Feb. 14, 1928.

1,659,167

E. SCHULTZ

DISPENSING APPARATUS

Filed Dec. 6, 1924

2 Sheets-Sheet 1

Fig. 1.

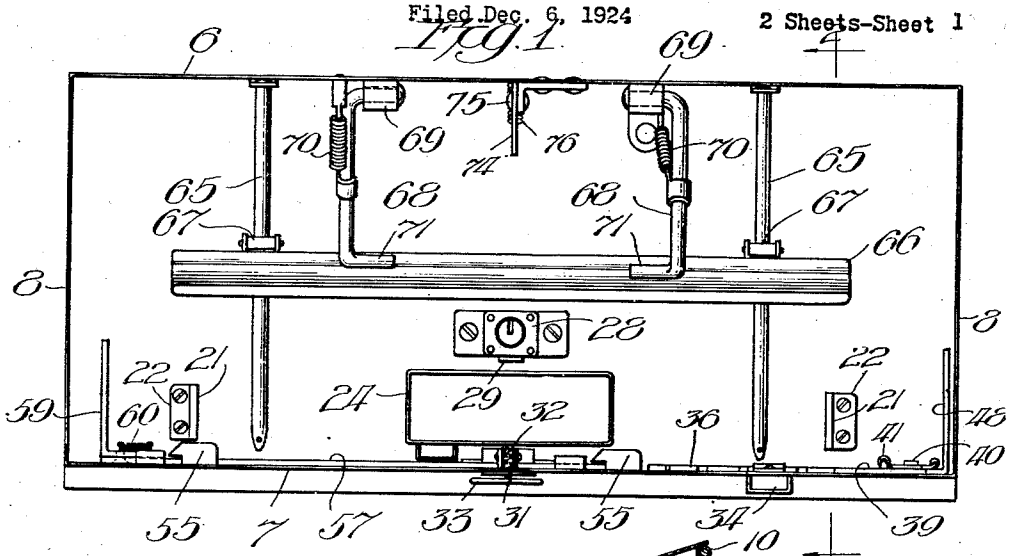
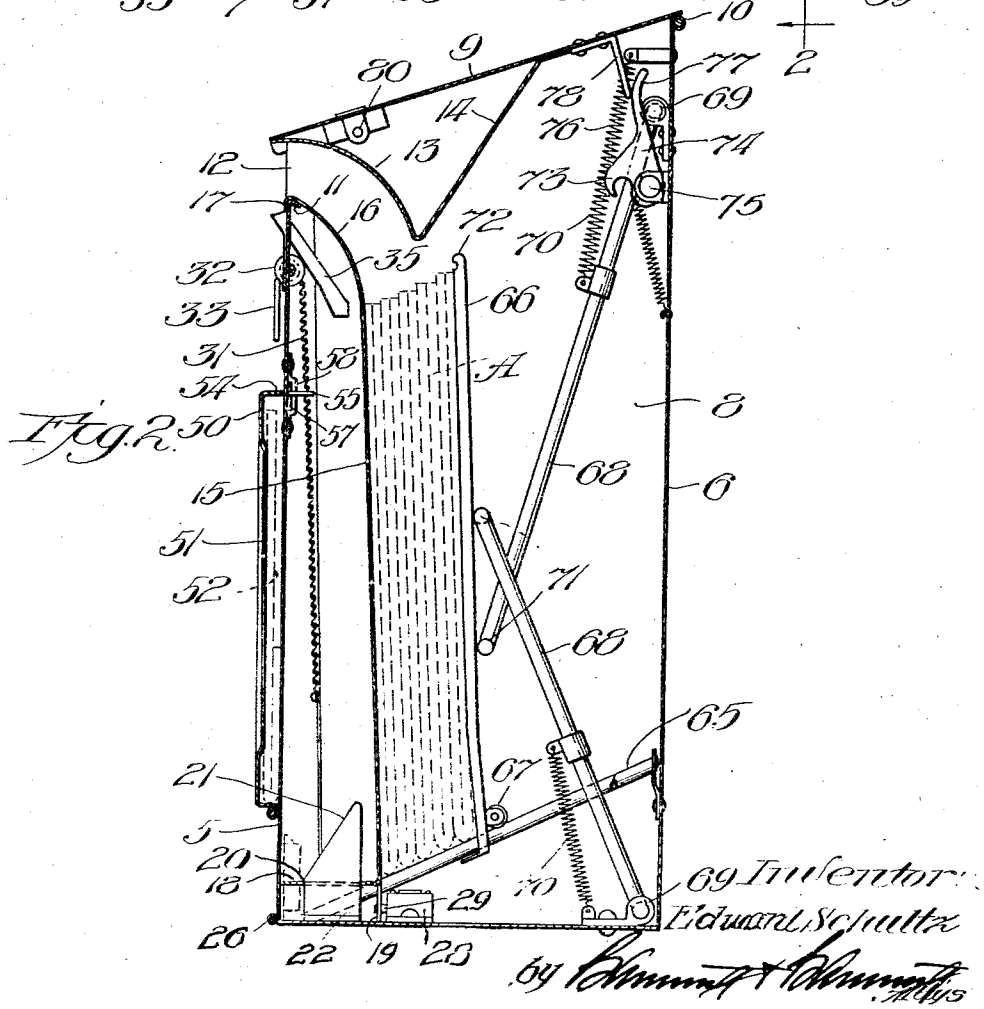


