A pilfer-proof area, such as a garment storage, cleaning or checking area, is accessible from outside the area through a wall opening, normally sealed by a locked door, at a transfer station of an endless conveyor which supports the garments within the area. An automatic, coded control means, actuated by the user, causes the conveyor to halt the user's garments at the station, where segregation means isolates them, preferably while still on the conveyor, from others and from the storage area. The garments may then be bodily transported into separation means whereupon a locked door opens to permit removal. Re-locking the door resets the apparatus. A coded receipt is issued for checking garments. A soiled garment-receiving chute is located proximate the dispensing door.

16 Claims, 6 Drawing Figures
Fig. 6.
APPARATUS AND METHOD FOR CODED, SELF-SERVICE TRANSFER OF ARTICLES

BACKGROUND OF THE INVENTION

Endless conveyors supported from the ceiling of garment cleaning establishments, laundries and other article treatment, or handling, areas have long been known, but, while the conveyors advance continuously or intermittently in a closed loop, they are invariably loaded and unloaded by an employee of the establishment during working hours. In hospitals and other large institutions, as well as in small garment cleaning stores, despite the overhead conveyors and stationary coat hanger racks normally present, there has been no provision for a customer, or a hospital employee, to obtain the return of cleaned garments, or to obtain a fresh set of uniforms, after normal working hours. Thus, late shift workers must wait for opening hours and then an employee must be paid to dispense the garments during such hours.

It has been possible in "Automat" food vending to obtain an article by insertion of a coin, or to retrieve an article from a locker by insertion of a key but, as far as I am aware, it has not heretofore been possible for a user to self deliver one of a plurality of stored articles to a transfer station and obtain the article while access to adjacent articles and access to the storage area is prevented.

It has heretofore been proposed in U.S. Pat. No. 3,339,671 to Simjian of Sept. 5, 1967, to automatically dispense food articles on trays by providing the customer with coded check means, causing the trays to be manually or automatically loaded, in a service enclosure, onto an endless conveyor and then causing the coded tray to be pushed by a plunger off the conveyor onto a platform and past a double swinging, loose fitting panel. However, in the patent the unloading, or drop hangers onto a track leading into a revolving drum dispenser, are taught in U.S. Pat. No. 2,997,133 to Gehlke of Aug. 22, 1961. A similar system using a special configuration of hanger, having a square aperture penetrated by a finger carried by a follower on a curved track, is disclosed as a transfer means from conveyor to rotating drum in U.S. Pat. No. 3,379,295 to Varley of Apr. 23, 1968.

In the Gehlke device the garments must be carried parallel to the conveyor and occupy considerably more floor space than garments carried front-to-back on a conveyor and closely packed. In the Varley device, conventional low cost hangers cannot be used and each garment must be supported on a special hanger.

SUMMARY OF THE INVENTION

This invention is especially intended for the "off hours" automatic, self-service retrieval of dry-cleaned, or laundered, garments supported on front-to-back, closely arranged, conventional hangers in the storage areas of hospitals, laboratories, cafeterias and similar institutions, although it can be used in the checking of such garments, or in the handling of other articles. Unlike the handling of machine parts or food in trays, cleaned garments must not be carelessly moved or roughly treated or they will become wrinkled, so that they present a special handling problem as delicate, unwieldy, preferably supported on coat hangers and preferably not laid on a support and manually pushed thereacross. Especially in hospitals, cleaned garments must not be intermixed with soiled, germ-carrying clothing and therefore provide a separate door and area for soiled garments nearby a sealed, locked door, through which clean garments are self-dispensed, to assure that no one will inadvertently deposit soiled clothing in the dispensing opening to contaminate the storage area.

The cleaned garments are arranged on an endless conveyor in the storage area by name, number, code or the like, and the user inserts a magnetic key or card, or a coded key, or punches a push-button combination, outside at least one locked and sealed door covering a transfer opening at a transfer station in the path of the conveyor means, which causes the conveyor to halt the user's garments at the station. Preferably, the conveyor means rounds a sharp turn at the transfer station and preferably the garments, or the wire cages enclosing the garments are spaced from each other so that openings are formed on each side of the selected garments to permit segregation thereof from adjacent garments. Before the locked door can open and unseal the opening to permit removal of the garments, segregation means moves into place at the transfer station to isolate

Coding and decoding means is also well known and reference is made to optical scanning systems taught in the following patents:

3,214,003 Wilson October 26, 1965
3,268,096 Kitchener August 23, 1966
3,482,712 Powers December 9, 1969
5,340,821 Wesener September 12, 1967
the garments from adjacent garments and to prevent access through the now unsealed opening to the rest of the storage area. If used for checking garments, an empty space on the conveyor would halt at the transfer station, the space is isolated as explained above so that garments can be placed on the conveyor, the door then locked and the apparatus issues a receipt in the form of a coded card or key which will retrieve the garments.

