

POINT OF SALE VENDING MACHINE

The present invention relates to a vending machine for use at a point of sale in a retail environment. The present invention also relates to a method of dispensing consumer goods at a point of sale.

Some consumer goods, such as soft drinks and confectionary products, are often dispensed and sold to consumers from self-service vending machines. Such machines typically contain a number of different products from which the consumer may choose. After inserting the appropriate amount of money into the vending machine and entering a product selection, the selected goods are dispensed to the consumer.

However, such self-service vending machines are unsuitable for age-restricted products, such as alcoholic beverages and tobacco-based consumer products. Therefore, typically such products are held on display behind a cash desk at the point of sale where they are inaccessible to the consumer. However, this method of displaying the products is often unsatisfactory, as the consumer cannot view the products and make their selection until they have reached the cash desk. The consumer's view may be restricted by cashiers working in front of the display, and sometimes consumers may have difficulty in explaining to the cashier which of the products they would like to purchase.

It would be desirable to provide a method of displaying and selling consumer goods which overcomes the above advantages. In particular, it would be desirable to give the consumer more control over viewing and selecting restricted consumer goods without providing consumer access to the goods.

According to a first aspect of the present invention there is provided a vending machine for dispensing consumer goods, the vending machine comprising a first storage portion for receiving one or more first consumer goods and a second storage portion for receiving one or more second consumer goods, wherein the second consumer goods are different to the first consumer goods. The vending machine further comprises a selection device provided on a first side of the vending machine and configured to enable a consumer to select one of the first or second consumer goods. The vending machine also comprises a dispensing mechanism configured to dispense the selected consumer goods through a dispensing aperture to the exterior of the vending machine, wherein the dispensing aperture is provided on a second side of the vending machine, and wherein the second side is different to the first side.

Vending machines in accordance with the present invention dispense the selected consumer goods through a dispensing aperture that is provided on a different side of the vending machine from the mechanism used by the consumer to select the consumer goods. Therefore, advantageously, vending machines according to the present invention can be arranged in a retail environment so that the consumer can directly view and select consumer

goods in the same manner as a typical self-service vending machine, but without providing the consumer with access to the dispensed consumer goods. For example, vending machines according to the present invention may be arranged next to a cash desk at a point of sale so that the consumer can view the consumer goods and access the selection device, and so that the dispensing aperture is inaccessible to the consumer and accessible only by cashiers from behind the cash desk. Once the consumer has selected the consumer goods the cashier can collect the consumer goods from the dispensing aperture and accept payment from the consumer in the usual way. This arrangement is particularly advantageous for age-restricted consumer goods, such as alcohol and tobacco-based consumer goods, as it allows consumers to browse and select the goods themselves but retains the cashier's control over who may purchase the consumer goods. Similarly, this arrangement is also useful for dispensing other restricted consumer goods, such as over-the-counter medicines which may be sold only by licensed pharmacists.

To facilitate such installation of the vending machine at the point of sale, the selection device is preferably provided on a front wall of the vending machine. In such embodiments, the dispensing aperture is preferably provided on at least one of a side wall and a back wall of the vending machine. For example, the dispensing aperture may be provided entirely on a side wall of the vending machine, entirely on a back wall of the vending machine, or on a corner of the vending machine so that the dispensing aperture is provided on both a side wall and a back wall of the vending machine. To facilitate installation of the vending machine adjacent a cash desk, in some embodiments it may be particularly preferred to provide the dispensing aperture entirely on a back wall of the vending machine.

As used herein, the term "front wall" refers to the wall or facet of the vending machine that faces the consumer when the consumer is viewing and selecting the consumer goods using the selection device. The term "back wall" refers to a wall or facet of the vending machine that is opposite the front wall. In those embodiments in which the vending machine has a substantially cuboid shape, the vending machine comprises two side walls extending between the front and back walls.

In any of the embodiments described above, the dispensing mechanism may comprise a pushing device for pushing the selected consumer goods from a stored position within the vending machine. For example, a plurality of each type of consumer good is typically stored within a vending machine, with each type of consumer good usually being stored in a row extending between the front and back of the vending machine. When choosing which consumer goods to purchase, the consumer can typically view the consumer good at the front of each row to assist in selecting the desired goods. Once the consumer has entered a selection via the selection device one or more consumer goods is dispensed from the front or the back of the row.

In some embodiments, the vending machine may comprise a plurality of first consumer goods arranged in a row extending between the front and the back of the vending machine, and a plurality of second consumer goods arranged in a row extending between the front and the back of the vending machine. In such embodiments, the pushing device may be configured to
5 dispense consumer goods from the front of each row. However, in those embodiments in which the dispensing aperture is provided on at least one of a side wall and a back wall of the container, the pushing device is preferably configured to dispense consumer goods from the back of each row.

The pushing device may comprise at least one of a lever, a plunger, a linear conveyor and
10 a screw conveyor.

The dispensing mechanism may further comprise guiding means configured to guide the selected consumer goods from the respective storage portion to the dispensing aperture, wherein the pushing device is configured to push the selected consumer goods into the guiding means from the storage portion. For example, the guiding means may comprise one or more
15 internal walls within the vending machine that form a chute down which the dispensed consumer goods may fall under the action of gravity.

In any of those embodiments in which the dispensing mechanism comprises a pushing device, the vending machine may comprise a pushing device for each type of consumer goods within the vending machine. For example, the dispensing mechanism may comprise a first
20 pushing device for pushing the first consumer goods and a second pushing device for pushing the second consumer goods. In such embodiments, the selection device may comprise a first actuation device connected to the first pushing device and a second actuation device connected to the second pushing device, wherein the first and second actuation devices are provided on the exterior of the first side of the vending machine.

