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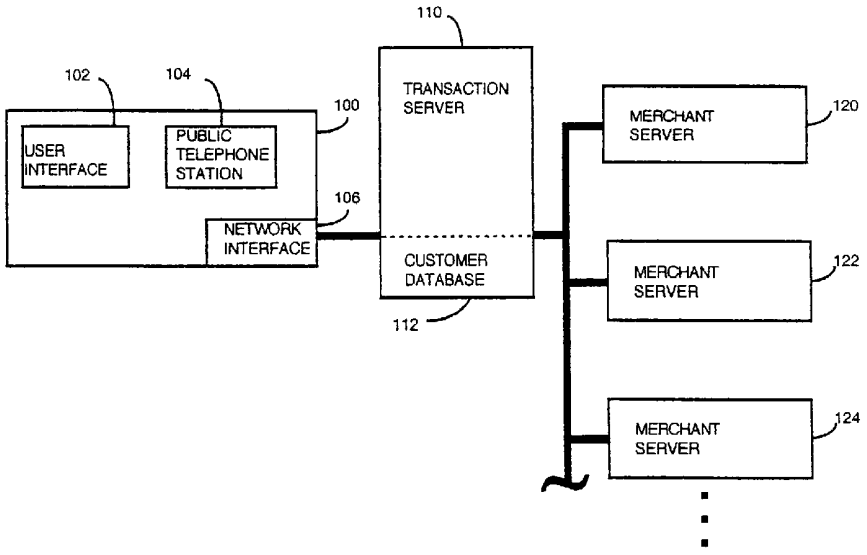

(57) Abstract: An electronic shopping mall includes a display for showing a customer products offered by an on-line merchant. The customer makes a product selection and is asked to guarantee payment for the order, including any associated tax and shipping charges. The electronic shopping mall also includes a cash acceptor. The customer may select a cash payment option and deposit paper currency in the cash acceptor. The electronic shopping mall includes an automatic recognition circuit that authenticates and values such paper currency. When the customer deposits sufficient cash to pay for the order, the on-line merchant receives the order and proceeds to arrange shipping. The customer may also provide shipping information at the electronic shopping mall by way of keyboard entry or by presenting an electronic access card. The electronic access card includes a unique customer identifier. The unique customer identifier is used to access a database having the customer's shipping address. The database also includes a record indicating any previous balance the customer may have accumulated.

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ELECTRONIC SHOPPING MALL

Field of the Invention

The present invention relates generally to the sale of goods and services over a computerized network and to accepting cash (i.e., paper or hard currency) and other electronic forms of payment for such goods and services.

Description of Related Art

The sale of goods and services over the Internet has become a significant component of the global economy. Using the Internet, a customer in virtually any country in the world is able purchase goods and services from a merchant in almost any other country in the world. This increased access provides customers with a number of benefits. For one, the customer is able to compare the prices and products of a number of merchants at a single location: the customer's computer.

To make these kinds of transactions, a customer typically uses a computer that is connected to the world wide web ("web"). Through such a computer, a customer is able to access a wide variety of merchants who provide information about their goods and services at their web site. At many of these, a customer is able to select products that he or she would like to purchase and place an order for such products with the respective web merchant. The customer typically guarantees payment for the order using a credit card. One method of placing these kinds of orders is described in detail in U.S. Patent No. 5,960,411, titled "Method and System for Placing a Purchase Order via a Communications Network" and issued to Hartman et al., which is incorporated herein by reference. Upon receiving a customer's order, the web merchant proceeds to package and ship the ordered products.

While this type of transaction is effective for many customers, many other potential customers are unable to enjoy the benefits of web shopping because they do not have convenient access to the Internet or because they do not have a credit card, debit card or other form of electronic payment. To address this latter problem, a number of web merchants provide alternative payment methods.

For example, the web-merchant Amazon.com accepts check or money order payment at their web site "http://www.amazon.com," which is incorporated herein by reference. A customer may browse that web site and add products to an electronic shopping cart. When the customer wishes to complete their order, the customer is prompted to select a payment method. The customer may pay by credit card, Visa Check, MasterMoney Card, check or money order. In addition, if the customer has a remaining balance from another transaction, the customer may use that balance for payment of the order.

Although this method allows a customer to purchase products from a web merchant, it also includes a number of unnecessary burdens that the customer must bear. For example, customers who do not have a credit card in many cases also do not have a checking account. In these cases, a customer must place an order and then purchase a money order. This, of course, delays the customer's receipt of the order during both the time that the customer spends to purchase the money order and the time it takes for the money order to reach the web merchant by mail or other courier. In addition, the customer bears an increased risk that the money order will be lost or stolen on its way to the web merchant.

Another payment method, InternetCash™, is described at http://www.internetcash.com," which is incorporated herein by reference. To use this method, a customer purchases an InternetCash™ card at a retailer who has a physical store. The cards may be purchased in various denominations. After purchasing a card, a customer must access "http://www.internetcash.com" to activate the card. After activation, the customer may make purchases using the card with a number of web merchants.

One web merchant who accepts InternetCash™, namely shades.com, may be found at "http://www.shades.com," which is incorporated herein by reference. At this site a customer may view various products offered by this web merchant. After selecting a product for purchase, a customer may elect to pay for the selection by credit card or by InternetCash™. In the event that the customer elects to use the latter, the customer must provide a valid InternetCash™ card number and personal identification number. The value of the customer's InternetCash™ card is then reduced by the amount of the purchase and the web merchant proceeds to fill the order.

Although this kind of system allows customers to place orders to web merchants without a credit card, it still suffers from a number of practical burdens that may discourage customers from actually completing a purchase. A hypothetical example illustrates one such difficulty. Suppose a customer has purchased a $50 InternetCash™ card from a retail store. The customer subsequently accesses a web merchant's site and finds a product costing $49.99 that he or she would like to purchase. After adding any tax and shipping charges, the total cost of such an order becomes, for example, $56.50. Since the value of the customer's InternetCash™ card is not sufficient to cover the total cost of the order, the customer would need to return to the retail store and purchase another card having at least a $6.49 value. As a practical matter, this additional step likely discourages the customer from actually completing that purchase.

Moreover, although both of the above-mentioned systems eliminate the need to use a credit card in making web purchases, neither system effectively addresses the other hurdle that limits many potential customer's ability to benefit from web shopping, namely, Internet or web access. For customers who do have access but are only just beginning to use the Internet, the cumbersome steps added by the above-mentioned systems likely discourage such customers from actually making purchases.

Summary of the Invention

According to one aspect of the invention, an order for products may be placed through a computer network. The order allows for cash payment. The placement of the order includes receiving product data through a computer network. The product data is identifies products that are available for purchase from a merchant. The placement of the order also includes generating an image based upon the product data. The image represents the products that are available for purchase. The placement of the order further includes receiving a product selection from a customer that identifies one of the products that are available for purchase. The placement of the order further includes receiving paper currency from the customer as payment for the product selection. The placement of the order further includes generating a representation of the paper currency and determining a value of the paper currency.

According to another aspect of the invention, an order for goods or services is generated through a network. The order process includes a cash payment option. The order process begins by transmitting product data the network. Then customer information and a request for one of the products is received the network. The order process then determines an order charge that includes a cost for the product. The order charge is transmitted through the

network. Finally, a payment notice is received through the network after a remote payment center has automatically authenticated and valued a bill received by the remote payment center.

According to another aspect of the invention, an order may be placed through a computer network by automatically valuing cash deposited at a remote payment center. The order includes a guarantee that payment has been received at the remote payment center. The order begins by receiving a unique customer identifier from the remote payment center. Then, a deposit notice is received from the remote payment center. The deposit notice indicates a value assigned by the remote payment center to a representation of a bill. Finally, a payment guarantee is transmitted to a merchant server. The payment guarantee verifies that payment has been received at the remote payment center for the order.

According to another aspect of the invention, cash is accepted in conjunction with the sale of products over a computer network. This process begins by receiving customer data through a network for a first time. The customer data includes a unique customer identifier. The process creates an account record in a database. The account record includes the unique customer identifier. The process receives deposit data through the network. The deposit data includes an amount equal to a value of currency deposited at a remote payment center. The process also receives debit data through the network. The debit data includes the unique customer identifier and an amount equal to an order.

According to another aspect of the invention, an electronic shopping mall connects with a network having a plurality of merchant servers and a customer database server. The electronic shopping mall includes a network interface and a computer configured to send and receive data through the network interface. The electronic shopping mall also includes a display configured to present a plurality of menu choices to a customer. The plurality of menu choices are received through the network interface from a merchant server. The electronic shopping mall also includes an input device, such as a touch screen and/or a keyboard. The input device is configured to receive menu selections from the customer. The menu selections are then transmitted through the network interface to the merchant server. Finally, the electronic shopping mall includes a cash acceptor configured to receive cash from the customer. The electronic shopping mall transmits a credit to the customer database server after the cash acceptor receives cash from the customer.

According to another aspect of the invention, a customer database server is connected to a network having a plurality of merchant servers. The customer database includes a network interface configured to establish a connection with a merchant server and a remote payment center. The remote payment center includes automatic currency recognition. The customer database server receives deposit records that indicate the value of currency automatically recognized by the remote payment center. The customer database server also includes a database configured to store a record for a number of customers. Each such record includes a customer record, a deposit record and a debit record. The deposit record includes a date, a remote payment center identifier, and an amount of cash deposited at the remote payment center. The debit record includes a date, a merchant identifier, and an amount of an order. The customer database server also includes a server. The server is connected between the network interface and the database. Upon receipt of a deposit record from the remote payment center, the server adds the deposit record to the database. Upon receipt of a debit record, the server adds the debit record to the database.

According to another aspect of the invention, a computer system includes a display, an input device, a bill acceptor and a computer. The display presents a plurality of possible product selections to a customer. The input device receives a product selection from the customer. The bill acceptor receives bills from the customer. The computer transmits an

order for the product selection through the network after receiving the a bill from the customer.

According to another aspect of the invention, cash is accepted as payment for the sale of goods over a computer network. The order process includes receiving a product selection and address information from a customer. In addition, the customer deposits paper currency into a cash acceptor that automatically determines its value. The order is accepted when the value of the paper currency exceeds the cost of the product selection including any applicable tax and shipping charges. A record is generated for the customer. The record includes the address information and an account balance.

Brief Description of the Drawings

Fig. 1 is a block diagram showing one preferred embodiment of a computer network having an electronic shopping mall, a transaction server and merchant servers.

Fig. 2 is a block diagram showing one preferred embodiment of an electronic shopping mall.

Figs. 3A and 3B are flow charts showing one preferred method of operating the electronic shopping mall to accept payment for goods ordered over the computer network of Fig. 1.

Figs. 4-15 are each a block diagram showing one preferred display screen used during the operation of an electronic shopping mall according to the method shown in Figs. 3A and 3B.

Fig. 16 is a block diagram showing one preferred embodiment of a database record used to maintain customer information received during operation of the method shown in Figs. 3A and 3B.

Fig. 17 is a flow chart showing one preferred method of accepting cash payment at an electronic shopping mall shown in Fig. 1.

Fig. 18 is a flow chart showing one preferred method of printing customer data at an electronic shopping mall shown in Fig. 1.

Fig. 19 is a flow chart showing one preferred method of dispensing a magnetic or other card containing customer data at an electronic shopping mall shown in Fig. 1.

Fig. 20 is a block diagram of another preferred embodiment of a computer network having computers and electronic shopping malls coupled with merchants and retailers as well as an account server; the account server also connects with an automatic teller machine network and a cellular telephone network.

Figs. 21A and 21B are flow charts showing one preferred method of generating a completed order, including payment, for products ordered over the computer network of Fig. 20.

Figs. 22-23 are each a block diagram showing one preferred display screen used during the operation of an electronic shopping mall according to the method shown in Figs. 21A and 21B.

Description of the Preferred Embodiments

One preferred embodiment of the present invention provides prospective customers with metered access to a computer network such as the world wide web. The metered access is provided at an electronic shopping mall that will be described in further detail below. The electronic shopping mall includes telephone access, web access and provides a variety of payment options including cash for these access services. The electronic shopping mall also allows customers to place an order for products over a computer network without having an existing credit, debit or other electronic account. A customer may make payment by cash at the time of placing an order. A preferred computer system includes a bill acceptor and

related circuitry that performs automatic recognition on any currency deposited in the bill acceptor.

Fig. 1 shows one preferred computer network in accordance with the present invention. The computer network includes an electronic shopping mall 100, a transaction server 110 and a number of merchant servers 120-124. Although only three merchant servers are shown, preferably, a larger number of such merchant servers are included.

Each of the merchant servers 120-124 are associated with a merchant who accepts electronic orders through the computer network. Upon receiving a completed order, the merchant proceeds to fill the order and arrange for shipping to the purchaser.

The electronic shopping mall 100 includes a variety of functionality designed to allow a customer to place an order for products with one of the merchant servers 120-124 and to attract customers to the electronic shopping mall 100. In particular, the electronic shopping mall 100 includes a user interface 102 that provides a graphical display including touch screen, keyboard, bill acceptor and card acceptor. The electronic shopping mall 100 receives product data from the merchant servers 120-124. Based upon this product data, the electronic shopping mall 100 generates a graphical representation of the product data on user interface 102. The touch screen and keyboard then allow a customer to make product selections and transmit an order to the merchant servers 120-124.

In addition to user interface 102, the electronic shopping mall 100 also includes one or more public telephone stations 104. Preferably, the public telephone uses voice over internet protocol ("VOIP") to transmit and receive audible data. The inclusion of a public telephone serves two purposes. First, telephone access serves as a draw to attract prospective customers to the electronic shopping mall 100. Second, the public telephone station 104 generates use fees. Preferably, public telephone station 104 accepts magnetic cards that may be purchased at user interface 102. This further encourages prospective customers to access other products that may be available through the computer network from merchant servers 120-124.

When a customer does request product information from a merchant server, the request is transmitted through a network interface 106 that connects to transaction server 110. Preferably, the network connection to transaction server 110 is made using a dedicated line connection. In addition, network interface 106 makes a redundant full-time wireless connection with transaction server 110.

The wireless connection is preferably selected in the frequency band ranging from 1.9 to 3.5 GHz. The exact frequency is selected depending upon the specific regional conditions, communication regulations and licensing requirements at the installation site of the electronic shopping mall 100. When a frequency band experiences heavy traffic, the wireless communication link avoids that band. To ensure the secure transmission of data, the specific frequency is changed every 8ms. Moreover, the wireless connection uses a data encryption algorithm with a hidden electronic serial number. This further strengthens security and ensures the authenticity of the connection.

Data received by transaction server 110 through the network connection with electronic shopping mall 100 is either processed by the transaction server 110 or forwarded to one of the merchant servers 120-124. Such data includes routing information that controls whether transaction server 110 processes the data or whether it forwards the data to a merchant server.

In operation, transaction server 110 maintains a customer database 112. When a new customer uses electronic shopping mall 100 to make a purchase from one of the merchant servers 120-124, a new record is created in the customer database 112. The new record includes the customer's address and effectively creates a deposit account. If the customer places an order with a merchant, the customer will be prompted to select from a number of

payment options. If the customer deposits cash, the customer's database record will be credited by the amount of deposit. When a customer completes an order with a merchant, the customer's deposit account is debited by updating the customer's database record.

Turning to Fig. 2, one preferred user interface 200 will be described. User interface 200 includes a computer 202, which is preferably a Pentium™ single-board computer with a built-in Ethernet and on-chip sound card. The computer 202 includes MMX technology with at least 128 MB of RAM. Computer 202 also includes a hard disk having at least 10GB of storage capacity, and one 56K fax/modem, one parallel, two USB and eight serial ports. The computer 202 also includes appropriate software including an operating system, a currency recognition program used in conjunction with a bill acceptor 208, bill recognition software used in conjunction with document scanner 220, and other software used in conjunction with the other components. Preferably, the currency recognition software is capable of recognizing at least seventy different currencies and can be reprogrammed to accept changes in design.

In operation, a customer may complete an order at user interface 200. When this occurs, the computer receives print data from a merchant server regarding the details of the order. Computer 200 initiates a print process that sends the order data to printer 204. In response, printer 204 generates a paper order receipt that is provided to the customer. Preferably, printer 204 uses a fast thermal-transfer print process.

When a new customer makes a cash deposit, the new customer's account will be credited appropriately. To allow the customer to access the account, user interface 200 issues a new card to the customer. Preferably, the card includes a magnetic stripe with a unique ID, however other types of cards will also function adequately (e.g., smart cards). Card reader 206 is configured to dispense new cards or to read a card that a customer may insert.

Bill acceptor 208 includes a motorized currency detector that draws a bill across an optical scanner. This generates an optical representation of the bill, which is converted into a digital representation and electronically provided to computer 202. As mentioned above, computer 202 includes recognition software used to determine the authenticity and value of a deposited bill. If a bill passes the authenticity check, it is saved in an attached storage box. The storage box is made according to a highly secure design that prevents attempted break-ins. In addition, the storage box is coupled with intrusion detectors 212. In the event that an attempted intrusion is detected, an emergency signal is transmitted to the transaction server.

User interface 200 also includes a bill and coin dispenser 210. In one preferred mode of operation, a customer may place an order with one of the merchant servers 120-124. If the customer deposits cash having a value that exceeds the cost of the order, computer 202 may activate a process that directs bill and coin dispenser 210 to refund the appropriate amount. As with bill acceptor 208, bill and coin dispenser 210 includes an attached box that is constructed using secure design that prevents attempted break-ins. This storage box is also coupled with intrusion detectors 212. In the event that an attempted intrusion is detected, an emergency signal is transmitted to the transaction server.

User interface 200 also includes a monitor with an associated touch screen 214. Preferably the monitor is a color flat-panel LCD display, however other monitor devices may be used. In operation, a user is provided with various operational choices at the monitor. These operational choices provide associated buttons that the customer may select. For example, product data from a merchant server may be displayed on the monitor and touch screen 214 in a menu structure. A customer may then activate one of the menu selections by touching the monitor and touch screen 214 on the desired menu item. In response, a request for that menu item is sent to the associated merchant server. That merchant server transmits additional product data for the menu selection. In general, the touch screen functionality

allows a user to select any active area on the monitor and touch screen 214. It also allows a merchant server to present and receive menu choices from a customer.

When a customer first visits the user interface 200 he or she will be presented with a number of possible menu selections. The menu selections include purchasing a telephone card that may be used in conjunction with a public telephone station at an electronic shopping mall. In addition, the menu selections will include access to a number of preferred web merchants. Ordinarily, this placement encourages customer's to visit the preferred web merchants. Accordingly, a web merchant may purchase the service of providing placement as one of the initial menu selections. This provides another source of revenue for the associated electronic shopping mall.

When a customer visits a particular web merchant, they are presented with a menu having a number of different product categories. The customer then selects one of the product categories. The customer is then presented with a menu of products in that category.

When a customer makes a purchase at the user interface 200, the customer may be prompted to provide a user ID, a password and address information. Keyboard 216 includes standard entry keys and allows the customer to make alpha numeric entries.

User interface 200 also includes speakers 218. These are used to provide audible signals to a customer. For example, when user interface 200 dispenses currency or a card, speakers 218 will generate an audible beeping sound to draw the customer's attention to the currency or the card. Speakers 218 may also be used to provide voice prompts to the customer.

User interface 200 also includes a document scanner 220. In one preferred method of operation, at least one web merchant is a utility service provider that regularly bills its customers by sending a paper invoice. The paper invoice may be digitized by document scanner 220. Computer 202 includes a recognition program that determines whether the scanned document is a bill associated with a merchant on the computer network. To facilitate this recognition process, the bills may include a special sequence of characters that improves recognition accuracy. If the bill is recognized as one associated with a web merchant, a connection is established with the related web server. The customer may then use the electronic shopping mall to make payment to the service provider. In another preferred method of operation, the service provider bills the customer electronically. The customer may view and pay such bills at the electronic shopping mall.

User interface 200 also includes a video camera 222. The video camera 222 may be used to provide remote visual monitoring of the electronic shopping mall. Video camera 222 is configured to provide a digitized video signal of the area surrounding the electronic shopping mall. This video signal may be fed to a remote location that monitors activities around the electronic shopping mall. Where a single video camera is not sufficient to generate a complete view, additional video cameras may be added.

