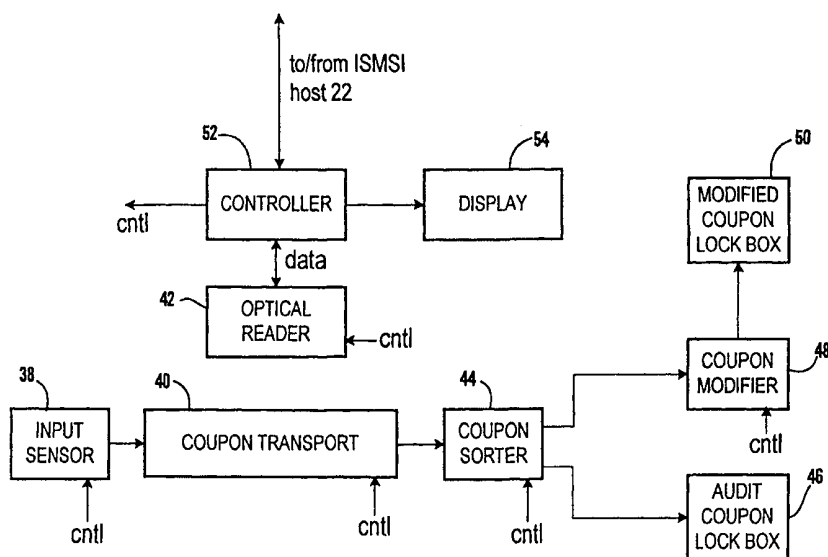




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(54) Title: COUPON REDEMPTION SYSTEM



(57) Abstract

A system for processing coupons (24) includes a coupon scanner (42) for reading information from a coupon and a host processor (22) for using the information to determine whether the coupon is valid. The coupon scanner includes a coupon modification unit (48) for use in modifying valid coupons so that the coupons are no longer redeemable. The coupon scanner also includes a coupon sorter (44) for sorting valid coupons between the coupon modification unit (48) and an audit lock box unit (46) that stores unmodified valid, coupons for eventual audit. The system further includes a rejected coupon lock box unit for temporarily storing selected coupons that were rejected by the coupon scanner but which were still redeemed by store personnel. The stored rejected coupons are later analyzed by a third party service provider to determine if they were validly redeemed by the store.

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COUPON REDEMPTION SYSTEM

FIELD OF THE INVENTION

5 The present application relates in general to systems for tracking customer purchase transactions and, more particularly, to systems for accurately accounting for coupon usage during such customer transactions.

BACKGROUND OF THE INVENTION

10 Product manufacturers generally distribute coupons as a marketing tool to encourage consumers to purchase their products. The coupons are distributed to consumers through any of a number of different channels, including print media, circulars, direct mailings, e-mail, and the Internet. To redeem a coupon, a consumer must generally purchase an identified product at a retail establishment. The consumer hands the coupon to the checkout clerk who then reduces the total amount owed by the consumer based on
15 the amount stated on the face of the coupon. The retail establishment is then reimbursed by the product manufacturer for the face value of the coupon plus a coupon handling fee.

Although not apparent to consumers, the coupon redemption process is relatively complex, involving many processing stages. The complexity of the process is due to the fact that the manufacturers who issue the coupons want to be relatively certain that the
20 coupons have been properly redeemed before they reimburse the retail establishments. That is, the product manufacturers are concerned that "misredemptions" might occur where a retail establishment is reimbursed for coupons that were not redeemed according to the conditions on the coupon. These "misredemptions" can occur unintentionally through, for example, employee error or intentionally through, for example, the
25 perpetration of a fraud by someone in the coupon redemption chain. In general, if a manufacturer suspects that one or more coupons have been misredeemed, the manufacturer will hold back payment to the retail establishment for the subject coupon(s) until the matter is investigated (this is known in the industry as a chargeback). The retailers are generally irritated by these chargebacks and will sometimes take retaliatory
30 action by, for example, deducting all chargebacks from the manufacturer's product invoice. As can be appreciated, this situation can seriously strain the relationship between the retailer and the manufacturer.

Many fixes have been proposed and/or implemented for making the coupon redemption process more reliable, more efficient, and more automated. However, none of these fixes have provided a system whereby all manufacturers' coupons, from all sources, can be handled in an efficient and accurate manner. In addition, none of these
5 fixes are capable of providing a retailer with an almost immediate reimbursement of funds for coupons redeemed by the retailer.

SUMMARY OF THE INVENTION

The present invention relates to a system for accurately, efficiently, and predictably
10 managing virtually any coupon that is presented by a customer at a retail establishment or store. In most cases, the system will provide an almost immediate reimbursement to the store (e.g., same day) for coupons properly redeemed by the store. The system is capable of significantly reducing coupon misredemptions and the costs that go along with them. In addition, the system provides an enhanced level of redemption data collection that can
15 be used, for example, to generate detailed reports for the manufacturers. Further, the system provides procedures for handling almost any type of coupon that exists, including hard-to-handle coupons and coupons that are to be audited.

The system includes equipment that is capable of automatically and accurately determining the validity of coupons presented by a customer. The system also includes
20 equipment for modifying valid coupons so that they cannot be used again in the future. In addition, the system includes the ability to maintain some of the valid coupons in an unmodified form for later manual processing such as, for example, a periodic manual audit. After a coupon has been deemed valid, the customer's total purchase price is reduced in the amount stated on the coupon. A decision is then made as to whether any
25 future manual processing is to be done. If additional processing is desired, the coupon is delivered unmodified to a storage unit and details of the customer transaction are recorded. If no additional processing is required, the coupon is modified and the store is credited for the valid redemption. At the end of each day (or other appropriate time), the store is reimbursed for all coupons that have been validly redeemed and modified that day.
30 The store is reimbursed for the coupons in the storage unit after the coupons have been manually processed and verified.

When the above-described equipment determines that a coupon is invalid, the checkout clerk is given an opportunity to override the equipment by entering coupon information into the system by other means. In such a case, the customer is still given the price reduction, but the store does not receive immediate credit for the redemption. Thus, the store is not reimbursed for the redemption at the end of the day. Instead, the coupon is placed in a rejected coupon lock box at the checkout station for later verification and details of the transaction are recorded. Periodically, the contents of the rejected coupon lock box are retrieved and the coupons are verified using the stored transaction information. If the coupons are found valid, the store is credited in the proper amount and payment is accordingly made. If some of the coupons are found to be invalid, the store does not receive credit for the redemption.

