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Vending process and apparatus

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Abstract

A method of promoting merchandise by use of a terminal or vending machine (1) .
utilises any one or more of static promotional material (10) on the terminal or vending
5 machine (1), variable visible promotional material on a video display (2) and audible
promotional material disseminated from the terminal or vending machine (1).

A method of vending merchandise such as liquor which is subject governmental
licensing requirements uses a vending machine (1) which is actuated by tokens such
10 as credit cards.

A government licence is obtained for the vending of merchandise from vending
machine (1). Tokens or credit cards are issued only to persons who may legally
purchase merchandise from the vending machine in accordance with the terms of the
15 government licence.

On purchase of merchandise from the vending machine (1) a receipt printed with a
record of the transaction, a message or advertising material is issued to the purchaser.

20 The sales from the machine the hours of availability for the machine sales, the
authorisation of credit transactions, the content of advertising material displayed on
video screen (2), and the material printed on the receipt are controlled or monitored
from a central location (18) over a communications link (17).

AUSTRALIA

Patents Act 1990



COMPLETE SPECIFICATION

Invention Title: Vending Process and Apparatus



The following statement is a full description of this invention, including the best method of performing it known to us:

Title of Invention:

Vending process and apparatus.

Field of Invention:

5 The present invention relates to vending of food, beverages or other merchandise from vending machines, and is particularly adapted to the vending of commodities such as liquor or tobacco products which are the subject of government licensing requirements.

10 **Background of the Invention:**

Liquor licensing legislation generally permits the sale of liquor only from licensed premises. Liquor licences are generally subject to onerous duties, such as a requirement of strict legal liability that the licensee ensure that liquor not be sold to minors or to intoxicated customers. Different classes of liquor licence may permit
15 different types of trading, such as sale for on-premises consumption only, or sale for off-premises consumption only. Sales may also be subject to restrictions on hours of trading. Trading hours may, for example:

- depend on the class of licence (hotel, club, gaming, retail); or
- be set specifically for each licence.

20

The nature of the duties imposed on a liquor licensee have made it difficult, if not impossible, for small outlets such as general grocery stores or small social clubs to qualify for a licence. Allowing small operations such as these to retail liquor is consistent with the current deregulation of industry. It is, however, difficult for such
25 small operations to trade in liquor in a way which still allows enforcement of sensible and proper controls over the sale of alcohol.

We have appreciated that the liquor control legislation of the state of Victoria will allow the issue of a liquor licence in respect of individual vending machines, or in
30 respect of individual vending machines located on a specific area of land, or in a building, vehicle vessel or aircraft.

The sale of tobacco and tobacco products is also subject to government regulation and licensing. In Australia, governments have also regulated advertising of tobacco and tobacco products. This regulation of advertising has resulted in a movement for the withdrawal from service of coin-operated cigarette vending machines on the basis that these vending machines are a form of advertising. We understand that coin-operated vending machines have already been withdrawn from service in at least one Australian jurisdiction on this basis.

The present invention accordingly seeks to provide a new process of vending liquor and other merchandise.

The present invention also seeks to provide apparatus for the vending of liquor and other merchandise.

 15 **Summary of the Invention:**

The present invention accordingly provides for apparatus or a process for vending merchandise, where the sale of such merchandise is subject to legal restrictions, including:

20 a vending machine for vending merchandise following entry of a PIN number or other identifier which has been issued to a person who may legally purchase such merchandise and wherein the vending machine includes a camera which is adapted to photograph users of the vending machine; and
a database which includes a collection of photographs of persons to whom such a PIN number or like identifier has been issued.

25 It is preferred that the identifier is a driver's licence number.

It is preferred that the amount of merchandise which may be purchased by a person during a predetermined time period is subject to a maximum limit.

30 It is preferred that there is a limit on the number of such PIN numbers or other identifiers that any one person may hold at any one time.

It is preferred that a voucher is issued for each sale transaction.


