

April 27, 1965

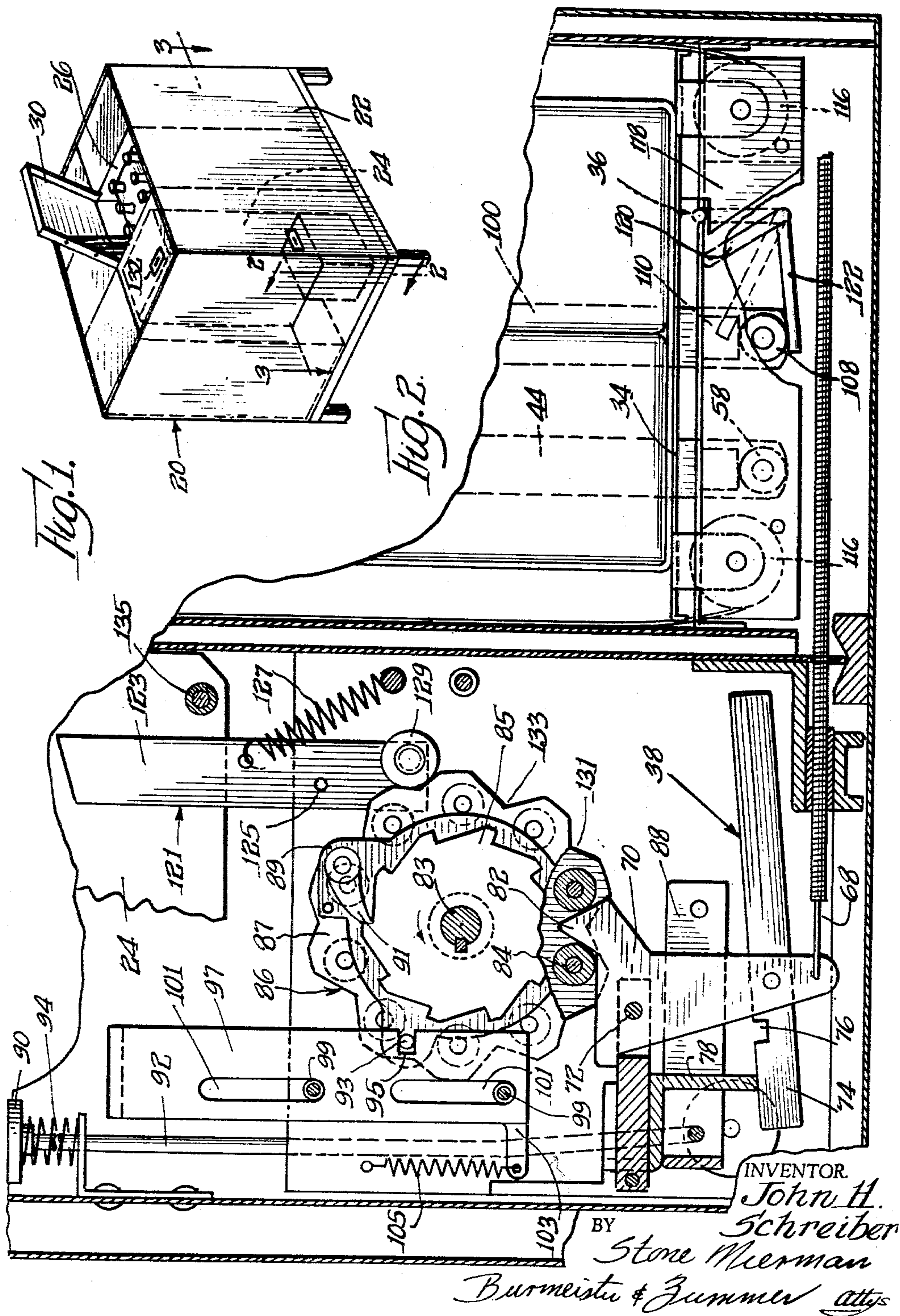
J. H. SCHREIBER

3,180,519

VENDING MACHINE

Filed May 7, 1963

5 Sheets-Sheet 1



April 27, 1965

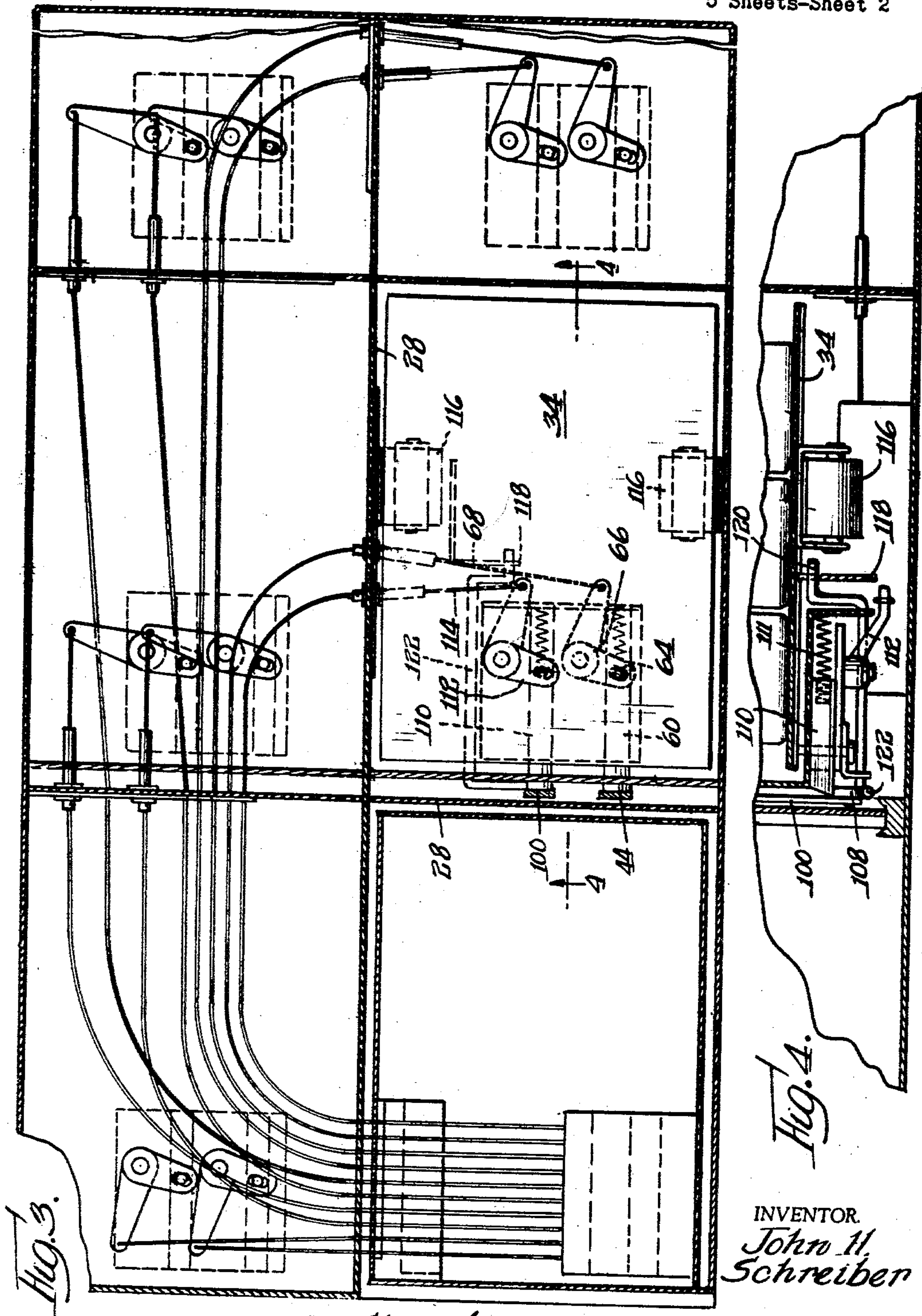
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5 Sheets-Sheet 2