Finally, user interface 200 includes a network interface 224. The network interface 224 includes both a line interface and a wireless interface. This redundancy helps insure that any down time due to communication failure will be minimized. These continuous connections allow a remote station to monitor the condition of the electronic shopping mall. In one preferred mode of operation, computer 202 runs a security process that monitors the status of the other components 204-224 including the intrusion detectors 212. If an error condition or security breach is detected, the remote station is notified through the network interface. Since the remote station maintains a constant connection, if the network interface 224 fails, a technician may be sent to the electronic shopping mall to investigate and repair the malfunction.

Turning to Fig. 3A, one preferred method of operating an electronic shopping mall will be described in further detail. The electronic shopping mall includes a display screen

that is used to provide visual information to a customer. To assist in describing the operation of the electronic shopping mall, reference will be made to specific display screens that are used during operation. These display screens are shown in Figs. 4-15.

At block 312, the electronic shopping mall receives data from a merchant server. This data includes image and text data that shows and describes products that the associated merchant carries.. Based upon this data, the electronic shopping mall generates a display page that shows the image and text data.

Fig. 4 shows one preferred display page 400, which includes a logo area 410, a banner advertisement area 412, a search area 414 and a links area 416. Data for these areas is also received from the merchant server. The logo area 410 is used to display the merchant's logo or other merchant information such as telephone number. The banner advertisement area 412 is used to display an advertisement that is selected based upon the products currently displayed. The search area 414 provides the customer a way to search a database associated with the current merchant to find specific goods, services or other information. A customer may enter a search term in electronic form 415. The customer then executes the search by selecting or activating the text "search" shown in search area 414. The link area 416 provides a number of buttons that allow a user to jump to other areas of interest. For example, where the merchant sells office products, one button may be associated with office furniture, another with computer systems, another with copiers and so on. When the customer activates one of these buttons, products offered by the merchant are then shown on the display in the product area 418. Link area 416 also includes a terms button 420. When the customer activates the terms button 420, the merchant's terms of sale and any related policies replace product area 418.

Generally, however, product area 418 is used to display any goods and services that may be offered by the merchant in a particular category. Continuing with the office products example, products A-F may be various models of paper shredders. A customer may activate the image associated with product B, that is image 422, or the text associated with product B, that is text 424. When this occurs, display page 400 is replaced by a new display page having more detailed information about product B. Also note, where display page 400 does not have sufficient space to display all products in a particular category, product area 418 will include an active area 426 that allows the customer to view additional products in the category.

Returning to Fig. 3A, at step 314, the customer has selected a particular product and the electronic shopping mall generates a new page display that shows the product in more detail.

Fig. 5 shows one preferred display page 500. In this specific example, the customer has selected product B. Accordingly, page display 500 shows additional details about product B in detailed product area 510. More specifically, detailed product area 510 includes a larger image of product B, image 512, as well as text associated with product B, text 514. Detailed product area 510 also includes a detailed product description 516 that lists features of product B as well as the merchant's price.

The merchant server implements an electronic shopping cart as is commonly known in the art. One such electronic shopping cart is described in detail in U.S. Patent No. 5,745,681, titled "Stateless Shopping Cart for the Web" and issued to Levine et al., which is incorporated herein by reference. Another such electronic shopping cart is described in detail in U.S. Patent No. 5,956,709, titled "Dynamic Data Assembling on Internet Client Side" and issued to Xue, which is also incorporated herein by reference. Other models may also be used in place of the shopping cart model. To operate the electronic shopping cart, detailed product display area 510 includes an add to cart button 518, a view cart button 520 and a checkout button 522.

Returning to Fig. 3A, at decision branch 316, the electronic shopping mall awaits the customer's selection between buttons 518, 520 or 522. If the customer activates the add to cart button 518, at step 318, product B is added to the customer's electronic shopping cart and, at step 320, the merchant server transmits data for a new display page that shows all items currently in the customer's electronic shopping cart. If the customer activates the view cart button 520, at step 320, the merchant server transmits data for a new display page that shows all items currently in the customer's electronic shopping cart; in this instance, product B is not added to customer's electronic shopping cart. Lastly, if the customer activates the check out button 522, at step 324, the merchant server transmits data for a new display page that shows the customer's payment options.

Fig. 6 shows one preferred display page 600 that includes the current status of the electronic shopping cart. The display page 600 includes a shopping cart table 610 that shows the products currently in the electronic shopping cart and other related data. In particular, table 610 includes an item ID column 612, a description column 614, a quantity ("qty.") column 616, a cost column 618 and a change quantity column 620. Each column includes a header row 621 and a row for each product that the customer has added to the shopping cart. In the example shown, the shopping cart table also includes a product A row 622 and a product B row 624. The data associated with each product is shown in the respective row.

In the event that the customer wishes to change the quantity of any item currently in the electronic shopping cart, the customer may enter the desired quantity in the change quantity column 620. For example, if the customer wants to purchase three of product A, the customer simply enters the number "3" in the change quantity column 620 for product A, that is row 622. When the customer activates this change quantity process, the display is updated with the new quantity and cost information. In this case product A row 622 would be updated so that the quantity column listed the number "3" and the cost column listed $36.00. When the customer is satisfied with the current contents of the electronic shopping cart, the customer may activate the continue shopping button 626 or the checkout button 628.

Returning to Fig. 3A, at decision branch 322, the electronic shopping mall awaits the customer's selection of one of these buttons. If the customer selects the continue shopping button 626, the process returns to step 312 and regenerates the display page 400 (shown in Fig. 4). Alternatively, if the customer selects the checkout button 628, the electronic shopping mall proceeds to step 324. Here, the electronic shopping mall displays the various payment options that the customer may select.

Fig. 7 shows one preferred display page 700 that includes the available payment options. Here, the customer may select between credit cart payment using button 710 or cash payment using button 712. In addition to these forms of payment, the electronic shopping mall may also accept payment by way of personal check, cashier's check, money order, debit card, smart card, or any other form of paper or electronic payment. Other display pages may include any combination of buttons for the above-mentioned forms of payment. These are selected to match the usage preferences of the local market. For example, in a market where cash and checks are the only widely used form of payment, buttons for cash and checks will be provided.

Returning to Fig. 3A, at decision branch 326, the electronic shopping mall awaits the customer's selection of buttons 710 or 712. If the customer activates the credit card button 710, the electronic shopping mall proceeds to step 328. Here, the customer is prompted for credit card information. Upon receiving authorization to make charges against the credit card, the order is completed and electronic shopping mall returns to step 312. If other forms of payment are provided, the electronic shopping mall processes the selected payment type and returns to step 312.

Alternatively, at decision branch 326, if the customer activates the cash button 712, the electronic shopping mall proceeds to step 330. Here, the electronic shopping mall generates a new display page that prompts the customer for cash payment information.

Fig. 8 shows one preferred display page 800 that includes a customer prompt 810 and an electronic contact information form 812. The customer prompt 810 directs the user to provide their electronic cash card or to fill out form 812. Along with the data used to generate this page, the electronic shopping mall also receives a script that initiates an electronic cash card receipt process. This process performs the necessary steps for physically receiving an electronic cash card from the customer and reading the related customer data from the card. If the customer does not already have an electronic cash card, the customer may instead enter his or her related contact or shipping information. This includes the customer's name and address. This may also include the customer's telephone number and email address. After entering this information, the customer activates the submit button 814. In response, the customer's contact information is transmitted to the merchant server. The merchant server performs a number of validity checks. For example, the merchant server checks that the customer has provided all required information and that such information is within the merchant's delivery area. In the event that the customer information does not pass these or any other validity checks that the merchant may apply, an appropriate error message is generated at the electronic shopping mall. The customer is then given an opportunity to correct such information. For example, where the customer forgets to include his or her zip code information, the message "Please provide your zip code." is displayed and the customer is given another opportunity to complete form 812. The customer information is also transmitted to the transaction server.

Fig. 3B further illustrates one preferred process of receiving the customer's contact information or electronic cash card. At decision branch 332, electronic shopping mall awaits the customer's input of either the contact information or the electronic cash card. Upon receiving the customer's contact information, the electronic shopping mall proceeds to step 334. The above-described contact information check is performed. When the contact information passes all such checks, the merchant server calculates any applicable taxes and shipping charges that may apply to the order. These charges are added to the customer's order data which is transmitted to the electronic shopping mall. In addition, the merchant server also transmits a script that initiates a cash receipt process on the electronic shopping mall. The cash receipt process is used to physically receive cash payment from the customer.

At step 336, the electronic shopping mall generates a grand total display page based upon the customer's order data. Fig. 9 shows one preferred grand total display page 900 that includes an order table 910, a charges table 911 and a deposit message 920. The order table 910 lists the products that the customer has decided to purchase. These products have been saved in the customer's electronic shopping cart. This table includes the same information as shown in table 610 (Fig. 6) except that it does not include a change quantity column. The charges table 911 includes an order subtotal row 912 that lists the sum of the charges for the products listed in order table 910. In this example, the customer has selected $32.00 worth of products and so the order subtotal row 912 lists this amount. The charges table 911 also includes a tax row 914 and a shipping charges row 916. These rows list any such applicable charges as determined by the merchant server. In this example, the merchant server has determined that $3.20 in taxes and $4.00 in shipping charges must be applied to this order. Again, this data is received by the electronic shopping mall from the merchant server. The shipping charges row 916 also includes a footnote identifier. This identifier is associated with a shipping message 919. This message is used to inform the customer of the expected method of shipping the products and any other shipping-related information. Finally, the

charges table 911 includes a grand total row 918 that lists the total of the product, tax and shipping charges. In this example, these charges total $39.20.

Grand total display page 900 also includes a payment message 920. This is used to prompt the user to begin making cash payment for the selected products. As mentioned above, the electronic shopping mall also receives a script that initiates a cash receipt process. In addition to activating physical hardware used to receive cash from the customer, this process also generates a window 922 that is placed on top of grand total display page 900. Window 922 includes a deposit display 924 and a cancel order button 926. At initialization, deposit display 924 shows that the amount deposited is $0.00. As the customer deposits cash, deposit display 924 is updated to reflect the total amount deposited in the current transaction. In the example shown, the customer has so far deposited $20.00. When the amount deposited exceeds the grand total, a message is transmitted to the merchant and transaction servers.

Returning to Fig. 3B, this process is further described. At decision branch 338, the electronic shopping mall awaits the receipt of cash sufficient to pay for the pending order or of an order cancellation. In the former case, the electronic shopping mall transmits a message to the merchant and transaction servers indicating the amount received. Typically, the amount received will exceed the grand total due for the order. In such cases, the electronic shopping mall will dispense to the customer an electronic cash card that is associated with a deposit account.

At step 340, the merchant server requests that the customer provide a password that will be associated with the electronic cash card. When the customer attempts to use the electronic cash card in the future, the password will be used to verify the customer's identity and to reduce the risk that another person would attempt to access the customers deposit account. Even in cases where the amount deposited only matches the grand total due, the electronic shopping mall will still issue the customer an electronic cash card that is associated with a deposit account. In this particular case, the balance of the deposit account will be $0.00, however, the electronic cash card can be used in the future to avoid the need for the customer to re-enter his or her contact information.

Fig. 10 shows one preferred password display page 1000 that is used to prompt the user for a unique password that will be associated with the customer's electronic cash card. Password display page 1000 includes a message 1010 that provides the customer's remaining balance (i.e., the difference between the amount deposited and the amount received from the customer), and a request that the customer enter a password that will be associated with the customer's new electronic cash card. Below message 1010, password display page includes an electronic password form 1012 that allows the customer to enter their password. For security reasons, the actual password is not displayed on the screen. Instead, as the customer enters numbers or letters a reference character (i.e., "*" or "X") is added to form 1012 for each respective number or letter. Below password form 1012, display page 1000 includes a confirmation request message 1014 that asks the customer to re-enter the password. Below confirmation request message 1014, display page 1000 includes another electronic password form 1016. Electronic password form 1016 functions in the same manner as electronic password form 1012. After the customer enters this information, the customer activates a submit button 1018. In response, the electronic shopping mall transmits the customer's password information to the merchant and transaction servers.

Display page 1000 also includes a password condition message 1020 that explains the requirements for a valid password. In this example, the password must include at least four numbers or letters. Other characters are not allowed. These requirements may vary depending upon the capabilities of the electronic shopping malls connected to the computer network. For example, where the computer network includes electronic shopping malls that only allow numerical character input (such as is common with existing automated teller

machines), the requirements for a valid password would only allow numerical passwords of a certain length.

Returning to Fig. 3B, at step 340 the merchant server transmits data for a confirmation display page. In addition, the merchant server transmits scripts that initiate a printing process for generating an order receipt and for generating a printed copy of the customer's password. The order receipt is printed by the electronic shopping mall and dispensed to the customer. The order receipt includes identifying and contact information for the merchant associated with the merchant server. The order receipt also lists the products included with the order along with all charges including any tax and shipping charges. Finally, the order receipt lists the customer's name and shipping information. When the merchant server provides a tracking number, the order receipt will also include this information.

The merchant server also transmits a script that initiates a electronic cash card dispense process. This process dispenses a new electronic cash card to the customer. Preferably, the electronic cash card is simply a standard plastic card with a magnetic stripe, however, a variety of other cards would also function adequately. For example, smart cards could also be used to store a customer identifier and related customer information.

Turning to Fig. 11, one preferred confirmation display page 1100 includes an order receipt message 1110, a password message 1112 and an electronic cash card message 1114. The receipt message 1110 informs the customer that an order receipt will be dispensed. This message may also include additional delivery or other order-related information. The password message 1112 informs the customer that a printed copy of the customer's new password will be dispensed. This message may also include other password-related information. The electronic cash card message 1114 informs the customer that the customer's new electronic cash card will be dispensed. Any remaining balance will be credited to an account associated with the customer's new electronic cash card.

Confirmation display page 1100 also includes a continue shopping button 1116. When the customer activates this button, at step 344 of Fig. 3B, the merchant server generates a new display page showing additional products that are available from the merchant. These additional products are selected based upon the customer's profile. For example, if the customer just purchased a computer printer, the additional products would include other computer-related products.

Returning to decision branch 338, the customer may decide for a variety of reasons to cancel the order process. To do so, the customer simply activates the cancel order button 922 (shown in Fig. 9). Since the customer has already provided contact information and may have already deposited some cash, the electronic shopping mall will dispense an electronic cash card. Accordingly, at step 346, the electronic shopping mall prompts the customer to enter and submit a password. The electronic shopping mall then dispenses a new electronic cash card to the customer. If the customer deposited any cash, the account associated with the new electronic cash card will be credited the appropriate value. At step 350, merchant server cancels the customer's order.

At step 344, the merchant server generates a new display page showing additional products that are available from the merchant. Alternatively, the merchant may send a link message to another merchant connected to the computer network and allow that merchant to provide data for a new display page.

Returning to decision branch 332, as mentioned above, the electronic shopping mall awaits the customer's input of either the contact information or the electronic cash card. Upon receiving the customer's electronic cash card, the electronic shopping mall proceeds to step 352. The electronic shopping mall reads the customer information saved on the electronic cash card and transmits it to the merchant server. In turn, the merchant server contacts the transaction server to request a database record associated with the electronic cash

card. The database record includes the customer's password, shipping address and current balance.

While the merchant server awaits a response from the transaction server, the merchant server also transmits data to generate a password request page at the electronic shopping mall. At step 354, the electronic shopping mall generates a password request page.

Turning to Fig. 12, one preferred password request page 1200 includes a personalized message 1210, an order table 1212 and a grand total table 1214. The personalized message includes the customer's name from the database record received from the transaction server. The order table 1212 and the grand total table 1214 provides the same information as the order table 910 and the grand total table 911, respectively (shown in Fig. 9). Password request page 1200 also includes a password message 1216, an electronic password form 1218 and a submit button 1220. The password message 1216 prompts the customer to enter his or her password in the electronic password from 1218. After entering this information, the customer activates the submit button 1220.

Returning to Fig. 3B, at step 356, the merchant server verifies that the customer has entered the correct password. If not the customer is notified that the password was incorrect and prompted to re-enter the correct password.

At step 358, the merchant server calculates the amount due by reducing the grand total due for the pending order by the amount currently deposited in the customer's account. After making this calculation, the merchant server transmits data for a payment request page to the electronic shopping mall. This information includes the customer's current balance, the order total and the amount due. The merchant server also transmits a script that initiates a cash deposit process on the electronic shopping mall.

At step 360, electronic shopping mall generates a request payment page. Fig. 13 shows one preferred request payment page 1300 that includes a balance message 1310 and an amount due table 1312. The balance message 1310 indicates the customer's current balance and asks that the user to deposit the remaining balance due to complete the order. In this example, the customer's current balance is $3.20. In the event that the customer's current balance exceeds the amount due, the electronic shopping mall jumps to step 364, below. The amount due table 1312 includes an order total row 1314, a customer balance row 1316 and an amount due row 1318. The order total row 1314 lists the grand total for the customer's current order. In this example, the customer's grand total is $39.20. The customer balance row 1316 lists the customer's current balance. The amount due row 1318 lists the difference between the grand total and the customer's current balance. To complete the order, the customer must deposit at least this amount.

After receiving the cash deposit script, the electronic shopping mall initiates a cash deposit process. This functions in the same manner as the cash deposit process described above with reference to step 339 except that the amount due has been reduced by the customer's current balance. Again, the cash deposit process generates a separate window 1320 that functions in the same manner as the window described above with reference to window 922 (shown in Fig. 9).

At decision branch 362, the electronic shopping mall awaits the receipt of cash sufficient to pay for the pending order or an order cancellation. This process operates in the same manner as the one described above with reference to step 338. When the amount deposited exceeds the amount due, the electronic shopping mall proceeds to step 364. Here, the customer has completed the order and the merchant server transmits a script for a print process that includes data for generating an order receipt. The merchant server also transmits a script for a return card process that returns the customer's electronic cash card. In addition, with these scripts, the merchant server also transmits data for a message page.

Turning to Fig. 14, one preferred message page 1400 includes an order receipt message 1410 and a remaining balance message 1412. The order receipt message 1410 notifies the customer that an order receipt is printing and may include shipping information or other order-related information. The remaining balance message 1412 notifies the customer of the amount that will remain as a credit to his or her account. In this example, the customer needed to deposit $36.00 to complete the order. The customer, however, deposited $40.00. As a result, the remaining $4.00 is credited to the customer's account balance. The remaining balance message 1412 lists this resulting account balance.

In addition, message page 1400 also includes a confirm delivery address button 1414 and a continue shopping button 1416. The customer's shipping address information has been saved in the database from the last time the customer entered this information. In the event that the customer has moved, he or she may wish to update the shipping address. To do so, the customer activates button 1414. If the customer has not moved, the customer may wish to continue shopping. In which case, the customer activates button 1416.

Returning to Fig. 3B, at decision branch 366, the electronic shopping mall awaits the customer's activation of either the confirm delivery address button 1414 or the continue shopping button 1416. In the latter case, the electronic shopping mall proceeds to step 344 and generates a new product display page. In the former case, the electronic shopping mall receives data for an address confirmation page from the merchant server. The data includes the customer's last known shipping address as well as any other contact information. This information was, in turn, received by the merchant server from the transaction server when the merchant server requested the database entry associated with the customer's electronic cash card.

Fig. 15 shows one preferred address confirmation page 1500 that includes a shipping address message 1510, and a contact information message 1512. The shipping address message 1510 lists the current database entry for the customer's shipping address including the customer's name, street location, city, state or province, postal code and country. The contact information message 1512 lists the current database entry for the customer's telephone number and email address. If either or both are missing, the message indicates that this information is not currently in the database.

Confirmation page 1500 also includes a continue shopping button 1514 and an update address button 1516. If the customer activates the continue-shopping button 1514, the electronic shopping mall proceeds to step 344 and generates a new product display page. If the customer activates the update address button 1516, the electronic shopping mall generates an update address page. This page lists the customer's current database entry and includes an electronic contact information form. This form includes the same fields as form 812 (shown in Fig. 8). If the customer enters any data in this form, the customer's contact information is updated in the customer database on the transaction server. After performing this update, the electronic shopping mall proceeds to step 344.

Although various information has been provided in visual form on the display screen, those skilled in the art will appreciate that other methods of transmitting the underlying message information may be used. For example, the messages may be provided in an audible form as an addition to or a substitute for the visual messages.

