



(12) **EUROPEAN PATENT APPLICATION**
published in accordance with Art. 158(3) EPC

(43) Date of publication:
02.05.2007 Bulletin 2007/18

(51) Int Cl.:
G07F 5/02 (2006.01) G07F 5/04 (2006.01)

(21) Application number: **05763040.2**

(86) International application number:
PCT/ES2005/000370

(22) Date of filing: **29.06.2005**

(87) International publication number:
WO 2006/015995 (16.02.2006 Gazette 2006/07)

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

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(30) Priority: **07.07.2004 ES 200401657 U**

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(54) **COIN SELECTOR FOR COIN- OR TOKEN-OPERATED DISPENSING MACHINES AND SET OF COMPONENTS FOR THE ASSEMBLY THEREOF**

(57) The present invention relates to a coin selecting device for vending machines actuated by coins or tokens, comprising a support base (20) and a cover having two coin inlets (18, 19) for coins; a carrier wheel (30) having two recesses (31, 32) in alignment with said two coin inlets (18, 19) when the carrier wheel (30) is in a rest position for receiving a coin into each coin recess; actuating means (40) for rotating the carrier wheel (30) in an

operating direction; a ratchet (50, 51) for preventing the rotation of the carrier wheel (30) in an opposite direction; and two diameter sensing devices (64, 65) and two thickness sensing devices (70, 71) arranged for allowing operation only when both coins are correct. A first part (12) defining two slots (13, 14) for inserting two coins, or a second part (15) with a single slot (16) for inserting a single coin can be individually assembled.

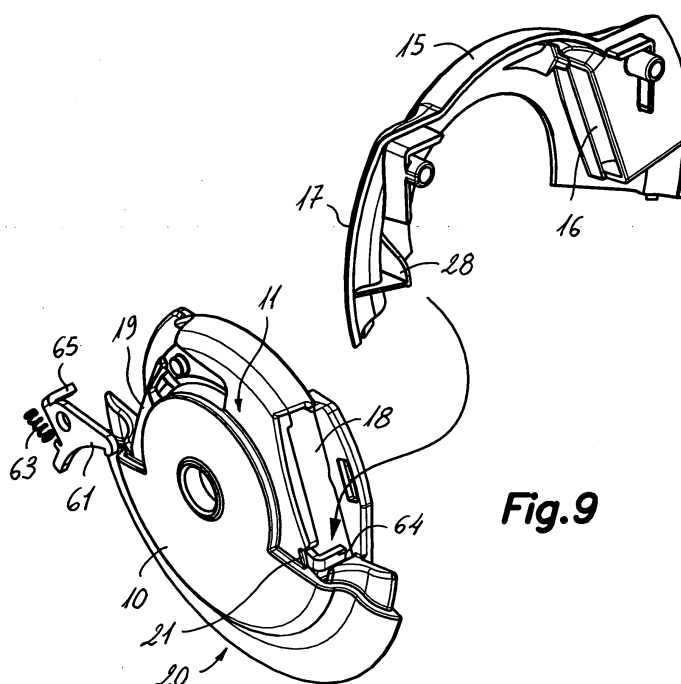


Fig.9

Description

Technical field

[0001] The present invention generally relates to a coin selecting device for vending machines actuated by coins or tokens and more particularly to a set of components for assembling said selector device according to different configurations.

State of prior Art

[0002] Vending machines for dispensing different articles are well known on the market and are provided with a dispensing mechanism to dispense one of such articles after paying with a coin. Generally, the aforementioned dispensing mechanism is associated to a coin selecting device having a slot for inserting a coin and a knob or lever adapted to be manually actuated externally by a user. A device allows turning the knob or lever only in the event that the inserted coin or token is of a predetermined value. The recognition of the coin or token is carried out by means of a diameter sensing device and a thickness sensing device.

[0003] US-A-5657848 describes a coin selecting device of this type which is adapted to allow the actuation of the dispensing mechanism after paying with two coins or tokens. To that end, the coin selector comprises a support base joined to a cover having first and second coin inlets and a carrier wheel having first and second recesses on one of its sides in alignment with said first and second inlets when said carrier wheel is in a rest position for receiving a coin into each coin recess. Manual actuating means, such as a knob, are provided for rotating the carrier wheel in an operating direction with respect to said support base. The carrier wheel rotates a dispensing wheel of said vending machine by means of a coupling. The coin selector comprises a ratchet for preventing the rotation of the carrier wheel in a direction opposite to said operating direction. First and second diameter sensing devices and first and second thickness sensing devices are arranged to individually recognize the characteristics of each coin, which allow the rotation of the carrier wheel in the operating direction only when the diameters and thicknesses of the respective coins are predetermined diameters and thicknesses.

[0004] These known coin selectors can be adapted to coins or tokens of different values by changing the recesses of the carrier wheel and the arrangement of the sensing devices. A manufacturer or installer of vending machines actuated by coins or tokens that is to dispense articles of different values needs to have, for example, coin selectors having capacity for a single coin for vending machines of article the values of which coincide with the value of a single coin or token, and coin selectors with capacity for two coins for article vending machines the values of which can be equaled by the combination of two coins or tokens.

[0005] There is a need to provide a coin selector for vending machines actuated by coins or tokens which can be easily adapted to receive a single coin or token or to receive two coins or tokens by means of a simple operation.

[0006] There is eventually also a need to provide a coin selector for vending machines actuated by coins or tokens which can be easily adapted to consecutively receive three coins through a single inlet in three consecutive positions of the actuation member.

Disclosure of the invention

[0007] According to a first aspect, the present invention contributes to meet the aforementioned and other needs by providing a coin selector for vending machines actuated by coins or tokens, of the type comprising a support base joined to a cover having first and second coin inlets; a carrier wheel having first and second recesses on one of its sides in alignment with said first and second coin inlets when said carrier wheel is in a rest position for receiving a coin into each coin recess; actuating means for rotating the carrier wheel with respect to said support base in an operating direction and for rotating a coupling coupled to a dispensing wheel of said vending machine; a ratchet for preventing the rotation of the carrier wheel in a direction opposite to said operating direction; and first and second diameter sensing devices and first and second thickness sensing devices arranged for allowing the rotation of the carrier wheel in the operating direction only when the diameters and thicknesses of the respective coins are predetermined diameters and thicknesses. The coin selector of the present invention is characterized in that an outer surface of said cover has a recessed portion adapted to individually receive either a first part defining two slots respectively in alignment with first and second coin inlets for allowing the insertion of two coins, or a second part defining a single slot in alignment with one of the first and second coin inlets for allowing the insertion of a single coin, said second part including a shutting portion preventing access to the other of the first or second coin inlets, and means for overriding the action of at least the first or second diameter sensing device corresponding to the shut coin inlet.

[0008] This arrangement according to the invention allows one model of coin selector to be adapted for a single coin or for two coins by simply installing either one of said first and second parts at the time of assembly. The number of necessary parts is thus reduced and the management and handling of the parts is simplified, which translates into a reduction in manufacturing, storage and assembly costs. The coin selector according to the present invention further allows easily adapting a previously installed coin selector from a configuration for one coin to a configuration for two coins, or vice versa, by means of a simple operation.