It is preferred that the voucher is a receipt.

5 It is preferred that the voucher is imprinted with text in addition to a record of the transaction.


It is preferred that the voucher is printed with a message which is personalised to the purchaser.

10 It is preferred that the voucher is printed with advertising promotional material.

It is preferred that the content of the text printed on the voucher depends on the line of merchandise which is the subject of the transaction.

 15 It is preferred that the content of the text printed on the voucher is controlled from a location which is remote from the vending apparatus.

It is preferred that the sales from each vending apparatus are monitored from a remote location for inventory control and re-stocking purposes.

 20 It is preferred that the merchandise which is vended is a container of beverage which is packaged together with a drinking container.


 25 **Brief Description of the Views of the Drawings:**

Figure 1 is a perspective view of apparatus in accordance with an embodiment of the present invention.

Figure 2 is a front elevational view of the apparatus of Figure 1.

30 Figure 3 is a front elevational view of apparatus in accordance with another embodiment of the present invention.

Figure 4 is an elevational view of merchandise packaged with a container for vending apparatus in accordance with the present invention.

Figure 5 is a schematic diagram illustrating operation of apparatus in accordance with
5 an embodiment of the present invention

Detailed Description with Respect to the Drawings:

Prior art

10 Currently, liquor is available through a number of types of outlets. These include traditional outlets such as hotels and taverns. Sale of liquor through these traditional outlets requires trained staff supervising each individual sale. Recent areas of growth in liquor sales in Australia have been licensed sporting or social clubs, and food-halls in supermarkets and shopping centres.



15 In these growth areas, it is difficult and inefficient to provide the specialist staff and facilities necessary to ensure that liquor sales take place only within the terms of the licensing requirements.

The present invention



20 Figures 1 and 2 show apparatus in accordance with one embodiment of the present invention, and in respect of which an appropriate liquor licence has been obtained. In the State of Victoria, this may be a Packaged Liquor Licence in conjunction with an Extended Hours Permit. A vending machine 1 has an interface with the user which consists of a video display screen 2, a keypad 3, a card reader slot 4, and two rows of menu selection keys 6 and 7. The vending machine also has a delivery chute 8 for
25 delivery of merchandise to the purchaser. The interior of the chute 8 is provided with cushioning material (not illustrated) to form a 'soft landing' for the merchandise.

30 The slot 9 above the display screen 2 operates in conjunction with a printer (not illustrated) within the vending machine for delivery of a voucher. It is preferred that the voucher be a receipt for the purchase of merchandise.

When the machine is idle, advertising material appears on the video display screen 2. It is preferred that this advertising material appears in conjunction with a message

inviting potential users to swipe their credit card through card reader slot 4 to purchase merchandise from the machine.

5 When a user swipes a credit card through the card reader slot 4, the video display screen 2 then displays a message prompting the user to enter their PIN number through the keypad 3.

10 On successful entry of a PIN number, the user is prompted to choose a purchase using the menu selection keys 6 and 7 in conjunction with menu text displayed on the video display screen 2.

Following a successful choice of merchandise from the menu, that merchandise is delivered to the user through delivery chute 8.



15 It is to be understood that multiple vending transactions may take place following successful entry of a PIN number. For example, the menu choices presented to a user may present options for:

- the purchase of alcohol and cigarettes;
- the purchase of alcohol only; and
- 20 • the purchase of cigarettes only.



25 In jurisdictions which prohibit the advertising of tobacco products to minors, it is preferred that there be no promotional material on, or otherwise associated with a vending machine, which in any way could be construed as advertising tobacco products. Once potential purchasers have established that they are adults by successful entry of a PIN number, they can be alerted to the fact that tobacco products are available for purchase from the machine by then presenting to them a menu which includes options for the purchase of tobacco products.

30 It is preferred that, on the purchase of merchandise, a receipt or other printed voucher be issued to the purchaser via slot 9.

