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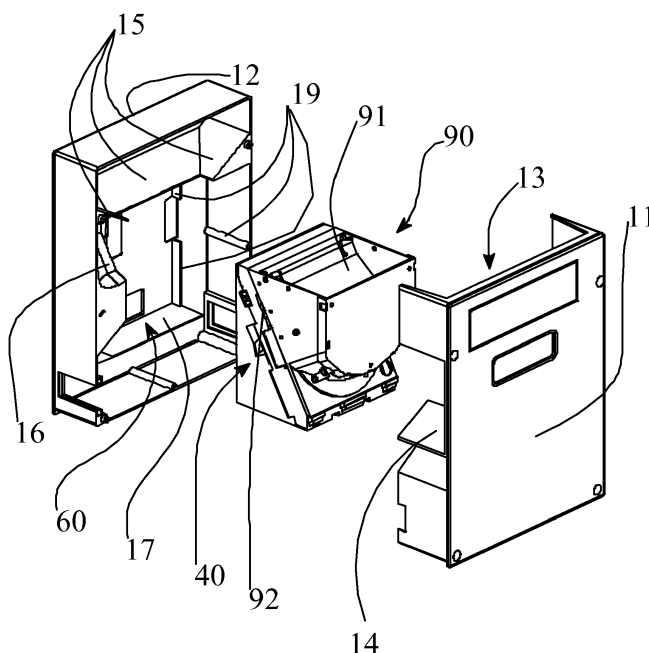
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12) are coupled so that the hopper (91) is aligned with a coin inlet slot (13) to the adapter (1), that the outlet (92) is in communication with at least an outlet slot (14, 18) of the coins coming out from the adapter (1) and that the blocking means (60) lock the dispensing device (90) within the first shell (11) and second shell (12).

**FIG.1**



## Description

### DESCRIPTION

**[0001]** The present invention is in the field of managing coin and token machines and refers to an adapter for coin dispensing device.

**[0002]** Coin dispensing devices, so called hopper, are known of different typology and forms and sizes.

**[0003]** Between the mostly used devices there are the tape or chain hopper having an external parallelepiped form having sizes of about 20x30x15 centimetres that are placed within automatic coin delivery machines or moneychangers.

**[0004]** A known evolution of said hopper is made up by the disc hopper that have numerous advantages respect to the first in terms of reduced sizes, fewer constituent parts, fewer production and management cost, greater versatility and reliability.

**[0005]** The object of this invention is to propose an adapter for coin dispensing device allowing to replace the original tape hopper or chain hopper with disc type hopper in the devices that originally have been designed to house the parallelepiped tape or chain hoppers.

**[0006]** An additional object of the present invention is to propose an adapter that, using the minor sizes of the disc hopper respect to the tape or chain ones, allows to house inside it also a coin separator intended to separate the coins coming from the coin dispensing device on the basis of their value and/or their size, offering in this way an additional function respect to the disc hopper.

**[0007]** The characteristics of the invention are in the followed evidenced with particular reference to the joined drawings in which:

- figure 1 shows an exploded view of the adapter, object of the present invention, inside which is housed a coin disc type dispenser of known type;
- figure 2 shows a plan view of the assembled adapter of figure 1;
- figure 3 shows a front view of the assembled adapter of figure 1;
- figure 4 shows a perspective view of the adapter with associated a separator means;
- figure 5 shows a perspective view of the separator means separated from the assembled adapter of figure 1.

**[0008]** With reference to figures 1-3, numeral 1 indicates the adapter for coin dispensing device 90 of disc type and that includes an hopper 91 full of coins to be supplied and an output 92 of the coins separated supplied by the same device.

**[0009]** The adapter 1 is made by two shells, first 11 and second 12, and from blocking means 60 of the dispensing device 90 inside the shells, first 11 and second 12, in correspondence with an assembly condition A of the same in which the shells 11, 12 are coupled, by suitable

constraint means, to form a parallelepiped box structure. The sizes of the parallelepiped are identical to those standardized of a chain or tape dispensing device in such a way to be interchangeable.

**[0010]** The dispensing device 90 is a disc type dispensing device, therefore in the moneychanger machines, having a chain or tape dispensing device, the disc dispensing device can be replaced with the adapter 1 object of the present invention housing therein a disc type dispenser for carrying out the same functions.

**[0011]** The blocking means 60 include a bracket 17 acting as support base for the support basis of the dispensing device 90 and a plurality of containing baffles 19 obtained on the internal faces of the shells first 11 and second 12 and intended to block sideways the dispensing device 90 within the adapter 1 in the assembly condition A.

