Mar. 27, 1923. 1,449,864

W. J. LILLIS

VENDING MACHINE

Filed June 29, 1921 2 sheets-sheet 1

Fig. 2.

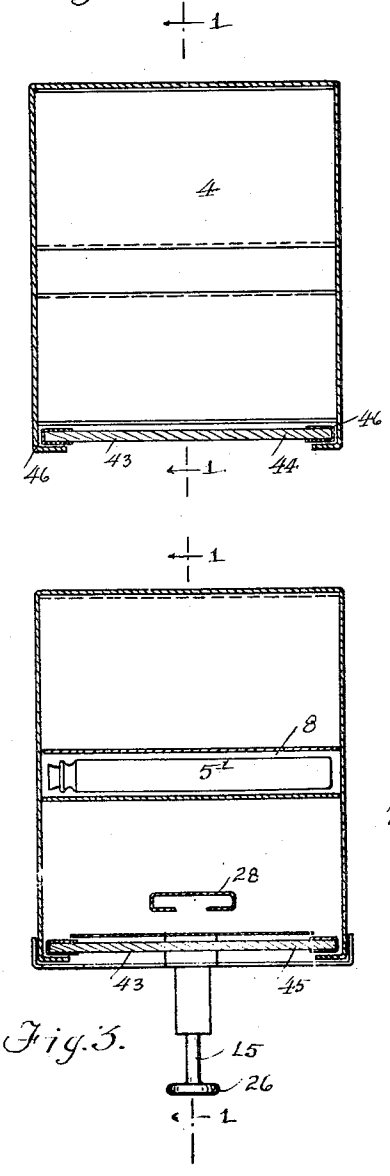


Fig. 3.

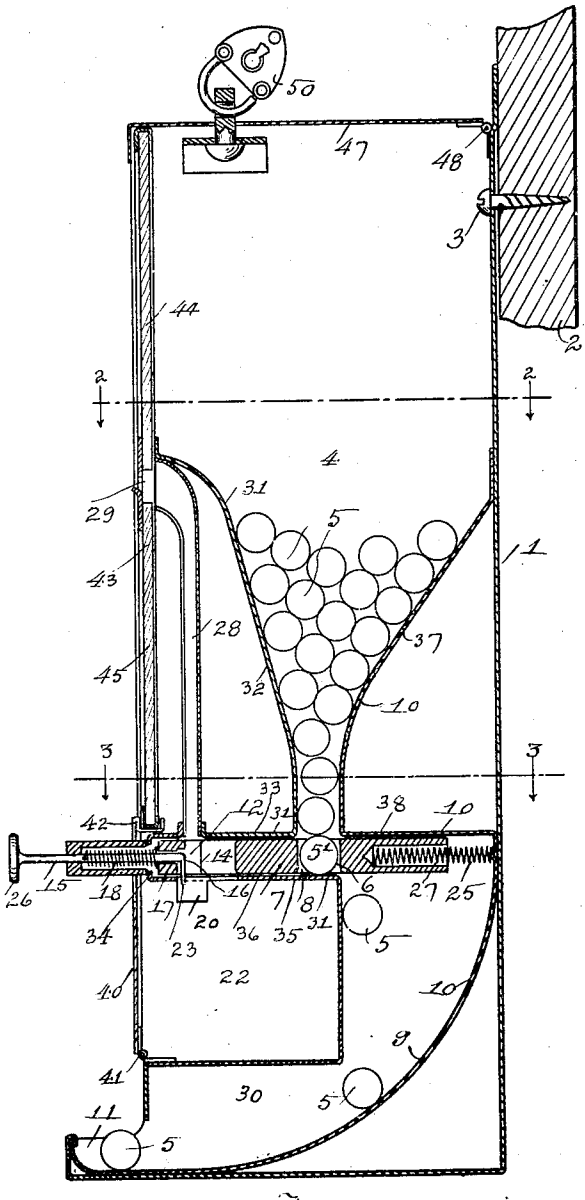


Fig. 1.

Witness:
Geo. L. Chapes

Inventor:
William J. Lillis
by Cyrus W. Rice
his Attorney.

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VENDING MACHINE

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Fig 5.

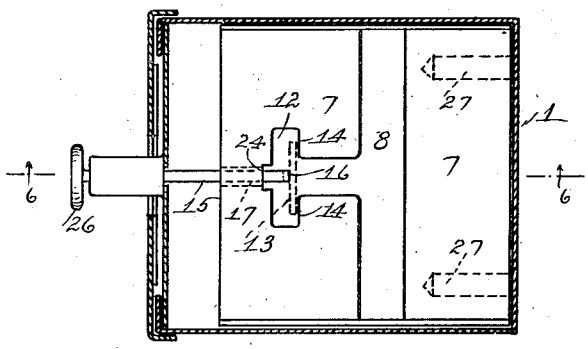


Fig. 4.

