

June 20, 1933.

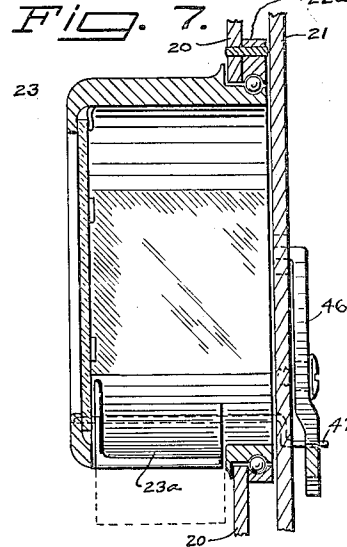
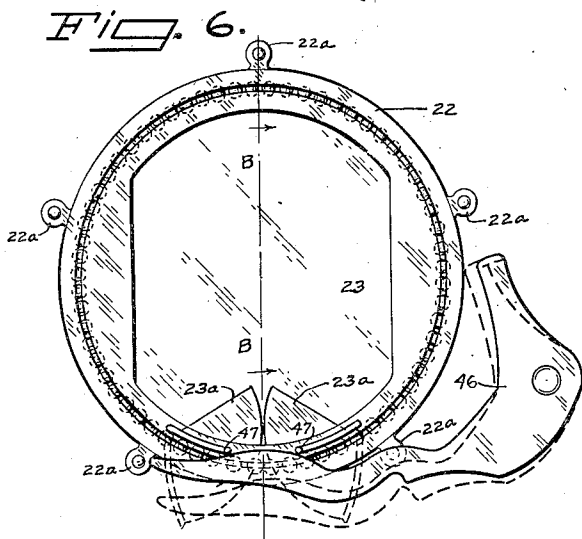
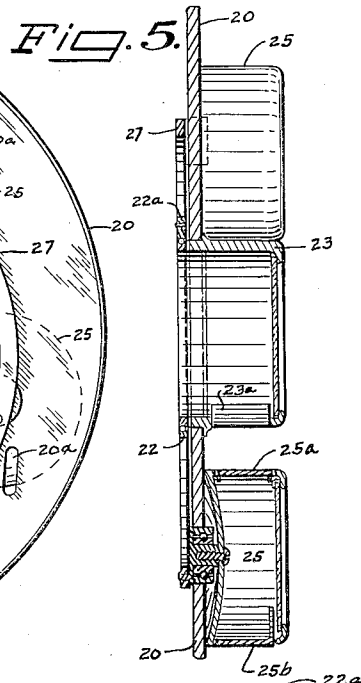
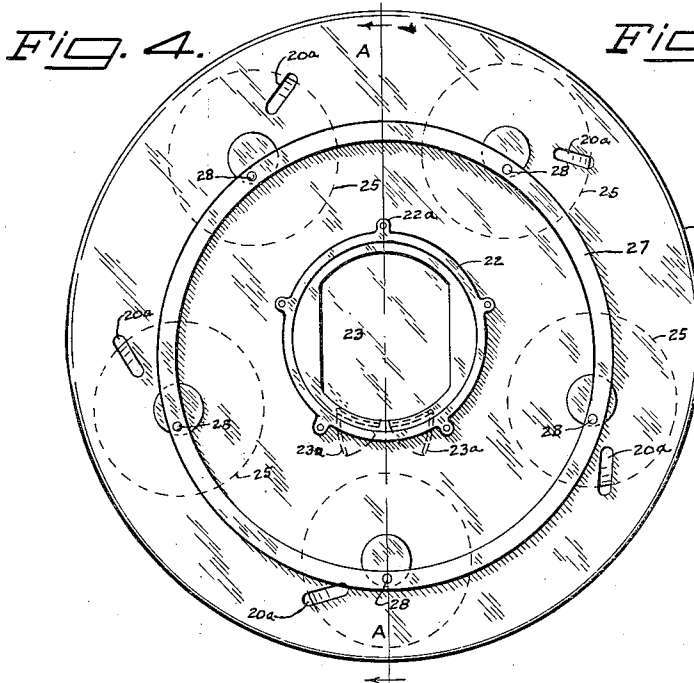
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1,914,980

