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(71) Applicant: **Esparza Lozano, Rafael**
3110 Cabezo de Torres (Murcia) (ES)

(72) Inventor: **Esparza Lozano, Rafael**
3110 Cabezo de Torres (Murcia) (ES)

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(74) Representative: **Maldonado Jordan, Julia**
Linares, 7 Pta. 3
46018 Valencia (ES)

(54) **Autonomous, portable machine, for coin counting, classifying and wrapping into rolls**

(57) It corresponds to a machine for coin counting, classifying and wrapping into rolls, portable and autonomous, with a hopper for receiving coins, classification zone, counting by photodiodes, wrapping into roll with a ring to attach a receiver bag, with battery for being

operationally autonomous, with a frontal display to present all kind of information and with a keyboard to establish the programming and functions of the machine with holding legs to increase the height of the referred machine.

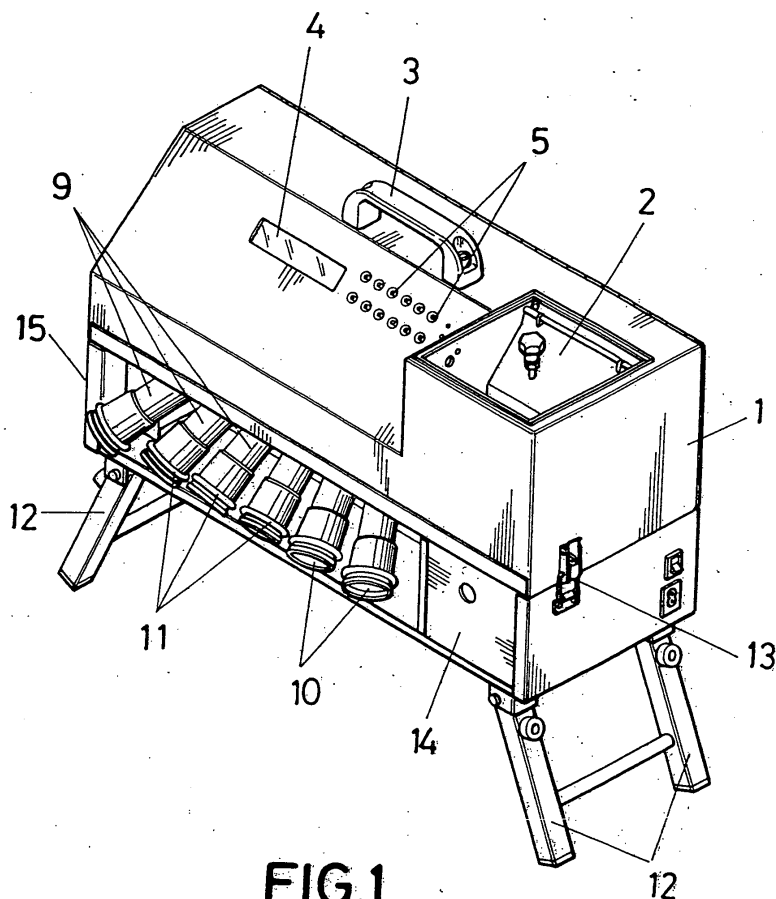


FIG.1

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Description

OBJECT OF THE INVENTION

[0001] The present invention refers to a machine that can be moved from one location to another without any problems and can be situated in any place in order to be put into operation, in addition to being autonomous, which permits its operation in case of eventual failure in the electrical power supply network. The machine is equipped to receive amounts of different types of coins and to carry out, by itself, their classification, counting and wrapping into rolls, after the classification and counting.

[0002] The machine has special application in sectors such as, games, vending, banking, tobacco, vehicle washing tunnels, and in general, under any supposed circumstances in which its use is possible.

