A SYSTEM FOR HANDLING BANKNOTES WITHIN A GEOGRAPHICALLY LIMITED AREA
SYSTEM ZUR BEHANDLUNG VON BANKNOTEN IN EINEM GEOGRAPHISCH BEGRENZTEM GEBIET
SYSTEME DE GESTION DE BILLETS DE BANQUE DANS UNE ZONE GEOGRAPHIQUE LIMITEE

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The present invention relates to a system for handling banknotes within a geographically limited area. Despite many predictions of the imminence of a "moneyless society", the sum represented nominally by circulating banknotes has not decreased, even though the number of banknotes in percentage of BNP is now diminishing as a result of the introduction of new electronic technologies, such as smart cards, for instance. Investigations carried out in 1995 showed that the value in USD of the number of banknotes circulating per capita was 528 in England, 662 in Canada, 891 in France, 1,082 in Italy, 1,312 in Sweden, 2,025 in Germany and 3,873 in Japan.

Handling of banknotes is extremely costly and still involves much manual work and many transport runs to and from consumers, businesses, banks and also to the National Central Bank for quality sorting purposes and for the purpose of tracing forged banknotes.

The banknotes are counted on a number of different occasions during this circulation and security problems are significant. The cost of handling banknotes in Sweden alone is estimated at 1.3 billion U.S. dollars. When this number is converted to correspond to the number of people in the European Union, there is reached a handling cost of about 45 billion U.S. dollars.

Large savings can be made by introducing a more rational and decentralised banknote handling system. The transition to a common currency provides a splendid opportunity of advancing with wide strides towards the introduction of an effective banknote handling system within the European Union, with a potential saving in billions of euros.

The present invention provides a novel system for handling banknotes which are interconnected to a host computer and which receives information and data from said machines in response to commands from the information centre, in accordance with information sent from the machines to the information centre.

One or more information centres is/are responsible for statistics concerning banknote requirements and banknote routes, and has/have a two-way on-line connection with the automatic telling machines and the transport vehicles. These latter vehicles are equipped for servicing the machines, delivering spare parts, plastic cassette-packaging materials, etc.

The machines inform the information centre of the number of banknotes deposited and withdrawn, the number of banknotes and their values located in respective machines, the number of forged banknotes that may have been discovered, the number of poor quality banknotes that have been discovered, and the number of their general circulation.
available cassettes. The information centre is also in-
formed when a machine needs to be emptied of bank-
notes or replenished with banknotes. If appropriate, this
information can also be sent to the National Central Bank
and therewith enable the bank owning the machine to
regulate its account with the National Central Bank im-
mediately and continuously.

[0014] The information centre informs the National
Central Bank of the number of banknotes magazined in
the machines at each point in time, the number of poor
quality banknotes that should be destroyed by the Na-
tional Central Bank, and also immediately of any forged
banknotes that may have been discovered.

[0015] Each machine can be programmed with respect
to its banknote requirement for a particular day or part of
a day over a full year, thereby enabling future banknote
requirements to be planned ahead and consequently
more effective use of the transport vehicles.

DESCRIPTION OF PREFERRED EMBODIMENTS

[0016] The invention will now be described in more de-
tail with reference to the accompanying drawing.

[0017] A plurality of banknote handling machines 11,
12, 13, 14, ... 1n are positioned over a geographically lim-
ited area 1 for the deposit and withdrawal of banknotes.
These machines are adapted to bundle and package in
cassettes surplus banknotes of accepted quality on the
one hand, banknotes of non-acceptable quality on the
other hand, and any forged banknotes that may have
been discovered on the third hand.

[0018] Connected to respective machines is an infor-
mation centre 10 which is common to said machine and
which receives information from said machines and de-
livers information and controls signals thereto. This in-
formation includes factual data pertaining to the presence
of stored banknotes and banknotes packaged in cas-
ettes on the one hand, and banknotes of non-acceptable
quality on the other hand, and any false banknotes that
may have been discovered on the third hand.

