

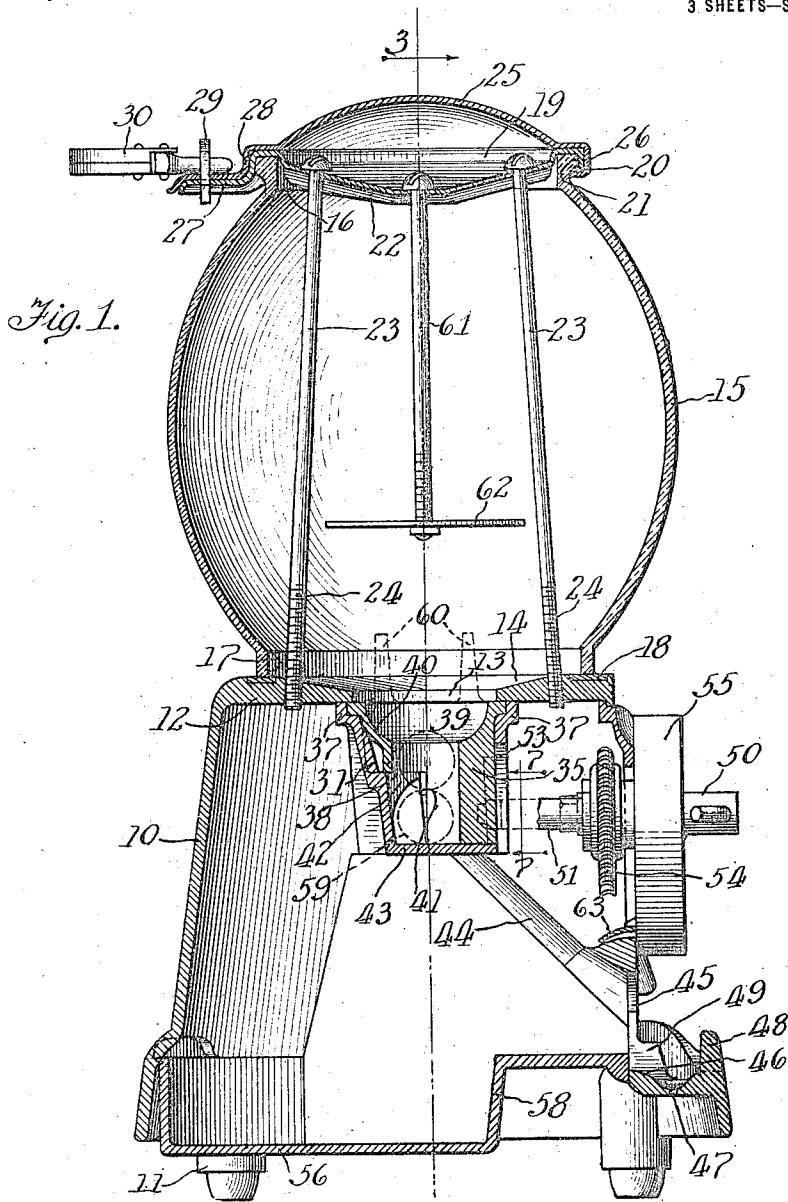
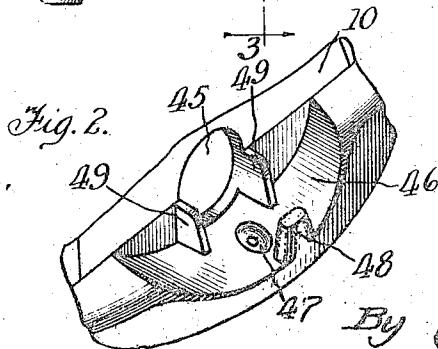
A. D. ANTOINE, A. E. GEBERT & C. C. TRAVIS.
VENDING MACHINE.

APPLICATION FILED DEC. 17, 1913.

Patented Sept. 11, 1917.

3 SHEETS—SHEET 1.

1,239,753.