An alternative embodiment of apparatus according to the invention is illustrated in Figure 3. This apparatus differs from the apparatus of Figure 2 in that the rows of menu selection keys 7 and 8 of Figure 1 have been replaced with merchandise selection buttons illustrated generally at 11 in Figure 3. These merchandise selection buttons carry an illustration of the merchandise which will be purchased on activation of the relevant button.

Figure 4 illustrates one method of packaging merchandise for vending according to the present invention. The package of this embodiment is a glass 12 containing liquor in combination with a drink container 13 of suitable plastics material, in a wrapping of shrink-wrap foil 14.

Figure 5 illustrates a plurality of vending machines in accordance with this invention connected by communications links 17 to a central administration 18. The communication links 17 may be, for example, a local network, leased telephone lines, dial-up connection or cellular telephone connections. Sales data from each vending machine 16 is passed over the communications links 17. This sales data may, for example, take place contemporaneously with each sale, or on polling from the central administration 18. This sales data may then be used for any one, or for a combination of, purposes. It may, for example, be used for arranging re-stocking of the vending machines on a programmed or 'as needed' basis. In alternative embodiments of the invention, the authorisation of credit transactions also takes place over the communications links 17. In further alternative embodiments, the content of advertising material which is displayed on video screen 2 is controlled from the central administration 18 over the communication links 17.

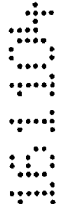
According to a preferred embodiment of the present invention, the communications links 17 are also used to control availability of each vending machine 16. When a vending machine is vending liquor which may be sold only during licensed trading hours signals over the communications link 17 from the central administration 18 provide a secure method of ensuring that sales do not take place outside trading hours. These signals close down the vending operation of the machine, and cause the machine to display a message indicating that it is outside trading hours.

According to other embodiments of the invention, the vending machine vends merchandise which is not subject to restrictions on trading hours, as well as merchandise such as liquor which is subject to trading hour restrictions. It is then preferred that the menu choices available to purchases be modified, either by signals
5 over the communications link 17 or otherwise, to vary or modify the choices which are available to purchasers to allow sale of the merchandise which is not subject to trading hours restrictions but prevent the sale of liquor.

10 In yet further embodiments, the receipt or voucher which is issued to the purchaser carries a personalised and/or advertising promotional material. It is preferred that the contents of such personalised message or promotional material be controlled from the central administration 18 by passing messages over the communications link 17 to the vending machine 16.



15 In yet alternative embodiments of the process and apparatus according to the present invention, the vending machine 1 is fitted with wheels and is mobile, so that it may be moved from venue to venue. These embodiments of the invention are particularly useful for sales at venues such as sporting competitions, public events and the like.



20 In yet further embodiments of the invention which are not illustrated in the drawing, the vending machine 1 includes a camera which is orientated to photograph a user of the machine. According to this embodiment, the photographs which are taken by the camera are transmitted to a central control station (which may or may not be co-located with the central administration 18). A PIN number identifying the user is
25 entered at keypad 3, or other identifying information is read from a card at card reader slot 4. The PIN number or other identifying information is used to retrieve a photograph of the authorised user from a database. When the transmitted photograph matches the retrieved photograph, the vending transaction takes place.

The claims defining the invention are as follows:

1. Apparatus for vending merchandise, where the sale of such merchandise is subject to legal restrictions, the apparatus including:
a vending machine for vending merchandise following entry of a PIN number
5 or other identifier which has been issued to a person who may legally purchase such merchandise and wherein the vending machine includes at least one camera which is adapted to photograph users of the vending machine; and a database which includes a collection of photographs of persons to whom such a PIN number or like identifier has been issued.
10
2. Apparatus as claimed in claim 2 in which the identifier is a driver's licence number.
3. Apparatus as claimed in claim 1 or claim 2 in which the amount of
15 merchandise which may be purchased by a person during a predetermined time period is subject to a maximum limit.
4. Apparatus as claimed in any one of the preceding claims in which there is a limit on the number of such PIN numbers or other identifiers that any one person may
20 hold at any one time.
5. Apparatus as claimed in any one of the preceding claims in which a voucher is issued for each sale transaction.
- 25 6. Apparatus as claimed in claim 5 in which the voucher is a receipt.
7. Apparatus as claimed in claim 5 or claim 6 in which the voucher is imprinted with text in addition to a record of the transaction.
- 30 8. Apparatus as claimed in claim 7 in which the text includes a message which is personalised to the purchaser.
9. Apparatus as claimed in claim 7 or claim 8 in which the text includes advertising promotional material.

