A. D. GROVER.

VENDING MACHINE.

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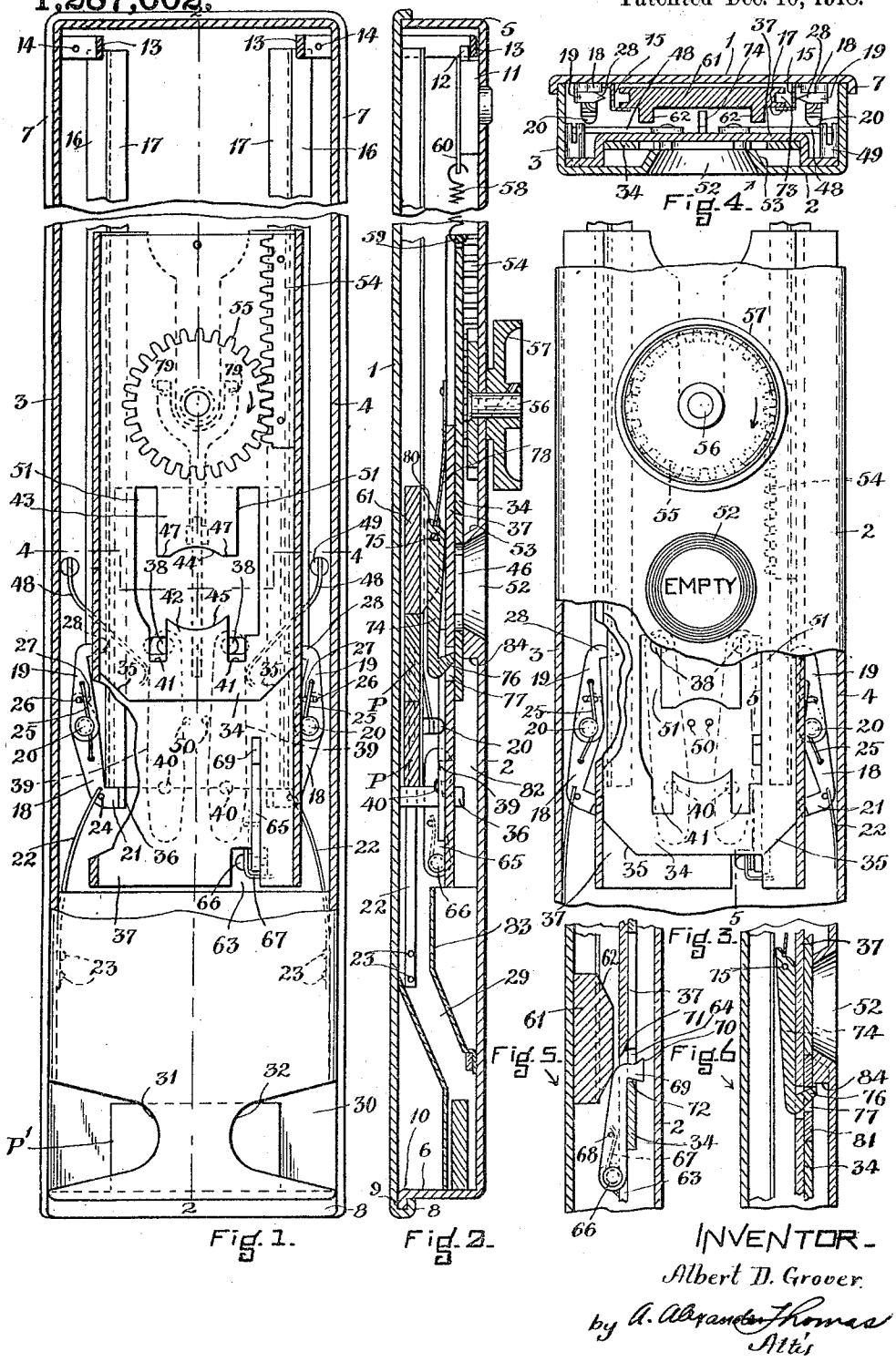

Fig. 1. Fig. 2. Fig. 4. Fig. 3. Fig. 5. Fig. 6.

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UNITED STATES PATENT OFFICE.

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VENDING-MACHINE.

1,287,002. Specification of Letters Patent. Patented Dec. 10, 1918.