[0009] The aforementioned means for overriding the action of at least the first or second diameter sensing

device corresponding to the shut coin inlet comprise a projection arranged on an inner area of the second part, said projection accessing through a passage of the support base to immobilize the corresponding first or second diameter sensing device in a release position. With this, the simple operation of installing the second part causes the aforementioned override of the corresponding diameter sensing device. In the event that the second part is initially installed having a single slot, in the coin selector according to the claim only the first or second thickness sensing device corresponding to this single slot will be installed. In the event that a first part having two slots is substituted in a previously assembled coin selector by a second part having a single slot, the first or second thickness sensing device corresponding to the overridden coin inlet will be disassembled and removed. In the opposite case, the missing thickness sensing device will be added.

[0010] According to a second aspect, the present invention provides a set of components for the assembly of a coin selecting device for vending machines actuated by coins or tokens, of the type comprising a support base joined to a cover having first and second coin or token inlets, an outer surface of said cover being provided with a recessed portion for receiving a part having a through slot. It also includes a set of carrier wheels, each one having one or more recesses on one of its sides in alignment with said first and second coin inlets when said carrier wheel is in one or several rest positions for receiving a coin or token into each recess. It also includes actuating means for rotating the carrier wheel with respect to said support base in an operating direction and for rotating a coupling coupled to a dispensing wheel of said vending machine. It also includes a set of notched wheels engageable with a spring-loaded pawl to form a ratchet for preventing the rotation of the carrier wheel in a direction opposite to said operating direction. It also includes first and second diameter sensing devices and first and second thickness sensing devices arranged for allowing the rotation of the carrier wheel in the operating direction only when the diameters and thicknesses of the corresponding coins or tokens are predetermined diameters and thicknesses. Finally, it also includes a set of parts comprising at least one first part defining two slots respectively in alignment with first and second coin inlets for allowing the insertion of two coins or tokens, and a second part defining a single slot in alignment with one of the first and second coin inlets for allowing the insertion of a single coin or token, said second part including a shutting portion preventing access to the other of the first or second coin inlets, and means for overriding the action of at least the first or second diameter sensing device corresponding to the shut coin inlet.

[0011] Most of the parts are common and form a base with the generic mechanisms of the selector. The sets of components can be grouped to form different specific kits which, combined with the generic base, allow obtaining, for example, a selector device for a single coin, a

selector device for two coins, a selector device for three coins, and a selector device for a single token. There is no technical limitation for preparing kits for two or three tokens, or even for four coins or tokens, though this has not been done in practice given that there is no significant commercial demand for them.

Brief description of the drawings

[0012] The foregoing and other advantages and features of the present invention will be more fully understood based on the following detailed description of exemplary embodiments with reference to the accompanying drawings, in which:

Fig. 1 is a rear view of a carrier wheel for receiving coins corresponding to a double inlet slot coin selector according to the prior art;

Fig. 2 is a rear view showing an arrangement of diameter sensing devices in said double inlet slot coin selector according to the prior art;

Fig. 3 is a rear view showing an arrangement of thickness sensing devices and a ratchet mechanism in the double inlet slot coin selector according to the prior art;

Fig. 4 is a front view of a support base of a selector device according to an exemplary embodiment of the present invention having a cover with first and second coin inlets;

Fig. 5 is a front view of a first part or plate with two slots for being coupled to the cover of Fig. 4;

Fig. 6 is a front view of a second part or plate with a single slot for being coupled to the cover of Fig. 4;

Fig. 7 is a front view of a coin selector according to the present invention including the cover of Fig. 4 and the first part of Fig. 5;

Fig. 8 is a front view of a coin selector according to the present invention including the cover of Fig. 4 and the second part of Fig. 6;

Fig. 9 is a perspective view illustrating means for overriding the action of the first or second diameter sensing device when the second part of Fig. 6 is used;

Fig. 10 is a view showing a set of components for forming, in combination with the support base of Fig. 4, a selector device for a token; and

Fig. 11 is a view showing another set of components for forming, in combination with the support base of Fig. 4, a selector device for three coins.

Detailed description of exemplary embodiments

[0013] First making reference to Figs. 1 to 3, there are shown mechanisms for a double inlet coin selector which are well known in the prior art, for example, from said patent document US-A-5657848, and which are incorporated in the coin selector of the present invention. Therefore, the coin selector for vending machines actu-

ated by coins or tokens according to the present invention is of the type comprising a support base 20 (Figs. 2 and 3) joined to a support cover defining a pair of coin inlet slots (not visible in Figs. 2 and 3 as they are on the opposite side). Assembled on said support base 20 there is a carrier wheel 30 (Fig. 1) having first and second recesses 31, 32 on one of its sides. Each of the mentioned first and second recesses 31, 32 is in alignment with one of said slots when said carrier wheel 30 is in a rest position for receiving a coin into each coin recess. Actuating means, such as, for example, a knob or a lever, are arranged for rotating the carrier wheel 30 with respect to said support base 20 in an operating direction. The carrier wheel 30 is connected to a dispensing wheel of said vending machine by means of a coupling (not shown), such that said dispensing wheel rotates to dispense article when a user rotates the carrier wheel 30. A ratchet 50, 51 prevents the rotation of the carrier wheel 30 in a direction opposite to said operating direction and first and second diameter sensing devices 64, 65 and first and second thickness sensing devices 70, 71 allow the rotation of the carrier wheel 30 in the operating direction only when the diameters and thicknesses of the respective coins are predetermined diameters and thicknesses.

[0014] As is shown in Fig. 2, the aforementioned first and second diameter sensing devices 64, 65 comprise respective pawls 60, 61 biased by respective elastic elements 62, 63 to a locking position. The carrier wheel 30 has respective notches 33, 34 in which said pawls 60, 61 are locked when they are in the aforementioned locking position and the rotation of the carrier wheel 30 is initiated, thereby preventing further rotation of the carrier wheel 30. The first and second diameter sensing devices 64, 65 are arranged in positions such that they are pushed against the force of their respective elastic elements 62, 63 by the edges of the respective coins at the start of rotation of the carrier wheel 30 when the diameter of the respective coins is a predetermined diameter. The movement of the diameter sensing devices 64, 65 caused by the coins having the predetermined diameter puts the respective pawls 60, 61 in a release position (Fig. 2) in which they are released from the notches 33, 34, thereby allowing rotation of the carrier wheel 30 in the operating direction.

[0015] Fig. 3 shows the first and second thickness sensing devices 70, 71, which are biased by respective elastic elements 72, 73 to a locking position in which they are locked in respective notches of the carrier wheel 30, thereby preventing rotation of the carrier wheel 30 in the operating direction. The two thickness sensing devices 70, 71 are arranged for being pushed against the force of their respective elastic elements 72, 73 by one side of the respective coins to a release position in which they are released from their respective notches, thereby allowing rotation of the carrier wheel 30 in the operating direction when the thickness of the respective coins is a predetermined thickness.

