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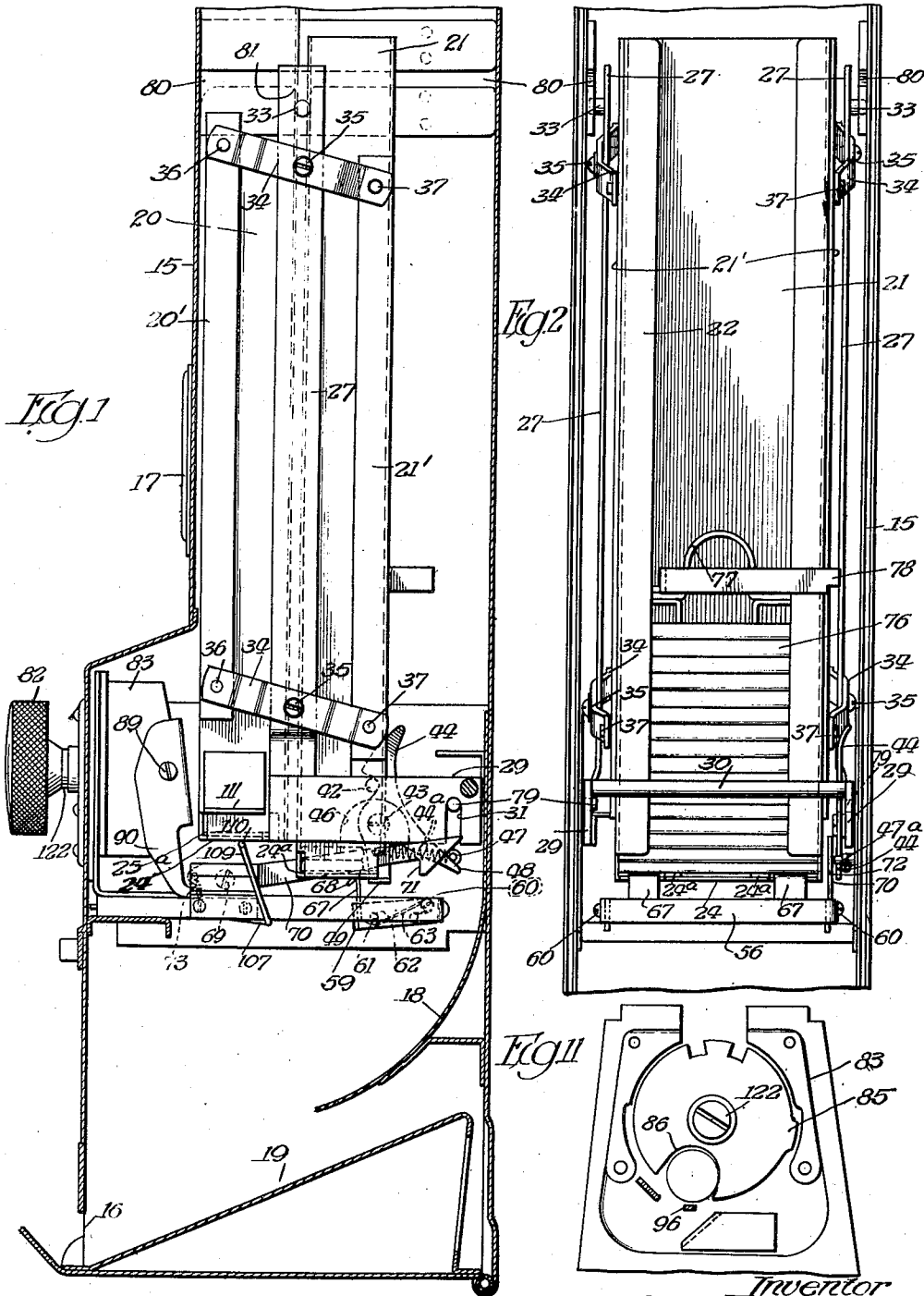
M. H. RICHARDSON ET AL

