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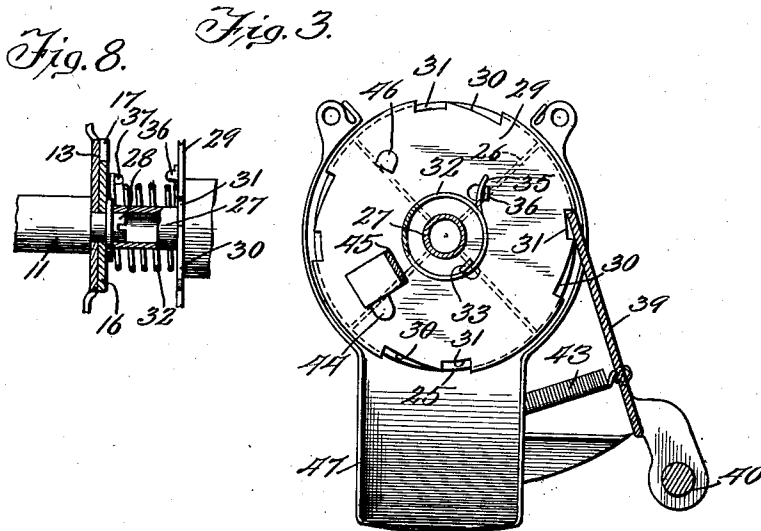
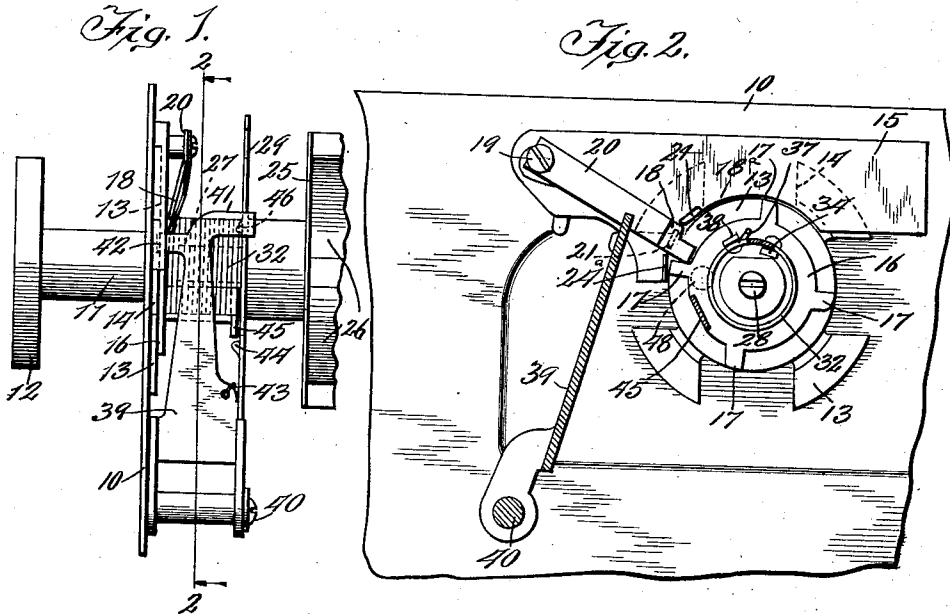
CHECK CONTROLLED MECHANISM.

APPLICATION FILED OCT. 17, 1910.

1,024,537.

Patented Apr. 30, 1912.

2 SHEETS—SHEET 1.



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2 SHEETS-SHEET 2.

Fig. 4.

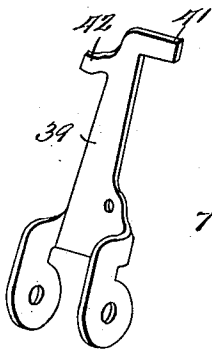


Fig. 5.