10. Apparatus as claimed in any one of claims 7 to 9 in which the content of the text printed on the voucher depends on the line of merchandise which is the subject of the transaction.

5

11. Apparatus as claimed in any one of claims 7 to 10 in which the content of the text printed on the voucher is controlled from a location which is remote from the vending apparatus.

10 12. Apparatus as claimed in any one of claims 1 to 11 in which the sales from each vending apparatus are monitored from a remote location for inventory control and re-stocking purposes.

13. Apparatus as claimed in any one of claims 1 to 12 in which the merchandise which is vended is a container of beverage which is packaged together with a drinking container.

15

14. Apparatus as claimed in any one of claims 1 to 13 further including means for presenting to a person who has entered a PIN number or other identifier a menu of items which may be legally advertised for sale to that person.

20

15. Apparatus as claimed in claim 14, in which the menu of items includes:
alcohol and cigarettes;
alcohol but not cigarettes; or
cigarettes but not alcohol.

25

16. A process for vending merchandise, where the sale of such merchandise is subject to legal restrictions, the process including the steps of:
vending merchandise from a vending machine following entry of a PIN number or other identifier which has been issued to a person who may legally purchase such merchandise and wherein the vending machine includes a camera which is adapted to photograph users of the vending machine; and a database which includes a collection of photographs of persons to whom such a PIN number or like identifier has been issued.

30

17. A process as claimed in claim 16 in which the identifier is a driver's licence number.
- 5 18. A process as claimed in claim 16 or claim 17 in which the amount of merchandise which may be purchased by a person during a predetermined time period is subject to a maximum limit.
19. A process as claimed in any one of claims 16 to 18 in which there is a limit on
10 the number of such PIN numbers or other identifiers that any one person may hold at any one time.
20. A process as claimed in any one of claims 16 to 19 in which a voucher is issued for each sale transaction.
- 15 21. A process as claimed in claim 20 in which the voucher is a receipt.
22. A process as claimed in claim claim 20 or claim 21 in which the voucher is imprinted with text in addition to a record of the transaction.
- 20 23. A process as claimed in claim 22 in which the text includes a message which is personalised to the purchaser.
24. A process as claimed in claim 22 or claim 23 in which the text includes
25 advertising promotional material.
25. A process as claimed in any one of claims 22 to 24 in which the content of the text printed on the voucher depends on the line of merchandise which is the subject of the transaction.
- 30 26. A process as claimed in any one of claims 22 to 25 in which the content of the text printed on the voucher is controlled from a location which is remote from the vending apparatus.

27. A process as claimed in any one of claims 16 to 26 in which the sales from each vending apparatus are monitored from a remote location for inventory control and re-stocking purposes.

5 29. A process as claimed in any one of claims 16 to 27 in which the merchandise which is vended is a container of beverage which is packaged together with a drinking container.

10 30. A process as claimed in any one of claims 16 to 28 including the steps of:
using the PIN or other identifier which has been issued to a person who may legally purchase such merchandise to retrieve a photograph of that person;
15 using the at least one camera to capture a photograph of the user of the vending machine who has entered a PIN or other identifier; and
vending merchandise from the machine only when the retrieved photograph and the captured photograph are of the same person.

20 31. A process as claimed in any one of claims 16 to 30 further including the steps of:
following the entry of a PIN number or other identifier, presenting to the person who has entered that PIN number or other identifier a menu of items which may be legally advertised for sale to that person.