In such embodiments, each of the first and second pushing devices may be electrically actuated and each of the first and second actuation devices may comprise an electrical switch for actuating the respective pushing device. For example, each of the first and second pushing devices may be an electrically actuated plunger, such as an electromechanical solenoid, or a motorised lever. Additionally, or alternatively, the first and second actuation devices may each
25 comprise an electrical push-button on the exterior of the front wall of the vending machine, adjacent the respective consumer goods.

Alternatively, each of the first and second pushing devices may be mechanically actuated, wherein each of the first and second actuation devices comprises a mechanical actuation device connected by a mechanical linkage to the respective pushing device. For example, each
35 of the first and second pushing devices may comprise a lever having a first end and a second end, the lever rotatably mounted to a pivot between its first and second ends. In such embodiments, each of the first and second actuation devices may comprise a rod slidably

mounted against the first end of the respective lever, and wherein the rod is configured so that sliding the rod towards the lever rotates the second end of the lever against the respective consumer goods to push the consumer goods from the respective storage portion into the guiding means.

5 For example, each rod may comprise a tapered portion that acts as a cam on the first end of the respective lever. To facilitate the interaction between each rod and the respective lever, a bearing, such as a roller, may be provided at the first end of each rod.

Alternatively, a mechanical linkage may link each rod to the first end of the respective lever. For example, each rod and respective lever may be shaped and pivotably connected so
10 that the rod and the lever together form a bell crank that translates the sliding movement of the rod into the required pushing motion to push the respective consumer goods from the storage portion into the guiding means.

In those embodiments in which the pushing device is electrically actuated, the selection device may comprise an electrically operated user interface provided on the exterior of the first
15 side of the vending machine. For example, the electrically operated consumer interface may comprise at least one of an electronic keypad and a touch sensitive electronic visual display.

In such embodiments, the dispensing mechanism may comprise first and second electrically actuated pushing devices, as described above, wherein the first and second electrically actuated pushing devices are actuated based on a consumer input at the selection
20 device.

Alternatively, the dispensing mechanism may comprise an electric motor configured to move a single electrically actuated pushing device within the vending machine between a first position in which the pushing device is positioned to push the first consumer goods and a second position in which the pushing device is positioned to push the second consumer goods,
25 wherein the electric motor moves the pushing device between the first and second positions based on a consumer input at the selection device. For example, the dispensing mechanism may comprise an electric motor configured to drive an electromechanical solenoid along one or more rails between a first position in which the electromechanical solenoid is positioned to push the first consumer goods and a second position in which the electromechanical solenoid is
30 positioned to push the second consumer goods.

In any of the embodiments described above, the vending machine preferably comprises at least one consumer window provided on the first side of the vending machine to enable consumers to directly view the consumer goods within the vending machine. For example, the vending machine may comprise at least one transparent panel forming at least part of a front
35 wall of the vending machine. The consumer window may be formed from glass or a transparent plastic, such as poly(methyl methacrylate).

Alternatively, the vending machine may not comprise a window enabling the consumer to view the consumer goods within the vending machine. In such embodiments, the vending machine may comprise at least one of graphics or text provided on the first side of the vending machine to illustrate the consumer goods within the vending machine and to assist consumers in making their selection.

In any of the embodiments described above, the vending machine may comprise a service window to enable retail staff, such as cashiers, to observe the inside of the vending machine. For example, a service window may enable retail staff to monitor stock levels within the vending machine and replenish one or more of the consumer goods as necessary. The service window may be in addition to a consumer window as described above, or the service window may be an alternative to a consumer window. The service window may be provided on the second side of the vending machine, and is preferably provided on a back wall or a side wall of the vending machine. The service window may be formed from glass or a transparent plastic, such as poly(methyl methacrylate).

In any of the embodiments described above, the vending machine preferably comprises a service door to allow access to the interior of the vending machine to replenish the consumer goods, to remove jammed consumer goods, and to conduct maintenance and repairs to the vending machine. The service door may be provided at the first side of the vending machine. For example, a front wall of the vending machine may be connected to a side wall of the vending machine by one or more hinges so that the front wall forms a service door. Alternatively, the service door may be on the second side of the vending machine, such as a back wall or a side wall of the vending machine. The vending machine preferably comprises a lock to secure the service door and prevent unauthorised access to the interior of the vending machine. In those embodiments comprising a service window, the service window may be provided within the service door.

In those embodiments comprising electronically actuated pushing devices, and particularly those embodiments in which the selection device comprises an electrically operated user interface, the vending machine is preferably connected to one or more computer systems within the retail environment. For example, the vending machine may communicate with an electronic point of sale system at an adjacent cash desk, which may eliminate the need for a cashier to manually scan the dispensed consumer goods through the electronic point of sale system. That is, the vending machine may communicate the type and number of dispensed consumer goods to the electronic point of sale system. Additionally, or alternatively, the vending machine may be connected to a stock monitoring system so that a stock database is automatically updated as consumer goods are dispensed from the vending machine.

In any of the embodiments described above, the vending machine may comprise a transfer mechanism to transfer the selected consumer goods to the dispensing aperture. A

suitable transfer mechanism may include a conveyor. The conveyor may include a driven conveyor, comprising one or more motor driven belts or rollers to transfer the selected goods to the dispensing aperture. Additionally, or alternatively, the conveyor may include one or more idle rollers. For example, the conveyor may comprise a series of idle rollers, wherein a downstream end of the conveyor adjacent the dispensing aperture is lower than an upstream end of the conveyor so that the selected consumer goods roll along the conveyor under the action of gravity.