[0016] The arrangement of the first diameter and thick-

ness sensing devices 64, 70 and of the second diameter and thickness sensing devices 65, 71 in relation to the coin inlet slots and the first and second recesses of the carrier wheel 30 is such that the detection of the diameter and thickness of the coins is done individually for each of them right at the start of rotation of the carrier wheel 30. It is sufficient that only one of the coins or tokens does not meet the predetermined diameter and/or thickness conditions for the rotation of the carrier wheel 30 to be prevented.

[0017] Fig. 4 shows a support base 20 for a coin selector according to the present invention, including the aforementioned mechanisms and a cover having an outer surface 10. The aforementioned outer surface 10 of said cover has a recessed portion 11 in which first and second coin inlets 18, 19 are located, said coin inlets being in alignment with the first and second recesses 31, 32 of the carrier wheel 30 (not shown in Fig. 4) when said carrier wheel 30 is in a rest position for receiving a coin into each coin recess. The aforementioned recessed portion 11 of said outer surface 10 of the cover is adapted to individually receive either a first part 12 or a second part 15 respectively useful for adapting the coin selector for operating with one or two coins.

[0018] Fig. 5 shows the aforementioned first part 12, which defines two slots 13, 14 located such that they are respectively in alignment with the first and second coin inlets 18, 19 for allowing the insertion of two coins. The first and second recesses 31, 32 of the carrier wheel 30 as well as the first diameter and thickness sensing devices 64, 70 and second diameter and thickness sensing devices 65, 71 can be adapted to receive and validate two coins or tokens with equal or different predetermined diameters and thicknesses. In other words, they can be adapted for operating with two coins or tokens of the same value or of two different values.

[0019] Fig. 7 shows the coin selector according to the present invention, according to a configuration for operating with two coins, including the first part 12 installed in the recessed portion 11 of the outer surface 10 of the cover that serves as a base. The actuating means 40 comprise, according to the embodiment shown, a manual actuation lever, though it may likewise comprise a manual actuation knob or even motorized actuating means.

[0020] Fig. 6 shows the aforementioned second part 15, which defines a single slot 16 located for being in alignment with one of the first and second coin inlets, which in the embodiment shown is the second coin inlet 19, for allowing the insertion of a single coin. The second part 15 includes a shutting portion 17, which is arranged for preventing access to the first coin inlet 18, and means for overriding the action of the second diameter sensing device 64, which corresponds to the shut coin inlet.

[0021] Fig. 9 shows the support base 20 seen from its front part, with the recessed portion 11 in the outer surface 10, and the second part 15 seen from its rear part. The aforementioned means for overriding the action of the second diameter sensing device 64 comprise a pro-

jection 28 arranged in an inner area of the second part 15, in such a position that when the second part 15 is installed in the recessed portion 11 of the outer surface 10 of the cover of the support base 20, said projection accesses a rear part of the support base 20 through a passage 21 of the support base 20 for immobilizing the corresponding first diameter sensing device 64 in its release position. In other words, the aforementioned projection 28 of the second part 15 simulates in a static manner a portion of the edge of a coin of the predetermined diameter in contact with the first diameter sensing device 64, thereby the latter continuously allows rotation of the carrier wheel 30 despite the fact that there is not, nor it can not be any coin in the first recess 31 of the carrier wheel. Fig. 9 shows the second diameter sensing device 65 and its corresponding elastic element 63 disassembled outside of their recess in the support base 20.

[0022] Furthermore, in the event that the second part 15 is installed, the coin selector includes only the second thickness sensing device 71 corresponding to the single slot 16, either because the first thickness sensing device 70 has not been installed or because it has been removed. In these conditions, the responsibility of allowing or preventing rotation of the carrier wheel 30 according to the characteristics of the inserted coin or token belongs exclusively to the second diameter and thickness sensing devices 65, 71 related to the second coin inlet 19 corresponding to the single slot 16 of the second part 15.

[0023] Fig. 8 shows the coin selector according to the present invention, according to a configuration for operating with a single coin, including the second part 15 installed in the recessed portion 11 of the outer surface 10 of the cover of the support base 20. The actuating means 40 here also comprise a manual actuation lever, although they alternatively may comprise a manual actuation knob or even motorized actuating means.

[0024] In both configurations according to Figs. 7 and 8, the first or second part 12, 15 is fixed in relation to the support base 20 from the rear part of the coin selector by conventional means that cannot be accessed from the outside when the coin selector is installed in a vending machine.

[0025] According to a second aspect of the present invention, a set of components is provided for the assembly of a coin selecting device for vending machines actuated by coins or tokens. The aforementioned set of components comprises a support base 20 joined to a cover having first and second coin inlets 18, 19 for coins or tokens, an outer surface 10 of said cover being provided with a recessed portion 11 for receiving a part having a through slot 12, 15, 22. This support base 20 is similar to the support base described above in relation to Fig. 4. A series of components and mechanisms common to all the configurations are assembled on this support base 20, such as, for example, actuating means 40 for rotating a carrier wheel 30, 35, 39 with respect to said support base 20 in an operating direction and for rotating a coupling connected to a dispensing wheel of said vend-

ing machine, a ratchet for preventing the rotation of said carrier wheel 30, 35, 39 in a direction opposite to said operating direction, and first and second diameter sensing devices 64, 65 and first and second thickness sensing devices 70, 71 arranged for allowing the rotation of the carrier wheel 30, 35, 39 in the operating direction only when the diameters and thicknesses of the corresponding coins or tokens are predetermined diameters and thicknesses, similar to those described above in relation to Figs. 1 to 3.

[0026] The set of components includes a set of parts 12, 15, 22 which can be selectively assembled in the recessed portion 11 that the cover of the support base 20 has in the outer surface 10. A first part 12 is similar to the one described above in relation to Fig. 5, and defines two slots 13, 14 respectively in alignment with first and second coin inlets 18, 19 for allowing the insertion of two coins or tokens. A second part 15 is similar to the one described above in relation to Fig. 6 and defines a single slot 16 in alignment with one of the first and second coin inlets 19 for allowing the insertion of a single coin or token, said second part including 15 a shutting portion 17 preventing access to the other of the first or second coin inlets 18, and means for overriding the action of at least the first or second diameter sensing device 64 corresponding to the shut coin inlet.

[0027] Fig. 10 shows a third part 22 similar to the second part of Fig. 6, which defines a single slot 23 in alignment with one of the first and second coin inlets 19. However, the single slot 23 here is provided with one or more ribs 24 for allowing the insertion of a single token 25 provided with one or more grooves 26 in a predetermined position. The aforementioned third part 22 likewise includes a shutting portion 27 preventing access to the other of the first or second coin inlets 18, and means for overriding the action of at least the first or second diameter sensing device 64 corresponding to the shut coin inlet. As shown in the detail of Fig. 9, these overriding means comprise, in all cases, a projection 28 arranged in an inner area of the second and third parts 15, 22 accessing the inside of the support base 20 through a passage 21 for immobilizing the corresponding first or second diameter sensing device 64 in a release position when the second or third part 15, 22 is assembled on the support base 20.

