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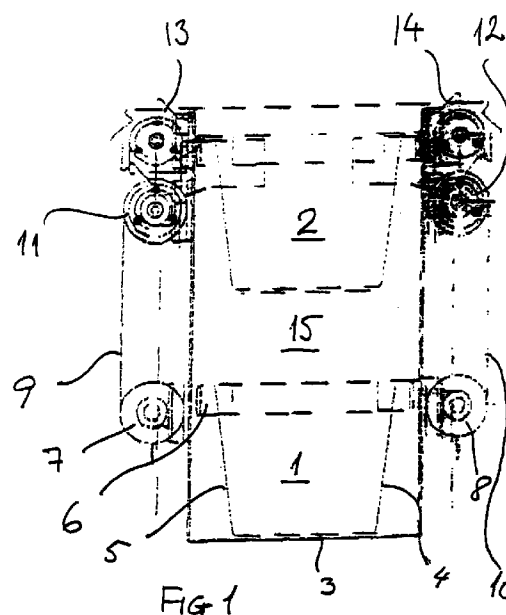
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(54) **Basket machine**

(57) The object of the present invention is an automatic machine for receiving, storing and handing out of shopping baskets. In the machine there takes place a control of received baskets concerning their kind and condition. The machine is also intended to make possible the taking of a deposit for the use of a basket.

When a basket is input to the basket machine it is conveyed into the box 15 at a position which is marked by the basket 1. In this position there is an identification or control of the basket by electronic or mechanical means. The accepted basket is brought upwards to the position which in the figure is marked by the basket 2, where it is gripped by toothed wheels 13, 14. In another embodiment of the invention the input and handing out of baskets is from the top of the storage.



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Description

The present invention is for a shopping basket automatic machine for receiving, storing and handing out of shopping baskets for commodity retail stores and the like.

In retail stores of different kinds there is often used a self service system by which the shop supplies baskets which are used by the shoppers, who themselves pick up the goods that they want to buy, put them into the basket and bring them to the cashier at the exit. A common system for handling of these baskets is to collect them into stacks, stacked upon each other by the cashiers desk. It is also common that a simple carriage is used as a base for the stack and to bring it to the entrance of the shop after it has reached a certain height. The supply of baskets and picking of baskets from the stack is from the top side without any checking whatsoever of the basket as to its kind, type and general condition. Neither is there any control of the proper positioning that e.g. a folding handle has been correctly folded. This may bring with it problems with the handling of the baskets in the shop and there is no checking that damaged baskets are taken out of circulation. There is no fee or deposit for the use of the basket, which causes losses and other misuse by the handling of the baskets.

The object of the present invention is an automatic machine for receiving, storing and handing out of shopping baskets. In the machine there is a control of the baskets which are received as the kind and condition of the basket. The machine is also intended to make it possible to take a deposit for the use of a basket, where this deposit is returned when the basket is returned. The invention will below be described with reference to the examples of embodiments which are shown in the enclosed figures.

Figure 1 shows a machine in a side view.

Figure 2 shows the machine of figure 1 in a side view at right angle to figure 1.

Figure 3 shows the device of figures 1 and 2 from the top.

In all of the figures the machine is partly in cross section.

The machine shown in figure 1 comprises a container 15 being a rectangular box having its largest dimension in vertical direction. The height of the box is adapted to the intended use and is shown in the figures without its top. In figure 1 there is also shown a basket 1 in the position where it is by receiving or handing out and a basket 2 which is the lowermost basket of a stack of baskets in the machine.

When a basket is supplied to the machine it is brought inside the box 15 at a position marked by the basket 1. The baskets are of conventional design having a bottom 3, side walls 4 and 5 and an upper, surrounding brim 6. The dimensions of the brim 6 are close to those of the inside of the box or container 15. When a basket is supplied to the machine this is done at the bot-

tom of the container as shown by the basket 1. In this position and using electronic or mechanical means there takes place an identification or control of the basket. This may comprise a verification of that the basket is a part of the system which is operated by the machine which can be done by checking certain characteristic outer shapes or by that the basket has been marked with a bar code or in another way. It is also possible to control that the basket does not have serious damages, that a moveable handle is probably folded down and other particulars. In this position the basket is gripped, preferably at the surrounding brim 6, by means of grippers which are arranged on bands, chains or the like 9, 10 running over pulleys 7, 8, 11, 12. These may be mounted in pairs onto shaft and powered by for example electrical motors, which start up automatically after that the basket has been controlled and accepted. The accepted basket is brought upwards to the position, which in the figure is marked by the basket 2, where it is gripped by toothed wheels 13, 14. In the embodiment shown in the figures the basket is supported under the brim 6 by the teeth of the wheels 13, 14 and these are stepped forward a step corresponding to the length of one tooth for each basket that is added to the store. When handing out a basket from the machine the procedure is reversed and the basket is delivered at the lower part of the container 15.

In another embodiment of the invention receiving and handing out of baskets takes place from the top of the storage space. Also in this case there is identification and/or control of an added basket before it is transferred to the basket storage.

