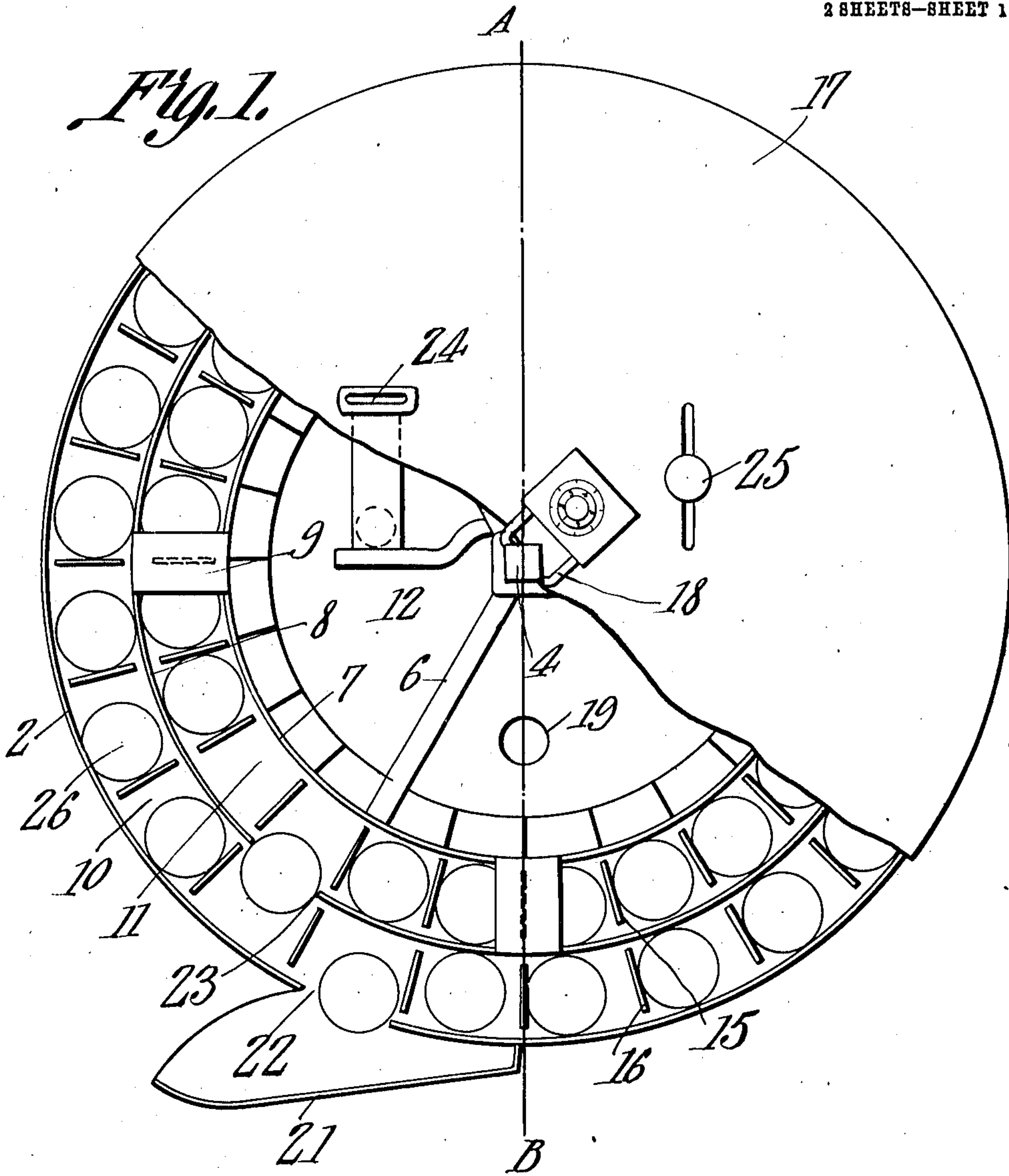


J. M. THORNER.  
VENDING MACHINE.  
APPLICATION FILED APR. 7, 1910.

969,735.

