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(54) **Device for calibrating electronic coin acceptors to coins identification**

Vorrichtung zur Kaliebrierung elektronischer Münzannahmevorrichtungen zum Identifizieren von Münzen

Dispositif pour calibrer un appareil accepteur de pièces de monnaie à identifier des pièces de monnaie

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WO-A-97/27567
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Description

[0001] The present invention relates to electronic devices for validation and accumulation of credit in stations and/or machines for automatic distribution of goods and/or services, video games, etc., with particular reference to electronic coin acceptors.

[0002] More particularly, the present invention relates to a method for calibrating electronic coin acceptors for coin validation.

[0003] Different types of stations and/or machines for automatic distribution of goods and/or services have heretofore been provided, as featuring a suitable device for validation of coins or for accumulation of credit, known as electronic coin acceptor.

[0004] Before being installed on a machine for distributing goods and/or services, the electronic coin acceptor must be suitably prepared and programmed to identify all the desired coins.

[0005] The coin acceptor must distinguish all the possible types of coins which can be introduced therein, and consequently, it accepts them to accumulate the credit needed for obtaining the requested good or service.

[0006] Moreover, due to possible faults of the electronic measuring and detecting components, which form the coin acceptors, deriving from the very nature of such components or from production processing defects, the characteristic parameters of the components are not perfectly fixed, but can be determined only taking into consideration a tolerance limit.

[0007] Therefore, the manufactured coin acceptors are not in fact identical to one other, i.e. each one has a device for identifying coins which presents a related error.

[0008] Consequently, each coin acceptor has its owns reading value for a predetermined coin, which is different from other coin acceptors, although contained within a limited interval.

[0009] Thus, it is necessary to act singularly on each manufactured coin acceptor and adapt it to identify and distinguish all possible types of coins which can be introduced therein.

[0010] The adaptation of the coin acceptors to identification of different types of coins is very difficult and cannot be promptly carried out, since all the existing types of coins are to be previously introduced into each coin acceptor.

[0011] In fact, the operator, who adapts the coin acceptor, when the production line makes it available, must be provided with all existing types of coins and introduce some pieces of the same type, one at a time, into the acceptor.

[0012] When a certain coin is introduced, the coin acceptor measures the coin and stores its relative value in a memory, usually called "database".

[0013] When all the types of coins to be identified have been introduced, the coin acceptor has created a database table with all identification values, which the coin acceptor has associated to each single coin.

[0014] At this point, the operator sets up the coin acceptor, by adjusting the relative electronic devices to interact with the database, so that the coin acceptor can use the database just created for comparing the coins introduced therein, when it is installed on the distributing machine.

[0015] Accordingly, the machine will link the coin introduced therein to a particular stored type and will accumulate a corresponding credit.

[0016] The above mentioned calibration operations must be carried out with each single coin acceptor, which means that all possible desired types of coins must be introduced in each coin acceptor.

[0017] Moreover, for each coin acceptor there must be created a database, that is characteristic of and unambiguously connected to a related coin acceptor.

[0018] Therefore, the coin acceptors calibrating operations used so far cause a considerable and disadvantageous waste of time, which weighs upon the global cost of each coin acceptor.

[0019] Moreover, if a new type of coin is put into circulation, the producers must collect the coin acceptors previously distributed on the market to adapt them to identify the new coins, which leads to the necessity to create a new database stored into the coin acceptor.

[0020] The European Patent 0 072 189 describes a method and an apparatus for calibrating a coin validation device, which is equipped with a section for verifying coins and a programmable memory (PROM 3).

[0021] The apparatus, which carries out the method includes two sample tokens, a programmable memory PROM 5 and a computer.

[0022] The PROM 5 contains, memorized therein, the standard reference values of parameter signals of the two sample tokens and the standard reference values of different denominations of coins acceptable .by the validation device.

[0023] The calibrating method described in the European Patent 0 072 189 includes substantially the following steps:

- the computer and the memory PROM 5 are connected to the validation device;
- the two sample tokens are introduced into the verifying coin section and the values of two parameter signals are determined for each token;
- the obtained values are introduced into an internal memory of the computer;
- the computer compares the values of the signals of the two sample tokens with the standard reference values of the sample tokens contained in the PROM 5;
- the computer .stores in its internal memory the cal-

ibrating parameters resulting from the above mentioned comparison;

- the computer, using the calibrating parameters, elaborates standard reference values for different coins, which values are contained in the PROM 5, and obtains new reference values relative to the validation device undergoing the operation;

- the computer and the PROM 5 are disconnected from the validation device.