Preferably the device comprises a deposit system being a coin slot or other suitable arrangement, such as readers for magnetic cards of different kinds. The handing out of a basket is then started by making a deposit and when the basket is returned it is paid back after that the returned basket has been accepted by the machine. The basket machine may also be activated e.g. by a push-button. Such an embodiment may be used when deposit is not used or combined with deposit.

Various embodiments are possible within the frame of the inventive idea. When a basket is handed out it is not necessary that it is conveyed down by conveyor means 9, 10 but the basket may be allowed to drop from its upper position to the pick out position, conditional to a limited drop height. Other embodiments may mean different methods for conveyance of a returned basket to the above positioned stack of baskets and means for receiving and delivering baskets to and from the storage other than the toothed wheels described above.

Claims

1. Basket machine for the receiving, storage and handing out of shopping baskets where received baskets are controlled and/or identified before they

are transferred from the receiving point to the storage characterized therein that individual baskets (1) are supplied and handed out below the baskets (2) which are kept in the machine and that the storage is positioned vertically above the supply and handing out position. 5

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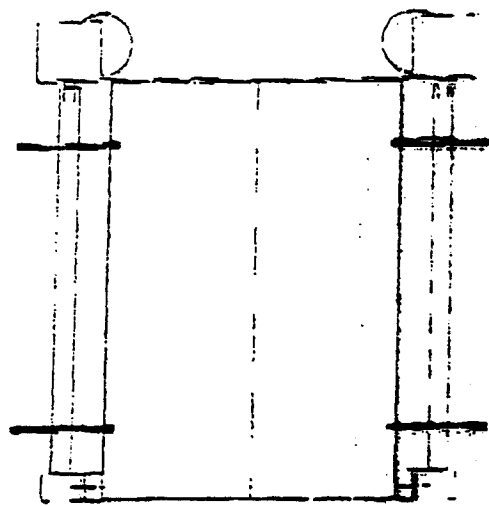
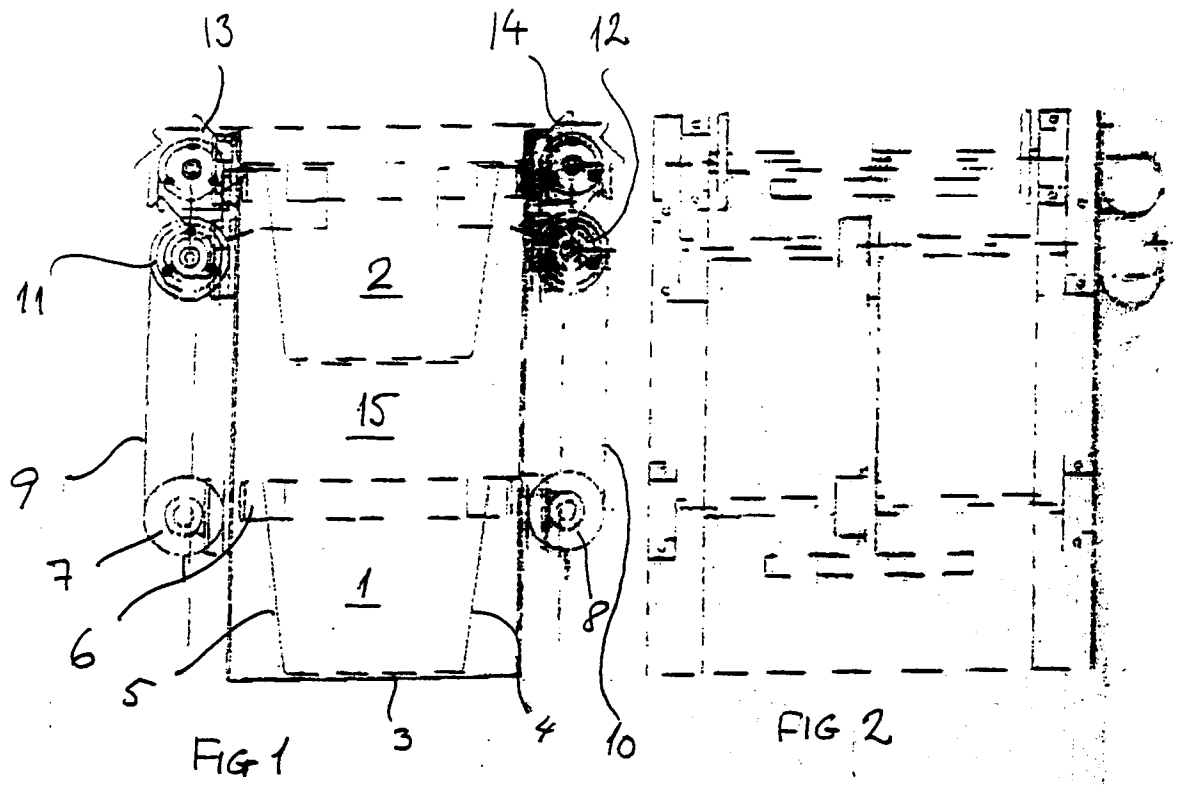


FIG 3