VENDING MACHINE ATTACHMENT

Filed Nov. 7, 1930

4 Sheets-Sheet 2



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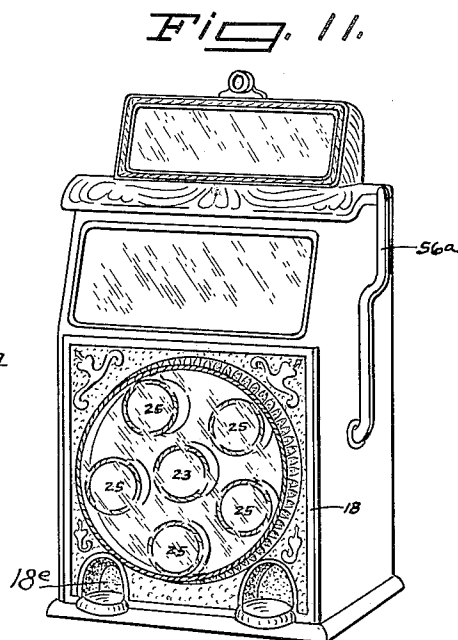
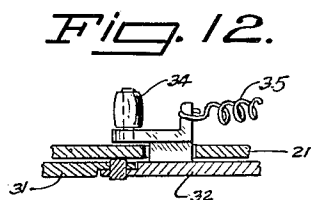
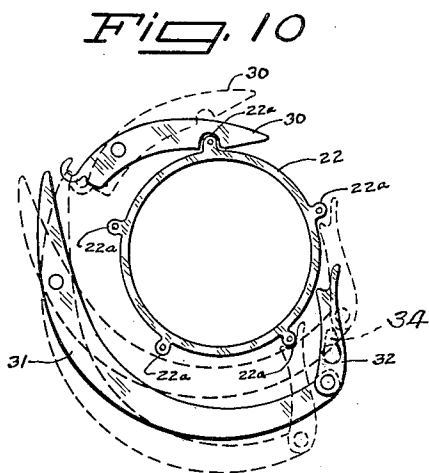
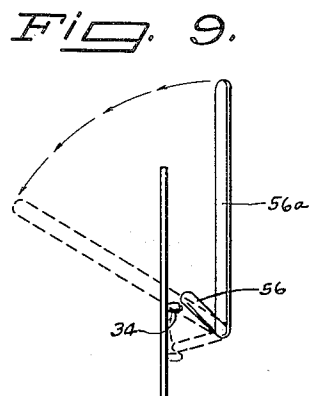
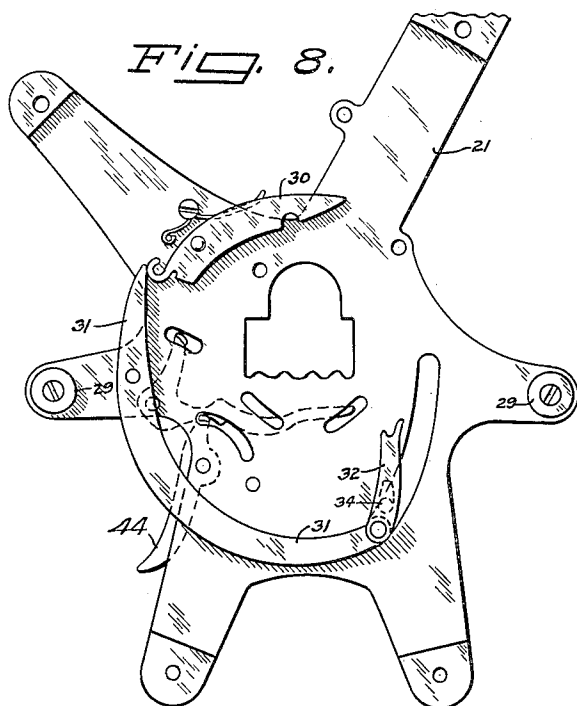
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VENDING MACHINE ATTACHMENT

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4 Sheets-Sheet 3



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4 Sheets-Sheet 4

FIG. 13.