By: Stone, Mierman, Burmeister & Gummert Attys

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3,180,519

VENDING MACHINE

Filed May 7, 1963

5 Sheets-Sheet 3

Fig. 5.

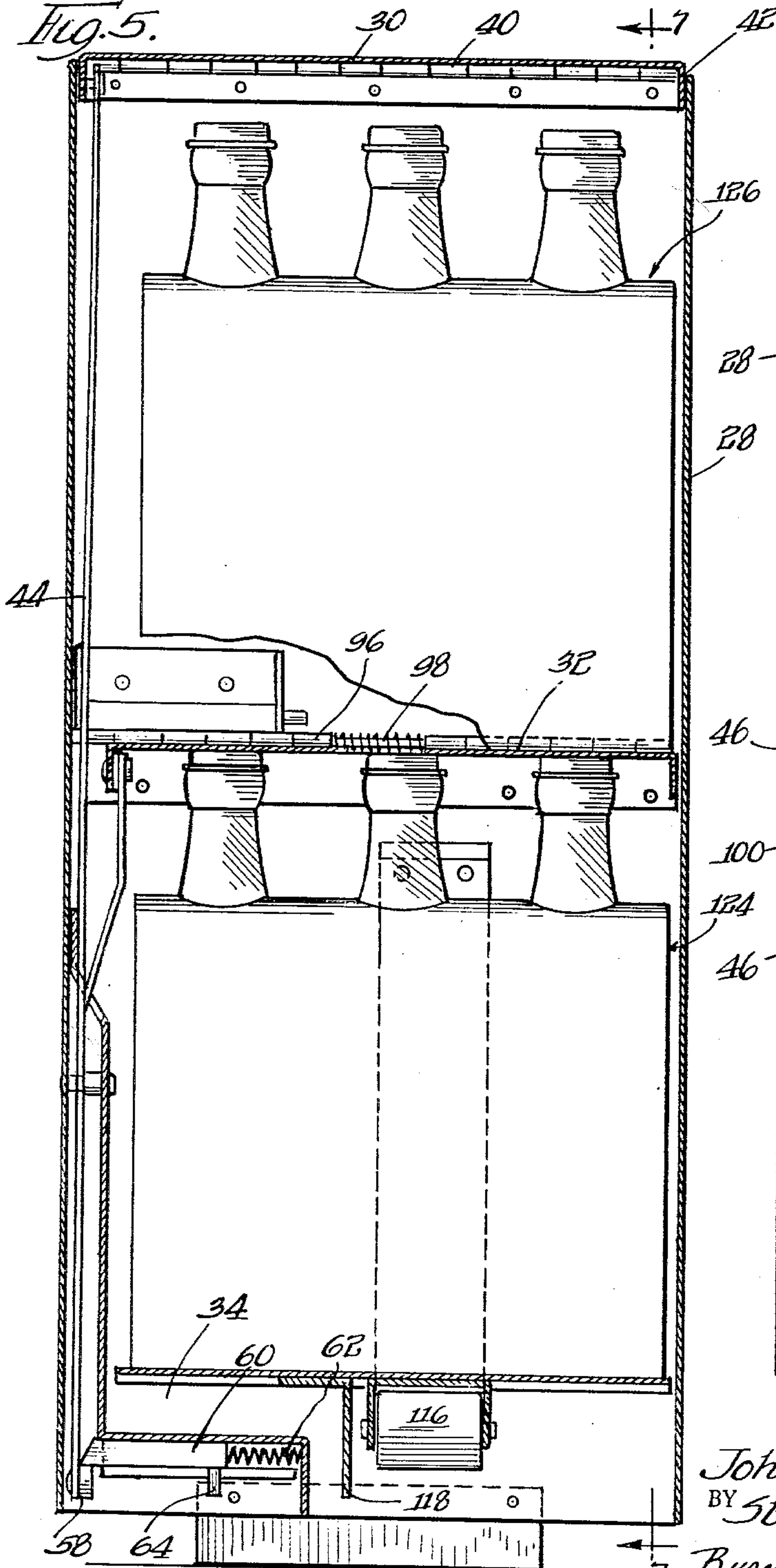
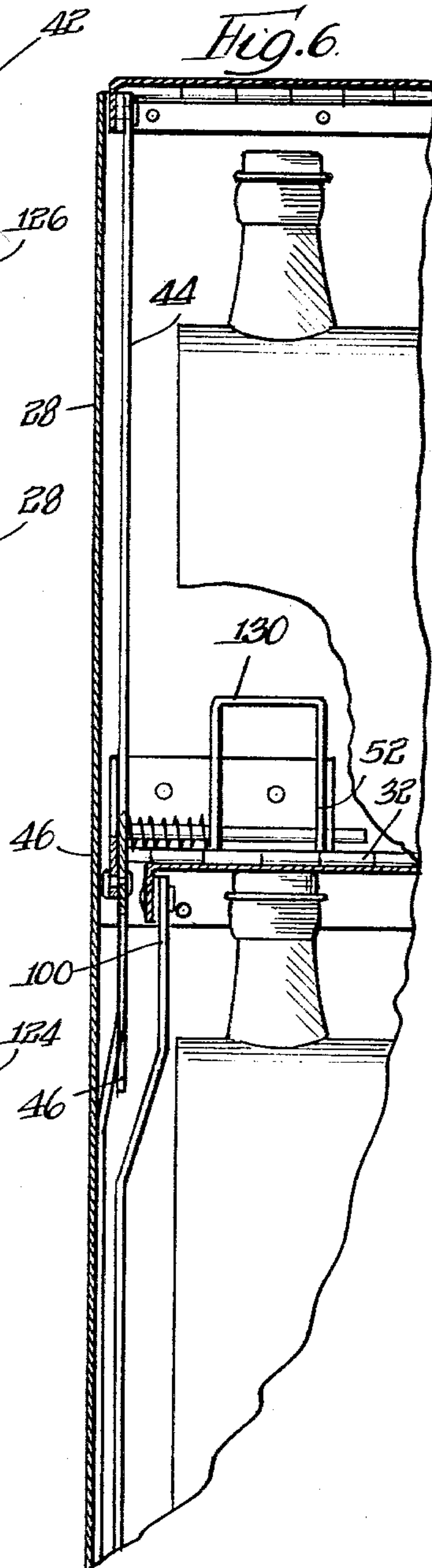