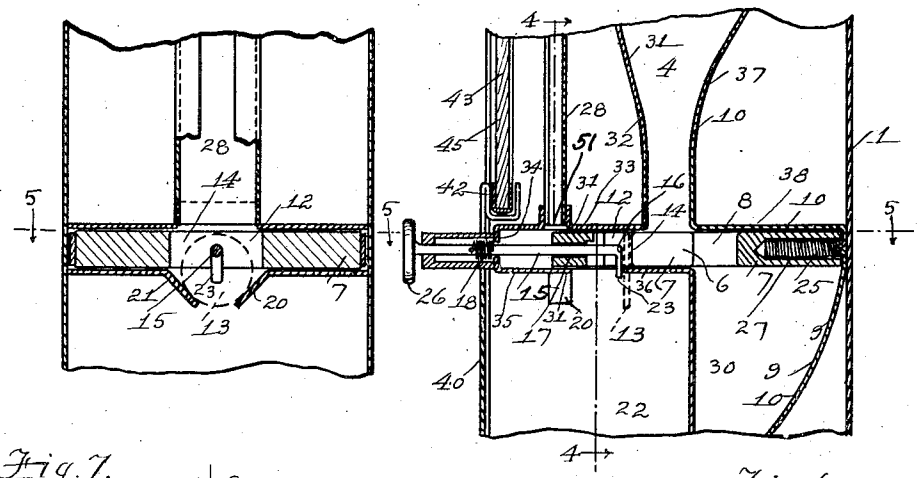
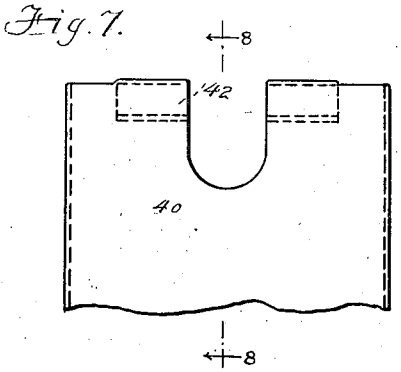


Fig. 7.



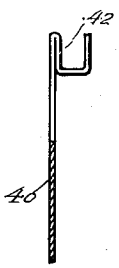


Fig. 8.

Fig. 6.

Witness:

Geo. L. Chapel

Inventor:
William J. Lillis
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Patented Mar. 27, 1923. 1,449,864

UNITED STATES PATENT OFFICE.

WILLIAM J. LILLIS, OF GRAND RAPIDS, MICHIGAN.

VENDING MACHINE.

Application filed June 29, 1921. Serial No. 481,199.

To all whom it may concern:

Be it known that I, WILLIAM J. LILLIS, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented new and useful Improvements in Vending Machines, of which the following is a specification.

The present invention relates to vending machines; and its object is to provide a simple and economically-constructed machine of that character which shall be very efficient in practice and very readily operated; and further, to provide therein certain simple and economic features of construction.

This and any other objects hereinafter appearing are attained by, and the invention finds preferable embodiment in, the structure hereinafter particularly described in the body of this specification and illustrated by the accompanying drawings, in which:—

Figure 1 is a sectional view of a vending machine taken on a vertical plane corresponding to line 1—1 of Figures 2 and 3;

Figure 2 is a like view of the same taken on a horizontal plane corresponding to line 2—2 of Figure 1;

Figure 3 is a like view of the same taken on a horizontal plane corresponding to line 3—3 of Figure 1;

Figure 4 is a like view of the same taken on vertical planes corresponding to line 4—4 of Figure 6;

Figure 5 is a like view of the same taken on a horizontal plane corresponding to line 5—5 of Figures 4 and 6;

Figure 6 is a like view of the same taken on a vertical plane corresponding to line 6—6 of Figure 5;

Figure 7 is a front view of the upper portion of a hingedly-mounted closure for the casing of the machine; and

Figure 8 is a sectional view of the same taken on a vertical plane corresponding to line 8—8 of Figure 7.

In the embodiment of the invention chosen for illustration by the drawings and for detailed description in the body of this specification, the operative parts, the articles to be vended and the coins received therefor are enclosed in a casing designated generally 1 which may be secured in upright position to a wall or other suitable support 2 as by screws 3 which can be loosened only from the casing interior. The container 4 for the articles, as small bottles 5 of perfumery and the like, has a vent 6 adjacent its lower end through which only a predetermined number—one as shown—of the articles may pass at one and the same time. A closure 7 slidable to a position seen in Figure 1 to close said vent and to another position seen in Figure 6 has an opening 8 therethrough adapted to receive only said predetermined number—one—of the articles at the same time. When this closure is slid to the position seen in Figure 6 the article 5^1 carried in said opening is moved to a position where it may fall through said opening and on the inclined portion 9 of the wall 10 whereby it is directed downwardly and toward the opening 11 in the front of the machine where it may be grasped by the purchaser. This closure 7 has a coin-holding chamber 12 adapted to receive a coin 13, edge upwardly and downwardly, and to hold the same by the wall 14 of said chamber against movement relatively to this closure in that direction in which the closure moves in opening the vent from the container 4. Suitable means, as the plunger 15 having the knob 26 outside the machine for operating the same and whose inner end 16 extends through an opening 17 in the closure and into the chamber, may be pushed against the pressure of the spring 18 so that its inner end 16 will engage the coin 13 in the chamber and move it and the closure therewith into the closure's vent-opening position. By this movement the coin is carried beyond the stop members 20, 21 on which the lower edge of the coin has previously rested in the chamber and may thereupon fall into the coin-containing chamber 22 of the machine. The spring 18 causing the lug 23 at the inner end of the plunger to engage the wall 24 of the chamber presses plunger and closure to the closure's vent-closing position again, whereupon another article falls into the closure's opening 8. The action of this spring in closing the closure may be accomplished also or additionally by the springs 25 in sockets 27 pressing the closure to its closed position. A coin chute 28 opening at 29 from the front of the machine is adapted to receive coins of predetermined size and to deliver the same one at a time to the chamber 12. The operation of my vending machine is as follows: A coin being inserted into the chute's opening 29 falls into the