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VENDING MACHINE

Filed April 26, 1939

4 Sheets-Sheet 1



Inventor
Myron H. Richardson
Floyd C. Black
Albert L. Gebert
By *[Signature]*

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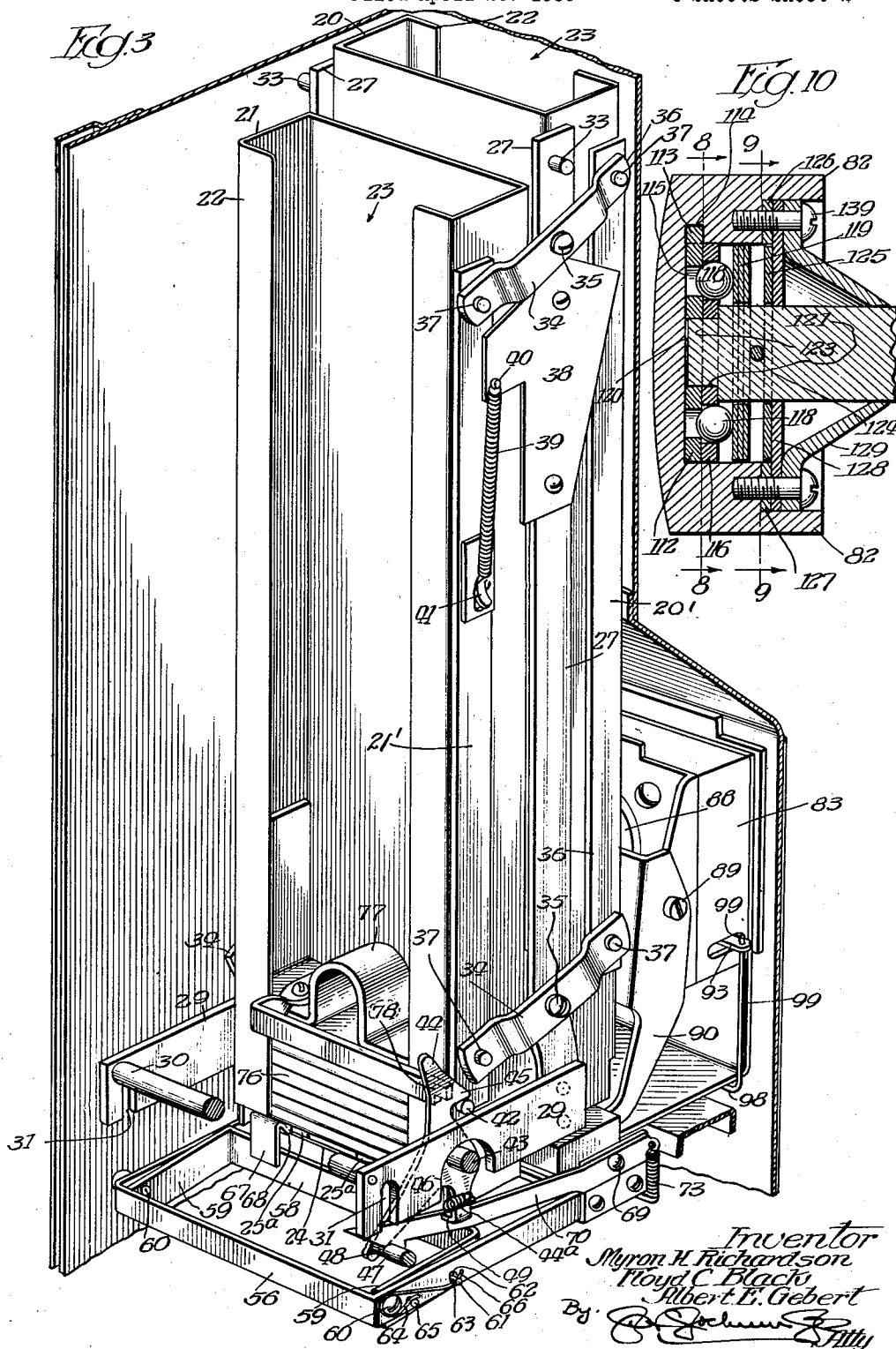
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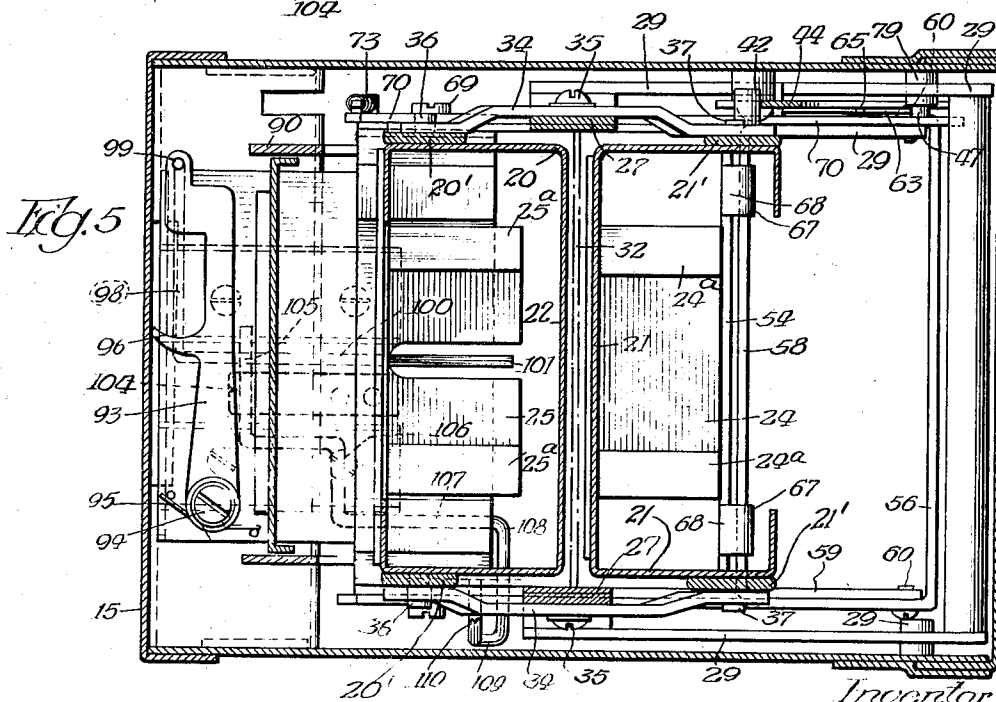
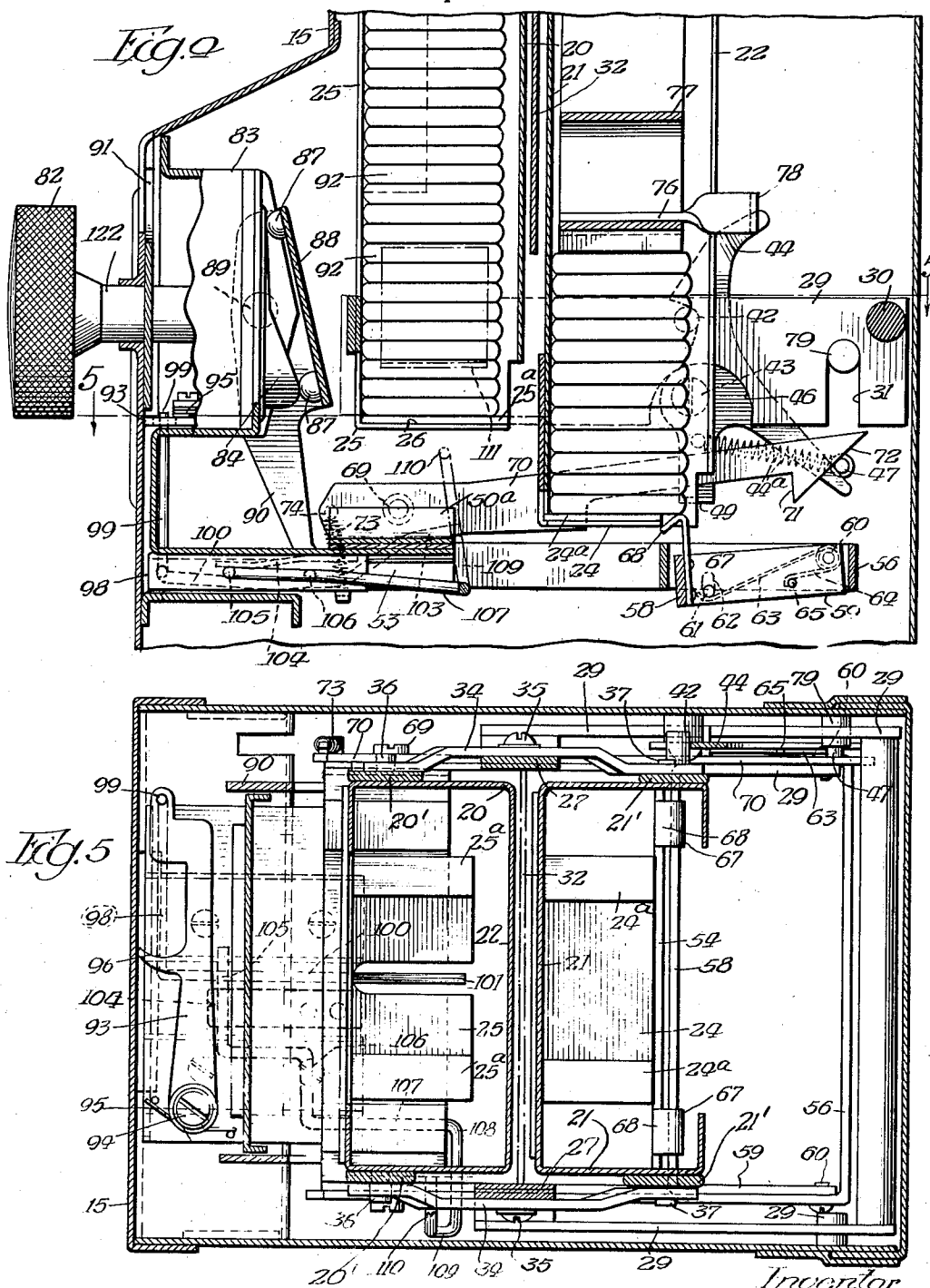
M. H. RICHARDSON ET AL