Fig. 6.



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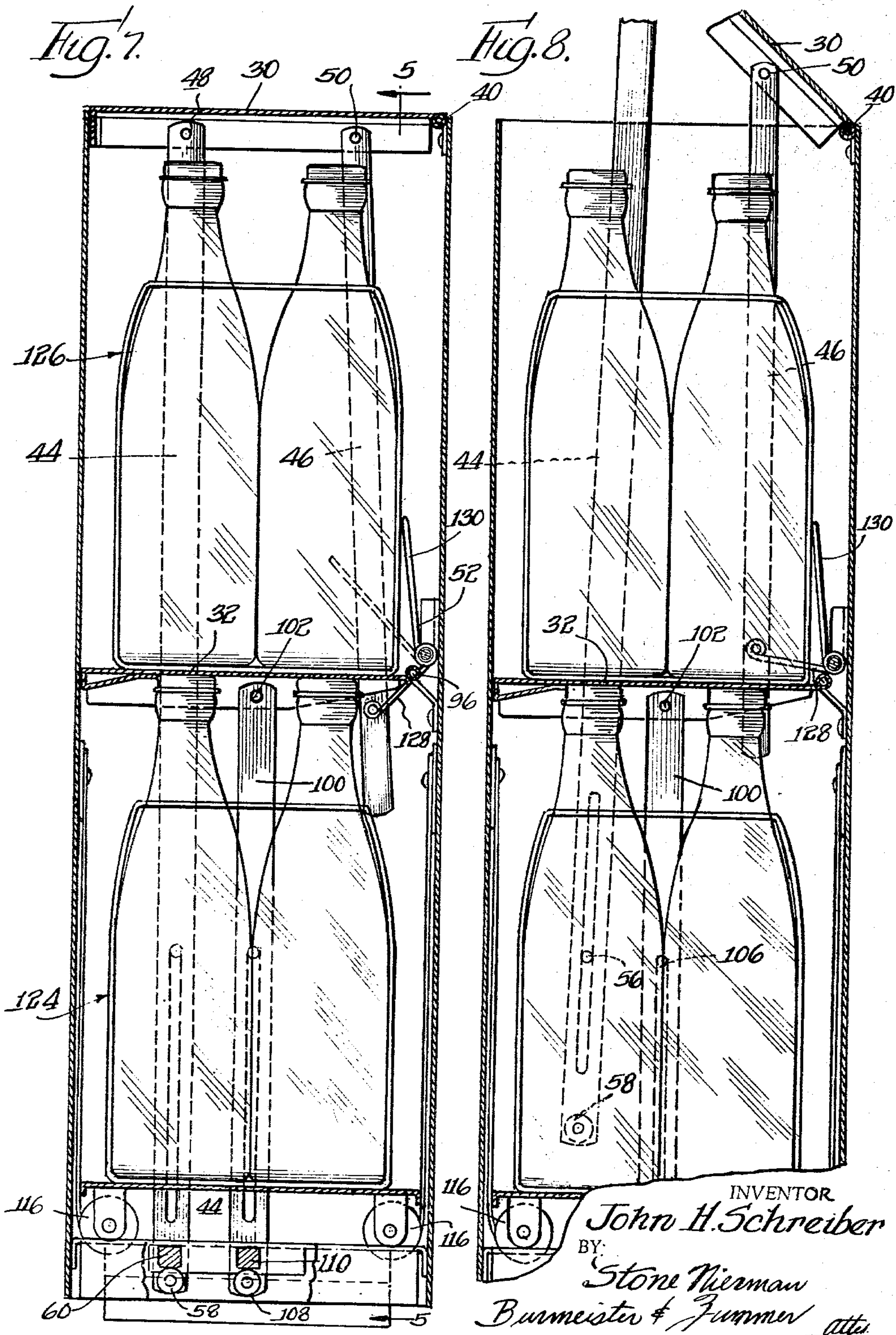
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VENDING MACHINE