[0024] The above described method allows to adapt the coin acceptors for identification of coins without introducing all the denominations of acceptable coins, as it works with two tokens only. However, the method is difficult because it requires the use of a computer and an outer memory, which must be connected to each coin acceptor to be calibrated.

[0025] Moreover, the contemporary use of more memory units, in particular the PROM 3, PROM 5, and the computer internal memories, is required for manipulating the standard reference values of the acceptable coins denominations in order to adapt them to the characteristics of each single coin acceptor.

[0026] The calibration of the coin acceptors, according to the method described in the European Patent 0 072 189, requires always the presence of a specialized technician specially trained to operate the computer and the PROM 5, as well as to connect them to the coin acceptors to be calibrated.

[0027] An alternative technique is disclosed in WO 97/27567.

[0028] The object of the present invention is to provide a method for calibrating electronic coin acceptors for coin identification, which method does not require the introduction of all the types of the coins that the acceptor must recognise.

[0029] Another object of the present invention is to propose a method for calibrating electronic coin acceptors for coin identification, which method does not require the use of a computer connected to the coin acceptors during the calibrating operation.

[0030] Still another object of the present invention is to propose a method, which allows to use only one memory unit, situated inside the coin acceptor.

[0031] A further object of the present invention is to propose a method, which allows to calibrate coin acceptors in a short time and with simple and immediate operations.

[0032] Yet another object of the present invention is to propose a method for calibrating electronic coin acceptors which allows a quick updating of the coin acceptor memory in case a new coin has been put into circulation.

[0033] The above mentioned objects are fully obtained in accordance with the subject-matter of claims 1 and 2.

[0034] The characteristic features of the invention are fully described in the following detailed description taken in conjunction with the accompanying drawing, which illustrates, in a schematic way, a block diagram including the main steps of the method for calibrating electronic coin acceptors to coin identification.

[0035] The proposed method concerns the adaptation of a reference database to the characteristics of the single electronic coin acceptors of traditional type, which are made available by the manufacturers.

[0036] The adaptation allows to obtain, for each single coin acceptor, a memory which contains characteristic parameters of different existing coins, which have been modified in accordance with the production tolerance and faults of the electronic components of the coin acceptors.

[0037] According to the proposed method, the reference database is adjusted to the characteristics of the single manufactured coin acceptors for adapting them to identification of all existing types of coins by using only one sample coin.

[0038] The sample coin has characteristic identification parameters, which are unambiguously predetermined and previously known.

[0039] According to the proposed method, as shown in the block diagram, a first database is initially created by introducing different types of coins to be identified one after another, into a first coin acceptor.

[0040] The coin acceptor associates each single coin with a proper reference signal, which depends on its characteristic parameters, such as weight, diameter, thickness.

[0041] The set of reference signals, each related to a particular kind of coin, is stored into the first database, which forms the characteristic reference memory of the coin acceptor concerned.

[0042] Afterwards, a sample coin with identification parameters, such as weight, diameter, thickness unambiguously predetermined and previously known, is introduced into the first coin acceptor.

[0043] Then, the coin acceptor measures these parameters, e.g. X for weight, Y for diameter, Z for thickness and so on.

[0044] The obtained parameters X, Y, Z are strictly connected, in an unambiguous way, to the coin acceptor concerned.

[0045] The first coin acceptor, as well as all coin acceptors made available by the production line, can work in two modes: a programming mode, in which the above mentioned database is created, and a calibrating mode, in which the parameters of the sample coin are determined as described above.

[0046] At this point, the parameters X, Y, Z and the values of the first database are retrieved from the first coin acceptor, and a universal reference database is thus obtained.

[0047] This universal reference database is transferred to a second coin acceptor.

[0048] Now, it is enough to introduce only one sample coin into the second coin acceptor, and read the corresponding identification parameters, e.g. X', Y', Z', which represent the capability of reading and identifying the coin acceptor concerned, according to its electronic components characteristics.

[0049] Then, the value of the just obtained parameters X', Y', Z' is compared with the value of the parameters X, Y, Z, introduced into the universal reference database, in order to determine differences between them.