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VENDING MACHINE

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Inventor
Myron H. Richardson
Floyd C. Black
Albert W. Gehret
By *Edw. J. [Signature]* Atty.

Oct. 22, 1940.

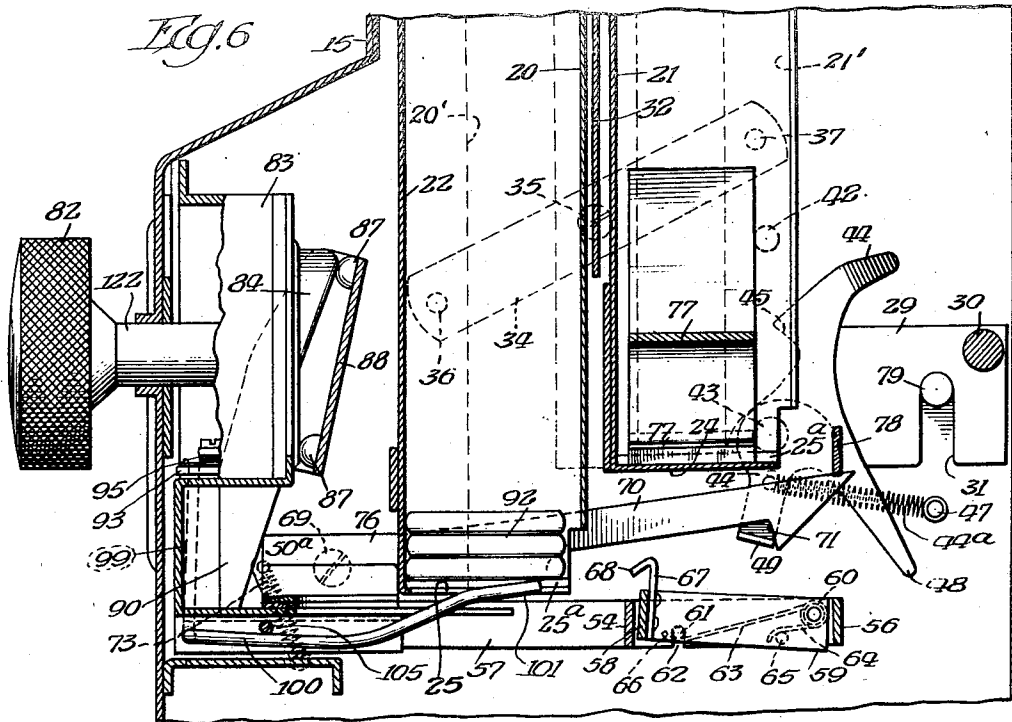
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VENDING MACHINE

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UNITED STATES PATENT OFFICE

2,218,657

VENDING MACHINE

Myron H. Richardson and Floyd C. Black, Chicago, and Albert E. Gebert, Wilmette, Ill., assignors to Advance Machine Company, Chicago, Ill., a corporation of Illinois

Application April 26, 1939, Serial No. 270,092

9 Claims. (Cl. 312—63)

This invention relates to improvements in vending machines of the type in which there is maintained a plurality of supplies of articles to be vended, each supply being arranged in a separate container, which latter are disposed one in advance of the other, the articles being dispensed from one of the containers, preferably the rear container, in advance of the delivery of any of the articles from the front container, the articles in the front container being dispensed only after the supply is exhausted from the rear container.

