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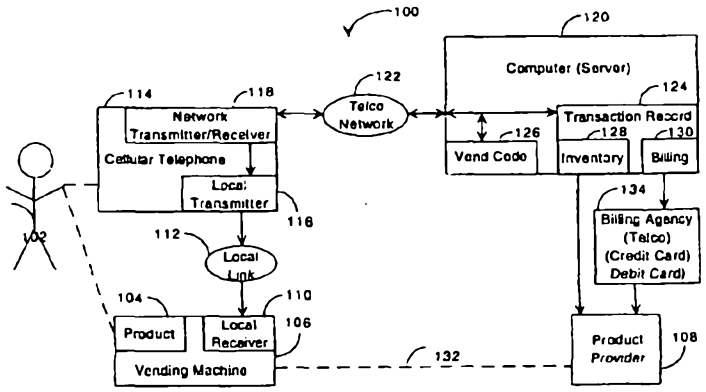

(57) Abstract: There is disclosed a system and method for purchasing a product from an automatic vending machine by means of a consumer's cellular telephone. The consumer requests the purchase of a product available from the vending machine by dialing a specified telephone number which connects the consumer's cellular telephone to a server operated by a billing agency. The billing agency may include the provider of the product, the telephone company that provides the cellular telephone service, a credit card company, or a bank that has issued a debit card. The server recognizes the request for the purchase of the product as either the request for credit at the vending machine or the request for a particular product, creates a transaction record, and communicates a vend code to the consumer. The transaction record includes a billing record that the billing agency uses to bill the consumer for the requested product and an inventory record that the product provider uses in connection with restocking the vending machine. Upon receiving the vend code from the server, the consumer transmits the vend code to the vending machine. The vend code may be an RF code, an audible tone code, or a manual code. Upon receipt of the vend code from the consumer, the vending machine either establishes credit for the purchase of a product in the inventory of the vending machine or directly dispenses the requested product upon receipt of the vend code.

WO 01/45058 A1

Vending Machine Purchase Via Cellular Telephone

Technical Field

The present invention relates to purchasing a product from an automatic vending machine. More particularly, the present invention relates to the purchase of a product from an automatic vending machine by using a cellular telephone.

Background of the Invention

Automatic vending machines have become ubiquitous in public places offering consumers a variety of products from soft drinks to gasoline to currency. Each vending machine typically vends more than one product and sometimes at different prices. Conventional vending machines accept coins, paper currency, credit cards, or debit cards. Vending machines that accept coin or paper currency often fail to accept the coins or currency offered. Such vending machines also require that the consumer have readily available the currency required.

Vending machines that accept credit cards and debit cards are generally limited to dispensing gasoline at service stations or dispensing currency at automatic teller machines. In each circumstance, those vending machines require an online connection from the vending machine to the credit or debit card issuer to verify the availability of funds or credit before the transaction at the vending machine can be completed. The online connection to the vending machine must be secure and must be a dedicated connection that is available on demand to insure satisfactory transactions in terms of speed, security, and reliability.

Summary of the Invention

Viewed from one aspect, the present invention provides a system for facilitating a credit-based purchase of a product by a consumer from a vending machine absent a dedicated online connection between the vending machine and a financial institution, the system including:

a vending machine that has the product available for sale, wherein the vending machine includes:

a local receiver for receiving a vend code from the consumer via a local link; and

means for dispensing the product in response to the receipt of the vend code;

a server remote from and not in communication with the vending machine and accessible via a telephone network by a cellular telephone operated by the consumer;

wherein the server receives from the cellular telephone via the telephone network a request for the purchase of the product from the vending machine, creates a transaction record for the request, and communicates the vend code to the cellular telephone,

whereby the consumer may then transmit the vend code to the local receiver of the vending machine via the local link in order to authorize the vending machine to dispense the product without currency being provided to the vending machine.

Viewed from a second aspect, the present invention provides a method for facilitating a credit-based purchase of a product from a vending machine absent a dedicated online connection between the vending machine and a financial institution including the steps of:

at a server remote from and not in communication with the vending machine:

receiving via a telephone network a call from a cellular telephone identified with a consumer, the call being for the purpose of requesting purchase of a product from the vending machine;

based on the call, identifying the product and a purchase price associated with the product;

in response to identifying the purchase price, creating a transaction record that includes a billing record that may be used to bill the consumer and to collect funds from the consumer in relation to the purchase price;

in response to identifying the product, generating a vend code for instructing the vending machine to dispense the product; and

transmitting the vend code to the cellular telephone via the telephone network,

whereby the consumer may then input the vend code to the vending machine via a local link in order to receive the product therefrom without having to provide currency to the vending machine.