In a preferred embodiment, the system is maintained (at least partially) under the control of a third party service provider which acts as a intermediary between the store and the manufacturers. That is, the third party service provider has sole access to the storage unit and the rejected coupon lock box and performs all manual verification functions. In addition, the third party service provider has control over the internal workings of the coupon redemption equipment within the store. Because the third party service provider controls the coupon redemption equipment within the store, the possibility of fraudulent misredemptions by store personnel are greatly reduced. Payments to the store for validly redeemed coupons are preferably made by the third party service provider. The third party service provider is then reimbursed by the appropriate manufacturers. Accurate records are maintained for all coupon redemptions and all manual verifications. These records are made available to the manufacturers upon request.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a block diagram illustrating a system in accordance with one embodiment of the present invention;

Fig. 2 is a block diagram illustrating a coupon scanner that can be used in the system of Fig. 1; and

Figs. 3 and 4 are flowcharts illustrating a method for processing customer purchases in accordance with one embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

5 The present invention relates to a system for accurately, efficiently, and predictably managing virtually any coupon that is presented by a customer at a retail establishment or store. The system is capable of providing rapid reimbursement to the store for coupons validly redeemed by the store. In addition, the system is capable of operating with minimal inconvenience or delay to store customers who are given immediate credit for
10 valid coupons. Further, the system interferes as little as possible with the normal internal functioning of the store. The system is capable of significantly reducing the complexity and duration of the typical coupon redemption process.

 Fig. 1 is a block diagram illustrating a system 10 in accordance with one embodiment of the present invention. The system 10 is implemented within a retail
15 establishment or store. As shown, the system 10 is partitioned into two operative subsystems; namely, the store equipment 12 and the ISMSI equipment 14. The store equipment 12 is operative for processing and recording information related to customer purchases at the store. The ISMSI equipment 14 is coupled to the store equipment 12 for use in processing coupons presented by customers during product purchase transactions.
20 The ISMSI equipment 14 is designed to work with the store equipment 12 to provide a reliable, efficient, and cost effective method for verifying and redeeming manufacturer coupons and for facilitating and expediting the payment of the store by the manufacturer for properly redeemed coupons.

 In a preferred approach, the store equipment 12 is maintained under the control
25 of the store. That is, the store will own the equipment 12 and will be responsible for the maintenance, repair, and proper operation of the equipment 12. Accordingly, the store will have access to all parts of the store equipment 12 for whatever reason necessary. Conversely, the ISMSI equipment 14 will be under the control of a third party service provider, such as In-Store Media Systems, Inc. (ISMSI), the assignee of the present
30 invention. As will be described in greater detail, the store will preferably have only limited access to the elements within the ISMSI equipment 14. In one embodiment, for example,

store access is limited to an external operational level, wherein store personnel are only permitted to perform external operations with the equipment 14 (such as inserting coupons into a unit) and simple maintenance operations (such as clearing paper jams and the like). All other maintenance and repair functions are performed by the third party service provider, which preferably maintains title to the equipment 14.

As illustrated in Fig. 1, the store equipment 12 includes the basic equipment normally utilized by a store having n checkout lanes. That is, the store equipment 12 includes: a store host 16, a plurality of cash registers 18a-18n, and a plurality of product scanners 20a-20n. Each of the checkout lanes of the store includes one cash register 18 and one product scanner 20 for use in processing customer purchases. The cash register 18 can include a standard type register, a personal computer controlled terminal, or any other means of receiving and tracking data. The product scanner 20 is a device for optically recognizing products being purchased by a customer by sensing, for example, indicia on the product packages. The store host 16 is coupled to each of the plurality of cash registers 18a-18n for, among other things, controlling the operation of the cash registers 18a-18n.

When a customer wishes to checkout, the customer brings the products he/she wishes to purchase to the checkout clerk in one of the lanes (e.g., lane 1). The checkout clerk "scans" each of the products using the product scanner 20a which reads a universal product code (UPC) on the package of each product. The product scanner 20a then transfers the UPC information to the corresponding cash register 18a which, among other things, tallies the price of the products. The clerk eventually informs the customer of the total price for the selected products and the customer then pays for the products by some acceptable payment method, thus terminating the transaction. At some point in the checkout procedure, the clerk asks the customer if he/she has any coupons. If the customer has coupons, the clerk must first process the coupons using the ISMSI equipment 14 before payment is requested. The method for processing the coupons using the ISMSI equipment 14 will be described below in greater detail.

In one embodiment of the present invention, the store equipment 12 is free standing with respect to the ISMSI equipment 14. That is, the store equipment 12 is purchased separately by the store and is later retrofitted or modified to operate with the

ISMSI equipment 14. In another embodiment, the store equipment 12 and the ISMSI equipment 14 are sold/leased as an integral system, possibly within a single housing.

With reference to Fig. 1, the ISMSI equipment 14 includes: an ISMSI host 22, a plurality of coupon scanners 24a-24n, a plurality of rejected coupon lock boxes 26a-26n, and a check writer unit 28. In the preferred embodiment, each checkout lane in the store includes one coupon scanner 24 and one rejected coupon lock box 26. The coupon scanners 26a-26n are each coupled to the ISMSI host 22 via an appropriate transmission medium 30. The transmission medium 30 can include virtually any form of medium (wired or wireless) that is capable of transferring data/commands between the ISMSI host 22 and the corresponding scanners 24a-24n. For example, in one embodiment of the invention, a wired bus arrangement using a conventional or standard bus structure is implemented. In another embodiment, each of the coupon scanners 24a-24n are separately hard wired to the ISMSI host 22. In still another embodiment, a plurality of wireless links are provided. Depending on the medium used, an appropriate multiple access scheme may also be implemented.

As shown in Fig. 1, the ISMSI host 22 is also coupled to the cash registers 18a-18n via a second transmission medium 32. The second transmission medium 32 can be of the same type as the first transmission medium 30, or a different type of medium can be used. In the illustrated embodiment, the ISMSI host 22 is directly coupled to the cash registers 18a-18n. In an alternate embodiment, the ISMSI host 22 is coupled to the cash registers 18a-18n through the store host 16. The ISMSI host 22 is further coupled to a planned operations development (POD) node located outside the store. The link 36 between the ISMSI host 22 and the POD node can include virtually any form of transmission medium, either wired or wireless. The POD node is maintained by the third party service provider and is normally used to service multiple store locations. In addition, the POD node is linked into the corporate host of the third party service provider for use in data gathering/analysis/reporting functions.

