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(54) Cash desk for the emission and the confirmation of optical and/or magnetic key card.

(57) A cash desk for the emission-confirmation of optical and/or magnetic key card, said cash desk comprising a microprocessor central unit linked to a permanent storage, a reader of magnetic floppy disk that transfers data to said central unit, which unit is linked in addition to a working storage, an input/output unit that handles a reader of optical and/or magnetic key card, an alphanumeric keyboard, an alphanumeric display and an external printer.

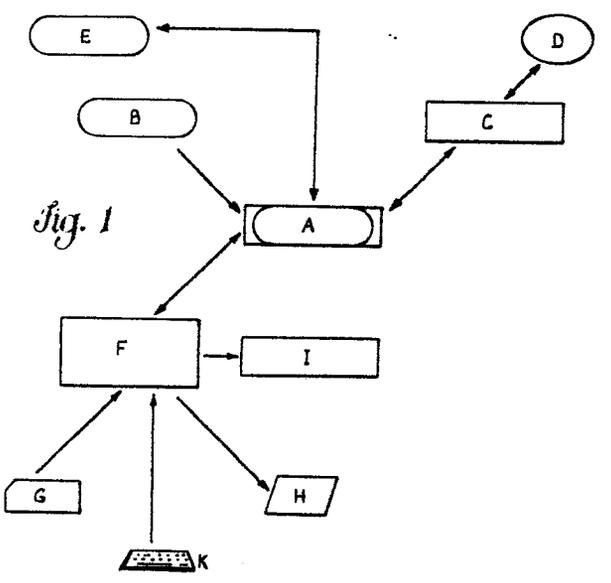

Fig. 1

EP 0 210 963 A2

CASH DESK FOR THE EMISSION AND THE CONFIRMATION OF OPTICAL AND/OR MAGNETIC KEY CARD

The present invention relates to a cash desk for the emission and the confirmation of key card. More particularly, the present invention relates to an apparatus of the kind mentioned above that allows the organizers of meetings or exhibitions or entertainments and the like to which a large concourse of people is expected to exert a filtering and checking action so as to prevent any possible accident and to reduce at the same time the cornering phenomenon drastically without giving the spectator or the audience the unpleasant physical feeling to be under special watching.

Violence phenomena which are ever increasing in frequency have made of prior importance decidedly the configuration of a series of interventions which are suitable to prevent accidents and to ensure security during said meetings or exhibitions or the like with a large concourse of people.

The moments at which a check can be carried out on the public are in particular the concourse phase, to which the distribution and sale of tickets is a phase tightly bound, the permanence phase and the phase in which the public leave the structure.

As regards the first phase, it can be stated surely that such phase is the best one for performing a prevention action.

In order to check the entrance points it is necessary to adopt a capillary distribution procedure of the admittance tickets so as to enable people whose personal data are well known to the organizer of the meeting or entertainment or the like in question.

Thus it is clearly evident that apparatuses are necess arily required such as that according to the present invention, which apparatus operating as off-line terminal units of a central operative system, which will be referred to in the following, allows a detailed data file to be realized regarding the names of those who are enabled to be present at a specific assembly or to attend a specific meeting, as well as their positions inside the structure, already at the moment of the ticket emission so that the accident prevention action and possibly the successive enquiries to find those who are responsible for the accident are remarkably simplified.

The apparatus according to the present invention aims at emitting and/or confirming key cards which replace the ticket or the membership card or pass for a series of said meetings or assemblies or the like, which key cards are also the only means suitable to enable the owner to be admitted to the specific assembly in question.

Before the emission or confirmation of the key card for a given people assembly of the kind mentioned above, the spectator or the attending people must pay the authorized ticket sellers the sum corresponding to the ticket price, next they will take care the key card is enabled for that specific people assembly by means of the apparatus according to the present invention, which apparatus will store the key card code into its own files, or the buyer's data if the operation corresponds to the emission of a new key card, the people assembly code and the area for which the key card is valid.

Moreover, it is to be observed that the key cards emitted can be enabled by the apparatus according to the present invention also for a number of people assemblies (3, 5, 10 and so on) so as to allow the buyer to take advantage of discounts made to those having membership cards or permanent passes.