[0050] The values of the reference signals of different coins contained in the universal reference database are changed, increased or decreased in relation to the obtained difference.

[0051] Thus, a new database is obtained, perfectly suited to the reading and identifying capability of the coin acceptor concerned, which now is equipped with its own characteristic reference memory.

[0052] Then, the universal reference database is transferred to a third coin acceptor and the sample coin is introduced therein. The related parameters e.g. X'', Y'', Z'' are read, the differences between the value of the parameters X, Y, Z, contained in the reference database, and the value of the just obtained parameters X'', Y'', Z'' are determined and the values of the reference signals of different coins contained in the reference database are changed.

[0053] Thus, a new database is obtained, suited to the third coin acceptor which is adapted to identification of different coins.

[0054] Afterwards, the universal reference database is transferred to a fourth coin acceptor and the sample coin is introduced therein, then, the relative parameters e.g. X''', Y''', Z''' are read, the difference between the value of the parameters X, Y, Z, contained in the reference database, and the value of the just obtained parameters X''', Y''', Z''' is determined and the values of the reference signals of different coins contained in the reference database are changed.

[0055] Thus, a new database is obtained, suited to the fourth coin acceptor which is adapted to identification of different coins.

[0056] In this way, all the remaining coin acceptors can be adapted in an extremely short time by transferring the universal reference database thereto and by repeating the above described simple and immediate operations.

[0057] According to an interesting embodiment, it is possible to first introduce the sample coin into coin acceptors to be calibrated and then transfer the universal database.

[0058] In practice, the first coin acceptor made available by the production line, is made work in two modes, programming mode and calibrating mode, in order to obtain the universal database, as described above.

[0059] All other coin acceptors made available by the production line are prepared to work in calibrating mode.

[0060] The sample coin is introduced into each coin acceptor for obtaining the characteristic parameters X', Y', Z' for the second coin acceptor, X'', Y'', Z'' for the third one, and so on.

[0061] When the universal database is transferred to each one of the coin acceptors, it is adapted to the characteristics thereof as a consequence of the comparison of the parameters X, Y, Z, contained in the universal database with the parameters obtained previously, during the calibrating mode.

[0062] Thus, the modification of the universal database in accordance to the characteristics of each single coin acceptor takes place inside the coin acceptor and without help of computers or outer memory units.

[0063] Moreover, the only memory unit used is the one containing the universal database, whose values are changed inside each single coin acceptor according to the following algorithm (referred to the i^{th} coin acceptor) :

- comparison of the read parameters X(i), Y(i), Z(i) of the sample coin obtained from i^{th} coin acceptor, with the values of parameters X, Y, Z contained in the universal reference database;

- determination of the difference for each parameter:

  DIFFERENCE (t) = READ VALUE (t) - REFERENCE VALUE (t) , where t = 1, ..., M, and M = number of characteristic parameters relative to the sample coin and to each coin denomination (in this case M = 3, weight, diameter and thickness);

  change of each set of reference parameters, relative to each, coin denomination contained in the universal reference database on the basis of the obtained differences: $COIN'_w$ (t) = = $COIN_w$ (t) + DIFFERENCE (t), where $COIN_w$ (t) is the reference value of the t^{th} parameter (weight, diameter, thickness) relative to the w^{th} denomination of the above mentioned group of coins contained in the universal database, whereas, $COIN'_w$ (t) is the reference value of the t^{th} parameter (weight, diameter, thickness) relative to the w^{th} denomination of the above mentioned group of coins adapted to the i^{th} coin acceptor.

[0064] The proposed method allows in an extremely advantageous way, to program all the manufactured electronic coin acceptors using only one sample coin, which leads to a considerable saving of time.

[0065] Moreover, the proposed method guarantees that the coin acceptors are adapted to the secure identification of all the different types of existing coins, by equipping the coin acceptors with a reference memory, called "database", which is then adjusted each time on the basis of characteristics of the single related coin ac-

ceptors.

[0066] Therefore, the proposed method guarantees the programming of the coin acceptors, calibrating them for identification of the coins, with few simple and immediate operations.

[0067] Moreover, the proposed method allows to use only one reference database and subsequently, to adapt it to all manufactured coin acceptors, which considerably reduces the costs.