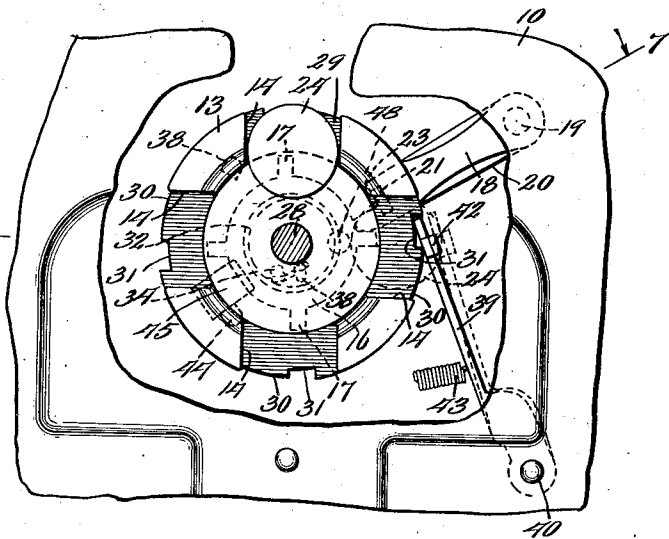


Fig. 6.

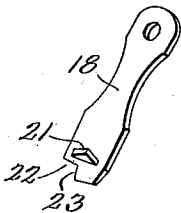
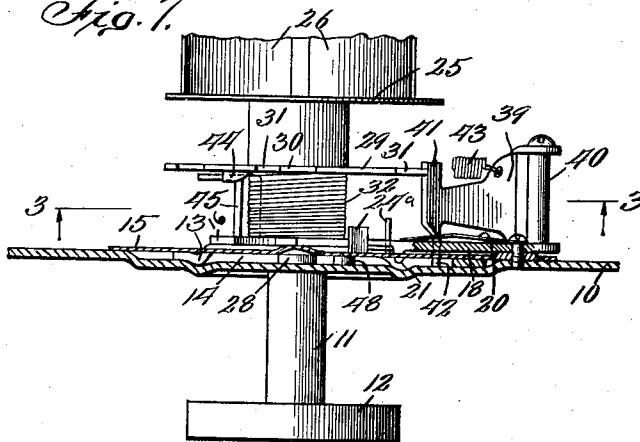


Fig. 7.



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UNITED STATES PATENT OFFICE.

CLARENCE C. TRAVIS, BETHUEL M. DAVIS, AND ALFRED D. ANTOINE, OF CHICAGO, ILLINOIS; SAID DAVIS AND ANTOINE ASSIGNORS TO SAID TRAVIS.

CHECK-CONTROLLED MECHANISM.

1,024,537.

Specification of Letters Patent.

Patented Apr. 30, 1912.

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To all whom it may concern:

Be it known that we, CLARENCE C. TRAVIS, BETHUEL M. DAVIS, and ALFRED D. ANTOINE, citizens of the United States, and residents of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Check-Controlled Mechanism, of which the following is a specification.

10 This invention relates to improvements in check controlled mechanism for vending machines, embodying a receptacle for delivering the commodity and one of the objects of the present invention is to provide improved means whereby when the receptacle is released by the check it will be advanced at a greater rate of speed than the speed of advancement of the check conveying means and in the same direction therewith, and improved means whereby the check conveying means may be advanced beyond the limit of movement of the delivery receptacle to release or discharge the check.

25 A further object is to provide an improved elastic connection between the check conveying means and the delivery receptacle upon which tension is created by the operation of the check conveying means in the direction to release the receptacle, so that when the delivery receptacle is released by the check, the tension of the elastic connection will be exerted upon the delivery receptacle to cause the latter to spring forwardly.

35 A further object is to provide improved means for locking the receptacle against retrograde movement and improved means whereby the elastic connection will serve to return the check conveying means to operating position after the check has been discharged therefrom, and improved means for limiting such return movement.

45 A further object is to provide an improved device of this character which will be simple, durable and cheap in construction and effective and efficient in operation.