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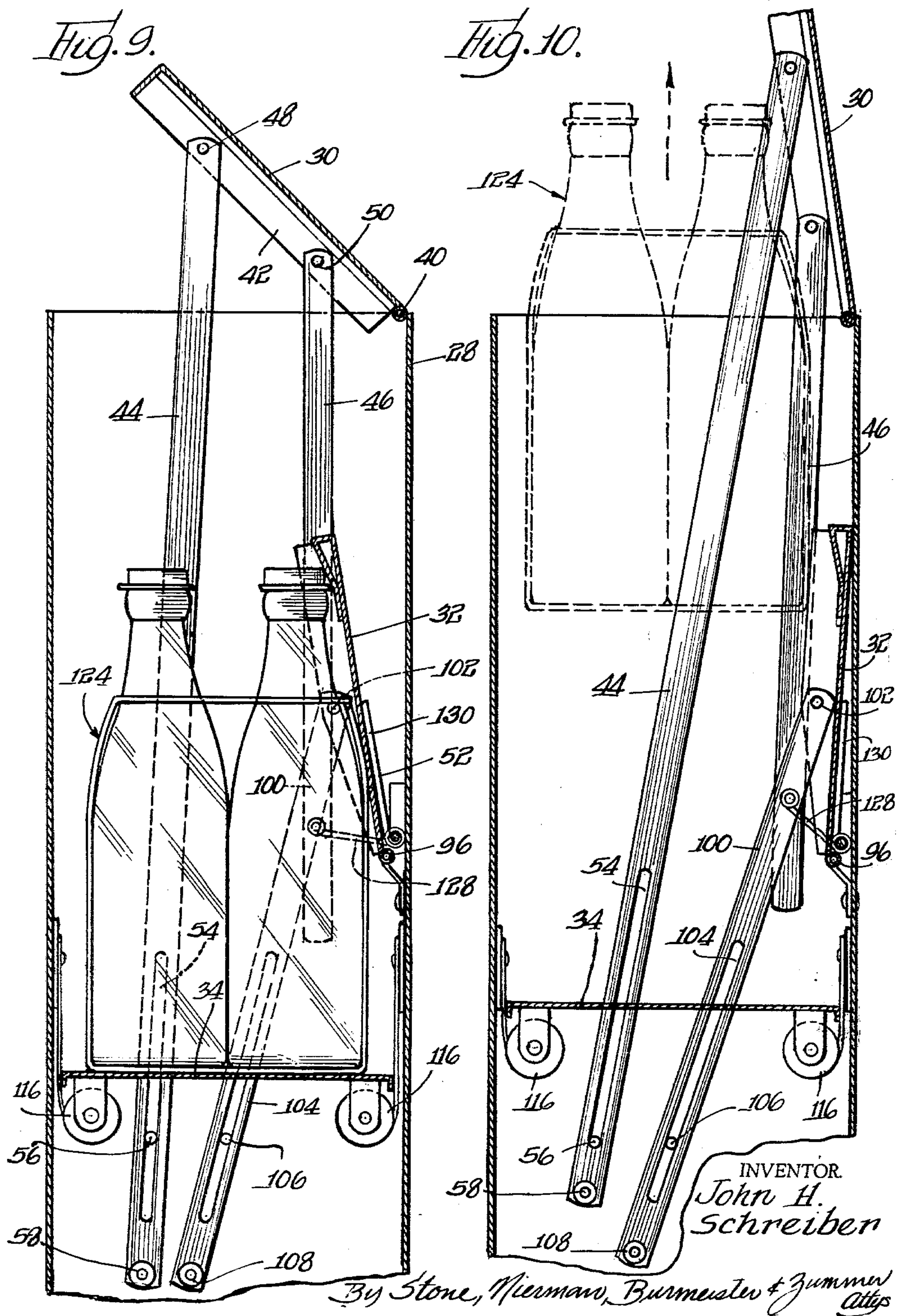
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VENDING MACHINE

Filed May 7, 1963

5 Sheets-Sheet 5



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3,180,519

VENDING MACHINE

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Filed May 7, 1963, Ser. No. 278,534
15 Claims. (Cl. 221-75)

This invention relates to a vending machine and more particularly to an improved construction for a vending machine which is capable of dispensing large packets containing a plurality of containers or vessels.

Vending machines have attained a substantial acceptance in dispensing individual containers of liquids, such as, soft drinks. It has become readily apparent that it is desirable to vend a carrier of containers, that is, a holder having a plurality of bottles or cans contained therein. Carriers of soft drinks normally have six bottles in a carton. The vending of a six pack or a carrier of six by means of the customary vending machine presents numerous problems. A vending machine which is large enough to handle a six pack usually takes up so much space that the machine is not considered to be desirable in many locations. It is, therefore, a principal object of the present invention to provide a vending machine which vends carriers of merchandise and which machine is compact in its construction.

Another problem which is appurtenant of many vending machines is that the vending machines require electricity to drive various electric motors in the operation of the vending machine. These vending machines having electric motors present a considerable problem in view of the fact that many locations do not have a convenient source of electrical energy. Furthermore, the expense of the machine is substantially increased in view of the cost of the motors as well as the additional electrical insulating and testing which must be performed in order to have a safe machine. It is, therefore, another object of the present invention to provide a vending machine which is entirely mechanically operated to make the machine safe and to eliminate the need of an outside power source.

It is a further object of the herein disclosed invention to provide a vending machine which is fool-proof.

It is a still further object of the instant invention to provide a vending machine which is economical to manufacture and has a high degree of reliability.

Other objects and uses of this invention will become readily apparent to those skilled in the art upon a perusal of the following specification in light of the accompanying drawings in which;

FIGURE 1 is a perspective view of a vending machine embodying the herein disclosed invention;

FIGURE 2 is a cross-sectional view of a portion of the vending machine shown in FIGURE 1 taken on line 2—2 of FIGURE 1 showing a means whereby a coin controlled device controls the instant machine and a lock mechanism is shown for holding portions of the machine in an unlocked position;

FIGURE 3 is a cross-sectional view taken on line 3—3 of FIGURE 1 generally showing a plan view of a lower portion of the machine to show the general arrangement of cables which operate bell cranks to control bolts that hold doors in a locked attitude;

FIGURE 4 is a cross-sectional view taken on line 4—4 of FIGURE 3 showing a bolt and a latching arrangement for holding a door locked and for holding a platform in a down position;

FIGURE 5 is a cross-sectional view which is in effect a side elevation of a compartment in the vending machine showing how two carriers are loaded in the machine in relation to each other;

FIGURE 6 is a partial cross-sectional view showing a view of a portion of a spring which raises an upper door;

2

FIGURE 7 is a cross-sectional view taken on line 7—7 of FIGURE 5 and being in effect an end view of a compartment;

FIGURE 8 is substantially identical to FIGURE 7 but showing an upper door in a partially raised position in order to show the coaction of various portions of the mechanism;

FIGURE 9 is another view of the same compartment shown in FIGURE 8, but with a carrier in the upper portion of the compartment removed and a carrier in the lower portion of the compartment being shown in a partially raised position; and

FIGURE 10 is a view of the same compartment as in FIGURE 9, but showing the platform in a fully raised position and the carrier which was in the lower portion of the compartment being removed through the upper door.

Referring now to the drawings and especially to FIGURE 1, a vending machine generally indicated by numeral 20 is shown therein. The vending machine 20 generally consists of a cabinet 22 which has a money operated control device or coin device 24 positioned in one corner of the cabinet. The cabinet 22 is divided up so that there are six separate vertical compartments 26 in the cabinet. These compartments are separated from each other by walls 28 and one of the compartments has the device 24 mounted therein. Each of the remaining compartments 26 has mounted therein an identical mechanism for dispensing merchandise. Each compartment has an upper door 30 hingedly connected to the cabinet for closing the upper portion of the respective compartment. A lower door 32 is hingedly mounted on the cabinet within each of the compartments and a platform 34 mounted in each of the compartments below the respective lower door for raising merchandise upward in the compartment. A platform latch mechanism 36 holds the platform 34 in a down position. A door release mechanism selectively opens the upper and lower doors and a door lock release 38 holds the doors in an unlocked attitude.