Viewed from a third aspect, the present invention provides a server maintained by a billing agency for facilitating a credit-based purchase of a product from a vending machine absent a dedicated online connection between the vending machine and a financial institution including:

a communication device for receiving via a network a call from a cellular telephone identified with a consumer, the call being for the purpose of requesting purchase of a product from a vending machine that is remote from and not in communication with the server;

a memory storing product identifiers and associated product purchase prices; and

a processor configured to execute computer-executable instructions for performing the steps of:

based on the call, accessing the memory to determine the product identifier and a purchase price associated with the product,

in response to identifying the purchase price, storing in the memory a transaction record that includes a billing record that may be used to bill the consumer and to collect funds from the consumer in relation to the purchase price,

in response to identifying the product, generating a vend code for instructing the vending machine to dispense the product, and

instructing the communication device to transmit the vend code to the cellular telephone via the network,

whereby the consumer may then input the vend code to the vending machine via a local link in order to receive the product therefrom without having to provide currency to the vending machine.

The present invention eliminates the need for currency for a vending machine and also eliminates the need for a dedicated online connection between the vending machine and the issuer of a credit card or a debt card. Instead the system and method of the present invention allows a consumer to purchase a product from an automatic vending machine by using the consumer's cellular telephone, personal digital assistant (PDA), or similar wireless communication device as a link between the provider of the products in the vending machine and the vending machine.

The system of the present invention includes an automatic vending machine, a cellular telephone, PDA, or similar communication device identified with the consumer, a cellular network for connecting the consumer's cellular telephone, PDA, or similar communication device to a server that is operated by a billing agency.

The automatic vending machine offers one or more products for purchase by the consumer. The automatic vending machine includes a local receiver which responds to a vend code generated by the server and communicated to the vending machine via the consumer's telephone, PDA, or similar communication device. The transaction record includes a billing record and may include an inventory record. The billing record is used by the billing agency for billing the consumer for the purchase of the product. The inventory record is sent to the product provider to facilitate restocking of the vending machine in the ordinary course.

The method of the present invention allows the consumer to purchase a product from a vending machine. When the consumer approaches the vending machine, the consumer is offered one or more products available from the vending machine. Such an offer is typically made by a display of the products along with information concerning the cost of the product and, in the case of the present invention, instructions on how to purchase the product by means of consumer's cellular telephone, PDA, or other personal communication device.

Once the consumer has selected the product he or she desires, the consumer places a telephone call via the consumer's cellular telephone, PDA, or other personal communication device to a telephone number indicated on the vending machine for the purchase of the particular product selected. The consumer's telephone call is completed to a server via a telephone network. The server is operated by the billing agency, which may include the provider of the telephone service, the provider of the selected product, a credit card issuer, a debit card issuer, or a third party billing agency. In one embodiment of the invention, the server recognizes the call as being a request for a particular product based on the number called, the input of additional dialed digits after the call is connected, and/or a verbal response from the consumer. In an alternative embodiment of the invention, the server recognizes the call as being a request for a specified amount of credit in the vending machine based the input of additional dialed digits after the call is connected, and/or a verbal response from the consumer.

Once the server has captured the information representing the request by the consumer for a particular amount of credit for the vending machine or for a particular product in the vending machine, the server generates a vend code which is transmitted via the telephone network back to the consumer via the consumer's cellular telephone, PDA, or other personal communication device as previously described.

In addition to generating and transmitting the vend code, the server also creates a transaction record indicating that the consumer has purchased the product

requested or been issued the requested credit. The transaction record includes a billing record for the consumer and may include an inventory record for the product provider. The billing record for the requested credit or product is used by the billing agency to bill the consumer. The billing agency may include the telephone company that provides the consumer's cellular telephone service, a credit card company, a debit card from a bank, or the product provider. If the billing agent is not the product provider, the billing agency remits the collected funds to the product provider to pay for the requested credit or product. The inventory portion of the record transaction is sent to the product provider so that the product provider can have an inventory record for determining when restocking of the vending machine is required. The inventory information and the billing information may also be collected by the product provider for use in connection with market research and assessment.

Brief Description Of The Drawings

FIG. 1 is a diagram illustrating a system for vending a product from an automatic vending machine in response to a request from a consumer via a cellular telephone.

FIG. 2 is a flow chart illustrating a method of for vending a product from an automatic vending machine in response to a request from a consumer via a cellular telephone.

Detailed Description Of Exemplary Embodiments

Embodiments of the present invention will hereinafter be described with reference to the drawings, in which like numerals indicate like elements throughout the several figures. The present invention is a method and system for vending a product from an automatic vending machine in response to a request from a consumer via a cellular telephone.

Turning to Figure 1, there is shown the system 100 of the present invention. System 100 is configured to allow a consumer 102 to purchase a product 104 from a vending machine 106. The product 104 is offered for sale through the vending machine 106 by product provider 108. For the purposes of this invention, the term "product" means both products and services that may be offered through a vending machine.

The system 100 comprises vending machine 106 having a local receiver 110, a cellular telephone 114 associated with the consumer 102 and having a local transmitted 116 and a network transmitted/receiver 118, and a computer (server) 120.

Unless otherwise indicated the term "cellular telephone" shall include a cellular telephone, a PDA, or other personal communication device. The consumer's cellular telephone 114 is connected to the vending machine 106 via the cellular telephone's local transmitter 116, local communication link 112, and the vending machine's local receiver 110. The consumer's cellular telephone 114 is also connected to the server 120 via the cellular telephone's network transmitter/ receiver 118 and telephone network 122. The telephone network 122 is a conventional cellular telephone system that allows the consumer 102 to use his or her cellular telephone 114 to establish a dial up connection with server 120.