Turning to Fig. 16 one preferred database entry 1600 for customer information will be described. As mentioned above, one such database entry is created on the transaction server for each new electronic cash card that is dispensed to a customer. Database entry 1600 includes a number of fields for various types of customer and account data. More specifically, database entry includes a card ID 1610. This is the unique identifier associated with each electronic cash card. When an electronic shopping mall reads an electronic cash

card, its card ID is provided to the transaction server so that the matching database entry can be retrieved.

Database entry 1600 also includes the customer's password 1612, user ID 1614 (if any), the customer's name 1616, the customer's current shipping address 1618 and any former shipping addresses 1620-1624. Database entry 1600 also includes a list of transaction records 1628-1630. Each time a credit or debit is made against a customer's account a new transaction record is added to the list. Each transaction record includes a date 1632, a location 1634, a merchant ID 1636, an amount 1638, and a resulting balance field 1640. The current balance is also saved in field 1642. The transaction record may also include a payment type field. When a deposit is made, this field indicates whether the deposit was made by cash, check, credit card, etc. In addition, the database entry 1600 also includes a contact record. In the event that the customer contacts the entity who maintains his or her deposit account, that entity may add a contact record. Suppose for example that the customer calls to report a lost card. A contact record 1632 may be added to the database entry 1600. The contact record 1632 includes a date 1633 and a comment field 1634.

Turning to Fig. 17, one preferred method of operating the cash receipt process will be described in further detail. At step 1710, the electronic shopping mall receives an initiation script from the merchant server. The initiation script activates the cash receipt process that runs on the electronic shopping mall. In addition, the initiation script transmits customer information, a merchant code, a transaction code and the amount due for the pending order.

At step 1712, the cash receipt process generates a deposit window that is placed on top of the current browser window. Again, the deposit window includes a counter that provides a numerical representation of the amount that the customer has deposited as well as a cancel-order button. When the deposit window is first generated, the customer has not yet deposited any currency. Accordingly, the counter is initially set to $0.00.

At step 1714, the cash receipt process activates the bill acceptor. After activation, when a customer places a bill in the mouth of the bill acceptor, the bill acceptor energizes rollers that draw the bill across an optical detector. The optical detector scans the incoming bill and generates an electronic representation of the bill.

At decision branch 1716, the cash receipt process awaits input from the customer. More specifically, the cash receipt process awaits the deposit of cash into the bill acceptor, or activation of the of the cancel-order button. When the customer deposits a bill, the cash receipt process proceeds to step 1718; when the customer selects the cancel-order button, the cash receipt process proceeds to step 1734.

At step 1718, cash receipt process receives the electronic representation of the bill deposited by the customer. The electronic representation identifies features of the bill that are compared to various templates. Each such template represents a specific currency denomination. In addition to determining the best match as between the electronic representation and the templates, the cash receipt process also performs an authenticity check. The authenticity check operates to ensure to a high degree of certainty that the bill is not a counterfeit. The cash receipt process performs a recognition algorithm to determine the authenticity and value of the bill.

At decision branch 1720, the cash receipt process determines whether the bill passed the authenticity check. If so, the value of the bill is credited to an internal variable ("amount deposited") representing the amount deposited by the customer and the cash receipt process proceeds to decision branch 1722. Otherwise, if the bill fails the authenticity check, the bill acceptor returns the bill to the customer. In practice, this is achieved by reversing the action of the rollers that drew the bill across the optical detector. The cash receipt then returns to decision branch 1716 to await another input from the customer.

At decision branch 1722, the cash receipt process determines whether the amount deposited is greater than or equal to the amount due. If so, the cash receipt process proceeds to step 1726. Otherwise, the cash receipt process proceeds to step 1724.

At step 1724, the customer has deposited some cash but not enough to complete the order. Accordingly, the cash receipt process regenerates the deposit window so that the counter reflects the value of the amount deposited. For example, if the customer deposited a $10 bill, the counter would display "$10.00." The cash receipt process then returns to decision branch 1716 to await further input from the customer. Preferably, the customer will continue to deposit cash until the amount deposited meets or exceeds the amount due.

At step 1726, the amount deposited exceeds the amount due. Accordingly, the cash receipt process deactivates the bill acceptor. Once deactivated, the bill acceptor will not activate the above-mentioned rollers to receive any bills placed in the mouth of the bill acceptor. As a result, should the customer attempt to insert a bill into the bill acceptor it will be refused entry. Although the cash receipt process could continue to accept additional deposits from the customer, by ending the session, the cash receipt process is able to automatically complete the customer's order through the following steps.

Specifically, at step 1728, the cash receipt process regenerates the deposit window so that the counter reflects the value of the amount deposited.

At step 1730, the cash receipt process generates a unique confirmation code for this session. For simplicity, the unique confirmation codes are generated in numerical order beginning with one (i.e., 1,2,3...). Each electronic shopping mall also has a unique identifier. The unique identifier, the unique confirmation code, the amount deposited, the associated merchant code, transaction code and customer information are all transmitted as a record to both the merchant server and the transaction server. In response, the transaction server adds a transaction record that credits the respective customer account.

At step 1732, that record is also saved locally on the electronic shopping mall. At regular intervals, the transaction server may retrieve this information to reconfirm any previous transactions.

When the merchant server receives one of these records, it then sends a debit record to the transaction server. This debit record includes the customer's card ID and password, the date, the electronic shopping mall ID, the order confirmation number, the merchant ID, and the amount. The transaction server then saves this information as a transaction record and updates the customer's current balance. The transaction server also transmits a unique debit confirmation code to the merchant server. This confirmation operates to guarantee payment by the entity that operates the transaction server on behalf of the customer. Upon receiving this confirmation, the merchant who operates the merchant server will proceed to satisfy the order. In the event that the merchant server does not receive such a confirmation from the transaction server, the merchant may after a period of time contact the entity that operates the transaction server in order to determine why the confirmation was not received.

Returning to decision branch 1716, the receipt of a cancel-order input from the customer will be described in further detail. At step 1734, the cash receipt process has received this command from the customer and the customer has not yet deposited sufficient funds to complete the order. In this case, the cash receipt process deactivates the bill acceptor.

At step 1736, the cash receipt process generates a unique confirmation code for this session. The unique confirmation code is generated in numerical order based upon previous confirmation codes generated in this step or at step 1730. Likewise, the unique confirmation codes generated in step 1730 will follow in numerical order any confirmation codes generated in this step. The unique identifier, the unique confirmation code, the amount

deposited, the associated merchant code, transaction code and customer information are all transmitted as a record to both the merchant server and the transaction server.

At step 1738 that record is also saved locally on the electronic shopping mall. In this case, the amount deposited did not meet or exceed the amount due to the merchant. Accordingly, the merchant server does not transmit a debit record to the transaction server.

Turning to Fig. 18, one preferred process for generating a printed record for a customer will be described in further detail. At step 1810, the electronic shopping mall receives an initiation script from a server. The initiation script activates the printing process that runs on the electronic shopping mall.

At step 1812, the server transmits print data to the electronic shopping mall. To print a receipt, the print data includes the name and contact information of the associated merchant, the date, the order information including an order number, products ordered, associated cost of each product, tax and shipping charges and the grand total. The print data for a receipt also includes the customer's name and shipping information. To print a confirmation copy of the customer's password, the print data includes only the password.

At step 1814, the print process activates a printer and transmits the print data to the printer. The printed document is, in turn, fed to an exterior face of the electronic shopping mall so that the customer can take the printed document.

At step 1816, the process is complete and so the electronic shopping mall terminates this activity.

Turning to Fig. 19, one preferred method of operating the card dispense process will be described. At step 1910, the electronic shopping mall receives an initiation script from a server. The initiation script activates the card dispense process.

At step 1912, the electronic shopping mall transmits a unique card ID to the server. In response, the server transmits the customer's name to the electronic shopping mall.

At step 1914, the electronic shopping mall writes the customer's name and the unique card ID on a new electronic cash card. The card includes a magnetic strip. The customer name and card ID data is stored on this magnetic strip. The electronic shopping mall then dispenses the electronic cash card on the front exterior face so that the customer may retrieve the electronic cash card.

At step 1916, the process is complete and so the electronic shopping mall terminates this activity.

The process of receiving a card works in a similar manner. The electronic shopping mall receives an initiation script that initiates a card receipt process. Upon receiving this script, the electronic shopping mall activates a card acceptor. A customer can then place an electronic cash card in the card acceptor and the card will be drawn into the electronic shopping mall. In addition, the magnetic strip on the card will be drawn across a reader. This reader detects the magnetic data stored on the magnetic strip. More specifically, the reader detects the customer's name and the unique card ID. The electronic shopping mall then transmits this information to the merchant server and the card is returned to the customer.

Although the above-described preferred embodiment is described using only a single server to perform the functions implemented on the merchant server, a single server to perform the functions implemented on the transaction server and a single computer to perform the functions implemented by the electronic shopping mall, those having ordinary skill in the art will appreciate that many modifications may be made to this basic structure. For example, both the merchant server and the transaction server may be implemented using a plurality of servers to perform the functions implemented by each. Alternatively, the functionality of both a merchant server and a transaction server may be implemented on a single server. Similarly, the electronic shopping mall may be implemented using a plurality

of computers or a plurality of electronic shopping mall interfaces may be implemented using a single computer.

Turning to Fig. 20, another preferred computer network will be described. The network includes computers 2002-2004, merchant servers 2006-2008, electronic shopping malls 2010-2012, and retailer computers 2014-2016. Each of these are also connected by the network to an account server 2018. The account server 2018 maintains a customer database 2019 that has a record for each customer who completes a transaction with any one of the associated computers 2002-2016.

The merchant servers 2006-2008 provide product data over the computer network that is displayed on computers 2002-2004, and on electronic shopping malls 2010 and 2012. A customer may view the product data and make selections that are added to an order associated with the customer. When a customer completes an order, the associated merchant server, for example, merchant server 2006 transmits an order record to account server 2018. Account server 2018 adds this order record to a database entry associated with the customer. This database entry resides in the customer database 2019. The transmission of the order record does not, however, complete the order because the customer has not provided a guaranteed form of payment. Upon transmission, the order record remains open for a fixed period of time to allow the customer to provide such payment.

A customer may access his or her order(s) on account server 2018 through one of the computers 2002-2004, through one of the electronic shopping malls 2010-2012, or through one of the retailer computers 2014-2016. A customer may provide a unique customer ID and password associated with his or her account record. This information is transmitted to the account server 2018. In response, account server 2018 accesses the relevant customer record in customer database 2019. Account server 2018 then responds by transmitting any open record associated with the customer.

A customer may make payment for any open record at computers 2002-2004 by providing credit card information. At electronic shopping malls 2010-2012, a customer may use cash, check, money order, credit card or any other form of electronic payment. And at retailer computers 2014-2016, a customer may make payment by cash, check, money order, credit card or any other form of electronic payment. More specifically, retail computers 2014-2016 reside at a place of business. For example a convenience store, a bank or other business that is generally open to the public and operated by a third party. That is, the retailer generally is not a part of the merchant or otherwise associated with the customer. The retail computers 2014-2106 are preferably operated by an employee of such a business. A customer provides his or her user ID and password through a retail computer in the presence of the business employee. The customer may then tender payment in any of the above forms to the business employee. The business employee verifies the authenticity of such payment and transmits a record to account server 2018 that such payment has been received. When this transmission is complete, the customer's order is also complete and a confirmation code is generated by the account server that is provided to both the merchant server and the customer, both of whom may use the confirmation number to track the completion of the order.

In addition to these methods of payment, a customer may also access an outstanding order record through an automated teller machine ("ATM") connected to ATM network 2020. In this case, the ATM is configured to allow a customer to access any open orders on account server 2018. A customer may then make payment at the ATM using a debit or credit card.

Account server 2018 also includes a connection to a cellular or wired telephone network 2022. In the case of a cellular telephone network, many cellular telephones include simple browsing software. The browsing software may be used to place an order or to make

payment. When a customer access the account server 2018 using such a cellular telephone, account server 2018 provides both audible and/or visual data to prompt the customer for a user ID and a password. Upon receipt of a valid user ID and password, account server 2018 transmits any open orders associated with the customer record. The customer may then provide credit card account information to guarantee payment of an outstanding order. Upon verifying this information, account server 2018 transmits a unique confirmation number to the customer and to the merchant server associated with the order. Again, the confirmation number may be used by both the customer and the respective merchant to track the completion of the order.

Turning to Fig. 21, one preferred method of generating an order record will be described. The method begins at step 2110 where a customer has selected products from a merchant and transmits a request to generate an order record. In response, the associated merchant server transmits a payment option menu. This includes an electronic record option and any other options allowed by the merchant (e.g., credit card).

At decision branch 2112, the customer makes a selection. If the customer selects a credit card option or other option, the order is processed at step 2114. Here the merchant receives the customer's information and shipping instructions. After verifying the information, the merchant completes the order. Then, at step 2116 the merchant transmits another product menu that allows the customer to select additional products. Alternatively, the merchant may transmit a link to a related merchant who, in turn, transmits the product menu. A visual display is generated for the customer to make any additional selections.

Returning to decision branch 2112, if the customer selects the electronic record option, then at step 2118 the customer is prompted to provide identifying information.

Fig. 22 shows one preferred display 2200 for requesting such information. The display 2200 includes a user ID and password prompt message 2210 that request entry of this information. If the customer has an existing record on the account server, the customer can simply provide his or her user ID in form 2212 and password in form 2214.

Display 2200 also includes a new account prompt message 2216 that asks the customer to complete a more detailed form 2218. The detailed form 2218 includes a field for the customer's name, shipping and contact information. In addition, detailed form 2218 includes a user ID, password and password confirmation field. After completing the user ID form 2212 and the password form 2214, or after completing the detailed form 2218, the customer activates a submit button 2220, and the information is transmitted to the merchant server.

Returning to Fig. 21A, at decision branch 2120 the customer submits a user ID and password, or detailed shipping and contact information. In the former case, the merchant server verifies the authenticity of the user ID and password by contacting the account server. The account server checks its customer database to determine whether this information is accurate. If so, the account server transmits a verification record to the merchant server along with the customer's shipping address and contact information.

If the user ID and password is not valid, the account server transmits an invalid message to the merchant server. The merchant server then prompts the customer to re-enter his or her user ID and password. When the merchant server receives a valid user ID and password, then at step 2122 the merchant server generates a unique order confirmation number.

Returning to decision branch 2120, if instead the customer provides a shipping address, contact information and a new user ID and password, then the merchant server transmits the new customer information to the account server to verify that the user ID is not already in use in the customer database. If it is, the merchant server prompts the customer to

select a different user ID. After receiving a valid user ID, the merchant server generates a unique order confirmation at step 2122.

At step 2126, the merchant server transmits order confirmation data that includes the products ordered, their respective costs, any tax and shipping charges, and the grand total for the order and the unique confirmation number. The merchant server also transmits an order record to the account server. The order record includes the customer's user ID, the unique confirmation number, the grand total for the order and related data. The account server saves this order record in the customer database.

Turning to Fig. 23, one preferred confirmation display 2300 is described. The confirmation display 2300 includes a product table 2310 that lists the products selected by the customer as well as their respective quantity and cost. The confirmation display also includes a total charges table 2312 that lists the total cost of the selected products, any tax and shipping charges and a grand total for the completed order. The confirmation display 2300 also includes a confirmation number message 2314 and record duration message 2316. The confirmation number message 2314 lists the unique confirmation number that was generated by the merchant. The record duration message 2316 advises the customer of the amount of time that the order will remain available on the account server. If the customer fails to guarantee payment in some form within this time, the account server will delete the order record. Finally, the confirmation display 2300 includes a location button 2318. If the customer activates this button, the merchant will provide a list of physical places where the customer may guarantee payment. This list is selected from a list of electronic shopping malls and retailers who accept such payment. The electronic shopping malls and retailers closest to the customer's shipping address are listed first.

Turning to Fig. 21B, one preferred method of making payment at a payment center (e.g., an electronic shopping mall or a retailer) will be described. At step 2140, the customer is asked to provide two identifiers selected from the group of the customer's user ID, password and order confirmation number. At step 2142, these two identifiers are transmitted to the account server. The account server accesses the customer database to determine whether the two identifiers match an existing order record for a customer. If so, the order record is transmitted to the customer at the payment center.

If the customer provides a user ID and password and that customer has more than one order pending, then all pending order records are transmitted to the customer at the payment center. In the case, the customer then selects the order(s) which he or she would like to complete by providing payment.

At step 2144, the customer is prompted for the total amount due for the order(s). The customer then tenders payment in any form that the payment center accepts. At step 2146, the payment center transmits a payment record to the account server. In response, the account server transmits the payment record to the merchant associated with the customer's order. At step 2148, the payment center generates a receipt that includes the payment record. The receipt provides the customer a physical proof of purchase.

The process for generating a record for payment at an automated teller machine or on a cellular telephone network is performed in the same way as described above for payment at a payment center.

Although the invention has been described with reference to specific preferred embodiments, those skilled in the art will appreciate that many variations and modifications may be made without departing from the scope of the invention. The following claims are intended to cover all such variations and modifications.

We claim:

1. Method of placing an order for products through a computer network that allows for cash payment comprising the steps of:

receiving product data through a computer network, wherein the product data is associated with products that are available for purchase from a merchant;

generating an image based upon the product data, wherein the image represents the products that are available for purchase;

receiving at least one product selection from a customer that identifies one of the products that are available for purchase;

receiving paper currency from the customer as payment for the at least one product selection;

generating a representation of the paper currency; and

determining a value of the paper currency based upon the representation of the paper currency.

2. The method of claim 1, further comprising the step of transmitting a record through the computer network, wherein the record includes data representing the value of the paper currency.

3. The method of claim 1, further comprising the step of transmitting a first record through the computer network, wherein the first record directs a network computer to create an account for the customer and to credit the account with the value of the paper currency.

4. The method of claim 3, further comprising the step of transmitting a second record through the computer network, wherein the second record directs the network computer to debit the account for the customer by the total amount of an order for the at least one product selection.

5. The method of claim 4, wherein the first and second record are transmitted together.

6. An account record created by the method of claim 4, wherein the account record is stored on the network computer.

7. The method of claim 1, further comprising the step of dispensing a card having a unique identifier, wherein the unique identifier is associated with a database record for the customer and wherein the customer may access the database record using the card.

8. The method of claim 1, further comprising the steps of:

receiving a card having a unique identifier;

transmitting the unique identifier through the computer network; and

receiving an account record associated with the unique identifier wherein the account record includes a current balance.

9. The method of claim 8, further comprising the step of transmitting a debit record through the computer network wherein the debit record includes a charge for the at least one product selection.

10. The method of claim 9, wherein in the step of transmitting the debit record, the debit record further includes applicable tax and shipping charges.

11. The method of claim 1, wherein the step of receiving product data through a computer network comprises receiving image data associated with associated with the products that are available for purchase from the merchant.

12. The method of claim 1, wherein the step of generating an image based upon the product data comprises:

generating a first display of a menu of product categories;

receiving a selection from the customer for one of the product categories; and

generating a second display of products associated with the product category selected by the customer.

13. The method of claim 12, wherein the step of receiving at least one product selection from the customer comprises:

receiving a product selection for a first product associated with a first product category; and

receiving a product selection for second product associated with a second product category.

14. The method of claim 1, wherein the step of receiving at least one product selection from the customer further comprises receiving a quantity selection for the at least one product selection.

15. The method of claim 1, wherein the step of receiving paper currency comprises receiving a plurality of bills into a secure storage box having an intrusion detector operationally coupled therewith.

16. The method of claim 1, wherein the step of generating a representation of the paper currency comprises generating an optical representation.

17. The method of claim 1, wherein the step of generating a representation of the paper currency comprises generating an electronic representation.

18. The method of claim 1, wherein the step of determining the value of the paper currency based upon the representation of the paper currency comprises performing an authenticity check.

19. The method of claim 1, wherein the step of determining the value of the paper currency based upon the representation of the paper currency comprises performing an authenticity check and comparing the representation of the paper currency to a plurality of templates each associated with a currency denomination.

20. Method of generating an order through a network that allows for cash payment comprising the steps of:

transmitting data associated with products that are available for purchase through a network;

receiving a request for at least one of the products that are available for purchase through the network;

receiving customer information associated with the request for at least one of the products through the network;

determining an order charge that includes a cost of the at least one of the products;

transmitting the order charge through the network;

receiving a payment notice through the network after a remote payment center has automatically authenticated and valued at least one bill received by the remote payment center.