In an exemplary embodiment, the vending machine comprises guiding means comprising one or more internal walls that form a chute down which the selected consumer goods fall under the action of gravity, the vending machine further comprising a transfer mechanism comprising a conveyor, wherein an upstream end of the conveyor is positioned below a bottom end of the chute and a downstream end of the conveyor is adjacent the dispensing aperture.

In alternative embodiments, the vending machine may not comprise a transfer mechanism. For example, the dispensing aperture may extend across substantially the full width of the second side of the vending machine so that all of the consumer goods within the vending machine are dispensed from the respective storage portions directly into the dispensing aperture.

In any of the embodiments described above, the dispensing aperture may be an uncovered opening in a side of the vending machine. Alternatively, the vending machine may comprise a moveable flap covering the dispensing aperture. In such embodiments, retail staff, such as a cashier, can open the flap to retrieve the dispensed consumer goods from the dispensing aperture. Providing a flap covering the dispensing aperture may advantageously prevent contaminants from entering the vending machine through the dispensing aperture and may prevent dispensed consumer goods falling from the vending machine through the dispensing aperture. Preferably the moveable flap is biased towards the closed position to provide automatic closing of the flap after the dispensed consumer goods have been retrieved.

In any of the embodiments described above, each storage portion may comprise a rail or a shelf for receiving a plurality of consumer goods thereon. For example, each storage portion may comprise a rail for receiving a plurality of consumer goods thereon and first and second guide walls spaced either side of the rail for receiving the plurality of consumer goods therebetween. In such embodiments, the first and second guide walls may be moveable towards each other and away from each other to accommodate consumer goods having different widths.

Additionally, or alternatively, each storage portion may comprise a biasing device for biasing the plurality of consumer goods received within each storage portion towards the respective pushing device. For example, each storage portion may comprise a pusher plate biased against the consumer good at the front of a row of consumer goods, wherein the pushing

device comprises an electromechanical solenoid plunger positioned underneath the consumer good at the back of the row of consumer goods. Each time the pushing device is actuated and the consumer good at the back of the row is dispensed the pusher plate pushes the entire row of consumer goods backwards so that the next consumer good in the row is positioned over the pushing device. In those embodiments in which each storage portion comprises a biasing device, such as a pusher plate, biased against the front of a row of consumer goods, the storage portion preferably comprises an end stop at the back of the storage portion to prevent the biasing device pushing all of the consumer goods off the back of the storage portion. For example, in those embodiments in which each storage portion comprises a rail or a shelf the back end of the rail or shelf may comprise an end stop in the form of a raised lip against which the biasing device pushes the row of consumer goods.

In alternative embodiments each pushing device may form the respective storage portion. For example, in those embodiments in which the pushing device comprises a screw conveyor, the consumer goods are stored between successive turns in the screw conveyor. Therefore, such embodiments do not require separate storage portions, biasing devices or end stops, since the screw conveyor performs all of these functions. Typically, embodiments in which the vending machine comprises a screw conveyor will still require guide walls spaced either side of each screw conveyor to prevent consumer goods falling from the side of the screw conveyor.

In any of the embodiments described above, the vending machine may be configured to dispense a number of different consumer goods. For example, the vending machine may be configured to dispense food products, such as snacks, confectionary and soft drinks.

Alternatively, the vending machine may be configured to dispense packs of elongate consumer goods, such as packs of aerosol-generating articles. The term "aerosol-generating article" is used herein to mean an article comprising at least one substrate that forms an aerosol when heated. As known to those skilled in the art, an aerosol is a suspension of solid particles or liquid droplets in a gas, such as air. The aerosol may be a suspension of solid particles and liquid droplets in a gas, such as air. For example, the aerosol-generating articles may be articles for use in an electrically operated smoking system. In this case, the aerosol-generating articles may comprise a tobacco or other nicotine-containing substrate that generates an aerosol comprising nicotine when the substrate is heated. Alternatively, the aerosol-generating articles may be more conventional smoking articles, such as filter cigarettes.

The present invention also extends to a method of dispensing consumer goods at a point of sale using the vending machine according to the first aspect of the present invention, in accordance with any of the embodiments described above. Therefore, according to a second aspect of the present invention, there is provided a method of dispensing consumer goods at a point of sale, the method comprising providing a vending machine at the point of sale, the vending machine containing at least first and second consumer goods. The vending machine

comprises a selection device for receiving a consumer input and a dispensing mechanism for dispensing consumer goods from the vending machine through a dispensing aperture to an exterior of the vending machine. The method further comprises receiving a consumer input at the selection device, the consumer input indicative of the consumer's selection of consumer goods within the vending machine, and dispensing the selected consumer goods through the dispensing aperture, wherein the dispensing aperture is inaccessible to the consumer.

The invention will now be further described, by way of example only, with reference to the accompanying drawings in which:

Figure 1 shows a front view of a vending machine in accordance with a first embodiment of the present invention;

Figure 2 shows a rear view of the vending machine of Figure 1;

Figure 3 shows a cross-sectional view of the vending machine of Figures 1 and 2 taken along the line 1-1 in Figure 2;

Figure 4 shows a cross-sectional view of the vending machine of Figures 1 and 2 taken along the line 1-1 in Figure 2 and showing an alternative dispensing mechanism; and

Figure 5 shows a front view of a vending machine in accordance with a second embodiment of the present invention.