The server 120 performs three functions. First, the server 120 receives the consumer's call requesting a particular product 104 in the vending machine 106 or credit at the vending machine 106 for purchasing the product 104. Second, upon identifying the request for credit at the vending machine 106 or for the product 104, the server 120 creates a transaction record 124. Third, in response to the request for credit at the vending machine 106 or for the product 104 in the vending machine 106, the server 120 generates a vend code 126 which authorizes the vending machine 106 establish credit for the consumer at the vending machine 106 or to dispense the requested product 104 to the consumer 102. The vend code 126 is encoded with a time stamp so that the vend code will expire within a short time thus inhibiting multiple unauthorized use in multiple vending machines.

In one embodiment of the invention where the consumer is requesting credit at the vending machine 106, a dial up number displayed on the vending machine 106 may be used to identify the vending machine. The server 120 captures the dialed digits and uses the number called to identify the vending machine 106. In order to determine the amount of credit requested by the consumer 102 for the vending machine 106, the server 120 may issue a query to the consumer 102 once the connection between the cellular telephone 114 and the server 120 has been established. In response to the query, the consumer 102 can identify the desired amount of credit by either dialing additional digits or by a verbal response that is decoded by voice recognition software on the server 120.

In a second embodiment of the invention, the server 120 may identify the request for a particular product 104 in vending machine 106 in several ways. First, each product 104 may have a unique dial up number for requesting the product. The server 120 captures the dialed digits and recognizes the request for the particular product 104 based on the number dialed. Second, the server 120 may issue a query to the consumer 102 once the connection between the cellular telephone 114 and the server 120 has been

established. In response to the query, the consumer 102 can identify the desired product 104 by either dialing additional digits to identify the product or by a verbal response that is decoded by voice recognition software on the server 120.

The transaction record 124 created by the server 120 in response to the request for credit or for the product 104 includes a billing record 130 and may include an inventory record 128. The inventory record 128, identifying the product 104 and the vending machine 106, is transmitted to the product provider 108 so that the product provider 108 can restock the vending machine 106 in the conventional fashion as indicated by line 132. The billing record 130 identifies the consumer 102 based on the consumer's association with the cellular telephone 114. The billing record also includes the amount of the transaction (either amount credited at the vending machine 106 or the price of the product 104) and may include other information about the transaction such as time, date, and location of the vending machine 106.

The billing record is used by billing agency 134 to bill consumer 102. The billing agency 134 may be the telephone company that provides the consumer 102 a bill for cellular telephone 114 on a regular basis. Alternatively, the billing agency 134 may be a credit card company, financial institution that has issued a debit card, or the product provider 108. Whatever billing agency 134 is authorized, the billing agency 134 bills the consumer 102 for the product 104 and collects the payment for the benefit of the product provider 108.

After the server 120 has generated the vend code 126 in response to the request for credit at the vending machine 106 or for the product 104, the vend code 126 is communicated to the consumer 102 via the telephone network 122 and the consumer's cellular telephone 114. The vend code 126 is in turn transmitted to the vending machine 106 via the local transmitter 116, the local link 112, and the local receiver 112 thereby authorizing the vending machine 106 to establish credit for the consumer at the vending machine 106 or to dispense the product 104.

In one embodiment of the invention, the local transmitter 116 of the cellular telephone 114 is an RF transmitter, and the local receiver 110 of vending machine 106 is an RF receiver. The vend code 126 is then transmitted by the local RF transmitter 116 of the cellular telephone 114 to the local RF receiver 110 of the vending machine 106 over local RF link 112. Upon receiving the vend code 126 at the local RF receiver 110 of the vending machine 106, the vend code authorizes the vending machine 106 to establish credit for the consumer or to dispense the product 104 to the consumer 102.

In a second embodiment, the vend code 126 is sent from the server 120 to the cellular telephone 114 as an audible tone or a series of tones that appears at the ear piece speaker (local transmitter 116) of the cellular telephone 114. The local receiver 110 of the vending machine 106 is a microphone that receives the audible vend code from the speaker of the cellular telephone 114. The local link 112 is therefore created when the consumer 102 holds the ear piece speaker (local transmitter 116) of the cellular telephone 114 adjacent the microphone (local receive 110) of the vending machine 106, and the vend code 126 is thereby transmitted over the audible local link 112 to the vending machine 106.

In a third embodiment, the vend code 126 is sent from the server 120 to the consumer's PDA 114. Upon receipt of the vend code 126, the consumer's PDA 114 activates its local IR transmitter and transmits the vend code 126 to the local IR receiver 110 in the vending machine 106 via the local IR link 112.

In a fourth embodiment, the vend code may be an alpha-numeric vend code 126 communicated orally to the consumer 102 via the consumer's cellular telephone 114 or graphically to the consumer 102 via the consumer's PDA 114. Particularly, the alpha-numeric vend code 126 may be created by voice synthesis at the server 120 and transmitted to the consumer 102 over the telephone voice link 122 to the consumer's cellular telephone 114. Upon hearing or seeing the alphanumeric vend code 126, the consumer 102 inputs the alphanumeric vend code 126 into the vending machine 106 via a keypad (local receiver 110) or other manual input device. Thus in the fourth embodiment, the local link 112 is the consumer.