Fig. 2.



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2 Sheets-Sheet 2

Fig. 3

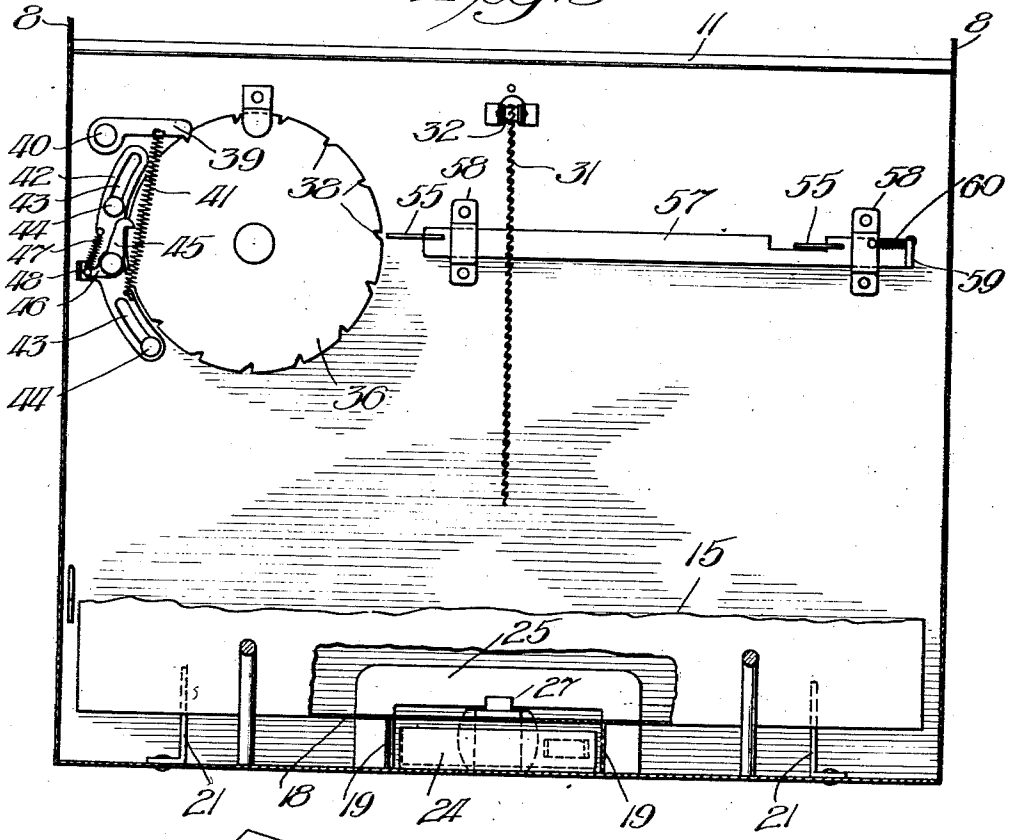
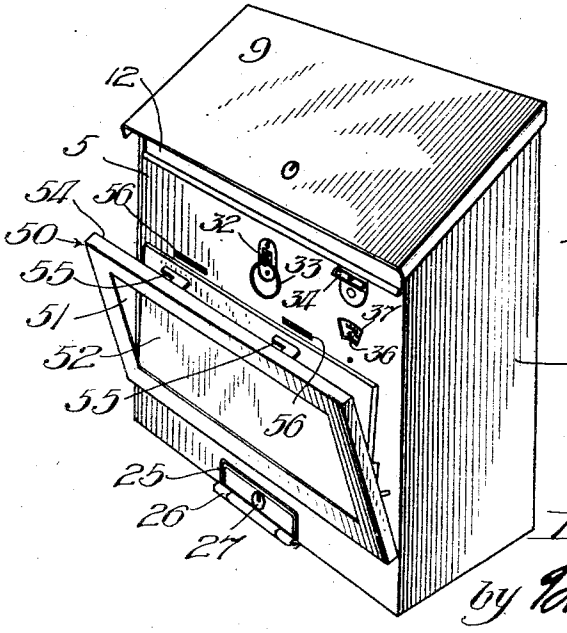