Witnesses:
Alfred D. Antoine
Albert E. Gebert
Clarence C. Travis

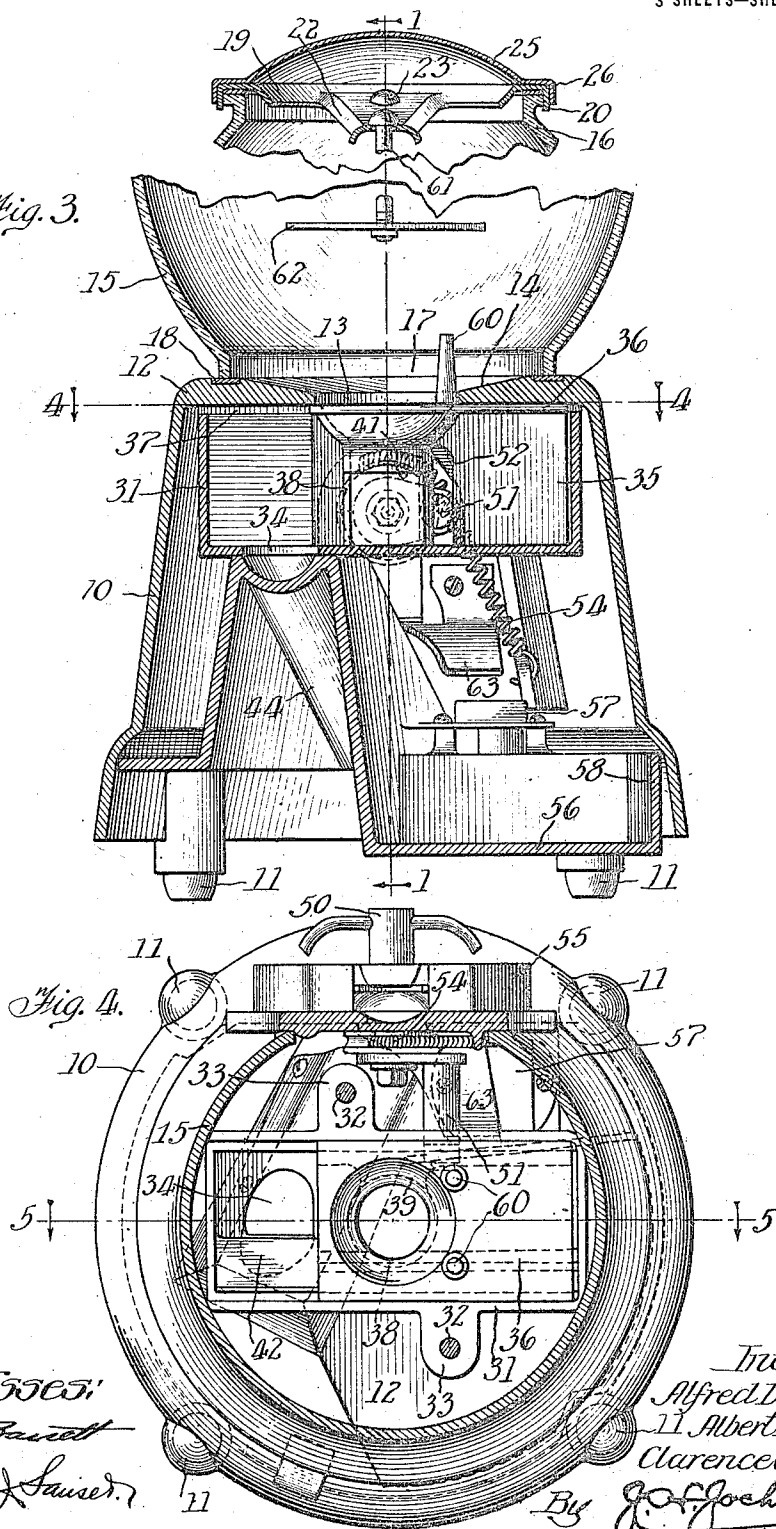
Inventors:
Alfred D. Antoine
Albert E. Gebert
Clarence C. Travis
By J. F. Johnson, Jr.

VENDING MACHINE.

Patented Sept. 11, 1917.

3 SHEETS—SHEET 2.

Fig. 3.



Witnesses:

A. B. Garrett

Albert Sauter.

