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DISPENSER FOR CYLINDRICAL ARTICLES

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FIG. 1.

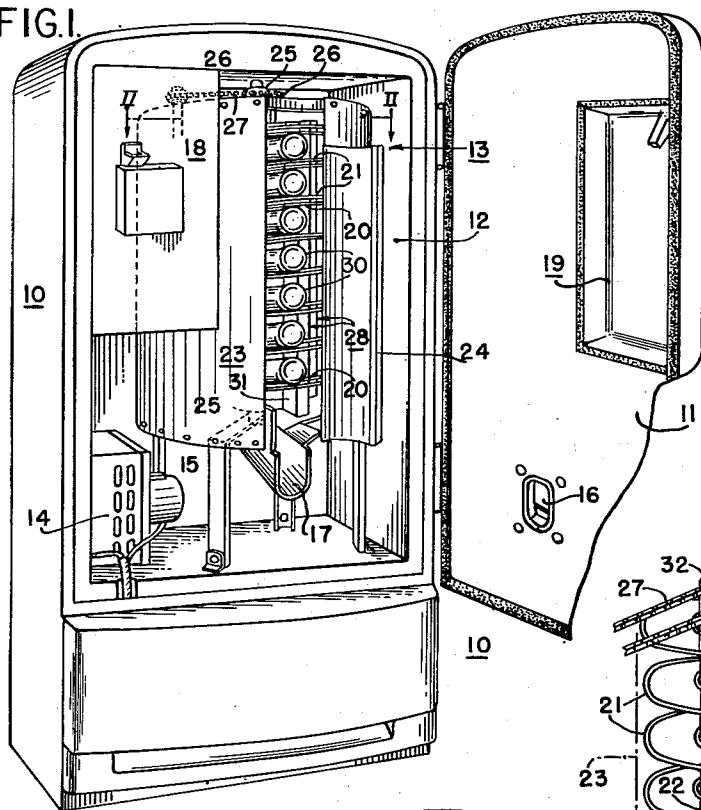


FIG. 3.

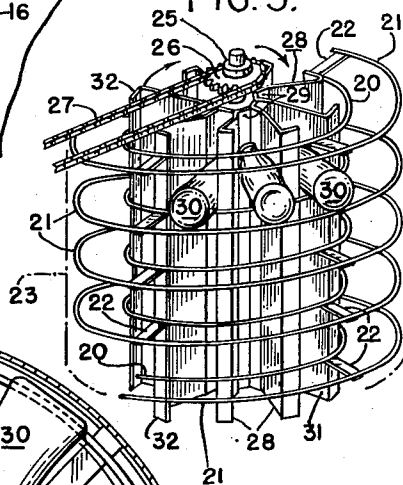
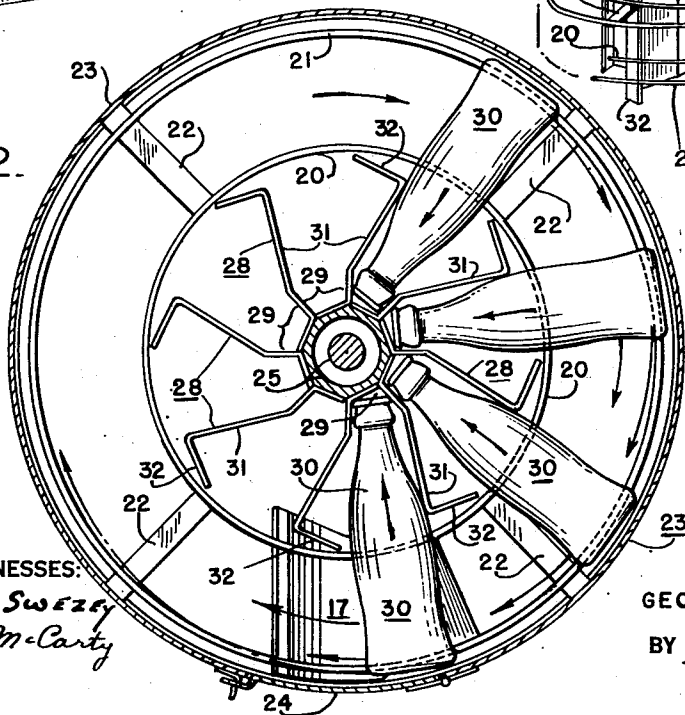


FIG.2.



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DISPENSER FOR CYLINDRICAL ARTICLES

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2 Claims. (Cl. 312—97.1)

1

This invention relates to article dispensers and particularly to dispensers of the rotating type for dispensing cylindrical objects such as bottles.

The invention relates particularly to a dispenser of the type described in which the bottles are moved intermittently along a circular spiral ramp having a vertical axis, and in which the bottles are propelled along the ramp by a pusher member having a plurality of vanes extending toward the ramp.

In such a dispenser the main body portion of each bottle is supported by the ramp, while the neck portion is engaged by and projects between adjacent vanes. The bottles are laid on their sides and extend in a direction radially of the dispenser.

In dispensers of this type as heretofore constructed, the vanes of the pusher member have been straight and have also been placed on radial axes of the pusher member. With such a construction the bottles tend to ride outward over the edge of the ramp, in other words, to follow a circle of increasing radius.

To overcome this tendency resort has been had to various expedients such as barriers engaging the outer ends of the bottles. Such expedients have been fairly successful in machines where the central pusher member is power-driven. However, when the pusher member is manually operated by a customer, the frictional resistance of such a barrier produces a force in addition to the normal load which must be overcome by the operator.