The segregation means may be an enclosure which moves outwardly to straddle garments at the transfer station, or the garments may be supported in spaced, wire cage-like enclosures and a pair of barriers move inwardly to isolate a cage at the station, or wire cage-like enclosures may have outwardly slideable inserts sleeved therein which cooperate with a stationary compartment at the transfer station to block access to nearby garments. Alternatively, the garments may be bodily transported away from the halted conveyor into the stationary compartment of separation means having a locked door for access.

**BRIEF DESCRIPTION OF THE DRAWINGS**

FIG. 1 is a diagrammatic plan view of an article handling and treatment establishment, constructed in accordance with the invention, the segregation and separation means being shown on an enlarged scale;

FIG. 2 is a fragmentary, perspective, enlarged view of one embodiment of the segregation means;

FIG. 3 is a side elevation, in section, of the apparatus shown in FIG. 2 on line 3—3 of FIG. 1;

FIG. 4 is a view similar to FIG. 3 of another embodiment, in section, on line 4—4 of FIG. 1;

FIG. 5 is a view similar to FIG. 3 of still another embodiment, in section, on line 5—5 of FIG. 1;

FIG. 6 is a circuit diagram showing one embodiment of code and control means.

**DESCRIPTION OF A PREFERRED EMBODIMENT**

As shown in the drawings, 30 is a substantially pilfer proof storage area defined by a wall 31 and forming part of an establishment such as a dry-cleaning store, night club check room, hotel dry-cleaning or laundry department, or any other establishment wherein it is desired to provide self-service receipt, or dispensing, of articles 24 hours a day without need for attendants and without danger of pilfering of articles of others. For convenience of illustration, area 30 is illustrated as being the clean garment storage rack area of a typical hospital, there being a soiled garment pre-sort area 32, a soiled garment area 33 and a cleaned garment area 34 alongside the area 30, separated by wall 31 therefrom and a glass door 35 in a wall 36 which provides access from the soiled areas 32 and 33 from the clean areas 34 and 30 to prevent cross infection of the garments. A hospital corridor is designated 37 and a soiled garment receiving slot 38 permits dirty clothing, linen, etc. to be received at any time into pre-sort area 32 without danger of infecting the cleaned clothing or linens which may be manually dispensed from a counter 39 during work hours or automatically dispensed from the self-service transfer stations 41, 42 or 43 at any time of day or night.

The storage area 30 and the area 34 are termed pilfer proof because unauthorized access is prevented when glass door 35 is locked and counter door 44 and each of the article dispensing doors 45, 46 and 47 are locked to seal the respective article dispensing openings 48, 49, 51 and 52 therein.

Endless conveyor means 53 is provided within storage area 30, which may be of a conventional type consisting of an endless chain 54 having spaced upstanding lugs 55 therealong and enclosed in a grooved, tubular track 56 (FIG. 5), such as the "Contin-U-Veyor" made by White Machine Company, Inc., of Kenilworth, N.J.

In such case, the garments, such as uniforms of hospital personnel, all belonging to a particular employee, may be hanger supported between two adjacent lugs so that when these lugs are halted at the transfer station, the owner may retrieve his or her change of uniforms. Conveyor means 53 preferably, however, is similar to an elongated, link-type, endless conveyor, also made by the said White Machine Company, Inc., but the links are not twelve inches or more in length as is conventional. In this invention, the rigid, depending chain links 57 are only three or four inches in length to each accommodate the hanger supported garments of one individual and to open up adjacent sets of garments for segregation and isolation as the chain 58 rounds a U-turn of small diameter, as at 59. As best shown at stations 41 and 42 of FIG. 1 and in FIGS. 2—4, the links 57 are each supported by trolley hangers 61 from a tubular track 62 and rigidly connected to each other to form the endless chain 58.