21. The method of claim 20, further comprising the step of transmitting a card dispense command through the network, wherein the card dispense command prompts the remote payment center to dispense a card having a unique identifier associated therewith.

22. The method of claim 20, wherein the step of receiving customer information associated with the request for at least one of the products comprises receiving customer address information and a unique customer identification.

23. The method of claim 22, further comprising the step of transmitting a debit notice through the network, wherein the debit notice includes the unique customer identification, the order charge and a merchant identifier.

24. The method of claim 23, wherein the step of transmitting a debit notice through the network further comprises directing the debit notice to an account server connected to the network, wherein the debit notice directs the account server to debit an account record associated with the unique customer identification by the order charge.

25. The method of claim 24, further comprising the steps of:

transmitting an account inquiry through the network wherein the account inquiry includes the unique customer identification; and

receiving an account record through the network wherein the account record includes a current balance associated with the unique customer identification.

26. The method of claim 25, further comprising the step of transmitting the current balance to the remote payment center through the computer network.

27. The method of claim 25, wherein the step of transmitting the account inquiry further comprises transmitting a password associated with the unique customer identification.

28. The method of claim 20, further comprising the step of arranging for delivery of the at least one of the products after receipt of the payment notice, wherein the arrangement for delivery is made based upon the customer information.

29. The method of claim 20, wherein the step of transmitting data associated with products that are available for purchase through the network comprises transmitting image data depicting the products and text data describing the products, wherein the text data includes a cost associated with each of the products.

30. The method of claim 20, wherein the step of receiving the request for at least one of the products that are available for purchase through the network comprises receiving the request from the remote payment center and wherein the request includes a quantity selection.

31. The method of claim 20, wherein the step of receiving customer information associated with the request for at least one of the products comprises receiving a unique identifier and a password from the remote payment center.

32. The method of claim 20, wherein the step of receiving customer information associated with the request for at least one of the products comprises receiving a customer name, address and related contact information.

33. The method of claim 20, wherein the step of determining the order charge further comprises determining a cost of shipping and applicable taxes based upon the customer information, and wherein the order charge includes the cost of shipping and applicable taxes.

34. The method of claim 20, wherein the step of transmitting the order charge through the network comprises transmitting the order charge to the remote payment center and to an account server, wherein the account server debits an account record saved in a customer database.

35. The method of claim 20, wherein the step of receiving the payment notice through the network after the remote payment center has automatically authenticated and valued at least one bill received by the remote payment center comprises receiving an amount deposited.

36. A method of guaranteeing payment for an order placed through a computer network by automatically valuing cash deposited in a remote payment center comprising the steps of:

receiving a unique customer identifier from a remote payment center through a computer network;

receiving a deposit notice from the remote payment center through the computer network, wherein the deposit notice indicates a value assigned to a representation of at least one bill received at the remote payment center; and

transmitting a payment guarantee to a merchant server through the computer network, wherein the payment guarantee is made in relation to an order placed by a customer with the merchant.

37. The method of claim 36, wherein the method further comprises the step of receiving data from the merchant server wherein the data includes the unique customer identifier and a cost associated with the order placed by the customer.

38. The method of claim 37, wherein the data represents an order that was placed by the customer through the computer network.

39. The method of claim 38, wherein the order is received from a computer at a first physical location and wherein the unique customer identifier is received from a remote payment center at a second physical location separate from the first physical location

40. The method of claim 38, wherein the order and the unique customer identifier is received from the remote payment center.

41. The method of claim 36, further comprising the step of receiving electronic payment data through a network connection.

42. The method of claim 41, wherein the step of receiving electronic payment data through the network connection comprises receiving credit card information through a cellular telephone network.

43. The method of claim 41, wherein the step of receiving electronic payment data through the network connection comprises receiving debit card information from an automated teller machine.

44. The method of claim 36, wherein the step of receiving the unique customer identifier from the remote payment center through the computer network comprises receiving a unique card identifier and a password.

45. The method of claim 36, wherein the step of receiving the unique customer identifier from the remote payment center through the computer network comprises receiving a customer ID and a password.

46. The method of claim 36, wherein the step of receiving the deposit notice from the remote payment center further comprises:

saving a transaction entry in an account record associated with the unique customer identifier wherein the transaction entry includes a date, a location and an amount; and

crediting an account balance in the account record associated with the unique customer identifier by an amount equal to the value assigned to the representation of the at least one bill received at the remote payment center.

47. The method of claim 46, further comprising the steps of:

receiving the unique customer identifier for a second time through the computer network;

receiving a second deposit notice through the computer network; and

transmitting a second payment guarantee through the computer network, wherein the second payment guarantee is made in relation to a second order placed by the customer.

48. The method of claim 47, wherein in the step of receiving the unique customer identifier for the second time through the computer network, the unique customer identifier is received from a second remote payment center, and wherein in the step of transmitting the second payment guarantee through the computer network, the second payment guarantee is transmitted to a second merchant.

49. The method of claim 36, wherein the step of transmitting a payment guarantee to a merchant server through the computer network comprises:

saving a transaction entry in an account record associated with the unique customer identifier wherein the transaction entry includes a date, a merchant identifier and an amount; and

debiting an account balance in the account record associated with the unique customer identifier by a total cost of the order placed by the customer with the merchant.

50. A method of accepting cash in conjunction with the sale of products over a computer network comprising the steps of:

receiving customer data through a network for a first time wherein the customer data includes a unique customer identifier;

creating an account record in a database wherein the account record is associated with the unique customer identifier;

receiving first deposit data through the network wherein the deposit data includes an amount equal to a value of currency deposited at a remote payment center; and

receiving first debit data through the network wherein the first debit data includes the unique customer identifier and a first amount equal to a first order.

51. The method of claim 50, further comprising the steps of:

receiving the customer data, including the unique customer identifier, for a second time;

determining an account balance for the account record associated with the unique customer identifier;

transmitting account data through the network wherein the account data includes the account balance;

receiving second deposit data through the network; and

receiving second debit data through the network wherein the second debit data includes the unique customer identifier and a second amount equal to a second order.

52. The method of claim 51, wherein in the step of receiving first debit data through the network, the first debit data is received from a first merchant server, and wherein in the step of receiving the second debit data through the network, the second debit data is received from a second merchant server.

53. The method of claim 52, wherein in the step of receiving customer data through the network for a first time, the customer data is received from a first computer, and wherein in the step of receiving customer data through the network for a second time, the customer data is received from a second computer.

54. The method of claim 50, wherein in the step of receiving customer data through a network for the first time, the customer data is received from a network computer at a first physical location, and wherein in the step of receiving first deposit data through the network, the first deposit data is received from the remote payment center at a second physical location.

55. The method of claim 50, wherein the step of receiving first debit data through the network occurs prior to the step of receiving first deposit data through the network.

56. The method of claim 50, further comprising the step of receiving second deposit data through the network wherein the second deposit data comprises any form of electronic payment.

57. The method of claim 50, wherein in the step of receiving customer data through the network for the first time, the unique customer identifier includes a password and a unique identifier associated with a card, and wherein the customer data is received from the remote payment center, which determined the unique identifier based upon the card.

58. The method of claim 50, wherein in the step of receiving customer data through the network for the first time, the unique customer identifier includes a password and a unique series of alpha-numeric characters, and wherein the unique customer identifier is received from a customer through a network computer.

59. The method of claim 50, wherein the step of creating the account record comprises accessing the database and creating a new entry in the database wherein the new entry comprises the account record and wherein the account record includes a name, an address, a password, and a balance.

60. The method of claim 50, wherein the step of receiving first deposit data through the network comprises receiving the unique customer identifier.

61. The method of claim 50, wherein the step of receiving first debit data through the network comprises receiving a unique merchant identifier.

62. An electronic shopping mall operationally coupled with a network having a plurality of merchant servers and at least one customer database server comprising:

a network interface configured to connect with a network having a plurality of merchant servers and at least one customer database server;

a computer operationally coupled with the network interface and configured to send and receive data through the network interface;

a display operationally coupled with the computer and configured to present a plurality of menu choices to a customer, wherein the plurality of menu choices are received through the network interface from a merchant server;

an input device operationally coupled with the computer and configured to receive menu selections from the customer, wherein the menu selections are transmitted through the network interface to the merchant server; and

a cash acceptor operationally coupled with the computer and configured to receive cash from the customer, wherein the computer is further configured to direct the network interface to transmit a credit to the at least one customer database server after the cash acceptor receives cash from the customer.

63. The electronic shopping mall of claim 62, wherein the network interface comprises a dedicated connection to the at least one customer database server and wherein the at least one customer database server connects to the plurality of merchant servers.

64. The electronic shopping mall of claim 62, wherein the network interface comprises a connection to the world wide web and wherein the plurality of merchant servers and the at least one customer database server are also connected to the world wide web and wherein at least one of the plurality of merchant servers includes the at least one customer database server.

65. The electronic shopping mall of claim 62, wherein the computer further comprises memory having an operating system and a cash recognition program, and wherein the computer is further configured to receive a representation of a bill from the cash acceptor and to determine the authenticity and value of the representation of the bill.

66. The electronic shopping mall of claim 62, wherein the display comprises a color, flat-panel display.

67. The electronic shopping mall of claim 62, wherein the input device comprises a keyboard and a touch screen operationally coupled with the display.

68. The electronic shopping mall of claim 62, wherein the cash acceptor comprises an optical detection circuit configured to generate an optical representation of a bill received from the customer and to transmit an electronic representation of the bill received from the customer to the computer.

69. The electronic shopping mall of claim 62, further comprising a card acceptor operationally coupled with the computer, wherein the card acceptor is configured to receive magnetic and electronic cards including credit cards, debit cards, and smart cards.

70. The electronic shopping mall of claim 69, further comprising a printer operationally coupled with the computer, wherein the computer is configured to receive a print command and associated data through the network interface and direct the printer to generate a permanent physical record based upon the associated data.

71. The electronic shopping mall of claim 70, wherein the printer comprises a thermal transfer printer.

72. A customer database server operationally coupled with a computer network having a plurality of merchant servers comprising:

a network interface configured to establish a connection with at least one of a plurality of merchant servers and at least one remote payment center wherein the at least one remote payment center includes automatic currency recognition and wherein the network interface receives deposit records that indicate the value of currency automatically recognized at the at least one remote payment center;

a database configured to store a record for each of a plurality of customers wherein each record comprises:

a customer record;

at least one deposit record including a date, a remote payment center identifier, and an amount of cash deposited at the remote payment center; and

at least one debit record including a date, a merchant identifier, and an amount of an order; and

a server operationally coupled with the network interface and the database and configured to add a deposit record upon receipt of the deposit record through the network interface from the remote payment center and to add a debit record upon receipt of the debit record through the network interface from the at least one of the plurality of merchant servers.

73. The customer database server of claim 72, wherein the network interface configured to establish the connection with the at least one of the plurality of merchant servers comprises an Internet connection.

74. The customer database server of claim 73, wherein the network interface configured to establish the connection with the at least one of the plurality of merchant servers further comprises a dedicated line connection and a wireless connection with the at least one payment center.

75. The customer database server of claim 74, wherein the network interface is configured to receive a security message from the at least one payment center and wherein the server is configured to generate an alarm message when the security message is received.

76. The customer database server of claim 72, wherein the customer record comprises:

a unique customer identifier field;

a customer address information field; and

a customer contact information field.

77. The customer database server of claim 76, wherein the customer record further comprises a password field.

78. The customer database server of claim 72, wherein the server is further configured to receive a request for customer information wherein the request includes a unique customer identifier and wherein the server is configured to access a record associated with the unique customer identifier and to transmit an account balance associated with the record.

79. The customer database server of claim 78, wherein the server is configured to monitor a remote payment center and to detect any security conditions and to generate an alarm message upon detection of a security condition.

80. A computer system comprising:

a display configured to provide a plurality of possible product selections to a customer;

an input device configured to receive a product selection from the customer;

a bill acceptor having an opening configured to receive at least one bill from the customer; and

a computer operationally coupled with the display, the input device and the bill acceptor and configured to transmit an order for the product selection through a network after receiving the at least one bill from the customer.

81. The computer system of claim 80, further comprising:

a detection circuit operationally coupled with the bill acceptor and configured to generate an electronic representation of the at least one bill from a customer; and wherein

the computer further comprises a recognition circuit operationally coupled with the detection circuit and configured to determine a value of the at least one bill from the customer

and wherein the computer is further configured to transmit the order through the network when the value of the at least one bill exceeds a cost associated with the product selection.

82. The computer system of claim 80, further comprising a printer operationally coupled with the computer and configured to provide a paper receipt of the order for the product selection.

83. The computer system of claim 80 wherein the display comprises a liquid crystal display.

84. The computer system of claim 80 wherein each of the plurality of possible product selections are associated with a remote merchant and wherein the order is directed to the remote merchant associated with the product selection received from the customer.

85. A method of accepting cash as payment for the sale of goods over a computer network comprising the steps of:

receiving a product selection from a customer through a computer network;

receiving address information from the customer through the computer network;

receiving paper currency from the customer;

automatically determining the value of the paper currency;

accepting an order from the customer for the product selection when the value of the paper currency exceeds a cost of the product selection including any applicable tax and shipping charges; and

generating a record associated with the customer wherein the record includes the address information and an account balance.

FIG. 1

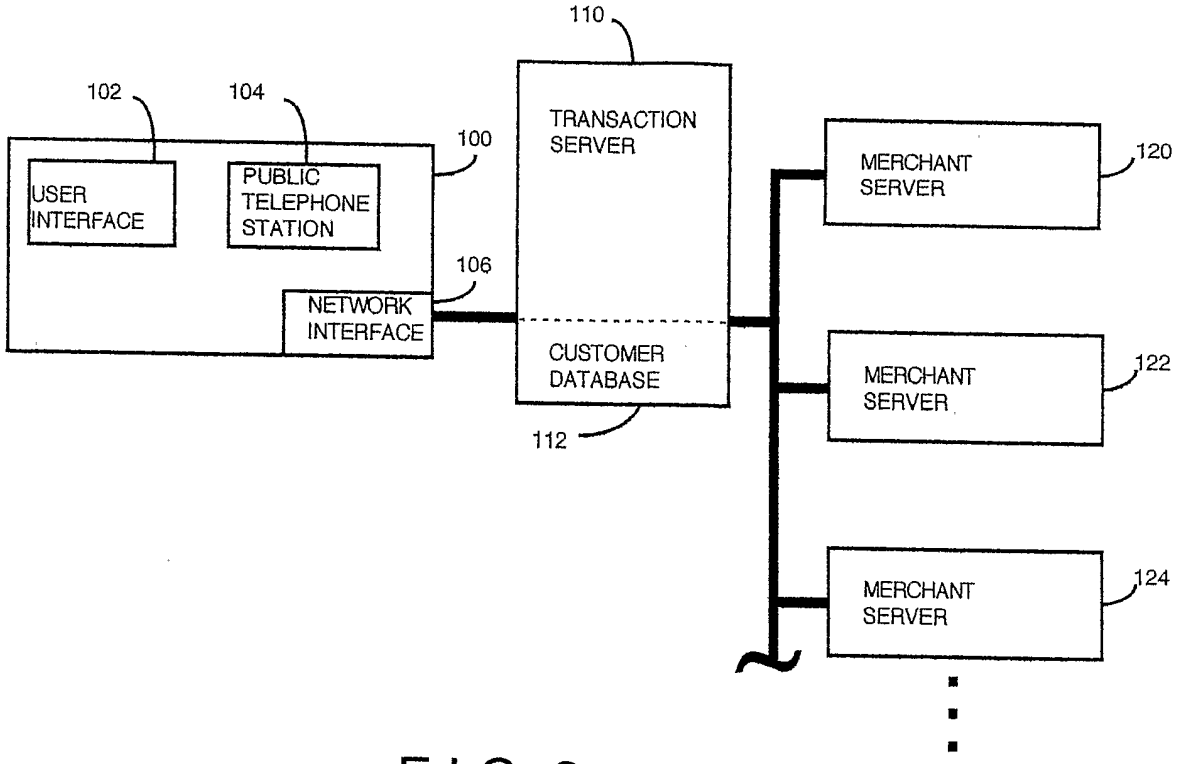

110
TRANSACTION SERVER
102
104
100
USER INTERFACE
PUBLIC TELEPHONE STATION
106
NETWORK INTERFACE
CUSTOMER DATABASE
112
MERCHANT SERVER
120
MERCHANT SERVER
122
MERCHANT SERVER
124

FIG. 2

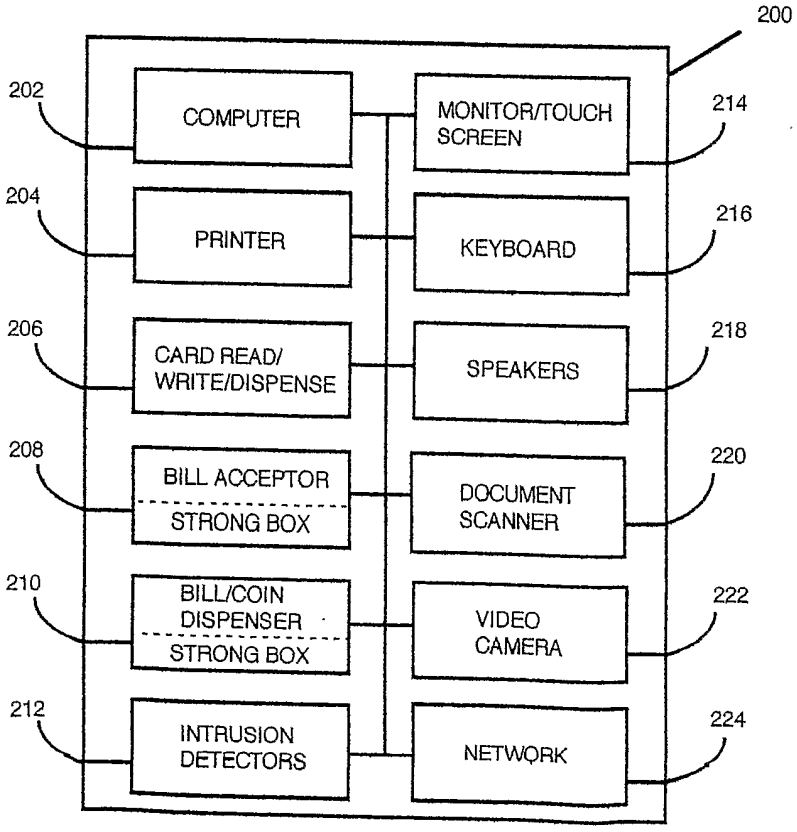

200
202
COMPUTER
204
PRINTER
206
CARD READ/ WRITE/DISPENSE
208
BILL ACCEPTOR
STRONG BOX
210
BILL/COIN DISPENSER
STRONG BOX
212
INTRUSION DETECTORS
MONITOR/TOUCH SCREEN
214
KEYBOARD
216
SPEAKERS
218
DOCUMENT SCANNER
220
VIDEO CAMERA
222
NETWORK
224