[0068] Furthermore, according to the proposed method, in case a new coin is put into circulation, the already installed coin acceptors can be rapidly updated, by simply supplying the owners of the machines containing the coin acceptors, with a new reference database, which is obtained by the above described operations and which contains the reference signals of the previous coins, as well as the reference signal of the coin just put into circulation.

[0069] Therefore, the operator updating the coin acceptor introduces the sample coin, the coin acceptor reads the variation of the reference parameters and updates the reference database, changing the values contained therein on the basis of the variation.

[0070] In this way, it is possible to update an already installed coin acceptor in its operation place, without removing it.

[0071] Another advantage of the above described method lies in the fact that it is possible to obtain again the universal reference database, beginning from the database adapted to the single coin acceptor.

[0072] In fact, the coin acceptor can change the values contained in its database in the reverse way, e.g. $COIN_w(t) = COIN'_w(t) - DIFFERENCE(t)$.

[0073] It will be understood that variations of the order of the coin acceptor adaptation steps, as well as the modifications of the type and form of the sample coin, and of the way of creation and updating of the memory database, may be effected without departing from the spirit and scope of the novel concepts of this invention, as described above and claimed thereafter.

Claims

1. Method for calibrating coin acceptors for validation of coins, **characterised in that** it includes:

   - creation of a first memory database including reference values for identification of a predetermined set of existing coins, with said database associated to a first electronic coin acceptor, by introducing said set of coins into said first coin acceptor;
   - introduction of a sample coin having predetermined identification parameters, into said first coin acceptor, so as to measure said parameters (X,Y,Z);
   - creation of a universal reference database, obtained by a combination of said first database with said measured parameters (X,Y,Z);
   - transfer of said universal reference database to another coin acceptor;
   - introduction of said sample coin into said second coin acceptor, to measure related sample coin parameters (X',Y',Z') and determine the difference with respect to the measured parameters (X,Y,Z);
   - modification of the values contained in said universal identification database in accordance with the sign of said difference, so as to adapt said second coin acceptor for identification of said set of coins.

2. Method for calibrating coin acceptors for validation of coins, **characterised in that** it includes:

   - creation of a first memory database including reference values for identification of a predetermined set of existing coins, with said database associated to a first electronic coin acceptor, by introducing said set of coins into said first coin acceptor;
   - introduction of a sample coin having predetermined identification parameters, into said first coin acceptor, so as to measure said parameters (X,Y,Z);
   - creation of a universal reference database, obtained by a combination of said first database with said measured parameters (X,Y,Z);
   - introduction of said sample coin into another coin acceptor and measuring sample coin identification parameters (X',Y',Z');
   - transfer of said universal reference database to said second coin acceptor and determining the difference of the parameters (Y',Y',Z') with respect to the measured parameters (X,Y,Z);
   - modification, according to said difference sign, of the values contained in said universal identification database, so as to adapt said second coin acceptor to identification of said set of coins.

3. Method, according to claim 1 or 2, **characterised in that** said second coin acceptor is adapted to validation of said set of coins according to the following algorithm:

- comparison of the sample coin parameters (X', Y',Z') obtained from the second coin acceptor with the measured parameters (X,Y,Z) contained in said universal reference database;

- determination of the difference for each parameter as:

  DIFFERENCE = READING - REFERENCE;

  change of reference values, relative to the denomination of each coin of said set of coins contained in the universal reference database on the grounds of the obtained difference: $COIN'_w = COIN_w + DIFFERENCE$, where $COIN_w$ is the set of reference values of the w^{th} denomination of said set of coins, contained in the universal reference database, whereas $COIN'_w$ is the set of reference values of parameters relative to the w^{th} denomination of said set of coins, adapted to said second coin acceptor.

