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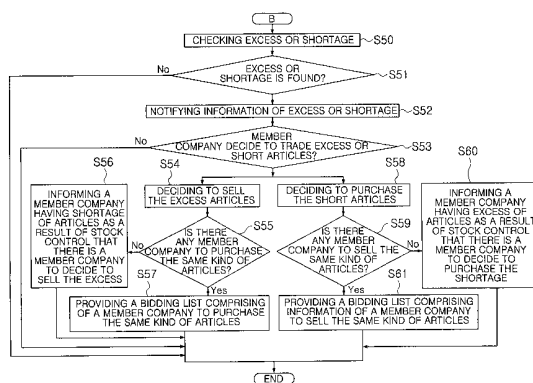
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(54) Title: METHOD FOR PROVIDING INFORMATION OF STOCK CONTROL FOR RAW MATERIAL ARTICLE ON INTERNET AND COMPUTER READABLE MEDIUM STORED THEREON COMPUTER EXECUTABLE INSTRUCTION FOR PERFORMING THE METHOD



(57) Abstract: The present invention relates to a method for providing information of stock control for raw material article on internet comprising the steps of: authenticating a member company by using ID and secret number thereof; the member company's inputting information about proper amount of stock and transmitting the same to the server of the business proprietor and the business proprietor's storing the same in a stock control database; the member company's inputting amount of raw material articles and transmitting the same to the server of the business proprietor and the business proprietor's storing the same in a stock control database when the member company uses the corresponding raw material articles for manufacture; the business proprietor's informing the member company of the fact that the raw material articles are excess or short by the business proprietor server's performing stock control function on the basis of the proper amount of stock and the input amount; the member company's informing the business proprietor of the decision of the member company to trade the corresponding articles; and the business proprietor's informing the member company having an intention to trade excess or short articles of the information for trade by searching the stock control database.



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**METHOD FOR PROVIDING INFORMATION OF STOCK CONTROL  
FOR RAW MATERIAL ARTICLES ON INTERNET  
AND COMPUTER READABLE MEDIUM STORED THEREON  
COMPUTER EXECUTABLE INSTRUCTION FOR PERFORMING THE METHOD**

**BACKGROUND OF THE INVENTION**

**(a) Field of the Invention**

The present invention relates to a method for providing information of stock control for raw material articles on internet. More particularly, it relates to a method for providing information of stock control for raw material articles on internet that a business proprietor manages information of stock control for raw material articles of a member company and provides trade information between member companies in case that a member company wants to transact certain raw material articles by on-line buying or selling through the intermediary of the business proprietor when certain raw material articles are excess or short while the member company uses stock control service of the business proprietor.

**(b) Description of the Related Art**

Conventionally, each company individually controls stock for raw material articles without a reflex of characteristics of raw material articles. Most of companies return stock calculated by a method of subtracting the input amount from the existing total stocked amount of raw material articles or should run business bearing a burden of stocked articles.

In addition, in case of imported raw material articles requiring long time for order, shipment, and transportation, it takes long time from order to input into manufacture.

Accordingly, there are defects that the imported raw material articles may not timely be used when the same is short since it takes long time from new additional order to purchase, plus it is difficult to dispose stocked articles when the same is excess since it takes much time and costs much for returns. In case that the manufacturing progress is considerably frustrated or the quality of raw material articles is deteriorated to fall its value because the required raw material articles are not timely used, a new method for controlling stock to settle such problems is especially required.

### **SUMMARY OF THE INVENTION**

An object of the present invention is to provide a method for managing stock control of raw material articles of member companies by concentrating the stock control on a server of a business proprietor and providing trade information of raw material articles through the internet by using stock control data stored in the server of the business proprietor for mutual rapid buying and selling of the excess or short raw material articles among member companies when certain raw material articles are excess or short and member companies decide to trade the excess or short raw material articles through the business proprietor.

Another object of the present invention is to provide a computer readable medium stored thereon computer executable instruction for performing the inventive method.

The objects of the present invention are achieved by method for providing information of stock control for raw material article on internet comprising the steps of:

(a) authenticating a member company who accesses a server of a business proprietor through network by a client of the member company by using ID and secret

number of the member company; (b) the member company's inputting information about proper amount of stock through the client of the member company and transmitting the same to the server of the business proprietor through the network and the business proprietor's storing the same in a stock control database for stock control of certain raw material articles; (c) the member company's inputting amount of raw material articles through the client of the member company and transmitting the same to the server of the business proprietor through the network and the business proprietor's storing the same in a stock control database when the member company uses the corresponding raw material articles for manufacture; (d) the business proprietor's informing the corresponding member company of the fact that the raw material articles are excess or short when the excess or short of raw material articles are found by the business proprietor server's performing stock control function on the basis of the proper amount of stock and the input amount; (e) the member company's informing the business proprietor of the decision of the member company, who receives the information about the excess or short of raw material articles, to trade the corresponding articles; and (f) the business proprietor's informing the member company having an intention to trade excess or short articles of the information for trade by searching the stock control database.

In the embodiment of the present invention, said (c) step further comprises a step of the member company's selecting the corresponding raw material articles in the spread type of menu when inputting the information of stock state of certain raw material articles.

In the embodiment of the present invention, it is preferable that when the member company inputs the stock state of certain raw material articles in said step (c),

classification codes for the article that the member company wants to input are used and when the articles of which the stock state is to be input does not have a classification code, the member company requests a classification code to the business proprietor.

5           In the embodiment of the present invention, it is preferable that in said (d) step the server of the business proprietor informs the member company of the information about the excess or shortage of certain raw material articles by e-mail or a separate message window when the member accesses the server.

10           In the embodiment of the present invention, it is preferable that in said (e) step the member company who decides to trade the excess or short raw material articles through the business proprietor informs the business proprietor of the decision by transmitting an order sheet to the server of the business proprietor.

15           In the embodiment of the present invention, it is preferable that in said (e) step the member company who decides to trade the excess or short raw material articles through the business proprietor informs the business proprietor of the decision by registering the same on a web board of the server of the business proprietor.

20           In the embodiment of the present invention, it is preferable that in said (f) step the member company to sell the excess raw material articles is informed of the information about the member company to purchase the corresponding articles and the member company to purchase the short articles is informed of the information about the member company to sell the corresponding articles.

          In the embodiment of the present invention, it is preferable that in said (f) step when there is no member company to apply to the member company to sell the excess of raw material articles for the purchase of the articles, the server of the business

proprietor informs the member company having shortage of the corresponding articles that there is a member company to sell the excess of the corresponding articles, and when there is no member company to apply to the member company to purchase the shortage of raw material articles for the selling of the articles, the server of the business proprietor informs the member company having excess of the corresponding articles that there is a member company to purchase the shortage of the corresponding articles.

In the embodiment of the present invention, it is preferable that in said (f) step when the order sheet of transmitted by the member is for selling the excess of articles, the server of the business proprietor transmits a bidding list comprising title of member company who wants to purchase the corresponding articles, title of the articles, amount, and price as information for trade and when the order sheet of transmitted by the member company is for purchasing the short articles, the server of the business proprietor transmits a bidding list comprising title of member company who wants to sell the corresponding articles, title of the articles, amount, and price as information for trade.

After said (c) step, the present invention may further comprises a step of the member company's checking one of daily stock state, monthly stock state, and general stock state of the stock control information of its own stored in the database of the business proprietor's server.

After said (f) step, the present invention may further comprises the steps of intermediating the negotiation of the trade condition for contract between member companies on internet and the business proprietor's providing a certain contract form for the trade contract between member companies.

Before said (a) step, the present invention may further comprises a step of a user's registering as a member, wherein the user is forced to get an e-mail address

having account in an e-mail server of the business proprietor.