FIG. 3A

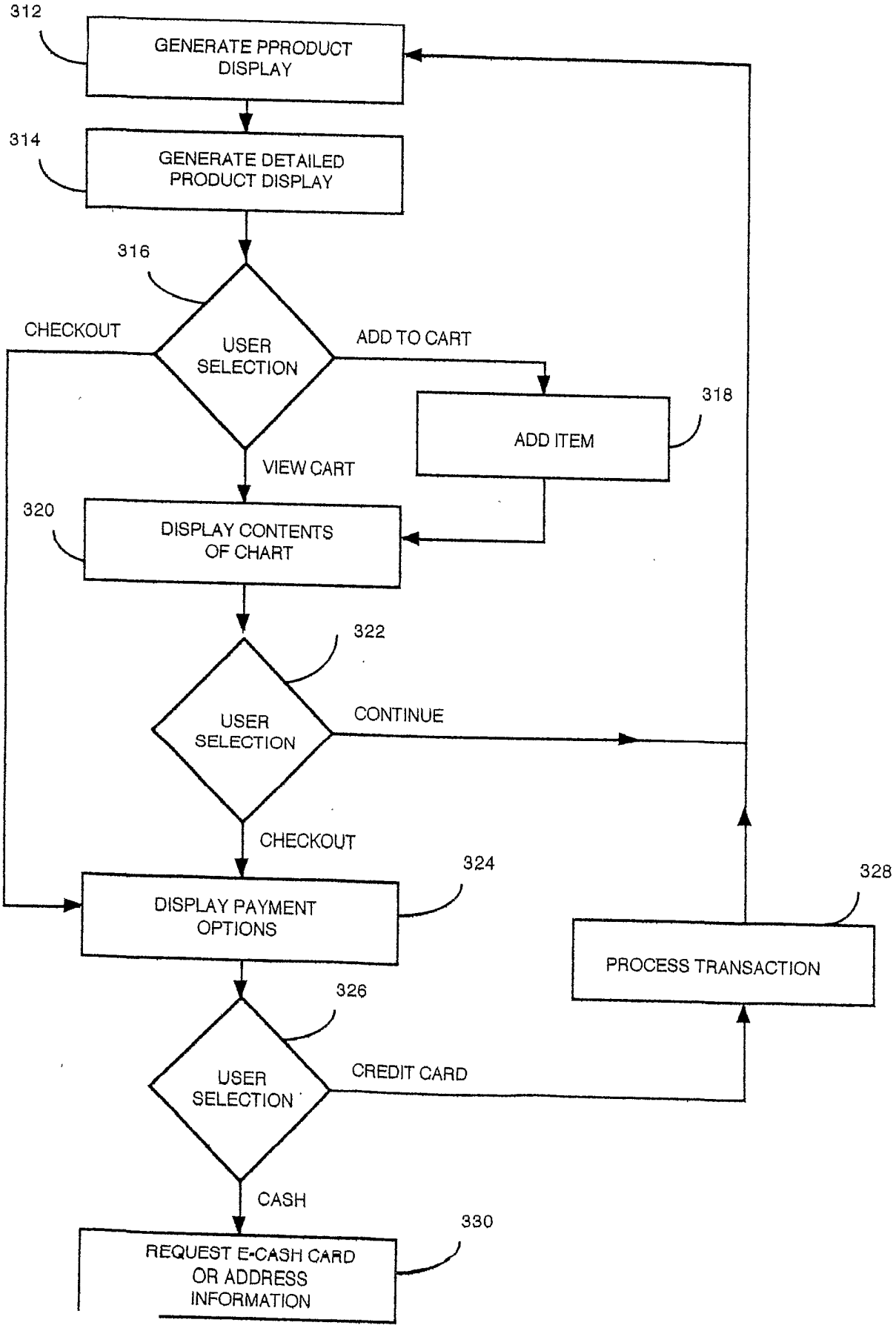

312
GENERATE PPRODUCT DISPLAY
314
GENERATE DETAILED PRODUCT DISPLAY
316
USER SELECTION
CHECKOUT
ADD TO CART
318
ADD ITEM
VIEW CART
320
DISPLAY CONTENTS OF CHART
322
USER SELECTION
CONTINUE
CHECKOUT
324
DISPLAY PAYMENT OPTIONS
328
PROCESS TRANSACTION
326
USER SELECTION
CREDIT CARD
CASH
330
REQUEST E-CASH CARD OR ADDRESS INFORMATION

FIG. 3B

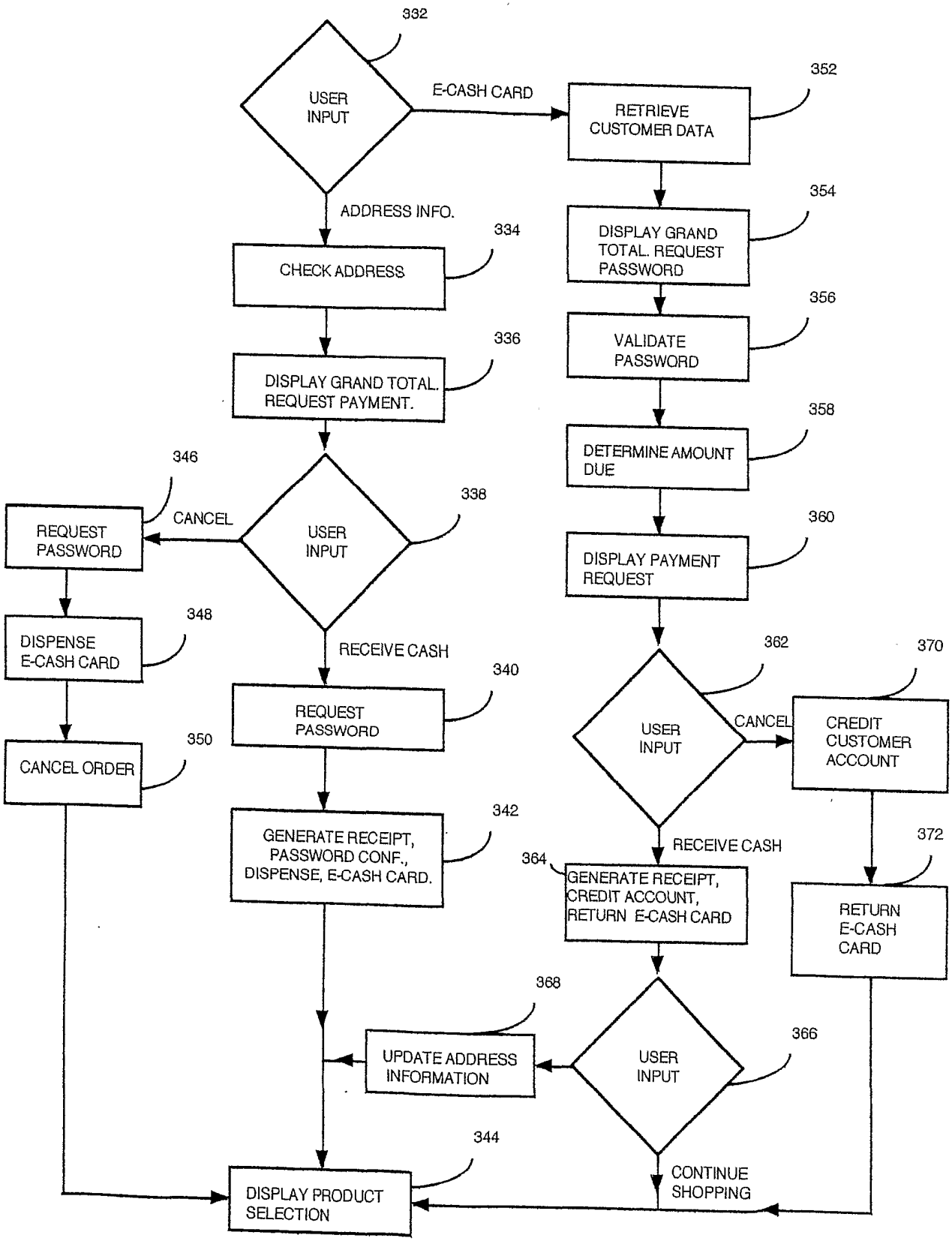

332
USER INPUT
E-CASH CARD
352
RETRIEVE CUSTOMER DATA
ADDRESS INFO.
354
DISPLAY GRAND TOTAL. REQUEST PASSWORD
334
CHECK ADDRESS
356
VALIDATE PASSWORD
336
DISPLAY GRAND TOTAL. REQUEST PAYMENT.
358
DETERMINE AMOUNT DUE
346
338
REQUEST PASSWORD
CANCEL
USER INPUT
360
DISPLAY PAYMENT REQUEST
348
DISPENSE E-CASH CARD
362
370
RECEIVE CASH
340
REQUEST PASSWORD
USER INPUT
CANCEL
CREDIT CUSTOMER ACCOUNT
350
CANCEL ORDER
342
GENERATE RECEIPT, PASSWORD CONF., DISPENSE, E-CASH CARD.
372
RECEIVE CASH
364
GENERATE RECEIPT, CREDIT ACCOUNT, RETURN E-CASH CARD
RETURN E-CASH CARD
368
366
UPDATE ADDRESS INFORMATION
USER INPUT
344
CONTINUE SHOPPING
DISPLAY PRODUCT SELECTION

FIG. 4

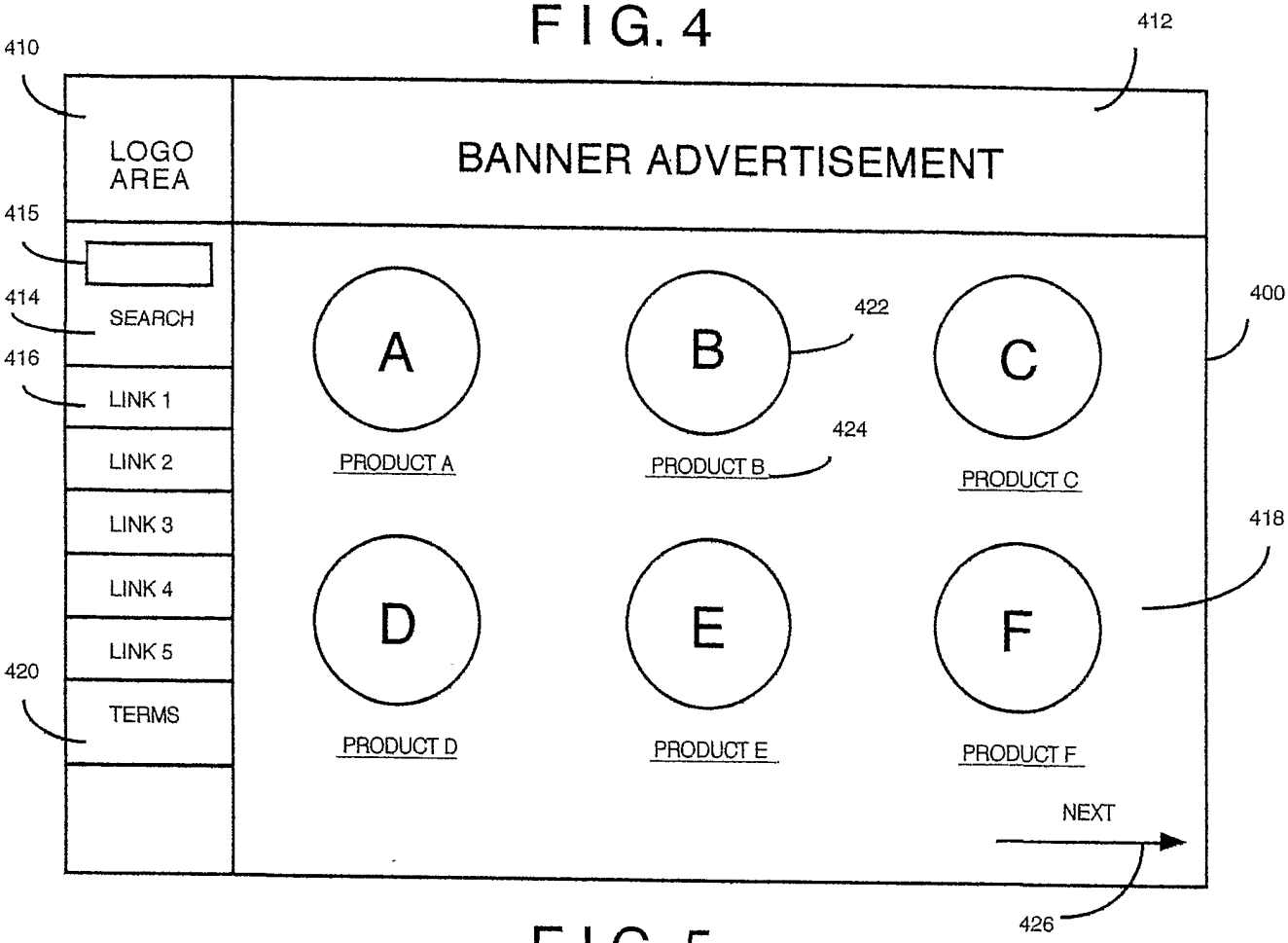

410
412
LOGO AREA
BANNER ADVERTISEMENT
415
414
SEARCH
416
LINK 1
LINK 2
LINK 3
LINK 4
LINK 5
420
TERMS
A
B
C
422
424
400
PRODUCT A
PRODUCT B
PRODUCT C
418
D
E
F
PRODUCT D
PRODUCT E
PRODUCT F
NEXT
426

FIG. 5

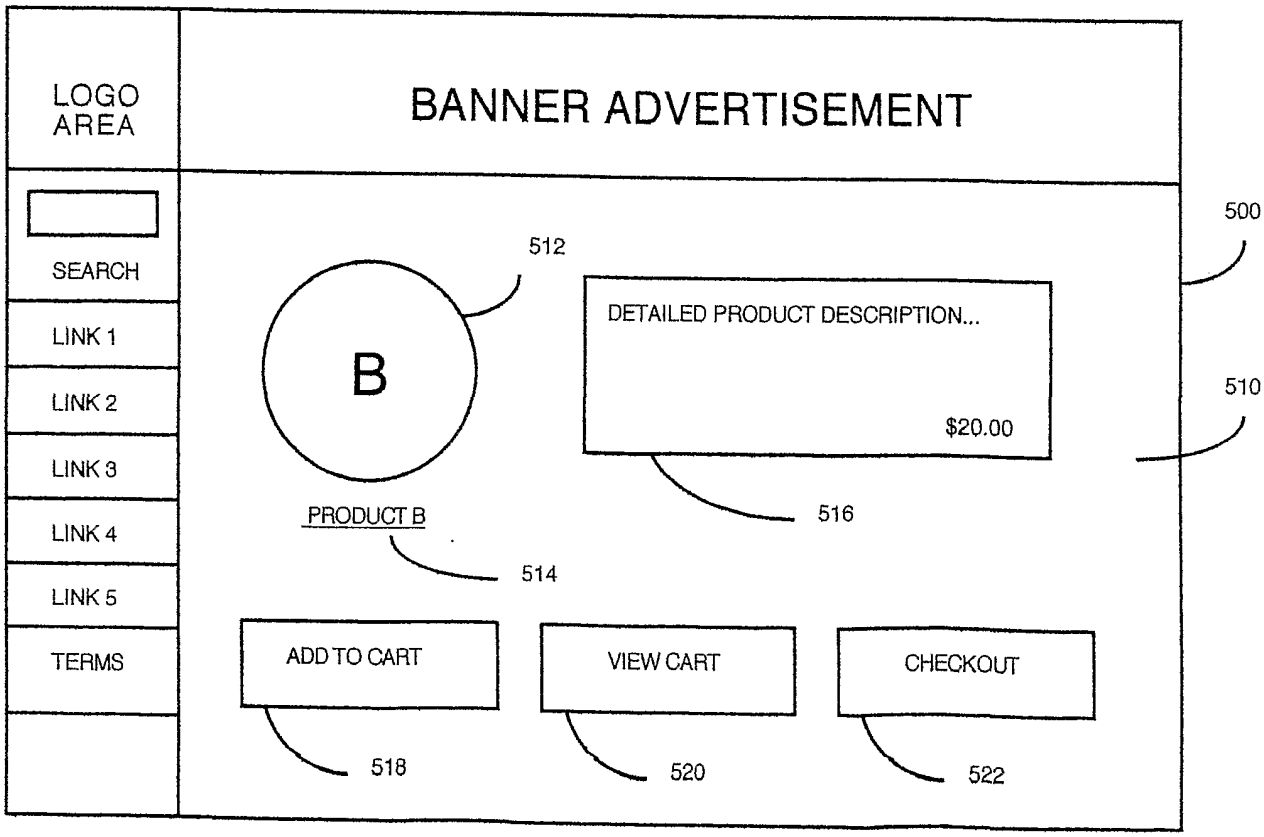

LOGO AREA
BANNER ADVERTISEMENT
SEARCH
LINK 1
LINK 2
LINK 3
LINK 4
LINK 5
TERMS
500
512
B
DETAILED PRODUCT DESCRIPTION...
$20.00
510
PRODUCT B
516
514
ADD TO CART
VIEW CART
CHECKOUT
518
520
522

FIG. 6

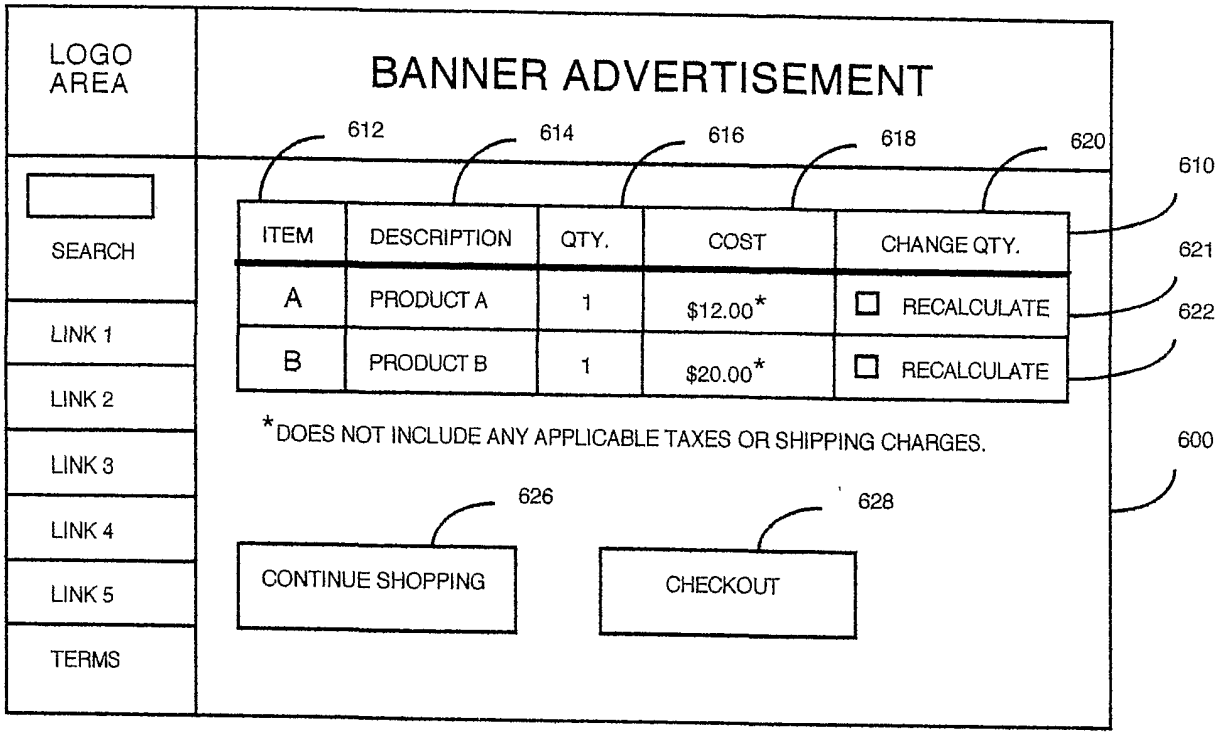

LOGO AREA
BANNER ADVERTISEMENT
SEARCH
LINK 1
LINK 2
LINK 3
LINK 4
LINK 5
TERMS
612
614
616
618
620
610
621
622
600
ITEM
DESCRIPTION
QTY.
COST
CHANGE QTY.
A
PRODUCT A
1
$12.00*
RECALCULATE
B
PRODUCT B
1
$20.00*
RECALCULATE
*DOES NOT INCLUDE ANY APPLICABLE TAXES OR SHIPPING CHARGES.
626
628
CONTINUE SHOPPING
CHECKOUT