A further object is to provide in a machine of this character a single delivery outlet from the machine and a single ejector for ejecting the articles from the respective supplies.

A further object is to provide improved means for locking or maintaining one of the supply containers in position to have the articles ejected and for maintaining the other container in an out of the way position with respect to the path of operation of the ejector.

A further object is to provide in a machine of this character improved means associated with the ejector for releasing or unlocking the locked container, and improved means which will be rendered active when the said locking means is rendered inactive, whereby the article containers will be automatically shifted one with respect to the other to move the empty container out of the way and the full container in position with respect to the path of operation of the ejector, so that the articles will be ejected or vended from the container in which there is a supply of articles.

A further object is to provide improved mechanism for rejecting or returning to the operator an inserted coin or check of proper value when the containers are empty, and improved means whereby such mechanism will be maintained inactive when the articles are being dispensed from one of the containers, and also improved means operable by a relative shifting of the containers, one with respect to the other, to render the coin return mechanism active, adapting the said mechanism to be rendered inactive by the presence of articles in the other container, said coin return mechanism being rendered active again when the supply of articles in the last said container is exhausted.

A further object is to provide an improved handle or operating knob structure for the ejector which will yield under abnormal conditions, whereby the parts of the mechanism will be prevented from becoming damaged.

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

Figure 1 is a view partly in vertical section and partly in side elevation of a machine of this character constructed in accordance with the principles of this invention and with the top portion of the machine omitted.

Figure 2 is a rear elevation of Figure 1.

Figure 3 is a detail perspective view of the article containers and a portion of the ejecting mechanism showing the article containers in position whereby the articles will be vended from the rear container.

Figure 4 is a detail sectional view, on an enlarged scale, showing the parts in the position they will assume when the article is to be vended from the rear container and with the ejecting mechanism approximately at the end of its return stroke.

Figure 5 is a sectional view taken on line 5—5 of Figure 4.

Figure 6 is a view similar to Figure 4, with parts omitted, and showing the front container lowered to a position to have the articles vended therefrom and with the rear container elevated.

Figure 7 is a detail perspective view with parts broken away of the ejector.

Figure 8 is a detail sectional view taken on line 8—8 of Figure 10.

Figure 9 is a detail sectional view taken on line 9—9 of Figure 10.

Figure 10 is a vertical sectional view, on an enlarged scale, of the operating knob or handle.

Figure 11 is a view in detail, with parts omitted, showing the check carriers.

Referring more particularly to the drawings, the numeral 15 designates generally an enclosing housing or casing which may be of any desired size and configuration and is provided with a discharge outlet opening 16. The front of the casing may be provided with an opening closed by a transparent element 17 and within the base of the casing may be arranged a chute 18 for directing the articles onto an incline 19 to be delivered through the opening 16.

The articles to be vended are arranged within two containers 20—21 which may be of any desired configuration but are preferably formed to provide a front wall 22 a portion of which is removed as at 23 so as to afford a view of the articles

in the container and also to facilitate in the loading of the containers.

At the bottom of the container 21 is arranged a rearwardly projecting ledge 24 to serve as a support for the articles and this ledge is preferably of a length considerably less than the width of the container. At the bottom of the forward container 20 is provided a similar ledge or shelf 25 which is provided with a slot or opening 26 therein, for a purpose to be described.

These containers 20—21 are connected together for relative longitudinally shifting movement and to that end there is provided a supporting frame comprising uprights 27 secured to each of which is a base member 29 connected together adjacent their rear ends by means of a cross bar or rod 30 (see Figure 3) and each of these members 29 is provided with a slot 31 opening through the lower edge thereof, for a purpose to be described.

These members 27 are arranged on opposite sides of the containers 20—21 and may be connected together by means of suitable connecting members 32 disposed between the containers 20—21, which latter are arranged back to back and spaced for a sufficient distance to accommodate the connecting member or members 32 and also to permit of a relative longitudinal movement of the containers one with respect to the other. At the upper ends of each of the uprights 27 may be provided a lateral projecting lug 33 for a purpose to be described.

Pivotally connected to the uprights 27 and at any desired points through the length thereof are any desired or suitable number of levers 34, the levers being connected to the respective members 27 intermediate their ends by means of pivots 35 and at their free ends as at 36—37 to the respective containers 20—21 preferably through the medium of upright bars 20'—21' so that by the movement of the containers longitudinally one with respect to the other the levers 34 will be swung about the pivots 35 and the levers will also have a pivotal movement at their points of connection with the containers.

Connected to one of the uprights 27 is a bracket or member 38 and a spring 39 is connected by one end, as at 40, with the bracket 38 and is anchored at its other end, as at 41, to the container 21. This spring 39 tends normally to shift the container 21 longitudinally with respect to the container 20 and thereby swing the levers 34 about their pivots 35 to raise the container 21 and lower the container 20.

Projecting from the wall of the container 21 is a lug 42 and pivotally mounted upon the wall of the casing 15, as at 43, is a spring controlled dog 44 having a shoulder 45 which is adapted to engage over the lug 42 to hold the container 21 in its lowermost position and against the stress of the spring 39, and thereby maintain the container 20 in its elevated position.

The base member 29 of the supporting frame for the containers may be provided with a cut away portion 46 which passes over the supporting pivot pin of the dog 44. A stop 47 is also provided on the wall of the casing 15 against which the end 48 of the dog 44 is adapted to engage so as to limit the movement of the dog 44 in one direction.

A shoulder 49 is also provided on the dog 44 by means of which the dog 44 may be swung about its pivot against the stress of its holding spring 39 so that the dog 44 may be moved out of engagement with the lug 42 to release the container 21 so that the stress or energy stored in

the spring 39 together with the weight of the articles in the container 20 will cause the container 21 to be raised and the container 20 to be lowered, in a manner to be described.

