



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
17.01.2007 Bulletin 2007/03

(51) Int Cl.:
G07F 1/06 (2006.01) G07F 11/68 (2006.01)

(21) Application number: **06014187.6**

(22) Date of filing: **07.07.2006**

(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 LV MC NL PL PT RO SE SI SK TR
Designated Extension States:
AL BA HR MK YU

(71) Applicant: **Dutchband BV**
1074 HV Amsterdam (NL)

(72) Inventor: **Carlier, Taco Jonan**
1015 XP Amsterdam (NL)

(74) Representative: **Hoeben, Ferdinand Egon**
Allied Patents B.V.
P.O. Box 13136
NL-3507 LC Utrecht (NL)

(30) Priority: **07.07.2005 NL 1029451**

(54) **Coin token assembly, method and device for dispensing coin tokens**

(57) The present invention relates to a coin token assembly, comprising coin tokens for use as value-representing token in a closed payment environment, comprising a number of mutually distinguishable tokens, wherein mutually adjacent tokens are connected to each other in a manner such that they are ordered in mutually separable manner relative to each other, and the array

is suitable for placing in a dispensing device for dispensing a variable number of tokens made known to the dispensing device, wherein the tokens comprise a plastic material and have a thickness usual for tokens of for instance 0.05-5 millimetres. The invention further relates to a method and device for dispensing a number of coin tokens of the coin token assembly.

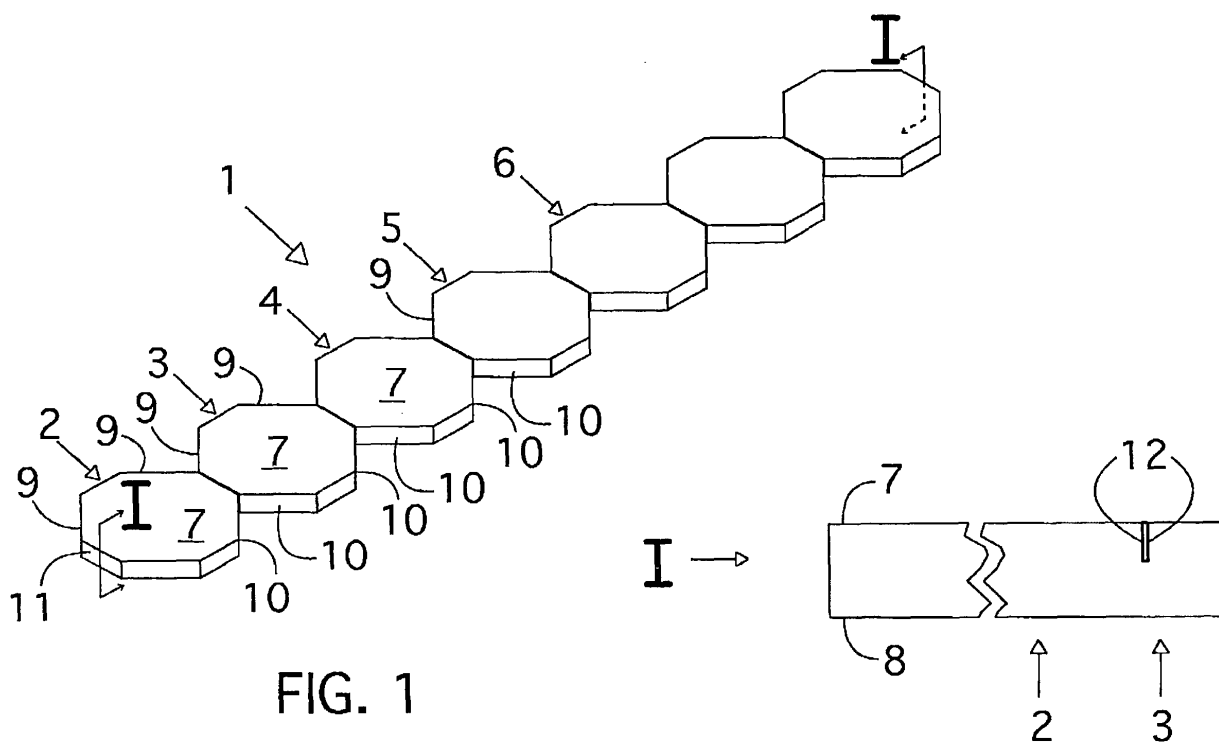


FIG. 1

Description

[0001] The present invention relates to a coin token assembly, and to a method for dispensing coin tokens as well as a device for dispensing coin tokens.

[0002] In the organization of events and in for instance catering establishments and conference centres use is usually made of a closed payment system in which tokens are used. Such tokens are generally unique for the location or the event, and generally have no value outside of these. An advantage of such a system is that a plurality of payment points can be applied within the space of the event or the establishment, for instance for the purpose of providing refreshments or goods for payment, while it is possible to suffice with a small number or several token sale points where the internal tokens can be purchased with regular payment means such as Euros. A significant advantage hereof is that staff can accept the tokens in simple manner by way of payment and do not have to carry out any payment transactions with normal money. The payment transaction can hereby proceed more smoothly and the hands of staff are less soiled by frequently used currency. The security and monitoring of money flows within the establishment or the event can also be guaranteed in relatively simple manner.

[0003] In cash-point systems the coin tokens are counted out when they are sold, or sold in predetermined quantities. This counting-out is time-consuming work and requires a high degree of accuracy of cash-point staff.

[0004] In order to obviate such drawbacks the present invention provides a coin token assembly comprising coin tokens for use as value-representing token in a closed payment environment, comprising a number of mutually distinguishable tokens, wherein mutually adjacent tokens are connected to each other in a manner such that they are ordered in mutually separable manner relative to each other, and the array is suitable for placing in a dispensing device for dispensing a variable number of tokens made known to the dispensing device, wherein the tokens comprise a plastic material and have a thickness usual for tokens of for instance 0.05-5 millimetres.

[0005] Such a token assembly provides the advantage that it can dispense a desired number of tokens in automatic manner and with a relatively simple device. A member of staff selling the tokens need only carry out the financial transaction of the purchase in per se known manner, such as by means of cash or a credit card or PIN card transaction, and enter into the dispensing device the number of tokens to be dispensed. The dispensing device can then issue the tokens in the entered quantity, and optionally separate the issued tokens from the remaining token assembly. In an alternative embodiment it is possible for the sale to take place fully automatically by means of an automatic machine wherein electronic payment can for instance be made using credit card or so-called PIN card.