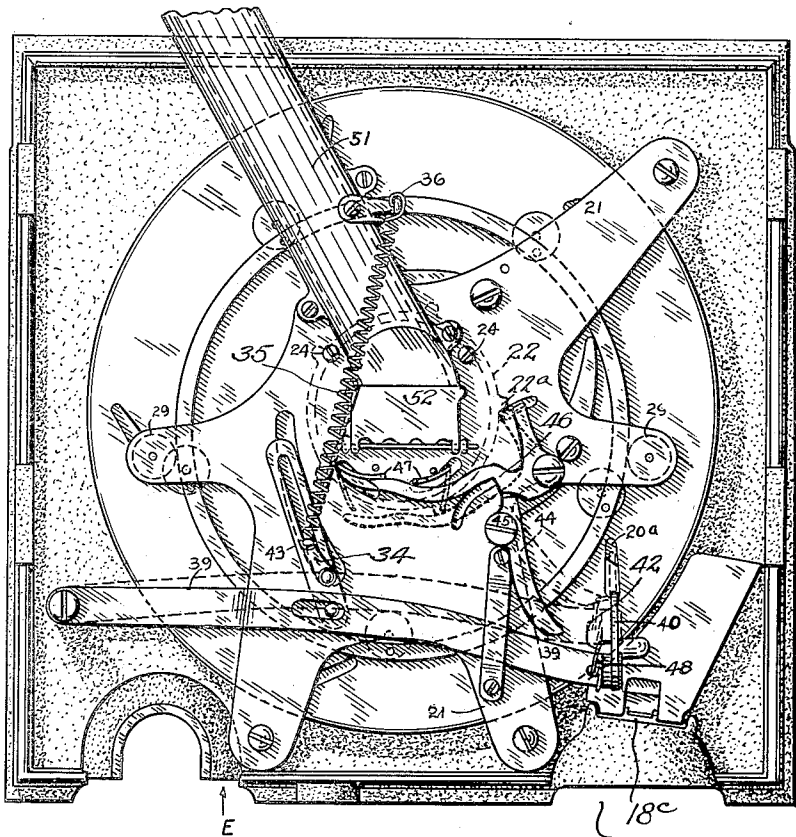


FIG. 14

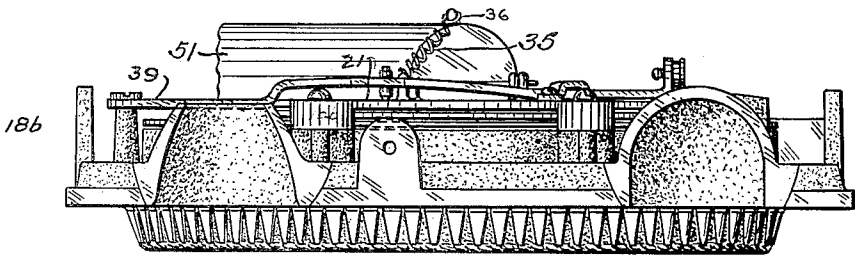
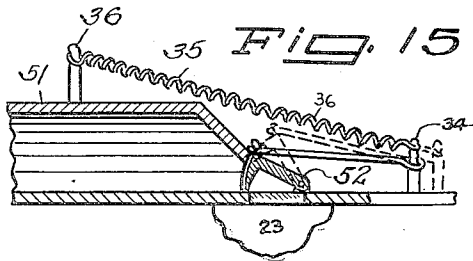


FIG. 15



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VENDING MACHINE ATTACHMENT

Application filed November 7, 1930. Serial No. 493,979.