Patentansprüche

1. Verfahren zur Kalibrierung von Münzakzeptoren für die Überprüfung von Münzen, **dadurch gekennzeichnet, daß** es folgendes umfaßt:

   - die Generierung einer ersten Speicherdatenbank mit Referenzwerten zur Identifizierung eines vorbestimmten Satzes vorhandener Münzen, wobei die besagte Datenbank einem ersten elektronischen Münzakzeptor zugeordnet ist, durch das Einbringen des besagten Satzes von Münzen in den besagten ersten Münzakzeptor;

   - das Einbringen einer Beispielmünze mit vorgegebenen Identifizierungsparametern in den besagten ersten Münzakzeptor, um die besagten Parameter (X, Y, Z) zu messen;

   - die Generierung einer universellen Referenzdatenbank, die durch eine Kombination der besagten ersten Datenbank mit den besagten gemessenen Parametern (X, Y, Z) erzeugt wird;

   - die Übertragung der besagten universellen Referenzdatenbank auf einen anderen Münzakzeptor;

   - das Einbringen der besagten Beispielmünze in den besagten zweiten Münzakzeptor, um die zugeordneten Parameter (X', Y', Z ') der Beispielmünze zu messen und den Unterschied in Hinblick auf die gemessenen Parameter (X, Y, Z) zu bestimmen;

   - die Modifizierung der in der besagten universellen Identifizierungsdatenbank enthaltenen Werte in Übereinstimmung mit dem Zeichen des besagten Unterschiedes, um so den besagten zweiten Münzakzeptor für die Identifizierung des besagten Satzes von Münzen anzupassen.

2. Verfahren zur Kalibrierung von Münzakzeptoren für die Überprüfung von Münzen, **dadurch gekennzeichnet, daß** es folgendes umfaßt:

   - die Generierung einer ersten Speicherdatenbank mit Referenzwerten für Identifizierung eines vorbestimmten Satzes vorhandener Münzen, wobei die besagte Datenbank einem ersten elektronischen Münzakzeptor zugeordnet ist, durch das Einbringen des besagten Satzes von Münzen in den besagten ersten Münzakzeptor;

   - das Einbringen einer Beispielmünze mit vorgegebenen Identifizierungsparametern in den besagten ersten Münzakzeptor, um die besagten Parameter (X, Y, Z) zu messen;

   - die Generierung einer universellen Referenzdatenbank, die durch eine Kombination der besagten ersten Datenbank mit den besagten gemessenen Parametern (X, Y, Z) erzeugt wird;

   - das Einbringen der besagten Beispielmünze in einen anderen Münzakzeptor und das Messen der Identifizierungsparameter (X', Y', Z ') der Beispielmünze;

   - die Übertragung der besagten universellen Referenzdatenbank auf den besagten zweiten Münzakzeptor und die Bestimmung des Unterschiedes der Parameter (X', Y', Z ') in Bezug auf die gemessenen Parameter (X, Y, Z);

   - die Modifizierung, entsprechend dem besagten Unterscheidungszeichen, der Werte, die in der besagten universellen Identifizierungsdatenbank enthalten sind, um den besagten zweiten Münzakzeptor zur Identifizierung des besagten Satzes von Münzen anzupassen.

3. Verfahren gemäß Anspruch 1 oder 2, **dadurch gekennzeichnet, daß** der besagte zweite Münzakzeptor an die Überprüfung des besagten Satzes von Münzen entsprechend dem folgenden Algorithmus angepaßt wird:

   - Vergleich der Parameter (X', Y', Z ') der Bei-

spielmünze, die vom zweiten Münzakzeptor ermittelt werden, mit den gemessenen Parametern (X, Y, Z), die in der besagten universellen Referenzdatenbank enthalten sind;

- Ermittlung des Unterschiedes für jeden Parameter gemäß:

  UNTERSCHIED = MESSUNG - REFERENZ;

- Änderung der Referenzwerte, bezogen auf den Nennwert jeder Münze des besagten Satzes von Münzen, die in der universelle Referenzdatenbank enthalten sind, auf der Basis des ermittelten Unterschiedes: $MÜNZE'_w = MÜNZE_w$ + UNTERSCHIED, wobei $MÜNZE_w$ der Satz von Referenzwerten des w-ten Nennwertes des besagten Satzes von Münzen ist, der in der universellen Referenzdatenbank enthalten ist, während $MÜNZE'_w$ der Satz von Referenzwerten von Parametern bezogen auf den w-ten Nennwert des besagten Satzes von Münzen ist, der an den besagten zweiten Münzakzeptor angepaßt ist.