Inventors
Alfred D. Antoine
Albert E. Gebert
Clarence C. Travis.

By J. F. Johnson, Jr.

A. D. ANTOINE, A. E. GEBERT & C. C. TRAVIS.

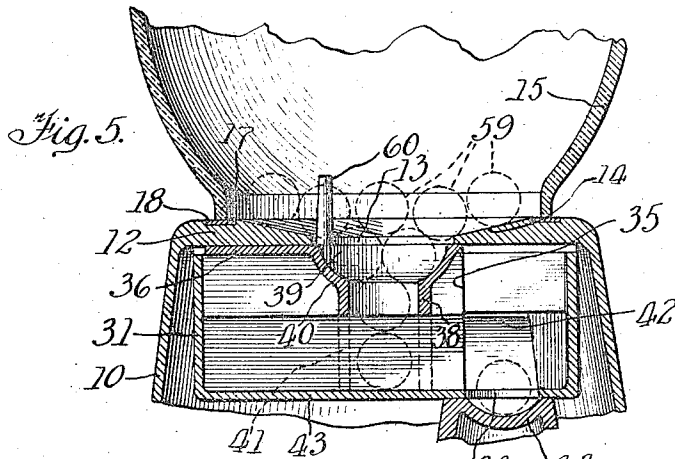
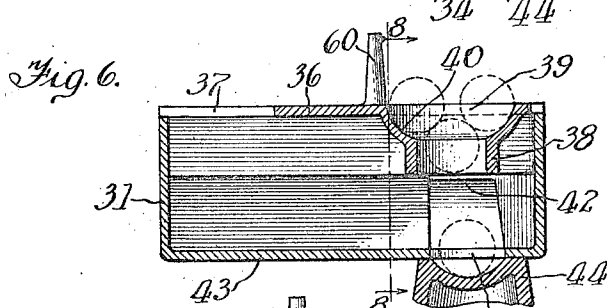
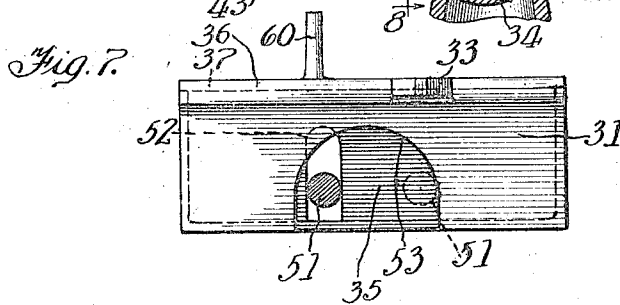
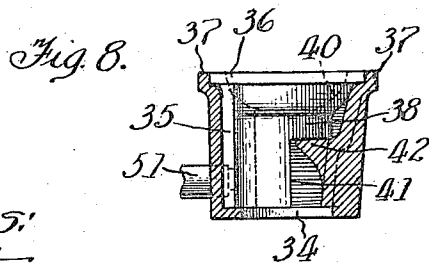
VENDING MACHINE.

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3 SHEETS—SHEET 3.



Witnesses:
W. E. Barnett
Alfred J. Saunders

Inventors:
Alfred D. Antoine
Albert E. Gebert
Clarence C. Travis
 By *J. F. Joehann, Jr.*

UNITED STATES PATENT OFFICE.

ALFRED D. ANTOINE AND ALBERT E. GEBERT, OF CHICAGO, AND CLARENCE C. TRAVIS, OF EVANSTON, ILLINOIS, ASSIGNORS TO ADVANCE MACHINE CO., OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

VENDING-MACHINE.

1,239,753.

Specification of Letters Patent. Patented Sept. 11, 1917.

Application filed December 17, 1913. Serial No. 807,163.

To all whom it may concern:

Be it known that we, ALFRED D. ANTOINE and ALBERT E. GEBERT, residing at Chicago, and CLARENCE C. TRAVIS, residing at Evanston, Cook county, and State of Illinois, all citizens of the United States, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification.

This invention relates to improvements in vending machines, particularly adapted, though not necessarily limited in its use, for vending articles of ball shape, such as chewing gum, or other objects of spherical configuration, and one of the objects of the invention is to provide an improved machine of this character having means for insuring the delivery of the commodity from the machine upon each proper operation thereof, such as the operation of the machine when a proper check or coin has been deposited therein.