This invention relates to a new and useful improved device to be attached to a vending machine or the like for the purpose of producing an attractive novelty that will increase the desire to operate the machine.

It is an object of the invention to preferably construct the device by providing a revolvable disk and a plurality of cups on said disk and means, whereby when the lever on the vending machine is pressed, to operate the said vending machine, the said disk will be caused to revolve a fixed distance and one of the cups on said disk will be caused to dispense the articles that may be provided therein.

The invention further consists in the particular combination, construction and association of the different parts such as described in the following specification and possesses various objects and features of advantage, some of which, with the foregoing, will be made manifest in the preferred form of the invention that is illustrated in the drawings accompanying and forming part of the specification.

It is to be understood that it is not intended to limit the invention to the embodiment shown by said drawings and description, as variations may be adapted within the fundamental principle of the invention as set forth in the claims.

In the accompanying drawings:

Figure 1 is a front plan view of the device showing the various cups in section and illustrates the preferred form of the invention.

Figure 2 is an enlarged rear end view of one of the cups and illustrates a preferred means used for holding a hinged lid releasable in the lower periphery of the cup.

Figure 3 illustrates how the cup is mounted on a ball-bearing as provided in the disk.

Figure 4 is a rear end plan view of the revolvable disk and shows a ring that is provided to control the oscillating movements of the cups with respect to the disk.

Figure 5 is a sectional view taken on line A—A in Figure 4, looking in direction of the arrows.

Figure 6 is an end view of the center filling cup and also shows a ratchet ring that is fixed

to the disk and is revolvably mounted on the filling cup.

Figure 7 is a sectional view taken on line B—B of Figure 6, looking in direction of the arrows.

Figure 8 is a plan view of a spider-shaped member that is fastened to the main frame of the device and is provided for holding and controlling a ratchet arm assembly that is provided to revolve the disk.

Figure 9 is a view illustrating a standard handle of a vending machine and showing means thereon that is adapted to engage with a small pin or handle that is provided on the ratchet assembly so that when the said vending machine handle is pressed, it will cause the disk to revolve a certain fixed distance.

Figure 10 is a plan view of the entire ratchet assembly.

Figure 11 is a perspective view of one type of vending machine it is desired to use and shows the improved attachment mounted thereon.

Figure 12 is a side elevational view of a portion of the ratchet assembly and illustrates the position of the engaging handle that is provided thereon.

Figure 13 is a rear plan view of the frame and the elements that are mounted thereon.

Figure 14 is a side elevational view of the view shown in Figure 13, looking in direction of the arrow E.

Figure 15 is a view illustrating how the passageway provided for feeding the center pocket may be kept closed with respect to said pocket.

Referring in detail to the different parts wherein like reference numerals designate like parts throughout the several views, the numeral 18 designates a preferred type of frame used and is preferably rectangular in shape and is formed with a circular shaped housing 18a as shown in Figures 1 and 14. The said frame may be made out of any suitable metal or other material and fastened to the vending machine in any suitable manner. The numeral 20 designates a revolvable disk that is arranged over the rear end portion of the housing 18a and is revolvably mounted on a spider shaped member 21 that is substan-

tially fastened on lugs that are formed on the frame. A ratchet ring 22 is provided and riveted to the said disk 20 and is revolvably mounted on the outer rear periphery of the center cup 23 as shown in Figure 7. This cup is fastened to the spider member by screws 24 as shown in Figure 13. The ratchet ring is preferably mounted on the said cup 23 by being mounted on a plurality of balls as shown in Figures 6 and 7, thus making a ball-bearing that will permit turning with the least amount of friction. A plurality of other cups 25 are mounted on the disk 20 and are preferably arranged thereon as shown in Figure 1. The said cups 25 are provided with doors 25a in the top cylindrical wall thereof, to permit articles to be fed therein, and with a door 25b in the lower cylindrical wall thereof as shown in Figure 1, to permit the articles fed in the cup to be dispensed therefrom. The top doors 25a are held in their closed position by a spring 26 having a resiliency of sufficient strength to hold the said doors closed until the articles from within the center cup 23 are dropped into the cup directly underneath same and the weight of the said articles will cause the doors in the lower cup to open and permit the article to be fed therein.