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To all whom it may concern:

Be it known that I, ALBERT D. GROVER, a citizen of the United States, and a resident of New York city, New York, 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 for its object in general the provision of a machine particularly adapted for use in locations where space is very limited—as for instance in street cars or railway cars, where it can be readily attached to the wall or posts between the windows. In other words, the machine of my invention is designed to take up as little room as possible and will not project sufficiently from its support to be considered an obstruction. In a machine which I have actually constructed in accordance with the invention herein disclosed, the depth of the machine casing was about three fourths of an inch, and the width about two and one half inches. The height of course will depend upon the number of packages (such as chewing gum, candy and the like) which the magazine shall contain.

In order to reduce the depth of the machine to a minimum, I provide a magazine adapted to contain the vendible articles edge upon edge in a vertical column which rests upon an adjustable supporting mechanism operable to release the articles one by one. In the broad aspect of my invention, this supporting mechanism has upper and lower supporting portions movable with respect to each other, so that before one portion can pass fully into releasing position, the other portion reaches a supporting position. This absolutely insures the release of the articles one by one. With this supporting mechanism, no separate ejecting device is necessary, which adds greatly to the compactness of the machine.

More specifically considered, my new form of supporting and releasing mechanism comprises two pairs of oppositely arranged levers at the lower end of the magazine. Normally, the column of articles rests upon the two lower levers. These are so connected with the upper levers that before the lower levers move out of supporting position, the upper levers engage the column of articles above the lowermost article and support the entire column as long as the lower levers are in releasing position. Not until the lower levers have reached their normal or supporting position, do the upper levers release the column of articles and allow the same to drop on to the lower levers for support.

The levers of the supporting mechanism are operated by means of a coin-controlled slide which is vertically movable and operated from the outside of the machine by any suitable means—such as a knob or wheel. This slide is normally locked against full movement, but is unlocked through the medium of the deposited coin. When the last package has been discharged from the magazine, the slide is automatically locked in its lowermost position to prevent the insertion of a coin into the machine.

The above and other objects and advantages of my invention will become apparent from a detailed description of the drawings which show a machine embodying the various features of my invention in a form now best known to me. In these drawings,

Figure 1, is a front view of the machine, with the front wall of the casing broken away in order to expose the interior mechanism to view.

Fig. 2, is a longitudinal section on line 2—2 of Fig. 1.

Fig. 3, shows a view similar to Fig. 1, with the coin slide and the supporting mechanism in operated position.

Fig. 4, shows a horizontal section substantially on line 4—4 of Fig. 1.

Fig. 5, is a vertical detailed section on line 5—5 of Fig. 3, showing the coin slide in locked position when the magazine is empty; and

Fig. 6 is a vertical detailed section of a portion of the machine showing the slide locked against movement by a deposited washer.

The casing of the machine is preferably formed of two sections—a rear section comprising a plate 1 and a front section comprising the front wall 2, sides 3 and 4, top 5 and bottom 6. The two sections are secured together in any convenient way. In the drawings I have shown the back plate 1 provided with side flanges 7 for receiving the sides 3 and 4, as shown in Fig. 4, and

with a bottom flange 8 which provides a recess 9 for receiving the flange 10 on the bottom plate 6. The front section of the casing is held locked against the back plate 1 by a suitable lock 11 of which the bolt 12 engages the cross bar 13 secured to the back plate 1 at the points 14.

The back plate 1, by means of which the machine is adapted to be secured in place on any desired support, carries the magazine containing the vendible articles. This magazine may be conveniently formed of a pair of sheet metal bars 15, having rear flanges 16 for receiving suitable fastening devices, and front flanges 17 for retaining the packages within the magazine. As seen from Figs. 2 and 4, the depth of the magazine is very slight, so as to retain the articles or packages P edge upon edge in a vertical column. These packages P may contain any suitable confections—such as chewing gum or candy. The height of the machine would vary in accordance with the capacity of the magazine.

