

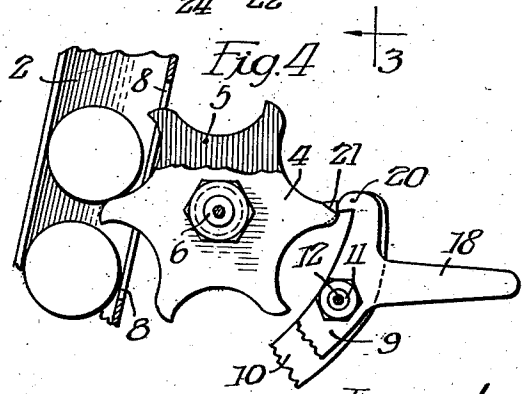
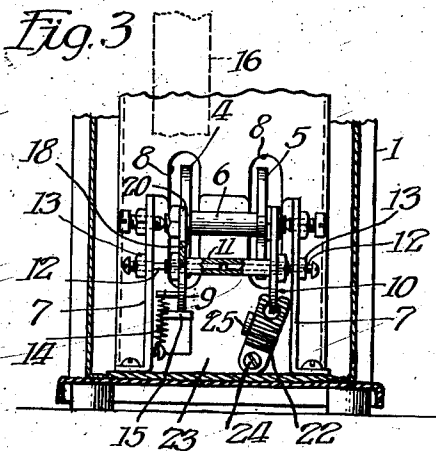
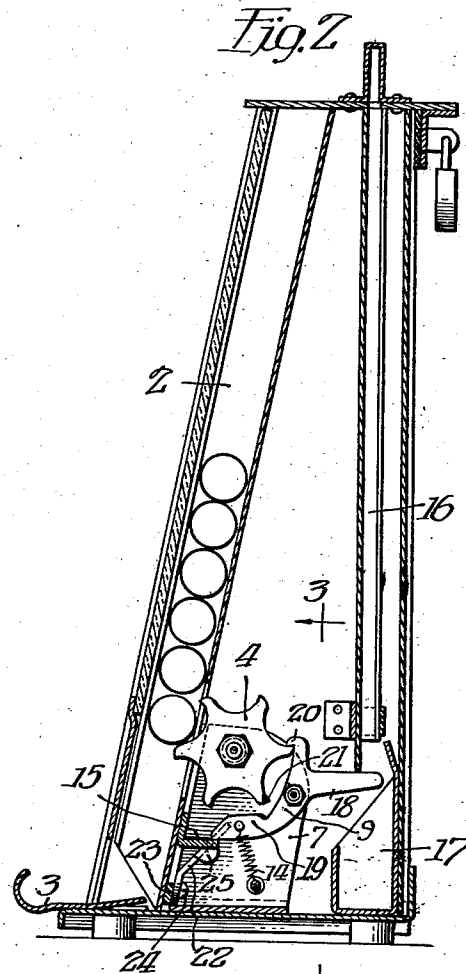
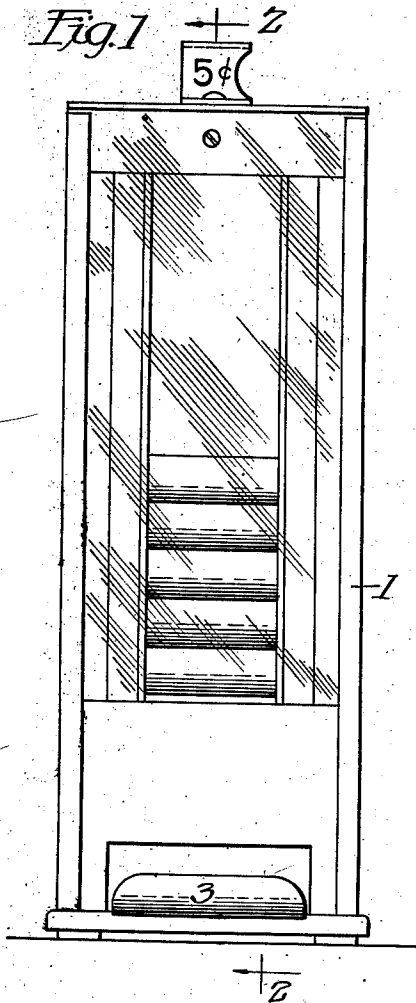
April 21, 1925.