A further object is to provide an improved machine of this character having delivery mechanism for discharging the commodity and for maintaining a reserve supply therein, whereby after the mechanism has been once actuated to deliver one supply of the commodity, the reserve supply will always insure a delivery of the commodity upon the next operation of the mechanism.

A further object is to provide an improved device of this character embodying a hopper for holding a supply of the articles and means within the hopper for relieving the delivery mechanism of a portion of the weight of the bulk of the articles, and which means also serves the purpose of preventing the articles from becoming jammed or packed in the hopper.

A further object is to provide an improved machine of this character having a tray or receptacle for receiving the commodity as it is delivered from the machine, and means for preventing a person from removing the commodity from the tray or receptacle by brushing the hand or fingers across the receptacle, thereby resulting in a more sanitary structure.

To the attainment of these ends, and the accomplishment of other new and useful objects as will appear, the invention consists in the features of novelty in substantially the construction, combination and arrange-

ment of the several parts, hereinafter more fully described and claimed and shown in the accompanying drawings illustrating the invention, and in which:

Figure 1 is a vertical, longitudinal sectional view of an improved machine of this type, constructed in accordance with the principles of this invention, and as taken on line 1—1, Fig. 3.

Fig. 2 is a detail perspective view of the tray or receptacle for receiving the article as it is delivered from the machine.

Fig. 3 is a vertical longitudinal sectional view, parts being broken away, and as taken on line 3—3, Fig. 1.

Fig. 4 is a horizontal sectional view taken on line 4—4, Fig. 3.

Fig. 5 is a sectional view taken on line 5—5, Fig. 4.

Fig. 6 is a view similar to Fig. 5, of some of the parts shown therein, and illustrating these parts in different positions.

Fig. 7 is a detail view taken on line 7—7, Fig. 1.

Fig. 8 is a sectional view taken on line 8—8, Fig. 6.

Referring more particularly to the drawings and in the present exemplification of this invention, the numeral 10 designates generally the supporting base of the structure and which is preferably provided with legs 11. The base is provided with a top 12 having a center aperture 13 therethrough, and the apertured portion of the top which surrounds the aperture 13 is inclined or beveled as at 14 in a direction toward the opening so as to direct the articles toward the opening. A hopper 15 preferably in the form of a transparent globe, is provided, having its top and bottom open as at 16, 17, and the open bottom rests upon the top 12 of the base 10, preferably upon packing 18, in the form of a gasket, which latter is preferably recessed in the top 12, to prevent moisture from entering the hopper from the outside. A cap 19 preferably in the form of an annular member rests upon the top of the hopper, to surround the opening 16, and is provided with a flange 20 which engages under an annular shoulder 21 on the hopper. The annular member is provided with a cross bar 22 through which fastening rods or bolts 23 pass, and these rods or bolts are provided with threaded extremities 24

which enter threaded apertures in the top 12 of the base and serve as a means for securing the hopper to the base. A removable cap 25 is provided with a flange 26 which engages over the flange of the annular member 19, and the annular member is provided with a projecting lip or portion 27 with which a projecting lip or portion 28 on the cover coöperates. These projecting portions 27, 28 are provided with registering apertures through which a headed and apertured lug 29 passes, so that the head will be on one side and the aperture of the lug will be on the other side, to receive a fastening device 30 for locking the cover in position.

Arranged within the base 10, and beneath the aperture 13 is a housing 31, which is removably secured to the lower face of the top 12 of the base preferably by means of fastening devices 32, which pass through ears 33 and engage the top 12, for removably securing the housing in position.

The top of the housing is open to form communication with the interior of the hopper through the opening 13, and the bottom of the housing is provided with an opening 34 therethrough and which opening is arranged preferably out of alinement or register with the opening 13. A slide or carrier designated generally by the reference numeral 35 is arranged within the housing 31 and is provided with a portion 36 which moves in suitable guides 37 (see particularly Figs. 5 to 8), to form a closure for the opening 13, when the slide is moved toward one end of the housing, and when it is moved toward the opposite end of the housing, the portion 36 will uncover the opening 13.