I have provided a novel mechanism for supporting the packages in the magazine and releasing them one by one, without danger of more than one package being released at each operation of the machine. Broadly speaking, this mechanism has two separate and distinctive engaging portions, one for supporting packages when the mechanism is in normal position, and the other for supporting the packages when the mechanism is in operated position. These engaging portions are movable relatively to each other, so that one portion passes into engaging position before the other portion reaches a releasing position. In this way the column of packages is never without a positive support. Referring now in detail to the spe ific form of supporting and releasing mechanism shown in the drawings, it will be seen that I have provided a pair of lower levers 18 and a pair of upper levers 19. Each pair of levers 18 and 19 is pivotally mounted on a pin or stud 20 carried by the back plate 1. The two pairs of levers are mounted upon opposite sides of the package magazine at the lower end thereof, and are so arranged that when the levers 18 are in normal position, the lowermost package P rests at its ends directly upon the supporting lugs 21 which project inwardly from the levers 18. These levers are held in normal position by spring blades 22 secured to the sides of the casing at 23 and adapted at their free ends to bear against the pins 24 projecting laterally from the levers 18. Any other suitable arrangement may of course be provided for holding the levers 18 in normal position. The upper levers 19 are yieldably connected with their respective lower levers 18 by means of springs 25. The upper end of each of these springs is connected to the upper lever 19 and the lower end to the lower lever 18, while the intermediate portion of the spring is coiled about the pivoted stud 20. The connection of the springs 25 is to hold the levers extended as shown in Fig. 1, so that each pair of levers moves through a certain angle as one member. This movement of each pair of levers as a unit is limited by the pins 26 at the upper ends of the levers 18 engaging in the slots 27 formed in the upper levers 19. At their free ends, the levers 19 are provided with pointed projections 28. The connection between the levers 18 and 19 is such that when the levers 18 are in supporting position, the pointed projections 28 on the levers 19 are out of the magazine. However, when the levers 18 are moved outwardly (by means to be presently described) into releasing position, the levers 19 are rocked inwardly and the pointed projections 28 enter the magazine and pierce the sides of the package above the lowermost one sufficiently to support that package and all the packages above it. Fig. 3 clearly shows the levers 18 and 19 in operated position. The movement of the levers 18 and 19 with respect to each other is so timed, that before the supporting lugs 21 of the levers 18 have moved out of contact with the lowermost package, the pointed projections 28 on the levers 19 have firmly engaged the package above the lowermost one, and thus support the entire column while the released package falls out of the magazine, through the delivery-chute 29 into the pocket or delivery-opening 30. In Figs. 1 and 2, the delivered package is shown at P^1. To enable the package to be readily grasped by the patron, the front wall of the casing is cut away at 31 and 32. It will be noticed that the packages are delivered end-on. The chute 29 and the delivery-pocket 30 are formed by a partition 33 suitably secured to the front section of the casing. When the springs 22 return the levers 19 to normal position, the levers 18 remain in operated or retaining position until the pins 26 strike the outer ends of the slots 27. When this occurs, however, the lugs 21 of the lower levers 18 have already moved into supporting position, so that when the continued movement of the levers 18 rocks the levers 19 out of retaining position, the released column of packages drops on to the lugs 21. By this means it is impossible for more than one package to be deliverd at each operation of the machine. This is one of the most important features of my invention. The supporting and releasing devices on the escapement principle which have heretofore been attempted, have been found to be absolutely inoperative, in that they failed to support the articles in the magazine after the delivery of the released article and upon return of the parts to normal position. In

my new form of supporting and releasing mechanism, the relative movement of the levers 18 and 19 always insures the movement of the upper levers 19 into supporting position before the lower levers 18 reach a releasing position, and vice versa. Broadly speaking, the levers 18, either or both of them, may be properly considered as a support or supporting device which normally supports the column of articles within the magazine, while the levers 19, either or both, may be considered as yieldable means controlled by the levers 18 to sustain the column of articles in the magazine when the support is moved or adjusted into releasing position.

The levers 18 are moved outwardly into releasing position by means of the coin slide 34 which is mounted in the front section of the casing for vertical reciprocation. The lower corners of the coin-slide 34 are beveled, as shown at 35. The slide 34 with its beveled or cam portions 35 may as a whole be considered as a cam device which operates the supports 18 and 19. From the lugs 21 on the levers 18 project forwardly the extensions 36 which are arranged to be engaged by the beveled portions 35 of the coin-slide as the latter is moved downwardly. In this way the levers 18 are rocked outwardly from supporting into releasing position upon a complete downward movement of the coin-slide 34. This slide is guided in its movement by the plate 37 suitably secured to the front wall of the casing.