Looking now to FIGURES 5 and 9, it may be seen that the upper door 30 is connected to wall 28 through a hinge 40. The door 30 has upstanding edges 42 around three sides of its periphery. Attached to one of the edges is an upper door lock rod 44 and an upper door operator rod 46. Both rods 44 and 46 are pivotally attached to the edge 42 by means of pins 48 and 50, respectively. The door operator rod 46 is connected to the lower door 32 through an upper door control spring 52 in a manner which will be described in detail hereinafter.

The upper door lock rod 44 contains an elongated slot 54 which has a pin 56 slideably mounted therein. The pin 56 is fixed to a wall of the compartment, thus limiting the movement of the rod. It may be noted that the positioning of the rod 44 relative to the door and the pin 56 in relation to the length of the slot 54 is such that the maximum opening of the door 30 does not allow the door to open past a vertical position, thus, the maximum opening is such as that shown in FIGURE 10 so that the door automatically falls closed when released.

The rod 44 has a lock button 58 fixed to one end for engagement with a locking means. The upper door is held in a closed position by an upper door lock bolt 60 which engages the locking button 58 of the rod 44. The bolt is slideably mounted in the lower portion of the compartment. A spring 62 engages the bolt to urge constantly the bolt into engagement with the lock button. The bolt has a bolt pin 64 fixed to the bottom of the bolt.

A bell crank 66 is pivotally mounted on the bottom of the cabinet to operate the bolt. The bell crank engages the pin 64 of the bolt. The bell crank has one arm connected to a cable 68 which cable is connected to a cable

operator 70. The cable operator 70 is pivotally mounted on a rod 72. As may be seen in FIGURE 2, the cable operator has a lock lever 74 pivotally mounted thereon. The lock lever has a lock slot 76 which is engageable with a fixed latching wall 78. The cable operator has a dog 82 which is engageable with a roller 84 which is a part of a door control mechanism 86.

As may be clearly seen in FIGURE 2, the door control mechanism is mounted in cabinet 22 below coin device 24. Mechanism 86 includes a shaft 83 which is rotatably mounted in the cabinet, and a ratchet wheel 85 is keyed to shaft 83 for rotation with the shaft. The roller 84, as are the other rollers, is mounted on a plate 87 which is also keyed to shaft 83. A pawl plate 89 is rotatably mounted on shaft 83 and has a pawl 91 pivotally mounted thereon. The pawl 91 is engageable with the ratchet wheel for selectively rotating the shaft. Pawl plate 89 has a pin 93 fixed therein, which pin 93 is positioned in a slot 95 of slide plate 97. A pair of plate pins 99 is fixed in the cabinet and each of the pins 99 is mounted in a slot 101 in slide plate 97 to limit the motion of the slide plate to an up and down motion. An arm 103 is formed integral with the slide plate, and the arm 103 is attached to a spring 105 which holds the slide plate in an up position as shown in FIGURE 2. The slide plate has its upper portion connected to a portion of coin device 24 which selectively forces the slide plate 97 down against the force of spring 105 to rotate the plate 89 and the shaft 83.

A latch release 88 is pivotally mounted below the coin device 24 and engageable with the lock lever 74. The lock release is connected to a lock release handle 90 through a lock release rod 92. A lock release spring 94 holds the lock release handle and the latch release in an up position as shown in FIGURE 2.

The lower door 32 is connected to wall 28 through a hinge 96. The hinge 96 has a spring 98 built therein to hold the lower door in a partially open attitude when the door is unlocked. The lower door has a lower door lock rod 100 pivotally connected thereto through a pin 102. The rod 100 has an elongated slot 104 with a pin 106 slideably mounted in the slot which pin is fixed to the same wall as pin 56.

As may be seen in FIGURE 10, the lower door may be opened past a vertical position so that it will remain in an opened attitude once the lower door is fully opened. The rod 100 has a lower door lock button 108 fixed to its lower end to be engaged by a lower door bolt 110. The lower door bolt 110 is identical in construction to bolt 60 in that a spring 111 urges the bolt toward a closed position and the bolt is connected to bell crank 112 which is identical to bell crank 66. The bell crank 112 is, also, connected to a cable 114 which cable 114 is connected to an operating mechanism which is identical to latch operator 70.

The platform 34 is constantly urged upward by a pair of extensible springs 116 which are mounted on opposite sides of the compartment and engage opposite edges of the platform. The platform has a platform dog 118 fixed to the bottom of the platform. A spring loaded platform hook 120 is engageable with the dog 118. The hook 120 has an arm 122 which is engageable with the bottom end of the lower door lock rod 100, so that when the lower door is closed, the lower door lock rod engages arm 122 to disengage the hook 120 from dog 118.

Associated with the door control mechanism is a reset control 121 to provide a means for indicating that a lower door is the next door to open in the sequence of operation after the cabinet has been reloaded. The reset control includes a control rod 123 which is pivotally mounted in the cabinet on pivot pin 125. A tension spring 127 is connected to rod 123 constantly urging the rod to rotate in a clockwise direction as viewed in FIGURE 2. The control rod 123 is connected to the door control mechanism through a follower 129 which is rotatably mounted on rod 123.

The plate 87 has its outer periphery formed into a cam surface with alternating shallow indentations 131 and deep indentations 133. It may be seen in FIGURE 2 that when the follower is in a shallow indentation, the control rod is in a substantially vertical attitude; however, when the follower is in a deep indentation, the spring 127 causes the rod to rotate clockwise until the rod engages a stop rod 135 which is part of the coin device 24.

In the operation of the instant device, the doors are held in an unlocked attitude by virtue of the lock levers 74 once merchandise has been removed. In servicing the instant vending machine, merchandise must be replaced. In order to replace merchandise, the upper door 30 is raised and held in an open position. A first carton of bottles 124 is inserted in the compartment and placed on the platform 34. An operator pushes the platform down against the force of springs 116 until the platform is in its down position. With the platform all the way down, the dog 118 engages hook 120 so that the platform is then hooked and held in the down position. The lower door 32 is pivoted downward and a second carton of bottles 126 is loaded into the compartment. The second carton 126 is placed on top of the lower door, thus forcing the lower door down. The weight of the carton pushes the lower door into its lowermost or lock position. Since the lock levers have not yet been released from the latching wall 78, the lower door is unlocked and the weight of the second carton keeps the lower door in the down or closed position. When the lower door is forced into its down position by the weight of the second carton, rod 100 is forced down into engagement with arm 122 to disengage the hook 120 from dog 118 so that the platform 134 rises slightly until the tops of the bottles in carton 124 are in engagement with the lower door 32. Since the lower door is held down by the second carton, carton 124 is held in the space between the lower door and the platform.