The ISMSI host 22 is operative for determining whether coupons inserted into the coupon scanners 24a-24n are valid and redeemable and, if so, for transferring the coupon information to the appropriate cash register 18. The ISMSI host 22 is also operative for managing the disposition of the coupon after it has been analyzed and for sharing

information with the external POD node, among other things. In a preferred embodiment, the ISMSI host 22 includes a digital processor unit. The digital processor unit can include virtually any form of digital processor including, for example, a general purpose microprocessor, a digital signal processor (DSP), a reduced instruction set computer (RISC), or a complex instruction set computer (CISC).

During a customer transaction, the ISMSI host 22 receives information from a corresponding cash register 18 identifying all of the items being purchased by the customer. The ISMSI 22 host stores this information in an internal memory. If the customer presents a coupon to the checkout clerk, the clerk inserts the coupon into the coupon scanner 24 for analysis. The coupon scanner 24 "reads" information from the coupon that identifies at least the product associated with the coupon and the applicable discount. The coupon scanner 24 then transfers this information to the ISMSI host 22 which analyzes the information to determine whether the coupon should be redeemed. As part of the analysis, the ISMSI host 22 compares the product identified by the coupon to the list of products being purchased by the customer. If the identified product is being purchased by the customer, the ISMSI host 22 performs one or more further tests (as will be described in greater detail) to determine whether the coupon is redeemable. If it is found that the coupon is redeemable, the ISMSI host 22 transfers the redemption information to the appropriate cash register 18 which subtracts the proper amount from the customer's total. The ISMSI host 22 then instructs the coupon scanner 24 to store the coupon in an appropriate form. If the coupon is not found to be redeemable, the ISMSI host 22 instructs the coupon scanner 24 to eject the coupon out of its input port. The ejected coupon is then manually entered by the clerk or is returned to the customer.

Fig. 2 is a block diagram illustrating a coupon scanner 24 in accordance with one embodiment of the present invention. As shown, the coupon scanner 24 includes: an input sensor 38, a motorized coupon transport unit 40, an optical reader 42, a coupon sorter 44, an audit coupon lock box 46, a coupon modifier 48, a modified-coupon lock box 50, a controller 52, and a display 54. The controller 52 is operative for controlling the operation of the other elements within the coupon scanner 24. In addition, the controller 52 is coupled to the ISMSI host 22 via transmission medium 30 for communicating with the host 22 during customer transactions.

The input sensor 38 is operative for sensing the presence of a coupon at the input port of the coupon scanner 24. When a coupon is sensed, the input sensor 38 signals the controller 52 which causes the coupon transport unit 40 to advance the coupon to a position where it can be read by the optical reader 42. It should be appreciated that once the coupon is inside the coupon scanner 24, the coupon is under the control of the third party service provider and is no longer under the control of the store clerk.

The optical reader 42 scans the coupon as it passes beneath it to optically detect indicia on the coupon that identifies the conditions for proper redemption of the coupon. For example, information such as product identity, package size, manufacturer, quantity, expiration date, and discount amount may be sensed. Other forms of information can also be read from the coupon. In one embodiment of the invention, the optical reader 42 reads a bar code from the coupon (e.g., a UPC bar-code) that includes the necessary information. Alternatively, or in addition, the optical reader 42 can include an imaging unit for use in recognizing images on the coupon. This imaging functionality can be useful in detecting, for example, coupon forgeries and the like. The controller 52 retrieves the coupon information from the optical reader 42, converts it to an appropriate format (optional), and transfers it to the ISMSI host 22. The ISMSI host 22 then uses the information to determine whether the coupon should be redeemed. The decision of the ISMSI host 22 is then transferred back to the controller 52 via transmission medium 30.

If the ISMSI host 22 determines that the coupon is not to be redeemed, the controller 52 causes the coupon transport unit 40 to eject the coupon out of the input port of the coupon scanner 24. The controller 52 then displays a message on the display 54 explaining the reason for the rejection of the coupon to the clerk. If the coupon is found to be redeemable by the ISMSI host 22, the controller 52 instructs the coupon transport unit 40 to advance the coupon to the coupon sorter 44. The controller 52 then instructs the coupon sorter 44 how to appropriately direct the coupon. Most of the time, the coupon is directed to the coupon modifier 48 which modifies the coupon in a manner that prevents the coupon from ever being redeemed again in the future. In a preferred embodiment of the invention, the coupon modifier 48 is a shredder that shreds the coupon into a multitude of small pieces. After the coupon has been modified, the modified coupon is advanced into a modified coupon lock box 50 for temporary storage. As

described earlier, the modified-coupon lock box 50 is preferably maintained under the control of the third party service provider (e.g., the key to the lock box 50 is held by the third party service provider).

In certain instances, a coupon that is found redeemable by the ISMSI host 22 will be held unaltered by the coupon scanner 24 for the performance of further processing, such as a manufacturer's audit. In such cases, the coupon sorter 44 will be instructed to direct the coupon to the audit lock box 46 which is under the control of the third party service provider. Typically, a manufacturer will request the third party service provider to store certain coupons for audit as part of an analysis of some type. For example, the manufacturer may request that all coupons that have a specified offer code and that are redeemed at a particular store (or chain of stores) during a particular time period be held for audit. The third party service provider then transfers this information to the ISMSI host 22 (via, for example, the POD node) which refers to this information during the analysis of coupons. When a coupon that matches the audit criteria is detected by the ISMSI host 22, the ISMSI host 22 delivers information to the controller 52 which causes the coupon to be directed to the audit lock box 46. The ISMSI host 22 then records information about the customer transaction for later use during the audit. The information can include, for example, lane number, cashier, date, time, products(s) purchased, price of product(s) purchased, and other relevant information. Normally, the coupon disposition process for redeemable coupons will be transparent to the customer. That is, the customer will get an immediate credit for the coupon when it is found valid, regardless of whether it is then modified or held for audit. The disposition of the coupon will, however, affect the timing of the reimbursement from the manufacturer to the store.

When a redeemed coupon has been modified by the coupon scanner 24, the ISMSI host 22 adds the amount of the discount given for the coupon to a particular manufacturer's account. The amount of the manufacturer's account plus coupon handling fees is then paid to the store at a specified time, preferably the end of the corresponding business day. Because the coupon has been found valid and redeemable by the equipment of the third party service provider, and was subsequently modified, the payments can be made immediately without further verification by the manufacturer or its agents. The

payment is preferably made to the store by the third party service provider which is later reimbursed by the manufacturer.