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 the construction, combination and arrangement of the several parts hereinafter more fully described and claimed and shown in the ac-

companying drawings illustrating an embodiment of the invention, and in which— 55

Figure 1 is a detail side elevation of an improved device of this character constructed in accordance with the principles of this invention. Fig. 2 is an enlarged sectional view on line 2—2 of Fig. 1. Fig. 3 is a sectional view on line 3—3 of Fig. 7. Fig. 4 is a detail perspective view of the locking dog or retaining pawl for the delivery receptacle. Fig. 5 is a detail view partly in section with the front plate removed. Fig. 6 is a detail perspective view of the check or coin detector. Fig. 7 is a top plan view of Fig. 1. Fig. 8 is a detail sectional view showing the connection between the commodity delivering receptacle and the check conveying means. 60 65 70

Referring more particularly to the drawings, the numeral 10 designates a face plate which may be of any desired size and configuration, in which is journaled one extremity of the shaft 11 of an operating handle 12. Secured to the shaft 11 and adjacent the face of the plate 10 opposite to that adjacent which the operating handle 12 is located is a check or coin conveyer which is preferably in the form of a disk 13 having a plurality of pockets or check receptacles 14, and this disk 13 is located in close proximity to the face of the plate and is located between the plate 10 and a second plate 15. These plates 10 and 15 coöperate with the check receptacles or pockets to hold the check in position to be advanced by the disk 13 when the handle 12 is rotated in a clockwise direction. Secured also to the shaft 11 and in close proximity to the rear face of the disk 13 is a disk or wheel 16 provided with spaced peripheral teeth 17. The plate 15 is preferably recessed or cut away at its lower edge as at 18 so that a portion of the periphery of the disk 13 will extend into the cut away portion, as shown in Fig. 2, thereby permitting the inner face of the disk 13 to stand substantially flush with the inner face of the plate 15. The teeth 17 on the disk 16 are preferably of a length that their extremities will terminate adjacent the periphery of the disk 13 and these teeth or projections 17 coöperate with a coin detector 18. The detector 18 is supported in any desired or suitable manner but prefer- 75 80 85 90 95 100 105

ably by one extremity thereof which is secured to a suitable support preferably the plate 13 by means of a suitable fastening device 19.

5 The free extremity of the detector projects over the disk 13 so as to extend into the space between two adjacent teeth 17 on the disk 16 and an elastic member 20, such as a leaf spring or the like, is provided which
10 tends normally to hold the free extremity 21 of the detector in the space between two adjacent teeth 17. This detector is provided adjacent its free end with a lateral projection 21, which is adapted to enter the pockets 14 in the check conveying disk 13 when
15 no check is in the pocket or when a bogus check is inserted therein and which check is not of the proper thickness. The free extremity of the detector 18 is recessed as at
20 22 to form a shoulder 23 and the lateral projection 21 is beveled as shown so that when the check 24, of a proper denomination or value, is advanced by the check conveying disk 13 its edge will engage the inclined or
25 beveled projection 21 on the detector 18 to move the latter so as to move the shoulder 23 out of the path of movement of the advancing projection 17 on the disk 16, and against the tension of the elastic member 20
30 so as to permit the tooth or projection 17 to pass the projection 21. After this tooth or projection 17 has passed the projection 21 the elastic member will force the detector 18 back to its original position to cause the projection 21 thereon to enter the next coin pocket or receptacle 14 and also to move the
35 shoulder 23 on the detector into the path of movement of the next advancing tooth or projection 17.

40 In order to prevent displacement of the detector 18 by a retrograde movement of the disk 16 through the medium of the handle 12, the free extremity of the detector is adapted to move between guides or projections 24^a which extend laterally from any
45 suitable support, preferably the plate 13 as shown more clearly in Fig. 2.