Fig. 4



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UNITED STATES PATENT OFFICE.

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DISPENSING APPARATUS.

Application filed December 6, 1924. Serial No. 754,250.

This invention which relates to an apparatus for dispensing articles, is concerned particularly with a box or container in which is positioned a supply of such articles together with a coin-controlled apparatus for dispensing the same. Associated with the container are means by which the articles to be dispensed are maintained at all times in proper position; means by which a sample article may be conveniently mounted in a display position; means by which the box or container may be secured and locked to prevent unauthorized access to the contents thereof; means by which the closing of the box door will release the means which holds the article in position to be dispensed; means by which an indicator may be readily adjusted whereby to expose a numeral indicating the coin value requisite for operation of the dispensing apparatus; and means whereby the dispensing apparatus may be readily and removably secured in place within the box. It is with such objects and purposes as these that my invention is concerned, although, as will appear from the specification, drawings, and claims, numerous other advantages are also in contemplation.

In the drawings:

Figure 1 is a top plan view of the box or container from which the cover or lid and mechanism plate is removed;

Fig. 2 is a transverse section therethrough taken on line 2—2 of Fig. 1;

Fig. 3 is an elevation of the inner side of the front wall of the container; and

Fig. 4 is a perspective view of the container in its entirety.

The present container is in the form of a box having front and rear walls 5 and 6 respectively, a bottom 7 and two end walls 8. A lid or cover 9 is also provided, being preferably hinged as at 10 to the upper edge of the rear wall 6 and inclined downwardly toward the front, as shown. All of the container parts may conveniently be made of metal, and joined in such manner as to assure a water-tight construction.

The upper edge of the front wall which may be inturned as at 11 stops short of the cover to provide a delivery slot 12 through which articles are dispensed. Depending from the cover is a guide wall 13, preferably curved as shown, and supported in part by a return wall 14. Both the guide and return walls are attached to the under side of the cover in any suitable manner.

The apparatus per se which effects a dispensation of articles from the container forms no part of my present invention, although the mounting therefor does co-operate with certain other parts presently to be described. Accordingly the description of the dispensing apparatus will be confined to just such features as are necessary for a complete understanding of the parts which are special to this invention.

The dispensing apparatus which is preferably coin-controlled is carried upon a partition plate 15 which extends upwardly within the container in spaced relation to its front wall 5. At its upper end this plate is curved forwardly, as at 16, in general conformity with the guide wall 13 so as to co-operate therewith in providing a curved passageway through which articles may be moved for delivery through the slot 12. The upper edge of the plate 15 is preferably provided with a depending flange 17 adapted to hook over the flange 11 on the upper edge of the plate 5 whereby there is provided a smooth and tight connection therebetween. I may further inturn the lower portion of the plate 15 to provide a bottom 18 below which depends certain wings 19 which extend downwardly adjacent to the container bottom 7. Formed in the plate bottom 18 are one or more slots 20 each capable of receiving an upwardly extending tongue 21 having a base 22 secured to the container bottom. Each tongue, by preference, is tapered in such a manner as to guide the apparatus plate to a forward position where its bottom 18 lies close to the forward wall 5. The wings 19 are shown as three in number, and in co-operation with the container front wall define an enclosure wherein may be received a coin box 24. This box is moved into and out of the container through a small door 25 hinged as at 26 to the lower edge of the container front wall. Any suitable lock 27 may be provided for preventing unauthorized access to the coin box. Rearwardly of this box is a second lock 28 secured to the container bottom 7. This lock is provided with a forwardly mov-

able bolt 29 adapted to engage within a slot (not shown) in one of the downwardly depending wings 19. By some such means as this the partition plate is held against removal from the container, it being obvious that if the lock be manipulated with the aid of a proper key the bolt 29 may be withdrawn to permit removal of this plate.