Figures 1 and 2 show a vending machine 10 in accordance with a first embodiment of the present invention. The vending machine 10 comprises a front wall 12 forming a first side of the vending machine 10 and a back wall 14 forming a second side of the vending machine 10.

The front wall 12 of the vending machine 10 comprises a plurality of consumer windows 16 through which a consumer can view a plurality of different consumer goods contained within the vending machine. For example, the vending machine 10 may contain at least first consumer goods 18 and second consumer goods 20, wherein the first and second consumer goods 18, 20 are different. For example, the first consumer goods 18 may be packs of conventional filter cigarettes and the second consumer goods 20 may be packs of flavoured filter cigarettes.

Provided on the front wall 12 of the vending machine 10 is a selection device 22 comprising a plurality of actuation devices 24 in the form of push-buttons. As shown in Figure 1, an actuation device 24 is provided for each type of consumer good within the vending machine 10 to enable a consumer to select the desired consumer goods.

The vending machine 10 comprises a storage portion 26 for receiving each type of consumer good. Each storage portion 26 comprises a rail 28 on which a row of consumer goods 29 is received, as shown more clearly in Figure 3, which shows a cross-sectional view of the vending machine 10 along line 1-1 of Figure 2. Guide walls 30 extend along each side of each rail 28 to prevent the consumer goods falling from the sides of the rail 28. A biasing device in the form of a pusher plate 32 is biased against the consumer good at the front of the

rail 28 to bias the entire row of consumer goods against an end stop 34 provided at the back of the rail 28. As consumer goods are dispensed from the back of the row the pusher plate 32 continues to push the row of consumer goods against the end stop 34.

Figure 3 shows an embodiment of the vending machine 10 in which each actuation device 24 comprises an electronic push-button 36. In the embodiment shown in Figure 3, the vending machine comprises a dispensing mechanism comprising a plurality of pushing devices in the form of electromechanical solenoids 38 attached to the rails 28. Each electromechanical solenoid 38 comprises a plunger 40 arranged beneath an aperture in the respective rail 28. When a consumer pushes on an electronic push-button 36 to select a particular consumer good the electronic push-button 36 activates the respective electromechanical solenoid 38. Upon activation of the electromechanical solenoid 38, the plunger 40 extends upwardly and displaces the consumer good at the back of the row of consumer goods 29, as shown in the middle row shown in Figure 3. Once the electronic push-button 36 is released the plunger 40 retracts and the pusher plate 32 pushes the remaining goods in the row of consumer goods 29 against the end stop 34, which pushes the displaced consumer good over the end stop 34. A plurality of internal walls 42 cooperate with the back wall 14 of the vending machine 10 to form a chute 44 down which the dispensed consumer goods fall onto a conveyor belt 46. The conveyor belt 46 is driven by a set of motorised rollers 48.

Referring back to Figure 2, the vending machine 10 further comprises a plurality of service windows 50 provided in the back wall 14, which allow viewing of the interior of the vending machine 10 by retail staff, such as cashiers, that may be working behind the vending machine 10. The entire back wall 14 of the vending machine 10 is connected along one edge to a side wall of the vending machine 10 by a plurality of hinges so that the entire back wall 14 forms a service door that can be opened to access the interior of the vending machine 10.

The vending machine 10 further comprises a dispensing aperture 52 in the back wall 14 from which the dispensed consumer goods can be retrieved. During operation of the vending machine 10, the dispensed consumer goods fall onto the conveyor belt 46 where they are transferred to the dispensing aperture 52. The dispensing aperture 52 is provided on the back wall 14 of the vending machine 10 to prevent consumer access to the dispensed consumer goods. Specifically, the vending machine 10 can be installed at the point of sale so that the consumer can access the front wall 12 of the vending machine 10 to input their selection via the selection device without providing consumer access to the dispensed consumer goods.

Figure 4 shows an alternative dispensing mechanism for use in the vending machine 10 shown in Figures 1 and 2. In the dispensing mechanism shown in Figure 4, each actuation device 24 comprises a mechanical push-button 54. Connected to each mechanical push-button 54 is a tapered rod 56 that acts on a roller 58. The roller 58 is connected to a first end of a lever 60, the lever 60 being connected to a pivot 62 depending from the underside of the rail 28. A

second end of the lever 60 extends through an aperture in the rail 28 positioned underneath the consumer good at the back of the row of consumer goods 29. Upon depression of the mechanical push-button 54 by a consumer the lever 60 is rotated so that the second end of the lever 60 functions as a pushing device and displaces the consumer good at the back of the row of consumer goods 29, as shown in the middle row shown in Figure 4. Once the mechanical push-button 54 is released a spring 64 biases the second end of lever 60 away from the consumer goods so that the second end of the lever 60 retracts. After the second end of the lever 60 has retracted the pusher plate 32 pushes the remaining goods in the row of consumer goods 29 against the end stop 34, which pushes the displaced consumer good over the end stop 34 and down the chute 44 to the conveyor belt 46.

Figure 5 shows a vending machine 100 according to a second embodiment of the present invention. The vending machine 100 is substantially the same as the vending machine 10 described with reference to Figures 1 to 4, with the exception of the selection device. In particular, instead of a plurality of individual actuation devices 24 for selecting each type of consumer good, the vending machine 100 comprises an electrically operated user interface 102 that allows a consumer to select any of the consumer goods contained within the vending machine 110. The electrically operated user interface 102 may comprise at least one of an electronic keypad and a touch sensitive electronic visual display. To dispense the selected consumer goods, the electrically operated user interface 102 may communicate with a plurality of electrically actuated pushing devices, such as a plurality of electromechanical solenoids 38 as described with reference to Figure 3. Alternatively, one or more rows of consumer goods within the vending machine 100 may share a common electrically actuated pushing device. For example, the vending machine 100 may comprise an electromechanical solenoid mounted on a rail, wherein the electrically operated user interface 102 controls a motor to move the electromechanical solenoid along the rail underneath the different consumer goods to enable the single electromechanical solenoid to dispense more than one type of consumer good.