[0006] In a preferred embodiment the assembly can be arranged in the form of a roll. An advantage hereof is

that a very large quantity of tokens can be handled, transported and placed in a dispensing device in simple manner. A further advantage of such a roll is that a number of rolls can be placed in a magazine in the device, whereafter they can be placed successively in the functional or release position of the dispensing device, whereby the device refilling interval can be relatively long. Such a roll can for instance comprise five to thirty thousand tokens.

[0007] The separable transition between adjacent tokens is preferably formed by means of a notch in the material from which the assembly is manufactured. This notch is preferably situated on the inner side of a roll when the token assembly has the form of a roll. Such a notch has the advantage that the assembly has a certain strength, whereby a number of tokens coming from the token assembly likewise have such a strength. One or a number of tokens can further be separated in simple manner by being broken off at the position of the notch. Such a notch can be produced by means of arranging an incision, for instance by means of a punch knife. A very advantageous mass production of such an assembly hereby becomes possible.

[0008] In a further preferred embodiment the notch is arranged on the inner side of the roll in the rolled-up position of the roll. This makes it for instance possible that, when the assembly is being rolled up or is in the rolled-up position, the remaining connection at the notch remains undamaged, whereby the strength of the assembly is maintained, and the operation of automatic dispensing can for instance take place undisturbed.

[0009] Use is preferably made in the manufacture of the assembly of an extrusion process for manufacturing a strip or a number of parallel strips of tokens. This embodiment also enables advantageous mass production of the assembly.

[0010] The making of the notch is preferably carried out by means of a cutting operation or a punching operation through a part of the thickness of the material. This measure also contributes toward an advantageous mass production process.

[0011] The token assembly preferably has a thickness of 0.1-5 mm, more preferably 0.5-4 mm, still more preferably 1-2.5 mm. An advantage of coin tokens with some thickness in such an application is that a supply of used tokens can be counted in simple manner by weighing thereof, for instance at a sales point for refreshments.

[0012] The transition between adjacent tokens is preferably formed such that a perceptible or tangible indicator is provided for the separation between these adjacent tokens. A person with a determined quantity of tokens which are still coupled together can hereby find a break-off position in simple manner by touch. This indicator can further be used to count out a number of tokens in the dispensing device. Use can herein be made of mechanical or optical means for determining the presence of such an indicator.

[0013] In a further preferred embodiment the tokens can be ordered in a number of parallel arrays within the

assembly. A number of tokens can hereby be issued simultaneously adjacently of each other. A further advantage hereof is that issuing can take place more rapidly. The capacity of a token assembly can also be increased, even when it is in roll form.

[0014] The token assembly preferably comprises a somewhat flexible material such as a plastic, such as a thermoplastic elastomer. A polystyrene can be envisaged here. Other plastics may also be suitable. Such materials are suitable for the stated roll shape and can be formed in simple manner. A further preferred material is a biopolymer for an environmentally-friendly result.

[0015] In a further preferred embodiment the separation between distinguishable parallel arrays can be discerned differently from the separation between tokens within a parallel array. An advantage hereof is for instance that the individual arrays can be broken off more readily than the tokens within an array.

[0016] In a further preferred embodiment some of the tokens are divisible for the purpose of providing for instance half-tokens. It hereby becomes possible to apply a greater price differentiation in the closed payment system. The token assembly is preferably provided with a surface embellishment such as by means of a foil, colour printing and/or relief design. The tokens can hereby each be provided with the same appearance. It is further possible to provide a larger quantity of tokens together with a pattern, design or image. The event or the establishment can hereby distinguish itself in a unique manner.

[0017] In a further preferred embodiment the tokens comprise an identifier such as an RF-ID chip, a metal mass, a coil or a combination thereof. An advantage hereof is that the detection of a single token, for instance for counting thereof, can be performed by means of inductive means. Tokens can hereby be counted during dispensing thereof by the dispensing device and after use as payment. An advantage of such an identifier is that the tokens can be counted in larger quantity during the payment transaction.

[0018] If someone wishes to make a payment of for instance more than ten tokens, counting thereof during busy moments is inconvenient and time-consuming, wherein there is a risk of the member of staff making a mistake. By means of the identifier the quantity of tokens can now be counted by machine and the quantity shown by the counting device. A quantity of tokens with an RF-ID can for instance be placed in a holder of a counting device, after or during which operation the counting device indicates the number. The RF-ID can for instance be arranged in or on the token.

[0019] The token assembly is preferably provided with a start indicator of the assembly. During transport and placing of the token assembly in the device it is hereby possible to check whether the correct number is still present on the token assembly.

[0020] At least some of the tokens are preferably provided with an indicator for indicating a quantity of tokens remaining in the assembly. An advantage hereof is that

it is possible to recognize, either in automatic manner or in manual manner, when the token assembly will be used up and has to be replaced.

[0021] A further aspect of the present invention relates to a method for dispensing a variable number of tokens from a coin token assembly according to one or more of the foregoing claims, comprising steps for:

- determining the quantity of tokens or token arrays which have to be dispensed;
- feeding through the token assembly in accordance with the determined number;
- separating the tokens from the token assembly. An advantage of such a method according to the invention is that a variable number of coin tokens can be dispensed automatically using a dispensing device on the basis of a number determined ad hoc. Such a method can likewise be performed using an automated vending device comprising the dispensing device and a payment system. The step for separating the tokens to be dispensed herein comprises steps for breaking off the tokens along a notch by exerting a force against the side remote from the notch, this step enabling a simple separating operation. The tokens for separating will break off with a simple 'snap'.

[0022] In a practical embodiment the tokens are first bent upward on one side, thereby creating a weak seam in the assembly. The tokens are then bent upward on the other side, whereby a weakness is created or the tokens to be dispensed break off.

[0023] The method preferably comprises steps for detecting transitions between successive tokens or arrays, or steps for measuring an unrolling distance of the token assembly.