The levers 34 are preferably arranged on each side of the containers.

The ejector mechanism consists of a slide 50 which is mounted upon a support 51 and the slide may be guided in its movement by means of its lateral edges 52 being bent around the edges of the support 51. These edges or flanges 52 may be formed on a plate which is secured to the slide 50 or may be formed by means of angular shaped members secured to the bottom of the slide 50.

The lateral edges of the slide 50 are preferably deflected downwardly, as at 53, to form a support for a frame 54 of substantially U shape, the ends 55 of the frame being secured to the downwardly extending portions 53 of the slide. Secured to the frame 54 is another frame 56 of substantially U shape formation, the arms 57 of which are secured to the side members of the frame 54 and the frames 54 and 56 are so arranged as to provide spaces of substantial area therein.

A U shaped member comprising a body 58 and arms 59 is arranged within the frame 56 and the arms 59 are pivotally connected as at 60 to the side members of the frame 56 so as to stand within the space in the frame and be adapted for pivotal movement with respect to the frame. Carried by one of the side members 59 of the frame is a pin or lug 61 that extends through a slot 62 (see Fig. 7) that opens through the bottom of the side member 57 of the frame 56, and a spring 63 encompasses the pivot 60, one end of the spring 64 engaging and resting upon a lug 65 on the member 56 while the other end 66 of the spring projects under and contacts the lug 61. The tendency of the spring 63 is to move the frame 58—59 about its pivot 60 until the lug 61 engages the bottom of the slot 62 to arrest the movement of the frame in an upward direction, yet a pressure upon the frame 58 will cause it to move about the pivot 60 in the opposite direction so that projecting fingers 67 which are carried by the frame 58 will be depressed during the movement of the slide or ejector and at predetermined times during its cycle of operation. If desired, the free ends of the members 67 may be inclined to form a beveled surface to facilitate the fingers or projections 67 passing under the articles in the containers.

Pivotally mounted upon the slide 50, as at 69, is an arm or lever 70 which projects rearwardly toward the frame 58 and is provided with a hook shaped portion or shoulder 71 and an inclined or beveled surface 72 adjacent thereto. A spring 73 is connected at one end, as at 74, to the arm 70 and is anchored as at 75 to the slide 50. The tendency of the spring 73 is to hold the shoulder or hook shaped portion 71 elevated and the arm 70 is disposed to move adjacent the dog 44.

When the arm 70 is in an elevated position, as shown in Figure 7 and when the slide 50 is reciprocated, the shoulder 71 will have no effect upon the dog 44 but, when the arm 70 is disposed against the stress of the spring 73, in a manner to be described, the shoulder 71 on the arm will, upon the forward movement of the slide 50, engage over the shoulder 49 on the dog 44, to swing the dog about its pivot 43 against the stress of its controlling spring 44—A to move the shoulder 45 of the dog out of engagement with the lug 42, thereby releasing the container 21 and permit-

ting the spring 39 to shift the container 21 longitudinally to raise the latter and the raising movement will through the medium of the levers 34 cause the container 20 to be lowered into a position that the articles may be dispensed from the container 20. This operation, however, will not be effected until after all of the articles 16 in the container 21 have been dispensed.

When the last article 16 has been dispensed from the container 21 a weight 77 having a projecting arm or lug 78 will be lowered so that the projection will engage the arm 70 and move it about its pivot 69 to lower the shoulder 71 so that it will be in a position that upon the next forward movement of the slide 50 the shoulder 71 on the arm 70 will engage the shoulder 49 on the dog 44, as shown more clearly in Figure 6, to swing the dog 44 about its pivot 43 and thereby move the shoulder 45 of the dog out of engagement with the lug 42.

When the container 21 has been shifted or moved upwardly by the spring 39 and the container 20 lowered, the weight 77 resting upon the platform or ledge 24 of the container 21, will be raised with the container so that the extension 78 on the weight will be moved out of contact with the shoulder 49 thus permitting the spring 73 to raise the arm or lever 70 so that the shoulder 71 will be moved into a position that upon reciprocation of the slide 50 the shoulder 71 will not engage the shoulder 49 on the dog 44.

The base members 29, uprights 27 and containers 20—21 constitute a unitary structure and is insertable into and removable from the casing 15 as such, but the slide 50 and the ejector mechanism together with the arm 70 are mounted within the casing and are not removable with the unit.

The casing 15 is provided with inwardly projecting lugs 79 (see particularly Figures 1 and 2) in proximity to the slide 50 and is also provided with grooves or guideways 80 adjacent the top of the uprights 27 when the latter are in position so that the lugs 33 may be passed into the grooves 80. The grooves are provided with a depressed portion or seat 81 for receiving the lugs 33.

In placing the unit within the casing 15, the downwardly opening slots 31 in the base members 29 are positioned to engage over the lugs 79 and the unit is rocked upon the lugs 79 as a fulcrum causing the lugs 33 to enter the grooves 80 and as the unit is swung about the pivot 79 these lugs 33 will travel into the grooves 80 until the lugs 33 are in a position directly over the respective recesses or seats 81. The weight of the unit will then cause the same to drop sufficiently causing the lugs 33 to enter the seats or recesses 81 thereby holding the unit removably in position within the casing.

To remove the unit, it is only necessary to raise the same sufficiently to cause the lugs 33 to pass out of the seats or recesses 81 and into position or alinement with the grooves 80 after which the unit may then be swung about the pivot lugs 79 until the lugs 33 have passed out of the grooves 80 and the unit may then be lifted off of the pivot lugs 79.