In one embodiment of the invention, as illustrated in Fig. 1, the ISMSI equipment 14 located at the store includes a secure check writer 28 that is connected to the ISMSI host 22. At the end of a business day, for example, the ISMSI host 22 will send information to the POD node corresponding to all of the different manufacturers' accounts for that day. The POD node then instructs the ISMSI host 22 to have the check writer 28 write a check to the store in an amount corresponding to the total of all of the manufacturers' accounts (plus handling fees). The POD node then transfers the manufacturer information to the corporate host so that the manufacturers can be billed in the appropriate amount. In an alternate embodiment, the ISMSI host 22 automatically causes the check writer 28 to generate the check at the end of the day, independent of the POD node. In this embodiment, the ISMSI host 22 transfers the relevant data to the POD node after or concurrent with the payment. In another payment approach, the POD node causes a wire transfer to be made to a bank account of the store after the manufacturer account information is received from the ISMSI host 22. Preferably, both payment techniques are made available. Other payment techniques are also possible.

Redeemed coupons that are placed in the audit coupon lock box 46 are not reimbursed at the end of the business day. These coupons are manually processed by employees of the third party service provider during periodic audit sessions. The employees generally visit the store and retrieve all of the coupons from the audit lock boxes in each of the checkout lanes. The audit coupons are kept segregated according to lane. The coupons are brought back to a corresponding POD location where they are processed manually. During the audit, the third party service provider employee will normally refer to the transaction information that was recorded by the ISMSI host 22 during the relevant transactions. This information can be fetched from the ISMSI host 22 using, for example, the POD node or periodic automatic downloads to the POD node can be made. If the audit coupons are found to be valid, the store's account is credited in the amount of these coupons. If some of the audit coupons are found to be invalid, these coupons are returned to the store with appropriate reasons for the rejection. After manual processing is complete, relevant information is delivered to the corporate host for use in

analysis/reporting. After audit, the validated coupons will either be destroyed or returned to the manufacturer. The manufacturer will normally indicate which disposition it desires.

Coupons can be rejected by the ISMSI host 22 (and therefore ejected by an associated coupon scanner 24) for numerous reasons. For example, it may be found that the customer did not purchase the product identified by the coupon or the correct product size. Similarly, it may be found that the coupon has expired or that some other condition stated on the coupon has not been satisfied (such as quantity purchased or other item purchased). Other times, the third party service provider or the store may find out that a particular manufacturer has gone out of business or filed for bankruptcy. A decision can then be made not to honor coupons issued by that manufacturer and the ISMSI host 22 is programmed to reject all coupons from that manufacturer. Hard-to-handle (HTH) coupons may also be ejected by the coupon scanner 24. That is, certain coupons may be in a condition that does not allow them to be properly processed by the coupon scanner 24. For example, torn, wet, flimsy, smeared, and/or very odd-shaped coupons may be rejected by a coupon scanner 24 if they are causing jams or misreads to occur in the unit.

When a coupon is rejected by the ISMSI host 22, it is ejected from the coupon scanner 24 and the reason(s) for the rejection is displayed on the display 54 of the coupon scanner 24. The checkout clerk reads the display and makes a determination as to whether the coupon will still be redeemed. The store can issue guidelines to the clerks specifying conditions under which coupons should still be redeemed when ejected from the coupon scanner 24. If the coupon is simply an HTH coupon, the clerk can decide to accept the coupon if, for example, the conditions stated on the coupon have been satisfied. Also, if the clerk believes that a particular customer may become irate if a coupon is rejected, the clerk may be authorized to redeem the coupon, whether valid or not. Once the decision has been made to redeem the rejected coupon, the clerk enters the coupon information into the system either manually at the cash register 18 or by scanning it with the product scanner 20 (see Fig. 1). In addition, alternative data entry means, such as a wand reader, may be provided for entering the rejected coupon information. As with the audited coupons, rejected coupons that have been manually entered by the clerk are not reimbursed to the store by the third party service provider at the end of the day.

After the rejected coupon information has been entered into the system, the clerk places the coupon into the rejected coupon lock box 26 and the ISMSI host 22 records information about the transaction for later use in manually validating the coupon. For example, the ISMSI host 22 will normally record the date, time, and lane of the transaction. In addition, the ISMSI host 22 may record the items purchased during the transaction and the purchase price of the items. Periodically, the contents of the rejected coupon lock boxes 26a-26n are retrieved by employees of the third party service provider and manually processed as described previously with respect to the audit lock box 46. Preferably, the audit coupons and the rejected coupons will be processed during the same session. The employees of the third party service provider will generally access the information stored by the ISMSI host 22 during the relevant transactions as part of the validation process. The store will be credited for of the rejected coupons that are found to be valid by the third party service provider. In addition, explanations will be given to the store for all coupons found to be invalid. Payment to the store will be made by the usual methods.

Figs. 3 and 4 are flowcharts illustrating a method for processing customer purchases in accordance with one embodiment of the present invention. The method is initiated when a customer brings one or more products for purchase to a checkout clerk. With reference to Fig. 3, the clerk scans the products presented by the customer using product scanner 20 (step 60). As described previously, the scanned product information is transferred from the product scanner 20 to the corresponding cash register 18 and the ISMSI host 22. After scanning the products, the clerk inserts the first customer coupon into the coupon scanner 24 (step 62). Based on a decision of the ISMSI host 22, the coupon scanner 24 either keeps or rejects the coupon (step 64).

If the coupon is rejected, the checkout clerk reads the reason(s) for the rejection from the display 54 and makes a determination as to whether the coupon will still be redeemed (step 66). If the clerk decides to redeem the coupon, the clerk then enters the coupon information into the system either manually at the cash register, by scanning it using the product scanner 20, or using some other input device (step 68). The clerk then deposits or otherwise initiates locating the coupon in the rejected coupon lock box 26 for later manual verification (step 70). Information relating to the customer transaction is

then transferred from the cash register 18 to the ISMSI host 22 for storage and eventual use by third party service provider personnel during manual verification (step 72). If the clerk decides that the rejected coupon will not be redeemed (step 66), then the coupon is returned to the customer along with an explanation as to why the coupon was rejected (step 74). After the rejected coupon has been fully processed, the clerk determines whether there are additional coupons to be entered (step 76). If so, the clerk inserts the next coupon into the coupon scanner 24 and the method is repeated (step 62). If not, the clerk completes the customer transaction by telling the customer what the final total is and accepting payment from the customer (step 78).

If the entered coupon is not rejected by the coupon scanner 24 (step 64), the ISMSI host 22 instructs the cash register 18 to credit the customer for the amount stated on the coupon (step 80, see Fig. 4). The ISMSI host 22 then determines whether the coupon is to be audited (step 82). In one embodiment of the invention, this determination includes a comparison of information read from the coupon to a list of audit coupon types. The determination may also include a comparison of the present date to an applicable audit period. If the coupon is to be audited, the ISMSI host 22 causes the coupon sorter 44 (via the controller 52) to direct the coupon into the audit coupon lock box 46 (step 90). The appropriate customer transaction information is then transferred to the ISMSI host 22 from the cash register 18 for eventual use by third party service provider personnel during manual verification (step 92).

