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SELECTIVE VENDING MACHINE FOR STACKED ARTICLES

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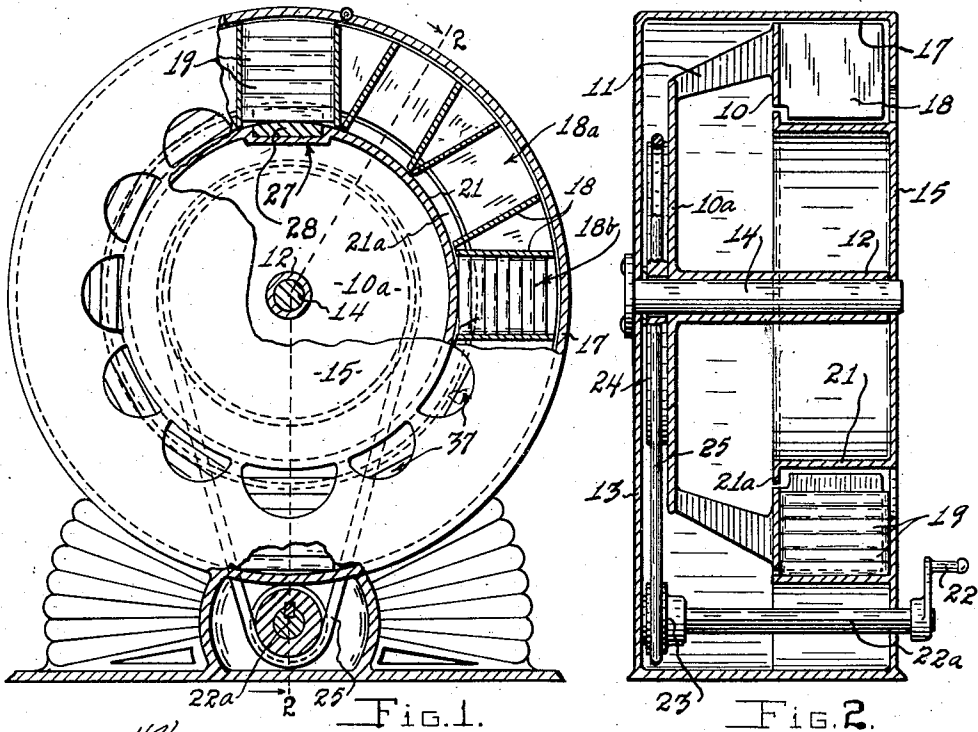


FIG. 1.

FIG. 2.

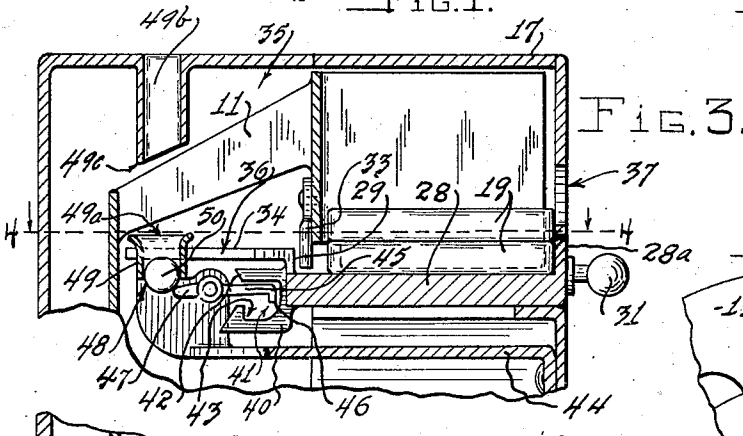


FIG. 3.

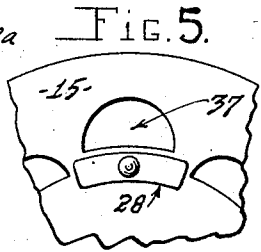


FIG. 5.

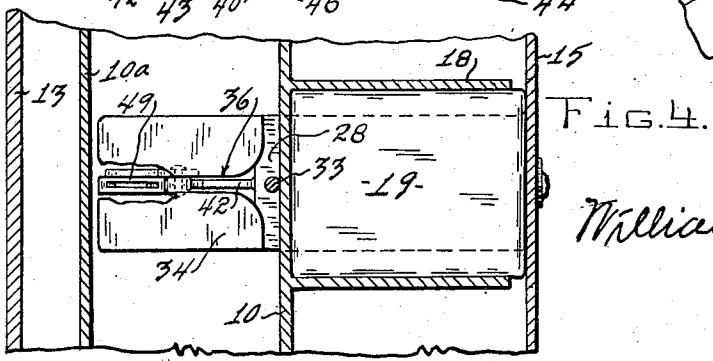


FIG. 4.