**[0012]** The adapter 1 has an inlet slot 13 that is obtained in the upper face of the first shell 11 and is provided with a conveyor slide 15 for the joint of the slot itself with the hopper 91 of the dispensing device 90.

**[0013]** The adapter 1 is provided with an outlet slot 14 that is placed on the front wall of the first shell 11 and that is connected to the output 92 of the dispensing device 90 by a sloping slide 16.

**[0014]** In the assembly condition A, the hopper 91 is in correspondence of the coin inlet slot 13 into the adapter 1 and the output 92 of the dispensing device 90 is in communication with the coin outlet slot 14 from the adapter 1.

**[0015]** The operation of the adapter 1 is conceived in such a way that the coins will come first randomly inserted in the hopper 91 through the inlet slot 13, therefore is activated the dispensing device 90 that will provide to supply single coins at the output 92 and therefore to the device 1 outlet slot 14: this is the same operation that is carried out in a tape or chain dispensing device.

**[0016]** In a variant of the invention, the outlet slot 14 is divided in two parts, first slot 14 and a second slot 18, and the adapter 1 moreover includes separating means 30 interposed between the separated coins output 92 from the dispensing device 90 and the two outlet slots 14, 18. In this way the adapter 1 includes a dispensing device and a coins meter.

**[0017]** The dispensing device 90 includes discriminating means 40 intended to identify each single coin values and logically connected with the separating means 30.

**[0018]** The separating means 30 includes an inlet slot 31 of the separated coins exiting from the dispensing device 90, two coin outlet slots 32 and 33 and switching means 50 fit to convey the coins of same value towards the same outlet slots 32 or 33.

**[0019]** The operation of the adapter 1 according to this variant provides the coins load into the hopper 91 and the distribution of the single coins from the output 92, following by the activation of the dispensing device 90. The discriminating means 40 on the dispensing device 90 are able to identify each single coin value and to com-

municate this value to the separating means 30 and therefore to control the switching means 50.

**[0020]** The single coins, therefore enter into the separating means 30 through the inlet slot 31 and are deviated into the appropriate channel created by positioning the switching means 50 that provide, on the basis of the indication of the value of the moving coin received by the discriminating means 40 on the dispensing device 90, to close one of the two outlet slots 32 or 33 in order to supply from the corresponding outlet slot 14 or 18 always the same value coins.

**[0021]** Advantageously, the separating means 30 includes also discriminator means 41, for example of the same electromagnetic type of the discriminating means 40, intended to identify each single coin and to drive consequently the position of the switching means 50 in order to supply to each outlet slot 14 or 18 always the same value coins.

**[0022]** An additional variant, not shown, provides that the adapter 1 outlet slots are more than two, preferably three, as they are three the corresponding outlet slots of the separator means, preferably to distribute separately the three common value coins of 0,50 euro, of 1 euro and of 2 euro.

**[0023]** The main advantage of the present invention is to supply an adapter for coin dispensing device that permits to replace the original tape hopper or chain hopper with disc type hopper in the devices that originally have been designed to house the parallelepiped tape or chain hopper.

**[0024]** An additional advantage of the present invention is to supply an adapter that, using the minor sizes of the disc hopper with respect to the tape or chain ones, allows to house therein also a coin separator allowing to separate the coins coming from the coin dispensing device on the basis of their value and/or their size, offering in this way an additional function respect to the disc hopper.

## Claims

1. Adapter for coin dispensing device (90) including a coin hopper (91) and an outlet (92) for separated coins, said adapter (1) being **characterized in that** includes at least a first shell (11), a second shell (12) and blocking means (60) for the dispensing device (90) inside the first shell (11) and second shell (12) in correspondence of an assembly condition (A) where the same shells (11, 12) are coupled so that the hopper (91) is aligned to an inlet slot (13) of the coins into the adapter (1), **that** the outlet (92) is in communication with at least an outlet slot (14, 18) of the coins from the adapter (1) and **that** the blocking means (60) lock the dispensing device (90) within the first shell (11) and second shell (12).

2. Adapter (1) according to claim 1 **characterized in**

**that** the dispensing device (90) is a disc type dispensing device.

3. Adapter (1) according to any of the previous claims **characterized in that** has an external parallelepiped boxed shape and has similar size to a chain-type dispensing device so as to be interchangeable.

4. Adapter (1) according to any of the previous claims **characterized in that** the inlet slot (13) is located on the upper surface of the adapter (1) and has a conveyor slide (15) linking to the hopper (91) of the dispensing device (90).