1,534,273

J. F. KREMA

VENDING MACHINE

Filed May 16, 1923



Inventor:
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UNITED STATES PATENT OFFICE.

JOHN F. KREMA, OF CHICAGO, ILLINOIS, ASSIGNOR TO ODE D. JENNINGS, OF CHICAGO, ILLINOIS.

VENDING MACHINE.

Application filed May 16, 1923. Serial No. 639,252.

To all whom it may concern:

Be it known that I, JOHN F. KREMA, a citizen of the United States, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Vending Machines, of which the following is a specification.

My invention relates to vending machines, and has reference more particularly to a coin controlled dispensing mechanism therefor which is adapted at intervals to discharge an extra article from the magazine upon insertion of a coin which normally operates the machine to dispense a single article therefrom.

The principal objects of my invention are to provide a special inducement for stimulating interest in the operation of a machine of this character; to provide a vending machine which occasionally furnishes an extra or free package; to provide a simple structure which may be applied to various vending machines for furnishing an article free to the purchaser at predetermined intervals; and to construct the mechanism so that it may be optionally adapted to operate in the usual manner or to furnish a free package at intervals as desired.

On the drawings:

Fig. 1 is a front view of a vending machine containing my improvements;

Fig. 2 a vertical sectional view therefrom on the line 2—2 of Fig. 1;

Fig. 3 a rear view of the dispensing mechanism taken on the line 3—3 of Fig. 2; and

Fig. 4 a detail view of the mechanism which serves to discharge the free package.

I have shown my invention applied to a vending machine of the type which is shown in the application of Harry W. Barson, filed March 21, 1921, Serial No. 453,906, although the invention is not necessarily limited to a machine of that type, but is capable of application to other types of vending machines.

Referring to the drawings, the reference numeral 1 indicates the vending machine cabinet which has an upright magazine 2 at the front leading to a receiver 3 at the bottom of the cabinet, into which articles are deposited from the magazine. A pair of star wheels 4—5 which are connected together by the spindle or sleeve 6, are journaled in the side wings 7 of a supporting frame 23 at the rear of the magazine, so that the

points of the star wheels 4—5 project through apertures 8 in the rear wall of the magazine 2 for controlling the passage of articles from the magazine down into the receiver 3. Two holding pawls 9 and 10 respectively are provided for the star wheels 4 and 5 instead of the one pawl as shown in the Barson application above referred to, these two pawls 9 and 10 being of like form and secured together by the sleeve 11. The distance between the pawls 9 and 10 is such that they cannot be simultaneously engaged with the wheels 4 and 5, but by shifting the combined pawl structure 9—10—11 laterally, the pawl 9 may be engaged with the star wheel 4, at which time the pawl 10 is moved away from engagement with the star wheel 5, and the pawl 10 may be moved to a position to engage the star wheel 5, at which time the pawl 9 is moved laterally so it will not engage the star wheel 4. For supporting the pawl structure and permitting lateral adjustment thereof, bearing pins 12 are secured to the side wings 7 of the frame 23 which supports the operating mechanism, and these pins project into the opposite ends of the tube or sleeve 11, said pins being preferably provided at their outer ends with threaded portions which engage the side wings 7 and are locked in position by the lock nuts 13. A spring 14 which has one end fixed to a side wing 7, has the other end connected to one of the pawls 9 so as to throw the upper hook-shaped extremities 20 of these pawls toward the star wheels 4 and 5, a stop plate 15 being formed on the frame 23 to engage one of the pawls to limit the throw of the latter, so that said pawls do not operate beyond the point required to properly interlock with the teeth of the star wheels 4 and 5.

A coin chute 16 having a suitable coin inlet at the upper end projects downwardly at the rear of the cabinet and terminates above a coin receptacle 17, and the pawl structure 9—10—11 has a rearwardly projecting arm 18 interposed between the lower extremity of the coin chute 16 and the receptacle 17, so that the impact of each coin as it drops down the chute 16 against the arm 18, rocks the pawl structure and releases the star wheels 4—5, which latter are then rotated by the weight of the articles in the magazine. Each of the pawls 9 and 10 has a cam portion 19 at the lower end which is adapted to

be thrown up between two adjacent teeth of the star wheels when the holding tooth 20 is released, such cam serving to prevent excessive throw of the star wheels and insure engagement of the holding tooth 20 with the next succeeding tooth after each release.