FIG. 7

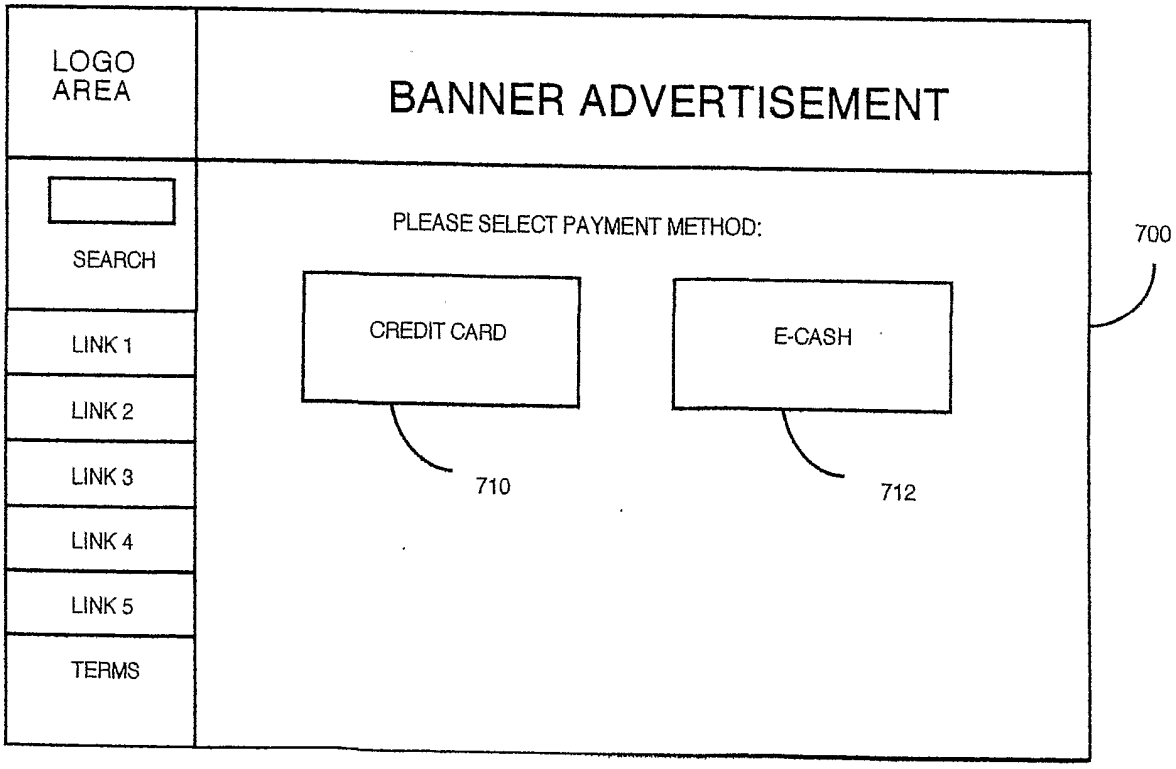

LOGO AREA
BANNER ADVERTISEMENT
SEARCH
LINK 1
LINK 2
LINK 3
LINK 4
LINK 5
TERMS
PLEASE SELECT PAYMENT METHOD:
700
CREDIT CARD
E-CASH
710
712

FIG. 8

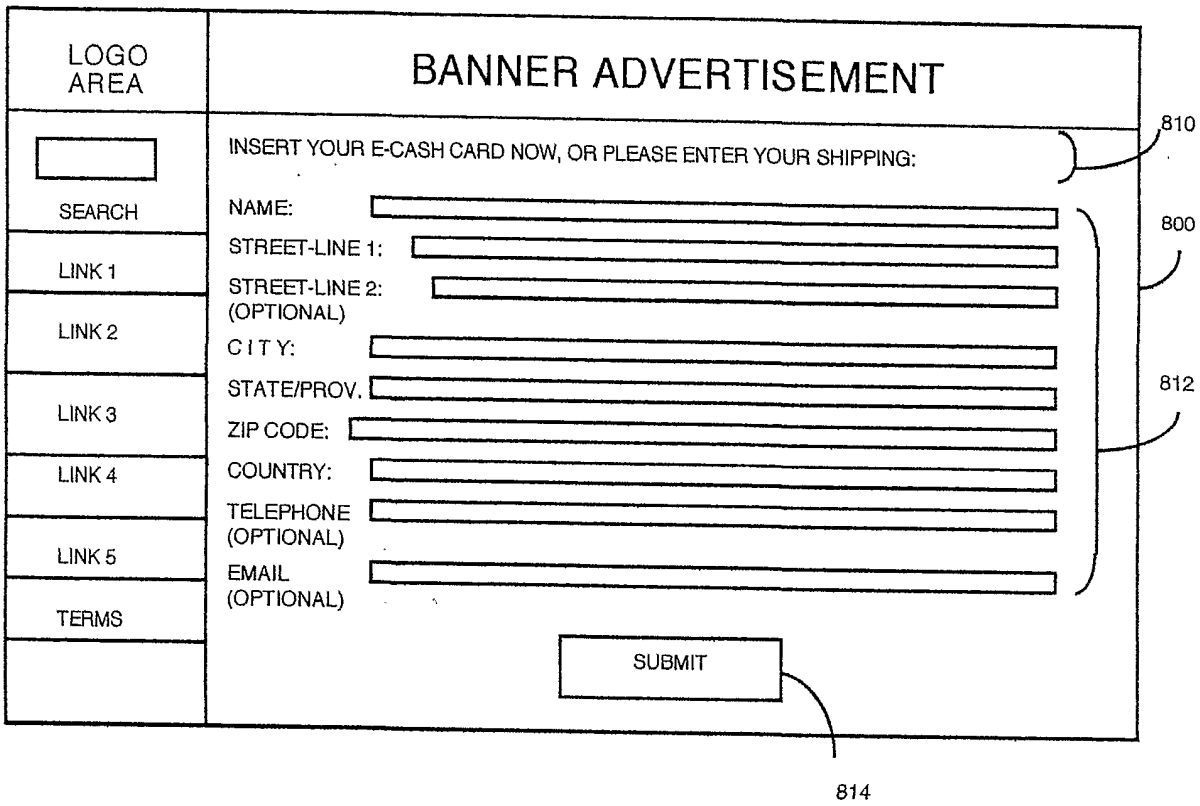

LOGO AREA
BANNER ADVERTISEMENT
SEARCH
LINK 1
LINK 2
LINK 3
LINK 4
LINK 5
TERMS
INSERT YOUR E-CASH CARD NOW, OR PLEASE ENTER YOUR SHIPPING:
NAME:
STREET-LINE 1:
STREET-LINE 2: (OPTIONAL)
CITY:
STATE/PROV.
ZIP CODE:
COUNTRY:
TELEPHONE (OPTIONAL)
EMAIL (OPTIONAL)
SUBMIT
810
800
812
814

FIG. 9

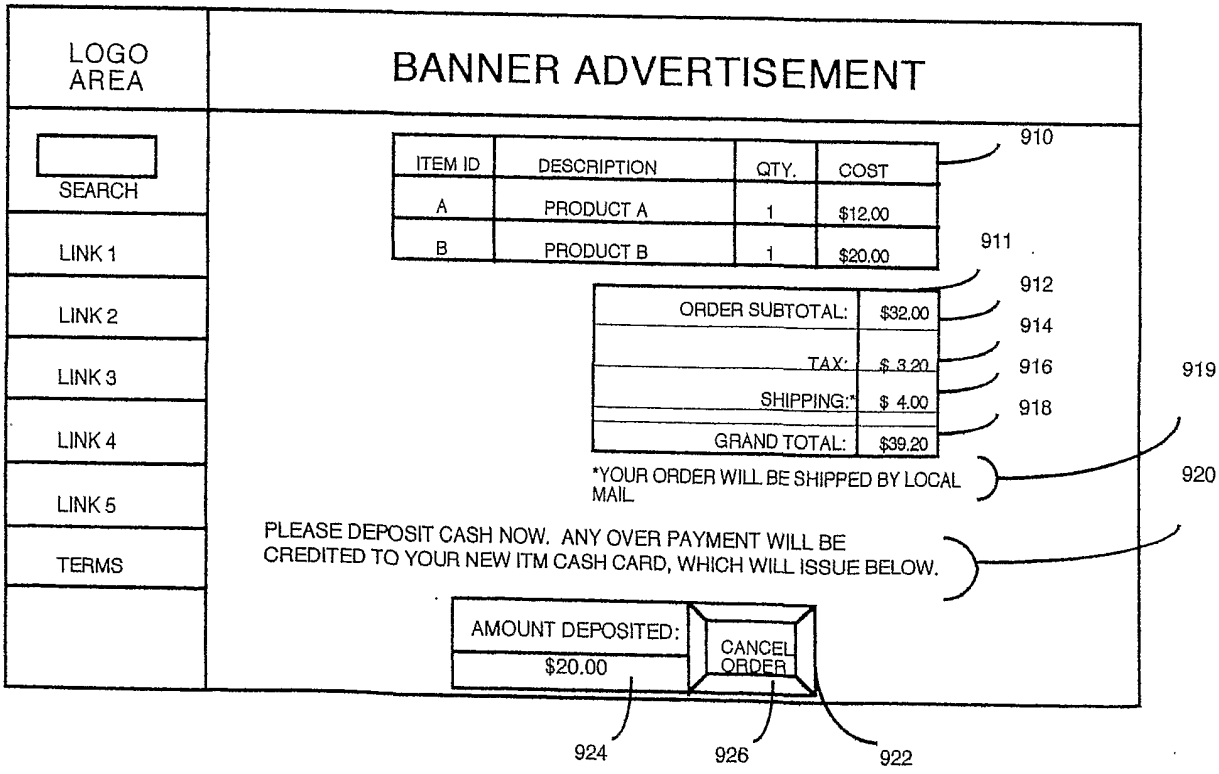

LOGO AREA
BANNER ADVERTISEMENT
SEARCH
LINK 1
LINK 2
LINK 3
LINK 4
LINK 5
TERMS
ITEM ID
DESCRIPTION
QTY.
COST
A
PRODUCT A
1
$12.00
B
PRODUCT B
1
$20.00
910
911
ORDER SUBTOTAL: $32.00
TAX: $ 3.20
SHIPPING:* $ 4.00
GRAND TOTAL: $39.20
912
914
916
918
919
*YOUR ORDER WILL BE SHIPPED BY LOCAL MAIL
920
PLEASE DEPOSIT CASH NOW. ANY OVER PAYMENT WILL BE CREDITED TO YOUR NEW ITM CASH CARD, WHICH WILL ISSUE BELOW.
AMOUNT DEPOSITED:
$20.00
CANCEL ORDER
924
926
922

FIG. 10

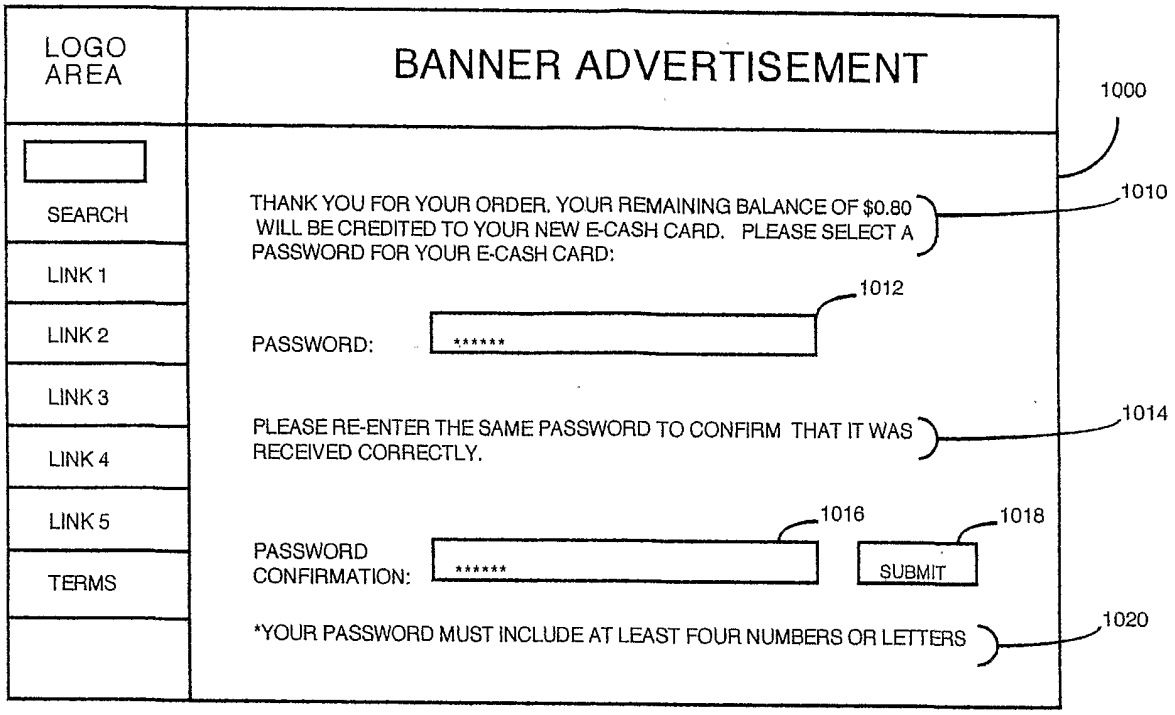

LOGO AREA
BANNER ADVERTISEMENT
SEARCH
LINK 1
LINK 2
LINK 3
LINK 4
LINK 5
TERMS
1000
THANK YOU FOR YOUR ORDER. YOUR REMAINING BALANCE OF $0.80 WILL BE CREDITED TO YOUR NEW E-CASH CARD. PLEASE SELECT A PASSWORD FOR YOUR E-CASH CARD:
1010
PASSWORD:
******
1012
PLEASE RE-ENTER THE SAME PASSWORD TO CONFIRM THAT IT WAS RECEIVED CORRECTLY.
1014
PASSWORD CONFIRMATION:
******
1016
SUBMIT
1018
*YOUR PASSWORD MUST INCLUDE AT LEAST FOUR NUMBERS OR LETTERS
1020

FIG. 11

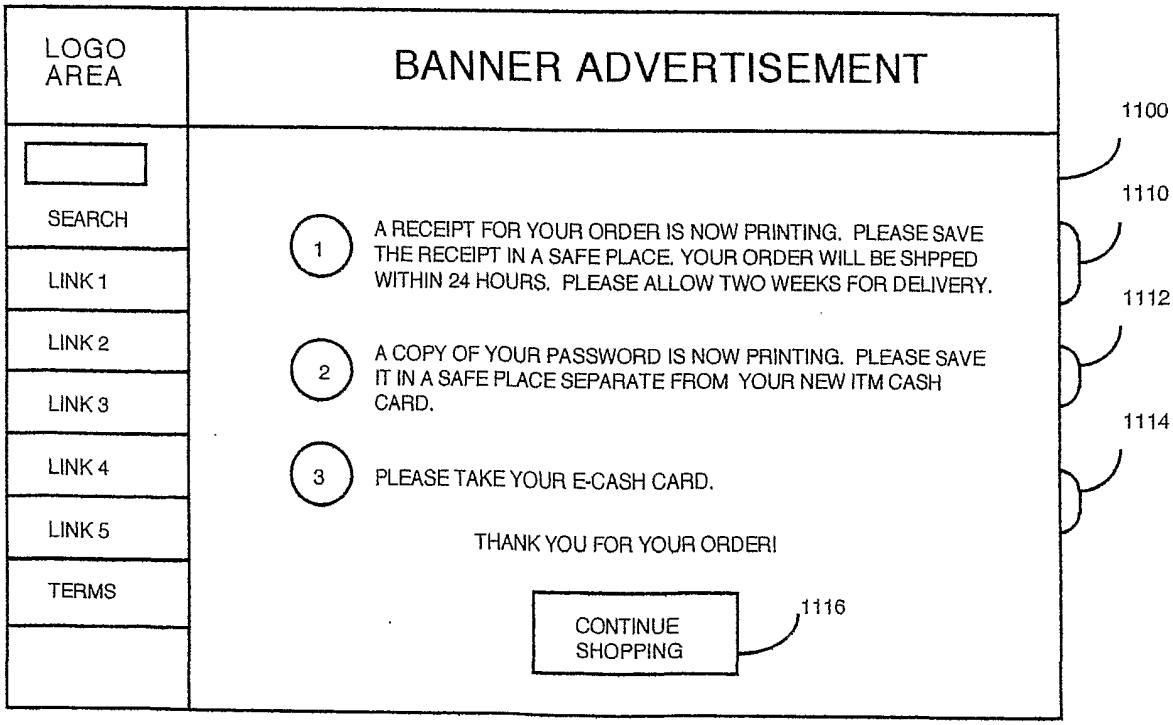

LOGO AREA
BANNER ADVERTISEMENT
SEARCH
LINK 1
LINK 2
LINK 3
LINK 4
LINK 5
TERMS
1100
1110
1 A RECEIPT FOR YOUR ORDER IS NOW PRINTING. PLEASE SAVE THE RECEIPT IN A SAFE PLACE. YOUR ORDER WILL BE SHPPED WITHIN 24 HOURS. PLEASE ALLOW TWO WEEKS FOR DELIVERY.
1112
2 A COPY OF YOUR PASSWORD IS NOW PRINTING. PLEASE SAVE IT IN A SAFE PLACE SEPARATE FROM YOUR NEW ITM CASH CARD.
1114
3 PLEASE TAKE YOUR E-CASH CARD.
THANK YOU FOR YOUR ORDER!
CONTINUE SHOPPING
1116

FIG. 12

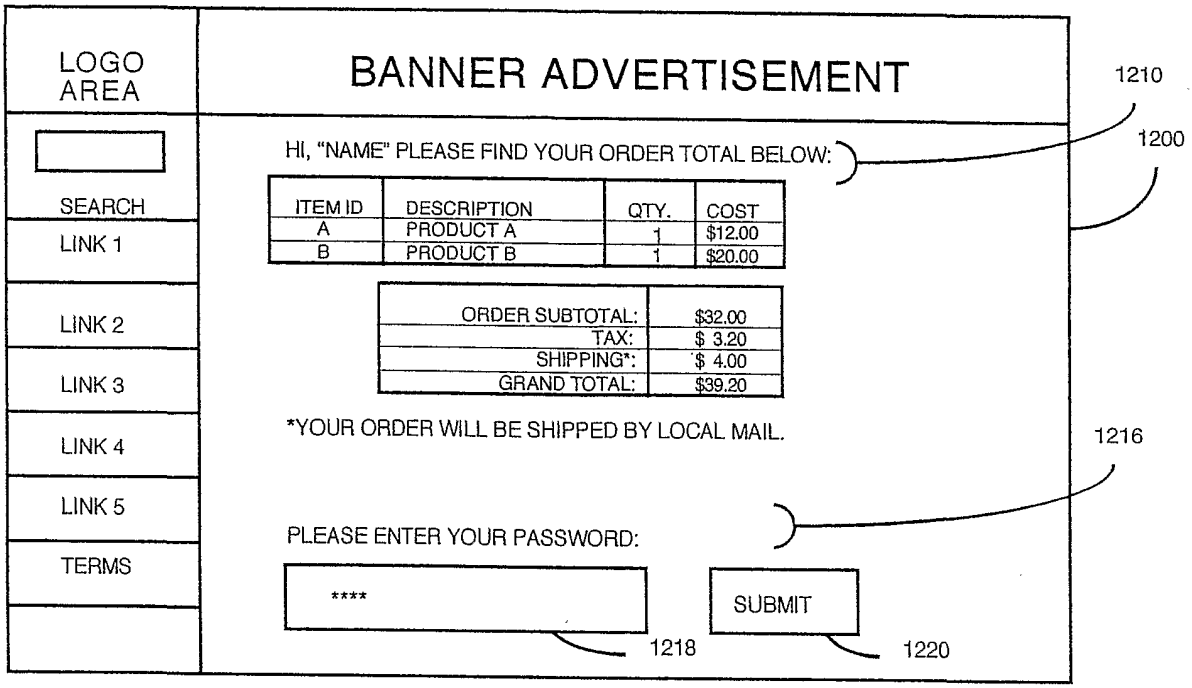

LOGO AREA
BANNER ADVERTISEMENT
SEARCH
LINK 1
LINK 2
LINK 3
LINK 4
LINK 5
TERMS
HI, "NAME" PLEASE FIND YOUR ORDER TOTAL BELOW:
ITEM ID | DESCRIPTION | QTY. | COST
A | PRODUCT A | 1 | $12.00
B | PRODUCT B | 1 | $20.00
ORDER SUBTOTAL: $32.00
TAX: $ 3.20
SHIPPING*: $ 4.00
GRAND TOTAL: $39.20
*YOUR ORDER WILL BE SHIPPED BY LOCAL MAIL.
PLEASE ENTER YOUR PASSWORD:
****
SUBMIT
1210
1200
1216
1218
1220