This slide 35 is provided with a chamber 38, preferably tubular in construction and is provided with an entrance opening 39 through the top of the slide, the portion of the chamber 38 adjacent and around the opening 39 being preferably enlarged as shown in Fig. 5. A portion of the wall of the chamber 38 is cut away as at 41 and a cut-off 42, carried by the wall of the housing 31 is so arranged that it will enter the cut-away portion 41 of the chamber 38, when the entrance to the housing is moved out of register with the opening 13, for a purpose to be hereinafter set forth.

The bottom of the chamber 38 is open, and is closed, when the slide is moved into the position shown in Fig. 5, by the bottom 43 of the housing 31, but when the slide is moved into the position shown in Fig. 6, the open bottom of the chamber 38 will register with the opening 34 in the bottom of the housing 31, to permit the article which is carried by this movement of the slide, toward the opening 34, to drop through the opening 34 and into a chute 44, which latter is preferably arranged in an

inclined position, so that the article will roll down the chute, to pass through the opening 45 in the front of the base 10 to be deposited into a tray or receptacle 46 adjacent the opening. This tray or receptacle is provided with an opening 47 through its base to permit foreign matter to pass there-through, and is also provided with a lug 48, projecting upwardly from the bottom of the tray and which lug is preferably arranged in front of but spaced from the opening 45, and forms a stop for the article which is dispensed through the opening 45. Ears or lugs 49 are arranged on the opposite sides of the opening 45 and on opposite sides of the lug 48. Thus it will be seen that when the article is discharged through the opening 45 from the chute 44 it will be deposited in the tray 46 between the lugs 48, 49, and can only be removed therefrom by the fingers of the operator, the lugs serving the purpose of preventing the operator from removing the article from the tray by brushing his hand or fingers across the tray, thereby producing a more sanitary structure.

The slide 35 may be reciprocated in the housing 31 in any suitable manner, but in the present exemplification of this invention there is shown an operating handle 50, which is journaled in a suitable support, carried by the base and is provided with a crank arm 51, (shown more clearly in Figs. 3 and 4), and which arm is provided with a portion which extends into a slot 52, (see also Fig. 7), in the slide 35, and also projects through a cutaway portion 53 in the side of the housing 31. An elastic member 54 is connected by one extremity with the handle 50 and tends normally to move the handle in one direction to move the slide 35 into the position shown in Fig. 5. When the handle 50 is moved in the opposite direction it will move the slide from the position shown in Fig. 5 to that shown in Fig. 6, and will also create a tension or stress upon the elastic member 54, so that when the handle is released, the stress of the elastic member will tend to move the slide into the position shown in Fig. 5, which is its normal position. Any suitable check controlled mechanism indicated diagrammatically at 55 may be provided for controlling the operation of the handle 50.

The base 10 is closed by a removable closure 56 having a locking device 57 and the chute 44 is preferably supported by this closure so that when the closure is removed, the chute will also be removed. The check or coin from the check controlled mechanism 55 after passing through the said mechanism will be discharged therefrom into a suitable receptacle 58 formed in the closure 56.

The articles 59 to be vended are in the

shape of balls, or spherical members and a supply thereof is held in the hopper 15, to be discharged through the opening 13 into the chamber 38 of the slide 35, when the chamber is properly positioned. In order to insure the articles entering the chamber 38 in the slide, and to prevent them from wedging, a suitable agitator may be provided, which is shown in the present form of the invention as comprising uprights 60 in the form of pins or lugs, which are carried by the slide, preferably adjacent the entrance opening 38, and project through the opening 13 into the hopper so that when the slide is moved backwardly and forwardly, the agitator 60 will shift the articles 59.

In order to prevent the articles from packing in the hopper, there is provided a swinging support preferably in the form of a pendent 61, which is swingingly supported preferably by the cross bar 22 of the annular member 20, and this element 61 is provided with a head 62, preferably in the form of a disk supported substantially horizontally and upon which some of the articles rest, and by its swinging movement it is free to assume any position, and will also serve to prevent packing.

