No. 889,389. PATENTED JUNE 2, 1908.

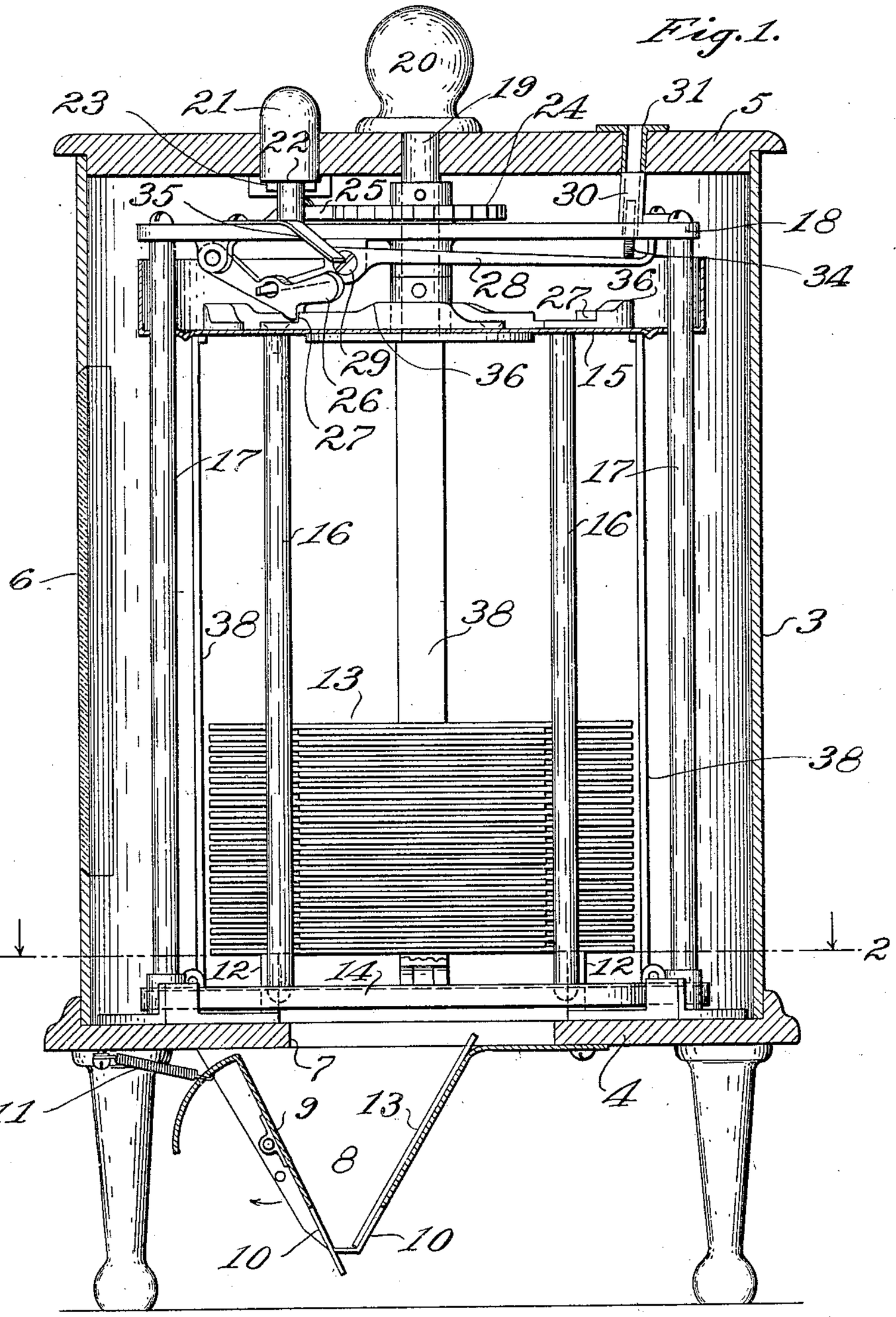
# J. W. MURRAY.