In order to reach such objects an off-line apparatus is proposed by the Applicant for the emission and the confirmation of key cards relating to public assemblies to which a large concourse of people is expected, said apparatus being substantially made up of a microprocessor central unit for carrying into effect the program stored in the permanent storage, to which apparatus data are supplied relating to the maximum number of tickets available from a given single distributor by means of a magnetic floppy disk, such data being then carried into the working storage that records also data introduced during the selling phase and relating to the tickets sold, to the buyers of the same, and so on.

Again according to the present invention, the realization is proposed of an apparatus of the type mentioned above that can be operatively connected to the cash-registers of the authorized box-offices or the like so that some units, as for instance the outer printer and the display can be common, and in addition, by simply inserting a different magnetic support, the processor of the emitting-confirming apparatus can be employed to carry out any book-keeping operation as regards the sales activities of the office (stock, warehouse, etc.) or to run any other similar programs that can be useful to the manager.

The main advantages obtainable adopting such solution can be summed up as follows:

a) filing for the time required of the names of all those who have attended the assembly, so that in case of accidents it is easier to find out the persons present in each area;

b) the organizers are in possession of data which are interesting for statistical objectives and then useful for programming the activities and any possible promotional operations;

c) a decrease in the phenomenon of cornering or in counterfeiting tickets, and possibly the elimination of both such phenomena;

d) quite a rigid subdivision of persons enabled to admittance by assignment of the same to given areas; and

e) giving the ticket buyer the feeling of being personally known.

It is obvious that, in order to make the use of the key card personal and to make the prevention system reliable, a random check is to be performed at the entrance of the structure of the data of the key card owner, which check is controlled by the central processor of the system, and in addition, in the case of purchases of a number of tickets registered under the same name at different box-offices or the like, the magnetic reader of the structure and therefore the central processor will allow entrance to be conceded to the first key card shown for each area and will disable automatically any other possible booking.

Accordingly, it is a specific object of the present invention a cash desk for the emission-confirmation of magnetic and/or optical key card, said cash desk comprising a microprocessor central unit connected to a permanent storage; a reader of a magnetic floppy disk which transfers data to said microprocessor central unit; a working storage connected to said central unit; and an input/output - (I/O) unit that handles a reader of optical and/or magnetic key card, an alphanumeric keyboard and an alphanumeric display.

According to a preferred embodiment of the apparatus of the present invention, said I/O unit is also connected to an external printer.

Again according to the present invention, said apparatus can be operatively linked to a cash-register which in such way employs the microprocessor central unit and the permanent storage, through the interposition of a buffer storage, for the execution through the insertion of different magnetic supports of programs relating to management problems of the office or the firm.

According to a particularly preferred embodiment of the apparatus of the present invention, said apparatus can be assembled direct with a cash-register provided with a buffer storage, which storage is connected to the microprocessor central unit, the alphanumeric display and the external printer being in such case in common.

The present invention will be disclosed in the following for illustrative but not for limitative purposes with reference to the figures of the enclosed drawings, wherein:

Figure 1 shows a block scheme of the apparatus according to the present invention;

Figure 2 shows a block scheme of the apparatus according to the present invention when assembled with a cash-register;

Figure 3 shows a kind of embodiment of the apparatus shown in Figure 2; and

Figure 4 shows a block scheme of a system employing the apparatus according to the present invention.

In Figure 1, A points out the microprocessor central unit that executes the programs stored in the permanent storage B.

All data relating to the maximum number of tickets available are stored on a magnetic floppy disk (which will be called in the following simply "the floppy") and such data are read by the reader C-D and then stored into the working storage E.

The working storage E also stores data relating to the tickets sold and to the buyers, such data being stored into the floppy at the end of the working day or when the validity of the maximum number of available tickets assigned expires.

Moreover, an input/output unit F is also connected to said central unit A, said unit F handling a full series of serial and parallel interfaces. The reader G of the key cards communicates with said unit A just through said unit F. Moreover, the alphanumeric display H is also connected to that unit.