If the ISMSI host 22 determines that the coupon is not to be audited (step 82), the coupon sorter 44 is instructed to direct the coupon to the coupon modifier 48 (step 84). As described above, in a preferred embodiment, the coupon modifier 48 includes a shredder for shredding the coupon into an unusable state. This shredding ensures that the coupon will never be redeemed again by a customer. The modified coupon is then placed into the modified coupon lock box 50 (step 86) where it stays until retrieved and disposed of by the third party service provider. After coupon modification, the amount of the coupon discount is recorded in the ISMSI host 22 for payment to the store at the end of the day or other relevant time (step 88). After the non-rejected coupon has been fully processed, the clerk determines whether there are additional coupons to be entered (step 76, see Fig. 1). If so, the clerk inserts the next coupon into the coupon scanner 24 and

the method is repeated (step 62). If not, the clerk completes the customer transaction by telling the customer what the final total is and accepting payment from the customer (step 78).

5 As is apparent from the above description, the present invention relates to a system for processing customer purchase transactions that is capable of handling any form of coupon that is presented by the customer. In the preferred embodiment, the coupon scanner 24 is capable of reading virtually any coupon format presently used in the retail industry. That is, the scanner 24 can read coupons of any standard size with a bar code (or other indicia) located virtually anywhere and in virtually any orientation on the face
10 of the coupon. In some cases, a coupon will be presented to a checkout clerk that is in a condition that makes it hard-to-handle by the coupon scanner 24. Processes are provided whereby such coupons are uniformly and accurately managed by the store and the third party service provider. The system is capable of achieving very rapid reimbursement (e.g., end-of-day payments) to the store for most properly redeemed coupons.
15 In addition, the system provides standardized, predictable, and automatic procedures for handling all other coupons, such as audited coupons, hard-to-handle coupons, and coupons that can not be properly read by an optical reader (e.g., smudged coupons).

20 Although the present invention has been described in conjunction with its preferred embodiments, it is to be understood that modifications and variations may be resorted to without departing from the spirit and scope of the invention as those skilled in the art readily understand. Such modifications and variations are considered to be within the purview and scope of the invention and the appended claims.

What is claimed is:

1. A method for redeeming coupons, comprising:
identifying products, including at least first and second products being purchased,
using a product reader device located at a purchasing outlet;
5 reading a first coupon using a coupon reader device located at the purchasing
outlet;
determining, at the purchasing outlet, that said first coupon is to be redeemed;
modifying, at the purchasing outlet, said first coupon after said reading and
determining steps for said first coupon, wherein said reading and determining steps cannot
10 again be conducted for said first coupon after said modifying step because of
modifications made to said first coupon during said modifying step;
reading a second coupon using said coupon reader device;
making a determination related to whether said second coupon is to be redeemed
after said reading step for said second coupon; and
15 storing, after said making step, said second coupon in an unmodified state for
subsequent verification.
2. The method, as claimed in claim 1, wherein:
said first coupon is a standard coupon having only conventional contents in which
all UPC information on said first coupon is standard UPC information.
- 20 3. The method, as claimed in claim 1, wherein:
said step of making a determination includes determining that said second coupon
is to be redeemed; and
said step of storing includes delivering said second coupon to a storage unit for
future processing.
- 25 4. The method, as claimed in claim 3, wherein:
said step of making a determination includes determining that said second coupon
is to be used for an audit, wherein said future processing includes performing said audit.
5. The method, as claimed in claim 3, further comprising:
reading, before said step of storing, said second coupon using said product reader
30 device.

6. The method, as claimed in claim 1, wherein:

said modifying step includes rendering said first coupon unredeemable by destroying at least certain parts of said first coupon.

7. The method, as claimed in claim 1, further comprising:

5 providing a report that includes information related to said second coupon, said information including information related to an identity of the purchasing outlet, an identity of a purchasing lane in the purchasing outlet at which said second coupon was submitted for redemption, and a time at which said second coupon was submitted for redemption.

10 8. The method, as claimed in claim 1, further comprising:

generating a payment at the purchasing outlet for reimbursing the purchasing outlet for said first coupon.

9. The method, as claimed in claim 1, further comprising:

15 transmitting information related to said first coupon from the purchasing outlet to a site remote from the purchasing outlet.

10. The method, as claimed in claim 1, further comprising:

conducting an audit using said second coupon at a site different from the purchasing outlet.

11. A system for redeeming coupons, comprising:

20 a coupon reader device for reading at least a first coupon and a second coupon;
a processing apparatus in operative communication with said coupon reader device, said processing apparatus including a first means for at least determining that said first coupon is to be redeemed and also including second means for at least controlling a modification to said first coupon, wherein said second means modifies said first coupon
25 to render it incapable of being read using said coupon reader device; and

a storage unit for storing coupons that are not modified such that said coupons are capable of being read by said coupon reader device to determine whether said coupons are to be redeemed;

30 wherein said coupon reader device, said processing apparatus, and said storage unit are located at a purchasing outlet at which said first and second coupons were presented for redemption.

12. The system, as claimed in claim 11, wherein:

said storage unit includes means for storing coupons that are to be audited.

13. The system, as claimed in claim 11, wherein:

5 said storage unit includes means for storing coupons that were unacceptable to said coupon reader device.

14. The system, as claimed in claim 11, wherein:

said storage unit includes means for storing coupons that were redeemed at the purchasing outlet but were determined by said processing apparatus not to be redeemable.

10 15. The system, as claimed in claim 11, wherein:

said processing apparatus includes means for generating a report that includes information related to said second coupon including an identity of the purchasing outlet, an identity of a purchasing outlet lane at which said second coupon was submitted for redemption, and a time at which said second coupon was submitted for redemption.

15 16. The system, as claimed in claim 11, further comprising:

means for issuing payment to the purchasing outlet related to a reimbursement for said first coupon.

17. The system, as claimed in claim 11, further comprising:

20 means for transmitting information related to said first coupon from the purchasing outlet to a site remote from the purchasing outlet.

18. The system, as claimed in claim 17, wherein:

said means for transmitting includes means for transmitting said information wirelessly from the purchasing outlet.

19. The system, as claimed in claim 11, further comprising:

25 a product reader device different from said coupon reader device, wherein said product reader device reads said second coupon.