[0028] The set of components further includes a set of carrier wheels 30, 35, 39, each of which can be selectively assembled on the support base 20. A first carrier wheel 30 is similar to the one described above in relation to Fig. 1, and has first and second recesses 31, 32 on one of its sides, in alignment with said first and second coin inlets 18, 19 when said carrier wheel 30 is in a rest position for receiving a coin into each coin recess. Fig. 11 shows a second carrier wheel 35 having first and second and third recesses 36, 37, 38 on one of its sides in alignment with said first and second coin inlets 18, 19 when said carrier wheel 30 is in successive rest positions for receiving a coin into each coin recess. Fig. 10 shows a third carrier

wheel 39 having first and second recesses 41, 42 on one of its sides. This third carrier wheel 39 is similar to the first carrier wheel 30 shown in Fig. 1, with the difference that said recesses 41, 42 of this third carrier wheel 39 have one or more ribs 43 provided for correspondingly coupling in one or more grooves 26 formed in tokens 25. Therefore the recesses 41, 42 can only receive this type of tokens 25 having grooves 26, and furthermore in a required position. The recesses 41, 42 are in alignment with said first and second coin inlets 18, 19 when said carrier wheel 30 is in a rest position for receiving at least one token 25 having grooves 26.

[0029] Finally, the set of components includes a set of notched wheels 51, 52 which can be selectively assembled on the support base 20 and coupled to a spring-loaded pawl 50 for forming the aforementioned ratchet for preventing the rotation of the carrier wheel 30, 35, 39 in a direction opposite to said operating direction. A first notched wheel 51 is similar to the one described above in relation to Fig. 3, and is able to cooperate with said pawl 50 for forming a ratchet providing a rest position at the end of a complete turn. Fig. 11 shows a second notched wheel 52 able to cooperate with said pawl 50 for forming a ratchet providing three consecutive rest positions in the course of a complete turn. A set of rocker arms 74, 75, which are known type, are also provided, including a first rocker arm 74, shown in Fig. 3, for cooperating with said first notched wheel 51 and a second rocker arm 75, shown in Fig. 11, for cooperating with said second notched wheel 52.

[0030] The different components of each set can be grouped to form kits adapted for providing, together with the common components grouped in the support base 20, different configurations for the coin and token selector device of the present invention. Therefore, a kit for configuring a selector operating with two coins includes the first part 12 (Fig. 5), the first carrier wheel 30 (Fig. 1), and the first notched wheel 51 (Fig. 3). A kit for configuring a selector operating with a single coin includes the second part 15 (Fig. 6), the first carrier wheel 30 (Fig. 1), and the first notched wheel 51 (Fig. 3). Fig. 10 shows a kit for configuring a selector operating with a single token 25 having grooves 26, including the third part 22, the third carrier wheel 39, and the first notched wheel 51 (Fig. 3). Fig. 11 shows a kit for configuring a selector operating with three coins, which includes the second part 15 (the same as Fig. 6), the second carrier wheel 35, the second notched wheel 52, and the second rocker arm 75.

[0031] It will be found that some features of some parts have no function depending on the configuration of the selector that has been formed. For example, one of the first and second coin inlets 18, 19 of the support base 20 is superfluous when the second or third part 15, 22 is installed. However, these features are no hindrance when they are not operative and allow the possibility of assembly coin or token selectors having a variety of configurations with a reduced number of indispensable different parts.

[0032] A person skilled in the art will be able to make changes and modifications in the embodiments shown without departing from the scope of the present invention as it is defined by the attached claims.

Claims

1. A coin selecting device for vending machines actuated by coins or tokens, of the type comprising: a support base (20) joined to a cover having first and second coin inlets (18, 19) for coins or tokens; a carrier wheel (30) having first and second recesses (31, 32) on one of its sides, in alignment with said first and second coin inlets (18, 19) when said carrier wheel (30) is in a rest position for receiving a coin or token into each recess; actuating means (40) for rotating the carrier wheel (30) with respect to said support base (20) in an operating direction and for rotating a coupling coupled to a dispensing wheel of said vending machine; a ratchet (50, 51) for preventing the rotation of the carrier wheel (30) in a direction opposite to said operating direction; and first and second diameter sensing devices (64, 65) and first and second thickness sensing devices (70, 71) arranged for allowing the rotation of the carrier wheel (30) in the operating direction only when the diameters and thicknesses of the respective coins or tokens are predetermined diameters and thicknesses, **characterized in that** an outer surface (10) of said cover has a recessed portion (11) adapted to individually receive either a first part (12) defining two slots (13, 14) respectively in alignment with first and second coin inlets (18, 19) for allowing the insertion of two coins or tokens, or a second part (15) defining a single slot (16) in alignment with one of the first and second coin inlets (19) for allowing the insertion of a single coin or token, said second part (15) including a shutting portion (17) preventing access to the other of the first or second coin inlets (18), and means for overriding the action of at least the first or second diameter sensing device (64) corresponding to the shut coin inlet.
2. A device according to claim 1, **characterized in that** said overriding means comprise a projection (28) arranged in an inner part of the second part (15) which accesses through a passage (21) of the support base (20) for immobilizing the corresponding first or second diameter sensing device (64, 65) in a release position.
3. A device according to claim 2, **characterized in that** in the event that the second part (15) is installed, only the first or second thickness sensing device (70, 71) corresponding to the single slot (16) is included.
4. A device according to claim 1, **characterized in that**

said first and second diameter sensing devices (64, 65) comprise respective pawls (60, 61) biased by respective elastic elements (62, 63) to a locking position in which they are locked in respective notches (33, 34) of the carrier wheel (30) preventing the rotation of the carrier wheel (30), the first and second diameter sensing devices (64, 65) being arranged for being pushed against the force of their respective elastic elements (62, 63) by the edges of the respective coins or tokens at the start of rotation of the carrier wheel (30) for putting the pawls (60, 61) in a release position in which they allow rotation of the carrier wheel (30) in the operating direction when the diameter of the respective coins or tokens is a predetermined diameter.