[0024] A further aspect of the invention relates to a dispensing device for dispensing a variable number of coin tokens, or coin token arrays of coin tokens in mutually adjacent order, from a token assembly, comprising:

- a holder for the token assembly;
- a drive unit for driving the token assembly in order to issue a number of tokens from the device;
- a processing unit for controlling the drive unit;
- input means for inputting into the processing unit the number of tokens to be issued. Advantages of such a dispensing device have been described in the foregoing with reference to the coin token assembly.

[0025] The device preferably comprises means for causing a separation between the tokens to be dispensed and the rest of the assembly. The separating member herein comprises means for breaking off the tokens along a notch by exerting a force against the side remote from the notch.

[0026] An advantage of the initial break is that it makes separation of the tokens along this initial break easier for the user of the tokens. It provides for instance the option

of forming strips of tokens still attached to each other for further separation thereof later. A user of the tokens hereby has at his/her disposal a number of strips of tokens attached to each other, whereby he/she can manage or count his/her tokens in simple manner.

[0027] Further advantages, features and details of the present invention are described in greater detail hereinbelow on the basis of embodiments and with reference to the accompanying figures, in which:

- Fig. 1 shows a first preferred embodiment of a token assembly according to the present invention;
- Fig. 2 shows a further preferred embodiment of a tokens assembly according to the present invention;
- Fig. 3 shows an embodiment of a method according to the present invention;
- Fig. 4 shows a further embodiment of a method according to the present invention;
- Fig. 5 shows a preferred embodiment of a device according to the present invention;
- Fig. 6 shows a preferred embodiment in a first perspective of a separating member according to the present invention;
- Fig. 7 shows a second perspective of the separating member of Fig. 6;
- Fig. 8 is a cross-sectional view of the separating member of Fig. 6.

[0028] A preferred embodiment according to the present invention (fig. 1) relates to a token strip 1 which can be brought into the form of a roll (fig. 5) for placing thereof in a dispensing device. Coin tokens 2,3,4... are cut or punched out of a strip of plastic suitable for this purpose such as polypropylene. In fig. 1 the tokens are octagonal through cutting away of corners of the tokens so as to create the inclining surfaces 9 and 10. It is also possible to leave the tokens in quadrangular form, wherein cutting away of the corners is omitted. It is possible in alternative manner to opt for another form of cutting, such as a curved cut. The front surface of the first token is designated by the reference 11.

[0029] It is important that successive tokens are connected to each other in a breakable manner. An incision 12 can be provided for this purpose (see detail I) which can for instance be arranged by means of a knife suitable for the purpose during the cutting operation for manufacturing surfaces 9,10. It is equally possible to create a channel 12 during manufacture of the strip of plastic for instance by means of an extrusion process.

[0030] As stated, the strip of plastic can be manufactured by means of an extrusion process. It can likewise be manufactured by cutting one or more strips from a wide strip of plastic.

[0031] When rolling up the array, the notches or channels 12 are preferably kept on the inside so that the tensile forces on the material produce stresses on the other side of the array relative to channels 12. In the other case there is a risk of the breaking-off process of individual

tokens already starting while the tokens are located on the roll. This is however greatly dependent on the choice of material and the manner of arranging the channels, and no limitation is therefore intended with this preference.

[0032] Detail I shows the cross-section of the first token 2 and a part of the second token 3 of the array. The material is bounded on the top side of the tokens by surface 7 and on the bottom side by surface 8. Shown is that channel 12 extends along a part of the height of the material. A desired strength is created by selecting this height subject to the material, and for instance the width of the tokens at the position of the transition between the tokens. This strength determines how easily tokens can be broken off.

[0033] Fig. 2 shows an array with a plurality of tokens adjacent to each other. Five tokens are here situated adjacently of each other per array. A suitable array length of for instance 2-10 can be chosen depending on the desired dispensing width. Cross-section II is situated, just as cross-section I, in the longitudinal direction or dispensing direction of the token assembly. The cross-section shows successive tokens 21,22,23,24 which are partially separated from each other by means of incisions 12.

[0034] Cross-section III is situated in transverse direction relative to the dispensing direction. In this section tokens 21,25,26,27,28 are shown adjacently of each other. These tokens are separated from each other by means of the partial incisions 12. During issue these five tokens are issued parallel to each other from the dispensing device. As indicated in the foregoing, it is likewise possible to make the width of this token assembly 2-4 or 6 and more tokens wide.

[0035] Fig. 5 shows a preferred embodiment of a device for dispensing tokens according to the present invention. The device comprises a control panel on which it is possible to enter the number of tokens which must be dispensed. In an alternative embodiment this panel can be provided as separate unit, or the device can be coupled to an external payment system or cash-point system from which a signal is fed to the device. The device further comprises a processing unit for processing the number of tokens to be dispensed. This processing unit controls a drive unit 72 for driving the token assembly 1 or 20. The drive unit is provided with schematically designated drive means such as rollers 73 for transmitting the movement to the assembly of tokens. It is equally possible to envisage the token assembly being driven from the token assembly suspension shaft 74 which can be given a drivable form.

[0036] In order to determine the number of token positions the drive unit has advanced the assembly a counter 75 is arranged which counts this number and which is coupled to the processing unit for controlling stopping of the drive unit. An alternative hereto is that the drive can be controlled, for instance by means of a stepping motor, such that the throughput is known on the basis of the control. In such a case a measurement can however

also be envisaged for checking purposes.

[0037] Fig. 3 shows a preferred embodiment of a method for dispensing tokens according to the invention. The method is started in step 40. In step 41 the number of tokens to be dispensed is fed to the processing unit from control panel 76. The associated amount is then calculated in step 42 and shown on a display of the control panel. If acceptance of this amount is entered by the purchaser of the tokens, the method continues in step 44. If this amount is unacceptable to the token purchaser, the method returns to step 40 by means of step 43. In order to avoid this route it is for instance possible to display a table of a number of tokens for a determined price, so that the purchaser gains better insight beforehand into the cost. This display of such a table can be carried out on a price-list or on a screen.

[0038] In step 44 the processing unit receives a confirmation of the issue of the number of tokens, for instance via an input button <OK>, from a seller or via a payment unit coupled to the dispensing unit. In step 45 the number of tokens is issued from the device by providing the drive unit with a corresponding instruction, on the basis of which the drive unit advances the tokens by means of the drive rollers.

