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VENDING MECHANISM

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1 Claim. (Cl. 312—94)

This invention has been designed with the object of providing a new construction of coin actuated, or coin freed, mechanism for the vending of articles of a round or similar conformation. More particularly these means have been devised for use in the vending of fruit, such as apples, pears, oranges and such like, and they provide for a number of the articles being stored in a machine and delivered therefrom one at a time in response to the insertion into the machine of the appropriate coin for which the machine is designed.

In this invention there is provided for combination with any approved coin controlled mechanism, a series of holding trays which are disposed in an endless line or row one behind the other and are carried on means whereby they may be caused to move within an enclosure casing, having a delivery aperture therein, so as to pass in order across behind such aperture, and each of which holding trays is so mounted and/or controlled that it will, as it reaches such aperture, be caused to tip and discharge its contents out through the aperture.

The said movements of the tray carrying means are controlled by coin actuated or coin freed mechanism of any of the well known forms designed to convey movement to the means through a defined distance upon the insertion of a coin of a definite value into a receiving slot and then to check such movement and lock the means from further movement until a fresh coin has been inserted. These means do not form any part of the present invention as they may be readily applied without the exercise of any inventive skill to obtain and control the movements of the carrying means for the holding trays, as mounted and operating in the manner hereinafter described. In the illustration and description of this invention, therefore, it is illustrated and described without reference to the coin actuating means and as concerned only with the storage and delivery means for the particular goods or articles.

The said storage and delivery means are of the novel character before referred to and are such that the detail features of their construction and operation may be varied in some directions, as for instance by being adapted to operate in either a vertical or horizontal plane as concerned with the movements of the tray carrying means within the enclosure casing, and in the details of construction of such carrying means. In the following description of the invention it is, however, described more particularly in respect of an ar-

rangement under which the trays move in a vertical plane and are carried on means comprising a drum or wheel around the periphery of which the trays are disposed to form the endless line or row. It is also described in respect of a machine in which a number of lines or rows of the trays are disposed in parallel alignment and are so relatively arranged in respect to the delivery aperture of the casing as to permit of only one tray being free to discharge its contents through the aperture on each movement conveyed to the drum or wheel.

In describing this machine reference will be made to the accompanying sheet of drawings, in which:

Figure 1 is a sectional side elevation of the machine, groups only of the trays being shown.

Figure 2 is a front elevation thereof with the box for holding the mechanism shown in section.

Figure 3 is a front elevation of the machine with a front door of the box thrown open to expose the delivery control of the trays.

Figure 4 is a sketch showing an alternative manner of governing the delivery operations of the trays.

Figure 5 is a side elevation, and

Figure 6 a plan, on an enlarged scale, of one of the trays.

In the construction shown, the mechanism is housed in a suitable box form of enclosure A having a front door B for use in access to the mechanism and also a front opening C through which the articles stored in the trays may roll into an open receptacle D projecting out from the box front. A cylindrical casing E is fixed within the box to extend with its axis horizontal and such casing is made with a slot opening F in its periphery which is disposed coincidentally with the box opening C and from the bottom edge of which a chute D¹ inclines down into the receptacle D in the box front.

Mounted axially within this casing E, upon a spindle E¹ suitably journaled in the casing ends or box sides, is a wide rimmed wheel, or drum G adapted to rotate on the spindle. This wheel or drum is combined with the coin actuated or coin freed actuating mechanism beforementioned to provide for its movement through a specific proportion of a rotation in the manner required and such mechanism may be accommodated within the box A suitably made for its reception.

The peripheral surface of the wheel or drum is formed with a number of parallel circumferentially extending divisions H, which may suitably

be made by means of the parallel radially extending flange plates J affixed around such periphery. In each of these divisions a row or line of trays K are arranged at regular intervals apart around the wheel or drum and extending around its whole circumferential length. The spaces formed between the flange plates are closed in by the cylindrical casing E which closely encircles the outer edges of these plates.

Each of the trays K is formed by a length of flat material curved concavely from end to end and furnished with journal pins M on both edges which pins are journaled in the flange plates J on the respective sides of the division in which the tray is arranged. These journal pins M, are however, so disposed that the outer portion of the tray overweighs the inner portion while the tray bottom is made of such a length that it is adapted to engage the inside of the casing E at a rearward inclination in the direction of the wheel's or drum's rotation, as shown in Figure 1, so that it is kept from tipping down as the tray moves on the downward side of its travel until it passes down across the top edge of the opening F in the casing front, when it will be freed to so tip and will do so. Then as it passes in behind the lower edge of such opening it will resume its restrained position to be carried round in a reversed condition through the upward portion of its movement.

The several trays in the division are spaced apart such distances as to provide between each two trays and the sides of the division, a pocket of the area necessary to receive one of the articles to be stored and delivered by the machine. This article will rest in the tray beneath as the tray moves in the downward part of its travel and will rest on the back of the tray beneath as it moves in the upward part of such travel, as clearly shown in Figure 1. Thus when the loaded tray on its downward travel passes the upper edge of the opening F and tips, the article in such tray will roll down the chute D¹ and into the receptacle D to be thereby delivered from the machine.

With the wheel or drum running free, the trays of a division may be reloaded as they pass across the opening F, access being obtained by the opening up of the box door B and the articles being retained in the pocket spaces between the trays as the trays pass round inside the wall of the casing E.

Any desired number of divisions H, each with its complete set of trays, may be used, from one

upwards. In the form shown in the drawing, five of these are provided for. When a number of divisions are thus provided, the trays of the several divisions are so relatively disposed that only one tray is tipped at a time through the movement of the carrying wheel or drum through the definite portion of rotation provided for. This may be suitably effected by disposing the trays of the several circumferential rows so that they form rows extending at an incline transversely across the face of the drum or wheel, as shown in Figure 2, and to thus provide that the trays in each transverse row are freed in order from one end of the row to the other before the freeing of those in the next transverse row commences. Alternately this effect may be obtained by forming the upper edge of the opening F so that it inclines from one end to the other. This edge is preferably formed by attaching a bar N to a reinforcement of the casing E, by means of bolts N¹ which permit of the bar's correct adjustment. The bar as thus attached, may be given the side to side inclination before mentioned, as shown in Figure 4.

I claim:

Vending mechanism comprising a horizontally disposed cylindrical casing having an opening in its wall on one side of the center, a drum mounted axially within such casing and adapted to be moved through specific proportions of rotary movement by the actuation of coin-actuated means, partitions dividing the surface of the drum into a plurality of annular chambers, a series of holding trays arranged at intervals apart in rows around the outer periphery of the drum in each chamber and each mounted thereon by means of journal pins extending across such periphery parallel to the axis of the drum, said trays dividing the chambers into compartments, said casing being provided with means to cause the trays as they pass through the downward portion of their travel in the rotation of the drum to be retained in a holding position until they reach said opening in the casing at which point said trays are disengaged from said last-named means to pivot out through said opening, said opening extending across the width of the entire drum, a bar secured to the casing and extending across the top edge of said opening, and means for adjustably inclining the bar downward from one end to the other to regulate the discharge from the compartments.

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