The particular kind of dispensing apparatus which is mounted upon the plate is of relative unimportance, although the type of mechanism disclosed in my patent application, Serial No. 754,249 filed December 6, 1924, would answer satisfactorily. I do contemplate, however, the use of some sort of a coin-controlled vertically movable carriage whereon are mounted devices which project through suitable slots in the plate to engage with the articles that are to be dispensed. The movements of the carriage may be effected manually with the aid of a cord or chain 31 connected to such carriage and adapted to run over a pulley 32 which is mounted in the container front wall 5 near the upper edge thereof. One end of the chain which projects through this wall to lie upon the outer side thereof may be equipped with a ring 33 or other suitable pulling device to facilitate handling. Also in the upper edge of this front wall, I have arranged a receiving slot 34 through which coins may be introduced for the operation of the dispensing apparatus. This slot may be provided with suitable guide walls which terminate adjacent the inner face of the container wall and in proximity to a chute 35 in register therewith, the chute being part of the dispensing apparatus. The positioning of the apparatus plate 15 within the container in the manner already described is such as to assure a correct alignment of the chute 35 with the slot 34 whereby coins introduced thereinto will be guided through a proper course of travel for effecting the end desired.

As the coin mechanism may be equipped to operate in response to coins having a predetermined aggregate value, I have provided an indicator which apprises a purchaser of the exact amount of money necessary to be deposited. Such an indicator may conveniently comprise a disk 36 mounted for rotation upon the rear side of the front wall 5 in such a position that its upper edge is adjacent the coin receiving slot 34. Adjacent this slot, and in the peripheral region of the disk, is an opening 37 formed in the front wall of the container so as to expose therethrough a limited portion of the front face of the disk. Suitable numerical markings are provided upon the disk in such position as to be visible, one at a time, through the opening 37. By rotating the disk a desired distance, any selected marking may be brought to view. In order that means may be provided for conveniently rotating the disk, while the apparatus plate is locked in place, I have formed in the disk periphery a plurality of ratchet notches 38, one for each marking, and adapted to co-operate with such notches, one at a time, is a dog 39 pivoted to the front wall 5 as at 40. A tension spring 41 connected with this dog is also secured to an arcuate shaped plate 42 formed with slots 43 through each of which is extended a stud 44 which is mounted on the front wall of the container. The spring 41 serves the double purpose of holding the dog 39 in engagement with the disk periphery and of retaining the arc-shaped plate in an upward position where the two studs 44 abut against the lower ends of the slots 43. A second dog 45 is also mounted on this plate in such position as to engage within one of the notches 38 whenever the dog 39 is engaged with another of said notches. A tail 46 is provided on the dog 45 and connected therewith and to the plate 42 is a tension spring 47 which normally holds the associated dog in engaged relation with one of the notches 38. Extending rearwardly from the plate 42 through an opening in the apparatus plate 15 is an operating arm 48 which may be moved whenever the container cover is opened.

By some such means as has just been described, the disk may be advanced the distance of one notch by applying a downward pressure to the plate arm 48. The effect of this is to disengage momentarily the dog 39 from one of the notches 38, the other dog 45 meanwhile causing the disk to rotate as the plate 42 is pushed down. The distance to which this plate may move, however, is limited by the slots 43 which are preferably of a length substantially the same as the distance between two of the disk notches. Accordingly, a downward push of the plate 42 to the limit of its movement will cause the disk to be advanced a distance of one notch whereupon the dog 39 is engaged with a new notch to hold the disk stationary while the plate 42 is brought up again to its initial position through the agency of the spring 41. The advantage of a construction such as that just described is that the disk, together with its associated parts, may be accommodated upon the rear side of the container front wall without occupying any appreciable space, and may be easily moved without requiring any unlocking of the apparatus plate 15.