All data relating to the ticket type and to the full particulars of the user are inserted by the operator by means of an alphanumeric keyboard K.

The external printer I allows a receipt to be emitted, which receipt is not valid for enabling to admittance, but it is valid as a receipt of payment, and in addition said printer allows a facsimile of a paying-in slip to be given to the operator who will make the payment of the sum into the bank.

A floppy containing the maximum number available of tickets is given to the operator of said apparatus.

In case of a first purchase, the operator of the apparatus takes a new key card from his own assigned amount, inserts the same into the reader G which checks the validity and the integrity of the optical band and displays "VALID" on the display H.

At that point the operator keys in "N" and transcribes through the keyboard K the name and the date of birth of the buyer. If the buyer already has a key card, the operator must check its validity and integrity, again through said reader G.

At that point, the operator keys in the code of the meeting or of any other people assembly and the area that the buyer desires to occupy.

The apparatus performs the check by the data stored in the floppy and it accepts or refuses booking according to the areas or seats available.

Once the booking has been accepted, the apparatus displays the sum to be paid, and the operator, after receving the sum, confirms the booking which is then recorded in the floppy together with the code of the key card read at the beginning of the operation by the reader G.

The floppies bearing the enabling data are collected or delivered the night before the meeting or entertainment or any other people assembly and they are transferred into a peripheral processor for the insertion into a system which will be illustrated in the following with reference to Figure 4.

At the end of the sales operations, the operator before estracting the floppy will key in "TOTAL" by keyboard K and the display H will show him the total amount collected referred to the floppy which is going to be given back. At that point, he keys in the word "END" and any next operation from that moment on will be no longer accepted and stored into the floppy.

Figure 2 illustrates the interconnection between the apparatus according to the present invention and the cash-register L. All data relating to the operations carried out by said cash-register L during its normal working are stored into a buffer storage M and afterwards they can be read by the unit A by suitably programming the storage B, so that a reduced management check of the business can be performed.

The printer I and the display H will be the same for the two coexisting apparatuses.

Obviously, the cash-register L will be provided with an internal printer N for fiscal purposes.

Figure 3 shows for exemplification purposes a kind of embodiment of an emitting-confirming/cash desk apparatus.

Number 1 points out the reader of the magnetic support, while number 2 shows the alphanumeric keyboard and number 3 shows the optical display reading the magnetic cards, and number 4 points out the alphanumeric display.

Moreover, number 5 shows the keyboard for the operation functions while the money cash is pointed out by number 6 and the printer by the reference number 7.

Figure 4 shows a block diagram of a system wherein the apparatus according to the present invention can be employed off-line by itself or otherwise in combination with the cash-register.

Said system consists substantially of:

1) a central processor belonging to and handled by the Central Agency which is responsible for the emission of tickets and vouches for the regularity and the correctness of the book-keeping and the management data to the Agencies entitled. All book-keeping and management data coming from the peripheral processors go into the processor. The registration list of all key cards put in circulation is stored in said processor;

2) peripheral processors belonging to and handled by said Central Agency into which all the magnetic floppy disks are transferred coming from the off-line cash desk terminals. Said processors are linked in real time to the central processor for performing checks to verify whether the key cards belong to the existing registration list. Moreover, they perform the random check of identity at the entrance of the structure, and in that case they transmit to the reader terminal the names registered on the key card in transit. Said processors in addition perform the real time handling of the enabling files as well as the check and confirmation operations of the terminals;

3) reader terminals that check the validity of the magnetic bands of the key cards by identifying the registration list data. Such readers are arranged at the entrance of the structures. In case of a random check performed by the peripheral processor, they make all personal data of the owner of the key card to appear on the display so that they allow the checking operator to verify the identity document shown;

4) cash desk terminals that verify the validity and the integrity of the key cards by reading the optical band. Moreover, they handle the magnetic floppy disk bearing the data relating to the maximum number of tickets available so as to subtract the booking from the total amount assigned. In case of new emissions, said terminals transcribe the buyer's data in said floppy disk through keying in said data by means of an alphanumeric keyboard;

5) key cards which are the support through which said system is entered enabling its various components.