20. A system for processing coupons during sales transactions, said system comprising:

an optical reader device for reading first information from a surface of a coupon;

30 a processor unit for determining whether said coupon is valid based on said first information;

a coupon modifier for modifying coupons presented to an input of said coupon modifier;

a coupon storage unit for storing unmodified coupons presented at an input of said coupon storage unit; and

5 a coupon sorter for directing a coupon that has already been read by said optical reader device to either said coupon modifier or said coupon storage unit based on a control signal input to the coupon sorter, said coupon sorter handling coupons that are found to be valid by said processor unit.

21. The system, as claimed in claim 20, wherein:
10 said coupon modifier includes means for destroying said coupon.

22. The system, as claimed in claim 20, wherein:
said coupon modifier includes a shredder for shredding said coupon into a multitude of pieces.

23. The system, as claimed in claim 20, wherein:
15 said first information includes a product identity and a coupon expiration date.

24. The system, as claimed in claim 20, wherein:
said coupon storage unit includes a locked storage receptacle.

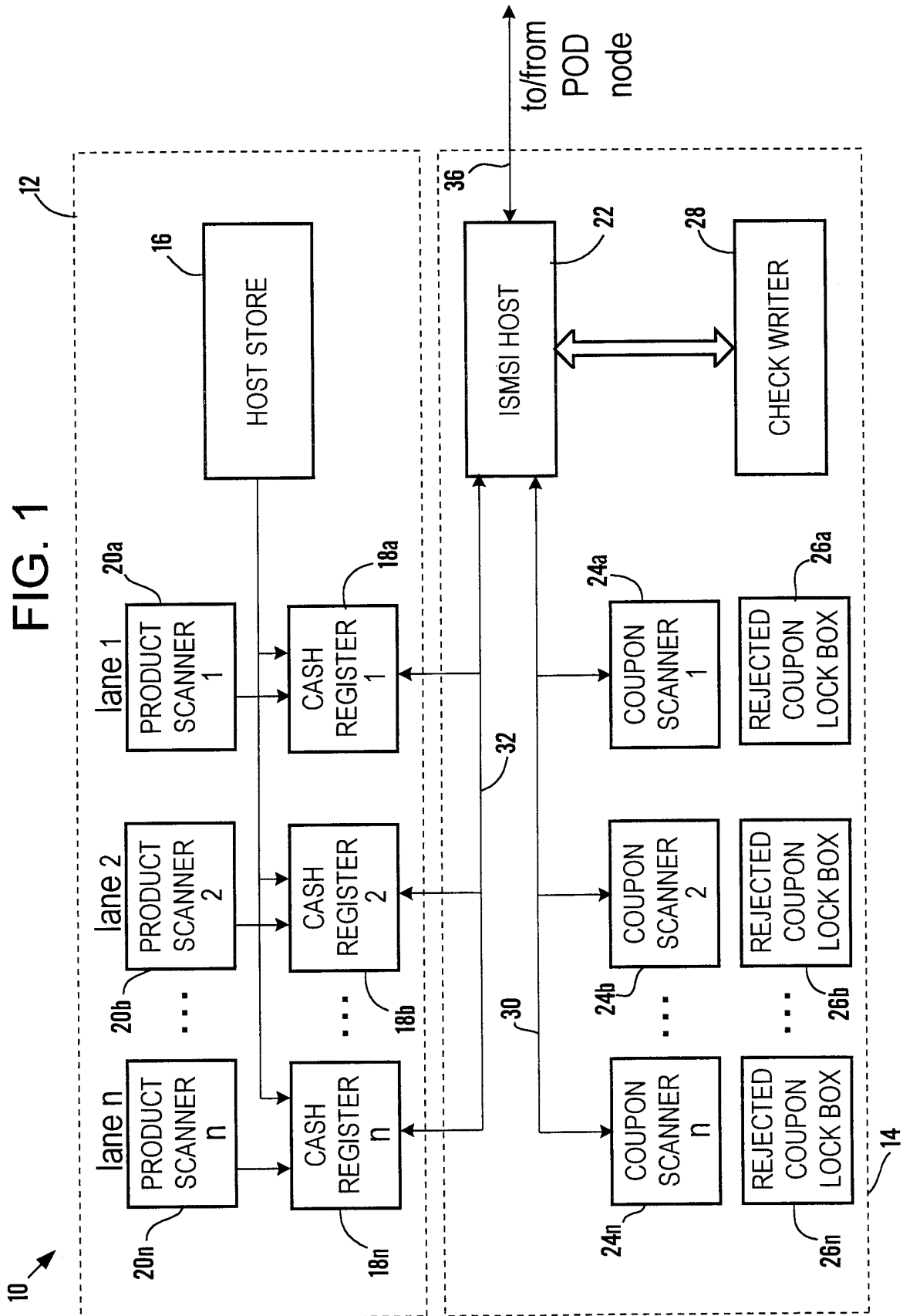
25. The system, as claimed in claim 24, wherein:
said system is located within a retail establishment and access to said locked
20 storage receptacle is under the control of an entity other than said retail establishment.

26. The system, as claimed in claim 20, wherein:
said coupon sorter is responsive to said processor unit.

27. The system, as claimed in claim 20, wherein:
said coupon sorter directs said coupon to said coupon storage unit when it is
25 determined that said coupon is valid and to be audited.

28. The system, as claimed in claim 20, wherein:
said coupon sorter directs said coupon to said coupon modifier when it is determined that said coupon is valid and not to be audited.

29. The system, as claimed in claim 20, further comprising:
a rejected coupon lock box for storing unmodified coupons that were found to be invalid by the processor unit but which are subsequently redeemed by an operator of the system.
- 5 30. The system, as claimed in claim 29, wherein:
said system is located within a retail establishment and access to said rejected coupon lock box is under the control of an entity other than said retail establishment.
- 10 31. The system, as claimed in claim 20, further comprising:
payment means, coupled to said processor unit, for effecting payment to a retail establishment associated with the system for all coupons modified within a predetermined time period.
32. The system, as claimed in claim 31, wherein:
said payment means includes a secure check writer.