On the other hand, another objects of the present invention can be achieved also by computer readable writing medium stored thereon computer executable instruction for performing the method for providing information of stock control for raw material articles on internet. The writing medium includes all kinds of ones whereon programs and data are stored to be read by computer system. For example, ROM(Read Only Memory), RAM(Random Access Memory), CD(Compact Disk)-Rom, DVD(Digital Video Disk)-Rom, magnetic tape, floppy disk, hard disk, optical data storage device, etc. may be mentioned. Further, something implemented in the form of carrier wave(for example, transmission through internet) is also included. In addition, in such a writing medium, codes which is dispersed in computer systems connected by network and that the computer can read in dispersed way may be stored and executed.

### **BRIEF DESCRIPTION OF THE DRAWINGS**

A more complete appreciation of the invention, and many of the attendant advantages thereof, will be readily apparent as the same becomes better understood by reference to the following detailed description when considered in conjunction with the accompanying drawings in which like reference symbols indicate the same or the similar components, wherein:

Fig. 1 is a network structural diagram for performing a method for providing information of stock control for raw material articles on internet according to an embodiment of the present invention;

Fig. 2 is a flow chart showing a procedure for embodying a method for providing information of stock control for raw material articles on internet according to an

embodiment of the present invention;

Fig. 3a is a web page for registration of member provided from a web server when a certain user registers as a member company according to an embodiment of the present invention;

5 Fig. 3b is a flow chart showing a procedure of member access and member authentication according to an embodiment of the present invention;

Fig. 4a is a flow chart showing a procedure of stock control according to an embodiment of the present invention;

10 Fig. 4b is a structural diagram showing an interface for selecting raw material articles to be managed in stock provided from a web server when inputting the existing stock state according to an embodiment of the present invention;

Fig. 4c is statistics charts showing daily, monthly, and general stock states provided from web server when a member company verifies stock state of raw material articles to be managed according to an embodiment of the present invention; and

15 Fig. 5 is a rough flow chart showing a procedure of providing information about excess or short raw material articles for a corresponding company for trade among member companies according to an embodiment of the present invention.

### **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS**

20 The detailed description of the present invention referring to embodiments is provided hereinafter. However, the embodiments according to the present invention can be modified in various ways and the claims of the present invention should not be understood to be restricted to the embodiments described below. The embodiments of the present invention are provided to more clearly and easily describe the present



invention to a person who has standard knowledge in this technical area. In drawings, the identified references designate the identified elements.

Fig. 1 is a network structural diagram for performing a method for providing information of stock control for raw material articles on internet according to an embodiment of the present invention.

According to Fig. 1, a server system of a business proprietor 1 for embodying the present invention comprises a web server 10 for providing various web interfaces for providing stock control service of raw material articles for each authenticated member company 2 through the internet 5; a database server 11, linked with the web server 10, for administering a member management database 3 for managing information of member companies 2 and a stock control database 4 for controlling stock of raw material articles of each member company 2; an application server 6 for receiving various information in order to process requests for stock control of certain raw material articles transmitted from clients of member companies 2 through the web server 10, operating information processing function with being linked with the database server 11, and operating interactive information processing function(for example, stock control function) for embodying the technical idea according to the present invention; and an e-mail server 12 managing e-mail accounts assigned to member companies 2 and providing mail service related to e-mail sending and receiving for member companies 2.

Here, the servers of the business proprietor are preferably linked with each other by local area network LAN for transmission of various kinds of information to embody the technical idea according to the present invention. Further, it is preferable to interpose a router between the web server 10 and the internet 5 network and a firewall server between the router and the web server 10 for protecting the server system of the

business proprietor from outside network environment.

The application server 6 may be a hard ware comprising an application program for operating information processing function to embody the technical idea according to the present invention or a web program module(for example, CGI program module),  
5 made by a certain web program, for operating interactive information processing function on the basis of a server/client model.

Fig. 2 is a flow chart showing a procedure for embodying a method for providing information of stock control for raw material articles on internet according to an embodiment of the present invention.

10 Referring to Fig. 2, a user who accesses the web server 10 of the business proprietor 1 obtains qualification for member company 2 through a procedure for registering as a member in the step S20 to receive stock control service for raw material articles through on-line according to the present invention. At this moment, each member company 2 obtains ID and secret number for member authentication to allow  
15 each member company 2 to access the web server 10 and various web interfaces related to the stock control service according to the present invention and the application server 6 of the business proprietor 1 stores the information obtained in the member registration step in the member management database 3 and manages the same by connecting with the database server 11.

20 The user obtaining the qualification for member company 2 requests the member authentication by transmitting the ID and secret number to the web server 10 of the business proprietor 1 through a member authentication interface provided by the web server 10. Then, the application server 6 of the business proprietor 1 receives the information for member authentication of the member company 2 requesting the

member authentication through the web server 10, verifies if the user is a regularly registered member who regularly registers by searching the member management database 3 in connection with the database server 11, and authorizes the user to access various web interfaces for the stock control service for raw material articles according to the present invention when the user is judged to be a regularly registered member company in the step S20.

The member company 2 passing the procedures of member registration and member authentication as mentioned above inputs information of the present state of raw material articles of its own(preferably comprised of information of the present amount of stock, information of the proper amount of stock, and information of the present input amount), the stock control thereof being consigned to the business proprietor 1, on an interface for inputting the present stock state provided from the web server 10 and transmits the input information to the web server 10 S21. Here, the input information is transmitted to the application server 6 via the web server 10 and the application server 6 stores the present stock state information in the stock control database 4 by connecting with the database server 11. It is preferable that the member company 2 always inputs the information of the present stock state after accessing the web server 10 and receiving member authentication whenever any change occurs in the present stock state of the corresponding raw material articles.

Once the member company 2 stores the stock control information of raw material articles of its own in the stock control database 4 of the database server 11 of the business proprietor 1, the member company 2 always checks the present stock state of certain raw material articles consigned to be managed through an interface for checking the present stock state provided by the web server 10 after accessing the web

server 10 and receiving the member authentication through the internet whenever required in the step S21.

On the other hand, the application server 6 checks if the raw material articles consigned to be managed is excess or short by operating the stock control function for each raw material article automatically at regular intervals or by the business proprietor by connecting with the database server11 in the step S22. Here, the stock control function preferably means the function to check if the present stock amount of certain raw material articles is more or less than the proper stock amount on the basis of the information of present stock state of raw material articles regularly provided by the member company 2, and it is reasonable that the member company 2 sets the proper amount of stock.

When excess or shortage is found in the amount of a certain raw material article as a result of the stock control according to the stock control function of the application server 6 mentioned above, the excess or shortage information(preferably comprised of information of kind of raw material article where the excess or shortage is found and excess or short amount thereof) is provided to the member company 2 through e-mail by using e-mail server 12 in the step S23, and when excess or shortage is not found, the procedure of stock control according to the present invention is ended S23. Here, the excess or shortage means the excess amount or the short amount. The excess amount means the number of remained articles over the proper stock amount set by the member company 2 as the result of the stock control function and the short amount means the number of articles less than the proper stock amount as the result of the stock control function of the application server 6 for the registered raw material articles.

Fig. 3a is a web page for registration of member provided from a web server 10

when a certain user registers as a member company 2 according to an embodiment of the present invention.

Referring to Fig. 3a, a user who wants to register as a member company 2 inputs information about the company 2 in the form provided by the business proprietor 1, the information about the company 2 input by the user is transmitted to the application server 6 via the web server 10, and the application server 6 stores the member information about the company 2 in the member management database 3 by connecting with the database server 11.

The information about the member company 2 stored in the member management database 3 may be used when the excess or shortage is found in certain raw material articles for the business proprietor to intermediate the trade of the excess or short raw material articles between member companies 2. For example, title of member company, address of company, phone number, facsimile number, e-mail address, introduction of company, etc. may be used for the trade through the internet between the member companies 2 and the member companies 2 do not have to separately provide the information for the trade of the stock if the information is input in the procedure of member registration.

