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(54) **Process for managing calorie-consumption in vending machines of food products**

(57) The present finding concerns a process for managing calorie-consumption in vending machines of food products, identified with the term snacks, i.e. food and drink consumed by people of all ages, at any time of day, but mainly half way through the morning, half way through the afternoon and after the evening meal. Such a process

is characterised in that the general operating programme of vending machines is added to with further functions that allow the calorie content of the individual products for dispensing to be memorised, in addition to the cost.

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Description

[0001] The present finding concerns a process for controlling and managing calorie-consumption in vending machines of food products.

[0002] A substantial part of the field of vending concerns vending machines of food products identified with the term snacks, i.e. food and drink consumed by people of all ages, at any time of day, but mainly half way through the morning, half way through the afternoon and after the evening meal.

[0003] The food products vended through vending machines are highly varied and range, within the field of solid foods, from sweet baked snacks to bars of chocolate, from filled rolls to brioches, from mini-pizzas to crackers, from crisps to biscuits and, within the field of drinks, from fruit juices, to all types of sweet, hot or cold drinks.

[0004] The widespread vending of vending machines, now present in very many locations, both public and private, as well as the ease of payment through the so-called "prepaid credit" method, which uses a prepaid electronic support, such as a card or electronic key, from which, each time something is bought, the value of the product taken is deducted, has led to a substantial increase in the purchase of food products, which, both because of their composition, and because of the function that they have to carry out, are substantially high in calories.

[0005] Such ease of access to snack products is, however, particularly harmful in public places like schools, gyms and in other social meeting places that children go to, where indiscriminate and uncontrolled purchasing of these products takes place with the consequence that, due to their high calorie content, they are considered one of the factors most responsible for child obesity.

[0006] To better highlight the interaction between obesity and the consumption of snack foods we refer to a recent survey in which it was discovered that 1800 children involved in the survey consumed about 4 portions of snacks (including both food and drinks) per day, for a given overall weekly average of 28-30 portions.

[0007] The purpose of the present finding is to make vending machines of food products in which it is possible to substantially reduce or even eliminate the drawbacks deriving from excessive consumption of high-calorie products.

[0008] A further purpose of the finding is to define a process for using vending machines with the "prepaid credit" payment system, which makes the user responsible for selecting the product in relation to the calories contained in it.

[0009] A further purpose of the finding is to define a process for using vending machines through a card or key with electronic memory, which regulates the possibility of taking particular products to be dispensed, in relation to their calorie content.

[0010] A further purpose of the finding is to define a

process for using vending machines through a card or key with electronic memory, which regulates the possibility of taking particular products to be dispensed, in relation to the type of user (infant, child, adult).

5 **[0011]** Such purposes are obtained through a process in which the general operating programme of vending machines is added to with further functions that allow the calories of the individual products for dispensing to be memorised, in addition to the cost.

10 **[0012]** Such purposes are obtained through a programme inserted into the electronic payment support (card, key with electronic memory or other means suitable for the purpose), which, in addition to the remaining credit, also counts the amount of calories of each individual product taken and sets a maximum calorie value, within a predetermined time period. When such a maximum value is exceeded no further items can be taken, apart from specific products containing little or no calories.

20 **[0013]** In practice, with the process according to the finding, a sale able to be carried out through an electronic support (card or key) is made, which is only made possible if, in addition to having sufficient credit in money, the card or key also has an available calorie value that is greater than or at least equal to the value of the calories contained in the product to be dispensed.

25 **[0014]** In this way the maximum amount of calories that the owner of the card/key can consume in a very precise time period is defined, be it for one day, one week or one month, or other time periods.

30 **[0015]** Operatively, during the selling operation of the product and before the user takes it from the vending machine, with the process according to the finding, the price of the product is deducted from the amount of credit available and the amount of calories contained in the aforementioned product to be taken is deducted from the counter of calories still available for the designated period, of course until they have run out, after which it shall only be possible to buy specific products containing little or no calories.

35 **[0016]** When the designated period for the control of calories available and those actually consumed has expired, with the first subsequent insertion of the key into the vending machine the calorie counter is automatically recharged, so as to credit an amount of calories available for the whole of the next designated period, with the same parameters as the previous charge.

40 **[0017]** Moreover, in the case in which the user has not used all of the calories available to them in the designated period, upon expiry and in the next period the process foresees that recharging takes place to the maximum calorie value allowed for that new period, without accumulating the calories not used in the previous control period.

45 **[0018]** Advantageously, in order to maximise the service through the definition of a diversified calorie allowances, according to the different types of user (infant, adolescent, adult), the process foresees the provision of

different categories of maximum calorie allowance memorised on electronic supports (cards/keys), associating a different maximum calorie value available for a certain period with each category.