Conveyor means 53 includes power drive means 63, including suitable sprockets 64 and a reversible electric motor 65, and is advanced in a closed loop path by suitable electric circuit means 66, cooperating with code means 67 and actuatable from outside area 30 and wall 31 near one of the doors 44, 45 or 46 by the magnetic card, key or coin receptors 68, 69 or 71.

In its most simple form, shown at transfer station 43 in FIG. 1 and in FIG. 5, the apparatus of the invention makes use of the lug type conveyor 54 for advancing garments 72, front-to-back, supported on conventional, low cost wire coat hangers 73 depending from slotted tube track 56, from the rear loading portion of storage area 30 up to a halted position at transfer station 43.

Assuming that there are several hundred lugs 55 on endless chain 54, each adjacent pair of lugs may bear a number, name or other visual indicia 74 which can be seen through a window 75 in wall 31, to constitute a code means 67 by which the chain 54 may be stopped at station 43 by the user with his garments at the station. Preferably, however, the code means 67 is of a well known type wherein the user is issued a magnetic key or card, or a printed circuit card, for insertion in the receptor 71, the circuit thus closed, energizing the motor 65 and causing the chain to halt at the station 43 with the correct garments 72. The code elements 76 spaced along the conveyor means are each adapted to match up automatically with the code element of the user to assure accuracy.

The segregation means 77 of the invention, in this embodiment, comprises an upstanding enclosure 78 of pilfer-proof material, such as a wire cage having a top edge 79 with a hanger slot 81, a closed rear wall 82, closed bottom and side walls 83 and 84 and an open outer edge 85 for transfer of garments. Enclosure 78 is normally poised out of the path of garments 72 and movably mounted on an endless conveyor 86 driven by a reversible electric motor 87, the enclosure being held
3,840,103
down by bar 88 and held against rearward or sidewise movement by lug 89 and the rims of the conveyor belt sheaves 91. Upon arrival of the correct garments at station 43, the match of code element 76 and code element 92 of the user causes the automatic control means 93 to energize motor 87 to project the wire cage-like enclosure 78 to straddle and enclose the garments 72 and isolate them from nearby garments, while blocking access to such garments and to the storage area 30.

A limit switch 94 is closed by the sealing engagement of the outer edge 85 of enclosure 78 with the inside face 95 of wall 31, around opening 52, to signal the automatic control means 93 to release lock 96 of door 47 and enable the user to open the door and remove the garments 72 from the conveyor and from within enclosure 78. The door 47 and opening 52 constitute the separation means 97 of the invention, the door 47 sealing the opening when closed, and the enclosure 78 limiting further access when the door is open.

As shown in FIG. 1, the chain 54 and track 56 include a U-shaped turn at station 43 to form openings 98 and 99, each on an opposite side of garments 72 selected for retrieval, thereby enabling the outer vertical edges of enclosure 78 to easily straddle garments 72 for isolation.

In the embodiment shown at transfer station 42 and in FIG. 4, the rigid links 57 are used and each link supports a wire cage-like enclosure 101, similar to enclosure 78 but movable with the conveyor rather than movably mounted at the transfer station. Each enclosure 101 contains a rod 102 for the hangers 73 of garments 72 and, if the device is to be used for checking, articles such as hats, shoes or packages may be placed in the lower compartments 103. Upon halting at the transfer station 42, by reason of a user actuating the control means 93 by suitable code means 67, the control means then energizes reversible electric motor 104 which causes a pair of upstanding, movable, arcuate partitions, or barriers, 105 and 106, which are normally poised out of the path of the enclosures 101, to rotate in horizontal planes on vertical axes to isolate the enclosure at station 42. The barriers 105 and 106 may be of wire mesh, sheet metal or any other suitable pillow-proof material and jointly form a compartment 107 which is provided with a top 108 and bottom 109 to block access to the area 30. A curved rear wall 111 prevents the enclosure 101 from being moved inwardly and the enclosure is open at its outer edge 112 for retrieval or reception of garments. Enclosures 101 barriers 105 and 106 and rear wall 111 thus constitute the segregation means 77 of this embodiment, while the opening 51, door 46 and lock 110 from the separation means 97 thereof, both being controlled by the code means 67 and control means 93, as explained above.