Regardless of the form of the vend code 126 or the local link 112, the vending machine 126 is programmed to establish credit for the consumer or to dispense the product 104 upon receiving the proper vend code 126. In the second instance, a unique vend code may be created and transmitted to the vending machine 106 for each product available for vending machine 106. In a system having multiple vending machines, the vend code may be unique for each vending machine within the system. It should also be noted that in accordance with the system of the present invention, there is no dedicated communication link required between the vending machine and the server that authorizes the vending machine to establish credit or to dispense the requested product.

Turning to Fig. 2, there is shown a method 200 that allows the consumer 102 to purchase the product 104 from the vending machine 106 by using his or her cellular telephone 114. The method 200 beings at step 202 and proceeds to step 203. At step 203, the consumer 102 approaches the vending machine 106 that has the product

104 that the consumer 102 wishes to purchase. From information displayed on or adjacent the vending machine 106, the consumer 102 is able to ascertain the identity of the product 104 that he or she desires. In addition, instructions for using the consumer's cellular telephone 114 to request and pay for the product 104 are displayed on or adjacent the vending machine 106. Such instructions include a telephone number to call to request the product 104 and perhaps an alphanumeric identifier for the product 104 or the vending machine 106.

From step 203 the method proceeds to step 204. At step 204, the consumer 102 in response to the instructions at the vending machine 106 dials his or her cellular telephone 114 to make a telephone connection between the cellular telephone 114 and the server 120 via telephone network 122. At step 206, the server answers the call, and a connection between cellular telephone 114 and server 120 is established via telephone network 122.

From step 206, the method proceeds to step 208. At step 208, the consumer 102 requests credit at the vending machine 106 to purchase the product 104 or requests the product 104. A request for credit at step 208 involves requesting the amount of credit desired at that vending machine 106 and may involve identifying the vending machine 106. Depending on the level of security needed or the desire for inventory tracking, identify the vending machine 106 may not be necessary. If identifying the vending machine is desired, the vending machine 106 may be identified by having a unique dial up telephone number assigned to each vending machine. When the consumer dials that unique telephone number to establish the link to the server 120, the server 120 is able to identify the vending machine 106 by capturing the number dialed to make the telephone connection. Alternatively, where a single dial up number is used for all of the vending machines in the system of the present invention, the vending machine 106 may be identified to the server 120 after the connection to the server 120 has been established. Once the connection to the server 120, the server 120 may query the consumer 102 for additional information in order to identify the vending machine 106. Such additional information may include dialing of additional digits on the cellular telephone 114 that match a code number or other identifying index on the vending machine or may employ voice recognition software so that the server 120 can recognize and process a voice response from the consumer 102 that will serve to identify the vending machine 106.

Similarly, the request for credit at step 208 is communicated to the server 120 after the dial up or network connection has been established. Once the connection to the server 120 has been made, the server 120 may query the consumer 102 for

additional information in order to determine the amount of credit need at the vending machine 106 to purchase the product 104. Such additional information may be communicated to the server 120 by dialing additional digits on the cellular telephone 114 that represent the amount of requested credit or by employing voice recognition software so that the server 120 can recognize and process a voice response from the consumer 102 that identifies the amount of credit requested for the vending machine 106.

Alternatively, a request for a particular product 104 in the vending machine 106 at step 208 may be accomplished by several methods. First, each product in the vending machine 106 may have a unique dial up telephone number. Therefore, by dialing the designated telephone number for the requested product and by establishing the connection to the server 120, the server 120 is able to identify the requested product based on capturing the number dialed to make the telephone connection.

Second, a single dial up number may be used for requesting all of the products for the vending machine 106. In that case, once the connection to the server 120 has been made at step 206, the server 120, at step 208, may query the consumer 102 for additional information in order to identify the particular product 104 that is requested. Such additional information may be communicated to the server 120 by dialing additional digits on the cellular telephone 114 or by employing voice recognition software so that the server 120 can recognize and process a voice request from the consumer 102.

Once the server 120 has received the information from the consumer 102 from which the server 120 can identify the request for credit or the requested product 104, the method moves to steps 210 and 212 in which the transaction record 124 is created (step 210) and the vend code 126 is generated (step 212). Steps 210 and 212 may occur sequentially as shown in Fig.2, in the reverse order from that shown in Fig. 2, or simultaneously.

With respect to the creation of a transaction record 124 at step 210, the server 120, having identified the requested amount of credit or the requested product 104, creates the billing record 130 evidencing the transaction. The billing record 130 identifies the consumer 102 based on the consumer's association with the cellular telephone 114 that was used to make the call to the server 120. Such identification can be made using standard caller identification capabilities of the telephone network 122. In the circumstance where credit for the vending machine 106 is requested, the billing record 130 simply shows the amount of credit issued for the vending machine 106.