From the foregoing it will be seen that it is necessary to adjust the cups 25 on the disk 20 in such a manner that the upper doors 25a will always be directly underneath the doors 23a, in the center cup 23, when the cups 25 are underneath the center cup. It will be seen that if this were not provided, the door 25b would not be in the right position to dispense the articles from within the cup 25 when another cup 25 would be underneath the center cup in a position to receive articles therefrom. The cups are, therefore, automatically adjusted as the disk revolves, and this adjustment is controlled by a ring 27 that is eccentric with respect to the disk. Each of the cups 25 is eccentrically mounted on the ring by the pins 28 as shown in Figure 4. This ring 27 is supported by rollers 29 provided on the spider member as shown in Figure 13 and can have vertical movement with respect to the disk but not horizontal movement. This automatically adjusts the cups 25 with respect to the disk, as the disk revolves, in such a manner that the doors 25a in the upper cylindrical wall of the cups are always in the top position on their respective cups.

A preferred means for causing the disk to revolve in synchronism with the movement of the handle that is provided on the vending machine on which this device is mounted consists of a ratchet arm assembly as shown in Figures 8, 9, 10 and 12 and consists of a ratchet ring 22 that is fastened to the disk and three arms 30, 31 and 32 that are pivotally mounted on the spider member 21 and

are relatively arranged with respect to each other as shown in Figures 8 and 10. The arm 30 is cut out to fit on and engage with the projections 22a that are provided on the ratchet ring. Likewise, the end of the arm 32, hereinafter called the dog, is formed to fit and engage on the projections 22a of the ratchet ring 22. A handle 34 is fixed on the dog 32, and a coiled spring 35 is provided and one end thereof is mounted around a pin 36 on the spider as shown in Figure 13 and the other end of the coiled spring is hooked on the handle as shown in Figure 12. From the foregoing it will be seen that when the ratchet assembly is in the position as shown in Figure 10 where the arm 30 fits over one of the projections 22a, the ratchet ring 22 will be held in locked position and the said ratchet ring being riveted to the disk will hold the disk in locked position. It will also be seen that when the handle 34 that is fastened to the dog 32 is pulled down to its lower position as shown dotted in Figure 10, the arm 30 will then move to a position where it will unlock the ratchet ring and the dog 32 will move to a position where it will engage with one of the projections 22a of the ratchet ring. The coiled spring will then pull the dog back to its normal position which will cause the ratchet ring and the disk to move one-fifth of a revolution and will move the cups to their next position, and the arm 30 will again be locked on the ratchet ring. In Figure 9 there is illustrated how the device is operated by the movement of a standard lever provided on ordinary vending machines. An arm 56 is fixed on the lower end of the vending machine lever 56a and is adapted to engage with the handle 34 that is fixed on the dog 32. When the vending machine lever is pressed to its lower position, the arm 56 engaging with the handle 34 will pull the dog to its lower position where the end thereof will engage with one of the projections of the ratchet ring 22 and when the vending machine lever is released, the coiled spring 35 will pull the dog back to its normal position and thus move the disk one-fifth of a revolution. It will thus be seen that each time the vending machine lever is pressed downwards and released the disk with the cups thereon will be caused to revolve one-fifth of a revolution.