## VENDING MACHINE.

APPLICATION FILED FEB. 11, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

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2 SHEETS—SHEET 2.

Fig. 2.

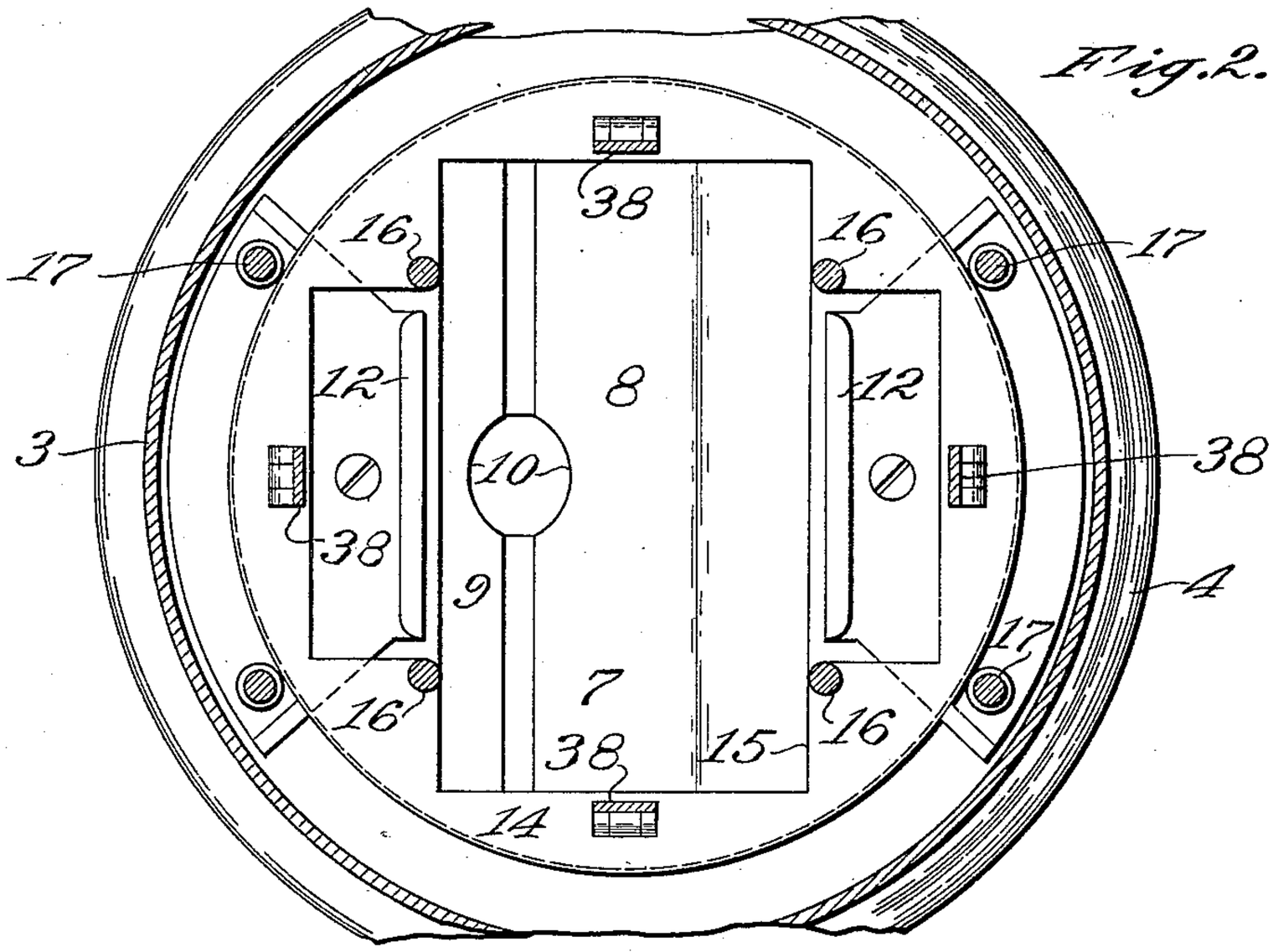
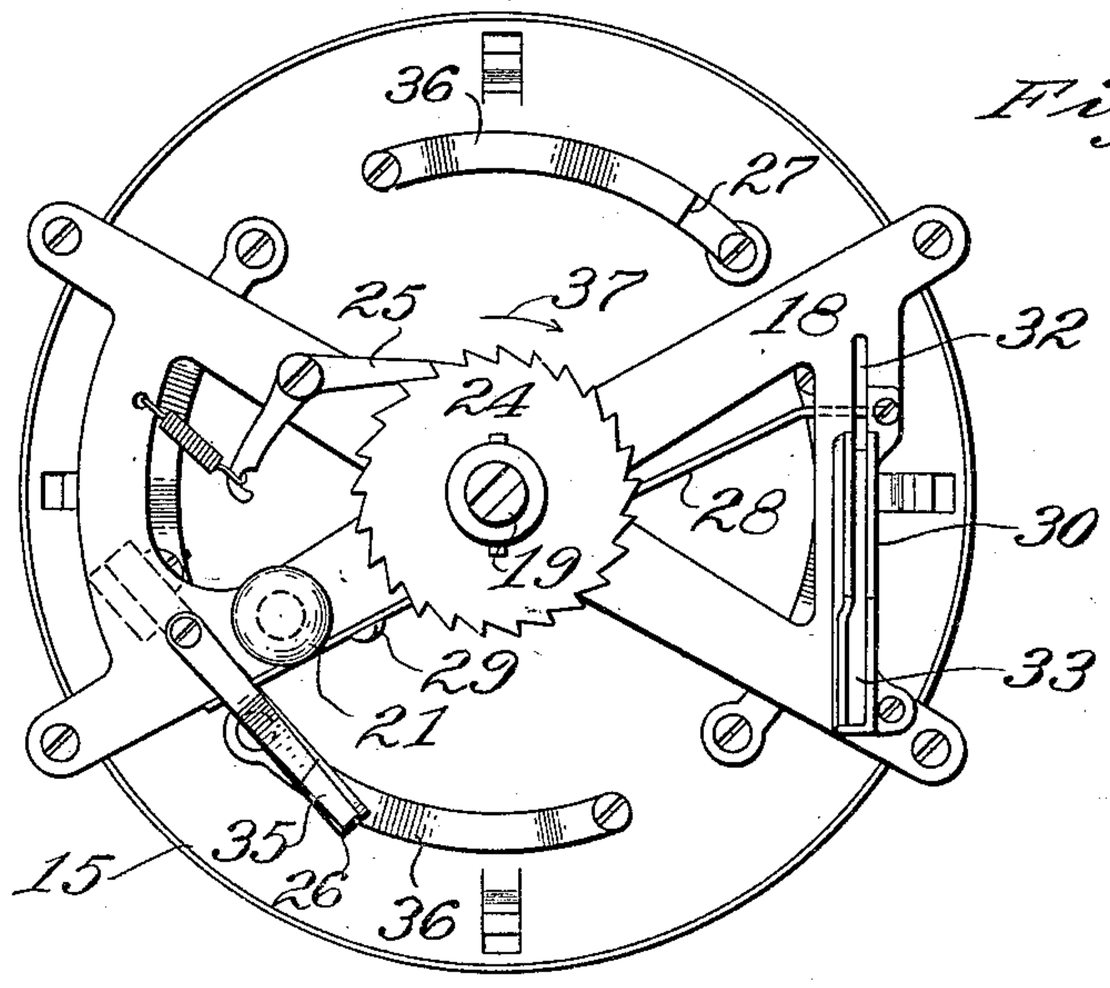