Claims

1. A vending machine for dispensing consumer goods, the vending machine comprising:
a first storage portion for receiving one or more first consumer goods;
5 a second storage portion for receiving one or more second consumer goods, wherein the second consumer goods are different to the first consumer goods;
a selection device provided on a first side of the vending machine and configured to enable a consumer to select one of the first or second consumer goods; and
a dispensing mechanism configured to dispense the selected consumer goods through a
10 dispensing aperture to the exterior of the vending machine, wherein the dispensing aperture is provided on a second side of the vending machine, wherein the second side is different to the first side.
2. A vending machine according to claim 1, wherein the selection device is provided on a
15 front wall of the vending machine and the dispensing aperture is provided on at least one of a side wall and a back wall of the vending machine.
3. A vending machine according to claim 2, wherein the dispensing aperture is provided on the back wall of the vending machine.
20
4. A vending machine according to any preceding claim, wherein the dispensing mechanism comprises a pushing device for pushing the selected consumer goods from a stored position within the respective storage portion.
- 25 5. A vending machine according to claim 4, wherein the pushing device comprises at least one of a lever, a plunger, a linear conveyor and a screw conveyor.
6. A vending machine according to claim 4 or 5, wherein the dispensing mechanism further comprises guiding means configured to guide the selected consumer goods from the respective
30 storage portion to the dispensing aperture, and wherein the pushing device is configured to push the selected consumer goods into the guiding means from the storage portion.
7. A vending machine according to any of claims 4 to 6, wherein the dispensing mechanism comprises a first pushing device for pushing the first consumer goods and a second
35 pushing device for pushing the second consumer goods, and wherein the selection device comprises a first actuation device connected to the first pushing device and a second actuation

device connected to the second pushing device, wherein the first and second actuation devices are provided on the exterior of the first side of the vending machine.

8. A vending machine according to claim 7, wherein each of the first and second pushing devices is electrically actuated and wherein each of the first and second actuation devices comprises an electrical switch for actuating the respective pushing device.

9. A vending machine according to claim 7, wherein each of the first and second pushing devices is mechanically actuated, and wherein each of the first and second actuation devices comprises a mechanical actuation device connected by a mechanical linkage to the respective pushing device.

10. A vending machine according to claim 9, wherein each of the first and second pushing devices comprises a lever having a first end and a second end, the lever rotatably mounted to a pivot between its first and second ends, wherein each of the first and second actuation devices comprises a rod slidably mounted against the first end of the respective lever, and wherein the rod is configured so that sliding the rod towards the lever rotates the second end of the lever against the respective consumer goods to push the consumer goods from the respective storage portion into the guiding means.

11. A vending machine according to any of claims 4 to 6, wherein the pushing device is electrically actuated and wherein the selection device comprises an electrically operated user interface provided on the exterior of the first side of the vending machine.