[0039] In step 46 the processing unit checks by means of counter 75 that the determined number of tokens is issued from the device. A check is further made by means of the measurement of the counter whether the token assembly is situated in the correct position for separation from the supply strip of the tokens to be dispensed. If this is the case, the part to be dispensed is severed from the roll in step 47 by means of a cutting member. The method ends in step 48.

[0040] Fig. 4 shows an alternative method for dispensing a number of tokens. The method begins in step 50. In step 51 a number of tokens is chosen by a customer and this is communicated to a cashier. This cashier enters the number in a control panel coupled to the dispensing device, for instance control panel 75. In step 53 the amount associated with the number of tokens is calculated by the processing unit. This amount is shown in a display of the control panel in step 64. In step 55 is determined whether this amount is acceptable and, if this is not the case, the cashier is informed of this in step 56, whereafter the latter presses a correction key, and the method restarts in step 50.

[0041] If it is determined in step 58 that the amount is acceptable, payment is made in step 58 and in step 59 an <OK> key is pressed in, on the basis of which the dispensing device issues the number of tokens, which are given together with possible change to the customer by the cashier. The method then stops in step 62.

[0042] A further embodiment (Fig. 6) relates to a dispensing member 18 in which a number of functions for issuing the token array are integrated. The dispensing member comprises means for arranging an initial bend and for performing the subsequent breaking-off operation. This will be explained in detail hereinbelow.

[0043] Broadly stated, the dispensing member comprises a frame comprising bottom plate 103 and two vertical walls 101 on either side thereof. Between vertical walls 101 and 102 are arranged three rollers 81,82,83 which are each rotatable along a central shaft. Roller 81 has a stationary position relative to vertical walls 101, 102. Roller 82 is horizontally slidable relative to vertical walls 101 and 102 by means of a slot 97 in each of these two plates. Roller 83 is movable relative to vertical walls 101 and 102 by means of curved slot 93 in these two plates.

[0044] The token assembly 20 is fed through between the three rollers 81,82,83 (Fig. 8). Roller 81 is drivable by means of motor 84. Roller 82 is slidable horizontally as seen in the figure through slot 97 by means of shaft 91 thereof.

[0045] Roller 82 is used as pressure roller which can be pressed in horizontal direction against roller 81 along slot 97. Pressing of roller 82 against roller 81 is carried out by means of pressure member 88 which is fixed to the outside of the respective walls 101 and 102. A pressing plate 90 is driven on either side of the roller by means of two slidable rods 89. This pressing plate 90 connects the two rods 89 to central shaft 91 of roller 82. Driving of the drive rods 89 in pressure members 88 can be effected in per se known manner. Spring force, hydraulics or an electric coil with a magnet can be envisaged here.

[0046] In the positioning in the figure the token array 20 is supplied from the underside between the two rollers 81,82 and pushed upward therebetween. The third roller 83 then has the function of arranging a first bend in the token array 20. This achieves on the one hand that the token array can be broken off in simple manner along the created bend and on the other that the token array is urged in the direction of arrow B through slot 87 of throughfeed channel 86. This channel is likewise arranged between the two plates 101 and 102 of the frame. Fixed to channel 86 is a motor 94, which motor drives a breaking cam 95. Once the desired number of tokens has been fed through channel 86, the token array 20 is stopped. Cam 95 is then set into rotation in order to break off, in opposite direction to the initial bend, the tokens fed through the channel. For this purpose cam 95 is provided with rotatable disc 96 which can rotate relative to cam 95.

[0047] In the operation described in the foregoing practical use is made of the mechanical properties of the token array. The incisions 12 are enlarged by the initial bend, whereby the tokens are still only connected to each other on either side of the enlarged bend by a thin layer of token material. This thin layer, which despite the initial bend continues to form a connection, can be easily broken off by a relatively small force by cam 95 in the other direction, whereby the whole array of five tokens, or a plurality thereof, will break off. This action will of course also function with an array width of a different number of tokens.

[0048] In this embodiment driving of the drive roller is controlled such that the issue through the channel is stopped in suitable manner after the end of the channel

slightly beyond a separation between successive tokens. The initial bend which has to be broken is preferably situated between the outer end of the channel and the rotatable disc 96 of cam 95.

[0049] The present invention is not limited to the foregoing description. The rights sought are defined by the appended claims, on the basis of which the skilled person can make many modifications within the scope of the description.

Claims

1. Coin token assembly, comprising coin tokens for use as value-representing token in a closed payment environment, comprising a number of mutually distinguishable tokens, wherein mutually adjacent tokens are connected to each other in a manner such that they are ordered in mutually separable manner relative to each other, and the array is suitable for placing in a dispensing device for dispensing a variable number of tokens made known to the dispensing device, wherein the tokens comprise a plastic material and have a thickness usual for tokens of for instance 0.05-5 millimetres. 15
2. Token assembly as claimed in claim 1, wherein the assembly can be arranged in the form of a roll. 20
3. Token assembly as claimed in claim 1 or 2, wherein the separable transition between adjacent tokens is formed by a notch in the material from which the assembly is manufactured. 25
4. Token assembly as claimed in claim 3, wherein the notch is arranged on the inner side of the roll in the rolled-up position of the roll. 30
5. Token assembly as claimed in one or more of the foregoing claims, wherein one of the steps of manufacturing the token assembly comprises an extrusion step of the material. 35
6. Token assembly as claimed in one or more of the foregoing claims 3-5, wherein the notch is or can be made by means of a cutting operation or a punching operation through a part of the thickness of the material. 40
7. Token assembly as claimed in one or more of the foregoing claims, wherein the tokens can be ordered in a number of parallel arrays within the assembly. 45
8. Token assembly as claimed in one or more of the foregoing claims, wherein a transition between adjacent tokens is formed in order to provide a perceptible or tangible indicator for the separation between these adjacent tokens. 50
9. Token assembly as claimed in one or more of the claims 7-8, wherein a separation between distinguishable parallel arrays can be discerned differently from the separation between tokens within a parallel array. 55
10. Token assembly as claimed in one or more of the foregoing claims, comprising a somewhat flexible material, such as a thermoplastic elastomer or a biopolymer. 60
11. Token assembly as claimed in one or more of the foregoing claims, wherein the tokens are manufactured from a material with a thickness usual for tokens, such as 0.1-5 millimetres, more preferably 0.5-4 millimetres, still more preferably 1-2.5 millimetres. 65
12. Token assembly as claimed in one or more of the foregoing claims, wherein each token has a length, width or diameter of 0.5-6 cm, preferably 1-4 cm, more preferably 1.5-3 cm. 70
13. Token assembly as claimed in one or more of the foregoing claims, comprising a surface embellishment in the form of a holographic representation, or an imprint by means of a foil printing, heat transfer process and/or relief design. 75
14. Token assembly as claimed in one or more of the claims 1-4 and 6-12, wherein the separation between successive tokens is definable by means of a channel to be moulded in the material. 80
15. Token assembly as claimed in one or more of the foregoing claims, wherein at least some of the tokens are divisible for the purpose of providing for instance half-tokens. 85
16. Token assembly as claimed in one or more of the foregoing claims, wherein the tokens comprise an identifier such as an RF-ID chip, a metal mass, a coil or a combination thereof. 90
17. Token assembly as claimed in one or more of the foregoing claims, comprising a start indicator of the assembly. 95
18. Token assembly as claimed in one or more of the foregoing claims, wherein at least one of the tokens is provided with an indicator for indicating a quantity of tokens remaining in the assembly. 100
19. Method for dispensing a variable number of coin tokens from a coin token assembly as claimed in one or more of the foregoing claims, comprising steps for: 105
 - determining the quantity of tokens or token ar-

