Jan. 1, 1929. 1,697,306

W. C. CUTLER

VENDING APPARATUS

Filed Nov. 28, 1925

Fig. 1.

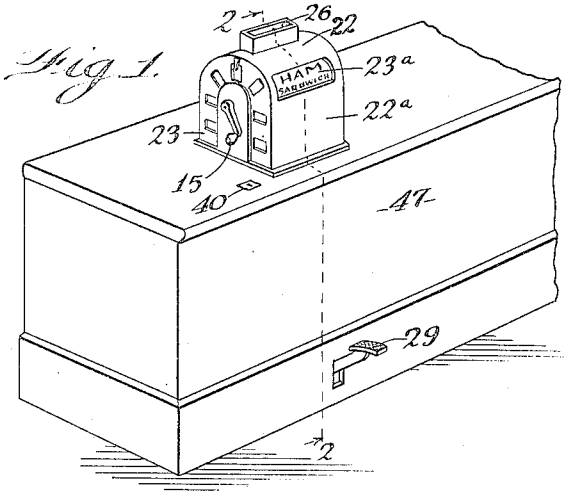



Fig. 5.

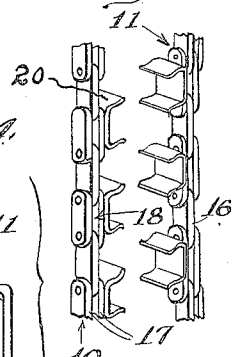



Fig. 4.

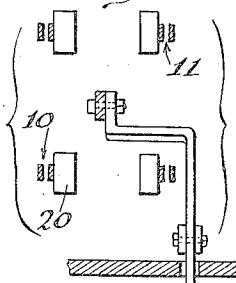



Fig. 2.

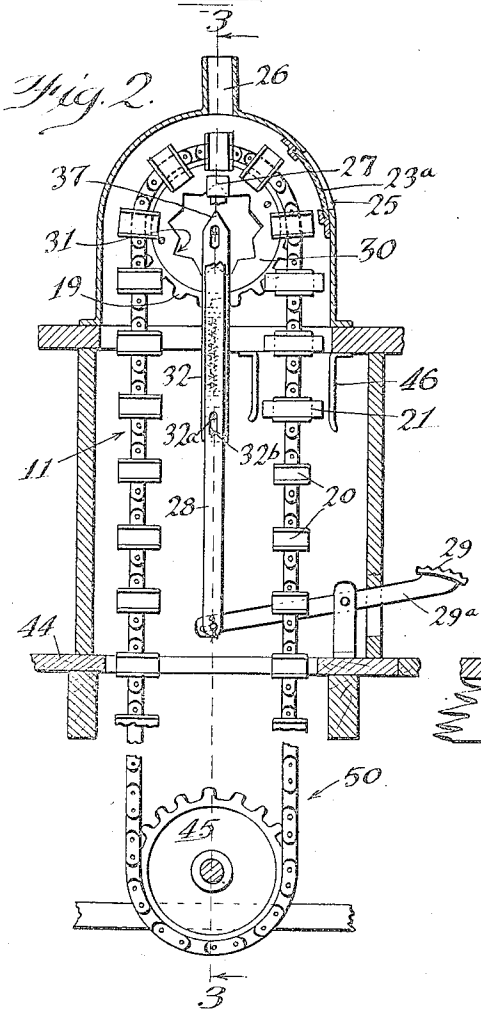
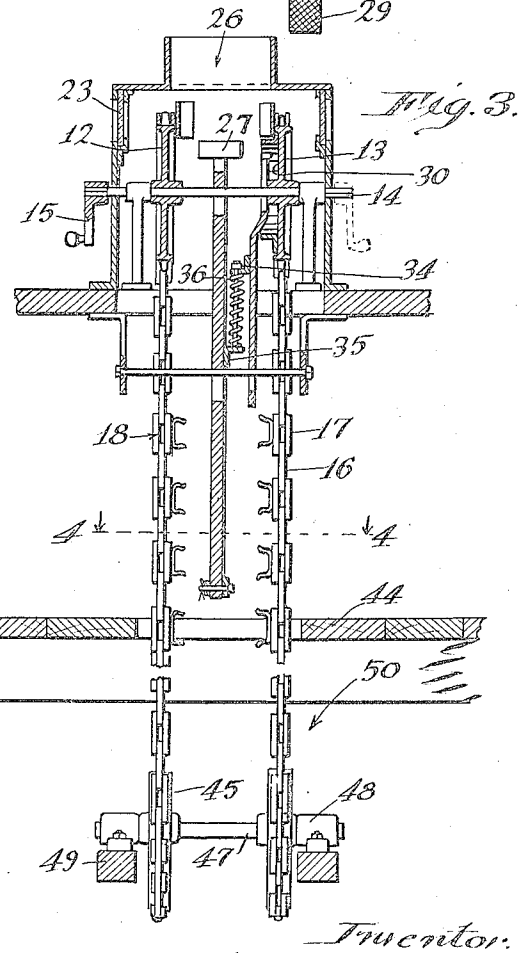



