



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
01.01.2014 Bulletin 2014/01

(51) Int Cl.:
G07F 11/00 (2006.01)

(21) Application number: **13003025.7**

(22) Date of filing: **13.06.2013**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME

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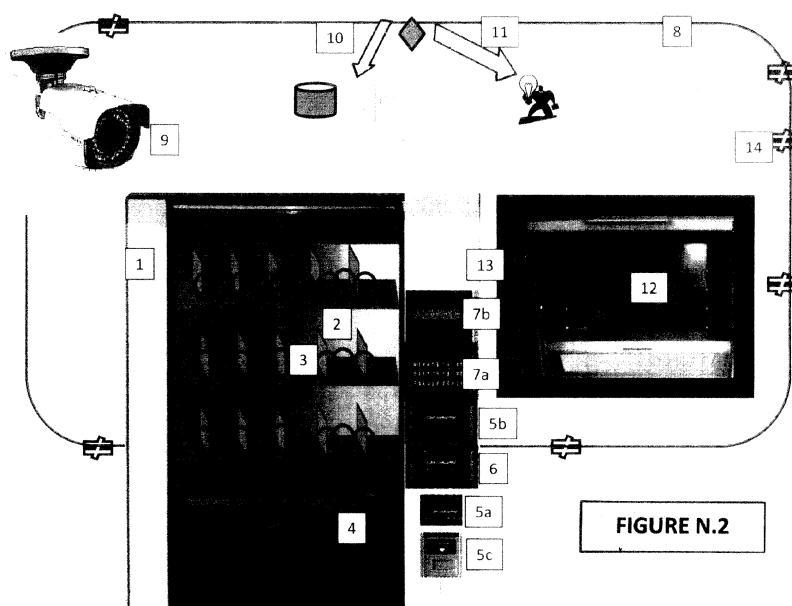
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(30) Priority: **28.06.2012 IT MI20120242 U**

(54) **Automatic dispenser of products to manage foods and beverages retail distribution and protection and communication systems**

(57) The refillable automatic dispenser of consumer products integrated in shop window of foods and beverages retailers may enable to distribute products automatically also during closing hours to shop owners who cannot or do not want to manage the shop personally all over the day. It is dedicated in particular to foods and beverages shops, supermarkets, bars and pubs. The apparatus we are discussing about is positioned in an external facade of the shop. The automatic dispenser, shaped as a parallelepiped, has internal sections adjustable in dimensions and temperatures and shows externally the available products. It has tools to pay through the insertion of notes and coins, and also payments through credit or prepaid cards are possible. The illustrative display

communicates prices and other information. A screen is used for informative, promotional, advertising and entertainment communication, which can be customized. A system of shatterproof and burglary proof sensors positioned in the shop window and to protect the other tools allows to prevent and contrast shatter and burglary. A video camera to shoot the environment in front of the shop window increases furthermore the protection level. Using this system, sales can be increased, also for products which otherwise would be wasted. Safety increases, as it becomes very unlikely that someone tries to break the shop window risking to be filmed. During closing hours, the shop appearance is very improved: from closed shutters to "talking" windows.



Description

[0001] The refillable automatic dispenser of consumer products integrated in shop window of foods and beverages retailers may enable to distribute products automatically also during closing hours to shop owners who cannot or do not want to manage the shop personally all over the day. This system enables a sales increase, also for perishable products which otherwise would be wasted. For instance we can think about fresh milk expiring the next day, which cannot be sold the day after, but can be purchased by people who want to drink it the next morning. Safety increases, as it is very unlikely that someone tries to break the shop window risking to be shot by a video camera which can also be connected with surveillance centers. During closing hours, the shop appearance is very improved: from closed shutters to "talking" windows, with the retailer who can also "discuss" friendly with his customer through the monitor. The shop owner can leave his shop without necessarily lose all of the possible sales. Some kinds of consumer products dispensers are available in closed locations, eg. offices, or at transportation stations. Such dispensers are conceived as "cupboards" refilled by external firms using standard assortments, with various problems for assortment and commercial reasons: these dispensers are in competition with the traditional retailers, the assortments are almost entirely made by dried products which are not first necessity but yummy, we can find snacks and nuts but not bread or milk. There are then big technological problems: the communication and repairing of breakages is not fast, sometimes it is the customer who should take the initiative to contact the repairing firm by phone (rarely happening), cleaning is not always excellent (take in mind that we are talking about dispensing foods), safety levels are relatively low (preventing shatter and burglary may be difficult), in practice there is no communication towards the customer from the machine. In addition, usually the customers do not know who are the suppliers of the foods that they are buying. The proposed apparatus enables a certain level of distributive automation for the needs of the traditional retail. Instead of machines working independently from the surrounding environment, machines increasing distribution capabilities for the needs of retailers who already trade in direct way. Adaptations are necessary with reference to either technological, distributive and location matters, related to dispensers dimensions, positioning, kinds of products sold, payment functions, safety and hygiene conditions and, maybe, also communication levels with the customer. The dispenser (Figure nr. 1, "A"), shaped as a parallelepiped, integrated in the shop window, enables products distribution, and can be opened by the shop owner to be refilled. The meaning of "integrated in the shop window" is positioned in a shop window facing external space. "Shop window" means therefore "external facade" and is not necessarily referring to a glass surface, even if this will be the ordinary situation. The case of the dispenser (Fig-