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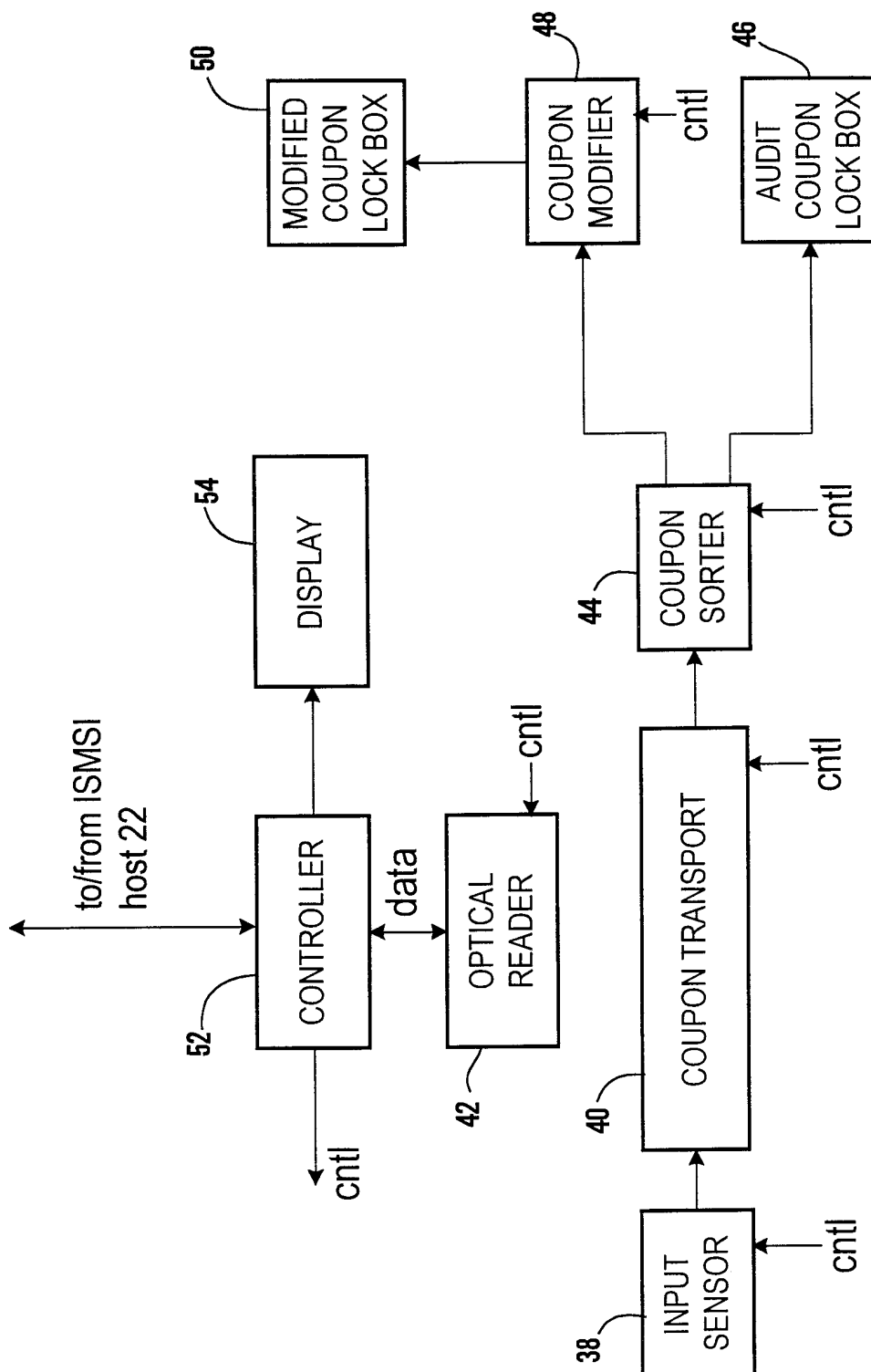
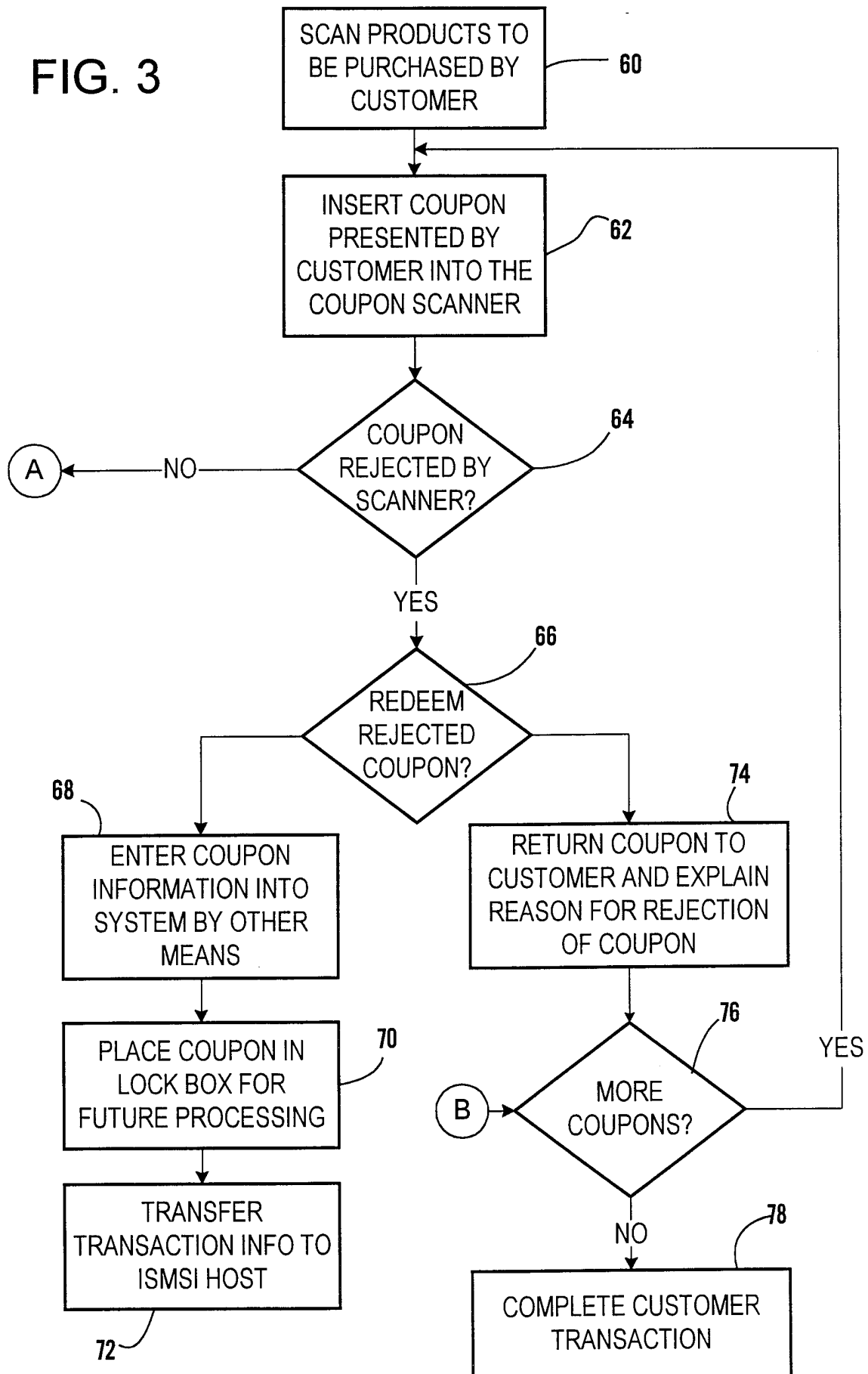