Fig. 3.




Inventor:
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Patented Jan. 1, 1929. 1,697,306

# UNITED STATES PATENT OFFICE.

WILLIAM C. CUTLER, OF GLENDALE, CALIFORNIA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO SELECTIVE AUTOMATIC MANUFACTURING CORPORATION, OF LOS ANGELES, CALIFORNIA, A CORPORATION OF CALIFORNIA.

## VENDING APPARATUS.

Application filed November 28, 1925. Serial No. 72,050.

The present invention relates to vending machines and has for its principal object the provision of a selective vending machine of large capacity.

Another object of the invention is to provide a vending machine which will offer a wide choice of articles, with means whereby the entire contents of the machine may be reviewed by a prospective purchaser.

Another object of the invention is to provide a vending machine of the character described, which is capable of being replenished while the machine is in actual operation, unknown to the operator.

It will be understood in the consideration of this invention that selective vending machines selling boxed articles such as sandwiches and pies, are subject to heavy patronage at the noon hour and even a large capacity machine will soon be emptied under such conditions. It is therefore another object of the invention to provide a machine capable of serving, or being operated by, hundreds of persons in a very short interval of time.

Another object is to provide a vending apparatus suitable for automatic cafeterias and the like.

Another object of the invention is to provide a simple means for holding individual articles in large number in such manner that any article may be brought into registration with the vending mechanism and the delivery chute.

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

I have illustrated one practical embodiment of my invention by the accompanying drawings in which;

Figure 1 is a perspective view of the said embodiment as it appears to a prospective purchaser.

Figure 2 is a view in vertical section thereof seen on a line 2—2 of Fig. 1.

Figure 3 is a view in section seen on a line 3—3 of Fig. 2.

Figure 4 is a view in section seen on a line 4—4 of Fig. 3.

Figure 5 is a view in perspective of the article carrying means.

In carrying out my invention in the present embodiment I employ two spaced sprocket chains 10 and 11 respectively, running over spaced sprocket wheels 12 and 13 respectively. Said sprocket wheels are fixed to a drive shaft 14 adapted to be rotated by a crank 15. The chains are composed of intermediate links 16 and spaced alternate links 17 arranged in pairs to provide intermediate spaces 18 for the receipt of the teeth 19 of the sprocket wheels. The innermost one of each pair of alternate links, on each chain. is provided with a U-shaped clip 20 suitably secured thereto. The clips on one chain are directly opposed to the corresponding clips on the other chain; the open part of each clip facing the open part of the corresponding clips.

Each pair of opposed clips is adapted to serve to hold an article such as a box carton 21, containing a sandwich, pie, candy bar, or any other article (not shown). The clips are open at each end so that the ends of the boxes are visible and may hold a label to indicate the contents of the box.