Connected for operation with the check conveying disk 13 is a commodity receptacle
50 25 which may be of any desirable configuration but is preferably in the form of a horizontally disposed drum provided with pockets 26, and this drum is rotatably supported at one end in any suitable manner and at its
55 other end is provided with a tubular extension 27 which terminates adjacent the rear face of the plate 10. This tubular extension 27 is adapted to receive the extremity of a shaft or axle 28 which projects laterally
60 from the disks 13 and 16. A ratchet wheel 29 is secured to the extension 27 of the receptacle 25 and this ratchet wheel is provided with notches or recesses 30 opening through the periphery thereof and the bot-
65 tom of these notches or recesses are also

provided with additional notches or recesses 31 opening through the periphery. Any number of the notches or recesses 30, 31, may be provided but there is preferably provided one pair of each of the pockets 26
70 of the commodity delivering receptacle 25. The receptacle 25 is connected to the check conveying means for operation thereby by means of an elastic member 32, preferably in the form of a coil spring. This elastic member surrounds the tubular extension and the adjacent portion of the shaft or axle 28 and
75 also a lug or projection 33 on the ratchet disk or wheel 29 and a similar lug or projection 34 on the disk 16 so as to be supported and held in position. One extremity 35 of the elastic member 32 engages a lug or projection 36 on the disk or ratchet wheel 29 and the other extremity 37 of the elastic member engages a similar lug or projection
80 38 on the disk 16. The elastic member is so arranged that when the receptacle 25 is held against rotation, and the handle 12 is rotated in a clockwise direction, it will be wound to create a tension thereon.

Any suitable means may be provided for retaining the receptacle 25 and the disk or ratchet wheel 29 against rotation during the initial advancement of the check conveying means or disk 13 so that a tension will be created upon the elastic member. A suitable and efficient means for accomplishing this result comprises a retaining dog or pawl 39 which is pivotally supported by one extremity as at 40. The other extremity is
100 preferably provided with a lateral projection 41 which is adapted to enter the recesses 30 and 31, in the disk 29. This retaining dog or pawl is also provided with a lateral projection or ear 42 which is preferably located adjacent the free extremity thereof and extends from the side of the dog or pawl opposite to that from which the projection 41 extends. The dog or pawl is so
105 located that the projection 42 will stand in close proximity to the free end of the detector 18 and extends across the space between the plates 10 and 15 (as shown more clearly in Fig. 7) so that the edge of the check 24 will engage the projection 42 just
110 after the check has moved the shoulder 23 of the detector 18 out of the path of movement of the advancing projection 17 on the disk 16, so as to rock the dog or pawl 39 about its point of pivotal support 40 to
115 move the projection 41 thereon out of the notch or recess 31 in the disk or ratchet wheel 29. As the check engages the projection 41 on the dog or pawl 39 it will rock the latter against the tension of the elastic
120 member 43 to release the receptacle 25.

During the advancement of the check conveying disk 13 in a clockwise direction, from the point at which the check 24 is deposited thereon until the edge of the check 130

engages the projection 42 on the dog or pawl 39, the spring or elastic member 32 will be wound or a tension will be created thereon owing to the fact that one end of this elastic member and the disk 29 is locked against rotation. After the check has shifted the dog or pawl 39 to release the disk 29 and the receptacle 25, the tension which has thus been created on the elastic member 32 will snap or move the receptacle 25 forwardly at a greater rate of speed than the advancement of the check conveying disk 13. The receptacle will continue its independent advancement under the influence of the elastic member 32 until a lug or projection 44 on the disk or ratchet wheel 29 and which projects laterally therefrom, engages an arm or extension 45 which is secured for rotation with the axle 28, when such independent advancement of the receptacle will be arrested. This projection 44 will engage the projection 45 at a time when the check has passed beyond the beveled projection 21 on the detector 18 so that the check conveying disk 13 will be locked against retrograde movement, and at a time when the projection 41 on the dog or pawl 39 enters one of the recesses 30 which will also lock the receptacle 25 and the ratchet wheel or disk 29 against retrograde movement. As the handle 12 is further moved in clockwise direction, the check will be further advanced by the disk 13 and will fall from the pocket 14. The receptacle 25 will be further advanced by the elastic member 32 until the projection 41 on the dog or pawl 39 enters the recess 31 and the receptacle will then be locked in position to receive another supply. The lug or projection 44 on the disk or wheel 29 also cooperates with the arm or projection 45 to limit the retrograde movement of the handle 12 and the check conveying disk 13 and also serves as a means for positioning the pocket 14 to receive the check.