The two star wheels 4 and 5 are exactly the same except that the star wheel 4 has one tooth, which is indicated at 21, mutilated, the upper face of said tooth being rounded or inclined as indicated, so that it will not interlock with the pawl tooth 20, and as a result of this construction, when the pawl structure is shifted to the position shown in Fig. 3, wherein the pawl 9 is adapted to engage the star wheel 4 and the pawl 10 is out of engagement with the star wheel 5, each insertion of a coin in the chute 16 effects a single step movement of the star wheels 4 and 5 and discharges a single package at a time from the magazine 2 until the tooth immediately preceding the mutilated tooth 21 engages the tooth 20 of the holding pawl. Upon the next insertion of a coin in the chute 16 and release of the holding pawl from engagement with such preceding tooth, the star wheels 4 and 5 advance one step and eject a package, whereupon the pawl 9 comes back into engagement with the mutilated tooth 21. Because of the inclination of the upper face of the mutilated tooth 21, the hook 20 of the pawl is unable to interlock with the mutilated tooth and is forced out of engagement therewith, whereupon the star wheels 4 and 5 advance another step and discharge a second package from the magazine. The tooth 20 is then returned into engagement with the next tooth following the mutilated tooth 21 and arrests the operation of the star wheels 4 and 5, after which a single package is discharged at a time until the pawl tooth 20 again comes into engagement with the tooth preceding the mutilated tooth 21, and upon the next insertion of a coin an extra package is deposited from the magazine.

The star wheel 5 is not provided with a mutilated tooth and consequently when the pawl 10 is shifted to engage the star wheel 5 and the pawl 9 shifted out of engagement with the star wheel 4, the machine operates in the normal manner. The star wheels 4 and 5 then operate only one step at a time without any extra movement for furnishing a free package at intervals.

For adjusting the pawl structure 9—10—11 so that the pawl 9 engages the star wheel 4 or the pawl 10 engages the star wheel 5, as desired, a shifter 22 is mounted on the frame 23 by means of the screw 24, which latter serves as a pivot, and this shifter 22 has a rearwardly extending

finger grip 25 for facilitating the adjustment of same. The upper end of the shifter 22 is bifurcated as shown and straddles the lower end of the pawl 10, so that the pawl structure is moved axially on the pivot pins 12 by swinging the shifter 22 on its pivot 24. When the shifter 22 has been adjusted to either of the required positions, it may be locked in the adjusted position by tightening the screw 24.

While I have shown and described my invention in a preferred form, I am aware that various changes and modifications may be made without departing from the principles of my invention, the scope of which is to be determined by the appended claims.

I claim as my invention:

1. In a vending machine, the combination of a magazine for articles to be dispensed, a star wheel projecting into the magazine for controlling the discharge of articles therefrom, a coin controlled escapement mechanism normally operable to advance the star wheel one step for each coin of a certain denomination that is inserted in the machine and operable at predetermined intervals by a single coin of the same denomination to effect a two step advance of the star wheel.

2. In a device of the class described, the combination of a magazine for articles to be dispensed, a star wheel for controlling the discharge of articles from the magazine, and a coin controlled escapement mechanism for the star wheel, said star wheel being provided with a mutilated tooth for affording a two step movement of the star wheel at predetermined intervals.

3. In a vending machine, the combination of a magazine for articles to be dispensed, a star wheel mechanism for controlling the discharge of articles from the magazine, a coin controlled escapement mechanism for controlling the operation of the star wheel mechanism, and adjusting means for regulating the control of the star wheel mechanism by the escapement mechanism so as to vary the number of articles discharged from the magazine by coins of the same denomination.

4. In a vending machine, the combination of a magazine for articles to be dispensed, a pair of star wheels for controlling the discharge of articles from the magazine, and a coin controlled escapement mechanism adapted to be selectively engaged with the star wheels for controlling the operation thereof, one of said star wheels being provided with a mutilated tooth for affording an extra movement of the latter when the escapement pawl is co-operating with the teeth of the latter star wheel.

JOHN F. KREMA.