FIG. 13

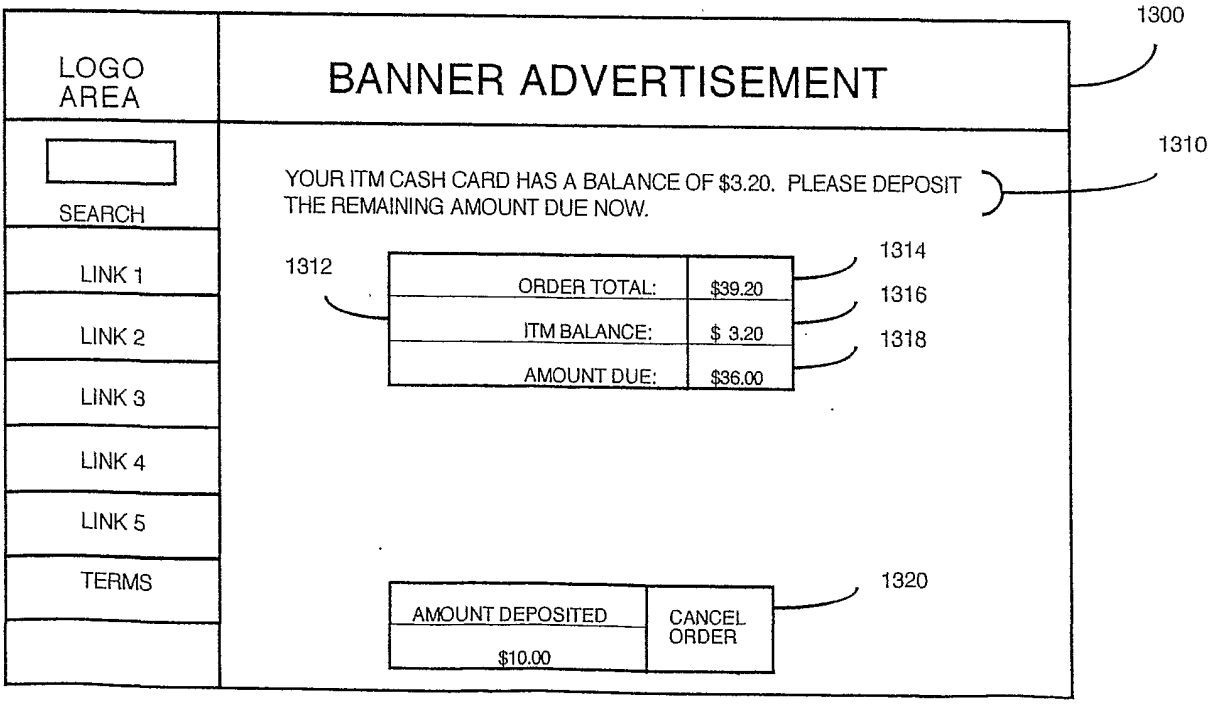

LOGO AREA
BANNER ADVERTISEMENT
SEARCH
LINK 1
LINK 2
LINK 3
LINK 4
LINK 5
TERMS
YOUR ITM CASH CARD HAS A BALANCE OF $3.20. PLEASE DEPOSIT THE REMAINING AMOUNT DUE NOW.
ORDER TOTAL: $39.20
ITM BALANCE: $ 3.20
AMOUNT DUE: $36.00
AMOUNT DEPOSITED
$10.00
CANCEL ORDER
1300
1310
1312
1314
1316
1318
1320

FIG. 14

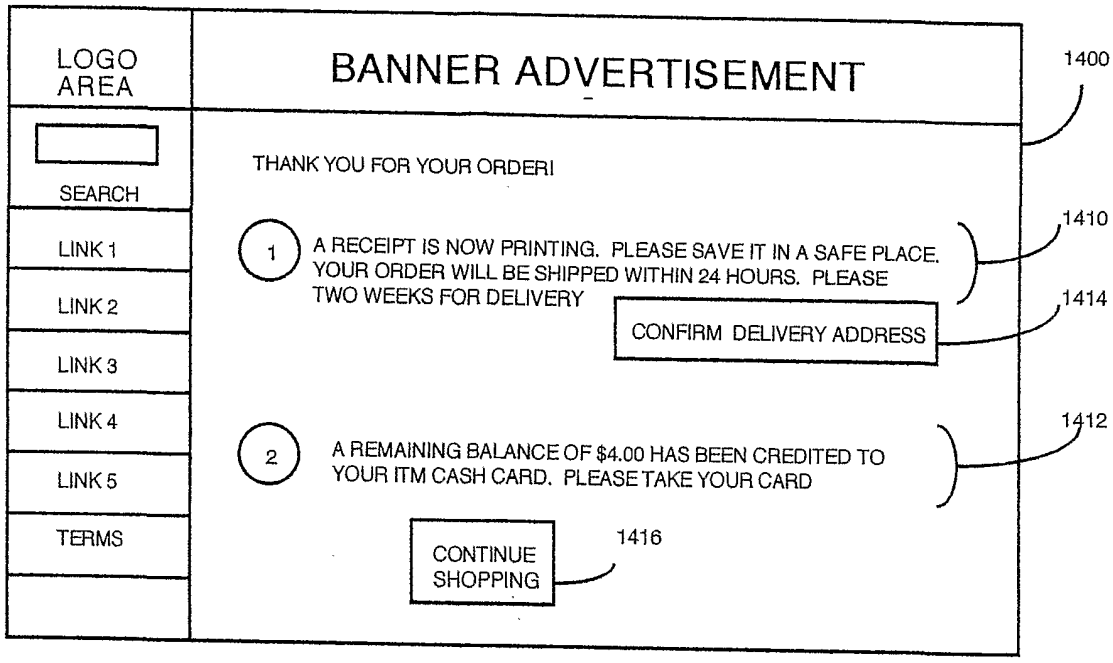

LOGO AREA
BANNER ADVERTISEMENT
SEARCH
LINK 1
LINK 2
LINK 3
LINK 4
LINK 5
TERMS
THANK YOU FOR YOUR ORDER!
1
A RECEIPT IS NOW PRINTING. PLEASE SAVE IT IN A SAFE PLACE. YOUR ORDER WILL BE SHIPPED WITHIN 24 HOURS. PLEASE TWO WEEKS FOR DELIVERY
CONFIRM DELIVERY ADDRESS
2
A REMAINING BALANCE OF $4.00 HAS BEEN CREDITED TO YOUR ITM CASH CARD. PLEASE TAKE YOUR CARD
CONTINUE SHOPPING
1400
1410
1414
1412
1416

FIG. 15

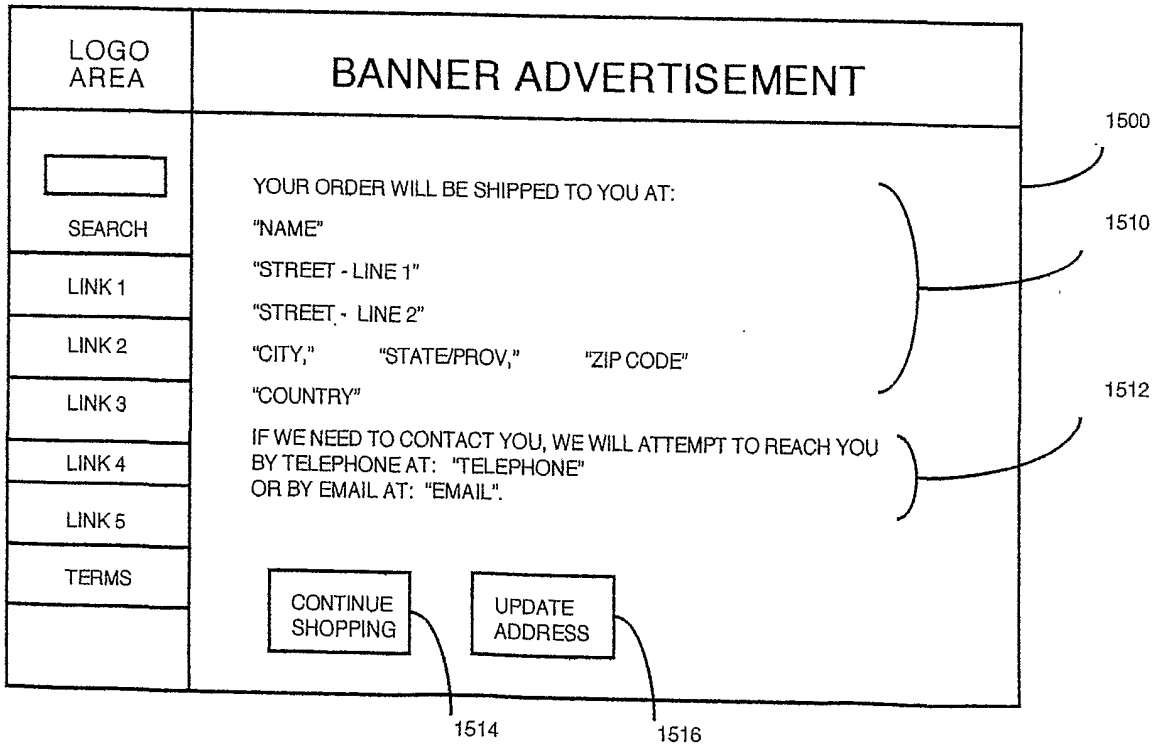

LOGO AREA
BANNER ADVERTISEMENT
SEARCH
LINK 1
LINK 2
LINK 3
LINK 4
LINK 5
TERMS
YOUR ORDER WILL BE SHIPPED TO YOU AT:
"NAME"
"STREET - LINE 1"
"STREET - LINE 2"
"CITY," "STATE/PROV," "ZIP CODE"
"COUNTRY"
IF WE NEED TO CONTACT YOU, WE WILL ATTEMPT TO REACH YOU BY TELEPHONE AT: "TELEPHONE" OR BY EMAIL AT: "EMAIL".
CONTINUE SHOPPING
UPDATE ADDRESS
1500
1510
1512
1514
1516

FIG. 16

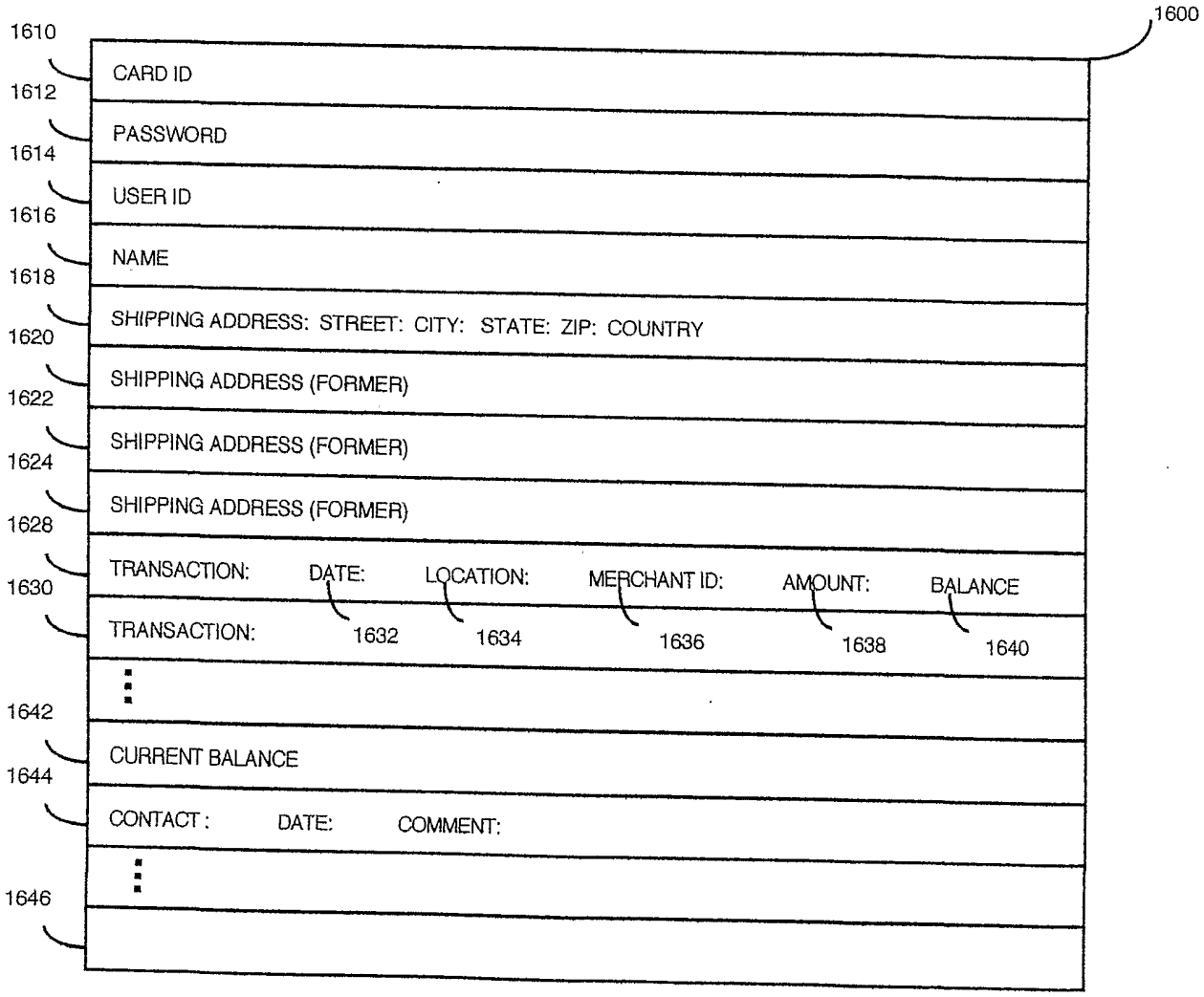

1600
1610
CARD ID
1612
PASSWORD
1614
USER ID
1616
NAME
1618
SHIPPING ADDRESS: STREET: CITY: STATE: ZIP: COUNTRY
1620
SHIPPING ADDRESS (FORMER)
1622
SHIPPING ADDRESS (FORMER)
1624
SHIPPING ADDRESS (FORMER)
1628
TRANSACTION: DATE: LOCATION: MERCHANT ID: AMOUNT: BALANCE
1630
TRANSACTION:
1632
1634
1636
1638
1640
1642
CURRENT BALANCE
1644
CONTACT : DATE: COMMENT:
1646

FIG. 17

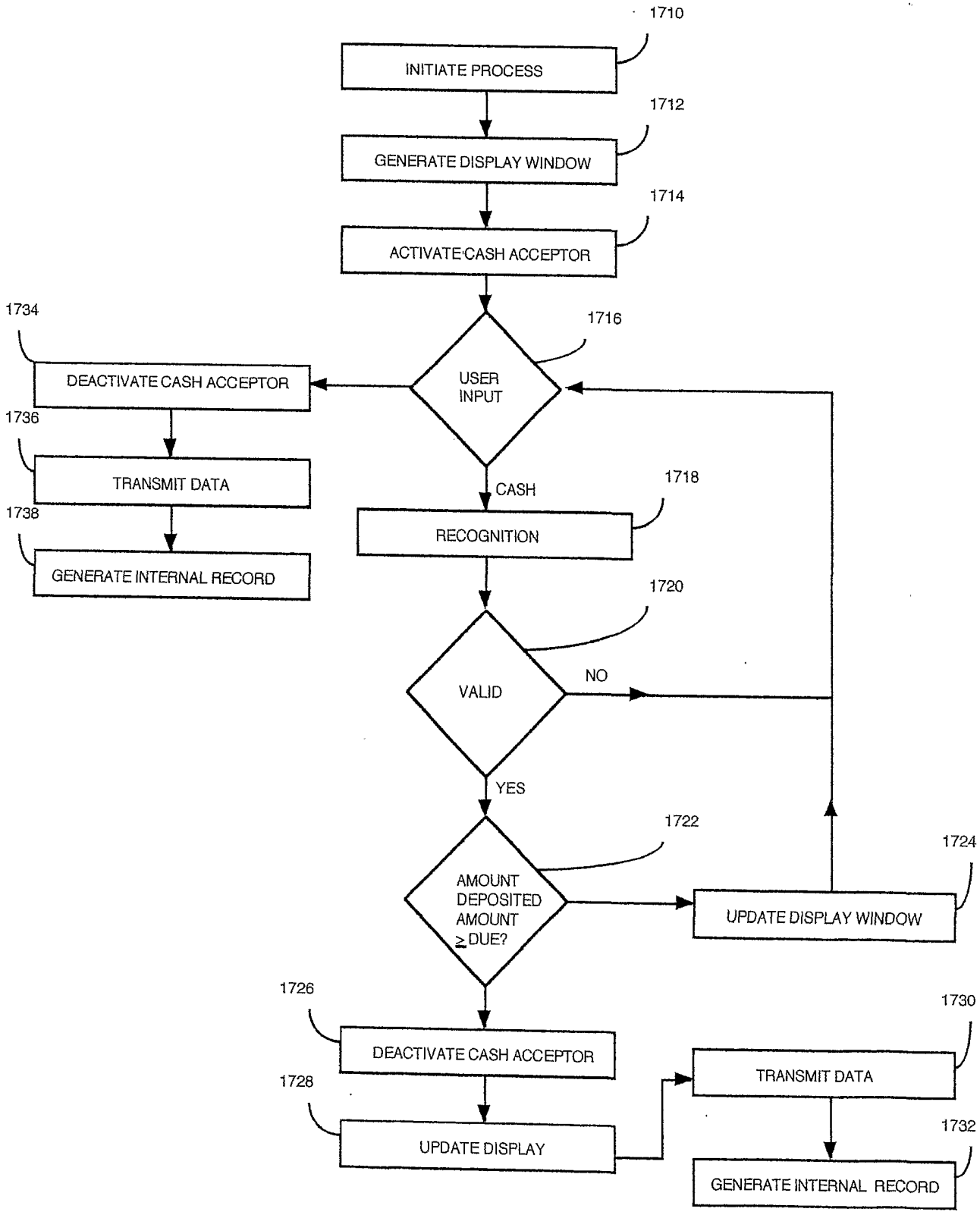

1710
INITIATE PROCESS
1712
GENERATE DISPLAY WINDOW
1714
ACTIVATE CASH ACCEPTOR
1716
USER INPUT
1734
DEACTIVATE CASH ACCEPTOR
1736
TRANSMIT DATA
1738
GENERATE INTERNAL RECORD
CASH
1718
RECOGNITION
1720
VALID
NO
YES
1722
AMOUNT DEPOSITED AMOUNT ≥ DUE?
1724
UPDATE DISPLAY WINDOW
1726
DEACTIVATE CASH ACCEPTOR
1728
UPDATE DISPLAY
1730
TRANSMIT DATA
1732
GENERATE INTERNAL RECORD