In the event that the elastic member 32 fails to operate to snap or move the receptacle 25 forwardly to discharge the commodity when the receptacle is released, a projection 46 similar to the projection 44 may be provided on the disk or ratchet wheel 29 and is arranged to be engaged by the arm or projection 45 after the check detector 18 has been shifted, so that it will start to move the disk or wheel 29 and the receptacle 25 forwardly.

The arm or projection 45 may be formed in any suitable manner but is preferably formed integral with the disk 18 which latter is preferably formed of sheet metal cut out so as to form an extension which is adapted to be bent to form the lateral projection or arm 45 and is also cut out so as to form the peripheral projections 17.

As the material is discharged from the

pockets 26 of the receptacle 25 it may be delivered to the customer through a delivery chute 47. In order to prevent the check 24 from being wedged into the pockets 14 when it engages the detector and the dog or pawl 39 and in order to furnish means for ejecting the check from the pocket after it has passed these two elements, a pin or projection 48 may be provided, which preferably projects laterally from the plate 10 and extends into the pockets 14 adjacent the bottom thereof and at a point in proximity to the point where the check engages the detector and the dog. When the check is advanced in a clockwise direction from the position shown in Fig. 5, the edge of the check will engage the projection 48 just as it engages the dog 39 as shown in dotted lines in Fig. 5 and the check will thereby be prevented from becoming wedged into the pocket as it engages and rides over the projection 48, which latter also serves to eject the check.

With this improved construction it will be apparent that immediately upon the receptacle 25 becoming released or unlocked, the elastic member will force the same forwardly so quickly that it will be almost impossible to arrest its forward movement and the receptacle will be locked against retrograde movement before the check is discharged from the check conveying disk, while at the same time the check conveying disk will also be locked against retrograde movement after it has passed or partially passed the detector.

What is claimed as new is:

1. In a device of the character described, the combination with check controlled mechanism embodying a check conveyer, and means for operating the latter, of means movable independently of the conveyer for delivering a commodity and having a constant direction of movement, means for operating the last said means, and means whereby the operation of the check conveying means will create a tension on the last recited operating means.

2. In a device of the character described, the combination with check controlled mechanism embodying a check conveyer and having a constant direction of movement and means for operating the latter, of means movable independently of and having a constant direction of movement in the same direction as the check conveyer for delivering a commodity, means for operating the last said means, and means whereby the operation of the check conveying means will create a tension on the last recited operating means.

3. In a device of the character described, the combination with check controlled mechanism embodying a check conveyer and means for operating the latter, of means

having a constant direction of movement and movable independently of the check conveyer for delivering a commodity, means for operating the last said means, means embodying a retainer for locking the commodity delivering means against operation whereby the operation of the check conveyer will create a tension upon the last recited operating means, and means whereby the retaining means will be actuated by the check to release the commodity delivery means.

4. In a device of the character described, the combination with check controlled mechanism embodying a check conveyer and means for operating the latter, of means having a constant direction of movement and movable independently of the check conveyer for delivering a commodity, elastic means for operating the last said means, means embodying a retainer for locking the commodity delivering means against operation whereby the operation of the check conveyer will create a tension upon the said elastic means, and means whereby the retaining means will be actuated by the check to release the commodity delivering means.

5. In a device of the character described, the combination with means for delivering a commodity and having a constant direction of movement, of check controlled mechanism embodying a check conveyer also having a constant direction of movement and means for locking the commodity delivering means against operation, and means rendered operative by the actuation of the check conveyer for actuating the said commodity delivering means when the said locking means is tripped to release the latter.

6. In a device of the character described, the combination with means for delivering a commodity and having a constant direction of movement, of check controlled mechanism embodying a check conveyer, a check detector, and means for locking the commodity delivering means against operation, and means rendered operative by the actuation of the check conveyer for actuating the said commodity delivery means when the said locking means is tripped to release the latter.