I have found that it is possible to provide a construction for the vanes of the pusher member which overcomes the tendency of the bottles to ride out over the edge of the ramp and instead causes the bottles to tend to move inwardly toward the axis of the pusher member as the bottles roll on the spiral ramp. While this new construction is particularly desirable in a manually-actuated machine, it is also useful and practical in a power-operated machine.

A primary object of the invention is to provide a vane structure for accomplishing the aforesaid purposes.

Another object is to provide such a structure which may be cheaply and easily formed.

These and other objects are effected by my invention as will be apparent from the following description and claims taken in connection with the accompanying drawings, forming a part of this application, in which:

Fig. 1 is a perspective view of a bottle dispenser

2

with the main door open and showing the dispensing mechanism;

Fig. 2 is a section on an enlarged scale taken on line II—II of Fig. 1 and showing the ramp and pusher construction; and

Fig. 3 is a perspective view showing the ramp and pusher assembly.

In the drawings, an insulated cabinet 10 has a hinged front door 11. The cabinet provides a compartment 12 within which the dispensing mechanism 13 is located. The compartment 12 is cooled by the evaporator 14 over which air is forced by a fan driven by a motor 15. The evaporator is connected by suitable conduits to a suitable condensing unit (not shown) disposed in a compartment located beneath the insulated compartment 12.

The door 11 is provided with an opening 16 through which bottles slide from the ramp 20—21 through a chute 17. A suitable coin-controlled driving mechanism 18 may be disposed in the front part of compartment 12. A recess 19 is provided in the inner side of door 11 to receive such parts of mechanism 18 as project beyond the compartment 12.

The dispensing mechanism here shown comprises a spiral ramp formed from two parallel spaced pieces of wire 20 and 21 which are supported at spaced intervals by plates 22. These plates are attached to and supported at their outer ends by a circular shield 23. This shield extends the full length of the ramp and is provided with a hinged door 24 facing the front of the cabinet and through which the ramp is loaded.

The centrally-disposed rotor member comprises a shaft 25 driven by a sprocket gear 26 through a chain 27 which, in turn, is driven from the coin-controlled mechanism 18. Vanes 28 are attached to the shaft 25 at spaced intervals. These vanes are bent at their inner ends to provide a narrow space 29 at the inner end of each adjacent pair of vanes for receiving the neck or cap end of a bottle 30.

The bottles extend outwardly from shaft 25 with their outer ends resting on the wires 20 and 21 and between adjacent vanes 28. A portion 31 of each vane extends substantially parallel to the axis of the bottle and to a point just short of the inner wire 20. Then the end portion 32 of the vane is turned inwardly and away from the bottle with its end projecting toward the next succeeding compartment where it serves to limit the motion of the bottle in the next compartment.

55

When bottles are disposed in a dispenser having vanes constructed as described above, the axes of the bottles are off center with respect to the axis of the pusher structure, whereby the bottles are caused to ride inwardly toward the center of the dispenser when the pusher member is actuated to drop a bottle on the chute 17.

The actuating mechanism indicated at 18 may be constructed so as to be controlled by a coin or the mechanism may be operated without the coin-controlled feature.

While I have shown my invention in but one form, it will be obvious to those skilled in the art that it is not so limited, but is susceptible of various changes and modifications without departing from the spirit thereof.

What I claim is:

1. In a dispenser for cylindrical articles of the type in which the articles are supported in a substantially horizontal position on a circular spiral ramp, the combination with said ramp of a rotatable member disposed inside the ramp for pushing the articles along the ramp, said member comprising a plurality of vanes spaced from each other to form a plurality of compartments each adapted to receive one of the articles to be dispensed, each of said vanes having a first portion extending in a radial plane outwardly from the axis of the pusher member, said first portions of adjacent vanes receiving therebetween and closely confining the inner ends of the articles, said vanes each having a second portion thereof extending outwardly from said first portion and angularly offset from the radial plane of said first portion in the direction of rotation of said pusher member, the outer end of said second portion engaging the article at a point spaced from the inner end thereof, the outer end of the second portion of one blade

cooperating with the first portion of the preceding vane to maintain the outer end of said article ahead of the inner end of the article whereby the article tends to move inwardly during rotation of said pusher member.

2. A rotatable pusher member for bottle dispensers of the type wherein the bottles are supported on a circular ramp surrounding the pusher member, said member comprising a plurality of circumferentially spaced vanes, each of said vanes having a first portion extending radially outwardly from the axis of the pusher member, said first portions of adjacent vanes receiving therebetween and closely confining the neck ends of the bottles, said vanes each having a second portion thereof extending outwardly from said first portion and angularly offset from the axis of said first portion in the direction of rotation of the pusher member, the outer end of said second portion of each vane engaging a bottle at a point spaced from the neck end thereof and cooperating with the first portion of the preceding vane to maintain the bottom end of the bottle ahead of the neck end thereof whereby the bottle tends to move inwardly during rotation of the pusher member.

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References Cited in the file of this patent UNITED STATES PATENTS

Number	Name	Date
902,908	Rafoth	Nov. 3, 1908
2,464,737	Wellekens	Mar. 15, 1949
2,466,159	Dodson	Apr. 5, 1949
2,482,245	Childers	Sept. 20, 1949
2,500,664	Connell	Mar. 14, 1950
2,537,489	Taylor	Jan. 9, 1951