5. Adapter (1) according to any of the previous claims **characterized in that** at least an outlet slot (14, 18) is placed on the front portion of the adapter (1) and is linked to the outlet (92) of the dispensing device (90) through a sloping slide (16).

6. Adapter (1) according to any of the previous claims **characterized in that** the blocking means (60) includes a bracket (17) acting as a base for the dispensing device (90) and a plurality of containment baffles (19) obtained on the inner surface of the shell (11, 12).

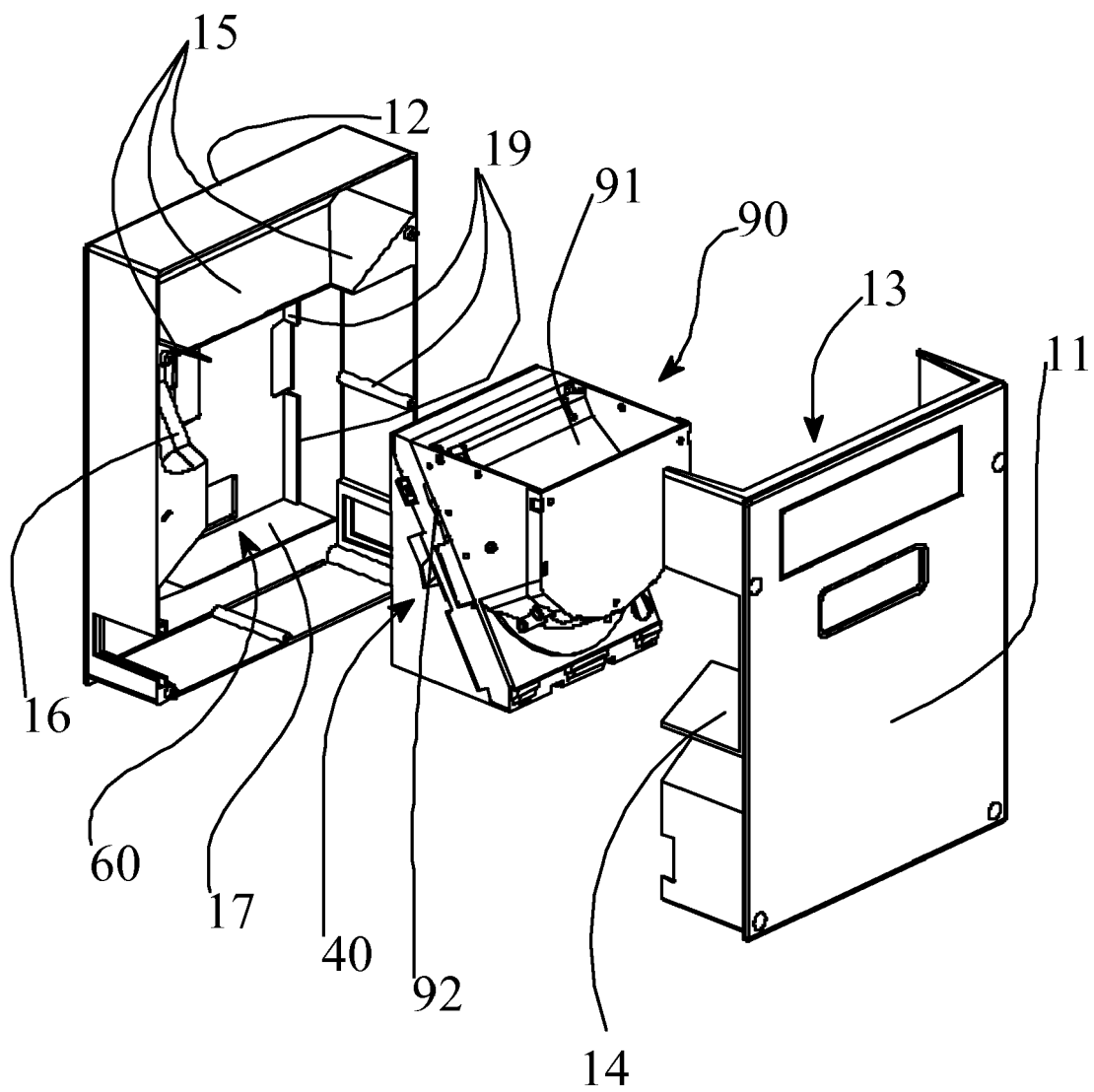
7. Adapter (1) according to any of the previous claims **characterized in that** also includes a separating means (30) placed between the outlet (92) of the separated coins from dispensing device (90) and at least an outlet slot (14, 18) of the coins from the adapter (1).