The ejector embodying the slide 50 may be reciprocated in any desired or suitable manner and its reciprocating movement is effected through the medium of an operating handle or knob 82 and the knob is connected with the ejector actuating mechanism through the medium of any suitable coin control mechanism indicated generally by the reference numeral 83,

but the mechanism is preferably of the type embodying a rotatable cam device 84 and a check carrier 85, the latter having a check seat 86 for receiving and conveying the check through the mechanism and depositing the same into the machine.

The cam 84 is adapted to operate upon spaced lugs or projections 87 carried by a member 88 pivotally mounted as at 89. This member 88 is provided with an arm 90 that has pivotal connection with the slide 50 so that when a proper check is deposited in the usual coin receiving slot 91 it will be carried through the mechanism 83 and the cam 84 will be rotated, thereby causing the member 88 to rock about its pivot 89 to reciprocate the slide 50 and the associated ejector mechanism.

In order to prevent the coin from passing into the machine and actuating the slide and ejector in the absence of articles 92 in the container 20 there is provided a detector or return mechanism which preferably embodies a lever 93 (see particularly Figure 5) which is pivotally mounted as at 94, the pivot being arranged in a vertical plane so that the member 93 will swing in a horizontal plane, the member 93 being moved in one direction by means of a suitable spring 95.

Projecting from the member 93 is a finger 96 which is adapted to assume a position beneath the check in the check seat 86 to prevent the check from being deposited into the machine in the event that the container 20 is empty of articles.

Pivotally mounted in suitable bearings, as at 97 (see particularly Figure 7) is a rocker member 98 one end of which is shaped to form an upright extension 99 that passes through an aperture in the free extremity of the member 93. The other end of the member 98 is shaped to form a rearwardly extending portion or arm 100, the free extremity 101 of which is deflected upwardly and is adapted to pass through a slot 102, in the support 51, and a slot 103, in the slide 50, which slots are in register so that the extremity 101 of the portion 100 of the rocker member 98 will also pass through the slot 26 (see Figures 4 and 6) in the support 25 at the bottom of the container 20 when the latter is lowered, so that the articles 92 in the container 20 will rest upon and depress the extremity 101 of the rocker member 98, to swing the member 93 about its pivot 94 against the stress of the spring 95 and thereby withdraw the finger 96 to a position that the check in the check seat 86 of the check carrier 85 will be discharged from the check seat when the check seat is inverted by the rotation of the knob or handle 82.

When there are no articles 92 in the container 20 the spring 95 will move the member 93 to a position that the finger 96 will be located beneath the edge of the coin in the check seat 86 when the latter is inverted to prevent the delivery or discharge of the coin. The movement of this member 93 under the stress of the spring 95 will through the medium of the extension 99 on the rocker member 98, rock the latter and thereby elevate the extremity 101.

Inasmuch as the finger 96 of the member 93 will be withdrawn only by the weight of the articles 92 in the container 20, it will be manifest that when the container 20 is elevated and the container 21 is lowered, unless some provision is made for depressing the extension 101 of the rocker member 98 to withdraw the finger 96 on

the member 93, it would not be possible to dispense the articles from the rear container 21.

Therefore, in order to permit the articles from the rear container to be dispensed first, there is provided a resilient or spring member 104 (see particularly Figure 7) which operates to normally depress the extremity 101 of the rocker member 98 and to hold the finger 96 retracted.

This spring 104 operates upon the end 105 of another rocker member 106 and which end 105 passes over and engages the extension 100 of the rocker member 98, and as the spring 104 tends normally to depress the end 105 of the rocker member 106 the end 105 will in turn depress the extension 100 on the rocker member 98.

Another portion of the rocker member 106 is shaped to form an arm 107 disposed below the support 51 and extending rearwardly in a direction toward the rear container 21, the extension 107 being deflected laterally as at 108 and then upwardly as at 109, and the extremity 110 is shaped to form a shoulder which latter when engaged and depressed will rock the rocker member 106 to elevate the end 105 against the stress of the spring 104, thereby releasing the rocker member 98 so that the spring 95 will move the member 93 about its pivot 94 in a direction to position the finger 96 so that it will prevent discharge of the check from the check seat 86. The member 93 will assume this position when there are no articles 92 in the container 20.

The rocker member 106 is actuated to raise the end 105 against the stress of the spring 104 and thereby release the rocker member 98, by the lowering movement of the container 20 and to that end there is provided on the wall of the front container 20 a bracket 111 (see particularly Figure 1) which is positioned (see also Figure 4) to contact the shoulder 110 on the rocker member 106, when the container 20 is lowered, and depress the shoulder 110 rocking the member 106 in a direction to raise the end 105 against the stress of the spring 104.

As soon as the front container is in a position to have the articles dispensed therefrom, the articles 92 will engage and depress the end 101 of the rocker member 98 and thereby withdraw the finger 96 on the member 93. These parts will be held in this position until all of the articles 92 have been dispensed from the front container 20, after which the spring 95 will swing the member 93 back into a position that the finger 96 will prevent the coin from being discharged from the coin carrier and the end 101 of the rocker member 98 will be elevated.

Thus it will be seen that when the two containers are filled and they are inserted into the casing 15, the front container 20 will be elevated and the rear container 21 will be lowered against the stress of the spring 39, the containers being held in this relative position by the engagement of the dog 44 over the lug 42 on the wall of the container 21. The spring 104 will hold the finger 96 retracted and by depositing a proper check into the check or coin slot 91 the handle or knob 82 may be operated and the slide 50 with the ejector mechanism will be moved rearwardly, the frame 58 swinging about its pivots 60 against the stress of the spring 63 by being depressed when the fingers 67 pass under the articles in the container.

Upon the forward movement of the slide, the ejector will eject the lowermost article in the rear container.