The upper door 30 is held in its open position while the carton 126 is being positioned on top of the lower door. When the upper door is held in its open position, the rod 46, which has an arm 128 of spring 52 pivotally attached thereto, moves an engaging arm 130 of the same spring back against the wall 28 of the compartment. The positioning of the carton 126 on the upper door provides a door opening means by the coaction of the carton with the arm 130 of spring 52. When the door is released by the operator, it may be seen that the door partially closes to the attitude shown in FIGURE 8. The coaction of the spring with the carton or merchandise in the upper portion of the compartment holds the door open. In order to close the upper door, a force must be applied to the upper door, thus loading spring 52. Each of the compartments is loaded in a similar manner. It may be seen that the energy source for the instant machine is springs mounted in the cabinet, so that an outside energy source is not required to operate the present device.

After all of the compartments are loaded, the doors must be locked. The coin device 24 must first be removed from the cabinet. The coin device is locked in the cabinet by a conventional lock which is not shown in this instance. After the coin device is unlocked, it is lifted out of its compartment to reveal the lock release handle 90. Handle 90 is pushed down to pivot latch release 88, thereby engaging the lock levers 74 to disengage the lock levers from latching wall 78. When the lock levers are released, the springs 62 and 111 force the respective bolts 60 and 110 forward. Since the lower doors are in their down or closed positions, the lower doors are locked by the coaction of bolts 110 with the respective lower door lock buttons 108. However, the upper doors are in a partially raised position. A force is applied to each upper door to close it. When each upper door is closed, the rod 44 is forced down and each lock button 58 displaces its respective bolt 60 against the respective spring 62 so that the button passes the bolt

and the bolt returns to its original position to lock the upper door in a closed attitude. The coin device may be then replaced.

It is evident that since the door control mechanism 86 operates sequentially, it is possible that a lower door may be the next door to be opened after the cabinet is refilled with merchandise. In order to prevent such an occurrence, the reset control 121 is provided. As was mentioned above, plate 87 has a series of alternating shallow and deep indentations 131 and 133, respectively. The shallow indentations are positioned on plate 87 in such a manner that they are cooperative with rollers which unlock upper doors and the deep indentations are cooperative with rollers which unlock lower doors.

The attitude of the instant device shown in FIGURE 2 is such that the next door to be opened is an upper door. It may be seen that follower 129 is in a shallow indentation so that control rod 123 is in a substantially vertical attitude. It may be appreciated that with the control rod 123 in a substantially vertical attitude, the coin device may be positioned in its proper location in the cabinet. Thus, if the next door to be opened is an upper door, the coin device may be replaced. It is also evident that if the follower 129 is in a deep indentation, spring 127 causes the control rod 123 to rotate clockwise into a position in engagement with stop rod 135 when the coin device is in the cabinet, and into a position occupied by stop rod 135 when the coin device is not in the cabinet. When the cabinet is refilled with merchandise and the coin device is lifted out, the control rod moves into its furthest clockwise position when the follower 129 is in a deep indentation. Should the next door to be opened in the sequence be a lower door, it is impossible to replace the coin device because the control rod engages the stop rod and prevents complete repositioning of the coin device. It is then necessary to adjust the door control mechanism so that the next door to be opened is an upper door.

In order to obtain a carton of merchandise from the vending machine 20, a suitable amount of money must be deposited in a slot 132 in the cabinet to activate the control device 24. The operation of the control device forces slide plate 97 down to rotate plate 89 which causes shaft 83 to rotate through the pawl and ratchet, thus roller 84 is moved counter-clockwise to engage dog 82 of cable operator 70. When the dog 84 moves forward, cable operator 70 is pivoted about rod 72 to pull cable 68. As the cable operator 70 is pivoted, the lock lever 74 is moved back so that the latching wall 78 engages slot 76 to hold the operator 70 in a retracted position. The movement of cable 68 rotates the bell crank 66 about its pivot so that the bolt 60 is retracted from engagement with the upper door lock button 58. The release of the door lock button 58 releases the upper door 30. Spring 52 which has been expanded by the closing of the upper door then may push the upper door open partially to the attitude shown in FIGURE 8. A purchaser then may complete raising of the door and lift out carton 126. It is evident that a purchaser may not obtain the merchandise below the lower door 32 in view of the fact that the lower door remains locked. Once the merchandise is removed and the upper door is released, the door does fall down to a completely closed attitude since the engaging arm 130 of spring 152 has no merchandise which it may engage. Thus, the upper door is completely closed.

When additional monies are deposited, the door control mechanism 86 operates again to pull cable 114 to rotate bell crank 112, thereby disengaging bolt 110 from the lower door lock button 108. Once the door lock is disengaged, spring 98 in the lower door immediately pops the lower door up partially and the springs 116 raise the platform 34 so that the merchandise, that is, carton 124, pushes the lower door to a completely open attitude. As the platform is raising the merchandise upward, the lower door is moving to an open position so that it engages the

engaging arm 130 of the spring 52, thereby raising the upper door 30 to a partially open attitude. The merchandise contained on the platform then assumes substantially the same respective position as the merchandise which was positioned on the lower door. The purchaser then may raise the upper door to a completely open attitude and lift the carton 124 from the platform 130. Upon removal of the merchandise the upper door falls to its closed attitude and movement of the upper door to a closed attitude pushes the lower door to a partially closed attitude though the spring 98 keeps the lower door partially opened.

It is evident that when additional monies are deposited in slot 132, the door control mechanism 86 releases the upper door of the next compartment in the sequence which compartment has an identical mechanism to the mechanism described above as does each other compartment.

From the foregoing description, the construction and operation of the instant vending machine is evident to those skilled in the art. Although various modifications and changes may be made in the instant vending machine, it is to be expressly understood that the present invention is limited only by the appended claims.

What is claimed is:

1. A vending machine comprising, in combination, a cabinet, a money operated control device mounted in said cabinet, a plurality of release levers mounted in said cabinet and cooperative with said money operated control device to be selectively actuated by said money operated control device, an upper door bolt connected to each of one-half of said levers, a lower door bolt connected to each of the remainder of said levers, a plurality of upper doors hingedly connected to said cabinet, an upper door lock rod connected to each of said upper doors and engageable with an upper door bolt, a door operating rod connected to each of the upper doors, spring means connected to each of the door operating rods for opening said upper door, a lower door hingedly connected to the cabinet below each of the upper doors, a lower door lock rod connected to each of the lower doors and being engageable with its respective lower door bolt, a platform movably mounted below the lower door, means for raising the platform with merchandise on said platform, and a reset control positioned in the cabinet to cooperate with the money operated control device for indicating proper sequencing of operation of doors, whereby release of an upper door bolt allows the respective upper door to open to allow merchandise to be removed from the space between the respective upper door and the respective lower door, and release of the lower door bolt allows merchandise contained on the platform to rise and the respective lower and upper doors are opened simultaneously.

