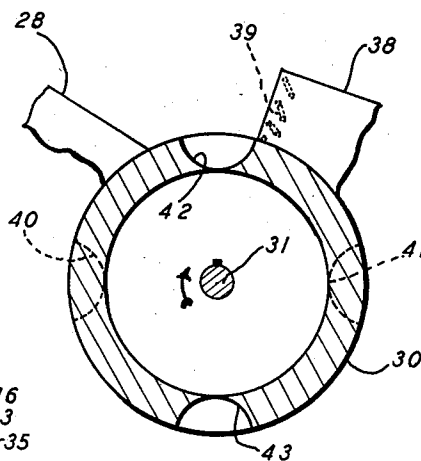


FIG. 7

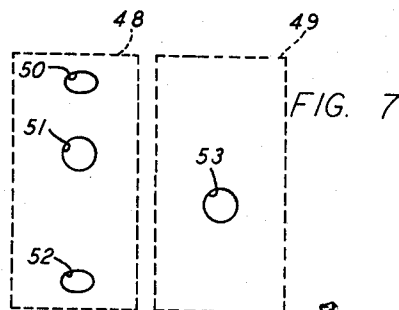


FIG. 4

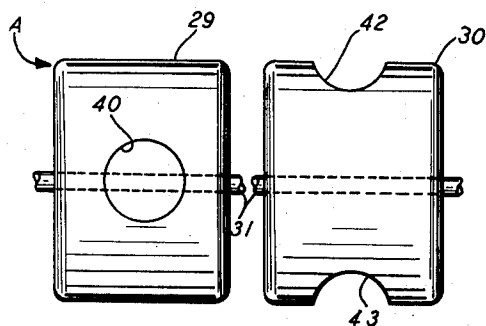


FIG. 5

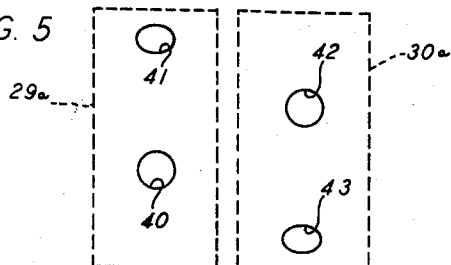
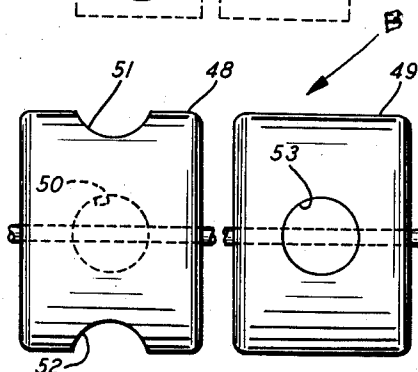


FIG. 6



INVENTOR.
ELVIN D. ANGELL
BY
Jones, Tesch & Darbo
ATTORNEYS

1

2,853,172

MULTIPLE VENDING DEVICE

Elvin D. Angell, Glen Ellyn, Ill., assignor, by mesne assignments, to E. Lafayette Quirin

Application August 24, 1954, Serial No. 451,909

1 Claim. (Cl. 194—2)

This invention relates to multiple vending device of the class embodying a dispensing machine for popular and low-price merchandise, such as, for example, so-called ball gum or gum balls, which are commonly sold individually to children and dispensed as a result of a coin such as a penny being deposited by the child in a slot provided in the machine, the machine also carrying a supply of small attractive toys or knick knacks which are similarly dispensed upon occasional operations of the device.

One objection to machines of this class has been that the toys are in the same magazine or container as the gum balls that the child places in its mouth, and that the device is thus unsanitary or unhygienic by permitting contact, and frequently prolonged rubbing contact, between the gum ball and the painted toy from which paint or other inedible impurities may rub off and adhere to the gum.

Another objection to such conventional devices is that they set up for the child an element of chance in that the child does not know beforehand whether a toy will be delivered for the coin deposited.

In an important aspect the present invention provides a multiple vending device of the class described embodying a plurality of article magazines for storing supplies of different articles separately from each other and a single coin actuable delivery mechanism for successively delivering pre-determined articles from less than all of the magazines at a time.

One object of the present invention is the provision of a device of this class which will deliver gum balls and toys from separate magazines and through separate chutes so that the toy and the gum never come in contact with each other prior to the time the child receives them, the device however being actuated by a single delivery mechanism which involves no act of selection by the child and so that only one (either a gum ball or a toy but not both) are delivered at a time.

An object of the invention is the provision of such device in which the article next to be delivered by the machine is pre-determined and indicated in a manner visible to the child so that the child is informed as to what he is going to get upon the deposit of a penny, say, and without requiring or permitting selection on the part of the child.

Another object is the provision of such a device in simple and compact form, with a minimum of moving parts and which is adapted for manufacture in quantities suitable for relatively low-price merchandising and distribution.