5. A device according to claim 1, **characterized in that** said pair of thickness sensing devices (70, 71) are biased by respective elastic elements (72, 73) to a locking position in which they are locked in respective notches of the carrier wheel (30) preventing rotation of the carrier wheel (30), and arranged for being pushed against the force of their respective elastic elements (72, 73) by one side of the respective coins or tokens to a release position in which they allow rotation of the carrier wheel (30) in the operating direction when the thickness of the respective coins or tokens is a predetermined thickness.
6. A device according to claim 1, **characterized in that** said predetermined diameters and said predetermined thicknesses are equal for the two coins or tokens.
7. A device according to claim 1, **characterized in that** said predetermined diameters and said predetermined thicknesses are different for the two coins or tokens.
8. A device according to claim 1, **characterized in that** said actuating means (40) comprise a manual actuation lever.
9. A device according to claim 1, **characterized in that** said actuating means (40) comprise a manual actuation knob.
10. A set of components for the assembly of a coin selecting device for vending machines actuated by coins or tokens, of the type comprising:

a support base (20) joined to a cover having first and second coin inlets (18, 19) for coins or tokens, an outer surface (10) of said cover being provided with a recessed portion (11) for receiving a part having a through slot (12, 15, 22);
a set of carrier wheels (30, 35, 39), each one having one or more recesses (31, 32, 36, 37,

38, 41, 42) on one of its sides in alignment with one and/or the other of said first and second coin inlets (18, 19) when said carrier wheel (30, 35, 39) is in one or several rest positions for receiving a coin or token into each recess;
actuating means (40) for rotating the carrier wheel (30, 35, 39) with respect to said support base (20) in an operating direction and for rotating a coupling coupled to a dispensing wheel of said vending machine;
a set of notched wheels (51, 52) engageable with a spring-loaded pawl (50) for forming a ratchet for preventing the rotation of the carrier wheel (30, 35, 39) in a direction opposite to said operating direction;
first and second diameter sensing devices (64, 65) and first and second thickness sensing devices (70, 71) arranged for allowing the rotation of the carrier wheel (30, 35, 39) in the operating direction only when the diameters and thicknesses of the corresponding coins or tokens are predetermined diameters and thicknesses; and
a set of parts (12, 15, 22) comprising at least one first part (12) defining two slots (13, 14) respectively in alignment with the first and second coin inlets (18, 19) for allowing the insertion of two coins or tokens, and a second part (15) defining a single slot (16) in alignment with one of the first and second coin inlets (19) for allowing the insertion of a single coin or token, said second part including (15) a shutting portion (17) preventing access to the other of the first or second coin inlets (18), and means for overriding the action of at least the first or second diameter sensing device (64) corresponding to the shut coin inlet.

11. A set of components according to claim 10, **characterized in that** said set of carrier wheels (30, 35, 39) comprises at least one first carrier wheel (30) having first and second recesses (31, 32) on one of its sides in alignment with said first and second coin inlets (18, 19) when said carrier wheel (30) is in a rest position for receiving a coin or token into each recess, and a second carrier wheel (35) having first and second and third recesses (36, 37, 38) on one of its sides in alignment with one of said first and second coin inlets (18, 19) when said carrier wheel (30) is in successive rest positions for receiving a coin or token into each recess.
12. A set of components according to claim 11, **characterized in that** said set of parts (12, 15, 22) comprises a third part (22) defining a single slot (23) in alignment with one of the first and second coin inlets (19) and provided with one or more ribs (24) for allowing the insertion of a single token (25) provided with one or more grooves (26), said third part (22)

including a shutting portion (27) preventing access to the other of the first or second coin inlets (18), and means for overriding the action of at least the first or second diameter sensing device (64) corresponding to the shut coin inlet, and **in that** said set of carrier wheels (30, 35, 39) comprises a third carrier wheel (39) having first and second recesses (41, 42) on one of its sides, said recesses (41, 42) having one or more ribs (43) for tokens (25) provided with one or more grooves (26), and being in alignment with said first and second coin inlets (18, 19) when said carrier wheel (30) is in a rest position for depositing at least one token (25) having grooves (26).

13. A set of components according to claim 11 or 12, **characterized in that** said set of notched wheels (51, 52) comprises a first notched wheel (51) able to cooperate with said pawl (50) for forming a ratchet providing a rest position at the end of a complete turn and a second notched wheel (52) able to cooperate with said pawl (50) for forming a ratchet providing three consecutive rest positions in the course of a complete turn.
14. A device according to claim 10 or 12, **characterized in that** said means for overriding the action of the first or second diameter sensing device (64) comprise a projection (28) arranged in an inner part of the second part (15) which accesses through a passage (21) of the support base (20) for immobilizing the corresponding first or second diameter sensing device (64) in a release position.
15. A device according to claim 13, **characterized in that** it comprises a set of rocker arms (74, 75) including a first rocker arm (74) for cooperating with said first notched wheel (51) and a second rocker arm (75) for cooperating with said second notched wheel (52).