The articles which may be dispensed from the present container are preferably flat, such as newspapers. It is desirable, therefore, that some means be provided for apprising prospective purchasers both as to the exact publication and the edition thereof which the container is prepared to deliver. I have accordingly provided a display window at the front of the container which is

exposed to the view of a person who is about to operate the machine. Such a display window may include a frame 50 having a display opening 51 through which may be exhibited an article 52, the frame being mounted upon the front wall of the container preferably with the aid of a hinge 53 along its lower edge. If desired, a glass or celluloid covering may be carried within the frame so as to protect the article which is on display. The frame is provided with suitable marginal flanges 54 extending around its four sides so as to engage with the container wall, thereby protecting the contents of the frame. To lock the frame in place so as to prevent theft of the display article confined therein, I have provided a pair of laterally slotted lugs 55 each extending rearwardly from the upper rail of the frame and adapted to project through suitable slots 56 which are formed in the front container wall. A locking bar 57 is slidably mounted within guides 58 on the inner face of the container front wall, this bar being adapted to present portions of itself within the lateral slots of the two lugs 55 whereby the frame is secured firmly against movement. One end of the bar may be provided with a rearwardly extending finger 59 with which is connected a tension spring 60 which is also secured to a fixed part of the container in such manner that the bar 57 is normally held in a locking position relative to the frame 50. Manifestly it is necessary only that the bar be moved against the tension of the spring 60 in order that the frame may be unlocked and swung out to a position such as shown in Fig. 4. With the frame so opened up, a new article may be substituted for display. It is also to be noted that the operating finger 59 is extended rearwardly a sufficient distance to pass through a suitable opening in the apparatus plate 15 whereby the locking bar may be manually moved without disturbing the operative position of the dispensing apparatus.

The articles to be dispensed are preferably flexible so as to pass out through the curved passageway for withdrawal from the delivery slot 12. For example a quantity of newspapers A may be received within the present container. These papers which are stacked on edge are rested upon a pair of inclined guide rods 65 which extend from the front to the rear of the container in spaced relation. Behind the rearmost article to be dispensed is a pressure plate 66 slotted along its lower edge to receive the two guide rods 65 whereby the plate is itself restrained against endwise movements. To reduce friction to a minimum a pair of rollers 67 may be mounted on the plate so as to travel on these guide rods. A duplex spring means is also associated with the pressure plate so that the articles to be dispensed may always be pushed forward into proximity with the apparatus plate 15. For this purpose I have shown a pair of rods 68 pivoted to upper and lower portions of the container adjacent its rear wall, as at 69, and each provided with a spring 70 which tends to swing the arm outwardly toward the pressure plate 66. By this means a pressure is exerted upon the plate such that the articles are compressed against the apparatus plate. The end of each rod which engages with the pressure plate is preferably turned laterally as at 71.

At its upper edge the pressure plate is provided with a head 72 adapted to be engaged by a hook 73 forming part of a latch member 74 which is pivoted to the rear container wall 6 as at 75. A spring 76 is associated with this latch member whereby it is normally pulled around to a position where the hook 73 will engage the plate head 72 whenever the plate is retracted sufficiently for this purpose. The latch member is also equipped with a tail piece 77 adapted to be engaged by a finger 78 which depends from the container cover 9. With the cover swung to closed position, as shown in Fig. 2, this finger engages the tail piece so as to retract the latch member against the tension of the spring 76, the hook 73 being thereby removed from engagement with the plate head 72. If, however, the cover be raised the latch member is pulled down in response to the spring 76 so that the hook 73 may engage and hold the plate head 72 when the plate is retracted sufficiently. A new supply of articles may then be introduced conveniently into the container, being received within the space between the pressure plate and the apparatus plate 15, and when this has been attended to the closing of the cover will automatically affect a release of the pressure plate such that the articles A will be compressed under the action of the two springs 70 which co-operate with the rods 68.

It is contemplated that a suitable lock for the cover may be provided. A convenient form of lock may comprise a pair of rods 80 adapted to be moved simultaneously in opposite directions, these rods being mounted on the under side of the cover plate so as to extend their opposite ends into engagement with certain latch parts (not shown) adjacent the upper edges of the end walls 8. The operation of these two rods may be controlled in any conventional manner by a cylinder lock. With a locking device so arranged, its operating parts are entirely protected because of the guide and return walls 13 and 14 which co-operate with the cover to form an enclosure.