7. In a device of the character described, the combination with means for delivering a commodity and having a constant direction of movement, of check controlled mechanism embodying a check conveyer, a check detector and means for locking the commodity delivering means against operation, means for operating the check conveyer, an elastic connection between the said operating means and the commodity delivering means, said operating means being adapted when actuated to create a tension of the elastic connection to actuate the commodity delivering means when the latter is released,

and means whereby the check will trip the said locking means after tension has been created upon the elastic connection.

8. In a device of the class described, the combination with means for delivering a commodity and having a constant direction of operation, of check controlled mechanism embodying a check conveyer, a check detector, and means for locking the commodity delivering means against operation, operating means common to both the check conveyer and the detector, an elastic connection between the said operating means and the commodity delivering means, said operating means being adapted when actuated to create a tension of the elastic connection to actuate the commodity delivering means when the latter is released, and means whereby the check will trip the said locking means after tension has been created upon the elastic connection.

9. In a device of the character described, the combination with means having a constant direction of motion for delivering a commodity, of check controlled mechanism, operating means for the latter, an elastic connection between the commodity delivering means and the said operating means and means whereby tension will be exerted upon the elastic means by the actuation of the said operating means for actuating the commodity delivering means.

10. In a device of the character described, the combination with means having a constant direction of motion for delivering a commodity, of check controlled mechanism having a forward and retrograde movement, operating means for the check controlled means, an elastic connection between the operating means and the commodity delivering means, and means whereby tension will be exerted upon the elastic means by the actuation of the said operating means for actuating the commodity delivering means.

11. In a device of the character described, the combination with means having a constant direction of motion for delivering a commodity, of check controlled mechanism having a forward and retrograde movement, operating means for the check controlled means, an elastic connection between the operating means and the commodity delivering means, means whereby tension will be exerted upon the elastic means by the actuation of the said operating means for actuating the commodity delivering means, and means for arresting the retrograde movement of the check controlled means.

12. In a device of the character described, the combination with means having a constant direction of motion for delivering a commodity, of check controlled mechanism having a forward and retrograde movement, operating means for the check controlled

means, an elastic connection between the operating means and the commodity delivering means, means whereby tension will be exerted upon the elastic means by the actuation of the said operating means for actuating the commodity delivering means, and interengaging means operatively related to the check controlled means and the commodity delivering means for arresting the retrograde movement of the said check controlled means.

13. In a device of the character described, the combination with means for delivering a commodity and having a constant direction of motion, of check controlled mechanism having a forward and retrograde mechanism and embodying a check detector adapted to arrest the forward movement of the said mechanism, operating means for said mechanism, an elastic connection between the latter and the commodity delivering means, and means whereby tension will be exerted in the elastic connection by the actuation of the said operating means for actuating the commodity delivering means.

14. In a device of the character described, the combination with means for delivering a commodity and having a constant direction of motion, of check controlled mechanism having a forward and retrograde mechanism and embodying a check detector adapted to arrest the forward movement of the said mechanism, operating means for said mechanism, an elastic connection between the latter and the commodity delivering means, means whereby tension will be exerted in the elastic connection by the actuation of the said operating means for actuating the commodity delivering means, and a stop for limiting the retrograde movement of the check controlled mechanism.

15. In a device of the character described, the combination with means for delivering a commodity and having a constant direction of motion, of check controlled mechanism having a forward and retrograde mechanism and embodying a check detector adapted to arrest the forward movement of the said mechanism, operating means for said mechanism, an elastic connection between the latter and the commodity delivering means, means whereby tension will be exerted in the elastic connection by the actuation of the said operating means for actuating the commodity delivering means, and interengaging means operatively related to the commodity delivering means and the check controlled means and movable respectively therewith, for limiting the retrograde movement of the check controlled means.

16. In a device of the character described, the combination of a rotatable commodity delivering receptacle having a constant direction of rotation, check controlled means,

means for operating the latter, a loose connection between the said operating means and the receptacle and an elastic member surrounding the connection and with the extremities secured respectively to the receptacle and the said operating means, said check controlled means embodying a ratchet disk secured for rotation with the receptacle and a retaining dog cooperating therewith adapted to lock the receptacle against rotation whereby the operation of the check controlled mechanism will create a tension on the elastic member to actuate the receptacle when released, said dog being adapted to be tripped by the check to release the receptacle.