2. A vending machine comprising, in combination, a cabinet having a plurality of separate vertical compartments, an upper door hingedly connected to said cabinet adjacent to the top of each of said compartments for closing the respective compartment, a lower door mounted in each of said compartments and being spaced from the upper door to receive merchandise between the upper and the lower doors, a door operating rod connected to each of the upper doors, spring means connected to the door operating rod and being engageable with merchandise contained in the space between the lower door and the upper door and urging the upper door to an open position and being engageable with the lower door to urge the upper door into an open attitude when merchandise is not contained between the upper and lower door and the lower door is opened, an upper door lock rod connected to each of the upper doors, an upper door bolt engageable with each of the upper door lock rods for locking the upper door in a closed attitude, a lower door lock rod connected to each of the lower doors, a lower door bolt engageable with each of the lower door lock rods for locking the lower door in a closed attitude, a platform mov-

ably mounted in each of said compartments below the respective lower door for supporting merchandise thereon, means for urging each platform upward toward the respective upper door, operating means connected to each of the bolts for moving said bolts, an operating lever connected to each of the operating means, and a money operated control device mounted in the said cabinet and selectively engageable with each of the operating levers for selectively opening upper and lower doors, whereby release of an upper door bolt allows a respective upper door to open and subsequent release of the respective lower door bolt unlocks the respective lower door and the platform rises with merchandise contained thereon.

3. A vending machine comprising, in combination, a cabinet having a plurality of compartments, a door mounted on said cabinet and cooperative with each of the compartments to close the respective compartment, a second door mounted in each of the compartments and being adapted to engage merchandise, a merchandise support mounted in each of the compartments for urging merchandise toward the first mentioned door, and means for selectively unlocking the doors to allow merchandise to be withdrawn from the cabinet.

4. A vending machine comprising, in combination, a cabinet having a plurality of individual compartments, a money operated control device mounted on said cabinet, a plurality of operating levers mounted in said cabinet and engageable with the control device to be operated thereby, a plurality of bolts connected to said levers, a door lock rod engageable with each of said bolts to be locked by the respective bolt, a door hingedly connected to the cabinet in each of said compartments for closing a portion of the compartment, a merchandise support movably mounted in each of said compartments, and means engageable with each of the merchandise supports for urging the merchandise contained on the support and the merchandise support toward the door.

5. A vending machine comprising, in combination, a cabinet, a plurality of compartments in said cabinet, a door mounted in each of said compartments for closing the compartment, a platform movably mounted in said compartment, means urging each of the platforms upward toward the door, a platform lock mounted on the bottom on the platform, a platform latch engageable with the platform lock to hold the platform in a lower position, a rod connected to the door, a bolt engageable with the rod to hold the door in a locked position, said rod being engageable with the platform latch to release the latch when the door is in a closed attitude, and a money operated control device for selectively releasing the bolt to unlock the door.

6. A vending machine comprising, in combination, a cabinet having a plurality of compartments, a door mounted on said cabinet and cooperative with each of the compartments to close the respective compartment, a second door mounted in each of the compartments and being adapted to engage merchandise, a merchandise support mounted in each of the compartments for urging merchandise toward the door, a money operated control device mounted in said cabinet, a plurality of operating levers mounted in said cabinet and engageable with the control device to be operated thereby, a plurality of bolts connected to said levers, a door lock rod connected to each of said doors and being engageable with a respective bolt to be locked by the respective bolt, and means engageable with each of the merchandise supports to raise the merchandise support when the second door is opened.

7. A vending machine comprising, in combination, a cabinet having a plurality of separate individual compartments extending vertically in said cabinet and being open at the top, an upper door hingedly mounted adjacent to the top of each of said compartments for closing said compartments, a lower door hingedly mounted in each of said compartments below the upper door and being adapted for supporting merchandise on the lower

door, a platform movably mounted in each of said compartments and being positioned below the respective lower door, an upper door lock rod connected to each of said upper doors and extending below the respective platform, an upper door operating rod connected to each of said upper doors, a lower door lock rod connected to each of said lower doors, means for engaging the upper door lock rod and the lower door lock rod to lock said doors in a closed attitude, means for connecting the lower door to the upper door operating rod to open said upper door when the lower door is opened, and a money operated control device for selectively unlocking the doors.

8. A vending machine comprising, in combination, a cabinet, said cabinet having a plurality of vertical compartments, an upper door adjacent to each of the compartments and being hingedly connected to the cabinet for closing the compartment, a lower door mounted in each of said compartments below the upper door and being hingedly connected to the cabinet, spring means connected to the lower door for raising the lower door, a platform movably mounted in said compartment below said lower door, a rod connected to each of said doors, a bolt engageable with each of said rods for locking the doors in a closed attitude, a control rod connected to the upper door, a spring connected to the control rod for raising the upper door by engagement with merchandise mounted on the lower door when the upper door is unlocked and raising the upper door when the lower door is fully opened, a control device mounted in the cabinet for indicating proper sequence of operation of the doors, and a money operated control device for selectively unlocking the doors.

9. In a vending machine comprising, in combination, a cabinet having a plurality of compartments extending substantially vertically in said cabinet, an upper door cooperating with each of said compartments for closing each of said compartments and each of said doors being hingedly connected to said cabinet, a lower door hingedly mounted in each of said compartments below the upper door and being adapted for supporting merchandise thereon, an upper door operating rod connected to each of said upper doors, an upper door spring pivotally mounted in each of the compartments and being engageable with the respective lower door and merchandise mounted on the lower door for urging the upper door to a partially opened attitude, a lower door spring connected to said lower door for urging the lower door to a partially opened attitude without opening the upper door, locking means connected to the lower door and the upper door for locking said doors, and a coin operated control means connected to the lock means for selectively unlocking the doors which doors are opened by said springs.

10. A vending machine comprising, in combination, a cabinet having a plurality of separate vertical compartments, an upper door hingedly connected to said cabinet adjacent to each of said compartments for closing the respective compartments, an upper door lock rod hingedly connected to said upper door, means connected to said lock rod for limiting the movement of the rod to a maximum open attitude which attitude is such that upon release of an opening force gravity moves the door into a closed attitude, an operating rod connected to said upper door, means connected to said operating door for urging the upper door into a partially opened attitude, a lower door hingedly connected to said cabinet in each of said compartments below each of said upper doors for supporting merchandise thereon, a lower door lock rod connected to said lower door, a platform movably mounted in each of said compartments below the respective lower door, means urging each of said platforms toward the respective lower door, locking means connected to each of said upper door lock rods and each of the lower door lock rods for holding the doors in a closed and locked attitude, release means connected to each of the locking means, a money operated control device for

selectively operating the release means in a predetermined sequence, and a control rod mounted in the cabinet and being cooperative with the money operated control device for indicating proper sequence of opening of said doors.