If desired a deflector 63 may be provided, and upon which the coin will drop from the check controlled mechanism in the closure 56.

When it is desired to fill the hopper all that is necessary is to remove the cover 25.

It is thought that from the above description the operation will be clearly understood but briefly stated it is as follows; particular reference being had to Figs. 5 to 8:

Assuming the parts to be in their normal positions as shown in Fig. 5, the chamber 38 of the slide 35 will be in a position to receive a plurality of the articles from the hopper; the lowermost article resting upon the bottom 33 of the housing 31, while the next article will be supported by the first article. When the handle 50 is operated the slide will be moved toward the right from the position shown in Fig. 5 or into the position shown in Fig. 6. As the chamber 38 approaches the opening 34, it will also approach the cut-off 42, and the latter will enter the cutaway portion 41 of the chamber 38 to pass between the two lowermost articles therein, so that when the chamber 38 has assumed a position that its bottom will register with the opening 34, the lowermost article in the chamber will drop through the opening into the chute 44 to be delivered into the tray or receptacle 46. During the time that the lowermost article is being delivered to the chute 44, the remaining articles in the chamber will be held therein by the cut-off 42. After the lowermost article has been thus discharged, and the handle 50

released, the remaining articles in the chamber 38, which serve in the nature of a reserve supply, will drop farther into the chamber 38 as the latter is moved back to the position shown in Fig. 5, so that one of the articles will assume the position occupied by the article discharged on the forward movement of the slide. Thus it will be manifest that there will be always maintained a reserve supply in the chamber 38, to insure the delivery of an article upon each operation of the slide in the discharging direction.

While in the present exemplification of this invention, the preferred forms and constructions have been herein shown and described it is to be understood that various changes may be made in the details of constructions, and in the combination and arrangement of the several parts without departing from the spirit of this invention, and while the chamber 38 is shown to be of a size to receive and maintain only two articles, it is to be understood that the chamber may be constructed of a size to hold any desired number of articles.

What is claimed as new is:—

1. A vending machine embodying a holder for a supply of articles, and delivery mechanism for the articles, the said mechanism embodying provisions for receiving and simultaneously holding a plurality of articles from the supply, and provisions whereby some of the articles will be retained in the delivery mechanism while another article is delivered therefrom.

2. A vending machine embodying a holder for a supply of articles, and delivery mechanism for the articles, said mechanism embodying a sliding carrier having a chamber therein for receiving and simultaneously holding a plurality of articles from the supply, and provisions whereby one of the articles will be delivered from the chamber and another article will be retained in the chamber when the delivery mechanism is actuated.

3. A vending machine embodying a holder for a supply of articles, delivery mechanism for the articles, said mechanism embodying a carrier for receiving and holding a plurality of articles, provisions whereby the actuation of the carrier will cause one of the articles to be delivered therefrom and another article to be retained in the carrier, means tending normally to move the carrier in one direction, and means for moving the carrier in the opposite direction and against the stress of the last recited means.

4. A vending machine embodying a holder for a supply of articles, delivery mechanism for the articles and embodying a chamber for receiving a plurality of the articles from the supply, means for actuating the carrier, means whereby one article will be delivered

from the carrier upon the actuation of the latter in one direction, and a cutoff operating to retain another of the articles in the carrier while the last said article is being delivered therefrom.

5 5. A vending machine embodying a holder for a supply of articles, delivery mechanism for the articles embodying a carrier having a chamber for receiving the articles from
10 the supply, said chamber having a discharge outlet, means forming a closure for the outlet of the chamber, provisions whereby the outlet of the chamber will be opened at a predetermined point in the movement of the
15 carrier to permit an article to pass through the outlet, provisions operating to close the outlet to another article in the chamber during the time that one article is being discharged therefrom, and provisions for actuating the carrier.

20 6. A vending machine embodying a holder for a supply of articles, delivery mechanism for the articles embodying a carrier having a chamber for receiving the articles from
25 the supply, said chamber having a discharge outlet, means forming a closure for the outlet of the chamber, provisions whereby the outlet of the chamber will be opened at a predetermined point in the movement of the
30 carrier to permit an article to pass through the outlet, a cutoff operating to retain an article in the chamber while another article is being discharged therefrom, and means for actuating the carrier, said cutoff and
35 carrier being relatively movable, one with respect to the other.