BACKGROUND OF THE INVENTION

[0003] Different types of machines, capable of counting coins are known in the Market, in other cases, they can carry out the classification, and machines are even known to carry out the wrapping into rolls of coins, though the majority of these machines suffer from a series of problems and disadvantages, such as the fact, that they do not perform the three basic functions relative to classification, counting and wrapping into rolls. In addition, the known machines, are large, very heavy and planned for being situated in a specific place and to remain static, besides having to be connected to the electric network. No machine of this type is known to be autonomous, due to which, in case of lack of electrical power supply or of any kind of anomaly, the machine is unable to operate, with the subsequent disadvantages and problems derived at specific moments and circumstances.

[0004] It is evident, that in determined sectors or companies that have various types of establishments, it is sometimes important and of great use, to have available a portable machine that could be sequentially used in one or other of these business centres, in order to carry out the counting, classification and wrapping into rolls of the coins, in such a way, that currently, a statically placed machine must be present in each one of these centres, which means a considerable economic investment or cost to companies which have various business centres.

DESCRIPTION OF THE INVENTION

[0005] The recommended machine, has been conceived in order to solve the previously described problem, since it presents the particularity of being a portable machine, which permits its transference from one place to another, as if it were a simple suitcase, being also operationally autonomous, which allows it to operate

during a certain time, at any moment and under any circumstances, even in case of power failure, depending on the capacity of its battery that is available.

[0006] More specifically, the machine of the invention is constituted as from a body with a general parallelepiped configuration, which includes a handle at its top part for transportation, as well as a receiver deposit compartment or hopper of the coins pretended to be classified, counted and wrapped in rolls, in such a manner, that this compartment or hopper is equipped with means that are capable of carrying out the expulsion of all the coins inserted, whichever their type, and to place them on a sliding ramp arranged in longitudinal direction on the machine body, adjacent to the top part. Transversal, stop-determining, parts have been provided on this sliding ramp, which limit the constituting zone of the coin classification means, depending on their type. These stops or classification means will leave free passage to one coin or another, thus classifying all of them according to type, in such a way, that once classified, the coins fall onto respective tubes, each one of them of one same type of coin, these coin-falling tubes being equipped with photodiodes by means of which, their counting is performed, coming out as cylinders where respective paper foils are advantageously arranged to form the rolls, these cylinders coming out in order that the different, already formed rolls exit and fall into bags that are coupled at the ends of the cylinders and are attached by means of a ring established to that effect at the mouth of said roll-forming and exiting cylinders.

The machine is provided at its front with a display where all type of information appears, such as - amount of coins classified, counted, malfunctions, state of the battery, and in general, any type of information related to the operations and services of the machine, since the latter is equipped with a micro processor in which the programme, on which the different configurational options are based, is introduced, programming by means of a keyboard at the front part, which aids the working of the machine.

As has already been indicated, the machine is autonomous, due to which it shall be provided with a battery that is situated inside an internal compartment which is preferably adjacent to the micro processor, additionally equipped with a front compartment with pull-down door, inside of which are receiver bags for the coin rolls, as well as connection cables and other items.

[0007] Finally, it must be indicated that the machine is complemented with bottom folding legs, in such a manner, that in normal service position of the machine, said legs are folded up and abut on a surface such as, for example, a table, whilst, if a greater height is required, the legs are unfolded and the machine is elevated over the support surface.

DESCRIPTION OF THE DRAWINGS

[0008] In order to complement the description offered

and with the object of aiding to a better understanding of the characteristics of the invention, according to a preferred practical embodiment example of the same, a set of drawings are enclosed, forming integral part of said description, in which with illustrative and non limitative character, the following has been represented:

Figure 1 represents a front perspective view of the machine that is the object of the invention.

Figure 2 shows a front view of the machine represented in the previous figures, the position of the legs in folded situation being represented by means of dotted lines.