The present invention has been disclosed according to some of its preferred embodiments but it is to be understood that modifications and changes can be introduced in the same by those who are skilled in the art without departing from the actual spirit and scope of the invention for which a priority right is claimed.

Claims

1. A cash desk for the emission-confirmation of optical and/or magnetic key card, said cash desk being characterized in that it comprises a microprocessor central unit linked to a permanent storage; a reader of magnetic floppy disk that transfers data to said microprocessor central unit; a working storage linked to said central unit; and an input output

unit that handles a reader of optical and/or magnetic key card, an alphanumeric keyboard and an alphanumeric display.

2. A cash desk for the emission-confirmation of key card according to claim 1 wherein said input/output unit is also linked to an external printer.

3. A cash desk for the emission-confirmation of key card according to claims 1 or 2, wherein said reader of key card is of an optical or a magnetic type.

4. A cash desk for the emission-confirmation of key card according to claims 1, 2 or 3, said cash desk being characterized in that it is operatively linked to a cash-register, a buffer storage being interposed between said cash-register and said microprocessor central unit.

5. A cash desk for the emission-confirmation of key card according to claims 1, 2 or 3, said cash desk being characterized in that it is assembled together with a cash-register provided with a buffer storage which is connected direct to said microprocessor central unit of the whole apparatus, the alphanumeric display and the external printer being in common with the two apparatuses.

6. A cash desk for the emission-confirmation of optical and/or magnetic key card according to each one of the preceding claims substantially as illustrated and disclosed above.