Means for opening the lower hinged door 25b, provided on each cup, consists in providing a lever 39 having a hook 40 on one end thereof that is adapted to unhook another hook 41 that is provided on each cup to hold the door in closed position. The weight of the articles in the cup will then cause the door to open and the said articles will fall out of the cup by gravity and will pass through the opening provided in the housing wall 18a and through the hinged door 18c where they can be dispensed into

the hand through the opening 18e. A plurality of slots 20a are provided through the disk 20 to permit the hook 40 to extend through the disk and engage with the hook 41. The numeral 42 designates a spring to resiliently hold the hook 41 in its closed position. The lever 39 is raised by action of the spring 35 being connected to 34 by means of slotted bar 43 with a projection at the lower end to engage with the said lever 39. The slot in the lever 43 permits the handle 34 to travel its full course and at the same time pull said lever 39 only to the desired distance. As the lever 39 is raised by this action, it engages pendulum lever 44 and causes it to swing to the right in an arc from the pivot point 45. As the upper projection of lever 44 engages a lower concave surface of lever 46, it holds the lever 46 in its upper position, but when the lever 44 is caused to swing up by action of lever 39, the lever 46 is allowed to drop by gravity. As the crank arms 47 which control the bottom doors 23a in the center pocket project through the slotted openings in the spider plate, they each engage a respective concave surface on top of lever 46. Thus the upward movement of the lever 46 closes the doors 23a in the bottom of the center pocket and the downward movement of the lever 46 allows the doors to open by gravity. See Figure 6 for enlarged detail of this action. It will also be noted that the upward movement of the lever 39 will unhook the door 25b of the cups 25 when that particular cup is moved to a position to engage with the hook or projection 40 that extends through the slots 20a in the disk 20. It will also be noted that the hook 40 projects through the slots 20a only when each slot reaches the position to be engaged by the hook, the spring 48 resiliently forcing the hook 40 toward the plate 20 and thus causing the hook to project through the various slots in the revolving plate 20 when the said slots are moved past the hook, thus unhooking the door 25b and permitting the articles in that particular cup to be dispensed therefrom. A spring 50 is provided on the inner peripheral wall of the chamber 18a and serves to force each door 25b closed as the plate is revolved and moves the said door across said spring. The numeral 51 designates a chute that may lead to any suitable container and is provided for conveying articles into the center cup. A hinged door 52 is provided to close off the chute from the cup and is caused to open when the spring 35 is pulled downwardly and to close when the spring moves back to its upward position. Figures 13 and 15 illustrate this action. However, any suitable means may be used to close off the chute from the center pocket 23.

Having thus illustrated and described a certain form of construction and arrange-

ment of parts pertaining to the invention, it is to be understood that any suitable number of cups may be used, also that they may have any suitable form and that a glass or any suitable transparent material may be provided over the container 18a or over the cups, also that any suitable method may be used for filling the cups and emptying same, also that any suitable articles may be used to supply the cups, the principal feature of this invention being to revolve the disk and cups in synchronism or in combination with the operating of a vending machine, and it is desired to include in this application for Letters Patent of the United States of America any and all patentable novelty that exists in the description and illustration disclosed and all that comes within the fundamental principle of the invention as set forth in the claims hereinafter mentioned.

Operation.—By dropping a coin into the slot shown at the top of the vending machine as shown in Figure 11, the operating lever 56a is unlocked; this latter being accomplished by any of the well known coin controlled locking mechanisms. Pulling the operating lever 56a downwardly causes the handle 34 to move downwardly as shown in Figure 9, thereby engaging the dog 32 with a projection 22a on the ring 22; this latter action being probably best shown in Figure 10. Just prior to the time when the handle 34 reaches its lower limit of travel it contacts with the lower end of the slot in the link 43, note Figure 13, and depresses the lever 39, which causes the hook 40 to be withdrawn from the slot 20a and out of engagement with the latch 41 of the adjacent cup 25. At this time the link connecting the handle 34 with the chute door 52 has caused the door to open thereby discharging articles into the normally closed center cup.

One of the ring lugs 22a, contacting the upwardly projecting arm of the lever 46, holds the central cup gate 23a closed; and the pendulum lever 44, by swinging under the arcuate portion of the gate operating lever 46, locks this gate when the lever 39 is in the down position.