chamber 12, such chamber being in registration with the vent 51 of said chute and the closure 7 being in vent-closing position and having an article 5^1 in its opening 8—all as seen in Figure 1. The purchaser then pushes the plunger 15 inwardly, and its inner end engaging the coin's side pushes it against the wall 14 of the chamber, which movement continuing pushes the closure 7 to the position seen in Figure 6 whereupon the said article is pushed through the container's vent 6 and falls through the closure's opening 8 and into the compartment 30 and rolls outwardly to be taken by the purchaser through the casing's opening 11; in the meanwhile, the coin has been carried inwardly beyond the stop members 20, 21, and the pressure of the plunger thereon being released, the coin falls into the coin receptacle 22.

As a simple and economical method of construction the container 4 for the articles to be vended may comprise oppositely disposed side walls 31 and 10 of sheet metal as particularly shown in Figure 1. The forward wall 31 first extends downwardly at 32, then horizontally at 33, then downwardly at 34 and then horizontally at 35 to form the slide bearing 36 for the closure 7; and the other wall 10 extends first downwardly at 37 and then horizontally at 38 to form a portion of said bearing and then downwardly at 9 to form a discharge chute for the vended articles.

The casing 1 has a continuous opening at its top and front, or equivalent thereto, a series of openings in its top and front, closed by the following means: A closure 40 hingedly mounted at 41 closes the coin receptacle 22 of the machine and has at its upper end a keeper 42 formed by a reverse bending of the metal sheet composing such closure; a second closure 43 which may have a glass window 44 and a mirror 45 therein slides vertically in bearings 46 in the casing and in its lowered and closed position its lower edge is received in the keeper 42 and thus holds the closure 40 from opening; a third closure 47 hingedly mounted at 48 engages in its closed position the upper end of the slidable closure 43 and holds it in closed position. This third closure 47 may be fastened shut by a lock 50, whereupon all these three closures are locked closed.

The vent 51 of the coin chute 28 forms a coin-passage through the portion 33 of the extension of the container's front wall; and the stops 20, 21 form a coin-support on which the coin rests in the chamber 12.

The invention being intended to be pointed out in the claims, is not to be limited to or by details of construction of the particular embodiment thereof illustrated by the drawings or hereinbefore described.

I claim:

1. In a vending machine; a container for the articles to be vended having a vent through which only a predetermined number of the articles may pass at the same time; a closure slidably movable to vent opening and closing positions; a slide bearing for the closure comprising horizontally extending plates, respectively above and below the closure, the former having a coin-passage therethrough and the latter having a coin-support comprising oppositely disposed depending wings inclined toward each other on which the coin may rest edgewise and from one end of which wings it may be ejected in the direction of the closure's opening movement; a coin-holding chamber, whose bottom is said coin-support, adapted to hold a coin against movement relatively to the closure in the direction of its opening movement; a coin-chute adapted to deliver a coin, through said coin-passage, into said chamber; means operable from outside the machine for engaging the coin in the chamber and moving it and the closure therewith into the closure's vent opening position and into that position in which said coin is ejected from the coin-support.

2. In a vending machine; a container for the articles to be vended comprising a side wall extending downwardly, then horizontally, then downwardly and then horizontally to form a slide bearing for the closure hereinafter mentioned between said horizontally extending portions, and comprising also an oppositely disposed side wall extending downwardly, then horizontally and then downwardly to form a discharge chute for the vended articles, the container having a vent between said walls; a closure for said vent horizontally slidable in said bearing and having an opening into which only a predetermined number of the articles may pass by gravity at the same time in the closure's closed position and from which opening said articles may pass by gravity in the open position of the closure, the closure having also a coin-holding chamber adapted to hold a coin against movement relatively to the closure in the direction of its opening movement and to permit the coin's exit by gravity from the chamber in the closure's opening movement; a coin chute adapted to deliver a coin to said chamber by gravity; a plunger extending outside the machine and into said chamber and adapted to be moved to engage the coin in the chamber and to move it and the closure therewith into the closure's open position.

In testimony whereof I have hereunto set my hand at Grand Rapids, Michigan, this 27th day of May, 1921.

WILLIAM J. LILLIS.