These and other objects and advantages will be apparent from the following description, taken together with the accompanying drawings, of two illustrative embodiments of the invention, and in which drawings:

Figure 1 is a perspective view of a device embodying the present invention containing gum balls and toys in separate magazines;

Figure 2 is somewhat reduced side elevational view of

2

the device of Fig. 1, with the merchandise absent, parts being shown in section;

Figure 3 is an enlarged cross-section through a delivery rotor, taken on the line 3—3 of Fig. 2, showing staggered delivery pockets;

Figure 4 is an isolated view of the coaxial delivery drums shown in Fig. 2;

Figure 5 is a plane projection or development of the drums of Fig. 4;

Figure 6 is a view similar to Figure 4 of an alternative pair of drums which might be used with the structure of Fig. 2 to vary the sequence of delivery of articles; and

Figure 7 is a plane projection or development of the drums of Fig. 6.

Referring in detail to the illustrative construction shown in the drawings and turning first to the embodiment shown in Figs. 1 to 5, the numeral 11 indicates a base for the device which constitutes also a housing for the moving parts thereof and at the same time a support and emplacement for the glass-walled magazines 12 and 13.

As is customary in these devices, a center post 14, Fig. 2 having an enlarged head 15 on the underface of the base 11, passes upwardly therethrough and terminates in a threaded upper end 16 which enters a socket 17 on the underface of a cover plate 18 that clamps the magazine 12 and 13 to the base 11, in conjunction with a key rotatable lock 19 which has an interiorly threaded shank 20 that passes through an opening in the cover plate 18 and enters the socket 17 to mate therein with the threaded upper end 16 of the center rod 14. The center post 14 has a laterally offset portion 14a adjacent its lower end for the purpose of by passing the axle of the rotor presently described. The companion magazines 12 and 13 may be centrally and oppositely grooved as at 21 and 22 to pass the center rod 14 therebetween, and to accommodate the socket 17 of the cover plate.

In accordance with the present invention, the magazines 12 and 13 have separate delivery chutes, 23 for the magazine 12, and 24 for the magazine 13, that communicate with separate chute flap closures, 25 for the chute 23, and 26 for the chute 24, that may be raised in the usual manner to give access to the merchandise delivered. The glass walled magazine 12 containing gum balls G communicates with a hopper 27, and the magazine 13, containing toys T with a hopper 28, both in the base 11, and into which the articles respectively in the magazines fall by gravity.

Following the present invention the lower end of the hopper 27 (Fig. 2) is closed by a rotor drum 29, and, similarly, the lower end of hopper 28 is closed by another rotor drum 30. The drums 29 and 30 are coaxial on the axle 31 which passes medially and transversely through the base 11 (where the center post 14 is offset) and is journaled at one end as at 32 in an internal boss provided on the inner face of the rear wall of the base. At its other end, the axle 31 passes through an external bearing 33 in the front wall 34 of the base and terminates on the exterior of the device in an actuator in the form of a rotatable knob 35 having desirably a non-circular periphery for ease of manipulation.

When, by means of the knob 35 the drums 29 and 30 are simultaneously rotated on their common axle 31 in a clockwise direction, as indicated by the arrow 36 (Fig. 1), articles lying on the upper arcuate faces of the drum at any time within the confines of the hoppers 27 and 28 tend to be carried along in the direction of rotation of the drums. Communication between the hoppers 27 and 28 and the delivery chutes 23 and 24 respectively are provided through covered portals, 37 for the hopper 27, and 38 for the hopper 28, these portals being sufficiently upstanding in the hoppers to face the articles in the hoppers moved theretoward by rotation of the drums. The portals

3

37 and 38 are each closed partially but passably by a series of vertical coil springs 39 which at their upper ends are rigid with the upper walls of the portals 37 and 38 respectively and at their lower ends hang freely and relatively closely together across the openings of the portals, to act as spring detents as presently more particularly described.

Further in accordance with the present invention, delivery pockets are provided in the rotors 29 and 30 staggered with respect to each other so that no two pockets on different rotors are in the same axial plane. That is to say, as here shown, the drum 29 has in its periphery a pair of pockets 40 and 41 on diametrically opposite sides of the drum, and, conversely, the companion drum 30 has a pair of pockets 42 and 43 on diametrically opposite sides of this drum, the pockets 40—41 on the drum 29 and the pockets 42—43 on the drum 30 being in different axial planes, and, namely, in axial planes which are in this instance 90° apart or at right angles to each other. Thus considering the rotor A as a unit (consisting of the drums 29 and 30) there is a delivery pocket, and only one, in each quadrant of the rotor.