[0019] In this way it shall be possible to differentiate the calories available by age, sex or other suitable criterion (for example whether and how much a person is overweight).

[0020] In the case in which the electronic support owned by a user has used up the available calories, or else in the case in which the category of the key, identified through a suitable code memorised in the key itself, is not compatible with the operating system of the vending machine, the user can only buy from the aforementioned vending machine the products with calories set at value "0" (for example mineral water, low-calorie fruit or sugar-free drinks).

[0021] Finally, it can be foreseen that the vending machines be enabled for payment in cash, i.e. without the use of a card or key, only for the purchase of products with calories set at value "0".

[0022] Obviously, the process according to the finding is intended to be applied to all fields of sale that use an electronic payment support that, as well as a card or electronic key, can consist of other devices, which may not be well-known or little developed or even totally unknown at the moment, without, for this reason, departing from the scope of the claims, defined hereafter.

Claims

1. PROCESS FOR MANAGING CALORIE-CONSUMPTION IN VENDING MACHINES OF FOOD PRODUCTS, identified with the term snacks, i.e. food and drink consumed by people of all ages, at any time of day, but mainly half way through the morning, half way through the afternoon and after the evening meal and that range, for example within the field of foods, from sweet baked snacks to bars of chocolate, from filled rolls to brioches, from mini-pizzas to crackers, from crisps to biscuits and, within the field of drinks, from fruit juices, to all types of sweet, hot or cold drinks and where said vending machines, present in very many locations, both public and private, the payment of which takes place through the so-called "prepaid credit" method, which uses a prepaid electronic support, such as a card, electronic key or other means suitable for the purpose, from which, each time something is bought, the value of the product taken is deducted, said product being **characterised in that** the general operating programme of vending machines is added to with further functions that allow the calorie content of the individual products for dispensing to be memorised, in addition to the cost.

2. PROCESS, according to claim 1, **characterised in**

that the operating programme, inserted into the electronic payment support, card, key with electronic memory or other means suitable for the purpose, has the possibility of counting, in addition to the remaining credit, also the amount of calories of each individual product taken so that, having set a maximum calorie value to be consumed within a predetermined time period, when such a maximum value is exceeded no further items can be taken, apart from products with "0" calorie content.

3. PROCESS, according to claim 2, **characterised in that** a sales operation can be carried out through an electronic support (card or key) and is made possible only if, in addition to having sufficient credit in money, the card or key also has an available calorie value that is greater than or at least equal to the value of the calories contained in the product to be dispensed.

4. PROCESS, according to claim 3, **characterised in that** the maximum amount of calories that the owner of the card/key can consume is contained within a time space, such as a day, a week, a month or other similar periods.

5. PROCESS, according to one or more of the previous claims, **characterised in that** during the sales operation of the product and before the user takes it from the vending machine, the price of the product is deducted from the amount of credit available and the amount of calories contained in the aforementioned product to be taken is deducted from the counter of calories still available for the designated period.

6. PROCESS, according to one or more of the previous claims, **characterised in that**, when the designated period for the control of calories available and of those actually consumed has expired, the first time the key is next inserted into the vending machine the calorie counter is automatically recharged, so as to credit an amount of calories available for the entire designated period, with the same parameters as the previous charge.

7. PROCESS, according to one or more of the previous claims, **characterised in that** it foresees different categories programmed into the electronic supports, associating a different maximum calorie value available for a certain period with each category, identified for the different types of user, from infant, to child, to adult.

8. PROCESS, according to one or more of the previous claims, **characterised in that**, when the electronic support owned by a user has used up the available calories before the end of the predetermined time period, the user can only use the prepaid credit to

buy the products with calories set at value "0" (for example mineral water, low-calorie fruit or sugar-free drinks).

9. PROCESS, according to one or more of the previous claims, **characterised in that** in the case in which the category of the electronic payment support, identified through a suitable code memorised in the support itself, is not compatible with the operating system of the vending machine, the user can only use the prepaid credit to buy from the aforementioned vending machine the products with calories set at value "0". 5 10
10. PROCESS, according to one or more of the previous claims, **characterised in that** it foresees that the vending machines are enabled for payment in cash, i.e. without the use of a card or key, only for the purchase of products with calories set at value "0". 15 20
11. VENDING MACHINE, **characterised in that** it operates with a process according to one or more of the previous claims.
12. PREPAID SUPPORT, such as a card, and electronic key or other devices suitable for the purpose, **characterised in that** it can operate with the process according to one or more of the previous claims. 25 30

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