Patented Sept. 6, 1910.

2 SHEETS—SHEET 1.



Witnesses

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# UNITED STATES PATENT OFFICE.

JAMES M. THORNER, OF FORT MADISON, IOWA.

## VENDING-MACHINE.

969,735.

Specification of Letters Patent.

Patented Sept. 6, 1910.

Application filed April 7, 1910. Serial No. 553,983.

*To all whom it may concern:*

Be it known that I, JAMES M. THORNER, a citizen of the United States, residing at Fort Madison, in the county of Lee and State of Iowa, have invented a new and useful Vending-Machine, of which the following is a specification.

This invention has reference to improvements in vending machines and is designed more particularly for the vending of small round packages or articles such as bottles and the like.

In accordance with the present invention there is provided a reservoir of the articles to be vended and a supplemental reservoir which supplies the primary reservoir each time the machine is actuated so that the primary reservoir is maintained substantially full of articles so long as the supply in the supplemental reservoir lasts.

The invention will be best understood from a consideration of the following description taken in connection with the accompanying drawings forming a part of the specification, in which drawings,

Figure 1 is an elevation partly broken away of the improved vending machine. Fig. 2 is a section on the line A—B of Fig. 1 with parts shown in elevation. Fig. 3 is a plan view of the rotary member of the machine.

Referring to the drawings there is shown a base plate 1 designed to be secured to any suitable support and preferably an upright support and secured to this base plate is a suitable casing 2, the structure being preferably in the form of a cylinder. At the center of the plate 1 there is either secured thereto or formed thereon a post 3 terminating at the outer end in a square portion 4 adapted to receive the hub 5 of a spider 6, such spider being shown as an ordinary three arm spider having secured to the outer end a cylinder 7 and this cylinder 7 carries another larger cylinder 8, in concentric spaced relation thereto, by means of supporting and spacing straps 9. The cylinder 7 is spaced from the cylinder 8 and the latter is spaced from the inner wall of the cylindrical casing 2 by annular spaces of about the same width so that the interior of the casing is divided into an outer annular compartment 10, an inner annular compartment 11 and an interior chamber 12.

Mounted on the post 3 close to the back plate 1 is a disk 13 formed with a circular

series of ratchet teeth 14 so located as to move inside the chamber 12 close to the inner wall of the cylinder or partition 7. The disk 13 carries two circular series of blades 15—16, the blades 15 moving in the compartment 11 and the blades 16 moving in the compartment 10. These blades are of such length as to extend nearly to the outer end of the cylinder 2 to which latter there is applied a cover 17 which may be held in place in any suitable manner and may be locked against accidental or malicious displacement by means of a suitable lock 18 preferably of the permutation type, applied to the outer end of the post 3 which is extended through the cover 17 for the purpose. The disk or plate 13 is provided with a suitably spaced perforation 19 adapted to be brought into coincidence with screw holes 20 formed in the back plate 1 so that this back plate may be readily fastened to a support and cannot be removed therefrom so long as the top or cover 17 of the machine is in place.

At one point on the exterior of the casing 2 there is provided a shelf 21 and adjacent to this shelf the casing 2 is pierced by a slot 22. The partition 8 is pierced by a like slot 23 in spaced relation to the slot 22, that is it is spaced circumferentially with relation to the slot 22 for a distance determined by conditions to be referred to.

The machine is provided with a suitable coin lock which forms no necessary part of the present invention, and a coin may be introduced to this lock through a suitable coin slot 24 formed through the cover 17. Also extending through the cover 17 is a manipulating handle 25 for turning the disk 13 through action on the ratchet teeth 14, but since there are various known means for accomplishing this the structure has been omitted from the drawings, it being understood that the handle 25 is inactive except when a proper coin has been introduced through the coin slot 24.