40 7. A vending machine embodying a hopper for holding a supply of articles, delivery mechanism for the articles, said mechanism embodying a housing and a carrier movable therein, said carrier provided with a chamber having an entrance movable into
45 position to receive the articles from the hopper and out of such position, said chamber having an outlet adapted to be closed by a wall of the housing, said wall having a passage with which the outlet of the chamber is adapted to register, provisions for moving the carrier to alternately open and
50 close the outlet of the chamber therein, and provisions for retaining some of the articles against discharge from the chamber when the outlet thereof is opened.

55 8. A vending machine embodying a holder for a supply of articles, said holder having an outlet, delivery mechanism for the articles, said delivery mechanism embodying a carrier having an inlet adapted to be moved into and out of register with the outlet of
60 the holder, means for moving the carrier, said chamber adapted to hold a plurality of articles, provisions whereby only a portion of the articles will be delivered from the chamber upon each operation of the carrier,
65 and a cutoff connected with the carrier and

operating to open and close the outlet of the said holder and when the carrier is actuated to cause the entrance of the chamber therein to be moved respectively into and out of register with the said outlet.

70 9. A vending machine embodying a hopper for holding a supply of spherical articles, delivery mechanism therefor, said mechanism embodying a carrier having a chamber adapted to receive and hold a plu-
75 rality of articles, provisions for retaining a portion of the articles in the chamber while another portion is discharged therefrom when the carrier is actuated, a housing for all of said mechanism, provisions for actu-
80 ating the carrier, and a chute for receiving the articles from the carrier and carrying them to the outside of the housing.

85 10. A vending machine embodying article dispensing mechanism, and a support for receiving the dispensed article, there being projections extending above the face of the support spaced from the end and front walls of the receptacle and also spaced from each other in staggered relation, and between
90 which projections the article rests upon the support.

95 11. A vending machine embodying article dispensing mechanism, an open receptacle for receiving the dispensed article, there being spaced cooperating projections extending from the faces of the receptacle and between which projections the article rests in the receptacle, said projections spaced from and disposed intermediate the end walls of the receptacle and terminating short of the faces of the receptacle opposite to those from which the projections extend.

100 12. A vending machine embodying article dispensing mechanism, and a support for receiving the dispensed article, there being spaced projections extending from the support and between which projections the article is held upon the support, said projections disposed intermediate the ends of the receptacle and spaced from the front wall
110 of the receptacle, one of the projections operating as a stop for the article as it is delivered on to the support, said projections being off-set and terminating short of each other.

115 13. A vending machine embodying a hopper for holding a supply of articles, dispensing mechanism, and means within the hopper for sustaining a portion of the weight of the articles, the said means embodying a substantially horizontally disposed disk, and a pendent supporting stem mounted for free universal movement and with which stem the disk is rigidly connected.

120 14. A vending machine embodying a hopper for holding a supply of articles, dispensing mechanism, and means within the hopper for sustaining a portion of the weight of the articles, the said means embodying a substantially horizontally disposed disk,
125 130

and a single supporting stem arranged at a right angle to the disk and mounted for free swinging movement.

15. A vending machine embodying a hop-
5 per for holding a supply of articles, dispens-
ing mechanism, and means within the hop-
per for sustaining a portion of the weight
of the articles, the said means embodying
a substantially horizontally disposed disk,
10 and a single supporting stem for the disk
mounted for free swinging movement.

16. A vending machine embodying a hop-
per for holding a supply of articles, dispens-
ing mechanism, and means within the hop-
15 per for sustaining a portion of the weight

of the articles, the said means embodying
a substantially horizontally disposed disk,
and a single freely movable pendent sup-
porting stem.

In testimony whereof we have signed our 20
names to this specification, in the presence
of two subscribing witnesses, on this 13th
day of December, A. D. 1913.

ALFRED D. ANTOINE.
ALBERT E. GEBERT.
CLARENCE C. TRAVIS.

Witnesses:

E. B. BARNARD,
S. J. AMBROSE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."