[0019] The system also includes a plurality of transport
vehicles 18, 19, 20, 21 for transporting banknotes pack-
eged in cassettes to and from said machines 11, 12, 13,
14, ... In in response to orders issued by the information
centre 10 on the basis of information sent from the ma-
achines to the information centre.

[0020] Shown in the drawing are two banks 16, 17
which may be machine owners and which are responsi-
brable for these machines in their particular regions of
the geographically limited area 1. The main responsi-

1. A system for handling banknotes within a geograph-
ically limited area, comprising a plurality of banknote
handling machines (11, 12, 13, ... 1n) positioned
over the geographically limited area (1) for deposit-
and withdrawing banknotes, characterised in
that said machines being adapted to bundle and
package in cassettes surplus banknotes of accepted
quality on the one hand banknotes of non-accepted
quality on the other hand, and any false banknotes
that may have been discovered on the third hand;

a plurality of machines for receiving information from
and sending information and control signals to said
machines (11, 12, 13, ... 1n), said information includ-
ing factual data relating to the presence of stored
banknotes and banknotes packaged in cassettes on
the one hand, banknotes of a non-acceptable quality
on the other hand, and any forged banknotes that
may have been discovered; and

a plurality of transport means (18, 19, 20, 21) for
transporting banknotes packaged in cassettes to
and from said machines (11, 12, 13, ... 1n) in re-
response to orders from the information centre (10)
issued on the basis of information sent from the ma-
achines to said information centre.

Patentansprüche

1. System zum Handhaben von Banknoten innerhalb
eines geographisch begrenzten Gebiets, mit
einer Vielzahl von Banknoten-Handhabungsma-
schinen (11, 12, 13, ... 1n), welche über das geogra-
phisch begrenzte Gebiet (1) zum Hinterlegen und
Abziehen von Banknoten verteilte ist, dadurch ge-
kennzeichnet, dass die Maschinen so angepasst
sind, dass sie überzählige Banknoten in einerseits
akzeptierter, andererseits nicht-akzeptierter Qualität
sowie drittens irgendwelche entdeckten falschen
Banknoten bündeln und in Kassetten verpacken;

einem Informationszentrum (10), das der Vielzahl
von Maschinen gemeinsam ist, um Informationen
von diesen zu erhalten und Informationen und Steu-
ersignale an die genannten Maschinen (11, 12,
13, ... 1n) zu senden, wobei die Informationen sach-
liche Daten in Bezug auf die Anwesenheit von gelag-
gerter Banknoten und Banknoten in Kassetten ei-
Revendications

1. Système de traitement de billets de banque dans une zone géographiquement limitée, comprenant une pluralité de machines de traitement des billets de banque (11, 12, 13, ... 1n) situées dans une zone géographiquement limitée (1) pour déposer et retirer des billets de banque, caractérisé en ce que les dites machines sont adaptées pour mettre en liasse et conditionner dans des cassettes des billets de banque excédentaires d’une qualité acceptée d’une part, des billets de banque d’une qualité non acceptée d’autre part, et, en troisième lieu, tous les faux billets qui peuvent avoir été découverts ; un centre d’information (10) qui est commun à ladite pluralité de machines pour recevoir une information provenant des, et transmettre une information et des signaux de commande aux, dites machines (11, 12, 13, ... 1n), ladite information incluant des données factuelles se rapportant à la présence de billets de banque stockés et de billets de banque conditionnés dans des cassettes d’une part, de billets de banque d’une qualité non acceptable d’autre part, et de tout faux billet qui peut avoir été découvert ; et une pluralité de moyens de transport (18, 19, 20, 21) servant à transporter les billets de banque conditionnés dans des cassettes vers les, et à partir des, dites machines (11, 12, 13, ... 1n) en réponse à des ordres provenant du centre d’information (10) délivrés sur la base d’une information transmise à partir des machines au dit centre d’information.