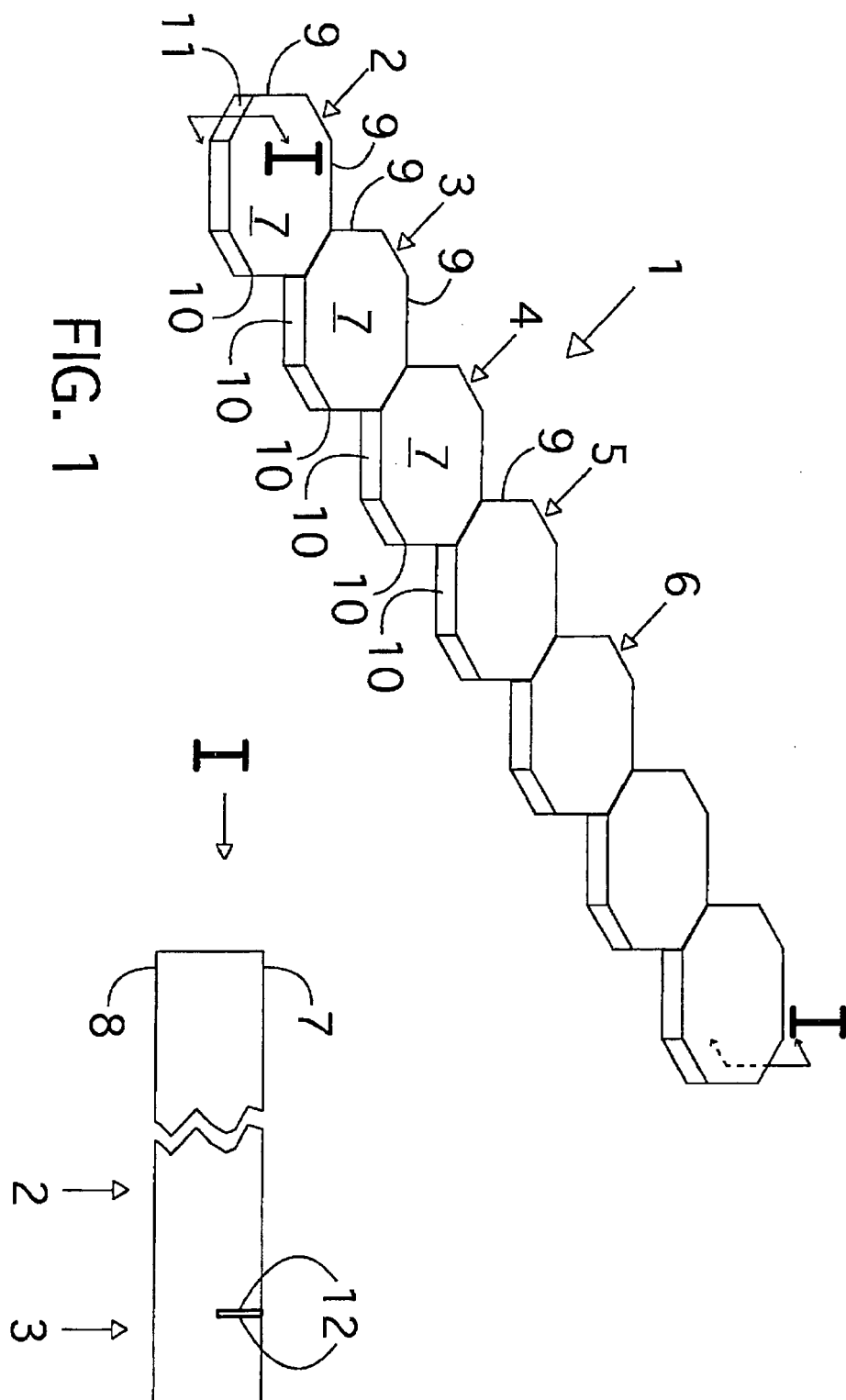
rays which have to be dispensed;
 - feeding through the token assembly in accordance with the determined number;
 - separating the tokens to be dispensed from the token assembly.