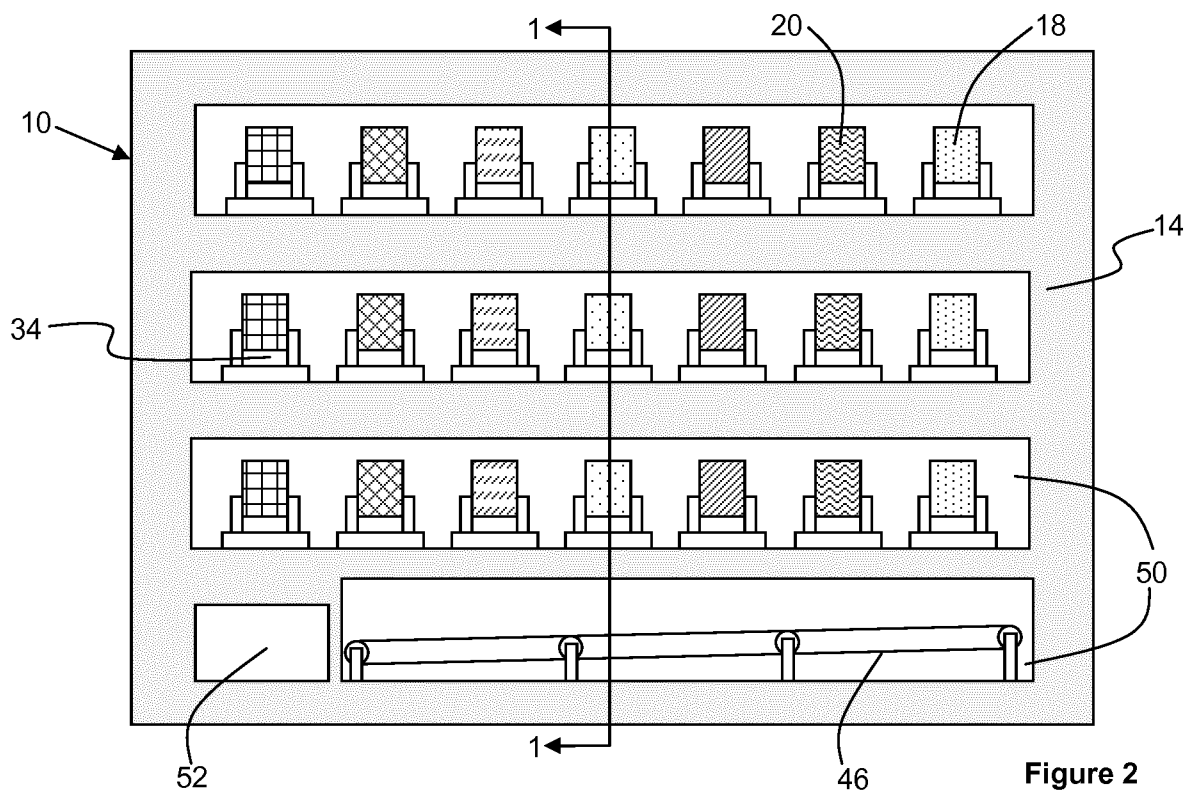
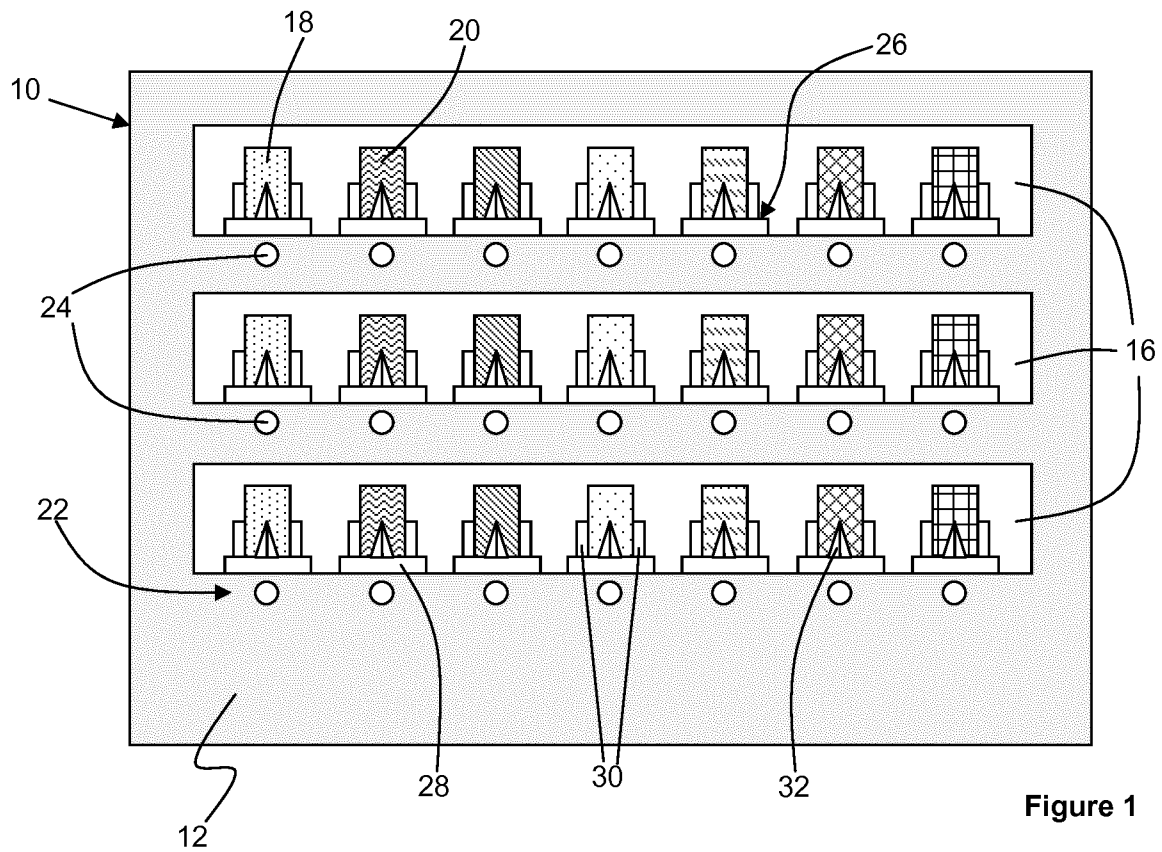
12. A vending machine according to claim 11, wherein the electrically operated consumer interface comprises at least one of an electronic keypad and a touch sensitive electronic visual display.

13. A vending machine according to claim 11 or 12, wherein the dispensing mechanism further comprises an electric motor configured to move the pushing device within the vending machine between a first position in which the pushing device is positioned to push the first consumer goods and a second position in which the pushing device is positioned to push the second consumer goods, and wherein the electric motor moves the pushing device between the first and second positions based on a consumer input at the selection device.

14. A vending machine according to claim 11 or 12, wherein the dispensing mechanism comprises a first electrically actuated pushing device for pushing the first consumer goods and

a second electrically actuated pushing device for pushing the second consumer goods, wherein the first and second electrically actuated pushing devices are actuated based on a consumer input at the selection device.

- 5 15. A method of dispensing consumer goods at a point of sale, the method comprising:
 providing a vending machine at the point of sale, the vending machine containing at
 least first and second consumer goods, the vending machine comprising a selection device for
 receiving a consumer input and a dispensing mechanism for dispensing consumer goods from
 the vending machine through a dispensing aperture to an exterior of the vending machine;
10 receiving a consumer input at the selection device, the consumer input indicative of the
 consumer's selection of consumer goods within the vending machine; and
 dispensing the selected consumer goods through the dispensing aperture, wherein the
 dispensing aperture is inaccessible to the consumer.