Especially when the business proprietor 1 runs a business where the intermediation of stock of raw material articles takes the main part, the member company 2 may have an e-mail address provided from the e-mail server 12 of the business proprietor for the trade and transmission of the information related to the trade between member companies only by using the e-mail server 12 of the business proprietor. For this, the business proprietor 1 may force a user to get an e-mail address provided by the business proprietor 1(refer to 30). This is for prevent the case that

member companies 2 make a trade by themselves through the individual communication between them without the business proprietor 1 though the business proprietor 1 leads the trade of stock articles by providing the information related to the trade for the corresponding member companies 2.

5 In addition, the interface for inputting the information of member company may comprise means for settlement for payment of membership fee and trade of stock between member companies 2 in future when the business method according to the present invention is run as a charged one. For example, the interface for inputting the information of member company shown in Fig. 3a may comprise an interface for  
10 inputting the account number when the member company 2 decides to use a method of depositing without bankbook as a settlement means and a serial number of credit card when the member company 2 decides to use a credit card as a settlement means.

Fig. 3b is a flow chart showing a procedure of member access and member authentication according to an embodiment of the present invention.

15 Referring to Fig. 3b, when a user accesses the web server 10 in the step S30, the web server 10 checks if the user gets the member authentication in the step S31. Then, the web server 10 makes the user to register as a member in the step S32 when the user is not a member and checks if the user pays the membership fee in the step S33 when the user is a member. Here, a user means who accesses the web server 10  
20 not through the procedure of member registration and a member company 2 means a user who passes the procedure of member registration.

In the member registration procedure S32, a procedure of inputting information is required to obtain the necessary information related to the member company as described in Fig. 3a. The user may be forced to pass a procedure of paying

membership fee in the step S34 when the user is a newly registered member company 2 or who does not pay the membership fee.

A member company may set a method for paying membership fee in the member registration procedure or be guided to set the method in the procedure of paying membership fee when the method for paying membership fee is not set in the member registration procedure. However, the business proprietor may select procedures of member registration and membership fee payment according to the characteristics of the business and this does not limits the embodiment of the present invention.

In addition, when a user who gets the member authentication from the web server 10 and pays the membership fee wants to change the information of the company 2 in the step S35, the information input in the member registration procedure may be changed in the step S36. For example, when the information of the member company 2 required for future trade of stock such as address, phone number, e-mail address, etc. is changed or when the ID or the secret number of the member company 2 need to be changed, a procedure of changing the member information in the step S36 may be performed.

Fig. 4a is a flow chart showing a procedure of stock control according to an embodiment of the present invention.

Referring to Fig. 4, the web server 10 provides an interface for selecting the kind of raw material articles that the company decides to consign to a business proprietor so as to receive stock management service and an interface for inputting information the present stock state of the selected raw material articles for a member company 2 authenticated by the web server 10. Then, the member company 2 selects

the kind of raw material articles for which the company wants to receive service of stock control from the business proprietor 1 by using the interface for selecting the kind of raw material articles, inputs the information of the present stock state of the selected kind of raw material articles by using the interface for inputting the present stock state information, and transmits the input information to the web server 10. The present stock state information about a certain raw material articles transmitted through the web server 10 is transmitted to the application server 6 and the application server 6 stores the present stock state information in the stock control database 4 by connecting with the database server 11. Here, it is reasonable for the member company 2 to access the interfaces for selecting the kind of raw material articles and for inputting the information of the present stock state by performing web navigation to provide the present stock state information of a certain raw material articles for the business proprietor 1. The interfaces for selecting the kind of raw material articles and for inputting the information of the present stock state is described below in detail referring to drawings and tables.

On the other hand, when the amount of stock of a certain raw material articles is changed by the member company 2 's inputting the raw material articles in manufacture, the member company 2 accesses the web server 10, pass the member authentication, accesses a web interface for modifying the information of the present stock state of raw material articles, inputs the present input amount of the raw material into the manufacture of a certain product, and transmits the input information to the web server 10. Then, the application server 6 receives the information of the input amount of raw material articles through the web server 10 and re-calculates the stock amount of the corresponding raw material articles on the basis of the received information in the step S41. At this moment, the application server 6 may calculate the stock amount of a



certain raw material articles by a mathematical formula as shown in Mathematical Formula 1. However, the formula for calculating the stock amount may be modified according to the characteristics of articles and business of the member company 2 within a scope of the present invention.

5

[Mathematical Formula 1]

Stock amount = present amount – input amount

As described above, if the member company 2 stores the present stock state information of certain raw material articles in the stock control database 4 by requesting the stock control service for certain raw material articles, the member company 2 may always check the present stock state of the corresponding raw material articles whenever required by accessing the web server 10, passing the member authentication, and accessing an interface for checking the present stock state provided by the business proprietor 1. For this, the application server 6 of the business proprietor 1 preferably perform a function of displaying lists of kinds of the corresponding raw material articles of each member company 2; a function of displaying the information of the present stock state of the corresponding raw material articles when a member company 2 selects a certain raw material article; and a function of inputting the modified information of the present stock state of a certain raw material articles. Here, the web server 10 preferably provides a web page to provide daily stock state(refer to the step S43), monthly stock state(refer to the step S44), or general stock state(refer to the step S45) for member companies 2. In this case, the member company 2 may request provision of daily stock state(refer to the step S43), monthly stock state(refer to the step S44), and general stock state(refer to the step S45) after accessing the web server 10

and passing the member authentication, and then the application server 6 displays the stock states by periods in response to the request of the member company 2 by connecting with the database server 11.

Fig. 4b is a structural diagram showing an interface for selecting raw material articles to be managed in stock, which is provided from a web server 10 according to an embodiment of the present invention.

Referring to Fig. 4b, an interface for selecting raw material articles generally comprises a stock control item 40, a first sub menu 41, and a second sub menu 42. When a main item 40 of stock control is selected (refer to the reference number 40'), the first sub menu 41 is spread out and when one item of the first sub menu 41 is selected (refer to the reference number 41'), the corresponding second sub menu 42 is spread out.

Such a spread type of menu shown in Fig. 4b is to effectively display the interface for selecting raw material articles its stock to be managed by a business proprietor 1 on the user's monitor when the raw material articles has many items and are classified in detail.

In an embodiment of the interface for selecting raw material articles its stock to be managed, imported leather articles and chemicals for processing leather articles requiring a lot of time for shipment and transportation when ordering raw material articles are selected as main items to be managed and the first and the second sub menus 41 and 42 is respectively comprised of classes obtained by minutely classifying the main items and the first sub menus. However, the embodiment for the interface for selecting raw material articles is not limited to the above-mentioned embodiment but those skilled in the art may find variously modified ones or applied ones.

In the embodiment of the interface for selecting raw material articles shown in Fig. 4b, when a member company 2 selects Raw Material (refer to the reference number 40'), items of Hide, Wet Blue, Crust, Lamb, Pig, and Others are displayed as the first sub menu 41 and when Hide is selected from the first sub menu 41 (refer to the reference number 41'), items of Steer, Cow, Ox, Bull, and Kip Skin are displayed as the second sub menu 42. A spread type of method for selecting raw material articles may be applied in the same way even in case of another main item. When a user selects an item from the lowest sub menu, a stock state information input interface for inputting stock state of the selected raw material articles by the user is provided. For example, the interface mentioned above may comprise an information entry area for inputting data shown in Table 1.