A container answering to the preceding description is advantageous in many respects. The several locks for the cover, coin box, and apparatus plate, are each op-

erable, by preference, with separate keys. This assures a complete and definite division of responsibility for the entire mechanism, the coin collector having access only to the money box, and the supply man having access only to the article compartment and to the manipulative devices which control opening of the display frame and adjust the indicator. In addition, a storm-proof structure is provided, such that both the articles and dispensing apparatus therefor are protected against harm or injury. It is with such features as those hereinbefore mentioned that my invention is particularly concerned. As to the precise form or embodiment which my invention may take, a wide field of variations and modifications obviously is available, but in so far as any structure is made responsive to the appended claims, I would consider the same as falling within the purview of this invention.

I claim:

1. In a container, the combination with means for delivering stacked articles therefrom, one at a time, a pressure plate having means for constantly exerting pressure against the article stack, a latch whereby the pressure means may be restrained from operation, a lid movably associated with the container for affording access thereto, and means associated with the lid adapted when the lid is moved into one position to release the latch whereby the pressure means is free to move toward the article stack, substantially as described.

2. A container having a hinged lid from which a finger is extended inwardly thereof, a spring actuated latch in operative relation to the finger adapted to be released thereby when the cover is closed, a spring actuated pressure plate movably mounted within the container and adapted, when retracted, to be engaged by the latch whereby forward movement thereof is restrained, and a dispensing apparatus within the container adapted to deliver therefrom articles, one at a time, substantially as described.

3. In a container, the combination of a partition plate on one side of which is mounted a dispensing apparatus, an inclined guideway extended upwardly from the partition plate toward an opposite container wall, a pressure plate movably mounted on the guideway, spring means which tend to urge the pressure plate toward the partition plate whereby to compress a stack of articles therebetween, a spring actuated latch for engaging with the pressure plate when the same is retracted, and means on the cover for retracting the latch when the cover is closed whereby the pressure plate is free to move toward the partition plate, substantially as described.

4. A container having a movable cover at its top and a front wall which terminates short of the cover whereby to provide a delivery slot, a partition plate removably mounted within the container having its upper edge turned to overlie the upper edge of the container wall, means secured to another wall of the container for engaging with the partition plate whereby to position the same within the container, a key-controlled lock for engaging with the partition plate to prevent removal from the container, means for maintaining a stack of articles adjacent one side of the plate in a position which permits one article at a time to be ejected through the delivery slot, and a dispensing apparatus carried on the opposite partition plate side for delivering an adjacent article through the slot, substantially as described.

5. A container having a delivery slot in one of its walls, a partition plate removably mounted in spaced relation to said container wall and engaging therewith adjacent the slot, means within the container for guiding the partition plate into a predetermined position, locking means whereby the partition plate is secured against removal from the container, and means carried by the partition plate adapted to engage with articles, one at a time, to effect an individual delivery thereof from the container through the delivery slot, substantially as described.

6. In a container, the combination of a partition plate extended between certain of its walls to provide an enclosure, means whereby the partition plate is secured against removal from the container, and manipulative means extending through the partition plate for operation exteriorly of the enclosure but interiorly of the container, substantially as described.

7. In a container, a partition plate arranged therewithin and extended between certain of its walls to provide an enclosure, the plate bottom terminating short of the container bottom whereby an intervening space is provided, means whereon the partition plate may be suspended within the container, lock controlled means for securing the plate against removal from the container, other means depending from the plate bottom into proximity with the container bottom and adapted to provide an enclosure wherein may be received a box, and a door in one wall of the container adjacent said enclosure permitting the box to move in and out thereof, substantially as described.

8. A container having in one of its walls a slot adjacent its upper edge, a lid for the container co-operating with said wall to complete an enclosure around the slot, a guide wall on the inner side of the lid terminating adjacent the slot, a second guide wall spaced from the first to provide a passageway through which articles may be moved

for delivery to the slot, the second guidewall being formed as part of a partition plate removably mounted within the container and having connection with an edge of the slot such that the partition plate derives support therefrom, means carried by the partition plate upon one side thereof for dispensing articles from the opposite plate side, and other means for pressing articles toward the plate whereby they may be engaged individually for delivery from the container through the passageway, substantially as described.

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