11. A vending machine comprising, in combination, a cabinet having a plurality of separate vertical compartments, an upper door hingedly connected to said cabinet adjacent to the top of each of said compartments for closing the respective compartment, a lower door mounted in each of said compartments and being spaced from the upper door to receive merchandise between the upper and lower doors, a door operating rod connected to each of the upper doors, a spring means connected to the door operating rod and being engageable with merchandise contained in the space between the lower door and the upper door and urging the upper door to an open position and being engageable with the lower door to urge the upper door into an open attitude, an upper door lock rod connected to each of the upper doors, an upper door bolt engageable with each of the upper door lock rods for locking the upper door in a closed attitude, a lower door lock rod connected to each of the lower doors, a lower door bolt engageable with each of the lower door lock rods for locking the lower door in a closed attitude, a platform movably mounted in each of said compartments below the lower door for supporting merchandise thereon, means for urging the platform upward toward the upper door, operating means connected to each of said bolts for moving said bolts, an operating lever connected to each of the operating means, a release lock engageable with each of the operating levers to hold the operating levers in an unlocked attitude, and a money operated control device mounted in said cabinet and selectively engageable with each of the operating levers for selectively opening upper and lower doors, whereby release of a bolt allows a respective upper door to open and subsequent release of a second bolt unlocks the respective lower door and the platform rises with merchandise contained thereon.

12. A vending machine comprising, in combination, a cabinet having a plurality of separate individual compartments extending vertically in said cabinet and being open at the top, an upper door hingedly mounted on the cabinet adjacent to the top of each of said compartments for closing said compartments, a lower door hingedly mounted in each of said compartments below the upper door and being adapted for supporting merchandise on the lower door, a platform movably mounted in each of said compartments and being positioned below the respective lower door, an upper door lock rod connected to each of said upper doors and extending below the respective platform, an upper door operating rod connected to each of said upper doors, an upper door spring pivotally mounted in its respective compartment and being engageable with the lower door and the merchandise mounted on the lower door for urging the upper door to a partially open attitude, a lower door lock rod connected to each of said lower doors, an upper door bolt engageable with each upper door lock rod for locking the door in a closed attitude, spring means urging each of the upper door bolts into a closed attitude, a lower door bolt engageable with each of the lower door lock rods for locking each of the lower doors in a closed attitude, release means connected to each of the lower door bolts and each of the upper door bolts for disengaging the bolts from their respective rods, a release lock connected to each of the release means for holding the bolts in a disengaged attitude once the bolt has been disengaged from its respective rod, and a money operated control device operably connected to the release means for selectively operating the release means in a predetermined sequence upon deposit of appropriate monies.

13. A vending machine comprising, in combination, a cabinet having a plurality of separate vertical compartments, an upper door for closing each of said compart-

ments hingedly mounted on the cabinet, a lower door in each of said compartments below the upper door hingedly mounted on the cabinet and being adapted for supporting merchandise on the lower door, a platform movably mounted in each of said compartments and being adapted for supporting merchandise thereon, each of said platforms being positioned below the lower door, a platform lock mounted on the bottom of each of the platforms, a platform latch engageable with the platform lock to hold the platform in a lower position, an upper door lock rod connected to each of said upper doors and extending below the respective platforms, an upper door spring pivotally mounted in its respective compartment and being engageable with the lower door and merchandise mounted on the lower door for urging the upper door to a partially opened attitude, a lower door lock rod connected to each of said lower doors being engageable with the platform latch to disengage the platform latch from the platform lock when the lower door is closed, an upper door bolt engageable with each upper door lock rod for locking the door in a closed attitude, spring means urging each of the upper door bolts into a closed attitude, a lower door bolt engageable with each of the lower door lock rods for locking each of the lower doors in a closed attitude, release means connected to each of the lower door bolts and each of the upper door bolts for selectedly disengaging the bolts from their respective rods, a release lock connected to each of the release means for holding the bolts in a disengaged attitude once the bolt has been disengaged from its respective rod, and a money operated control device engageable with the release means for selectively operating the release means in a predetermined sequence upon deposit of appropriate monies.

14. A vending machine comprising, in combination, a cabinet having a plurality of compartments, a door cooperative with each of the compartments to close the respective compartment and being mounted on said cabinet, a second door mounted in each of the compartments and being adapted to support merchandise, a merchandise support mounted in each of the compartments for urging merchandise toward the door, means for locking the doors connected to said doors, a door control mechanism connected to the means for locking the doors in a predetermined sequence to open first one door and then another door in a given compartment, said door control mechanism including a plate having a cam surface, a follower in engagement with the cam surface, a control rod connected to the follower to be selectively positioned by the cooperation of the follower and the cam surface, and a coin operated control device mounted in the cabinet and being connected to the door control mechanism for operating the mechanism, said coin operated control device being cooperative with the control rod to indicate the sequence of operation of the door control mechanism.

15. A vending machine comprising, in combination, a cabinet having a plurality of separate individual compartments extending vertically in said cabinet and being open at the top, an upper door hingedly mounted on the cabinet adjacent to the top of each of said compartments for closing said compartments, a lower door hingedly mounted in each of said compartments below the upper door and being adapted for supporting merchandise on the lower door, a platform movably mounted in each of said compartments and being positioned below the respective lower door, an upper door lock rod connected to each of said upper doors and extending below the respective platform, an upper door operating rod connected to each of said upper doors, an upper door spring pivotally mounted in its respective compartment and being engageable with the lower door and the merchandise mounted on the lower door for urging the upper door to a partially open attitude, a lower door lock rod connected to each of said lower doors, an upper door bolt engageable with each upper door lock rod for locking the door

11

in a closed attitude, spring means urging each of the upper door bolts into a closed attitude, a lower door bolt engageable with each of the lower door lock rods for locking each of the lower doors in a closed attitude, release means connected to each of the lower door bolts and each of the upper door bolts for disengaging the bolts from their respective rods, a release lock connected to each of the release means for holding the bolts in a disengaged attitude once the bolt has been disengaged from its respective rod, a door control mechanism rotatably mounted in the cabinet and being connected to the release means for operating said release means, said door control mechanism having a cam surface, a follower in engagement with the cam surface, a

12

control rod attached to the follower, and a money operated control device connected to the door control mechanism to operate said door control mechanism to operate the release means, said money operated control device being engageable with the control rod for indicating whether an upper or lower door is the next door to be opened in sequence.

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