[Table 1]

Classification	Proper amount of stock	Stock amount of the previous day	Input amount of the day
Article A	500,000	450,000	1,000
Article B	200,000	900,000	56,000

Referring to Table 1, the stock amount of the previous day for the articles A and B is calculated based on the stock control database 4 by the database server 11 and then automatically displayed in the blank "stock amount of the previous day". The member company 2 sets and inputs the proper amount of stock and inputs the input amount of the day on the basis of the stock amount of the previous day. Here, the proper amount of stock means a criterion for judging the excess or shortage of the raw material stock state. That is, when the amount of the corresponding raw material articles during the stock control is over the proper amount of stock set by the member company 2, the number of remained articles is surplus amount, and when the amount thereof is

below the proper amount of stock, the number of short articles is shortage amount. Accordingly, in case of article A, since the proper amount of stock is 500,000 and the stock amount of the current day is 449,000( $500,000 - 1,000$ ), 51,000 of shortage amount is generated, and in case of article B, since the proper amount of stock is 200,000 and the stock amount of the current day is 844,000( $900,000 - 56,000$ ), 644,000 of surplus amount is generated. Member company 2 may sets a time criterion for deciding the stock state of raw material articles.

The kind of raw material articles selected by the member company 2 is converted into a code defined by the business proprietor 1 and stored and managed in the stock control database 4. Encoded data is processed according to a general database linkage technique and used for providing information that a user requests. When the raw material article that the member company 2 consigns to the business proprietor 1 to manage its stock does not belong to a list of codes the business proprietor 1 manages, the member company 2 informs the business proprietor 1 of that fact by e-mail or something. For example, when there are particular matters such as the appearance of new raw material articles or else, the business proprietor 1 may properly manage the matters such as assigning a new code for the new raw material articles or something.

Fig. 4c is statistics charts showing daily, monthly, and general stock states provided from web server 10 when a member company verifies stock state of raw material articles to be managed according to an embodiment of the present invention.

Referring to Fig. 4c, the member company 2 who inputs the its stock state in the step S40 (refer to Fig. 4a) may check the stock state on the basis of data stored in the stock control database 4 managed by the database server 11. In this embodiment, a

daily stock state 44, a monthly stock state 43, and a general stock state 45 of articles related to leather articles suitable for the embodiment of the present invention are displayed to be suitable for the business of the business proprietor 1. It may naturally be applied to another raw material articles if the same is not beyond the scope of the present invention.

Fig. 5 is a flow chart showing a procedure of providing information about excess or short raw material articles for a corresponding company for trade among member companies according to an embodiment of the present invention.

As shown in Fig. 5, the application server 6 linked with the database server 11 of the business proprietor 1 checks in the step S50 if there is excess or shortage in each raw material article that the member company 2 consigns its stock control to the business proprietor 1 at the time that the business proprietor sets or by operation of the business proprietor 1. When there is excess or shortage in a certain raw material article in the step S51, the application server 6 informs the corresponding member company 2 of the information about excess or shortage of a certain raw material through e-mail by connecting with the e-mail server 12 in the step S52. Besides informing through e-mail, it is possible to inform by a separate message window when the corresponding member company 2 regularly accesses the web server 10 of the business proprietor 1 through the member authentication.

In the embodiment of the present invention, methods of informing the member company 2 of the information about the excess or shortage of the raw material articles by a separate message window after the member company 2 's accessing the web server 10 through the internet or by e-mail are mentioned. However, the method for informing is not limited to this embodiment. The information about the excess or

shortage of the raw material articles may be informed by telephone, facsimile, mobile wireless phone, etc. through public telephone network by connecting the application server 6 of the business proprietor with UMS(Unified Messaging System) if necessary.

When the member company 2 receives the information about the excess or shortage, the member company 2 decides to sell the excess stock articles or to purchase the short stock articles through the business proprietor 1 in the step S53 and then informs the business proprietor of its decision. According to the present embodiment, the member company 2 informs the business proprietor of its decision by transmitting an order sheet or by registering information related to the trade of the corresponding raw material articles on a web board for trading raw material articles provided by the business proprietor 1 through the web server 10. Here, the order sheet means all types of web interface for transmitting, through the web server 10, the decision that the member company 2 has intention to trade the excess or short raw material articles through the business proprietor 1.

When the order sheet is used, securing the commission is possible since the trade between member companies 2 without the trade intermediation of the business proprietor 1 may be protected. When the web board provided by the web server 10 of the business proprietor 1 is used, it is possible to make more effective trade by taking an auction or Dutch auction since the trade information of the raw material articles are open to the all member companies 2.

The business proprietor 1 who receives the data related to the decision to sell the excess stock articles checks if there are any member companies 2 who has an intention to purchase the corresponding raw material articles in the step S55. When such member companies 2 are found, the business proprietor 1 provides a bidding list

comprising the information of the member companies 2 for the member company 2 to sell the stock articles. Here, the bidding list means a list comprising titles of member companies 2 who want to trade, title of the stock articles to be traded, amounts of the stock articles to be trade, and properties of the stock articles. An example of the bidding list is shown in Table 2.

[Table 2]

Classification	Title of member company	Amount	Property of article A	Property of article B	The others
Article A	High Max	100	-	-	-
Article B	High Max	900	-	-	-
Article C	Low Korea	200	-	-	-

Referring to Table 2, a member company High Max wants to purchase the amount 100 of article A and the amount of article B, and a member company Low Korea wants to purchase the amount of article C.

To prevent the trade between member companies 2 without intermediation of the business proprietor 1, display of titles, phone numbers, or e-mail addresses among information of member companies 2 to be comprised in the bidding list may be delayed until the trade between member companies 2 is made.

When there is no member company 2 to purchase the articles, the business proprietor 1 may check if there is any member company 2 having shorts of articles though the same do not express its intention to purchase the articles by using the stock control database 4 and inform the member company 2 having shorts of articles that there is a member company 2 to sell the excess articles. For this, the application server 6 picks out a member company 2 having shorts of articles from the stock control

database 4 by connecting with the database server 11 and the e-mail address of the member company 2 from the member management database 3. Then, the application server 6 provides the information of the member company 2 who decides to sell the excess articles through the e-mail by connecting with the e-mail server 12.

5 Preferably, an interface for automatically accessing the server of the business proprietor 1 may be provided in the e-mail. More preferably, the trade may automatically be made when a user selects a hyper-linked image or a character string in e-mail. In this case, the business proprietor 1 should provide a condition to agree about the automatic conclusion of trade through the e-mail when a procedure for user's registering  
10 as a member is performed.

The business proprietor 1 who receives the decision to purchase the short articles checks if there are any member companies 2 who has an intention to sell the corresponding raw material articles in the step S59. When such member companies 2 are found, the business proprietor 1 provides a bidding list comprising the information of  
15 the member companies 2 to sell the articles for the member company 2 to purchase the articles in the step S61. The bidding list may comprise titles of member companies who want to trade, title of the stock articles to be traded, amounts of the stock articles to be traded, etc. and the display of titles, phone numbers, or e-mail addresses among information of member companies 2 may be delayed until the trade between member  
20 companies 2 is made to prevent the trade between member companies 2 without intermediation of the business proprietor 1.

When there is no member company 2 to sell the articles, the business proprietor 1 may check if there is any member company 2 having excess of articles though the same do not express its intention to sell the articles by using the stock control database



4 and inform the member company 2 having excess of articles that there is a member company 2 to purchase the short articles. For this, the application server 6 picks out a member company 2 having excess of articles from the stock control database 4 by connecting with the database server 11 and the e-mail address of the member company 2 from the member management database 3. Then, the application server 6 provides the information of the member company 2 who decides to purchase the short articles through the e-mail by connecting with the e-mail server 12.

Preferably, an interface for automatically accessing the server of the business proprietor 1 may be provided in the e-mail. More preferably, the trade may automatically be made when a user selects a hyper-linked image or a character string in e-mail. In this case, the business proprietor 1 should provide a condition to agree about the automatic conclusion of trade through the e-mail when a procedure for user's registering as a member is performed.