Fig. 3.

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# UNITED STATES PATENT OFFICE.

JOHN W. MURRAY, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO WALTER G. WEIL AND ONE-HALF TO LEWIS W. PETERSEN, OF CHICAGO, ILLINOIS.

## VENDING-MACHINE.

No. 889,389. Specification of Letters Patent. Patented June 2, 1908.

Application filed February 11, 1907. Serial No. 356,788.

*To all whom it may concern:*

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

The main objects of this invention are to provide an improved form of check controlled vending machine especially adapted for vending cards, envelops, and other oblong articles or packages; to provide a device of this class which, without special adjustment, may be made to deliver any desired number of articles at each operation; and to provide an improved check controlled releasing mechanism for vending machines of this type.

These objects are accomplished by the device shown in the accompanying drawings, in which:

Figure 1 is a side elevation of a vending machine constructed according to this invention, the casing being shown in section. Fig. 2 is a section of the same on the line 2—2 of Fig. 1. Fig. 3 is a top plan of the operating mechanism, the casing being removed.

In the construction shown in the drawings, the casing consists of a cylindrical body 3 supported on end upon the bottom 4 and closed at the top by a plate 5. The casing is preferably provided with one or more transparent panels 6 so that the contents may be seen by the customer. The bottom has a rectangular delivery opening 7 which is oblong so as to permit the envelops or other articles to pass through it when turned to a position registering with said opening. Below the opening 7 is a discharge chute or hopper 8, the front wall 9 being pivoted and both front and rear walls have finger recesses 10 at their lower part so as to permit the convenient withdrawal of the delivered article therefrom. The wall 9 is normally urged into the position shown in Fig. 1 by a spring 11.

The bottom 4 has mounted thereon at each side of the opening 7 an upright 12. The tops of the uprights 12 are in the same plane with each other and support the contents of the magazine, as will be hereinafter described. The magazine is adapted to support a plurality of rectangular oblong articles such as cards, envelops, or packages 13 stacked one upon the other, as in Fig. 1. In the drawings each of the articles 13 is disposed with its long dimension at right angles to the long dimension of the article next below. These may be stacked in twos, threes, etc. depending upon the number which are to be delivered at each operation.

The magazine which contains the articles 13 consists of a lower circular disk 14, and an upper disk 15 connected by uprights 16. The bottom 14 has an opening 15 therein, which is of such shape that it would permit the articles to pass flatwise through it in each of the positions in which they are stacked. In the particular construction shown, the opening 15 is in the form of a cross whose arms correspond to the two positions of the articles 13. The magazine is free to rotate in the casing, the disks 14 and 15 fitting loosely between the uprights 17 which are rigid on the bottom and are connected together at their upper ends by means of a spider 18. This construction permits the sides 3 and top of the casing to be removed as one piece to permit of access to the interior without disconnecting the other parts of the supporting frame. To load, the lowest article is laid across the tops of the uprights 12 and the other articles are then placed criss cross one upon the other above the first. As illustrated in the drawings, the articles are shown stacked so that but one at a time will be discharged into the delivery chute 8. The upper disk 15 is preferably flanged upward at its edges so as to give a wider bearing upon the uprights 17 and at the same time hide the operating mechanism from being seen from the window 6. A central shaft 19 extends upward from the disk 15 through the top of the casing and is provided with a handle 20 at its upper end. Said handle may be made removable to permit the removal of the casing. A stud 21 is rigid on the spider 18 and extends upward through the top of the casing. The stud 21 is undercut to provide a shoulder 22 which may be engaged by the bolt of a lock 23 for securing the casing in position.