So long as there are articles in the rear con-

tainer 21 the arm 70 will be held in an inoperative position by means of the spring 73. When, however, the rear container 21 is empty and the slide or follower 77 moves downwardly its extension 78 will engage the arm 70 to move and hold it in a position that upon the next forward movement of the slide 50 the shoulder 71 on the arm 70 will engage the shoulder 49 on the dog 44 and rock it against the tension of the spring 44—A to move the dog out of engagement with the lug 42 on the container 21. Thus released, the spring 39 will act to raise the rear container and lower the front container. The containers will be held in this relative position by means of the spring 39.

As the front container 20 is lowered, the bracket 111 will engage the shoulder 110 on the rocker member 106 to raise the end of the latter against the stress of the spring 104 thereby releasing the rocker member 98 and the extremity 101 will tend to rise under the influence of the spring 95 operating on the member 93, but, inasmuch as the front container is filled with articles 92 the extremity 101 of the rocker member 98 will be immediately depressed by the engagement of the articles therewith, and this will result in the withdrawal of the finger 96.

As soon, however, as the front container is empty and as the rocker member 106 is positioned to relieve the rocker member 98 from the stress of the spring 104, the spring 95 will then shift the member 93 to position the finger 96 so that a coin cannot be deposited in the machine but will be returned to the operator.

In order to protect the machine and mechanism against damage in an attempt to operate the same by the actuation of the knob or handle 82 under predetermined conditions, the knob is constructed so as to yield and to that end the knob is of a hollow construction and seated therein is a disc 112 (see particularly Figure 10) which is held against rotation with respect to the knob in any suitable manner such as by means of an ear or projection 113 seated in a recess 114 in the wall of the handle. This disc may be provided with any desired number of apertures 115.

Engaging and resting upon the disc 112 is another disc 116 which is rotatable within the handle and this disc 116 is provided with any suitable number of apertures 117 therethrough which are adapted to move into and out of register with the apertures 115 in the disc 112. Balls 118 are provided which are seated in the apertures 117 and project through the disc 116 so that a portion thereof will enter the apertures 115 in the disc 112.

Any desired number of annular spring members 119 engage and rest upon the balls 118. The disc 112 is provided with a circular opening 120 while the disc 116 is provided with an opening 121 registering therewith, but the opening 121 is angular in cross-section as shown more clearly in Figure 8.

A shaft 122 is provided with a reduced extremity 123. The shaft passes through the annular springs 119, and the reduced extremity 123 passes through the aperture 121 in the disc 116 and is seated in the aperture 120 in the disc 112. The portion of the shaft 122 which is seated in the aperture 120 in the disc 112 is adapted to rotate in the disc 112 as the latter is held against rotation by the ear or projection 113 in recess 114. An angular portion of the reduced end 123 of the shaft 122 passes through the aperture

121 and causes the disc 116 to be held against rotation when the rotation of the shaft is prevented and the disc 112 will be rotated with the handle and with respect to the shaft and disc 116. During such rotation the springs 119 will yield to permit the balls 118 to move out of the apertures 115 in the disc 112 so that the disc 116 may be rotated. This rotation of the disc 116 may be continued until the balls 118 are in position to enter other apertures 115 in the disc 112.

Passing through the shaft 122 is a pin 124 which engages and rests against the springs 119 and holds them under tension.

Resting against the pin 124 is an annular member 125 which forms a bearing or surface over which the pin 124 moves.

Resting against an annular shoulder 126 in the knob 82 is an annular member 127 which latter may be of any desired thickness according to the number of spring elements 119 it is desired to employ.

A plate 128 encompasses the shaft 122 and rests against the member 125 and the annular member 127, and a cap member 129 may also be provided, the periphery of which is disposed preferably within the knob 82 and engages and rests against the plate 128. The parts are held together in any suitable manner such as by means of screws or bolts 139 which pass through the cap plate 129, the plate 128, the annular member 127, and are screwed into the body of the knob 82.

It will thus be manifest that if the shaft 122 is held against rotation and it should be attempted to rotate the knob 82, the latter will yield with respect to the shaft because the disc 116 will also be held against rotation by the angular portion of the shaft 122 passing therethrough, but the disc 112 being connected with the knob 82 will rotate therewith causing the disc 112 to rotate with respect to the disc 116.

This will cause the balls 118 to be forced out of the apertures 115 in the disc 112 against the stress of the springs 119.

As soon, however, as other apertures 115 in the disc 112 are in alinement with the balls 118 the springs 119 will project the balls 118 into such apertures 115.

The tension of the springs 119 is such that under normal conditions and normal operation of the machine or rotation of the knob or handle 82 the disc 112 and disc 116 will be locked for rotation together.

It sometimes happens that the commodity which is being dispensed becomes distorted in shape and will bulge or sag intermediate its ends.

In order to hold such distorted package or article in a proper position in the containers to compensate such distortion, there may be provided in the respective supports or ledges 24—25, elements or blocks 25—A which are arranged on each side of and spaced from the center of such ledges and upon which elements 25—A the ends of the article may rest while the sagging or distorted portion will be disposed therebetween.

On the slide 50 are arranged blocks or elements 50—A which operate to remove the articles from the container 20 while the fingers or projections 67—68 operate to remove the articles from the other container 21.

While the preferred form of the invention has been herein shown and described, it is to be understood that various changes may be made in the details of construction and in the combination and arrangement of the several parts, within

the scope of the claims, without departing from the spirit of this invention.

What is claimed as new is:

1. In a vending machine two relatively movable holders for different supplies of articles to be vended, means connecting the holders together in a manner that when one is moved in one direction the other will be moved in the opposite direction, means tending normally to impart such relative movement, locking means for restraining the holders against such relative movement and for maintaining one of the holders in position that articles may be ejected therefrom, an ejector for the articles, said ejector being common to the said holders, an actuator for the ejector, and releasing means operating upon the exhausting of the articles from one of the containers, to render the said locking means ineffective, thereby adapting the holders to be relatively shifted to move the empty holder out of the way with respect to the ejector, and a full holder into position with respect to the ejector to have the articles ejected from the latter upon operation of the said ejector.