Complete downward movement of the coin-slide 34 is normally prevented by the pins 38 carried at the upper ends of the two levers 39 which are pivoted on pins 40 secured to the guide plate 37. The pins 38 are at their outer ends semi-cylindrical, as clearly shown in Fig. 1, and project into the slots 41 formed in the coin-slide 34 on opposite sides of the projection 42. The coin-slide is also provided with a downwardly extending projection 43 having a curved recess 44 which coöperates with the curved end 45 of the projection 42 to form the opening 46 for receiving the deposited coin. On either side of the recess 44, are provided stop shoulders 47 which are arranged to encounter the pins 38 as the slide is pushed down. The levers 39 are held inwardly by the springs 48 secured at their upper ends to lugs 49 mounted on the front section of the casing. Stops 50 are arranged to limit the inward movement of the levers 39. The normally free movement of the coin-slide 34 is insufficient to bring the beveled corners 35 into engagement with the extensions 36 on the levers 18. However, when a proper coin is deposited in the coin-receiving opening 46, and the coin-slide is thereupon operated downwardly (through connections to be presently described), the coin engages the pins 38 and forces them outwardly into vertical alinement with the slots 51 formed at either side of the projection 43. With the pins 38 in this position, the coin-slide 34 is free to move downwardly until the pins 38 engage the upper ends of the slots 51. In other words, the function of the deposited coin is to move the locking pins 38 out of the path of the stop shoulders 47, and thereby allow the coin-slide to have full ejecting movement. As already described, when the coin-slide is moved downwardly to its fullest extent, the beveled corners 35 engage the extensions 36 of the goods-supporting levers 18 and force the same apart outwardly to release the lowermost package which falls into the pocket 30 through the chute 29. The front plate 2 of the machine casing is provided with a coin-entrance opening 52 which registers with the coin-receiving opening 46 on the coin-slide 34 when the latter is in normal position.

It should be noted that the coin-engaging pins 38 also serve as a coin-testing device. For instance, if the deposited coin is of insufficient diameter, the pins 38 will not be forced outwardly a sufficient amount to clear the shoulders 47. Should the deposited check be of soft or yieldable material, such as lead, paper and the like, the edges of the semi-cylindrical pins 38 will bite into the material of the check and thereby act as a positive stop against the further downward movement of the coin-slide.

Preferably, the opening 52 is surrounded by an inwardly extending flange 53 which coöperates with the fixed plate 37 to guide the coin-slide 34 in its movement.

The coin-slide 34 has rigidly attached thereto a rack 54 arranged to mesh with the pinion 55 fixed to the inner end of the stub shaft 56. This shaft projects to the outside of the machine through an opening in the front panel 2 and is at its outer end provided with a suitable hand-operated member—such as a wheel or knob 57. It is evident that when the knob 57 is rotated in a clockwise direction, the coin-slide 34 is moved downwardly through the rack and pinion connection just described. Fig. 1 shows the coin slide in upper or normal position, while Fig. 3 shows the same in lowermost or operated position. The coin-slide is returned to normal position by suitable spring means—such as a contractile spring 58 which is secured to the coin-slide at 59 and to the casing at 60.

On top of the column of goods in the magazine rests a weight 61 provided with a pair of beveled projections 62, as best shown in Fig. 4. Really only one projection would be necessary, but by providing one on each side, the weight may be indifferently inserted into the magazine. The guide plate

37 is at its lower end provided with a recess 63 from which extends upwardly the slot 64. This slot and recess serve to accommodate the dog 65 which is pivoted on the pin 66 carried by the guide plate 37 at the recess 63. A spring 67 coiled about the pin or stud 66, engages at its upper end the pin 66 carried by the dog 65 and at its lower end bears against the guide plate 37 to hold the dog 65 normally in backward position, as shown in Fig. 2. At its free end, the dog 65 is provided with a projection 69 having an upwardly extending point 70. This point is adapted to engage the beveled upper end 71 of the slot 64 to limit the rearward movement of the dog 65 under the influence of the spring 67. When the last piece of goods drops out of the magazine, one of the projections 62 on the weight 61 comes in contact with the dog 65 and forces the same forwardly into the position shown in Fig. 5. It should be understood that this forward movement of the dog 65 takes place when the coin-slide 34 is in lowermost position, so that the nose or projection 69 of the dog engages the shoulder 72 on the coin-slide. This positively locks the coin-slide in lowermost position, and prevents the deposition of further coins into the machine. Preferably, the coin-slide carries a suitable sign or mark such as the word "Empty" which registers with the coin-opening 52 of the front plate when the machine is empty, to inform the patron of that fact. To unlock the coin-slide, it is necessary to remove the front section of the machine and restore the dog 65 to normal position by hand, whereupon the coin-slide is drawn upwardly into normal position by the spring 58. After the magazine has been filled with the desired goods, the weight 61 is placed on top of the packages, and the front section of the casing locked in place again, whereupon the machine is ready for operation as before. The weight 61 is at its sides provided with grooves 73 to accommodate the points 28 of the levers 19.