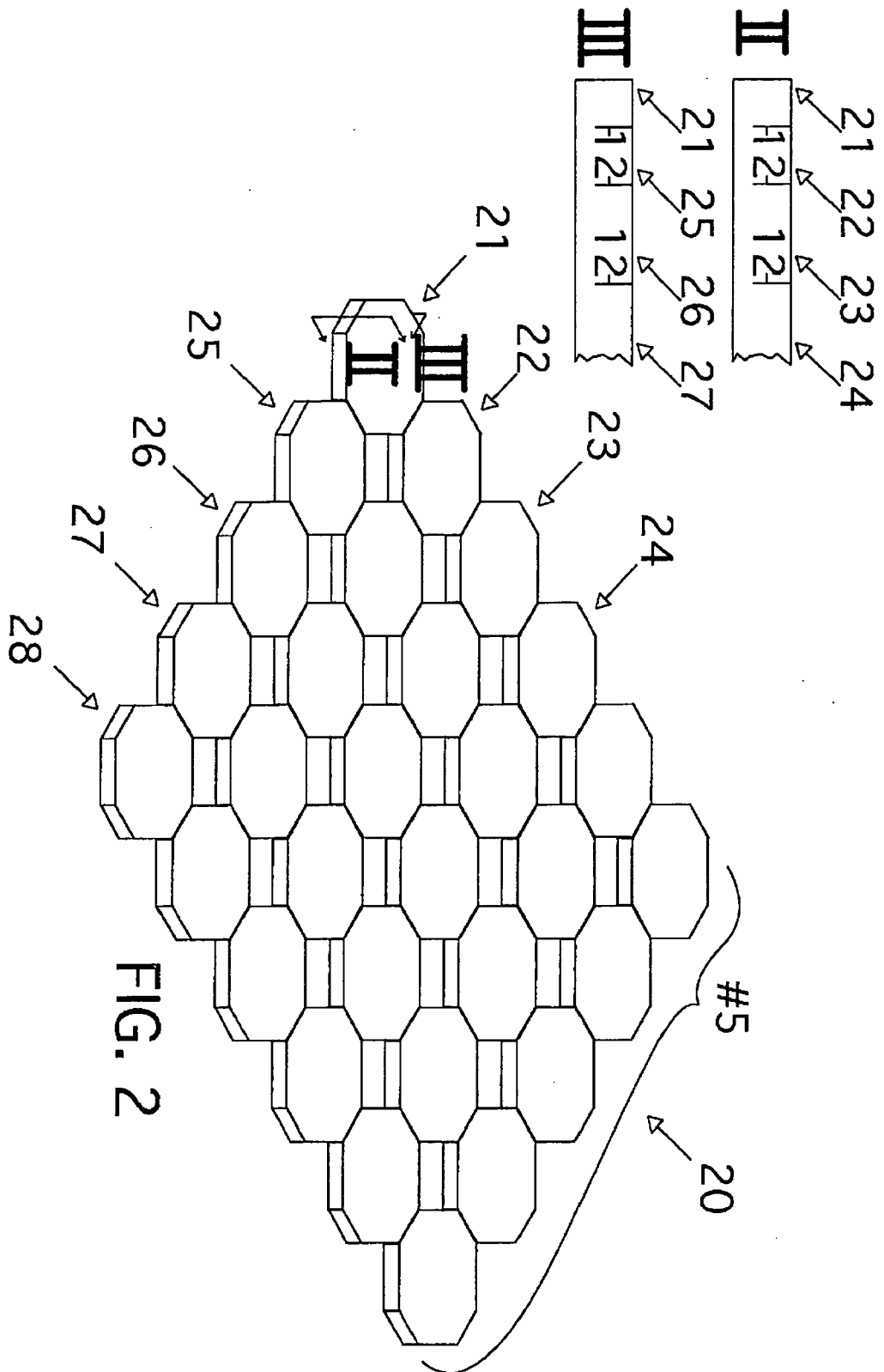
5

- 20.** Method as claimed in claim 19, wherein the step for separating the tokens to be dispensed comprises steps for breaking off the tokens along a notch by exerting a force against the side remote from the notch. 10
- 21.** Method as claimed in claim 19 or 20, comprising steps for detecting transitions between successive arrays. 15
- 22.** Method as claimed in claim 19 or 20, comprising steps for measuring an unrolling distance of the token assembly. 20
- 23.** Device for dispensing a variable number of coin tokens, or coin token arrays of coin tokens in mutually adjacent order, from a coin token assembly, comprising: 25
- a holder for the token assembly;
 - a drive unit for driving the token assembly in order to issue a number of tokens from the device;
 - a processing unit for controlling the drive unit; 30
 - input means for inputting into the processing unit the number of tokens to be issued.
- 24.** Device as claimed in claim 23, comprising a separating member for separating the tokens, which separating member comprises means for breaking off the tokens along a notch by exerting a force against the side remote from the notch. 35
- 25.** Device as claimed in claim 23 or 24, comprising counting or measuring means for feeding to the processing unit data relating to the number of issued tokens or token arrays. 40
- 26.** Device as claimed in claim 23, 24 or 25, comprising means for determining the advancing distance of the motor or the token array. 45