The member company 2 who receives the bidding list comprising the information of the member company 2 who has intention to trade may negotiates about condition for trade such as price, a transportation method, a settlement method, etc. through e-mail provided by the business proprietor 1 and the business proprietor 1 may provide the member companies 2 with a certain electronic contract form for the trade.

Alternatively, the business proprietor 1 may provide a web interface for allowing a trade contract between member companies 2 having excess or short of raw material articles on the web. For example, first, a bidding list comprising information that a member company 2 having  $+(B + \Delta B)$  amount of article A has an intention to sell the article is provided for a member company 1 having an article A short by  $-B$  on the web. Next, the web server 10 provides a contract interface for the member company 1's

inputting contract conditions comprising desired purchasing price, amount, etc. of the article A on the web. The member company 1 who inputs the contract conditions on the contract interface requests the business proprietor 1 to store the information of subscription for contract. Then, the application server 6 of the business proprietor 1 stores the information of subscription for contract in the database area of the member company 2 (other member companies are not allowed to access this area) by connecting with the database server 11. The member company 2 accesses the web server 10 and checks the information of subscription for contract of the member company 1 stored in the database area of its own. Next, when the member company 2 wants to accept the subscription for contract, the same inputs the decision to accept the contract on the web and stores the related information in the database of the member company 1. When the member company 2 does not want to accept the contract because the same judges that the contract conditions are not proper, the member company 2 inputs desired selling price, amount, etc. for regulating the contract conditions and stores the same information in the database of the member company 1. Then, the member company 1 checks the contract conditions of the member company 2 stored in the database area of its own, inputs the decision if the conditions are accepted or not, and stores the same in the database area of the member company 2.

The processes as described above may continue until the contract is made between the member companies 1 and 2. In addition, when the member company 1 has the excess of certain articles and the bidding list comprising the information of the member company 2 who has an intention to purchase the corresponding articles is provided for the member company 1, the practically same method may be applied.

While the present invention has been described in detail with reference to the

preferred embodiments, those skilled in the art will appreciate that various modifications and substitutions can be made thereto without departing from the spirit and scope of the present invention as set forth in the appended claims.

As described above, according to the present invention, the stock control is  
5 concentrated into the server of the business proprietor and the server of the business proprietor provides the trade information to allow the rapid trade between member companies when the excess or short of certain raw material articles are generated. Accordingly, a member company having excess of articles may be relieved of the stock burden without returns of articles and a member company having shorts of articles may  
10 purchase and timely input necessary raw material articles by overcoming the delay of article supply due to the shipment and the transportation to improve the productivity.

**WHAT IS CLAIMED IS:**

1. A method for providing information of stock control for raw material article on internet comprising the steps of:

(a) authenticating a member company who accesses a server of a business proprietor through network by a client of the member company by using ID and secret number of the member company;

(b) the member company's inputting information about proper amount of stock through the client of the member company and transmitting the same to the server of the business proprietor through the network and the business proprietor's storing the same in a stock control database for stock control of certain raw material articles;

(c) the member company's inputting amount of raw material articles through the client of the member company and transmitting the same to the server of the business proprietor through the network and the business proprietor's storing the same in a stock control database when the member company uses the corresponding raw material articles for manufacture;

(d) the business proprietor's informing the corresponding member company of the fact that the raw material articles are excess or short when the excess or short of raw material articles are found by the business proprietor server's performing stock control function on the basis of the proper amount of stock and the input amount;

(e) the member company's informing the business proprietor of the decision of the member company, who receives the information about the excess or short of raw material articles, to trade the corresponding articles; and

(f) the business proprietor's informing the member company having an

intention to trade excess or short articles of the information for trade by searching the stock control database.

2. The method according to claim 1, wherein said (c) step further  
5 comprises a step of the member company's selecting the corresponding raw material articles in the spread type of menu when inputting the information of stock state of certain raw material articles.

3. The (c) step of the method according to claim 1, wherein, when the  
10 member company inputs the stock state of certain raw material articles, classification codes for the article that the member company wants to input are used and when the articles of which the stock state is to be input does not have a classification code, the member company requests a classification code to the business proprietor.

4. The method according to claim 1, after (c) step, further comprising a  
15 step of the member company's checking one of daily stock state, monthly stock state, and general stock state of the stock control information of its own stored in the database of the business proprietor's server.

5. The (d) step of the method according to claim 1, wherein the server of  
20 the business proprietor informs the member company of the information about the excess or shortage of certain raw material articles by e-mail or a separate message window when the member accesses the server.

6. The (f) step of the method according to claim 1, wherein said trade information is to inform the member company to sell the excess raw material articles of the information about the member company to purchase the corresponding articles and to inform the member company to purchase the short articles of the information about the member company to sell the corresponding articles.

7. The (f) step of the method according to claim 1, wherein, when there is no member company to apply to the member company to sell the excess of raw material articles for the purchase of the articles, the server of the business proprietor informs the member company having shortage of the corresponding articles that there is a member company to sell the excess of the corresponding articles and when there is no member company to apply to the member company to purchase the shortage of raw material articles for the selling of the articles, the server of the business proprietor informs the member company having excess of the corresponding articles that there is a member company to purchase the shortage of the corresponding articles.

8. The (e) step of the method according to claim 1, wherein the member company who decides to trade the excess or short raw material articles through the business proprietor informs the business proprietor of the decision by transmitting an order sheet to the server of the business proprietor.

9. The (f) step of the method according to claim 1, wherein, when the order sheet of transmitted by the member company according to claim 8 is for selling the excess of articles, the server of the business proprietor transmits a bidding list

comprising title of member company who wants to purchase the corresponding articles,  
title of the articles, amount, and price as information for trade and when the order sheet  
of transmitted by the member company according to claim 8 is for purchasing the short  
articles, the server of the business proprietor transmits a bidding list comprising title of  
5 member company who wants to sell the corresponding articles, title of the articles,  
amount, and price as information for trade.

10. The method according to claim 9 further comprising a step of  
intermediating the negotiation of the trade condition for contract between member  
10 companies on internet after (f) step.

11. The method according to claim 10 further comprising a step of the  
business proprietor's providing a certain contract form for the trade contract between  
member companies.