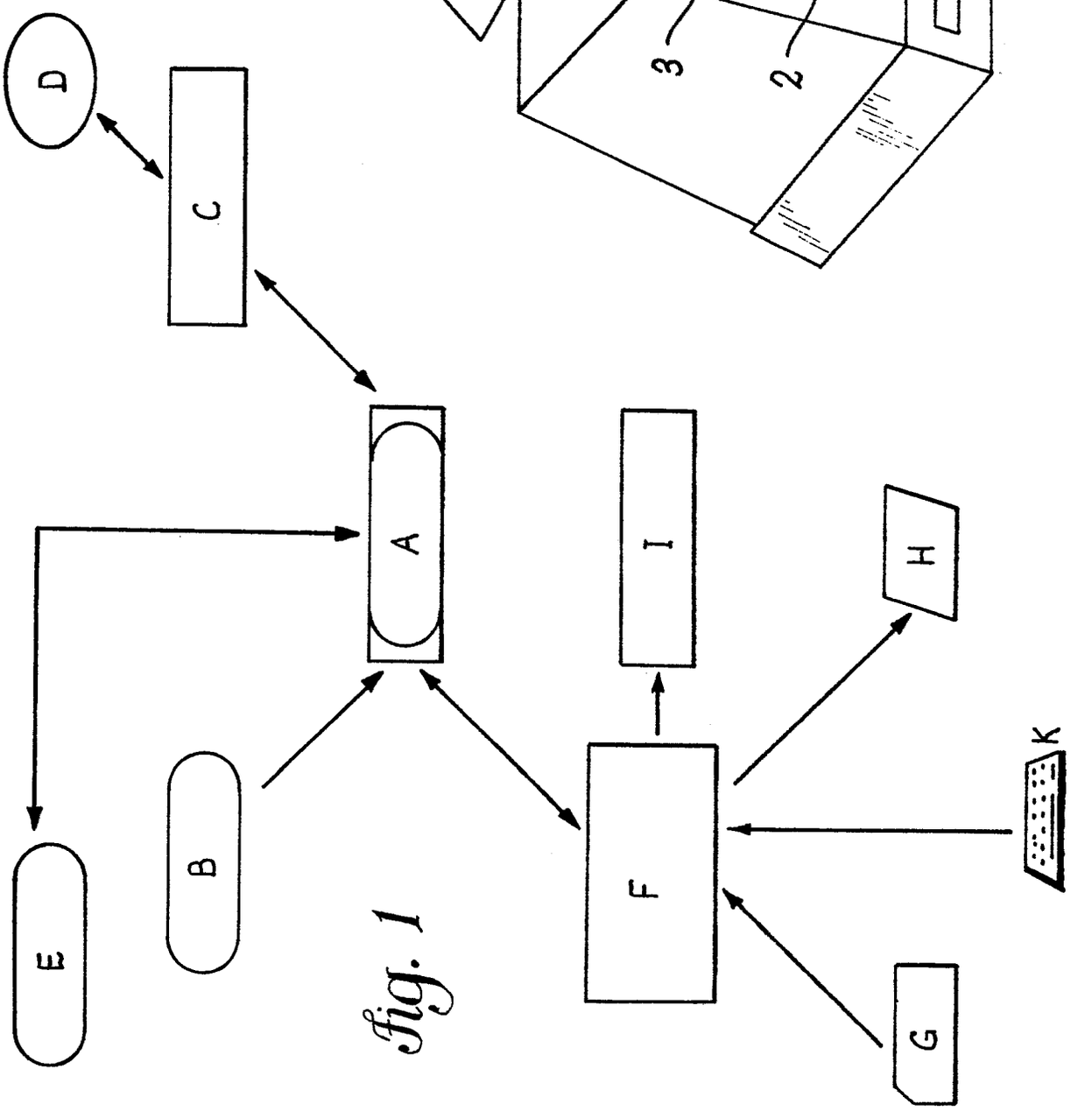

Fig. 1

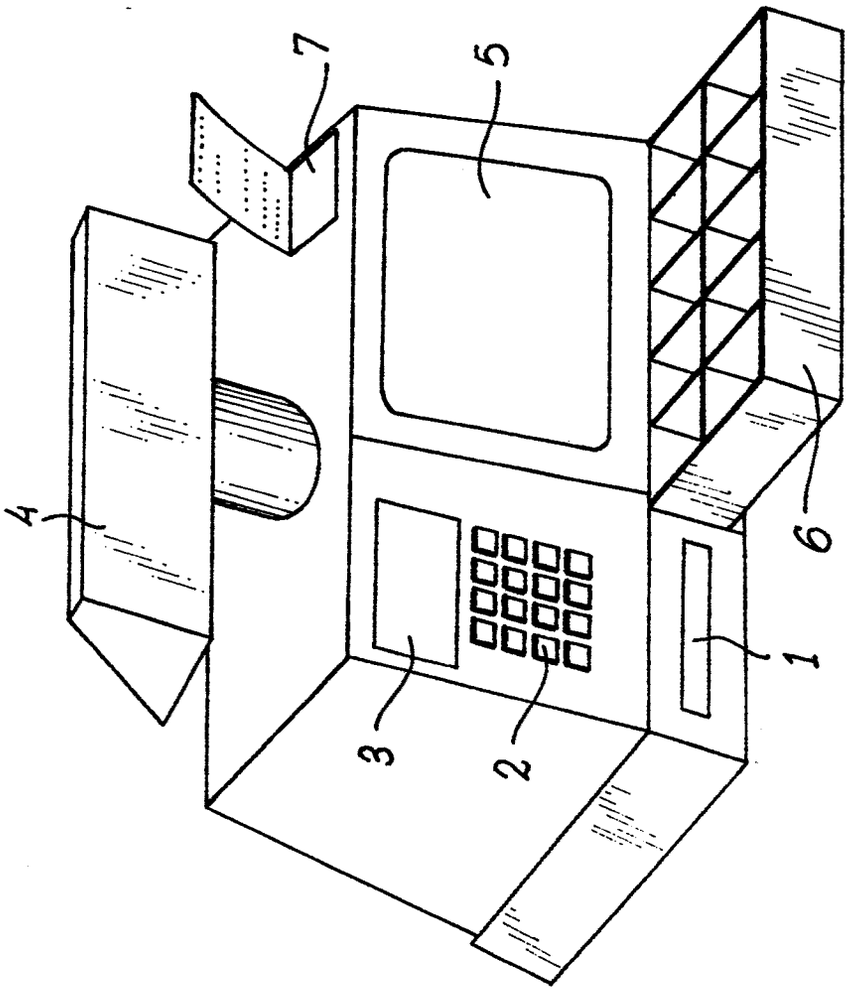

Fig. 3