Revendications

1. Procédé pour calibrer des accepteurs de pièces de monnaie pour la validation de pièces de monnaie, **caractérisé en ce qu'**il comprend :

   - la création d'une première base de données de mémoire comprenant des valeurs de références pour l'identification d'un ensemble prédéterminé de pièces de monnaie existantes, avec ladite base de données associée à un premier accepteur de pièces de monnaie électronique, par l'introduction dudit ensemble de pièces de monnaie dans ledit premier accepteur de pièces de monnaie ;
   - l'introduction d'une pièce de monnaie échantillon ayant des paramètres d'identification prédéterminés dans ledit premier accepteur de pièces de monnaie, de manière à mesurer lesdits paramètres (X,Y,Z);
   - la création d'une base de données de référence universelle, obtenue par une combinaison de ladite première base de données avec lesdits paramètres (X,Y,Z) mesurés ;
   - le transfert de ladite base de données de référence universelle à un autre accepteur de pièces de monnaie ;
   - l'introduction de ladite pièce de monnaie échantillon dans ledit second accepteur de pièces de monnaie, pour mesurer des paramètres de pièce de monnaie échantillon (X', Y', Z') associés et déterminer la différence par rapport aux paramètres (X, Y, Z) mesurés ;
   - la modification des valeurs contenues dans ladite base de données d'identification universelle conformément au signe de ladite différence, de manière à adapter ledit second accepteur de pièces de monnaie pour l'identification dudit ensemble de pièces de monnaie.

2. Procédé pour calibrer des accepteurs de pièces de monnaie pour la validation de pièces de monnaie, **caractérisé en ce qu'**il comprend :

   - la création d'une première base de données de mémoire comprenant des valeurs de référence pour l'identification d'un ensemble prédéterminé de pièces de monnaie existantes, avec ladite base de données associée à un premier accepteur de pièces de monnaie électronique, par l'introduction dudit ensemble de pièces de monnaie dans ledit premier accepteur de pièce de monnaie ;
   - l'introduction d'une pièce de monnaie échantillon ayant des paramètres d'identification prédéterminés, dans ledit premier accepteur de pièces de monnaie de manière à mesurer lesdits paramètres (X, Y, Z) ;
   - la création d'une base de données de référence universelle obtenue par la combinaison de ladite première base de données avec lesdits paramètres (X, Y, Z) mesurés ;
   - l'introduction de ladite pièce de monnaie échantillon dans un autre accepteur de pièces de monnaie et la mesure de paramètres d'identification de pièce de monnaie échantillon (X', Y', Z') ;
   - le transfert de ladite base de données de référence universelle audit second accepteur de pièces de monnaie et la détermination de la différence des paramètres (X', Y', Z') par rapport aux paramètres (X, Y, Z) mesurés ;
   - la modification, conformément au signe de ladite différence des valeurs contenues dans ladite base de donnée d'identification universelle, de manière à adapter ledit second accepteur de pièces de monnaie pour l'identification dudit ensemble de pièces de monnaie.

3. Procédé selon la revendication 1 ou 2, **caractérisé en ce que** ledit second accepteur de pièces de monnaie est adapté pour la validation dudit ensemble de pièces de monnaie conformément à l'algorithme suivant :