8. Adapter (1) according to claim 7 **characterized in that** the dispensing device (90) includes discriminating means (40) fit to recognize each coin value and the separating means (30) includes an inlet slot (31) for the separated coins outgoing from the dispensing device (90), at least two coin outlet slots (32, 33) and switching means (50) fit to convey same value coins towards the same outlet slot (32, 33).

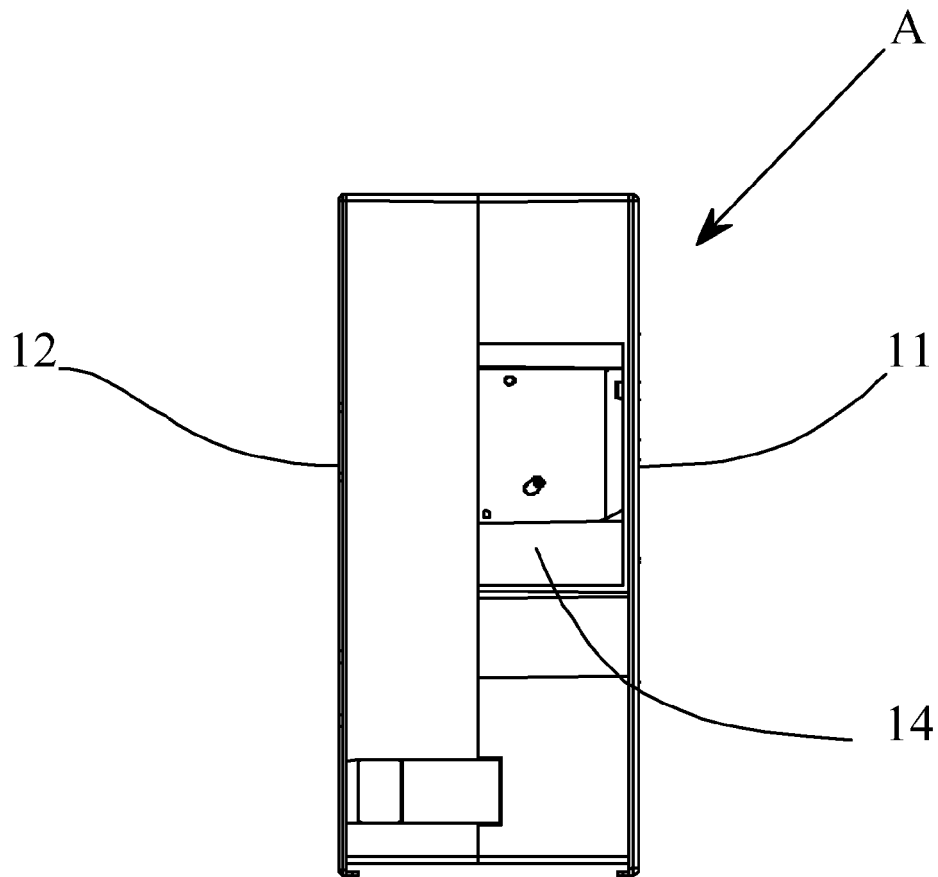
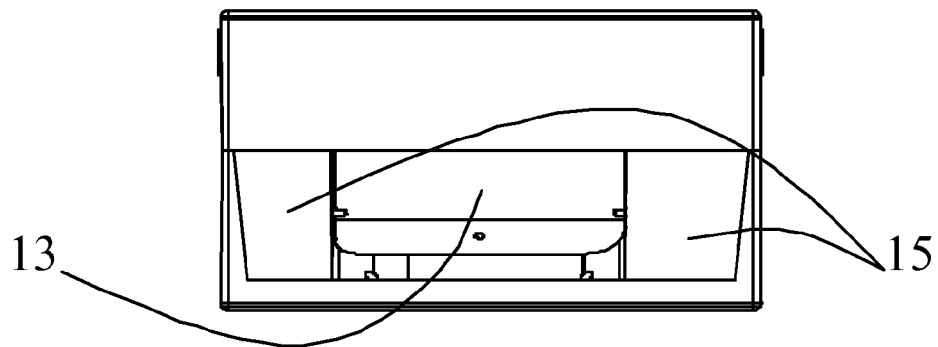
9. Adapter (1) according to claim 7 **characterized in that** the separating means (30) includes an inlet slot (31) for the separated coins outgoing from the dispensing device (90), discriminating means (40) fit to recognize each coin value, at least two coin outlet slots (32, 33) and switching means (50) fit to convey same value coins to the same outlet slot (32, 33).