17. In a device of the character described, the combination of a rotatable commodity delivering receptacle having a constant direction of rotation, check controlled means embodying a check detector, means for operating the latter, a loose connection between the said operating means and the receptacle, and an elastic member surrounding the connection and with the extremities secured respectively to the receptacle and the said operating means, said check controlled means also embodying a ratchet disk secured for rotation with the receptacle and a retaining dog cooperating therewith adapted to lock the receptacle against rotation, whereby the operation of the check controlled mechanism will create a tension on the elastic member to actuate the receptacle when released, said dog being adapted to be tripped by the check to release the receptacle.

18. In a device of the character described, the combination of a rotatable commodity delivering receptacle having a constant direction of movement, check controlled means having a forward and a retrograde movement, means for operating the check controlled means, a loose connection between the said operating means and the receptacle, and an elastic connection between the said operating means and the receptacle, and an elastic member surrounding the connection and with its extremities secured respectively to the receptacle and the said operating means, said check controlled means embodying a ratchet disk secured for rotation with the receptacle and a retaining dog cooperating therewith and adapted to lock the receptacle against rotation, whereby the operation of the check controlled mechanism will create tension on the elastic member to actuate the receptacle when released, said dog being adapted to be tripped by the check to release the receptacle.

19. In a device of the character described, the combination of a rotatable commodity delivering receptacle having a constant direction of movement, check controlled means having a forward and a retrograde move-

ment, means for operating the check controlled means, a loose connection between the said operating means and the receptacle, and an elastic connection between the said
 5 operating means and the receptacle, an elastic member surrounding the connection and with its extremities secured respectively to the receptacle and the said operating means, said check controlled means embodying a
 10 ratchet disk secured for rotation with the receptacle and a retaining dog cooperating therewith and adapted to lock the receptacle against rotation whereby the operation of the check controlled mechanism will create
 15 a tension on the elastic member to actuate the receptacle when released, said dog being adapted to be tripped by the check to release the receptacle, and a stop for limiting the said retrograde movement.

20 20. In a device of the character described, the combination of check controlled mechanism, operating means therefor, a rotatable receptacle for delivering a commodity having a constant direction of rotation and em-
 25 bodying a ratchet disk, said disk being provided with a lateral projection, an elastic connection between the said operating means and the said receptacle, means whereby the actuation of the said operating means will
 30 create a tension on the elastic connection to actuate the receptacle when released, and means operatively related to the said operating means and cooperating with the said stop for imparting movement to the said re-
 35 ceptacle.

40 21. In a device of the character described, the combination of check controlled mechanism, operating means therefor including a rotatable handle having a forward and retrograde movement, a receptacle for delivering a commodity having a constant direction of movement and embodying a ratchet disk having a constant direction of

rotation and provided with a lateral projection rotatable therewith, an elastic connection between the operating handle and the
 45 receptacle, means whereby a tension will be created on the elastic member for operating the receptacle when the latter is released, and an arm operatively connected with the
 50 said handle and rotatable therewith, and adapted to engage the projection to limit the retrograde movement of the handle.

22. In a device of the character described, the combination of check controlled mechanism, operating means therefor including
 55 a rotatable handle having a forward and retrograde movement, a receptacle for delivering a commodity having a constant direction of rotation and embodying a ratchet
 60 disk also having a constant direction of rotation and provided with a lateral projection rotatable therewith, an elastic connection between the operating handle and the
 65 receptacle, means whereby a tension will be created on the elastic member for operating the receptacle when the latter is released, an arm operatively connected with the said handle and rotatable therewith and adapted
 70 to engage the projection to limit the retrograde movement of the handle, there being a second projection on the disk adapted to be engaged by the arm during its forward movement to start the receptacle upon
 75 failure of the elastic member to move the same.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, on this 15th day of October A. D. 1910.

CLARENCE C. TRAVIS.

BETHUEL M. DAVIS.

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Witnesses:

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