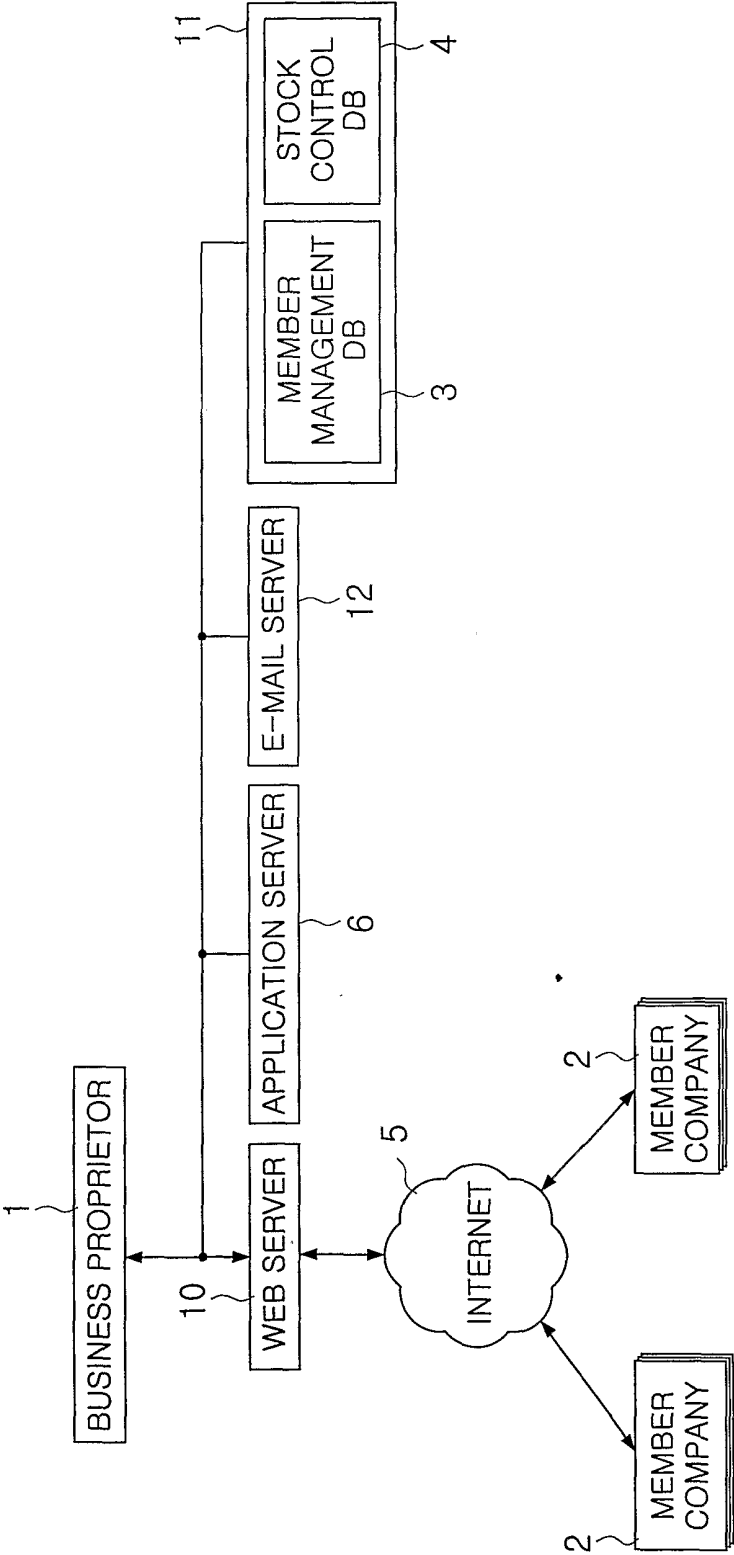
12. The method according to claim 1 further comprising a step of a user's  
registering as a member before said (a) step, wherein the user is forced to get an e-mail  
address having account in an e-mail server of the business proprietor.

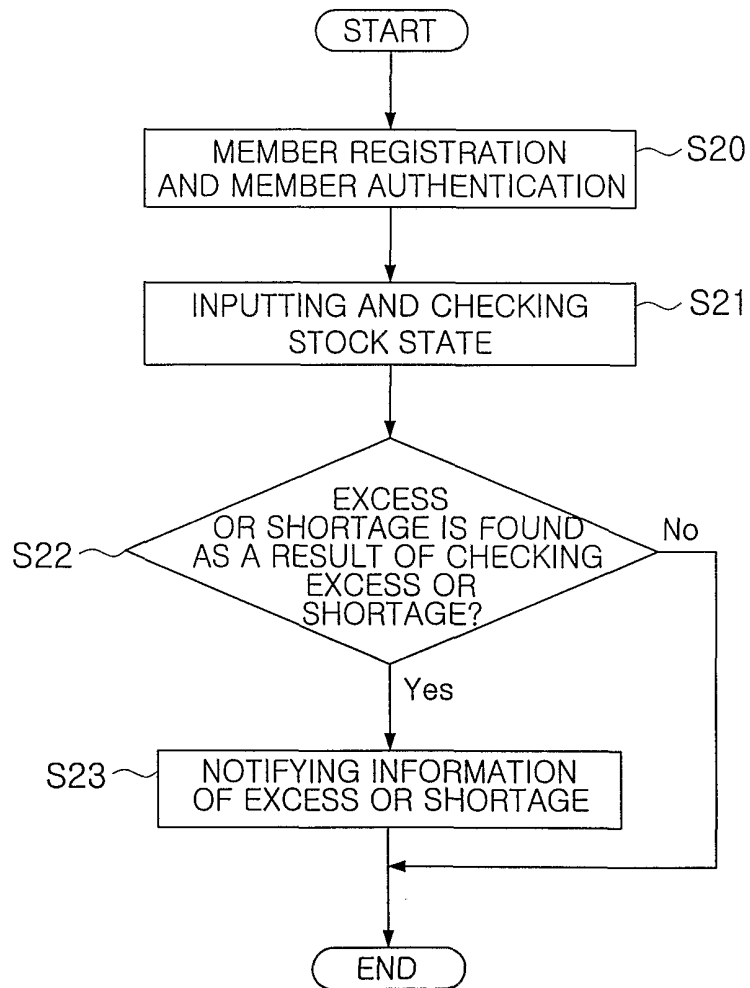
13. The (e) step of the method according to claim 1, wherein the member  
company who decides to trade the excess or short raw material articles through the  
business proprietor informs the business proprietor of the decision by registering the  
same on a web board of the server of the business proprietor.

14. A computer readable medium having computer executable instruction for performing the method according to any one of claim 1 to 13.



FIG. 1



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FIG.2

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FIG.3a

USER ID :

SECRET NUMBER :

VERIFYING  
SECRET NUMBER:

LEINB WEB MAIL :  @leinb.com ~ 30

TITLE OF COMPANY :

ADDRESS OF COMPANY :

NAME OF COUNTRY :

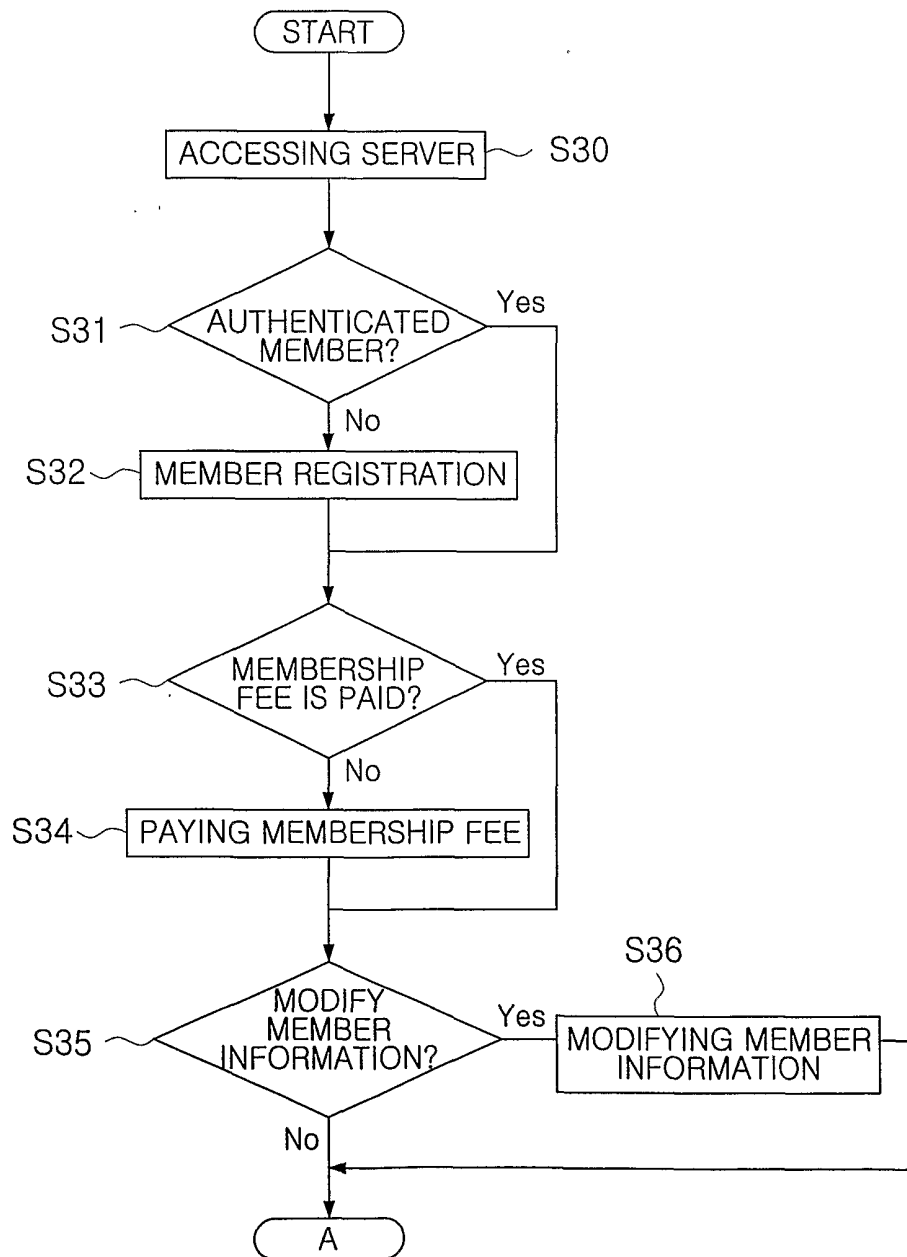
PHONE NUMBER :