Where the transaction is for a particular product 104, the billing record 130 includes the cost of the product 104. In either circumstance, the billing record may include other information such as the time and date of the purchase and the location of the vending machine 106.

From step 210, the method proceeds to step 222 where the billing record 130 is transmitted to the billing agency 134. As previously explained, the billing agency 134 may be the telephone company which provides the service for the cellular telephone 114, a credit card company which has been identified by the consumer 102 as the appropriate billing agency 134 for charges incurred as a result of purchasing the product 104 from the vending machine 106, a bank that has issued a debit card which likewise has been identified by the consumer 102 as being the appropriate billing agency 134 for purchases from vending machine 106, or the product provider 108 which has established a charge account for the consumer 102 for purchase of products such as product 104. Whatever billing agency is used the billing agency bills and collects funds from the consumer 102 in accordance with the billing record 130 in the normal course of the billing agency's business. If the billing agency 134 is not the product provider 108, the collected funds (less the billing agency's charges) are remitted to the product provider 108 in payment for the product 104.

In addition to creating the billing record 130 at step 210, the server 120 may also create an inventory record 128 that indicates that the vending machine 106 has had its inventory of the product 104 reduced by 1 unit. From step 210, the method also proceeds to step 220. At step 220, the inventory record 128 is transmitted to product provider 108 so that the product provider 108 can restock the vending machine via conventional channel 132 (delivery truck, etc.) as necessary.

From step 210 the method also proceeds to step 212. At step 212, the server 120 generates a vend code 126 which is use to either establish credit at the vending machine 106 or to authorize the vending machine 106 to dispense the product 104.

From step 212, the method proceeds to step 213. At step 213, the vend code 126 is communicated to the consumer 102 via the telephone network 122 and the cellular telephone 114. Once the consumer 102 has received the vend code 126 at step 21, the method proceeds to step 214.

At step 214, the vend code 126 is transmitted by the consumer 102 to the vending machine 106. As previously explained, the vend code 126 may be transmitted to the vending machine 106 by means of the local RF transmitter 116 of the cellular phone 114, the RF link 112, and the local RF receiver 110 of the vending machine 106.

Alternately at step 214, the vend code 126 may be an audible signal or tone which is transmitted from the earpiece of the cellular telephone 114 to the local microphone 110 at the vending machine 106. The vend code may be transmitted via a local IR transmitter 116, a local IR link 112, and a local IR receiver 110. Alternatively at step 214, the vend code 126 may be an alphanumeric code which is communicated to the orally or graphically to the consumer 102. The consumer in turn manually enters the alphanumeric vend code 126 into the vending machine 106 via a keypad or other manual entry device.

From step 214, the method proceeds to step 216. At step 216, the vending machine 106 recognizes the vend code as authorization to establish credit at the vending machine 106 or to dispense the product 104 that the vending machine 106 has in its inventory. If the vend code is a credit authorization, the vending machine 106 establishes that amount of credit and communicates to the user that the credit has been established. Once the vending machine has established the credit, the consumer simply selects the product 104 just as he or she would if currency had been used at the vending machine to purchase the product 104. If the vend code is a product authorization, the vending machine 106 dispenses the product 104 to the consumer 102. The method ends at step 218.

The system 100 and method 200 of the present invention allow the consumer 102 to purchase the product 104 from the vending machine 106 by dialing a telephone number on the consumer's cellular telephone, PDA, or other personal communication device 114, by receiving a vend code 126 from the server 120, and by transmitting the vend code 126 to the vending machine 106. Thus, the system 100 and method 200 of the present invention eliminates the need for currency or for a dedicated communication link between the vending machine 106 and the product provider 108 or the billing agency 134.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A system for facilitating a credit-based purchase of a product by a consumer from a vending machine absent a dedicated online connection between the vending machine and a financial institution, the system including:

a vending machine that has the product available for sale, wherein the vending machine includes:

a local receiver for receiving a vend code from the consumer via a local link; and

means for dispensing the product in response to the receipt of the vend code;

a server remote from and not in communication with the vending machine and accessible via a telephone network by a cellular telephone operated by the consumer;

wherein the server receives from the cellular telephone via the telephone network a request for the purchase of the product from the vending machine, creates a transaction record for the request, and communicates the vend code to the cellular telephone,

whereby the consumer may then transmit the vend code to the local receiver of the vending machine via the local link in order to authorize the vending machine to dispense the product without currency being provided to the vending machine.

2. The system of claim 1, wherein the cellular telephone accesses the server by dialling a number that corresponds to the product requested; and

wherein the server determines the product requested by capturing the number dialled by the consumer.

3. The system of claim 1, wherein the server determines the product requested by interpreting one or more signals generated by the cellular telephone.

4. The system of claims 1, 2 or 3 further including a display that displays a telephone number to be called to request purchase of the product.

5. The system of claim 1, 2, 3 or 4, wherein the cellular telephone includes a local radio frequency transmitter; and

wherein the local receiver in the vending machine includes a radio frequency receiver;

wherein the vend code is transmitted from the local radio frequency transmitter to the local radio frequency receiver.