25 32. A process as claimed in claim 31, in which the menu of items includes:
alcohol and cigarettes;
alcohol but not cigarettes; or
cigarettes but not alcohol.

30 33. Apparatus as claimed in any one of claims 1 to 15, substantially as described with reference to the drawings.

34. A process as claimed in any one of claims 16 to 33, substantially as described with reference to the drawings.

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EDITORIAL NOTE

APPLICATION NUMBER – 16777/01

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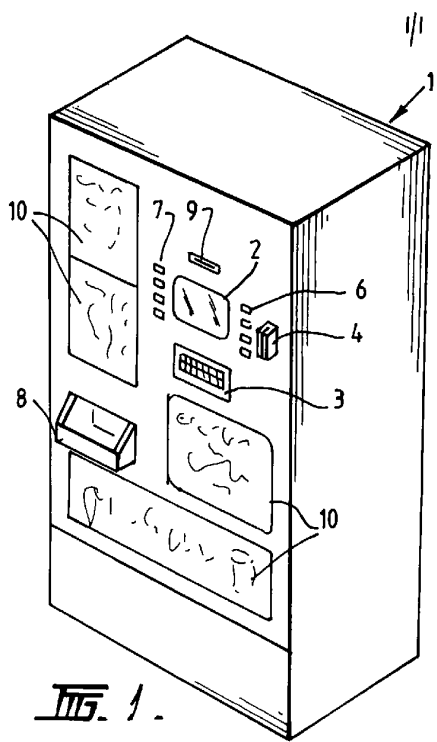


FIG. 1.

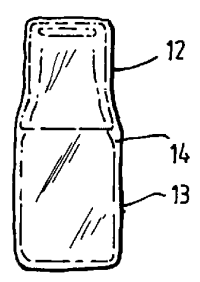


FIG. 4.

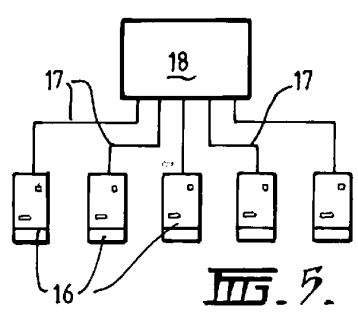


FIG. 5.

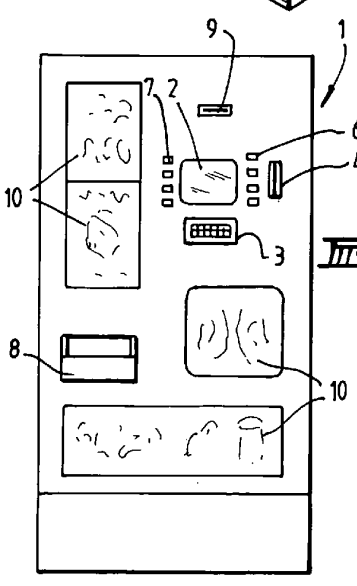


FIG. 2.

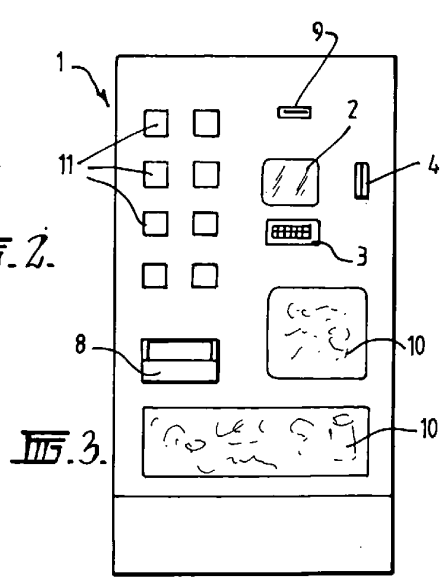


FIG. 3.