2. In a vending machine two relatively movable holders for different supplies of articles to be vended, an ejector for the articles common to the said holders, said holders each having a delivery outlet, means whereby upon movement of one of the holders to position its delivery outlet adjacent said ejector the other holder will be shifted to cause its delivery outlet to be moved out of the way with respect to the ejector, means tending normally to impart such relative movement, a latch device for maintaining said holders against relative movement, a member movable with and with respect to said ejector, a follower in one of the holders operable upon said member when the articles are exhausted from the last said holder to shift the latch to render the latter inactive to release the said holders, thereby adapting them for said relative movement, and means operating to render the said member inactive with respect to said latch when there are articles to be vended, in the last said holder.

3. In a vending machine two relatively movable holders for different supplies of articles to be vended, means connecting the holders together in a manner that when one is moved in one direction the other will be moved in the opposite direction, means tending normally to impart such relative movement, said holders and both of the said means constituting a unitary structure, an enclosing casing into and from which the said unit is freely insertable and removable, locking means within the casing for restraining the holders against such relative movement and for maintaining one of the holders in a position that articles may be ejected therefrom, an ejector for the articles, said ejector being common to the said holders, an actuator for the ejector, and releasing means operating upon the exhausting of the articles from one of the containers, to render the said locking means ineffective, thereby adapting the holders to be relatively shifted to move the empty holder out of the way with respect to the ejector, and a full holder into position with respect to the ejector to have the articles ejected from the latter upon operation of the said ejector.

4. In a vending machine and as a unitary structure, a frame embodying base and upright members, a pair of holders for different supplies of articles to be vended, said holders being disposed between the uprights and arranged with their backs adjacent each other and each having a de-

livery outlet adjacent its lower end, levers pivotally connected intermediate their ends to said uprights, pivotal connections between the ends of the levers and the respective adjacent holders, whereby the holders are adapted for relative longitudinal movement, a spring tending normally to move one of the containers in one direction, a casing in which said unit is disposed, a catch in the casing adapted to lock the containers against such relative movement, an ejector common to the holders, an actuator for the ejector, and means operating under predetermined conditions with respect to the articles in one of the holders to render the said catch inactive thereby adapting the said containers for relative movement under the influence of said spring.

5. In a vending machine and as a unitary structure, a frame embodying base and upright members, a pair of holders for different supplies of articles to be vended, said holders being disposed between the uprights and arranged with their backs adjacent each other and each having a delivery outlet adjacent its lower end, levers pivotally connected intermediate their ends to said uprights, pivotal connections between the ends of the levers and the respective adjacent holders, whereby the holders are adapted for relative longitudinal movement, a spring tending normally to move one of the containers in one direction, a casing in which said unit is disposed, a catch in the casing adapted to lock the containers against such relative movement, an ejector common to the holders, an actuator for the ejector, a spring controlled pawl carried with the ejector and normally inactive with respect to said catch, and a follower in one of the said holders adapted upon the exhausting of the articles from such holder to render said pawl active with respect to said catch to render the catch inactive and adapt said holder for such relative movement upon actuation of the said ejector.

6. In a vending machine two relatively movable holders for articles to be vended, an ejector common to the holders, mechanism for actuating the ejector, an element tending normally to maintain the ejector actuating means ineffective, means for moving one of said article holders into delivery position with respect to the ejector when the other is moved out of such delivery position, means operating when articles are present in one of the holders to render said element inactive to cause said ejector actuating means to be rendered active, means operating when the last said article holder is moved out of article delivery position with respect to the ejector and the other article holder is moved into article delivery position to render the said element inactive to render the ejector operating mechanism active, and means operating upon movement of the first recited article holder into delivery position with respect to the ejector to render the last recited means ineffective.

7. In a vending machine two relatively movable

holders for articles to be vended, an ejector common to said holders, mechanism for actuating the ejector, means for moving one of the holders out of delivery position when the other is moved into article delivery position, means operating when articles are present in one of the holders to adapt the ejector actuating mechanism for operation when the last said holder is in article delivery position, means for rendering the ejector actuating mechanism ineffective with respect to the ejector when the last said holder is moved out of article delivery position and the other article holder is moved into article delivery position, and means responsive to the positioning of the first recited article holder into a delivery position for re-adapting the ejector actuating mechanism to be rendered effective by the presence of articles in the last said holder and ineffective in the absence of articles therein.

8. In a vending machine two holders for the articles to be vended, an ejector common to said holders, means for actuating the ejector, supports for the article holders, levers pivotally connected intermediate their ends to the said supports and also connected at their ends to the respective adjacent article holders, whereby upon movement of one of said holders into article delivery position, the other will be moved out of article delivery position, means tending normally to swing the levers about their pivots in one direction, locking mechanism for maintaining the said holders against movement under the stress of the last said means, and releasing mechanism carried with said ejector for rendering the said locking means ineffective and the lever swinging means effective to relatively shift the article holders.

9. In a vending machine and as a unitary structure, two holders for separate supplies of articles to be vended, supports for the holders, levers pivotally connected intermediate their ends to the supports and at their ends to the respective article holders, resilient means tending normally to swing said levers about their pivots in one direction to relatively shift the article holders, a casing into which said unit is freely insertable and removable, an ejector in the casing common to the article holders, locking mechanism for maintaining the levers against movement under the stress of said resilient means, an actuator for the ejector, and means responsive to the operation of said ejector when all of the articles have been ejected thereby from one of the article holders to render the said locking means ineffective, whereby the said resilient means will swing said levers about their pivots to move the empty article holder out of the way with respect to the ejector and a full article holder into a position that articles may be delivered from the latter upon actuation of said ejector.

MYRON H. RICHARDSON.

FLOYD C. BLACK.

ALBERT E. GEBERT.