6. The system of claim 1, 2, 3 or 4, wherein the cellular telephone includes a local audio transmitter;

wherein the local receiver in the vending machine includes an audio receiver; and

wherein the vend code is transmitted from the local audio transmitter to the local audio receiver.

7. The system of claim 1, 2,3 or 4, wherein the cellular telephone includes a local infrared transmitter;

wherein the local receiver in the vending machine includes a local infrared receiver; and

wherein the vend code is transmitted from the local infrared transmitter to the local infrared receiver.

8. The system of claim 1, 2, 3 or 4, wherein the local receiver in the vending machine includes a manual input device; and

wherein the vend code is an alpha-numeric code communicated to the cellular telephone for manual input by the consumer into the input device.

9. The system of any preceding claim, wherein the transaction record includes a billing record that is posted to an account associated with the consumer.

10. A method for facilitating a credit-based purchase of a product from a vending machine absent a dedicated online connection between the vending machine and a financial institution including the steps of:

at a server remote from and not in communication with the vending machine:

receiving via a telephone network a call from a cellular telephone identified with a consumer, the call being for the purpose of requesting purchase of a product from the vending machine;

based on the call, identifying the product and a purchase price associated with the product;

in response to identifying the purchase price, creating a transaction record that includes a billing record that may be used to bill the consumer and to collect funds from the consumer in relation to the purchase price;

in response to identifying the product, generating a vend code for instructing the vending machine to dispense the product; and

transmitting the vend code to the cellular telephone via the telephone network,

whereby the consumer may then input the vend code to the vending machine via a local link in order to receive the product therefrom without having to provide currency to the vending machine.

11. The method of claim 10, wherein at least a portion of the funds collected from the consumer are remitted to a provider of the vending machine.

12. The method of claim 10 or 11, wherein the call from the cellular telephone is initiated by dialling a telephone number that corresponds to the product; and

wherein the product is identified based on the telephone number dialled by the consumer.

13. The method of claim 10 or 11, wherein the product is identified based on one or more input signals received from the cellular telephone during the call.

14. The method of claim 13, wherein the one or more input signals include one or more touch tone signals generated by the cellular phone in response to the consumer dialling additional numbers.

15. The method of claim 13, wherein the one or more input signals include one or more voice signals generated by the cellular phone in response to the consumer providing a verbal response.

16. The method of any of claims 10 to 15, wherein the consumer inputs the vend code to the vending machine by transmitting the vend code from the cellular telephone to the vending machine via a radio frequency link.

17. The method of any of claims 10 to 15, wherein the consumer inputs the vend code to the vending machine by transmitting the vend code from the cellular telephone to the vending machine as an audible signal.

18. The method of any of claims 10 to 15, wherein the consumer inputs the vend code to the vending machine by transmitting the vend code from the cellular telephone to the vending machine via an infrared link.

19. The method of any of claims 10 to 18, wherein the vend code includes an alpha-numeric code.

20. The method of any of claims 10 to 19, wherein the consumer's cellular telephone has an associated account maintained by a provider of telephone services; and

wherein the billing record is posted to the associated account in order to bill the consumer.

21. The method of any of claims 10 to 19, wherein the consumer has an associated credit card account maintained by a credit card company; and

wherein the billing record is posted to the associated credit card account in order to bill the consumer.

22. The method of any of claims 10 to 19, wherein the consumer has an associated debit account maintained by a financial institution; and

wherein the billing record is posted to the associated debit account in order to bill the consumer.

23. The method of any of claims 10 to 19, wherein the consumer has an associated charge account maintained by a provider of the vending machine; and

wherein the billing record is posted to the associated charge account in order to bill the consumer.

24. The method of any of claims 10 to 23, wherein the call requesting purchase of the product further identifies the vending machine; and

wherein the transaction record further includes an inventory record that indicates that the product has been dispensed from the identified vending machine.

25 The method of any of claims 10 to 24, further including the step of transmitting the transaction record to a provider of the vending machine for reporting and analysis.

26. A server maintained by a billing agency for facilitating a credit-based purchase of a product from a vending machine absent a dedicated online connection between the vending machine and a financial institution including:

a communication device for receiving via a network a call from a cellular telephone identified with a consumer, the call being for the purpose of requesting purchase of a product from a vending machine that is remote from and not in communication with the server;

a memory storing product identifiers and associated product purchase prices; and

a processor configured to execute computer-executable instructions for performing the steps of:

based on the call, accessing the memory to determine the product identifier and a purchase price associated with the product,

in response to identifying the purchase price, storing in the memory a transaction record that includes a billing record that may be used to bill the consumer and to collect funds from the consumer in relation to the purchase price,

in response to identifying the product, generating a vend code for instructing the vending machine to dispense the product, and

instructing the communication device to transmit the vend code to the cellular telephone via the network,

whereby the consumer may then input the vend code to the vending machine via a local link in order to receive the product therefrom without having to provide currency to the vending machine.

27. The server of claim 26, wherein at least a portion of the funds collected from the consumer are remitted to a provider of the vending machine.

