It is desirable to establish vending services as a stand-alone operation, that is, similar to a coin laundry and gasoline station. It is the objective of this patent application to devise means and methods to make it feasible. This objective is achieved by surrounding vending machines with an intrusion-proof cage, and placing all the interactive devices (money-inserting boxes, item-retrieving box, etc.) outside of the cage. In order to lessen the negative feeling people would have on the cage, some items and figures in the forms of vicious wild animals, devils, etc. can be placed inside the cage so as to create an atmosphere that the cage exists there to keep them in, not to keep customers out.
INTRUSION-PROOF SELF-SERVICE VENDING FACILITY

TECHNICAL FIELD

[0001] This invention relates to merchandise vending machines.

BACKGROUND ART

[0002] All Laundromats are self-service operated. Gasoline stations have been switched to automated self-service systems during the last decades. Such a trend is desirable because it saves operating expenses and can offer 24-hour service. Similar changeover is desirable in the merchandise retail business. At the present time, only small-scale vending machines are located in small corners inside buildings. It would be desirable to establish a stand-alone self-service retail store.

[0003] However, one encounters major problems and issues when he tries to do that. Two such problems are vandalism and theft. Unlike laundry and gasoline, typical retail merchandise items such as candies, cookies, cigarettes, soda drinks, etc. are attractive items. Another issue is that current retail stores have cashiers who often chat with customers, while self-service retail stores would have no such person; hence, self-service retail stores could be perceived as boring places to visit. These factors, among others, have sufficiently discouraged the conversion of normal retail services to large-scale, standalone self-services.

SUMMARY OF THE INVENTION

[0004] Accordingly, it is the objective of this patent application to devise means and methods that solve the security problem mentioned above.

[0005] An accompanying objective is to make a self-service retail store attractive and entertaining, so that it will not be perceived to be boring.

[0006] The first objective is achieved by surrounding vending machines with an intrusion-proof cage, and placing all the interactive devices (money-inserting boxes, item-retrieving box, etc.) outside of the cage. However, installing such a cage would cause a negative impression on potential customers. In order to lessen this negative effect, some items and figures can be placed inside the cage so as to create an atmosphere that justifies the existence of the cage. For example, the figures may be in the forms of vicious wild animals. In this case, the purchasing activity would look somewhat like a safari expedition. Then the cage seems necessary to keep them inside, not to keep customers out. It is only for display, but it will lessen negative feelings to a certain extent. This will also make shopping less boring, especially for younger customers. The figures may be in the forms of monsters, devils, chain-gang prisoners, or anything else one can imagine.

[0007] Various means and methods will be described.

BRIEF DESCRIPTION OF DRAWINGS

[0008] FIG. 1 shows the basic idea of the present invention.

[0009] FIG. 2 shows a plan view of the sketch in FIG. 1.

[0010] FIG. 3 shows the same as in FIG. 1, except that some figures are placed inside the cage.

[0011] FIG. 4 shows the same as in FIG. 3, except that the customer has an aiming device in his hand.

[0012] FIG. 5 shows a plan view of the sketch in FIG. 4.

[0013] FIG. 6 shows the vending facility of FIG. 4 mounted on a transportable base.

DETAILED DESCRIPTION

[0014] FIG. 1 shows the basic concept of the present invention in a highly schematic fashion. FIG. 2 shows its plan view.

[0015] Referring to FIG. 1 and FIG. 2, a vending machine, a group of vending machines, or similar apparatus is represented by a square area 1. The exact nature of the vending machines is not a concern in this invention. The vending machine 1 is enclosed in a security barrier or cage 2, which may be of any form so long as it makes an intrusion from the outside very difficult. The most common form is using very heavy gauge iron bars to form a cage that is similar to a prison cell or animal cage in a zoo. Another form is safety or bullet-proof glass, or temper-proof Lexan plastic sheet.

[0016] Even though the cage 1 is made of bars in one-dimensional array in FIG. 1, it can be made of two-dimensional array of bars to make it more secure.

[0017] Since the vending machines are separated from a customer by the security barrier 2, the interface devices 3, such as money deposit devices, item-selection buttons, coin return lever, etc. should be moved from the vending machines to the outside of the cage 2. The money may be in the form of coins, paper money, credit cards, ATM or the likes.

[0018] The item-retrieval exit 5, through which selected items are delivered to the customers, should be extended from the vending machines to the outside of the cage 2 as depicted in FIG. 1 and FIG. 2.

[0019] Keeping some distance between the vending machines 1 and the barrier 2 would enhance the security. The distance could be one to two feet.