Return movement of the operating lever 56a causes the handle 34 to move upwardly, closing the chute gate 52 and, by virtue of the dog 32 engaging one of the lugs 22a, indexing the next empty cup to a position below the center cup. This progression of the circumferentially arranged cups 25 is counterclockwise as shown in Figure 1, and as each cup moves past the spring projection 50 its gate 25b is closed. At this time the gate 25b will become latched, because the latch 41 is not being held back. Rotation of the plate 20 supporting the cups moves the lug 22a out of contact with the arm of the lever 46; which action transfers the holding of the gate 23a to the pendulum lever 44. When the handle

34 reaches the upper limit of the slot in the link 43 the lever 39 is moved upwardly, causing the pendulum lever to swing up and unlatch the gate holding lever 46, thereby dumping the contents of the center cup into the empty cup below it. At the same time the hook 40 enters the slot 20a and lifts the latch 51 to unlock the gate 25b of the cup 25 adjacent the discharge opening, thereby dumping the contained articles into the hand opening 18c.

What is claimed is:

1. A device of the character described for use in combination with a vending machine, said device having a revolvable disk, a plurality of cups, adapted to hold articles, pivotally mounted thereon, a plurality of hinged doors provided through the upper cylindrical wall of each cup, a spring for holding said hinged doors in their closed position, a hinged door provided through the cylindrical wall in the lower portion of each cup, means for conveying articles into said cups through the first mentioned hinged doors, means for causing the disk to revolve in synchronism with the operating of the vending machine, means for automatically adjusting the cups on the disk in such a manner that the hinged doors on the upper portion of the cups will remain in a fixed position so that articles can be conveyed by gravity through said doors, means for automatically locking the disk in different fixed positions, and means for automatically dispensing the articles from within each cup when each cup is moved to a certain fixed position.

2. A device of the character described for use in combination with a vending machine, said device comprising a frame forming a cylindrical chamber, a disk revolvably mounted on said frame, a concentric opening through said disk, a container fastened on said frame and extending through the opening in said disk, a plurality of cups, adapted to hold articles, pivotally mounted on said disk and extending within the chamber of said frame, means for conveying articles into said cups through the container that extends through the concentric opening in said disk, means for causing the disk to revolve in synchronism with the operating of the vending machine, means for automatically locking the disk in different fixed positions, and means for automatically dispensing the articles from within each cup when each cup is moved to a certain fixed position.

3. A vending machine attachment comprising a central cup, a gate in said cup, a series of cups disposed circumferentially of the central cup and mounted for intermittent movement therearound, a gate in each of the latter cups, means for successively moving the circumferential cups into position below the central cup, means for opening the central

cup gate when one of the circumferential cups is positioned thereunder, and means for opening a gate in another of said circumferential cups.

4. A vending machine attachment comprising a central cup, a gate in said cup, a series of cups disposed circumferentially of the central cup and mounted for intermittent movement therearound, a gate in each of the latter cups, means for successively moving the circumferential cups into position below the central cup, means for opening the central cup gate when one of the circumferential cups is positioned thereunder, and means for simultaneously opening a gate in another of said circumferential cups.

5. A vending machine attachment comprising a rotor having a substantially horizontal axis of rotation, a fixed cup positioned centrally of said rotor, a gate in said cup, a series of cups pivotally mounted on the rotor and disposed circumferentially of the central cup, means for holding the circumferential cups in an upright position during rotation of said rotor, a gate in each of said latter cups, means for intermittently rotating the rotor to successively move the circumferential cups into position below the central cup, means for opening the central cup gate when one of the circumferential cups is positioned thereunder, and means for opening a gate in another of said circumferential cups.

In testimony that I claim the foregoing I have hereto set my hand this fifth day of November, 1930.

GUSTAV A. REITER.