28. The server of claim 26 or 27, wherein the call from the cellular telephone is initiated by dialling a telephone number that corresponds to the product; and

wherein the product identifier is determined based on the telephone number dialled by the consumer.

29. The server of claim 26 or 27, wherein the product identifier is supplied by the consumer in the form of one or more signals generated by the cellular telephone during the call.

30. The server of claim 29, wherein the one or more signals include one or more touch tone signals generated by the cellular phone in response to the consumer dialling additional numbers.

31. The server of claim 29, wherein the one or more signals includes one or more voice signals generated by the cellular phone in response to the consumer providing a verbal response.

32. The server of any of claims 26 to 31, wherein the consumer owns an account maintained by a third-party; and

wherein the processor is further configured to instruct the communication device to transmit the billing record to the third-party for posting to the account in order to bill the consumer.

33. The server of any of claims 26 to 32, wherein the call requesting purchase of the product further identifies the vending machine; and

wherein the transaction record further includes an inventory record that identifies the vending machine and indicates that the product has been dispensed therefrom.

34. The server of claim 33, wherein the communication device is further instructed to transmit the transaction record to a provider of the vending machine for reporting and analysis.

35. A system for facilitating a credit-based purchase of a product substantially as hereinbefore described with reference to the accompanying drawings.

36. A method for facilitating a credit-based purchase of a product substantially as hereinbefore described with reference to the accompanying drawings.

37. A server for facilitating a credit-based purchase of a product substantially as hereinbefore described with reference to the accompanying drawings.

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THE COCA-COLA COMPANY

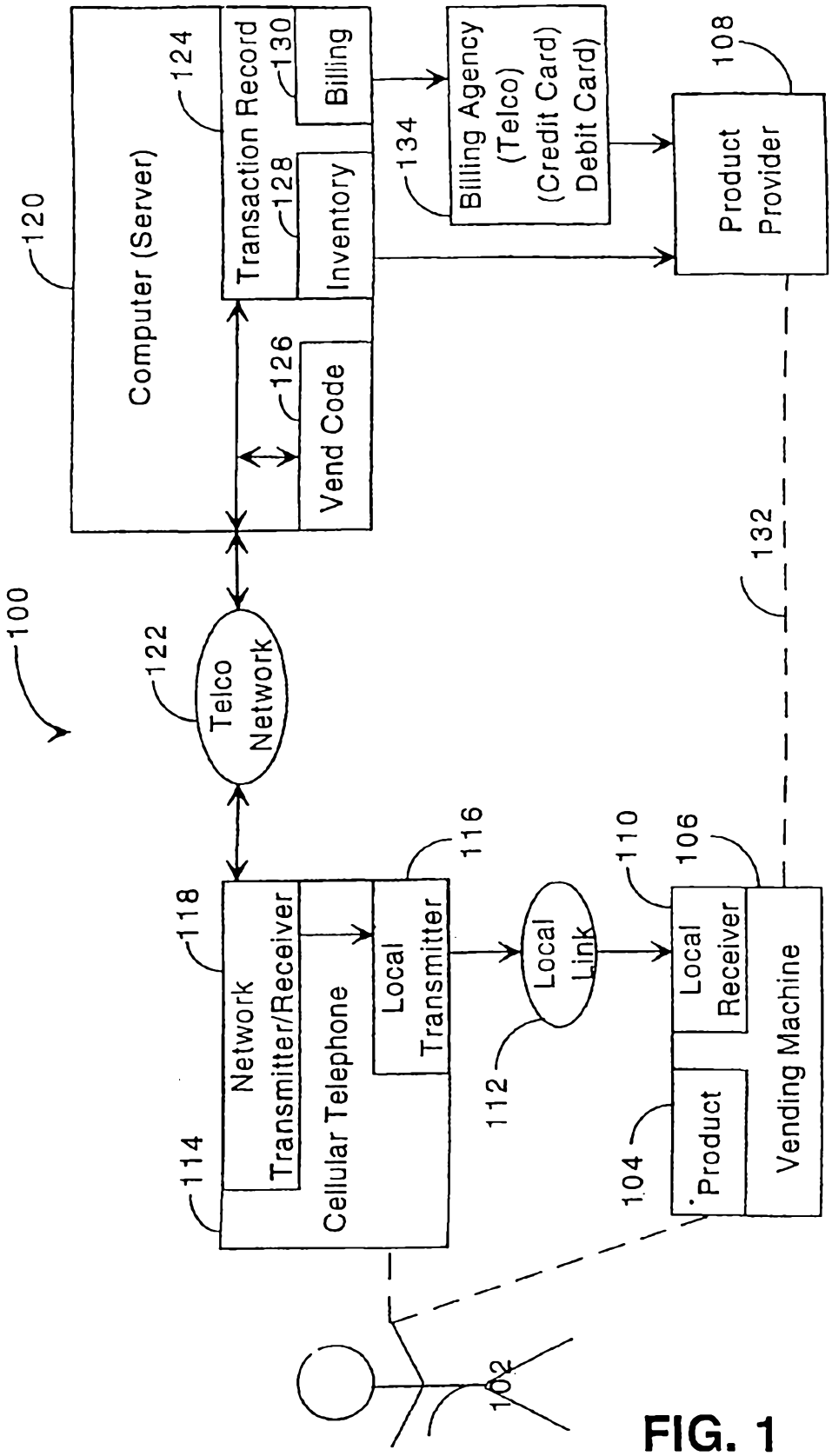
100
102
104
106
108
110
112
114
116
118
120
122
124
126
128
130
132
134
Computer (Server)
Transaction Record
Billing
Inventory
Vend Code
Billing Agency (Telco) (Credit Card) Debit Card
Product Provider
Telco Network
Network Transmitter/Receiver
Cellular Telephone
Local Transmitter
Local Link
Local Receiver
Product
Vending Machine