ure nr. 2, "1") is made of stainless steel or other kinds of metal or alloy or plastic with features of hits and wear standing, with parts in plastic and glass. The dimensions are variable depending on the kind of shop, shop window and products assortments which will be offered. The dispenser positioning in height is set in a way to make easy correct visualization and management of the various tools. The front face of the dispenser is transparent to allow visibility of the offered products ("2"). The described dispenser will mainly be positioned in the front face of foods and beverages shops, supermarkets, bars, pubs. The internal sections containing the products ("3") can be adjusted in dimensions and temperatures, to make possible conservation of dried and fresh products of various dimensions. Each section is marked by a code corresponding to a product. The customer who wants a particular product needs to digit the corresponding code on the selection keyboard ("7a"). The related price and other possible information (about products availability, breakages, etc.) appear on the display ("7b"). On customer confirmation, the machine requires to insert coins (in slot "5a") or notes (in slot "5b"), dispensing the possible change in mouth "5c". At the same time the selected product drops in drawer "4" and can be picked up opening the related door. The shop owner will daily take off the money opening a dedicated box which collects it. Furthermore, prepaid personal cards can be used. In this case, cards will be inserted in slot "6". Prepaid cards can be used in two ways. In the first case, only the data about the residual credit are associated. In the latter case, other data are also stored, firstly the "status" of customer, secondly some personal data, and possibly data related to previous purchases or preferences of the specific customer. After inserting the card, the display "7b" or the monitor "12" will be able to show possible dedicated promotions or price conditions for the specific customer. Other kinds of messages could be showed, as indicated in the continuation with reference to monitor "12". Prepaid cards therefore are useful to reduce cash payments, anticipate incomes of the shop owner but also customize the service. For example, if a retailer wastes on average 5 "brioches" per day, using this system and the cards he can be able to sell some brioches "in anticipation", and he can therefore practice some discounts on products that otherwise would be completely lost. There is some difference between wasting 35 brioches per week or selling 20 of them with anticipated income! Microprocessors included in the machine then allow to store selling data associated with a particular card, and this makes possible to know the preferences of each customer through analysis of the related information flows and to structure further dedicated special offers or promotions. Mouth "6" can also be used to pay using the ordinary credit cards. The protection system increases safety levels. Video camera "9" is positioned in the facade of the shop to shoot activities happening in front of the shop window. Shatterproof and burglary proof sensors ("14") are positioned in the shop window and to protect video camera "9" and monitor

"12", and they communicate shatter or burglary attempts. The communication system "8" can then send the related data flow to alarm or registration tools of the shop owner (arrow "10"), or to external organizations like surveillance centers (arrow "11"). A screen ("12") allows informative, promotional, advertising and entertainment communications. The messages showed can refer to the purchase being carried out, to the shop or also to different subjects. Messages can be informative (eg.: products features, usage of dispenser, further information), promotional (eg.: discounts, special offers), advertising (eg.: commercials, messages) or entertainment. The screen activates when a customer begins to operate, or when somebody is detected in the area in front of the shop window. If a personal card is inserted, different options are possible, for example the favourite shop clerk of the customer may appear calling him/her by name. All the described activities are coordinated by microprocessors for the setting and recording of sales and communication activities (13). Possible needs to store large quantities of data (among which, for example, video flows from the video camera and video messages on the screen) are solved using digital memories accessible from the shop owner. Figure 1 shows a possible positioning of the described apparatus in the shop window of a shop. "A" is the dispenser, "B" the video camera, "C" the screen. A patent is required and, at the same time, if this request could not be accepted as it is, the possibility to access every possible conversion faculty stated by the relevant rules, including the acceptance of some of the required claims or the conversion of the present application in an application for utility model, keeping the possibility to appeal possible decisions not entirely coincident with the original application. At the same time, we are available to proceed with further clarifications, modifications or integrations if required by the Office.

Claims

1. Refillable automatic dispenser of consumer products integrated in shop window facing external space to manage foods and beverages retail distribution, shaped as a parallelepiped, with internal sections adjustable in temperature and dimensions, with a compartment to extract the selected products
2. The dispenser according to claim 1, in relation to its positioning in the face of foods and beverages shops, supermarkets, bars and pubs
3. The dispenser according to claim 1, with apparatuses for the payment by means of inserting coins and notes, compartment to take the change and box for the accumulation and the withdrawal of the coins and notes used to pay
4. The dispenser according to claim 1, with payment

system through the insertion of prepaid cards, where individual data of the customer are stored, or through credit cards

5. The dispenser according to claim 1, with a keyboard to digit choices as products selector or to digit codes for prepaid or credit cards
6. The dispenser according to claim 1, with an illustrative display communicating prices and other information, among which shortages and possible breakages
7. The apparatus according to claim 1, with shatter-proof and burglary proof sensors system distributed on the front face and to protect the instruments described in claims 1, 8 and 11
8. The apparatus according to claim 1, with video camera to film the environment in front of the shop window
9. The apparatus according to claim 1, with communication systems from the sensors of claim 7 and from the video camera of claim 8 to recording and alarm systems managed by the owner of the shop
10. The apparatus according to claim 1, with communication systems from the sensors of claim 7 and from the video camera of claim 8 to external organizations
11. The apparatus according to claim 1, with a screen for informative, promotional, advertising and entertainment communications
12. The apparatus according to claim 1, with microchips for the setting and recording of sales and communication activities