PREFERRED EMBODIMENT OF THE INVENTION

[0009] In view of said figures, it can be observed how the machine of the invention is made up of a small body (1) with a general parallelepiped configuration, at the top part of which, a hopper (2) is established for reception of the coins, as well as a handle (3) for its manual transportation. The front part includes a display (4) for presenting information and a keyboard (5) for establishing the programming of the machine's operation, whilst internally it includes a sliding ramp (6), with supports (7) transversal to the same, and advantageously spaced to determine coin classifiers according to their type, that is to say, that the coins shall pass, depending on their diameter, through the sliding ramp or will be deviated by said classifying supports (7), in such a manner that once the classification is executed by means of said elements or supports (7), each type of coin shall fall vertically, through respective tubes (8), said tubes being provided with a photodiode which counts the coins passing through each tube (8), which reach wrapping means, after a previous placement of paper foils which carry out the wrapping and the coin rolls, which subsequently fall through respective cylinders (9), logically confronted with the previously indicated tubes (8), in such a manner that said cylinders (9) present their mouth (10) sloped in downward direction and slightly projecting from the front plane of the machine body (1), equipped with rings (11) in said mouth to attach bags which will receive the corresponding rolls that exit from the forming cylinders (9).

[0010] The machine is additionally complemented with legs (12) that are articulated and permit their folding, to allow the abutment of the machine directly onto a surface, such as a table top, or top of a piece of furniture or similar, or else unfold said legs (12) to obtain an increase in height of the machine so that, for example, the coin cartridge-receiver bags remain perfectly suspended and attached by said rings (11) established on the cylinder mouths (9).

[0011] As can be observed, the top part of the machine is workable, and is attached to the bottom part using attachment means (13), whilst it is provided at the

front with a door (14) which is workable and closes an internal compartment in which the bags, cables, etc. are kept, whilst at the opposite side, and in correspondence with zone (15), another compartment, not represented, has been provided to house the corresponding electrical feeding battery which permits the machine to operate without need of power from the electrical supply network, since this battery makes the machine capable of working during a few hours in case of breakdown in the electrical power supply network or breakdown due to any circumstances, in such a manner, that the battery zone or compartment, that is to say, in the interior zone (15) of the machine, a micro processor is also included, in which the programme which controls the different configuration options are introduced, as well as the control of the coin receiver deposit compartment or hopper (2), the obstructions, number of coins etc. The machine has also been planned to include a heat printer which will logically be housed in the compartment that is enclosed by the front door (14). This printer shall provide all the results obtained during the machine operations.

[0012] As has also already been indicated, all kind of information shall appear in the display (4) provided at the front part, information relative both to the number of coins introduced and to error messages, as well as coins per bags, the partial, total and general counting, etc. as well as the state of the battery.

[0013] The machine has also been planned to include a rejected coins receiver deposit compartment, that is to say, false coins or those that are not planned to be counted, classified and packed by the machine in question, since the classification and counting is carried out based on the diameter and thickness of the coins and shall only be planned for a specific number of coin types, which in the present case, and following the embodiment shown, shall be of six diameters or different types of coins.

Claims

1. Portable, autonomous machine, for coin counting, classifying and wrapping into rolls, **characterized in that** it is constituted as from a general parallelepiped body with an upper hopper, which receives the coins and with a manual transportation handle, in such a manner, that said receiving deposit compartment opens out into a sliding ramp along which, the coins fall and are separated, depending on the type, by means of supports established along the ramp and advantageously spaced according to the diameter and thickness of the coins, respective tubes, through which the coins fall, existing in each classification zone and under the same, which are provided with counting photodiodes of the actual coins, said tubes opening out into wrapping means for each type of coins, in correspondence to which, coin roll output cylinders have been provided with

their output mouth sloped in downwards and outwards direction, projecting from the front part of the machine, and each mouth being provided with a ring, at each one of the cylinders, to attach a receiver bag for the coin cartridges; with the particularity that the machine is equipped with a battery that permits its eventual operation versus any lack of power supply from the electrical network, as well as a micro processor for controlling the operations and corresponding information.