50

55





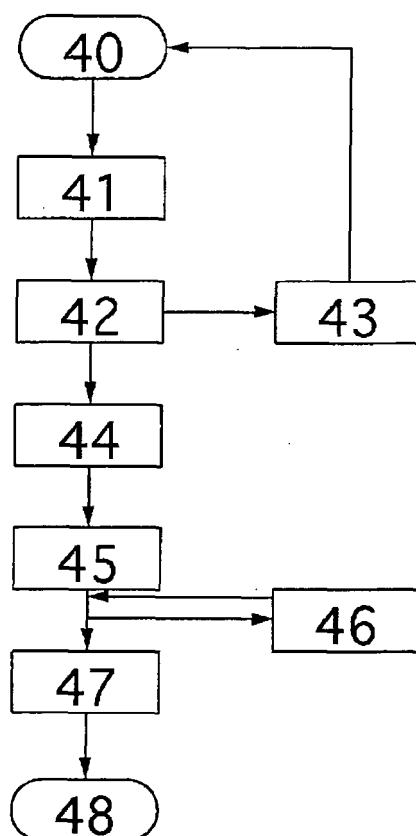


FIG. 3

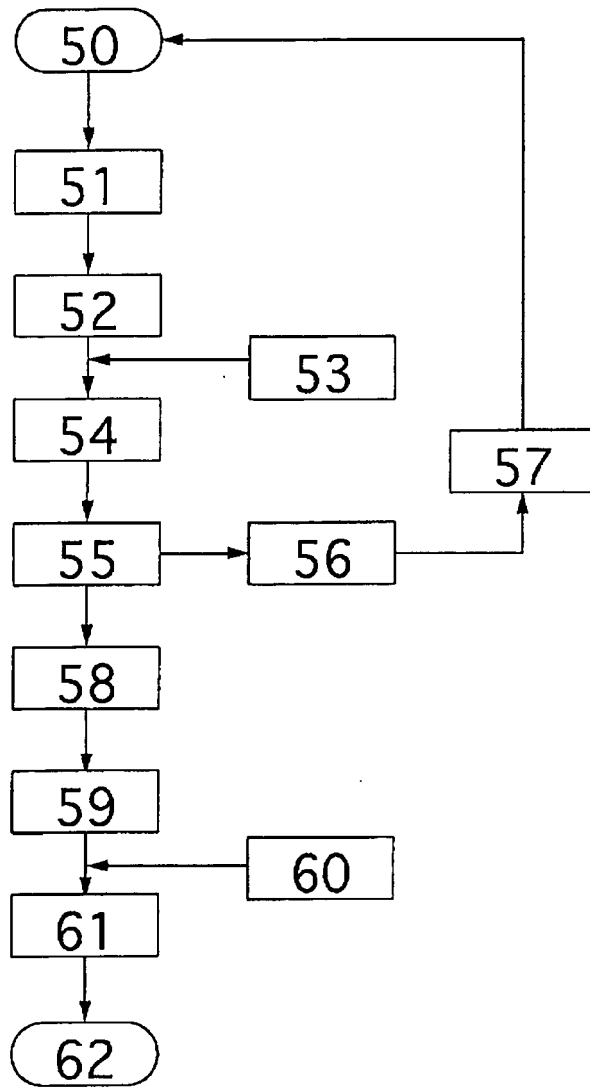


FIG. 4

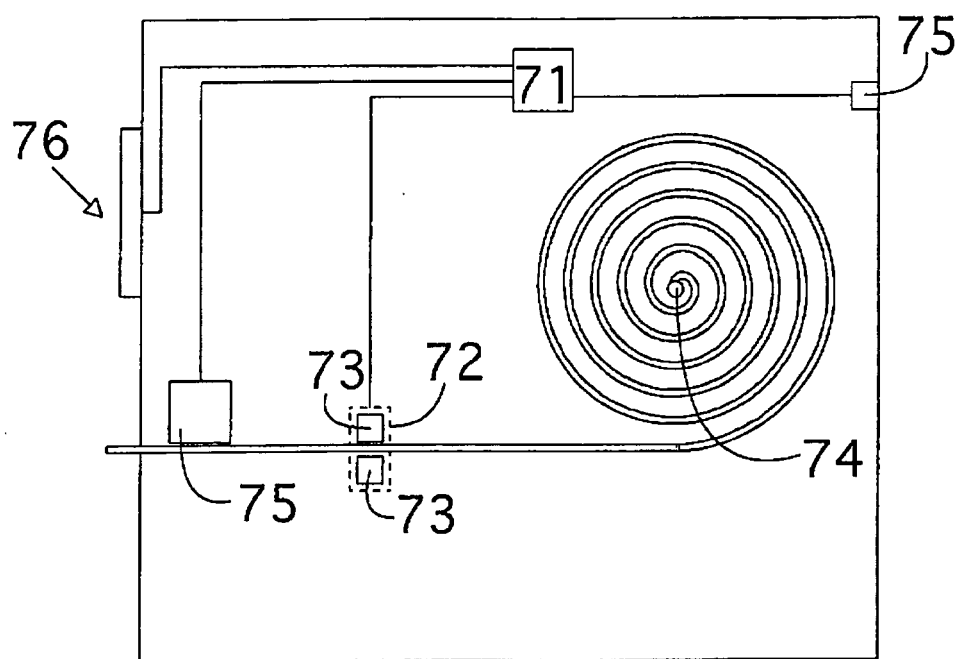


FIG. 5

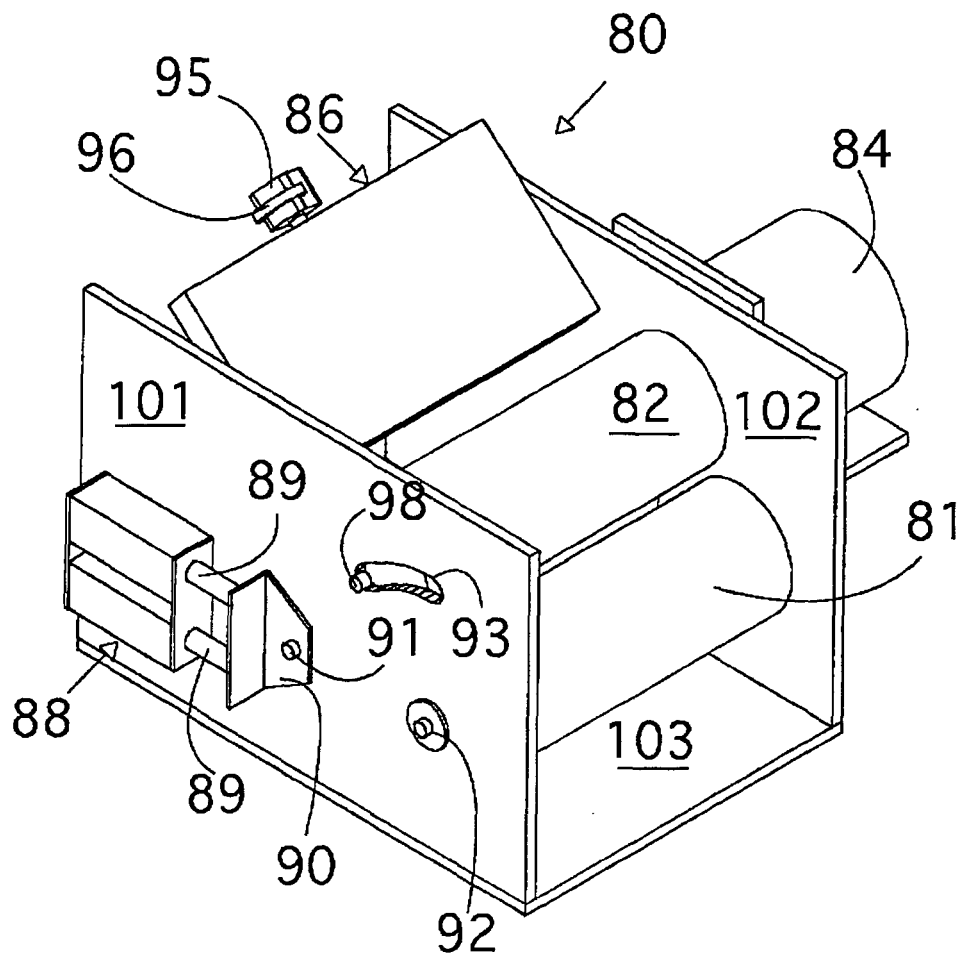


FIG. 6

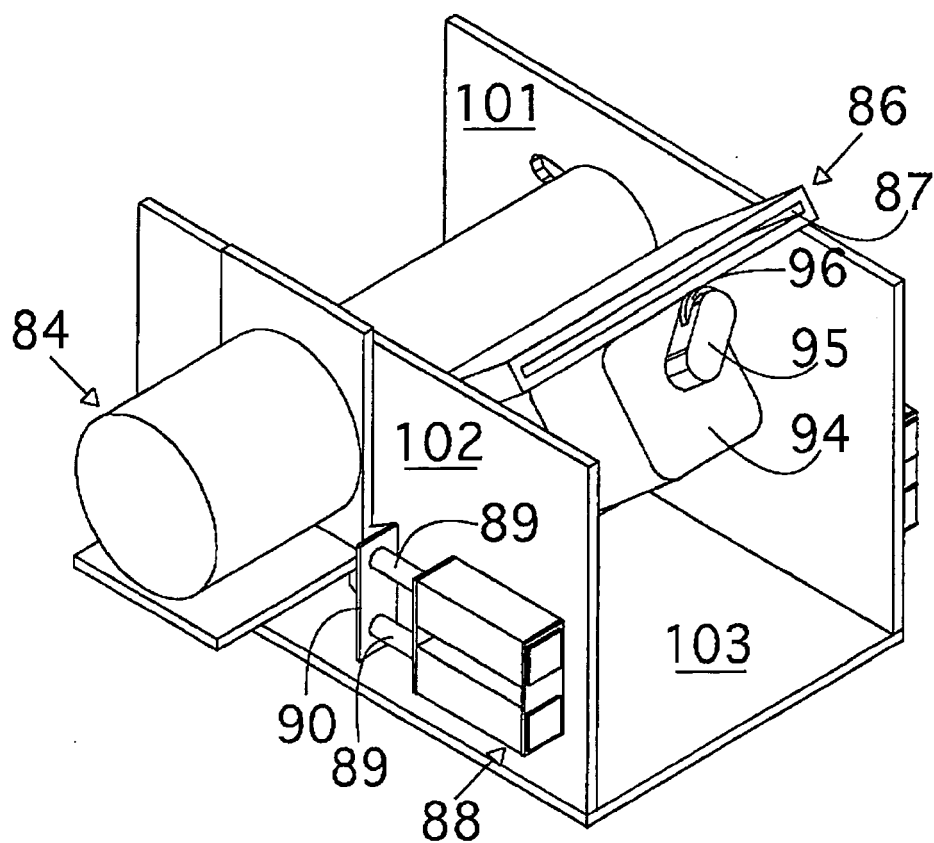


FIG. 7

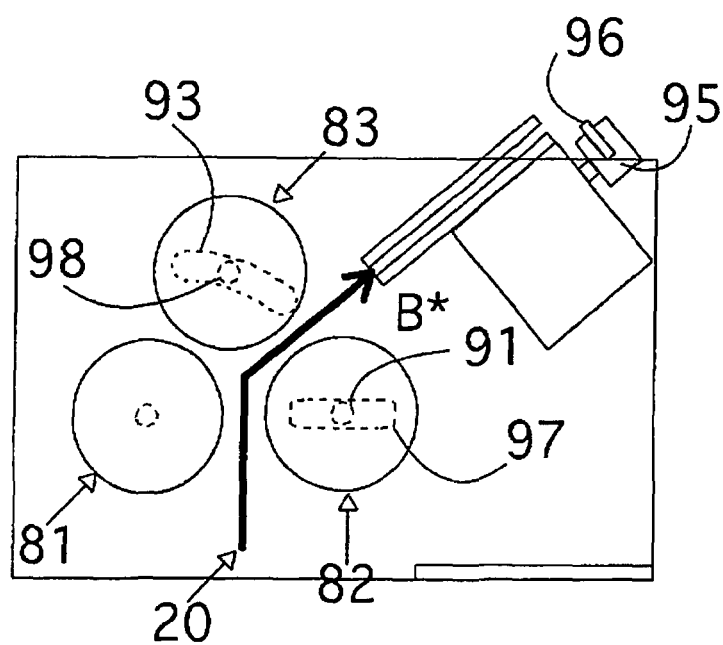


FIG. 8



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 06 01 4187

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	DE 39 41 286 A (BIHLER) 20 June 1991 (1991-06-20)	1,2, 4-14, 16-19, 21-23, 25,26	INV. G07F1/06 G07F11/68
Y	* column 2, line 43 - line 67 * * column 3, line 12 - line 41 * * column 3, line 50 - column 4, line 4; figures *	3,15,20, 24	
X	US 3 209 882 A (STEVENSON ET AL.) 5 October 1965 (1965-10-05)	1,3,8-15	
Y	* column 2, line 36 - line 46 * * column 4, line 7 - line 20 * * column 4, line 27 - line 31; figure 7 *	3,15,20, 24	
X	DE 933 956 C (SEITZ-AUTOMATEN-BAU-GESELLSCHAFT) 6 October 1955 (1955-10-06)	1,2, 7-13,17, 19, 21-23, 25,26	TECHNICAL FIELDS SEARCHED (IPC) G07F
X	US 5 695 107 A (SHOEMAKER, JR.) 9 December 1997 (1997-12-09)	1-3,6,8, 10-13, 17, 19-23, 25,26	
A	* column 5, line 38 - column 6, line 29; figures 3,5 *	24	
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 16 October 2006	Examiner Neville, David
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

2
EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 06 01 4187

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

16-10-2006

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
DE 3941286	A	20-06-1991	NONE	
US 3209882	A	05-10-1965	NONE	
DE 933956	C	06-10-1955	NONE	
US 5695107	A	09-12-1997	NONE	