Let it be assumed that the spaces between the blades 15 and 16 are filled with articles to be vended such, for instance, as bottles indicated at 26. Since the plate 13 is rotatable the blades 15 and 16 formed thereon will participate in any rotative movement and any bottles lodged between these blades will be carried circumferentially with relation to the post 3, being prevented from leaving the spaces between the blades by the



cylindrical partitions 7 and 8 and the casing 2. The particular space between two blades 16 which is initially opposite the passage 22 is left empty but all the other spaces are filled in the chamber 10 while in the chamber 11 all the spaces except the one initially opposite the opening 23 are filled, and then the cover may be applied and locked in place. If a customer desires to obtain an article from the machine a coin is dropped in the slot 24 and then the handle 25 is manipulated in the proper direction to give a rotative impulse to the disk 13 which rotative impulse is limited to the distance between two of the ratchet teeth 14. This will bring a bottle 26 to one side of the section initially opposite the opening 22 to said opening while the empty section has moved away therefrom and the bottle brought to the opening 22 will gravitate therethrough and fall on the shelf 21 in reach of the customer. The compartment section in the compartment 11 which was initially opposite the opening 23 has been moved away therefrom and a full compartment has been moved into coincidence therewith so that the bottle in such compartment gravitates through the opening 23 and finds lodgment in the compartment which was initially left empty. The coin lock having operated, the machine is again locked against manipulation till a second coin is introduced when a further rotative movement of the disk 13 will bring the next bottle 26 in the chamber 10 into coincidence with the opening 22 and the next bottle in order in the chamber or compartment 11 into coincidence with the opening 23 so that another bottle is discharged from the outer reservoir and a bottle from the inner reservoir has become lodged in the outer reservoir to take the place of one of the bottles previously discharged. This operation may be continued from time to time until finally all the bottles of the inner reservoir have been transferred to the outer reservoir and the vending of the bottles in the outer reservoir may continue uninterruptedly until they are finally all exhausted. When all the bottles have been vended then the lock 18 may be manipulated in a manner to remove it and the cover 17 may be lifted away from the casing 2, after which the compartment designed to receive the bottles may be replenished and on the replacing of the cover the machine is ready for further operation.

What is claimed is:—

1. In a vending machine, a plurality of magazines, and impelling members in each magazine for the articles to be vended separating said articles one from the other, each magazine having a stationary wall with a discharge opening adjacent but displaced

with relation to the discharge opening of the next magazine to cause the replenishing of the spaces between impelling members in one magazine vacated by the discharged articles, by articles from the adjacent magazines.

2. In a vending machine, concentric magazines, impelling members in each magazine for the articles to be vended for separating said articles one from the other, one magazine having an escape opening to the exterior and the next magazine having an escape opening to the first magazine, and means for causing the impelling members in the magazines to move simultaneously.

3. In a vending machine, a series of concentric spaced division walls, the outer wall being provided with an escape opening to the exterior and the next adjacent wall having an escape opening to the magazine next exterior thereto but in displaced relation to the first escape opening, and a rotatable member provided with blades in circular series and in spaced relation, said blades traversing the magazines.

4. A vending machine comprising a suitable support, an exterior casing carried by the support and provided with an escape opening, partitions within the casing in spaced relation thereto and concentric one to the other and to the casing, and a rotatable member carried by the support and provided with circular series of blades in spaced relation one to the other and movable in the spaces between the casing and the partitions therein, the partition next interior to the casing being provided with an escape opening displaced with relation to the escape opening through the casing.

5. In a vending machine, fixed partition walls in concentric spaced relation and defining annular magazines or reservoirs, one of the partition walls having an opening for the escape of the articles to be vended to the exterior of the machine and the next interior wall having an opening for the escape of articles to be vended into the first magazine, the last named opening being in displaced relation to the first named opening, and a rotatable member having circular series of spaced blades adapted to move in the magazines and impel and space articles therein.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JAMES M. THORNBUR.

Witnesses:

JOHN R. WALKER,  
J. C. DOWNS.