10. Adapter (1) according any of the claims 7-9 **characterized in that** at least an outlet slot (14, 18) includes more than two outlet slots, preferably the outlet slots (14, 18) are three.

**FIG.1**

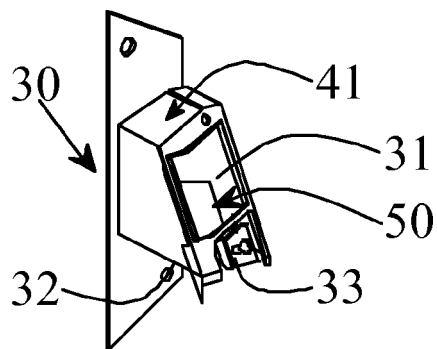
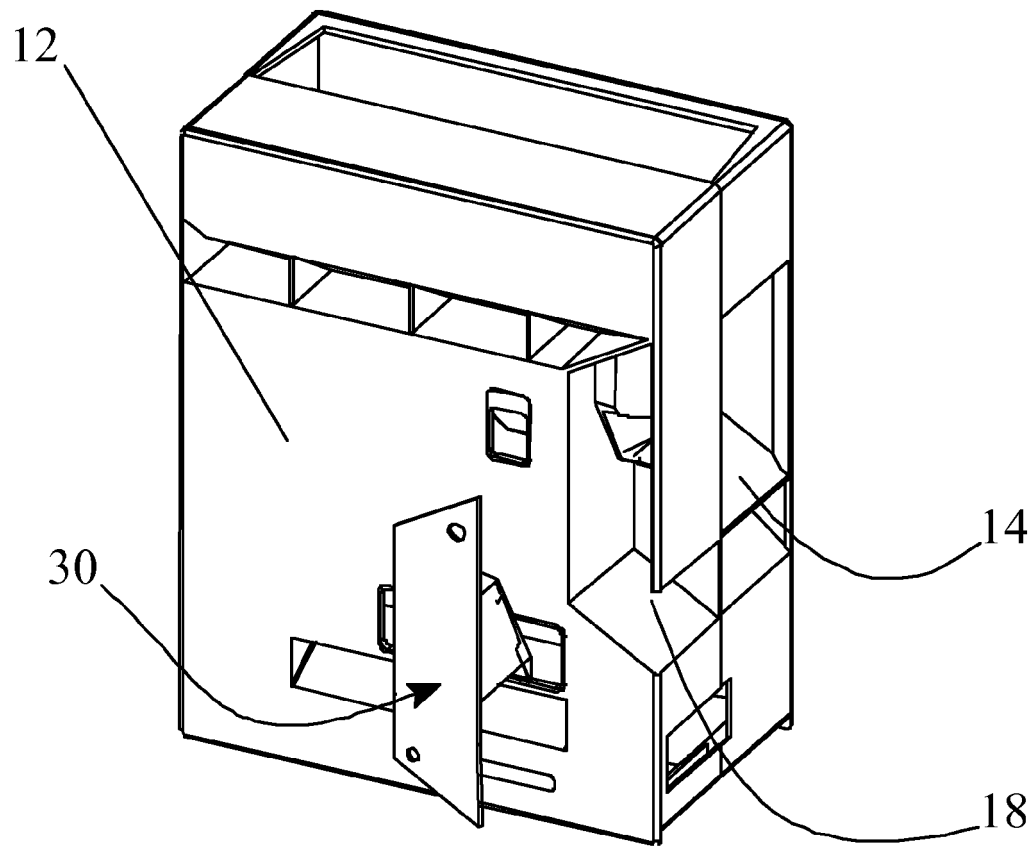


**FIG.2**



**FIG.3**

**FIG.4**



**FIG.5**



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Application Number  
EP 11 16 8405

| DOCUMENTS CONSIDERED TO BE RELEVANT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                              |                                                    |                                                 |
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| The present search report has been drawn up for all claims                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                              |                                                    |                                                 |
| Place of search<br>Munich                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                              | Date of completion of the search<br>29 August 2011 | Examiner<br>Stenger, Michael                    |
| <p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone<br/>Y : particularly relevant if combined with another document of the same category<br/>A : technological background<br/>O : non-written disclosure<br/>P : intermediate document</p> <p>T : theory or principle underlying the invention<br/>E : earlier patent document, but published on, or after the filing date<br/>D : document cited in the application<br/>L : document cited for other reasons<br/>&amp; : member of the same patent family, corresponding document</p> |                                                                                                                                                                                                                                              |                                                    |                                                 |

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EPO FORM 1503 03.82 (P04C01)

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