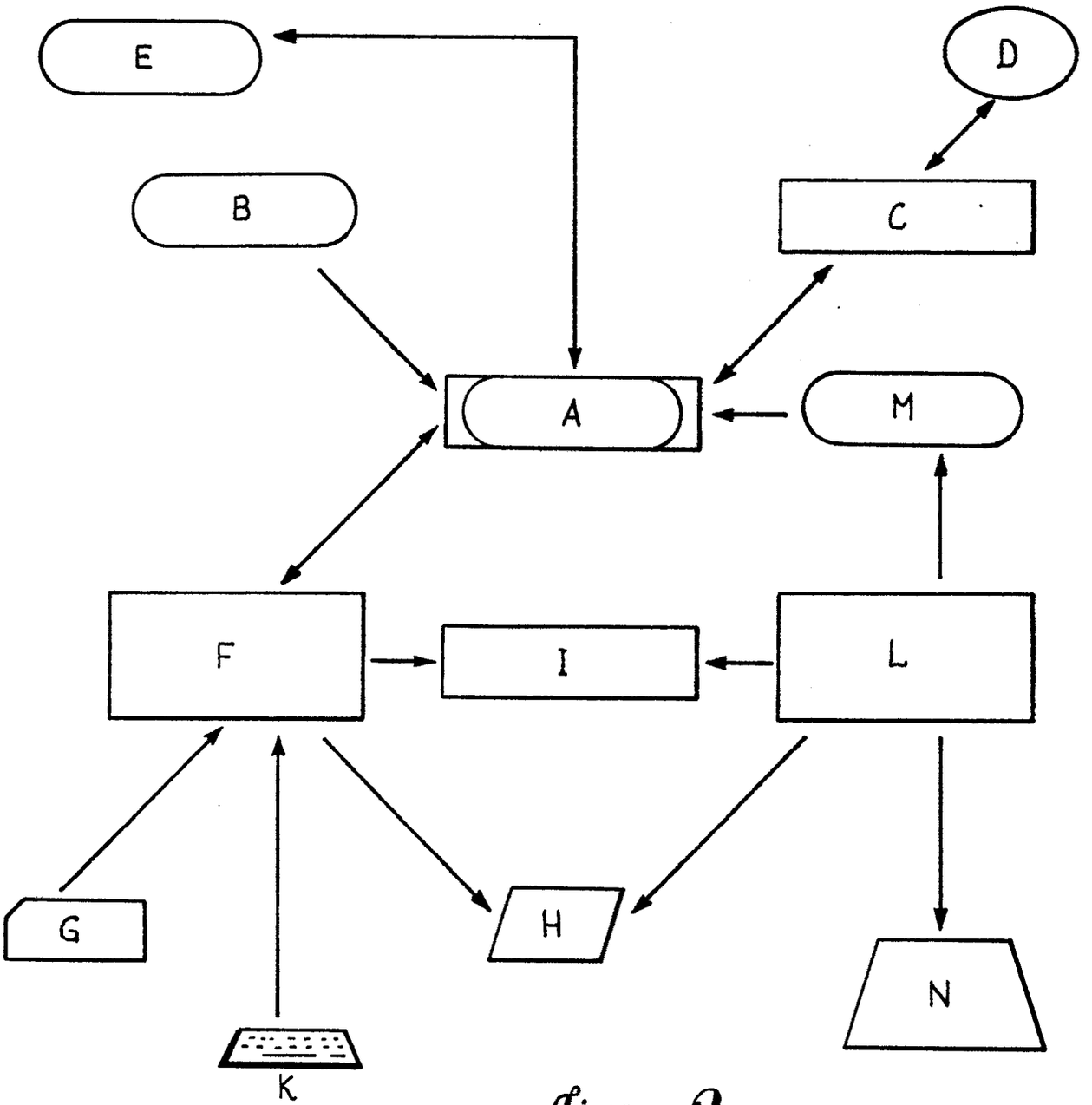

Fig. 2

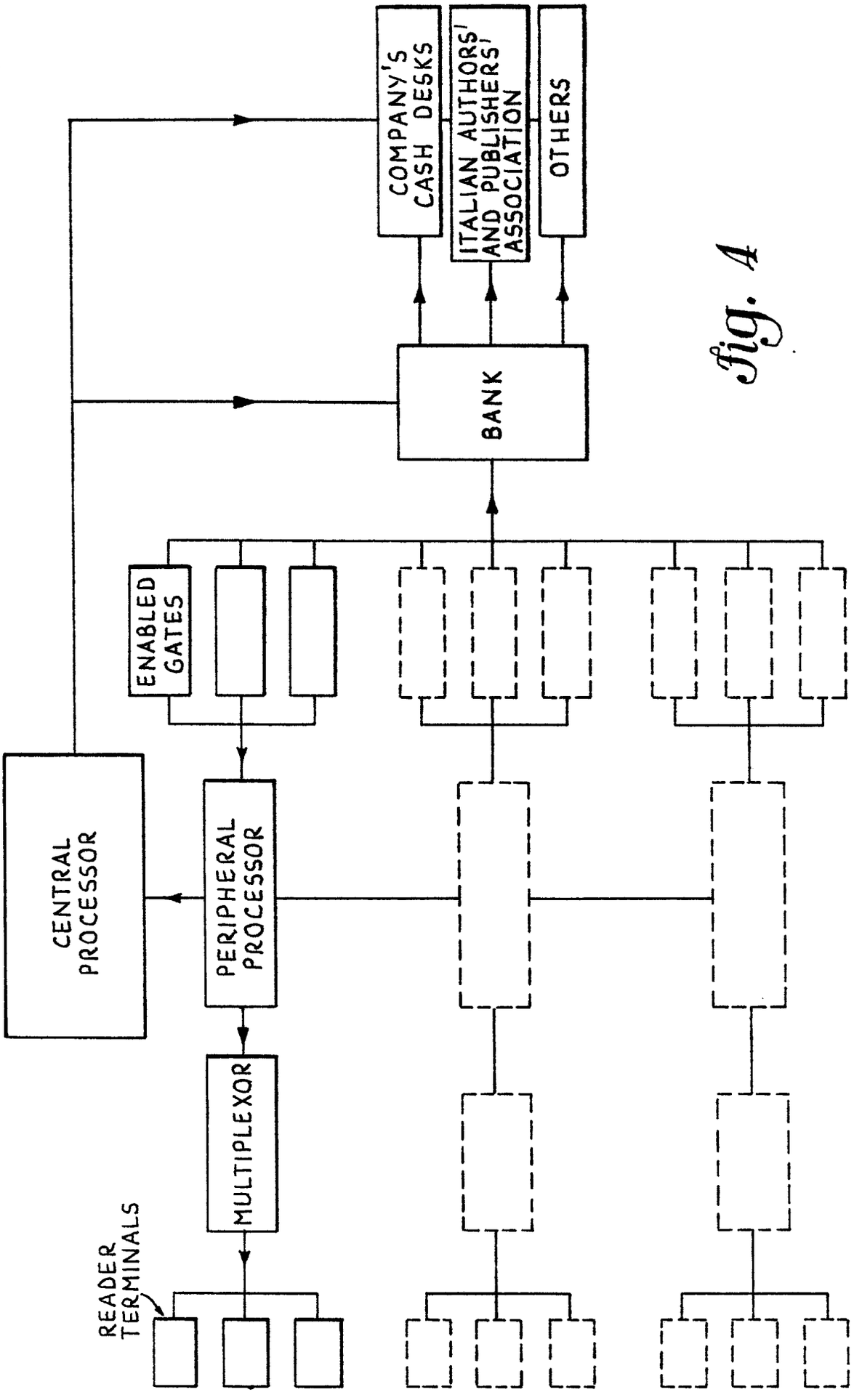
COMPANY'S CASH DESKS
ITALIAN AUTHORS' AND PUBLISHERS' ASSOCIATION
OTHERS
BANK
ENABLED GATES
CENTRAL PROCESSOR
PERIPHERAL PROCESSOR
MULTIPLEXOR
READER TERMINALS

fig. 4