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SELECTIVE VENDING MACHINE FOR STACKED ARTICLES.

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The present invention relates to machines for selectively vending articles and has for its principal object the provision of a simple and fully selective coin controlled vending machine.

It will be understood in the consideration of this invention that a demand exists for a vending machine which will hold a wide variety of stacks of articles so that a single machine, for instance, may hold and vend a plurality of each of such articles as boxed sandwiches, packages of cigarettes of different brands, and other goods which differ in width and length but which are of approximately the same thickness. It is therefore another object of this invention to provide a machine adapted to contain and vend articles from a plurality of stacks.

Another object of the invention is to provide simple selecting and dispensing means adapted for use in conjunction with non-stacked articles.

Another object of the invention is to provide a selective vending machine embodying a revoluble article holding magazine, and a single dispensing means to which any selected article is movable, said machine embodying simplified means for centering and locking the magazine while an article is being removed.

Still other objects and advantages of my invention will appear hereinafter.

I have illustrated my invention by the accompanying drawings in which I have illustrated one practical embodiment of my invention, by way of example, it being understood that numerous other embodiments of this invention will suggest themselves to the minds of those skilled in the art after reading the ensuing description of the embodiment illustrated.

In the said drawings, Figure 1 is a face view of the said embodiment. Figure 2 is a view, on larger scale, taken in vertical section along a line 2-2, Figure 1.

Figure 3 is a view in vertical section of the upper part of the machine shown in Fig. 1.

Figure 4 is a view in section seen on a line 4-4.

Figure 5 is a fragmentary view in front elevation of the extreme upper central part of the machine.

In carrying out my invention in the embodiment illustrated, I employ a circular revoluble magazine including an outer annular

wall 10 from which spokes 11 extend inwardly to a sleeve 12. The machine includes a vertical frame 13 carrying a horizontal stub shaft 14 on which the sleeve and magazine are revoluble. Front and back casing walls, 15 and 16 respectively, of substantially circular outline, are provided, which co-act with a circumferential encompassing wall 17 to enclose the magazine and frame. To the annular wall 10 there are secured a plurality of inwardly opening radially arranged article holders 18, each adapted to contain a plurality of articles 19 stacked in superimposed relationship. The inner circumferential ends of the holders are open as at 20.

The front wall of the casing carries an annular guard or guide wall 21 which acts as a fixed boundary for the otherwise open ends of the article holders. It will be apparent now that the articles contained in the holders, will periodically turn, as the magazine is revolved, from upright to inverted position. The articles in the holders which are above the center of the machine will tend to throw their weight on the guard wall and will ride slidably thereon. The articles in the holders which are below the center will be supported by the circumferential casing wall and will ride slidably thereon. In other words, the inner annular wall and the outer casing wall provide an annular course through which the articles may be moved in sliding contact with either one wall or the other. The article holders differ in size. Holders such as 18^a will contain narrower articles than the holder 18^b, for example. Thus a few articles of each of many varieties may be carried and sold by the machine.

Externally of the casing there is provided a selecting handle 22 which is secured to a shaft 22^a which passes thru the front wall into the casing. Said shaft carries a pulley 23, and the magazine carries a pulley 24 of larger diameter. A belt 25 causes the small pulley to drive the large pulley at a reduced speed and thereby the selecting handle may be operated externally of the machine to revolve the magazine slowly to dispose any article holder in any desired position within the casing. One of the annular guide walls, in this case the inner wall, is provided, in this embodiment, with a cut-away portion 27 located directly above the center of rotation of the magazine. In the cut-away portion there is slidably fitted a drawer or

pull-out member 28 having a front wall 28 and a back wall 29. In other words, the drawer is of channel section and forms part of the annular runway thru which the articles or packages move as the magazine is revolved. By turning the selecting handle in either direction, the lowermost article of any stack may be moved directly into the drawer. The drawer is fitted with a pull-out handle 31 and, obviously, by pulling out the drawer the lowermost article of the stack will be accessible so that it may be removed.

The magazine carries a plurality of radially and inwardly directed pins 33 which also pass thru the drawer as the magazine is revolved, just behind the packages. The drawer carries a horizontally disposed plate 34 extending from the uppermost part of the rear wall of the drawer rearwardly into the space 35 provided behind the magazine. Said plate is provided with a central notch or guideway 36 which increases in width toward the drawer. When the magazine is moved so that a stack of articles, visible thru a sight opening 37 in the holder, is approximately aligned with the drawer, the corresponding pin will be approximately aligned with the widened end of the said slot. Thus first outward movement of the drawer will find the pin riding in the slot and the margins of the slot will act on the pin to accurately center the magazine so that the stack of packages is aligned properly with the drawer. As the drawer moves further the rear wall thereof will eventually abut the lowermost package (see Figure 3) and will move the lowermost package forwardly from under the others of the stack. Finally the package is moved entirely forward of the front wall so that the purchaser may slide it sidewise out of the drawer.