The sprocket wheels and shaft, as well as the links adjacent the sprocket wheels, are housed in a suitable casing 22 having glass covered side panels 23 thru which the ends of the clips may be seen; said clips are provided with letters such as A, B, etc., to designate them and these letters are visible thru the glass panels. The arched wall 22ª of the casing is also provided with a sight opening 25 thru which the ends of the boxes may be seen as they pass said opening. By turning the crank, the sprocket wheels will be rotated and the chains will move together and successively display the boxes to the view of one looking thru the sight opening 25. Thus a prospective buyer may turn the crank until the desired article is in view thru the sight opening. Each box may contain a number (not shown) opposite the label, so that the box can be identified.

The arched wall is provided with an upstanding delivery chute 26. A patron having located the desired article, notes the number thereof and then turns the crank slightly further to bring that number of clip into registration with the delivery chute. The clips hold the articles frictionally against gravity but any box may be pushed out of place and up thru the chute by an ejecting member, such as 27. Said member is connected by levers such as 28 to a foot pedal 29. When the pedal is depressed the ejector is forced upwardly to drive a box from its clips thru the delivery chute. When the ejector raises the box to a suitable height it may be

reached by the purchaser. To one sprocket wheel there is fixed a star wheel 30 having notches 31, one for each set of clips. A centering bar 32 is provided which rides vertically with the ejector; said bar being held and guided by pins $32^a$ riding in slots 33. The bar carries a lug 34 and the ejector carries another lug 35, between which there is provided a compression spring 36. Thus when the ejector starts to rise the centering bar is raised by the spring. The pointed end 37 of the bar then enters the nearest notch and moves the sprocket wheel slightly to bring the nearest box into registration with the delivery chute. Incidentally, said centering bar holds the entire assembly of parts locked against movement until it is again retracted. While the ejector is traveling further upward the spring undergoes further compression. When the ejector is allowed to descend after ejecting a box, it returns practically to normal position before the spring is extended far enough to draw the centering bar back to normal.

It will be apparent now that any article carried by the chain may be selected, moved to proper position and ejected, by proper use of the crank and foot pedal. Using the foot pedal leaves both hands free to insert a coin in the coin slot 40, and to co-incidentally reach for the package issuing from the delivery chute. It is understood that the coin slot leads to suitable coin controlled means (not shown); said means preventing the foot pedal from being effective on the ejector unless a proper coin has been inserted in the slot. The contents of the machine may be reviewed, and the selected article moved into registration with the delivery chute before the coin is inserted.

In conformance with one of the salient features of this invention, the chains may be made as long as desired, according to the capacity required.

In the embodiment shown the casing is mounted on a counter 43 well above the floor 44. The floor may be that of a restaurant, or other place where it is desired to sell the contents of the machine without requiring the services of a clerk. The counter encloses and obscures the chains and they are continued downward below the counter into a basement, for example, where they run over idler sprockets 45. The machine may be replenished from the basement whenever required. In a large, automatic cafeteria several machines, each of large capacity, may readily be kept filled by one attendant. New cartons may be placed in the clips even while the chains are in motion, so that continued service is not interfered with. The coins inserted in the coin slot may either go to a suitable releasing mechanism, or the ejector may be released by an attendant who inspects each coin coming thru the coin slot, and releases the ejector once only for each legitimate coin of proper denomination received. Such mechanisms are employed at toll gates in railway stations and the like and are well enough understood that they do not require description herein.

The chains, in ascending, pass between two guides 46 which serve to adjust any boxes which may protrude unduly from their clips. Should an attendant hastily insert a box in a pair of clips while they are moving, the guides will tend to move the box eventually to correct position in the clips so that the machine cannot become jammed by a protruding box.

The operation of the machine and its parts is quite apparent from the foregoing. If the machine were to contain 100 boxes for instance, including 10 separate brands or kinds of articles, the articles could be arranged in groups of ten different kinds. Thus a prospective purchaser would never have to move more than 10 boxes by the sight opening before he located the brand which he desired. Having selected the article thru the aid of the indicating letters and labels, seen thru the sight openings, the prospective purchaser inserts a coin in the coin chute. At about the same instant he steps on the foot pedal and uses the hand, not employed in inserting the coin, to reach for the expected box which is to be delivered via the upstanding chute. If he has stopped the chains in such position that the desired box is not accurately alined with the chute, the first movement of the centering bar will aline said box properly with said chute. Continued depression of the pedal moves the ejector up to the delivery chute, forcing the selected box ahead of it.