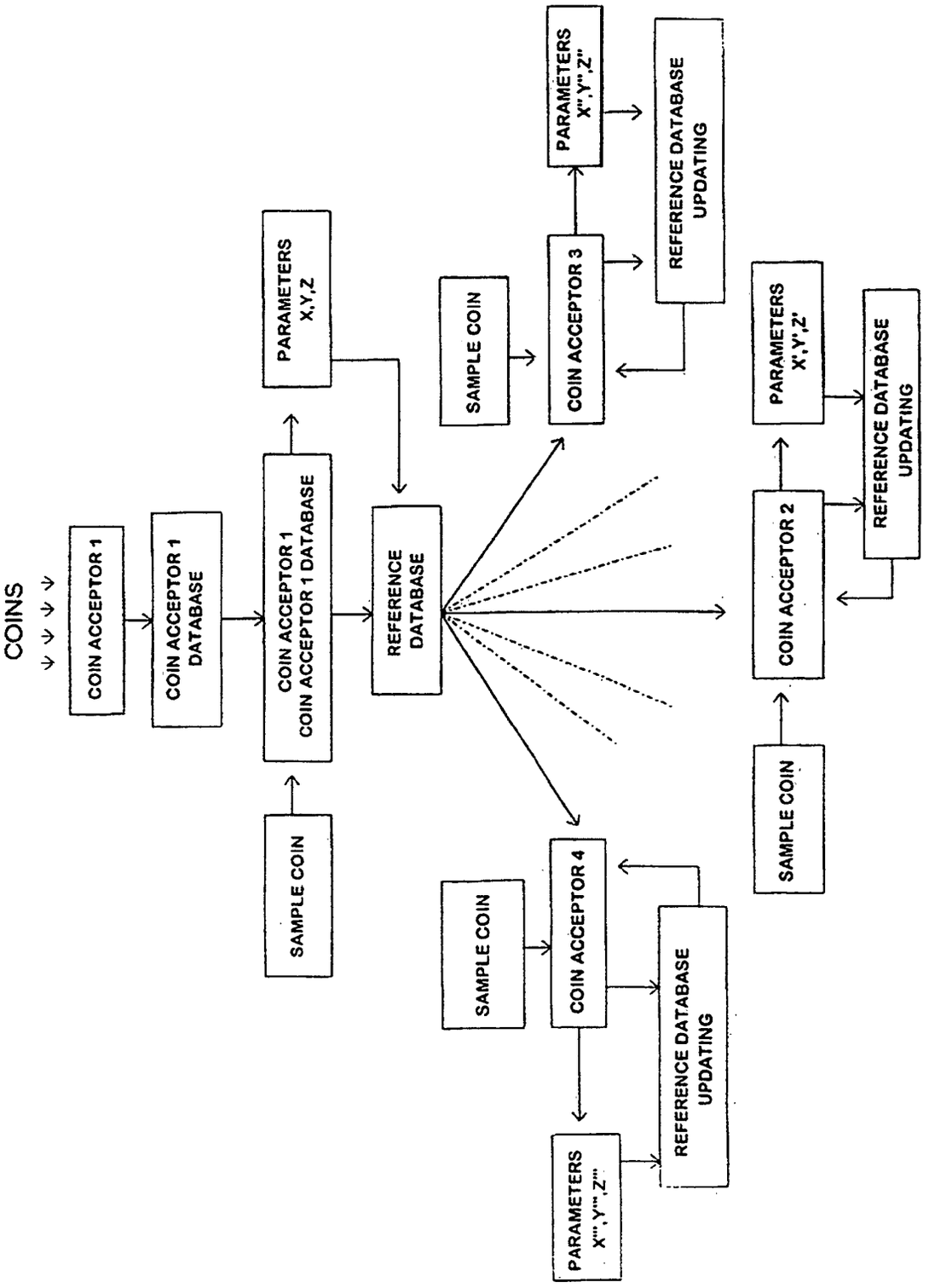
   - comparaison des paramètres de pièce de monnaie échantillon (X', Y', Z') obtenus du second accepteur de pièces de monnaie avec les paramètres (X, Y, Z) mesurés contenus dans la-

dite base de données de référence universelle ;

- détermination de la différence pour chaque paramètre selon :

DIFFERENCE = LECTURE - REFERENCE ;

- modification des valeurs de références, relativement à la dénomination de chaque pièce de monnaie dudit ensemble de pièce de monnaie, contenues dans la base de données de référence universelle, sur la base de la différence obtenue $PIECE'_w = PIECE_w + DIFFERENCE$, où $PIECE_w$ est l'ensemble des valeurs de référence de la $w^{ième}$ dénomination dudit ensemble de pièces de monnaie, contenu dans la base de données en référence universelle, tandis que $PIECE'_w$ est l'ensemble des valeurs de références des paramètres relatif à la $w^{ième}$ dénomination dudit ensemble de pièce de monnaie, adapté audit second accepteur de pièces de monnaie.


COINS
COIN ACCEPTOR 1
COIN ACCEPTOR 1 DATABASE
COIN ACCEPTOR 1 COIN ACCEPTOR 1 DATABASE
PARAMETERS X,Y,Z
SAMPLE COIN
REFERENCE DATABASE
SAMPLE COIN
COIN ACCEPTOR 3
PARAMETERS X'',Y'',Z''
REFERENCE DATABASE UPDATING
PARAMETERS X',Y',Z'
REFERENCE DATABASE UPDATING
COIN ACCEPTOR 2
SAMPLE COIN
SAMPLE COIN
COIN ACCEPTOR 4
PARAMETERS X''',Y''',Z'''
REFERENCE DATABASE UPDATING