FIG. 1

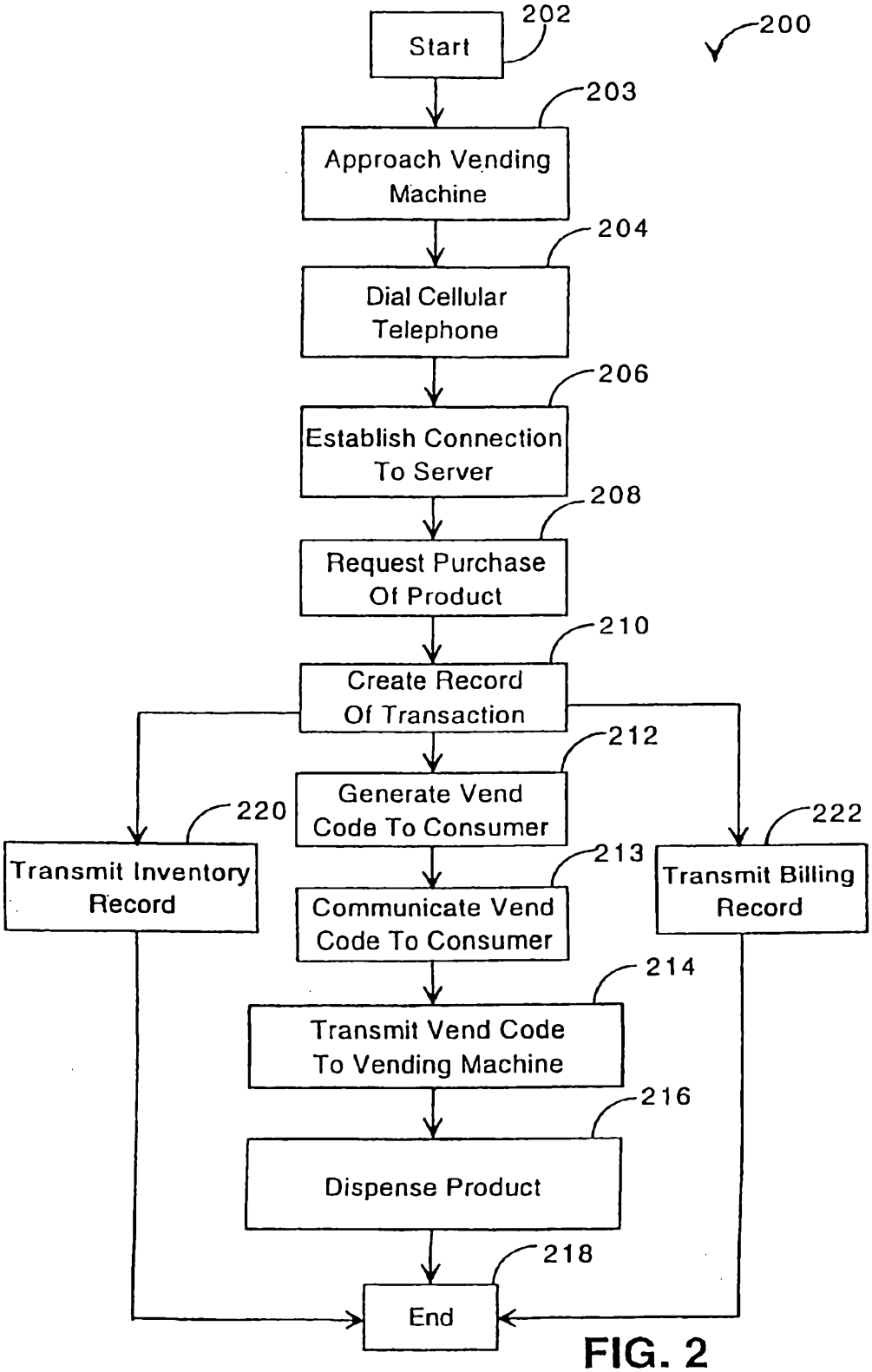
Start
202
200
Approach Vending Machine
203
Dial Cellular Telephone
204
Establish Connection To Server
206
Request Purchase Of Product
208
Create Record Of Transaction
210
Generate Vend Code To Consumer
212
Transmit Inventory Record
220
Transmit Billing Record
222
Communicate Vend Code To Consumer
213
Transmit Vend Code To Vending Machine
214
Dispense Product
216
End
218

FIG. 2