FIG. 2

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FIG. 3



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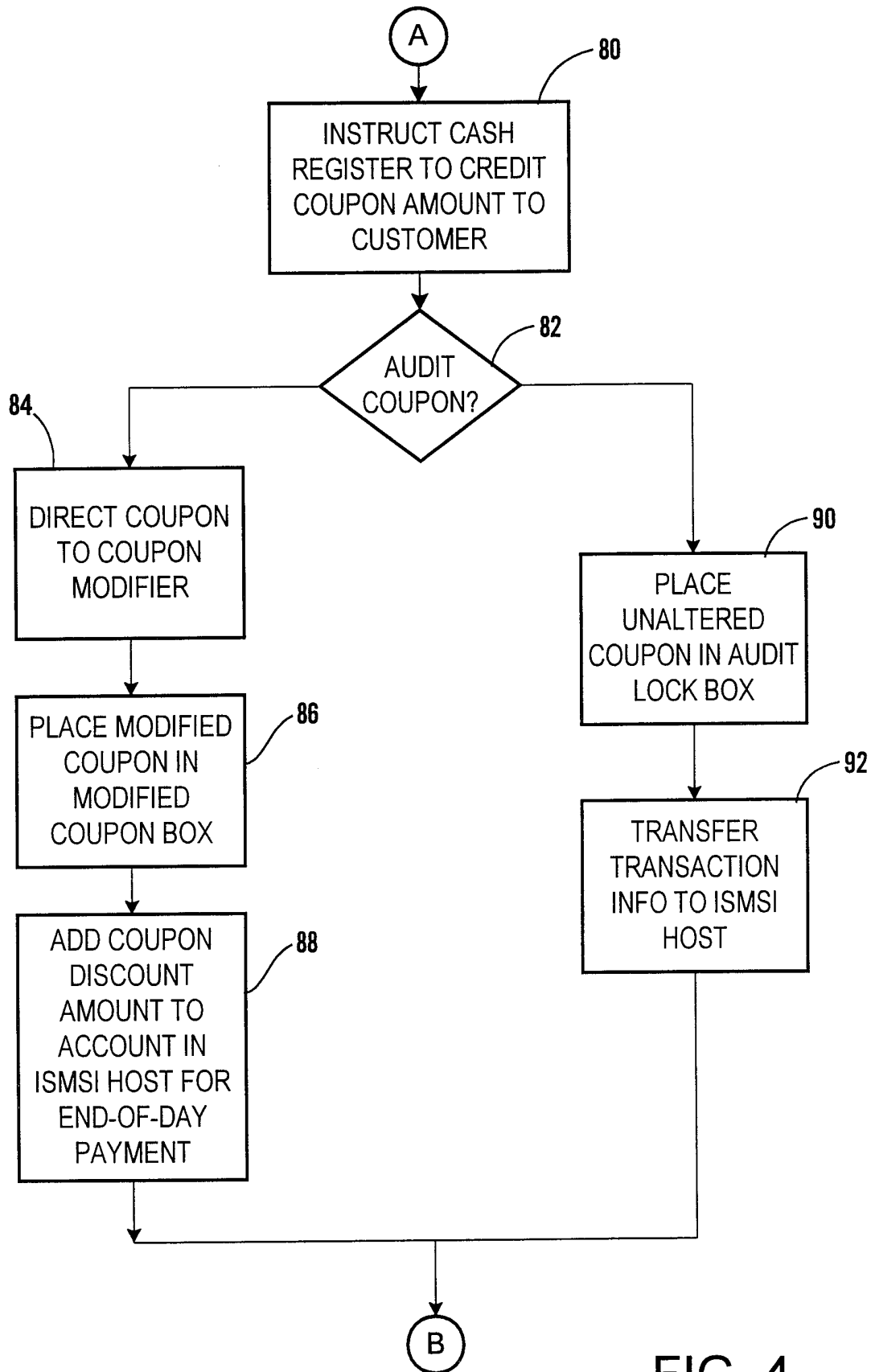


FIG. 4

INTERNATIONAL SEARCH REPORT

international application No.

PCT/US00/04011

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G06F 17/00, 60

US CL : 705/14; 235/375

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/14; 235/375

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
IDS filed with US Patent Application 09/250,207

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4,554,446 A (MURPHY et al) 19 November 1985, columns 6-12.	1, 2, 8, 16, 18, 20
Y	US 4,791,281 A (JOHNSEN et al) 13 December 1988, columns 5-6.	1, 2, 7, 11, 15, 20, 23, 21, 31
Y	US 5,008,519 A (CUNNINGHAM et al) 16 April 1991, columns 7-8.	1, 2, 6, 11, 18, 19, 20, 21
X --- Y	US 5,128,520 A (RANDO et al) 07 July 1992, entire document.	1, 3, 6, 11, 19, 20-22, 24-26 ----- 2, 4, 5, 12-14, 23-31
X --- Y	US RE 35,117 E (RANDO et al) 12 December 1995, entire document.	1, 3, 6, 11, 19, 20-22, 24-26 ----- 2, 4, 5, 12-14, 23-31
Y	US 5,208,445 A (NAHAR et al) 04 May 1993, columns 4-7.	1, 3, 5, 11, 13, 14, 19, 20, 24, 25, 30
X -- Y	US 5,483,049 A (SCHULZE, JR) 09 January 1996, columns 8-9.	22, 32 ----- 1, 2, 6, 11, 20-21, 31

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

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

19 May 2000 (19.05.2000)

Date of mailing of the international search report

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Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703)305-3230

Authorized officer

James P. Trammell

Telephone No. (703) 305-3900

Joni Hill

INTERNATIONAL SEARCH REPORT

ernational application No.

PCT/US00/04011

C (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,612,527 A (OVADIA) 18 March 1997, entire document.	1-32
A	US 5,844,221 A (MADIGAN, JR. et al) 01 December 1998, entire document.	1-32
Y	HEMPHILL & ASSOCIATES, Electronic Coupon Clearing Guidelines A Best Practices Approach. 03 March 1997, 42 pages.	1-10, 12, 15-17, 31
Y	Coupons: A Complete Guide, Joint Industry Coupon Guidelines, Joint Industry Coupon Committee, 1998.	1-10, 12, 15-17, 31