It will be apparent now that the single moving member which integrally embodies the drawer will act to eject the selected package as well as center the magazine. Another important feature is that the drawer will hold the magazine locked against movement because of the pin being in the slotted rear extension of the drawer. Until the drawer is moved practically back to normal position, it will not again release the magazine.

For a coin controlled machine, means should be provided for locking the drawer so that it cannot be moved until a coin has been properly deposited. Thus, if a coin is used to unlock the drawer, said drawer cannot be operated to retract another package until said drawer has been moved fully back to normal position, whereupon the lock should become effective so that the drawer cannot be again moved until another coin is fed to the machine.

Any one of various well known means may be employed for controlling the drawer and, in the embodiment illustrated, I employ

another rear extension 40 to said drawer, said extension being disposed edgewise. The extension includes a horizontal slot 41 open at one end as at 42 and terminating at the inner end in a notch 43. The front wall of the casing carries a bracket 44 on which is pivoted a horizontal latch 45 having a hooked end 46 adapted to engage with the notch to hold the drawer locked. A rear extension 47 to said latch runs in the slotted end 38 of a coin chute 49. The coin chute extends upwardly to a coin slot 47 in the top of the casing. When a coin is dropped into said chute it falls on the rear end of the latch, raising the hooked end out of engagement with the notch. Now the drawer is free to be pulled out; the upper margin 48 of the latch riding on the upper margin of the slot 41 until the rear termination of the slot is reached. Then the latch is free to be further moved by the coin with the result that the coin pressed end of the latch descends far enough to allow the coin 49 to pass out of a rear slot 50 provided in the coin chute. When the drawer is pulled out, the horizontal extension of the drawer rides under the package next above the package being withdrawn, and renders that package inaccessible. Said extension also serves to support the weight of the stack until the drawer is moved back to locked position, whereupon the extension moves from under the stack and allows same to fall, thus bringing the next remaining package into the drawer. When the drawer is returned to normal position, the magazine may be again revolved freely.

The operation of all the parts, and their co-relation having been explained, the operation of the complete machine will be easily understood from the foregoing. The glass front 54, provided in the front casing wall, makes the contents of each article holder visible thru the respective sight openings provided in the article holders. The patron of the machine turns the magazine until the selected stack from which he desires an article is aligned with the drawer. He stops the magazine so that it is fairly well aligned with the drawer. If too far out of alignment, he cannot pull the drawer out until he has more accurately aligned same. Now a coin is inserted in the chute and the latch is raised, releasing the drawer. When the article lowermost in the selected stack is removed the purchaser may move the drawer back to closed position or again he may neglect to do so, but the next patron must close the drawer before the machine is operative.

While I have shown and described a specific embodiment of my invention, I do not limit myself to any specific construction or arrangement of parts and may alter same as I desire or as occasion requires without en-

larging the scope of my invention within the appended claims.

What I claim as new and patentable is:

1. In a selective vending machine, a wall
5 over which articles are slidable in stacks, a pull out drawer forming an outwardly movable part of said wall, a back wall to said drawer adapted to engage and move the lowermost article in a stack, and an
10 extension to said drawer adapted on outward movement of the drawer to support the articles above the article being moved, a magazine in said casing movable to so
15 move contained stacks of articles, and means whereby outward movement of said extension and drawer will act to center said magazine, and to lock same against movement until the drawer is returned to normal
20 position.
2. In a selective vending machine an annular wall over which articles are slidable, a pull out portion to said wall, and a revoluble magazine for collectively moving a plurality of stacks of articles slidably around said

25 wall to bring the outermost article of any selected stack into contiguity with said pull-out portion.

3. In a selective vending machine, a revoluble magazine, a plurality of inwardly opening radially arranged article holders, a fixed annular wall immediately concentric
30 of the inner open ends of said holders, and a pull-out portion to said wall.

4. In a selective vending machine, a revoluble magazine, a plurality of inwardly
35 opening radially arranged article holders, a fixed annular wall immediately concentric of the inner open ends of said holders, and a pull-out portion to said wall, said wall
40 permitting of articles contained in said holders to slide thereover, and said magazine being movable to dispose any selected one of the article holders immediately above the
45 pull-out portion, and means for locking said magazine when the pull-out portion is in other than normal position.

In testimony whereof I affix my signature.
WILLIAM C. CUTLER.