In order to prevent the machine from being operated by washers, I provide a pawl 74 pivoted at 75 to the guide plate 37 and provided at its lower end with a forwardly projecting hook 76 arranged to extend through the opening 77 in the guide plate. A leaf spring 78, fixed to the guide plate 37 at the points 79, bears at its lower end against the shoulder 80 formed at the upper end of the pawl 74, to force the hook 76 forwardly. The pawl 74 is pivoted substantially midway of the guide plate 37, as best shown in Fig. 4, and is readily accommodated in the space between the guide plate and the magazine. When a washer is deposited in the coin-receiving opening 46 and the knob 57 rotated to move the coin-slide 34 downwardly, the hook 76 of the pawl 74 enters the opening in the washer before the slide is moved downwardly any great extent, and thereby positively locks the slide against further downward movement. Fig. 6, shows how the hook 76 of the pawl 74 has entered the opening in the washer 81. When the knob 57 is released, the coin-slide 34 is carried back to its normal position, together with the deposited washer. This movement is permitted by reason of the fact that the hook 76 is beveled at the bottom, so that it is cammed rearwardly by the washer during the return movement of the coin-slide. The washer is therefore carried back to the coin-opening where it can be removed.

The pawl 74 serves another purpose, and that is to eject the coin from the coin-slide into the passage 82 whence it falls into the coin-box 83 suitably secured to the front panel 2 of the casing. When the coin-slide 34 carries a good coin, the hook 76 of the pawl 74 presses against the same and as soon as the coin-slide 34 is moved down sufficiently for the upper edge of the coin to clear the shoulder 84 provided on the front plate below the coin-opening 52, the coin is forced out of the coin-slot 46 by the hook 76 and drops into the cash box 83. This ejection of the coin by the pawl 74 does not take place until after the pins 38 have entered the slots 51 in the coin-slide 34.

The operation of my new machine will be clearly understood from the foregoing detailed description, and it is not therefore believed necessary to repeat the same. Although I have described one specific form of machine embodying the various features of my invention, I would have it understood that I do not intend to be limited to the details of construction set forth, as it is obvious that various changes and modifications may be made without departing from the scope of the invention as defined in the appended claims.

This application is a division of my pending-application Serial No. 738,128, filed December 23, 1912, and I herein make no claim to the coin-controlled feature of my invention, because those are claimed in the parent application aforesaid.

Having thus described my invention what I claim as new and desire to secure by Letters Patent of the United States, is:

1. In a vending machine provided with a magazine for containing the vendible articles in a column, adjustable mechanism at the bottom of said magazine for supporting said column of articles, means for actuating said mechanism into releasing or delivery position, and means yieldably connected with said mechanism and adapted to be automatically moved into holding engagement with the second article from the bottom just before said mechanism releases the lowermost article, said holding means being held in an

inoperative position by said mechanism when the latter is in normal or supporting position.

2. In a dispensing or delivery machine, a casing having a vertical magazine for containing the articles to be delivered, a pivoted support arranged at the bottom of said magazine and normally held in position to support the stack of articles therein, said support being tiltable to cause delivery of the bottom article out of said magazine, and a spring-pressed device arranged to move automatically into supporting engagement with the lowermost article in the magazine when said support is rocked into delivery position, said device being held in inoperative position by said support when the latter is in normal or supporting position.

3. In a dispensing or delivery machine, a casing having a vertical magazine for containing the articles to be delivered, a pivoted support arranged at the bottom of said magazine and normally held in position to support the stack of articles therein, said support being tiltable to cause delivery of the bottom article out of said magazine, and a pair of pivoted spring-pressed arms having means to engage the lowermost article in the magazine when said support is in operated or delivery position, said means being normally held out of supporting contact with the articles by said support.

4. In a vending machine provided with a magazine for containing the vendible articles in a column, two pairs of levers arranged on either side of said magazine near the bottom thereof to support said column of articles, the levers of each pair being yieldably connected together and so arranged that before any two corresponding levers move from supporting into releasing position, the other two corresponding levers reach a supporting position to sustain the column of articles, and means for operating said levers.