2. Portable, autonomous machine, for coin counting, classifying and wrapping into rolls, according to Claim 1, **characterized in that** an information presentation display has been provided at the front part of the machine, both of the operations carried out by the machine and of the state of the electrical feeding battery, this display being complemented with a keyboard to establish the programming and functions of the machine.
3. Portable, autonomous machine, for coin counting, classifying and wrapping into rolls, according to the previous Claims, **characterized in that** a door has been provided at the front, which closes a compartment for storage of the bags intended for coin rolls reception, as well as the electrical feeding cables, the battery and the micro processor being situated in a compartment placed at the opposite side.
4. Portable, autonomous machine, for coin counting, classifying and wrapping into rolls, according the previous Claims, **characterized in that** it includes bottom, folding legs that permit the increase in height of the actual machine in position on any working surface.

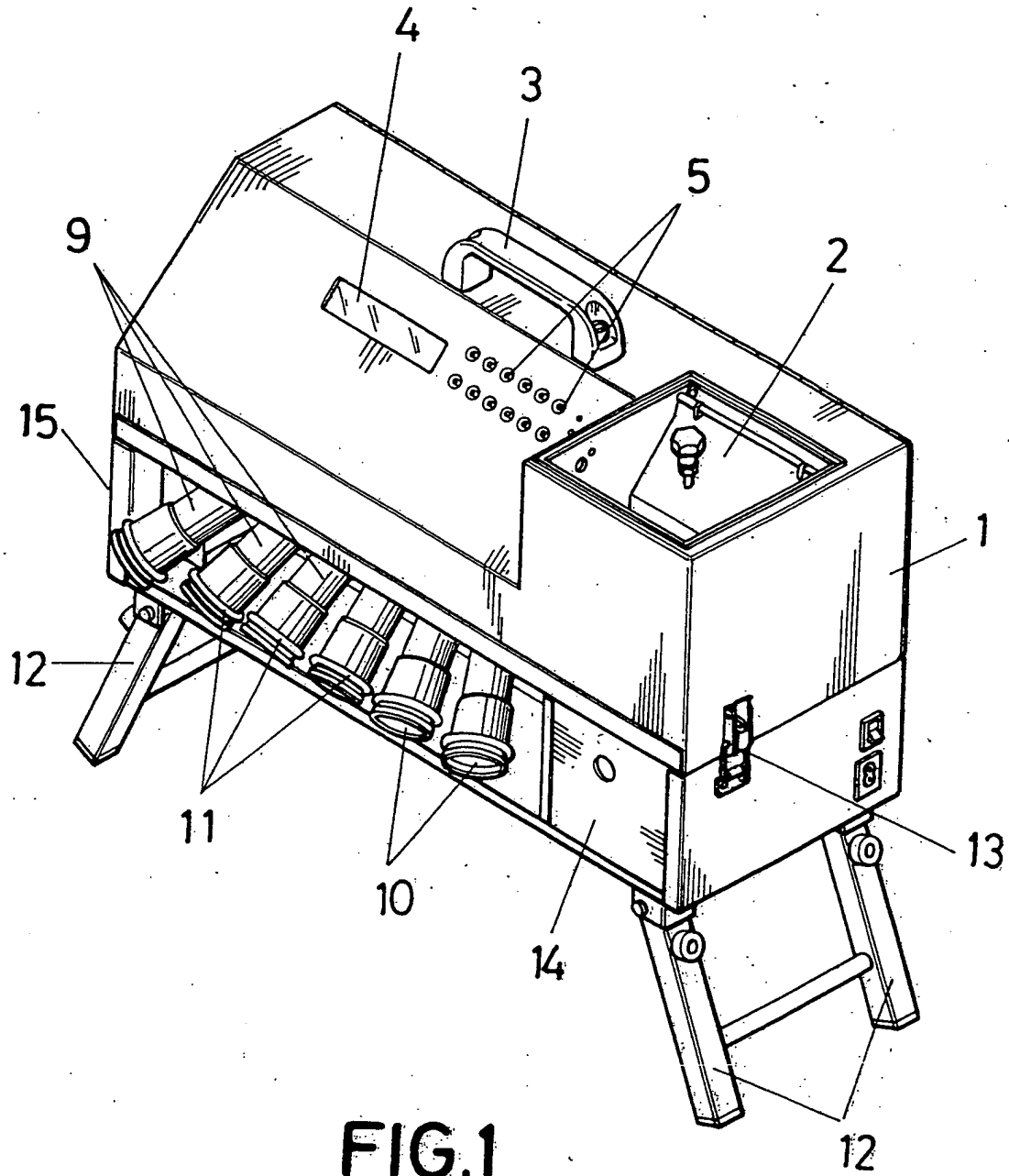


FIG.1

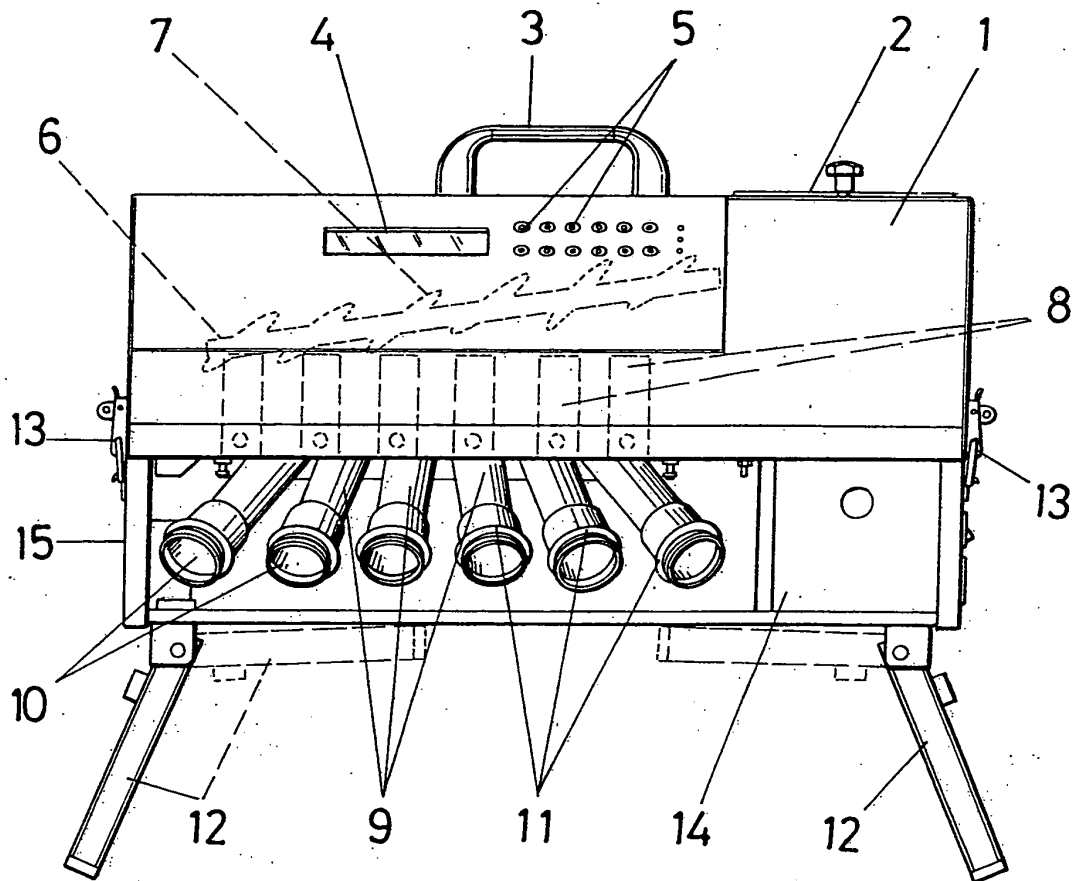


FIG. 2