[0020] Keeping customers 4 outside the cage 2 would not give a good feeling to them, because it is obvious that they are treated as suspects who might destroy others' property to steal things. It is important to smooth these customers' negative feeling. In order to lessen this feeling, some FIGS. 6a, 6b, 6c can be placed inside the cage 2, as shown in FIG. 3. These figures are supposed to pose danger to people. Such figures include vicious wild animals, poisonous snakes and insects, etc. These can be plastic or stuffed figures. When a customer approaches, or deposits in the money deposit devices 3, the figures can make sounds and/or even move, so as to create a more realistic and scary atmosphere. This way we can pretend that the cage 2 exists not to keep the customer out, but to keep these FIGS. 6a, 6b, 6c inside for the customer's own safety.

[0021] The figures may be imaginary creatures such as devils, dragons, dinosaurs, etc.
The figures may be prisoners that look ill tempered and dangerous.

As described above, since the vending machines are inside the cage, the buttons and knobs should be installed outside the cage. Alternatively, the buttons and knobs may be controlled remotely. The most rudimentary approach is to provide an elongated object that can be used to reach over a distance, such as one or two feet. Another preferred approach is to use beams, such as infrared light or the likes, in a way similar to how remote controls for television or video players work. The aiming device may be made in the same shape as a television remote control.

Some selection buttons may be in the form of targets. Target-like objects are installed on the vending machines. The remote control described above then may take the form of a stick or rifle. Some younger customers may feel more excited if he is pretending to shoot at his items.

Because the vending facility is secure from vandalism and theft to a large extent, it can be parked outdoor such as roadside, fairground, amusement parks, etc. One useful embodiment for such circumstances is shown in FIG. 6, in which the vending facility shown in FIG. 4 is mounted on a carrier that can be transported around.

Obviously many modifications and variations of the present invention are possible in light of the above teachings. It is therefore to be understood that, within the scope of the appended claims, the invention may be practiced otherwise than as specifically described.

1. An intrusion-proof self-service merchandise vending facility comprising:

   self-service vending machines or the likes (1) and a cage (2), wherein the cage (2) is made of such materials as to make intrusion difficult, the self-service vending machines or the likes (1) are enclosed inside the cage (2), the interfacing devices (3) for the vending machines or the likes (1) are removed from the vending machines and placed on or near the cage (2), and the item-retrieval exit (5) of the vending machines or the likes (1) is extended from the vending machines or the likes (1) to the outside of the cage (2).

2. The invention according to claim 1, wherein the interfacing devices (3) include a remote control device similar to a conventional television remote control device.

3. The invention according to claim 1, wherein the interfacing devices (3) include a device which has the form of a rifle.

4. The invention according to claim 1, wherein the distance between the vending machines or the likes (1) and the cage (2) is more than one foot.

5. The invention according to claim 1, wherein the whole vending facility as described is mounted on a carrier that can be transported.

6. An intrusion-proof self-service merchandise vending facility comprising:

   self-service vending machines or the likes (1), a cage (2), and figures (6), wherein the cage (2) is made of such materials as to make intrusion difficult, the interfacing devices (3) for the vending machines or the likes (1) are removed from the vending machines and placed on or near the cage (2), and the item-retrieval exit (5) of the vending machines or the likes (1) is extended from the vending machines or the likes (1) to the outside of the cage (2), and the figures (6) are of such a nature that they are supposed to be separated from the public for the safety of the people, whereby a pretended impression is created that the cage (2) exists not to keep the people out but to keep the dangerous figures (6) in.

7. The invention according to claim 6, wherein the figures (6) are in the form of living animals that are found in the wilderness, jungles or the likes.

8. The invention according to claim 6, wherein the figures (6) are in the form of imaginary creatures such as devils, dragons, etc.

9. The invention according to claim 6, wherein the figures (6) are in the form of prisoners.

10. A method to prevent forced intrusion into self-service vending machines or the likes, in which the self-service vending machines or the likes (1) are enclosed inside a cage (2), the cage (2) is made of such materials as to make intrusion difficult, the interfacing devices (3) for the vending machines or the likes (1) are removed from the vending machines and placed on or near the cage (2), and the item-retrieval exit (5) of the vending machines or the likes (1) is extended from the vending machines or the likes (1) to the outside of the cage (2).

11. A method to prevent forced intrusion into self-service vending machines or the likes, in which the self-service vending machines or the likes (1) are enclosed inside a cage (2), the cage (2) is made of such materials as to make intrusion difficult, the interfacing devices (3) for the vending machines is removed from the vending machines and placed on or near the cage (2), the item-retrieval exit (5) of the vending machines or the likes (1) is extended from the vending machines or the likes (1) to the outside of the cage (2), and the figures (6), which are of such a nature that they ought to be isolated from the public for the safety of the people, are placed inside the cage so as to create an impression that the cage (2) exists not to keep the people out but to keep the dangerous figures (6) in.

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