5. In a vending machine provided with a magazine for containing the vendible articles in a column, a pair of yieldably connected members for supporting the articles in the magazine, said members being so arranged that when one member is in supporting position the other is in releasing position, the connection between said members being such that one member always reaches supporting position before the other member reaches releasing position, and means for actuating one of said members into position to release the lowermost article for delivery, said last-named member being adapted, when in normal or supporting position to hold the other member in releasing position.

6. In a dispensing or delivery machine, a casing having a vertical magazine for containing the articles to be delivered, a pivoted support forming the bottom of said magazine for supporting the articles therein, said support being tiltable to cause delivery of the lowermost article out of said magazine, yieldable members controlled by said support and movable relatively thereto, said members being arranged to move automatically into supporting engagement with the lowermost article in the magazine when said support is rocked into delivering position, and means independent of said yieldable members for normally holding said support in supporting position.

7. In a vending machine provided with a magazine for containing the vendible articles in a column, two pairs of levers arranged at either side of the said magazine near the bottom thereof to support said column of articles, the levers of each pair being yieldably connected together and so arranged that before any two corresponding levers move from supporting into releasing position, the other two corresponding levers reach a supporting position to sustain the column of articles, and a beveled slide adapted to be moved between the two lower levers to actuate the same simultaneously.

8. In a vending or dispensing machine having a magazine for containing a number of superposed packages, a movable rest or support for said packages, means to actuate said rest or support to allow the bottom package to drop by gravity, means controlled by said support and movable independently thereof and relatively thereto for holding the remaining packages in the magazine until said rest or support returns to normal position, and means independent of said holding means for normally holding said rest or support in normal position.

9. In a vending machine provided with a magazine for containing the vendible articles in a column, two pairs of levers arranged on either side of said magazine near the bottom thereof to support said column of articles, a common pivotal support for each pair of levers, spring means for yieldably connecting each pair of levers together, so that each pair of levers is movable as one member, means for limiting such simultaneous movement of each pair of levers, so that the two lower levers are movable while the two upper levers remain stationary in supporting position, whereby before any two corresponding levers can be moved from supporting into releasing position, the other two corresponding levers reach a supporting position to sustain the column of articles, and means for operating said levers.

10. In a vending machine provided with a magazine for containing the vendible articles in a column, a pivoted supporting device for said column of articles having two supporting portions connected with each other and relatively movable, so that before one portion can pass fully into releasing posi-

tion, the other portion reaches a supporting position, whereby the articles are released one by one at each operation of the machine.

11. In a vending machine provided with a magazine for containing the vendible articles in a column, a pair of members pivoted on opposite sides of said magazine and adapted normally to support the articles therein, means for positively actuating said members into releasing position, and means yieldably connected with said members to sustain the entire column of articles except the lowermost article when the latter is released by said pivoted members.

12. In a vending machine, a pair of pivoted members normally adapted to support a column of articles, a vertically movable slide adapted to simultaneously separate said members into releasing position, and means yieldably connected with said members to sustain the entire column of articles except the lowermost article when the latter is released by said pivoted members.

13. In a vending machine having a magazine for containing the vendible articles in a column, an adjustable supporting device for said column of articles, comprising a pivoted lower lever adapted to support said column at the bottom, and a pivoted upper lever yieldably connected with said lower lever and adapted to engage said column of articles above the lowermost article when the lower lever is in releasing position, the connection between said levers being such that before one lever can pass fully into releasing position, the other lever reaches supporting position.

14. In a vending machine provided with a magazine for containing the vendible articles in a column, an adjustable device for said column of articles, comprising a pair of pivoted lower levers arranged at each side of the magazine to support the column of articles at the bottom, and a pair of pivoted upper levers yieldably connected with the corresponding lower levers and adapted to enter the magazine at the sides to engage said column of articles above the lowermost article which the lower levers are in releasing position, the connections between said upper and lower levers being such that before any two corresponding levers can pass fully into releasing position, the other two levers reach a supporting position.

15. In a vending machine, a shallow magazine adapted to contain the articles edge upon edge in a vertical column, adjustable means for engaging said column of articles at the bottom to support the same within the magazine, and a pair of members adapted to enter the sides of the magazine and engage the column of articles at opposite sides above the lowermost article when said supporting means is in releasing position, said means and said members being so connected together that before said means can pass fully into releasing position, said members reach a supporting position.