A ratchet 24 rigid on the shaft 19 is engaged by a spring pressed pawl 25 mounted on the spider 18 and prevents rotation of the magazine in the reverse direction from its normal direction of rotation. A pawl 26 pivotally mounted on the lower side of the

spider 18 engages an annular series of shoulders 27 on the upper face of the disk 15. The pawl 26 normally falls into a position for engaging the shoulders 27. A lever 28 pivotally mounted at 29 on the spider 18 has one arm passing through an aperture in the pawl 26 and has its other arm extending across the lower end of the coin chute 30 so as to support a coin in said chute. The coin chute 30 is mounted on the spider 18. Its upper end is in alinement with a coin slot 31 in the top of the casing, and it is inclined so that its lower end is a considerable distance toward one side from its upper end. This is indicated in Fig. 3, the lower end of the coin chute being at 32, and its upper end at 33. A coin is represented in position at 34 in Fig. 1 at the instant previous to the movement of the lever 28. The weight of such coin upon the lever throws up the pawl 26 until it is clear of the shoulder 27 when the upward movement of the pawl is stopped by the spring 35. The disk 15 is also provided with a series of inclined projections 36 adapted to wedge up the pawl 26 when the magazine is rotated. This causes the lever 28 to swing sufficiently to allow the coin to fall out of the coin slot into a suitable receptacle not shown in the drawing. Stops 38 prevent endwise shifting of the articles in the magazine. These stops are preferably hinged at one end to permit of being swung out of the way when loading the magazine.

The operation of the device shown is as follows: The articles are stacked in the magazine as shown in Fig. 1, that is, the first article rests across the support 12 and lies between the uprights 16. The second article is disposed at right angles to the first and also extends between the uprights 16 and so on, the successive articles being piled criss cross one upon the other. When a coin is dropped into the coin slot 3, it strikes the lever 28 and lifts the pawl 26 out of engagement with the shoulder 27. The spring 35 engages the pawl 26 and stops the movement of the lever 28 so that the coin 34 is retained at the lower end of the chute 30. When the customer turns the knob 20 in the direction of the arrow 37, Fig. 3, the projection 36 forces the pawl upward against the action of the spring 35 until the lever 28 has released the coin 34. Since the lever is now relieved of the weight of the coin, the pawl 26 falls into position for engaging the succeeding shoulder 27, and stops the magazine at its next position, which in this case corresponds to a rotation of 90 degrees. This movement shifts the lowest article off from the supports 12 and allows it to fall through the opening 7 into the delivery chute 8. The customer may now grasp the edge of the article at the finger slots 10 and withdraw it from the delivery chute. Each coin inserted into the coin slot permits the customer to rotate the magazine sufficiently to discharge the lowest article or group of articles according to the arrangement of the articles in the magazine.

The stud 21, besides serving as a part of the locking means for securing the cover, also serves as a guide for centering the cover so that the coin slot registers with the coin chute when the casing is closed.

What I claim as my invention and desire to secure by Letters Patent is:—

1. In a vending machine, the combination of a rotatable member, means for preventing the rotation of said member in one direction, a pawl normally urged into position for preventing the rotation of said member in the opposite direction, a coin chute, a lever pivotally mounted near said pawl, having movement relatively thereof and connected therewith, said lever having an arm extending near said coin chute and adapted to be shifted through the weight of a coin from said chute for moving said pawl so as to permit the rotation of said member.

2. In a vending machine, the combination of a rotatable member, means for preventing the rotation of said member in one direction, a pawl normally urged into position for preventing the rotation of said member in the opposite direction, a coin chute, a lever having pivotal movement relatively of said pawl and connected therewith, said lever having an arm extending near said coin chute and adapted to be shifted through the weight of a coin from said chute for moving said pawl so as to permit the rotation of said member, yielding means adapted to limit the movement of said lever through the weight of such coin, so as to prevent the complete discharge of said coin from said coin chute, and mechanism adapted through the rotation of said member to cause a further shifting of said lever for discharging the coin.

3. In a vending machine, the combination of a casing, a member rotatably mounted on a vertically disposed axis, a pawl pivotally mounted on said casing and normally urged into engagement with said member for preventing the rotation thereof, a coin chute, a lever pivotally mounted on said casing, having movement relatively of said pawl and adapted to shift said pawl to permit the rotation of said member, said lever having an arm extending across the path of a coin in said coin chute and adapted through the weight of such coin to shift said pawl, a spring adapted to engage said lever and prevent the complete discharge of the coin from said coin chute, and means on said member adapted to engage said pawl and thereby shift said lever so as to discharge such coin when said member is rotated.