FACSIMILE NUMBER :

Homepage :

E-mail :

INTRODUCTION  
OF COMPANY :

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FIG.3b

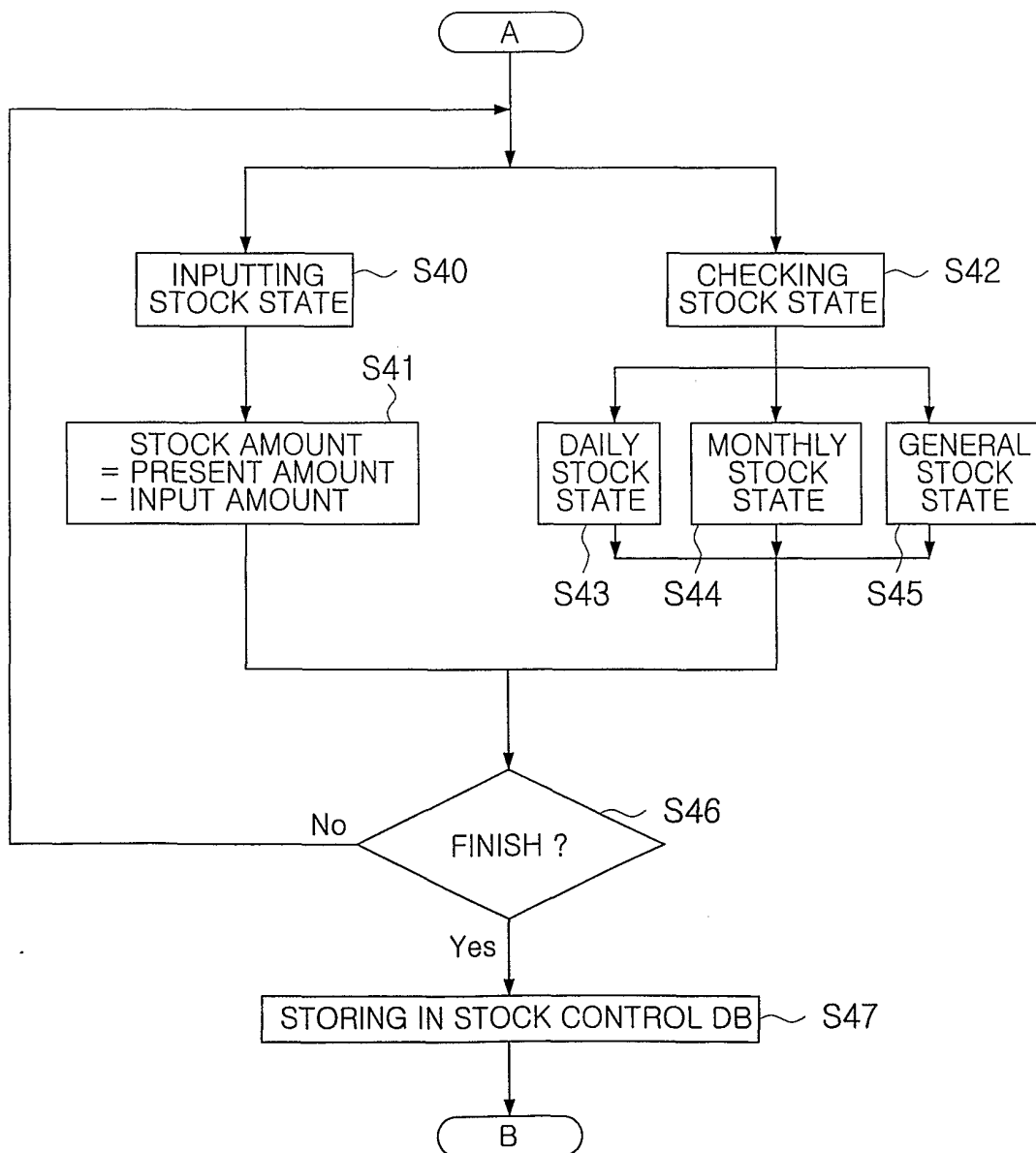
5 / 8  
FIG.4a

FIG.4b

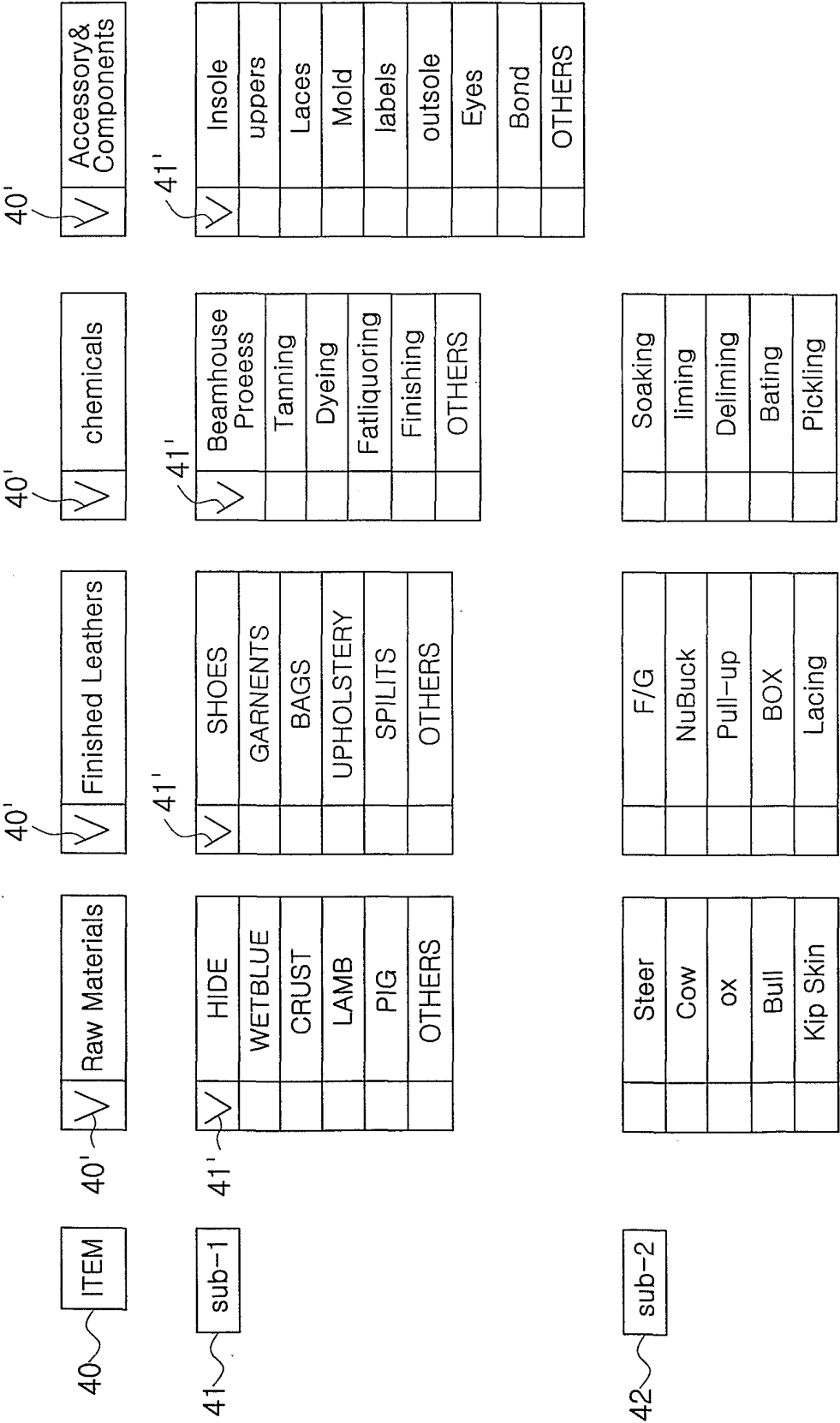


FIG.4c

MONTH-END STOCK

43

ITEM	STOCK STATE OF THE END OF AUG.			STOCK OF SEP.		STOCK OF OCT.		STOCK OF NOV.		STOCK OF DEC.		EXCESS OR SHORTAGE	
	WARE-HOUSE	SHIP-MENT	NON-SHIP-MENT	INPUT	STOCK	INPUT	STOCK	INPUT	STOCK	INPUT	STOCK	SHORT-AGE	SUR-PLUS
STEER	100	400	50	550	150	500	160	340	360	300	-320		

DAILY STOCK

44

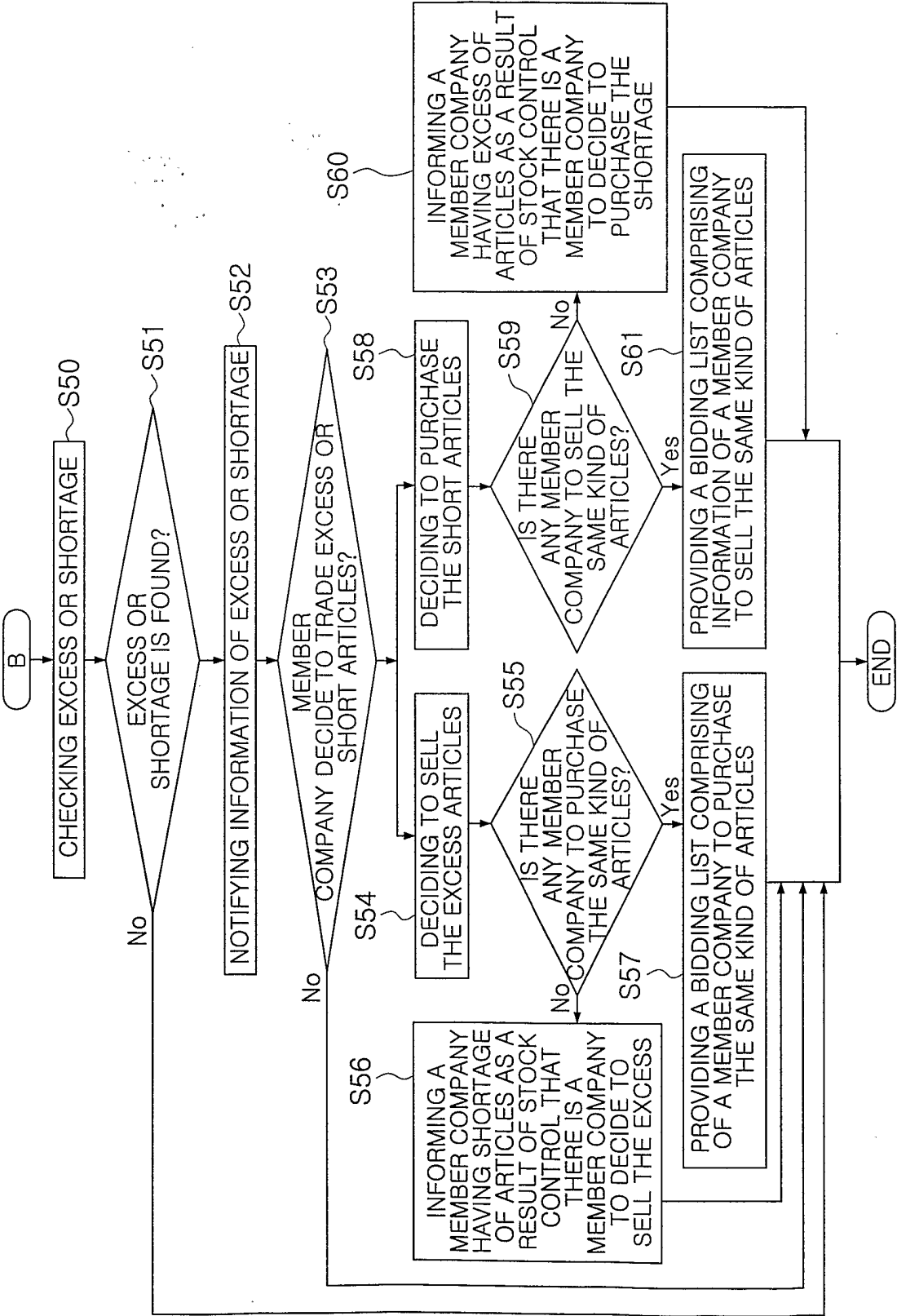
DATE	Steer		Cow		OX		STORAGE IN WAREHOUSE
	INPUT	STOCK	INPUT	STOCK	INPUT	STOCK	
9/1	10	540	10	710	15	480	
9/2	5	535	30	680	15	465	
.							
.							
.							
9/20	20	400	5	500	3	414	

GENERAL STOCK

45

ITEM	STOCK	USED AMOUNT	EXCESS OR SHORTAGE
Steer	1290	970	320
Cow	325	300	25
OX	840	840	0

FIG.5





## INTERNATIONAL SEARCH REPORT

.....ernational application No.  
PCT/KR01/01672

**A. CLASSIFICATION OF SUBJECT MATTER****IPC7 G06F 17/60**

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

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	KR 2000-18217 A (S. I. GANG, J. C. SHIN) 6 APRIL 2000 (Family None) * whole documents	1-14
A	KR 1998-75887 A (SAMSUNG CORP.) 16 NOVEMBER 1998 (Family None) * whole documents	1-14
A	KR 1999-29523 A (HITACHI SEISAKUSHO LTD.) 26 APRIL 1999 (Family None) * whole documents	1-14
A	KR 1996-35319 A (SICO CORP.) 24 OCTOBER 1996 (Family None) * whole documents	1-14
A	JP 12-123093 A (SYSTEM YAMATO:KK.) 28 APRIL 2000 (Family None) * whole documents	1-14
A	US 6101484 A (MERCATA INC.) 8 AUGUST 2000 (Family None) * whole documents	1-14

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

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

08 JANUARY 2002 (08.01.2002)

Date of mailing of the international search report

10 JANUARY 2002 (10.01.2002)

Name and mailing address of the ISA/KR

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