16. In a vending or delivery machine provided with a magazine for containing the articles to be delivered, a pivoted member arranged at the bottom of said magazine and normally held in position to support the column of articles therein, and yieldable means mounted on said member and adapted to automatically move into supporting engagement with said column of articles when said member moves into releasing or delivering position.

17. In a vending or delivery machine having a magazine for containing the articles to be delivered, a pivoted member arranged at the bottom of said magazine to support the column of articles therein, a yieldable device movable relatively to said member and adapted to move automatically into supporting engagement with said column of articles when said member moves into releasing or delivering position, said device being held in an inoperative position by said member when the latter is in normal or supporting position, and means independent of said device for normally holding said member in supporting position.

18. In a vending or delivery machine having a magazine for containing the articles to be delivered, a pivoted support at the bottom of said magazine and normally in a position to support the column of articles therein, means for actuating said support into releasing or delivering position, a shaft or stud on which said support is pivotally mounted, and a spring-pressed member pivotally mounted on said shaft and adapted to move automatically into supporting engagement with said column of articles when said support moves into releasing or delivering position, said member being positively held in an inoperative position by said support when the latter is in normal or supporting position.

19. In a vending machine, a shallow upright casing, a vertical magazine within said casing for containing the vendible articles, a vertically slidable operating member to cause delivery of the articles from said magazine, said member operating in close proximity to said magazine and in the plane of said casing, a weight adapted to rest on the articles in said magazine, and means actuated by said weight when the articles are exhausted to lock said member in lowermost position.

20. In a vending machine, a shallow upright casing, a vertical magazine within said casing for containing the vendible articles, a vertically slidable operating member to cause delivery of the articles from said magazine, said member operating in close proximity to said magazine and in the plane of said

casing, a weight adapted to rest on the articles on said magazine, and a pivoted dog arranged to be actuated by said weight when the articles are exhausted to lock said member in lowermost position.

21. In a vending machine, a casing comprising a rear and a front section removably secured together, a magazine and delivery mechanism carried by the rear section, and a vertically slidable member mounted on said front section for operating said mechanism.

22. In a vending machine provided with a magazine, a vertically slidable operating member, a plate for guiding said member in its movements, a weight adapted to rest on the articles in said magazine, and a dog pivotally mounted on said guide plate and arranged to be actuated by said weight when the articles are exhausted to lock said member in lowermost position.

23. In a vending machine, a casing comprising rear and front sections removably secured together, a magazine and delivery mechanism carried by the rear section, a vertically slidable member mounted on said front section for operating said mechanism, a fixed plate for guiding said member in its movements, a weight adapted to rest on the articles in said magazine, and a dog pivotally mounted on said plate and arranged to be actuated by said weight when the articles are exhausted to lock said member in lowermost position.

24. In a vending machine provided with a magazine, the combination of means for ejecting the lowermost article from said magazine, automatic means movable relatively to and independently of said ejecting means and adapted to move into supporting engagement with the lowermost article in the magazine when said ejecting means is in operated position, said supporting means being normally held out of the magazine by said ejecting means, and means independent of said automatic means for returning said ejecting means into normal position after actuation thereof.

25. In a vending machine having a magazine, the combination of means for ejecting the lowermost article from said magazine, and a pair of spring-pressed arms adapted to move automatically into supporting engagement with the lowermost article in the magazine when said ejecting means is in operated position, said arms being normally held out of the magazine by said ejecting means.

26. In a dispensing or delivery machine provided with a vertical magazine, the combination of a manually operated device for effecting delivery of the lowermost article from said magazine, yieldable members mounted on said device and adapted to move automatically into supporting engagement with the lowermost article in the magazine when said delivery-device is in operated position, said members being normally held out of supporting contact with the articles by said delivery-device.

27. A vending machine embodying an article supply holder, a pair of swingingly mounted supports adapted to be alternately moved into positions to receive and support the supply and out of such positions, said supports moving in opposition with respect to each other, a cam device for moving the parts, and means for locking the parts against movement when the machine is empty.

28. A vending machine embodying an article supply holder, a pair of supports movable in opposition to each other for alternately receiving and sustaining the supply, a cam device for actuating the supports to cause one to deliver an article and the other to restrain the supply, an actuator for the cam, and means operating automatically to lock the actuator against operation under predetermined conditions.

In witness whereof, I hereunto subscribe my name this 19th day of May, 1915.

ALBERT D. GROVER.

Witnesses:
FLORENCE E. LANG,
MARY A. LYONS.

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