FIG. 18

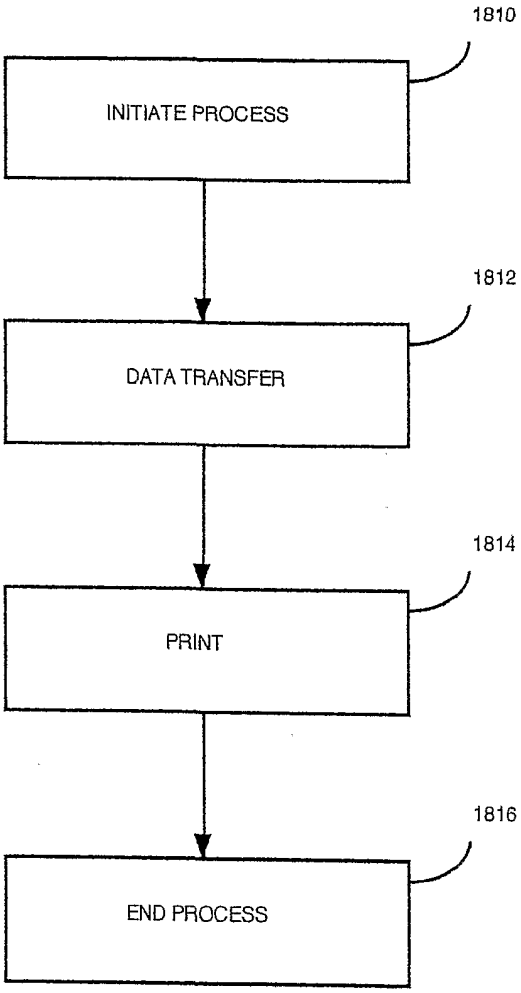

1810
INITIATE PROCESS
1812
DATA TRANSFER
1814
PRINT
1816
END PROCESS

FIG. 19

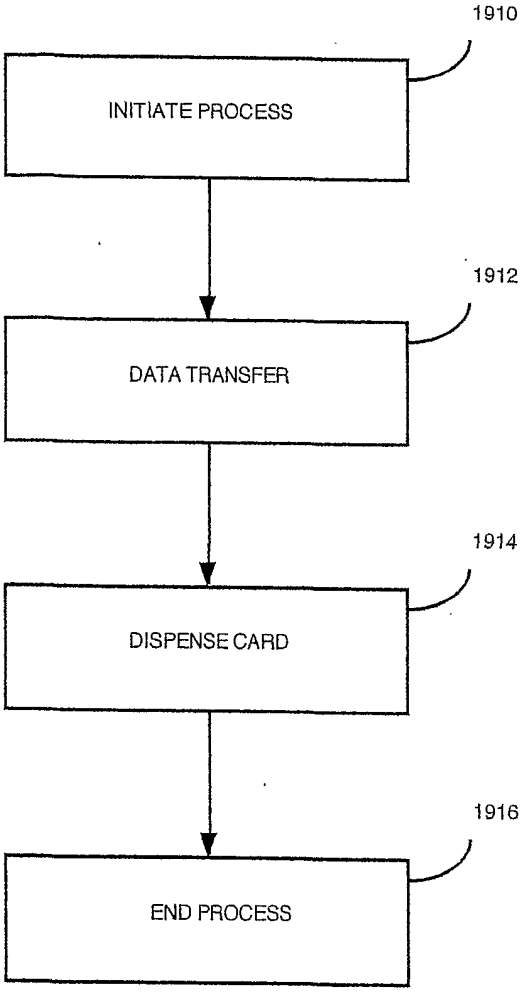

1910
INITIATE PROCESS
1912
DATA TRANSFER
1914
DISPENSE CARD
1916
END PROCESS

FIG. 20

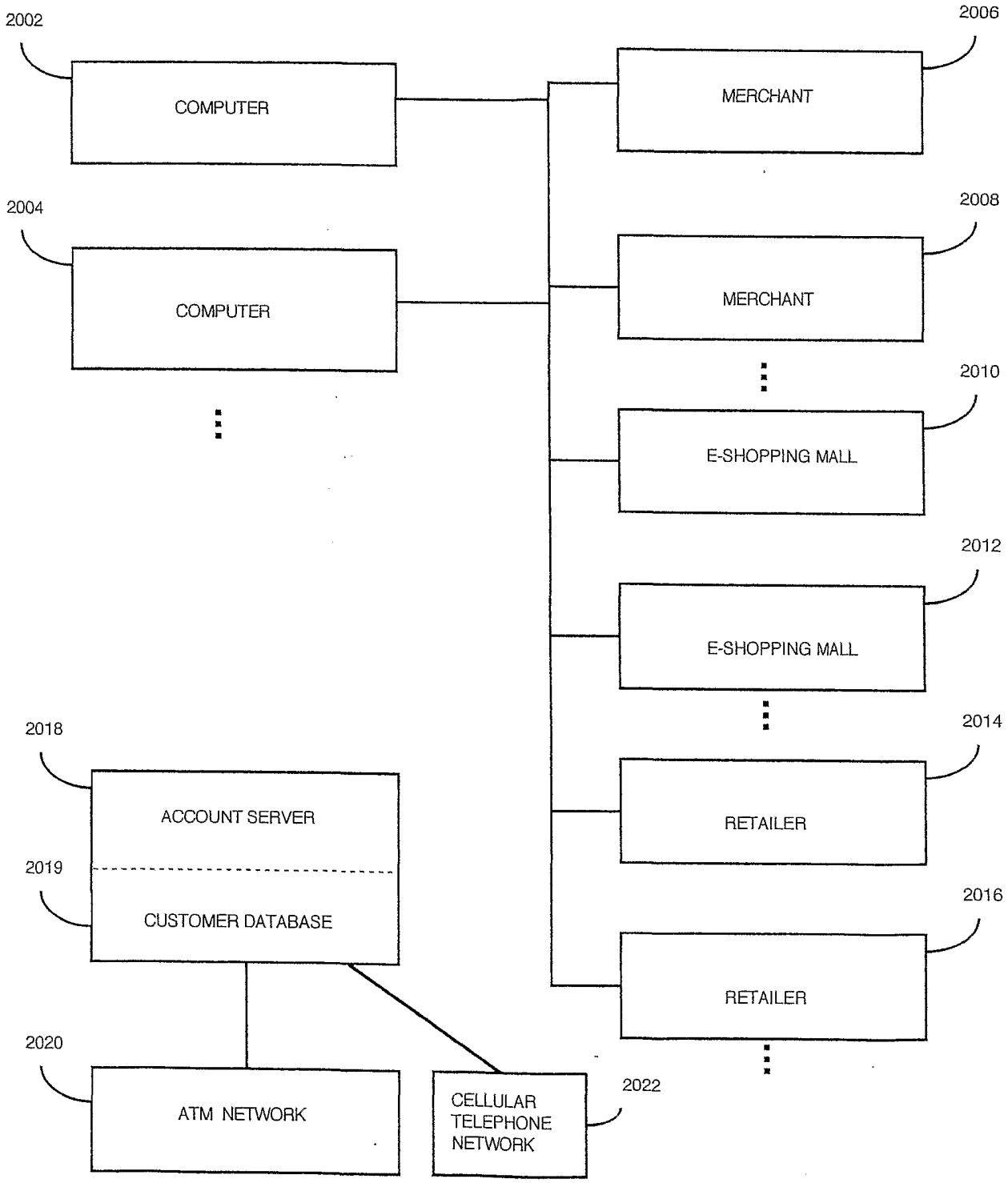

2002
COMPUTER
2004
COMPUTER
2006
MERCHANT
2008
MERCHANT
2010
E-SHOPPING MALL
2012
E-SHOPPING MALL
2014
RETAILER
2016
RETAILER
2018
ACCOUNT SERVER
2019
CUSTOMER DATABASE
2020
ATM NETWORK
CELLULAR TELEPHONE NETWORK
2022

FIG. 21A

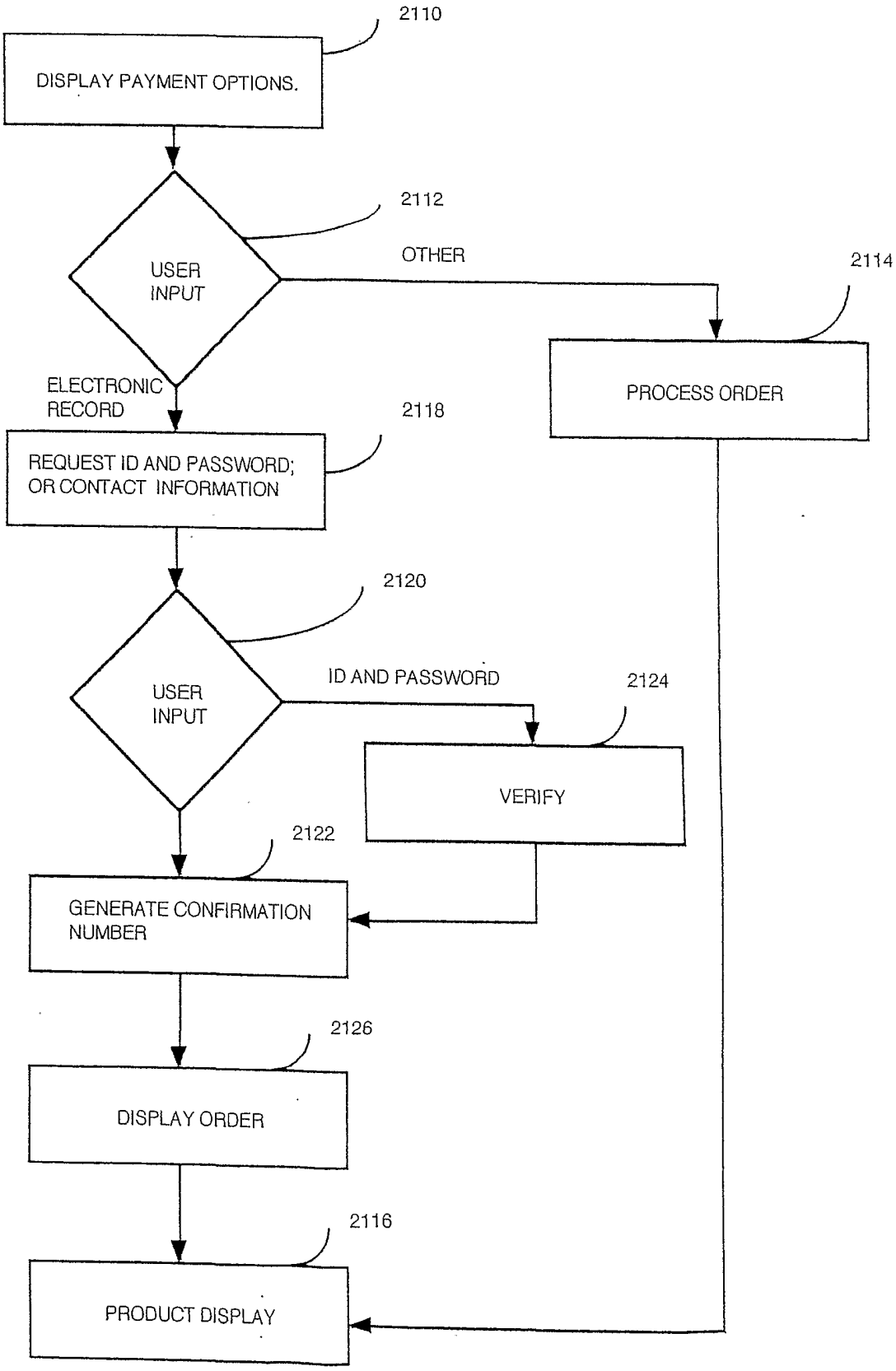

2110
DISPLAY PAYMENT OPTIONS.
2112
USER INPUT
OTHER
2114
PROCESS ORDER
ELECTRONIC RECORD
2118
REQUEST ID AND PASSWORD; OR CONTACT INFORMATION
2120
USER INPUT
ID AND PASSWORD
2124
VERIFY
2122
GENERATE CONFIRMATION NUMBER
2126
DISPLAY ORDER
2116
PRODUCT DISPLAY

FIG. 21B

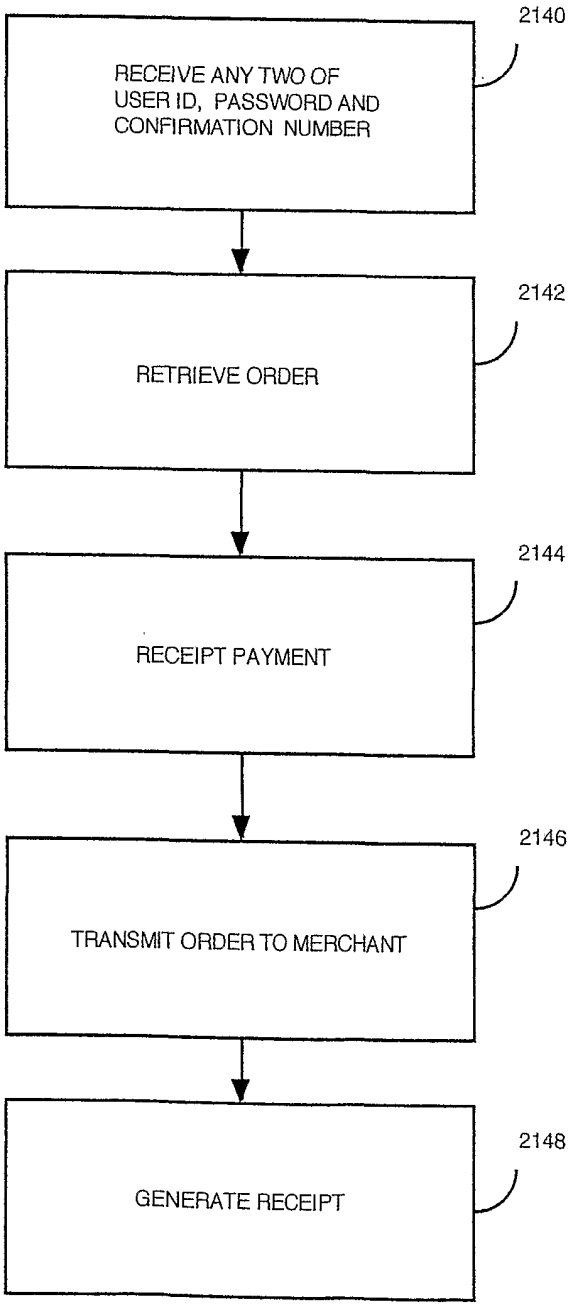

2140
RECEIVE ANY TWO OF USER ID, PASSWORD AND CONFIRMATION NUMBER
2142
RETRIEVE ORDER
2144
RECEIPT PAYMENT
2146
TRANSMIT ORDER TO MERCHANT
2148
GENERATE RECEIPT

FIG. 22

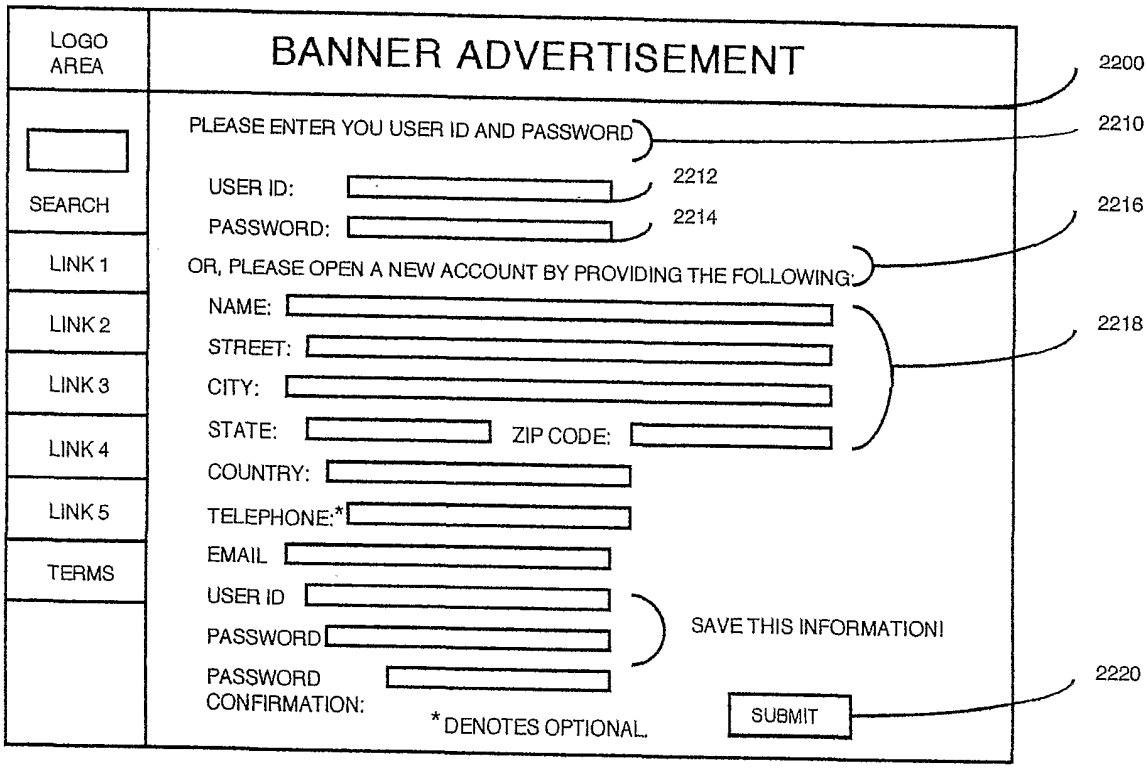
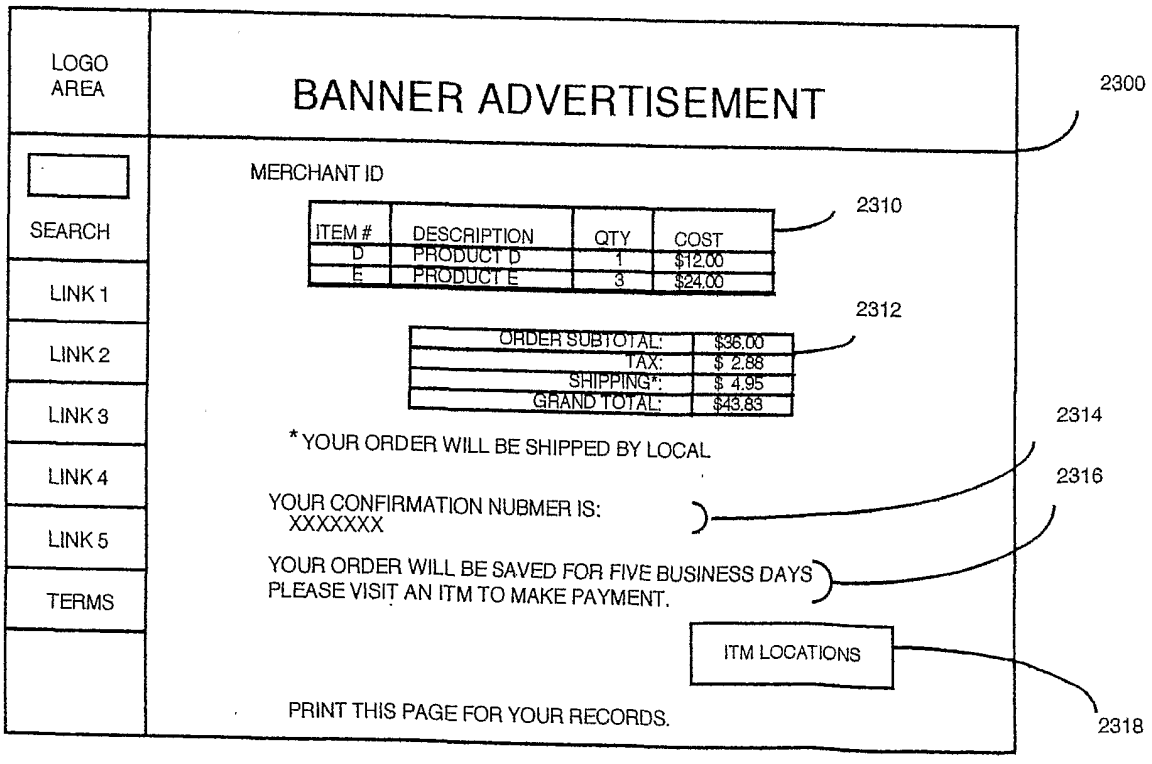

LOGO AREA
BANNER ADVERTISEMENT
2200
SEARCH
LINK 1
LINK 2
LINK 3
LINK 4
LINK 5
TERMS
PLEASE ENTER YOU USER ID AND PASSWORD
2210
USER ID:
2212
PASSWORD:
2214
2216
OR, PLEASE OPEN A NEW ACCOUNT BY PROVIDING THE FOLLOWING:
NAME:
STREET:
CITY:
STATE:
ZIP CODE:
2218
COUNTRY:
TELEPHONE:*
EMAIL
USER ID
PASSWORD
PASSWORD CONFIRMATION:
SAVE THIS INFORMATION!
* DENOTES OPTIONAL.
SUBMIT
2220

FIG. 23


LOGO AREA
BANNER ADVERTISEMENT
2300
SEARCH
LINK 1
LINK 2
LINK 3
LINK 4
LINK 5
TERMS
MERCHANT ID
2310
ITEM # | DESCRIPTION | QTY | COST
D | PRODUCT D | 1 | $12.00
E | PRODUCT E | 3 | $24.00
2312
ORDER SUBTOTAL: $36.00
TAX: $ 2.88
SHIPPING*: $ 4.95
GRAND TOTAL: $43.83
* YOUR ORDER WILL BE SHIPPED BY LOCAL
2314
YOUR CONFIRMATION NUBMER IS: XXXXXXX
2316
YOUR ORDER WILL BE SAVED FOR FIVE BUSINESS DAYS
PLEASE VISIT AN ITM TO MAKE PAYMENT.
ITM LOCATIONS
PRINT THIS PAGE FOR YOUR RECORDS.
2318