4. In a vending machine, the combination of a rotatable member having thereon a shoulder, a pawl normally urged into engage-

ment with said shoulder to prevent rotation of said member, a coin chute, a lever having movement relatively of said pawl and adapted to shift said pawl out of such engagement with said shoulder and having an arm extending across the path of a coin along said chute and adapted through the weight of the coin to cause said lever to shift said pawl, a spring adapted to resist the movement of said lever and check the fall of the coin, and means on said member adapted to further shift said lever through the rotation of said member and release the coin.

5. In a vending machine, the combination of a rotatable member having thereon a shoulder, a pawl normally urged into engagement with said shoulder to prevent the rotation of said member, a coin chute, a lever having movement relatively of said pawl and adapted to shift said pawl out of such engagement with said shoulder, and having an arm extending across the path of a coin along said chute and adapted through the weight of the coin to cause said lever to shift said pawl, a spring adapted to resist the movement of said lever and check the fall of the coin, and a projection on said member adapted through engagement with said pawl during the rotation of said member to further shift said lever and release the coin.

6. In a vending machine, the combination of a rotatable member having thereon an annular series of shoulders, a pawl normally urged into engagement with said series of shoulders to prevent rotation of said member, a coin chute, a lever having movement relatively of said pawl and adapted to shift said pawl out of engagement with said shoulders, and having an arm extending across the path of a coin along said chute and adapted through the weight of the coin to shift said pawl out of engagement with said shoulders, a spring adapted to limit such movement of said lever so as to retain the coin in the chute, and an annular series of projections on said member, one for each shoulder, and each adapted through the rotation of said member to shift said lever against said spring and release the coin.

7. In a vending machine, the combination of a rotatable member mounted on a vertical axis, means for preventing the rotation of said member in one direction, a pawl mounted on a horizontal axis and normally urged into position for preventing the rotation of said member in the opposite direction, a coin chute, a lever pivotally mounted near said pawl, having movement relatively thereof and connected therewith, said lever having an arm extending near said coin chute and adapted to be shifted through the weight of a coin from said chute for moving said pawl so as to permit the rotation of said member.

8. In a vending machine, the combination of a rotatable member, means for preventing the rotation of said member in one direction, a pawl mounted on an axis extending at an angle to the axis of said member and normally urged into position for preventing the rotation of said member in the opposite direction, a coin chute, a lever pivotally mounted near said pawl, having movement relatively thereof and connected therewith, said lever having an arm extending near said coin chute and adapted to be shifted through the weight of a coin from said chute for moving said pawl so as to permit the rotation of said member.

9. In a vending machine, the combination of a rotatable member, means for preventing the rotation of said member in one direction, a pawl normally urged into position for preventing the rotation of said member in the opposite direction, a coin chute, a lever pivotally mounted on an axis extending at an angle to the axis of said rotatable member, said lever being connected with said pawl and having movement relatively thereof, and having an arm extending near said coin chute and adapted to be shifted through the weight of a coin from said chute for moving said pawl so as to permit the rotation of said member.

10. In a vending machine, the combination of a frame, a member rotatable in said frame on a vertical axis, means for preventing the rotation of said member in one direction, a shoulder and a cam face carried by and movable with said rotatable member, a pawl mounted on a horizontal axis on said frame and normally urged into contact with said shoulder and cam face, a coin chute, a lever mounted on said frame, having movement relatively of said pawl, and having one arm connected with said pawl and another arm extending near said chute and adapted to be shifted through the weight of a coin from said chute so as to move said pawl free from said shoulder, a spring adapted to resist the movement of said lever and check the fall of the coin, said cam face being adapted to move said pawl and thereby shift the lever so as to release the coin.

Signed at Chicago this 4th day of February 1907.

JOHN W. MURRAY.

Witnesses:
WM. R. RUMMLER,
WALTER G. WEIL.