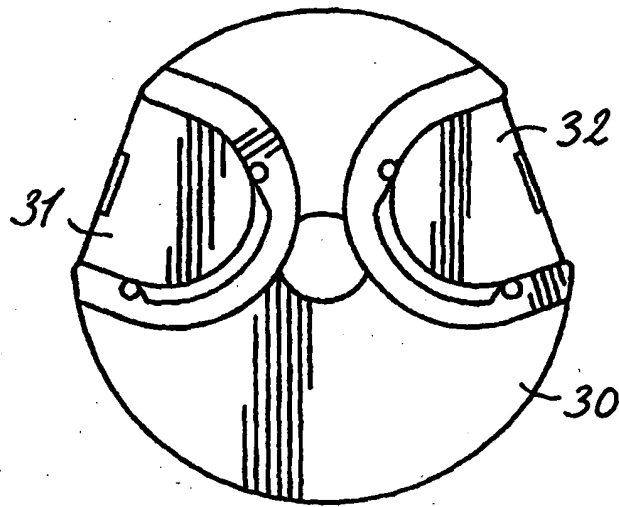


Fig.1 Prior art

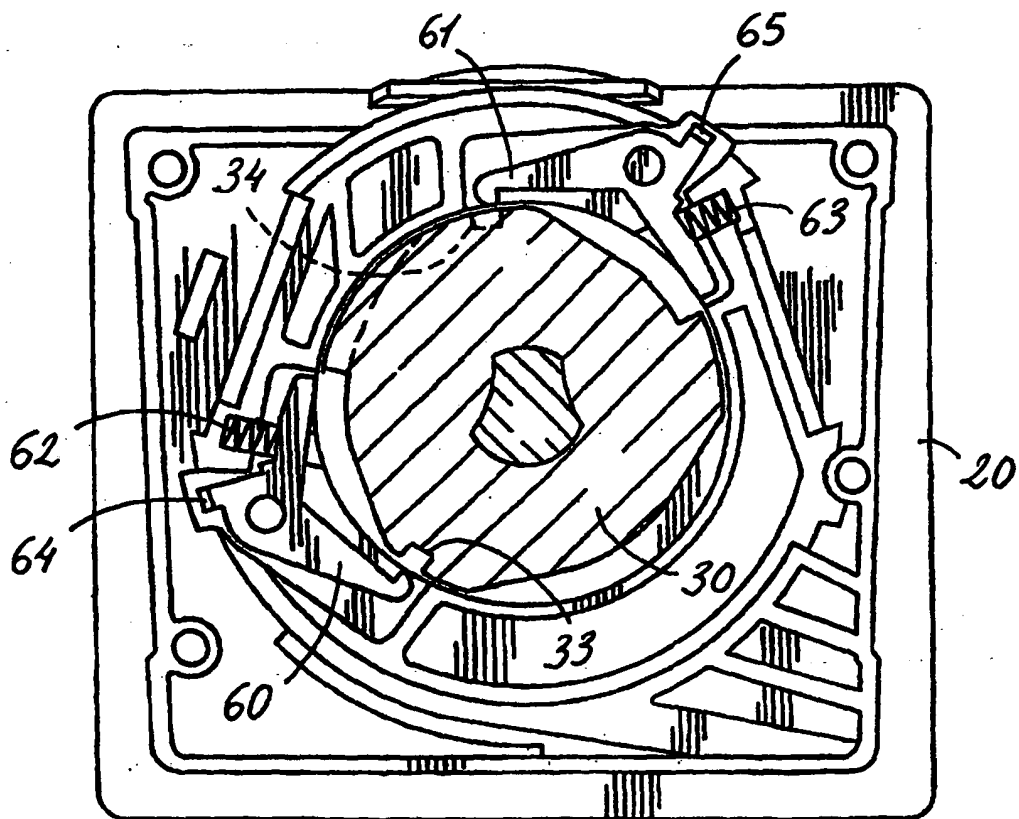


Fig.2 Prior art

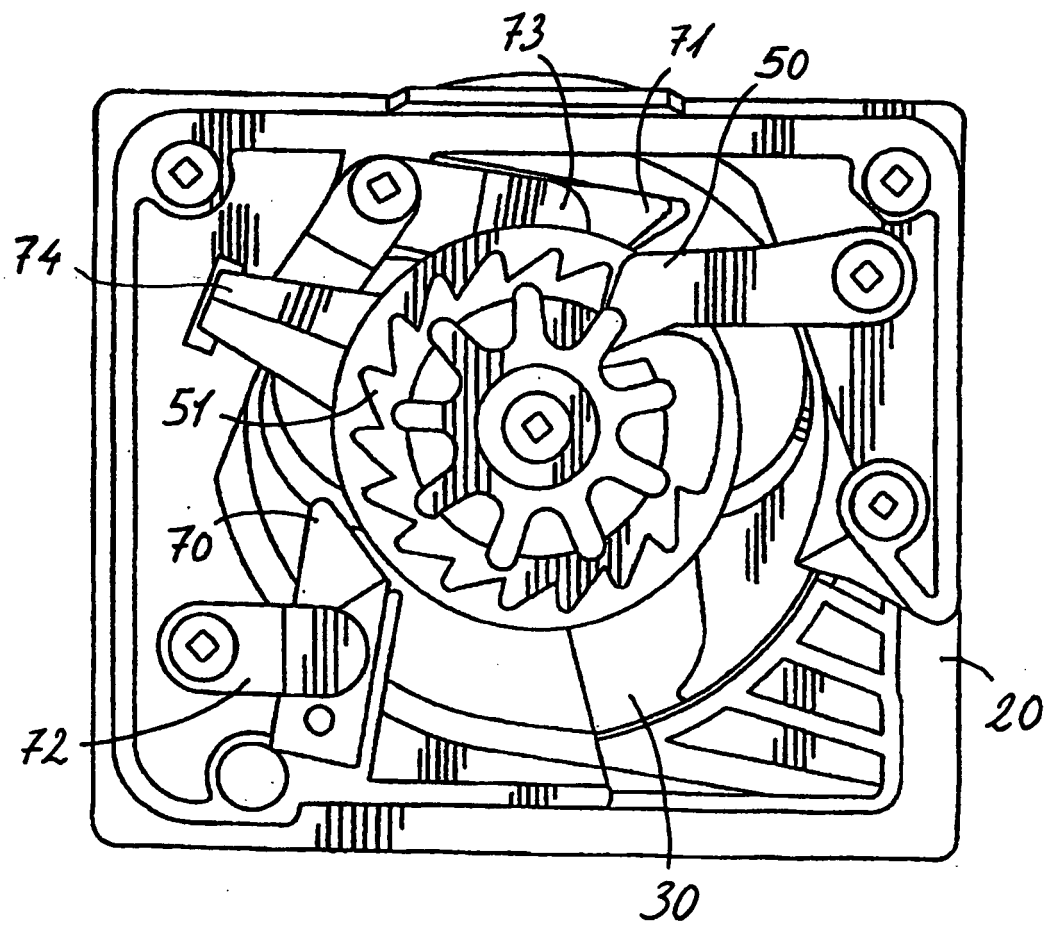


Fig.3 Prior art

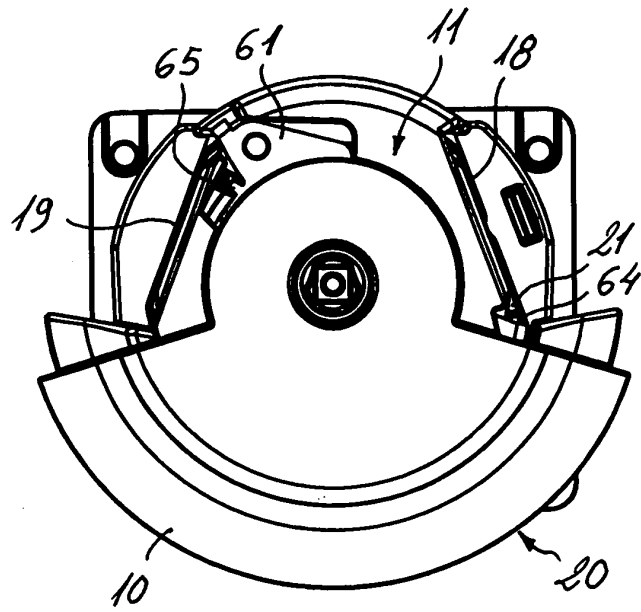


Fig. 4

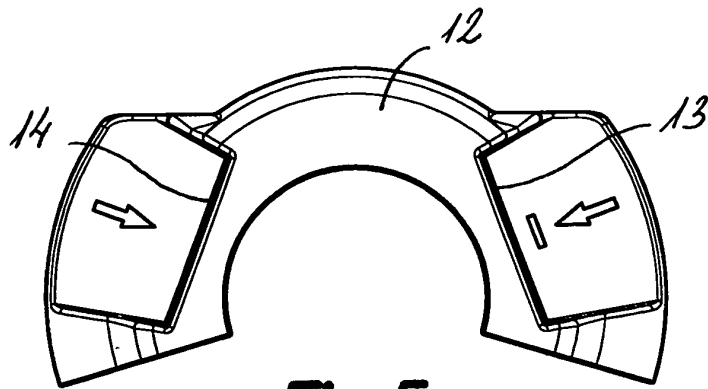


Fig. 5

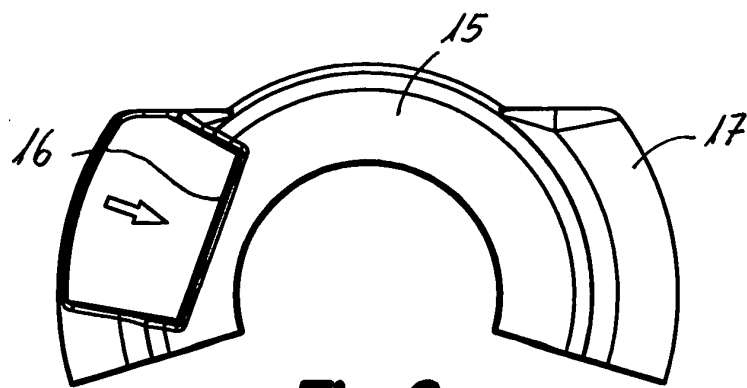


Fig. 6

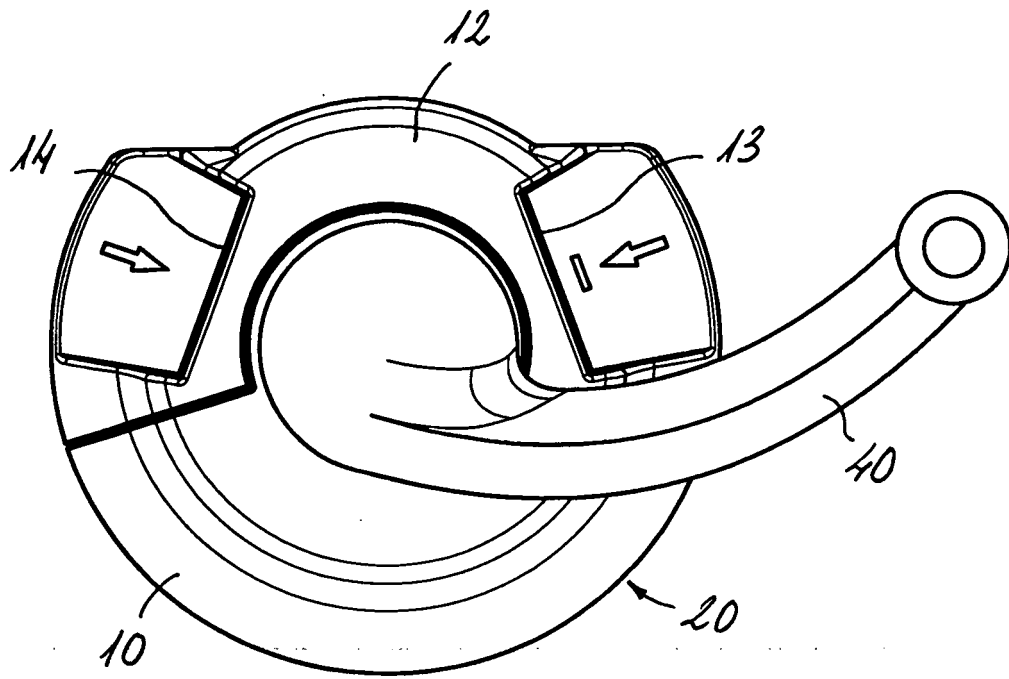


Fig. 7

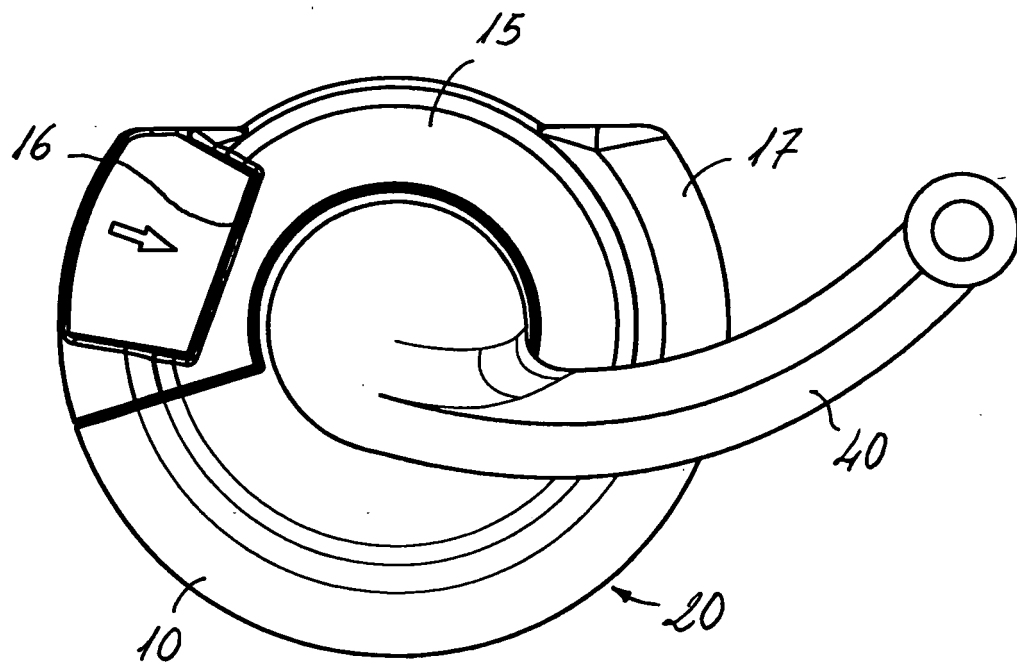


Fig. 8

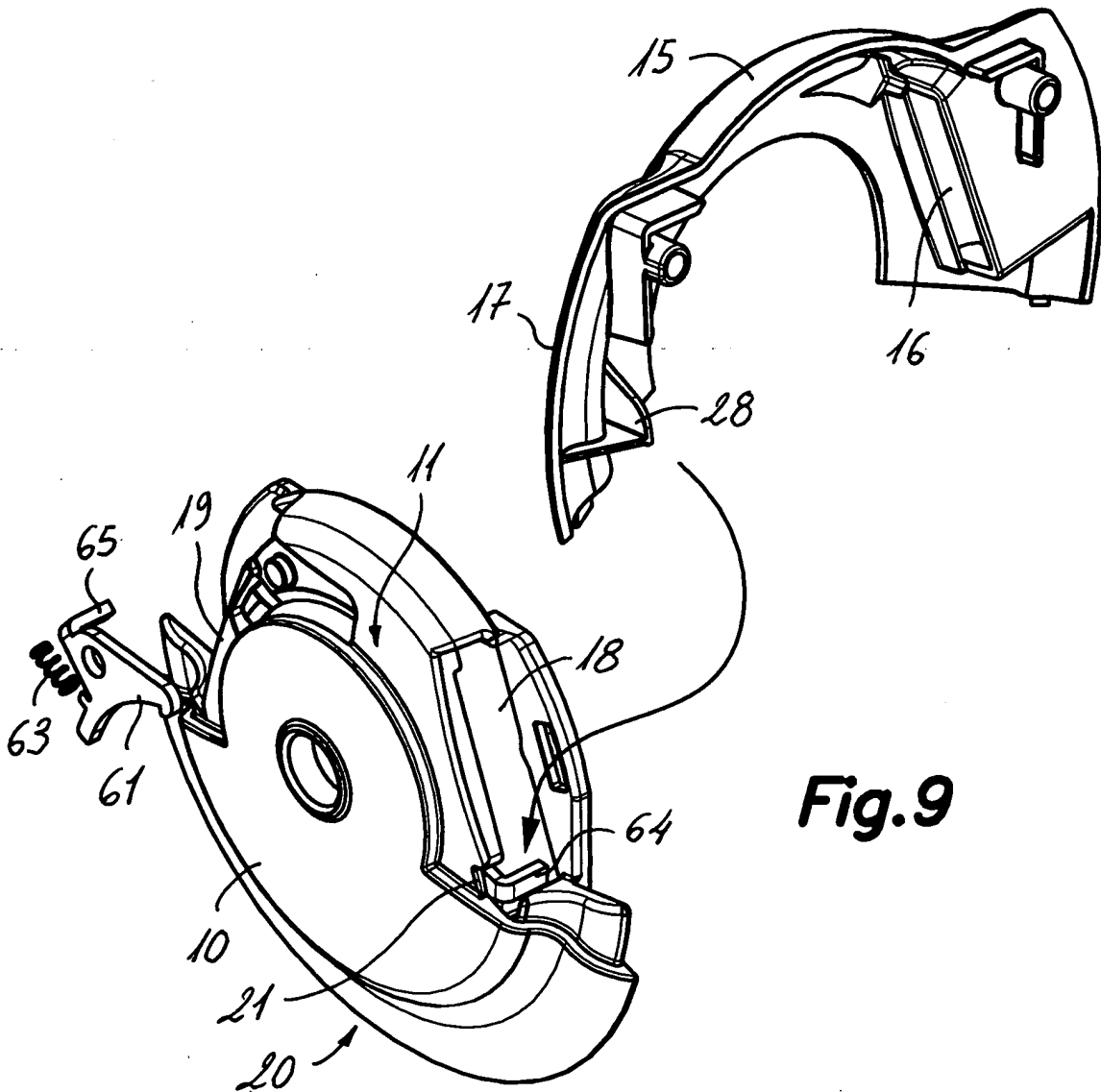


Fig.9

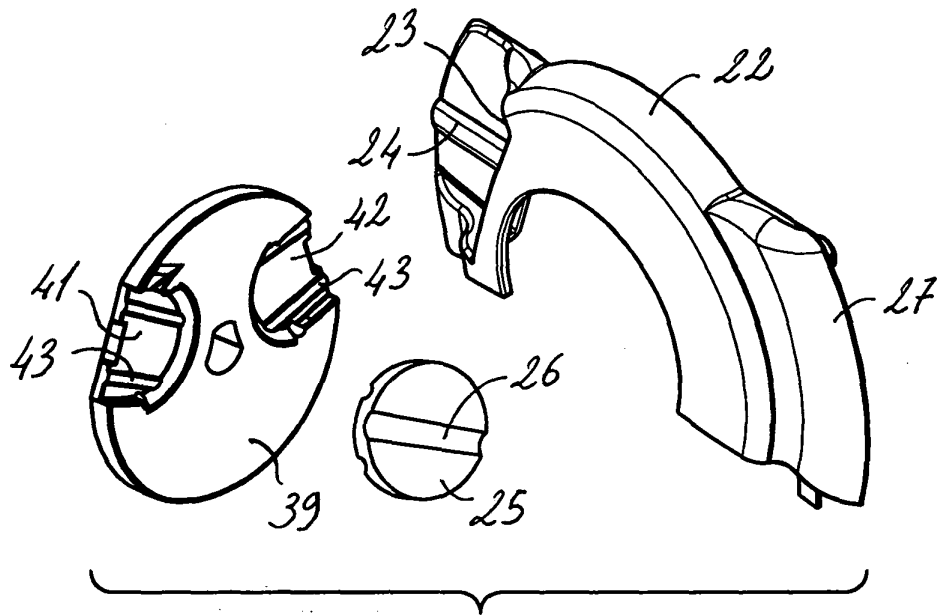


Fig. 10

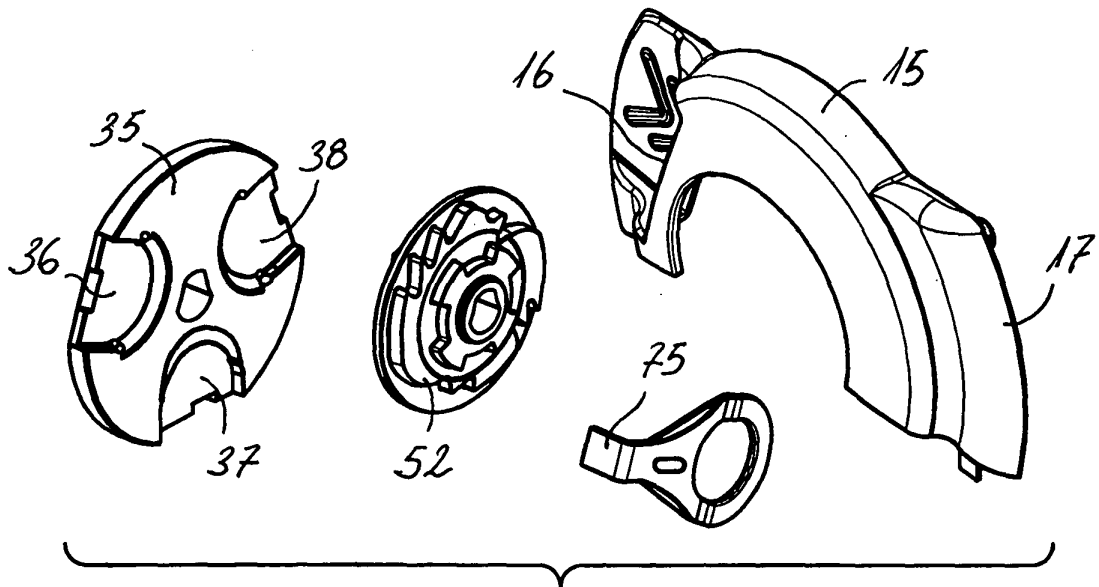


Fig. 11

INTERNATIONAL SEARCH REPORT

International application No.

PCT/ ES 2005/000370

A. CLASSIFICATION OF SUBJECT MATTER

G 07 F 5/02, 04 (2006.01)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G 07 F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CIBEPAT, EPODOC, WIPL, CIBEPAT

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 657 848 A (Schwarzli) 19.08.1997, all the document.	1, 4-7, 9, 10
A	US 6 076 650 A (Schwarzli) 20.06.2000, all the document.	1, 4, 5, 10

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

(17.10.2005)

Date of mailing of the international search report

(27.10.2005)

Name and mailing address of the ISA/

SPTO

Authorized officer

Facsimile No.

Telephone No.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/ ES 2005/000370

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5 657 848 A	19.08.1997	CA 2 120 904 A US 5 924 542 A US 6 076 650 A	09.10.1995 20.07.1999 20.06.2000
US 6 076 650 A	20.06.2000	CA 2 120 904 A US 5 657 848 A US 5 924 542 A	09.10.1995 19.08.1997 20.07.1999

Form PCT/ISA/210 (patent family annex) (July 1992)

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- US 5657848 A [0003] [0013]