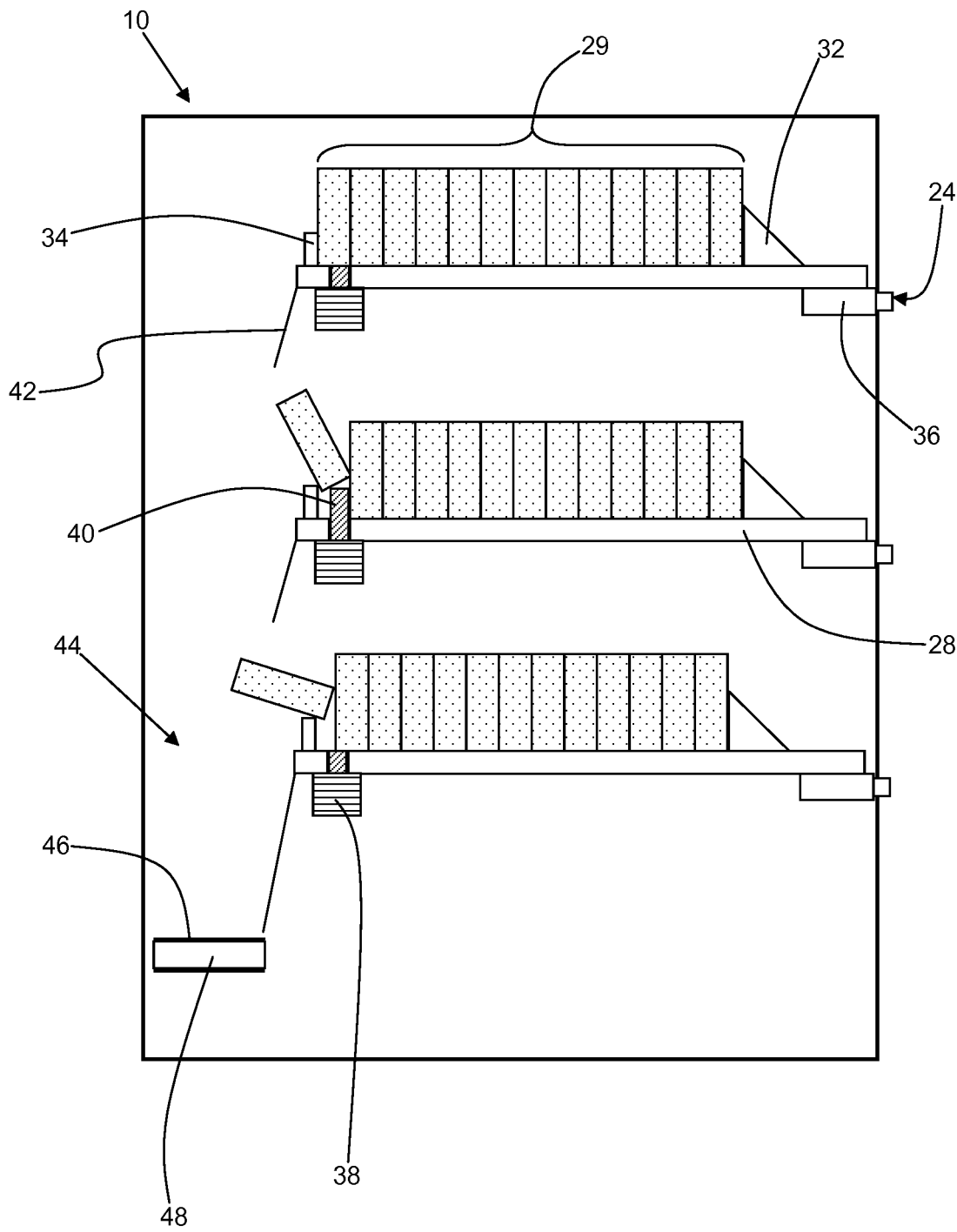


Figure 3

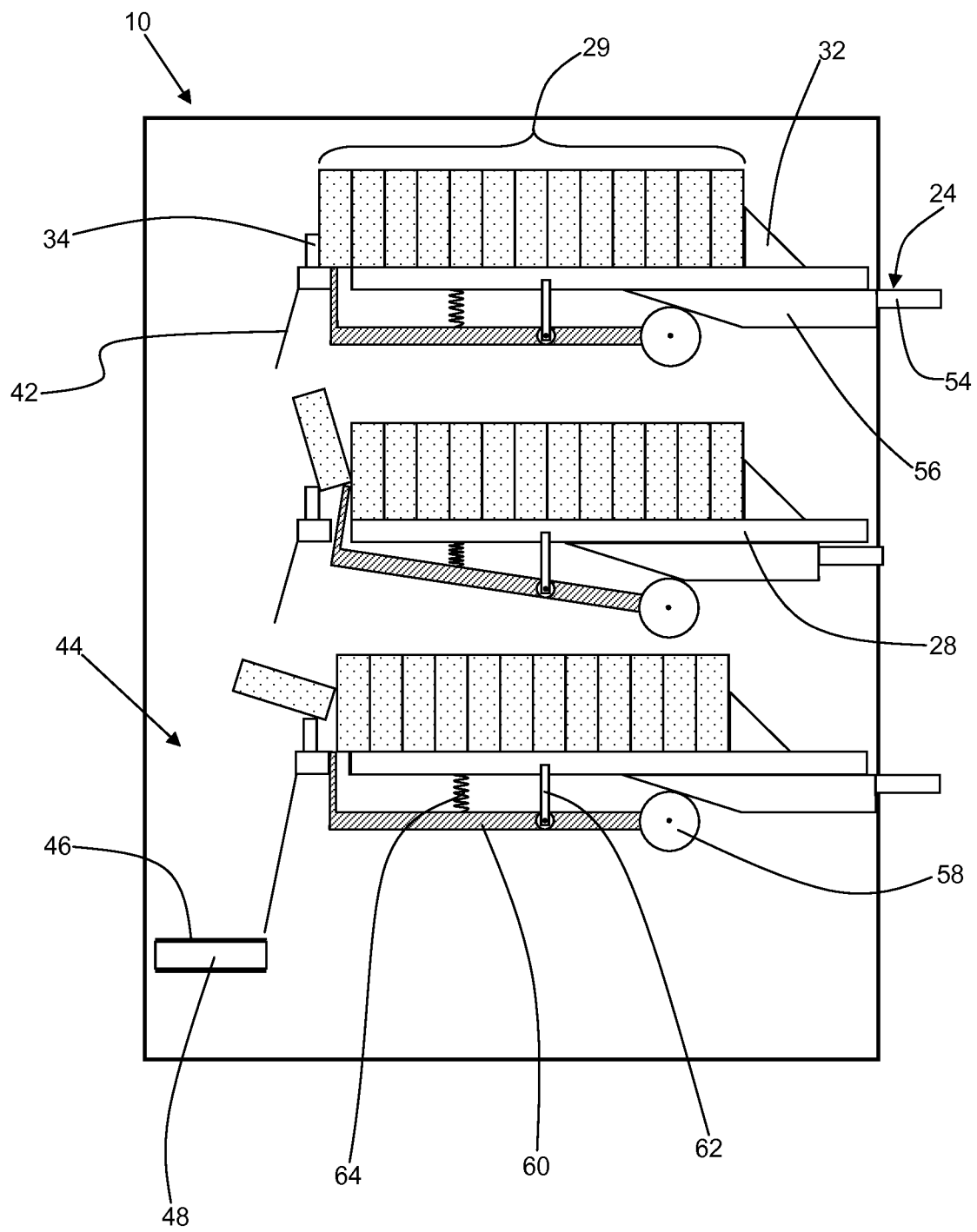


Figure 4

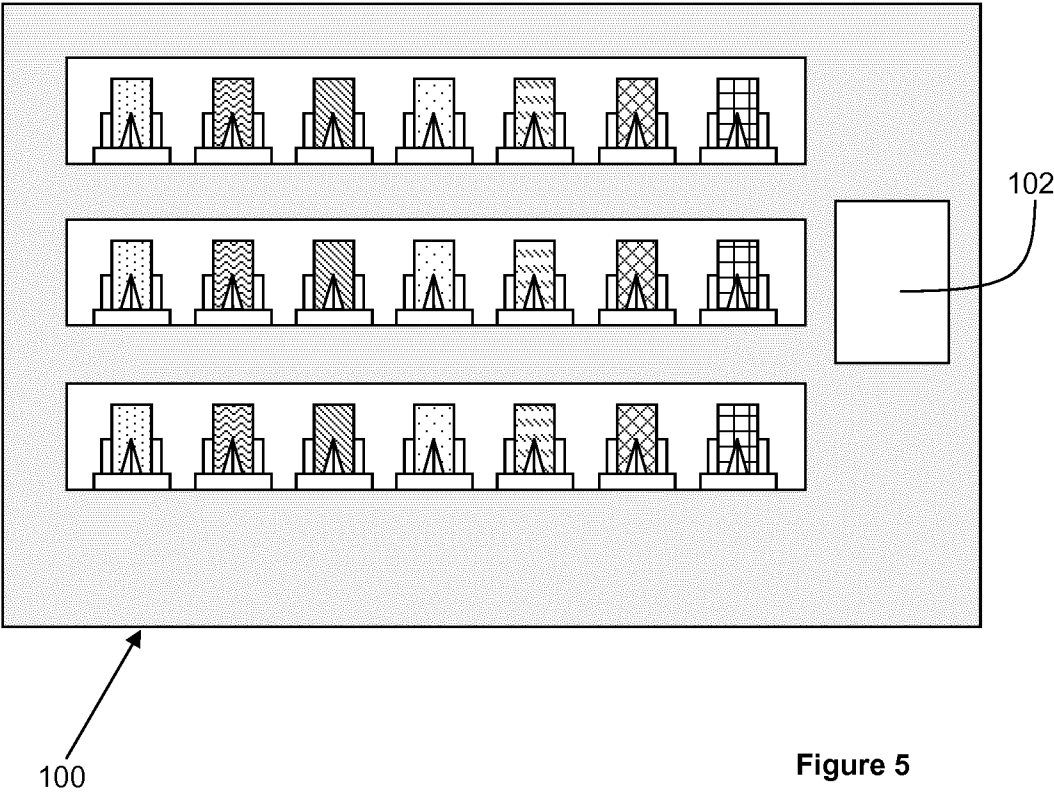


Figure 5

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2015/053862

A. CLASSIFICATION OF SUBJECT MATTER
INV. G07F11/00
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
G07F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2012/150343 A1 (BARIC ROBERT J [US]) 14 June 2012 (2012-06-14)	1-3, 15
Y	paragraphs [0007], [0029], [0032]; figure 3	4-9, 11-14
A	-----	10
Y	US 2011/015781 A1 (VARDARO ANTONIO [CA]) 20 January 2011 (2011-01-20) figures 5,7 -----	4-9, 11-14



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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Date of the actual completion of the international search

31 July 2015

Date of mailing of the international search report

10/08/2015

Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2015/053862

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2012150343	A1	14-06-2012	NONE

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