Fig. 5 shows, for clearness of description, a plane projection or development of the surfaces of the drums 29 and 30, the plane projection 29a of the rotor 29, and the plane projection 30a of the rotor 30 showing how the delivery pockets are staggered, so that, upon rotation of the knob 35, one such delivery pocket at a time will occupy a position uppermost of the drum and that this will occur alternately on drums 29 and 30. That is to say, as best seen in Fig. 2, in the position of the knob 35, there depicted, the delivery pocket 42 on the drum 30, is the only one of the four delivery pockets on the rotor A which is uppermost, and this delivery pocket 42 is in communication with the magazine 13. Assuming that the magazine 13 contains toys and toys only, a toy from the magazine will fall by gravity through the hopper 28 into the delivery pocket 42. If, now, a coin be deposited in the machine, through the coin slot 44, the coin falling through mechanism shown diagrammatically at 45 and later dropping into the lower portion of the base 11, permits actuation of the knob 35 clockwise in the manner of such mechanisms well known in the art and which need not be here further described. At this time, a toy which would have dropped by gravity into the delivery pocket 42 of the drum 30, is swept by rotation of the drum toward the portal 38. Other toy units that tend to be moved in the same direction by the drum but that are not in the pocket 42, are prevented by the spring detents 39 from entering the portal 38 and are thus prevented from falling into the delivery chute 24. Should the toy in the pocket 42 be not completely lodged in the pocket and protrude slightly above the pocket, the spring detents 39 will yield sufficiently to permit it to pass. At this same time, no gum ball is delivered by the drum 29 to the delivery chute 23, since there is no pocket on the drum 29 in the same quadrant of the rotor A as the pocket 42. Following the operation just described, the toy will drop through the delivery chute 24 and into abutment with the chute closure 26, marked in this instance "Toy," which the child may lift to take out the toy.

In order that, as here contemplated, the child shall have known that he was to get a toy, and not a gum ball, upon deposit of the coin as just described, the device carries, further in accordance with the present invention, an indicator, visible exteriorly thereof, as in this instance the dial 46 carried by and keyed to the axle 31 to rotate therewith. Indexed thereon, in appropriate quadrants thereof, are the indicia such as "Toy," as shown in Fig. 1, and, in alternate quadrants, the word "Gum," all suitably spaced about the margin of the dial and successively appearing in a sight slot 47 which may be an enlargement of the coin slot 44, as indicated in the drawings.

Similarly, subsequent to the operation just described, the rotor having moved to its next quadrant, the delivery

4

pocket 40 of the drum 29 will now be in gum ball receiving position with respect to the hopper 27 of the gum ball magazine 12. At this time the dial 46 will show the word "Gum" through the sight slot 47. Upon the next deposit of a coin by the child and consequent permissible rotation of the actuating knob 35 the gum ball in the pocket 40 will be swept into the portal 37 and will therefrom fall into the delivery chute 23 to descend to a position adjacent the flap closure 25, indicating "Gum," which the child may then raise to take the gum ball.

The foregoing has just described alternate deliveries of toy and gum, but the invention contemplates that the sequence of deliveries may be varied. For example, it may be desired to have the device deliver a toy only every third operation thereof instead of at alternate operations. For this purpose a different rotor unit B may be installed in the device, and for example the rotor unit embodying the drums 48—49 indicated in Fig. 6. In this rotor as best seen in the plane projection or development thereof depicted in Fig. 7, the drum 48 has delivery pockets 50, 51, and 52, in three of its quadrants, whereas the drum 49 has a delivery pocket 53 in only one of its quadrants, that being the quadrant of the rotor in which no delivery pocket occurs in the drums 48. It will be understood that the rotor B would function otherwise similarly to the rotor A.

So constructed and arranged, there is here disclosed a multiple vending device of the class described embodying a plurality of storage magazines for storing different articles separately, and pre-determined and non-selective means for delivering articles from less than all, and in this instance one, of the magazines at a time, while at the same time the articles from the separate magazines are maintained separate and out of contact throughout the entire delivery process and are delivered through separate delivery channels, the article next to be delivered being indicated.

The invention is not intended to be limited to details of construction shown for purposes of exemplification, and such changes may be made as fall within the scope of the appended claims without departing therefrom.

What is here claimed is:

In a multiple vending device for different articles, a plurality of storage magazines for visibly storing different articles separately, a separate delivery chute leading from each magazine to the front of the device, a separate closure for each chute separately accessible at the exterior of the device, whereby said different articles are maintained separate and apart throughout storage and delivery thereof, each said closure having a first indicator associated therewith designating the article delivered from one magazine at said closure distinguishing from articles in the other magazines, coin controlled means for actuating the device to dispense the different articles in a predetermined order, said means including a coin slot and a rotatable knob adjacent the coin slot, both the coin slot and the knob being also at the front of the device, and a second indicator extending into the coin slot at the front of the slot responsive to rotation of said knob and designating the article next to be delivered by the device upon a coin deposit, whereby the second indicator is in front of the coin during insertion so that its designation registers with but is not concealed by the coin, said second indicator coinciding in its designation with one of said first indicators successively.

References Cited in the file of this patent

UNITED STATES PATENTS

70	1,109,134	Millard	Sept. 1, 1914
	1,252,121	Jacobs	Jan. 1, 1918
	2,563,204	Andrews	Aug. 7, 1951

FOREIGN PATENTS

75	440,119	Germany	Jan. 28, 1927
----	---------	---------	---------------