I claim:

1. In apparatus of the class described, a floor, a counter rising from said floor and providing a delivery aperture, an endless conveyor extending from said counter down thru said floor to be accessible from points beneath the floor, a plurality of open end article holders carried by said conveyor, said conveyor movable to dispose the open end of each holder in registration successively with said opening, and means incorporated in each article holder for frictionally retaining the contained article from gravitating thru said opening when the holder is inverted to present the open end downwardly.

2. In apparatus of the class described, a floor, a counter rising above said floor, a casing on said counter providing a delivery opening, a conveyor extending from said casing thru said floor to be accessible from points beneath the floor, and a crank operable externally of the casing to move said conveyor, said casing provided with a sight opening thru which a portion of the contents of said conveyor is visible.

3. In apparatus of the class described, a

floor, a counter rising above said floor, a casing on said counter providing a delivery opening, a conveyor extending from said casing thru said floor to be accessible from points beneath the floor, an ejector alined with and spaced from said opening and movable toward said opening, and a plurality of open end article holders carried by said conveyor; said conveyor operable to move any selected article holder into position between said opening and ejector.

4. In apparatus of the class described, a floor, a counter rising above said floor, a casing on said counter providing a delivery opening, a conveyor extending from said casing thru said floor to be accessible from points beneath the floor, an ejector alined with and spaced from said opening and movable toward said opening, and a plurality of open end article holders carried by said conveyor; said conveyor operable to move any selected article holder into position between said opening and ejector, a foot pedal externally of the counter adjacent the floor, said foot pedal connected to be operative upon said ejector to move same toward said opening.

5. In apparatus of the class described, a floor, a counter rising above said floor, a casing on said counter providing a delivery opening, a conveyor extending from said casing thru said floor to be accessible from points beneath the floor, an ejector alined with and spaced from said opening and movable toward said opening, and a plurality of open end article holders carried by said conveyor; said conveyor operable to move any selected article holder into position between said opening and ejector, and means for locking said conveyor against movement while the ejector is in other than normal inoperative position.

6. In apparatus of the class described, a floor, a counter rising above said floor, a casing on said counter providing a delivery opening, a conveyor extending from said casing thru said floor to be accessible from points beneath the floor, an ejector alined with and spaced from said opening and movable toward said opening, a plurality of open end article holders carried by said conveyor; said conveyor operable to move any selected article holder into position between said opening and ejector, a foot pedal externally of the counter adjacent the floor, said foot pedal connected to be operative upon said ejector to move same toward said opening, and means for locking said conveyor against movement while the ejector is in other than normal inoperative position.

7. In a vending machine, a pair of spaced chains composed of links, a plurality of spaced open-end U shaped clips carried by each chain; the number and spacing of the clips on one chain corresponding to the number and spacing of the clips on the other chain; the open end of each clip on one chain being directed toward and alined with, the open end of the corresponding clip on the other chain; an enclosure rendering the chains and clips normally inexcessible and providing a discharge aperture; sprockets over which said chains run, and a crank operable externally of the enclosure to move said chains to selectively dispose any selected pair of clips in registration with said opening.

8. In a vending machine, a casing provided with a vertically rising discharge chute, a plurality of article holders open at each end, an endless conveyor movable to travel thru said casing to successively register the article holders with said discharge chute so that respective open ends of the alined article holders are in vertical alinement with said chute; and an ejector movable from below an alined holder thru the open end thereof to move a contained article thru the other open end of such holder and into said chute; said ejector movable to raise such article thru the chute to a position where it may be reached.

In testimony whereof I affix my signature.

WILLIAM C. CUTLER.