In the embodiment shown at station 41 and in FIGS. 2 and 3, the enclosures 101 are similar to those shown in FIG. 4, but each enclosure 101 is provided with a skeletonized tubular frame 113 and a wire cage insert 114, also having a skeletonized tubular frame 115, is sleeved, or telescoped, to move outwardly on rollers 116 for about eight to fifteen inches for the amount of projection possible while carrying garments 72 on a rod 117. Each enclosure includes side walls such as 118, but is open at the bottom 119 and at the outer edge 121 and each insert is closed at the bottom 122 and open at the outer edge 123, both enclosure and insert being formed of wire mesh of considerable strength. The movable insert 114 of the segregation means thus forms a transfer means which bodily transfers the sets of garments hanger supported therein, away from the conveyor means and into the compartment 124 of the separation means.

A stationary compartment 124, having upstanding side walls 125 and 126, a slot-like inner opening 127 for slidably receiving an insert at the transfer station and a sealed closure, or door, 45 having a lock 128, is provided in this embodiment. To enable the mechanical action of unlocking and opening the door 45 to pull the insert 114 into the compartment 124, a cam face 129 is located at the station 41 and a hook element 131 is pivoted at 132 to the door with its hook 133 riding on the cam face. Thus the insert 114 is normally within its enclosure and the hook 133 is normally out of the path of the enclosures, as is the compartment 124.

When the code means 67 and the control means 93, by reason of the insertion of a particular code element 76 in receptor 68, cause the conveyor to halt the correct garments 72 at the transfer station 41, the door 45 may then be unsealed, unlocked and opened. To prevent access to adjacent garments in adjacent enclosures and to block access to the storage area 30, the opening of the door causes the hook 133 to ride up the cam face 129 and engage in the mesh of the bottom 122 of the insert 114. Further opening of door 45 pulls the insert into the slot 127 and into compartment 124 where the garments can be reached for removal, or can be deposited for storage or checking. The rear wall 134 prevents rearward rocking of the enclosures and the sidewise movement thereof is prevented by the side walls 125 and 126. When the door 45 is closed, the hook 133 retract the insert, by pushing, into the enclosure and then falls out of the path of the enclosures, as shown in dotted lines.

In the installation shown in FIG. 1, the dry-cleaned articles are removed from the cleaning apparatus 136 on the clean side, carried by conveyors 137 to the area 30 and then placed on the rack loading keys 138, placement thereon being in accordance with a pre-arranged system or code capable of being matched by the code element of the user. The doors 45, 46 or 47 are preferably of clear plastic with piano type hinges, rubber gaskets, safety handles and spring retracted, a light being extinguished as the door closes in a well known manner.

In FIG. 6, a circuit diagram is shown to illustrate one system by which the apparatus and method of this invention may be accomplished, it being apparent that the actual system may be in accordance with any one of the patents listed above and incorporated by reference herein.

A commercially available “Securiti-Card” Data System, made by Card Key Systems Division of Liquidonics Company of Chatsworth, California, has been used as the basis for the automatic control means 93 and code means 67, for illustration purposes, it being understood that any other suitable system for accomplishing the coding and control would be equally satisfactory.

As shown, the code means 67 includes a magnetic card key 92, issued to the user, customer, hospital employee, etc., card 92 being a “Securiti-Card” or its equivalent, and having one end 141 coded magnetically during manufacture to be read by the readers, or receptors, 68, 69 or 71 when inserted therein to actuate the
access, or door, unlocking mechanisms 96, 110 or 128. The other end 142 of each card 92 is coded magnetically during manufacture to provide a distinctive code number, or pattern, for each user, these distinctive code numbers being repeated on each set of garments on the conveyors, as at 76. Thus the insertion of the portion 142 of the coded card 92, in a reader 68, 69 or 71, causes the electric circuit 66 to the appropriate conveyor motor 65 to move the conveyed garments past the appropriate transfer station 41, 42 or 43 until the comparator circuit 143, shown diagrammatically at that station, senses that the coded numeral 76 of the card holder has arrived at the station and thereupon halts the conveyor at that station. Circuit 143 may be similar to that described in the above mentioned Simjian patent. At the stations where there is a power actuated segregation means, such as the conveyor 86 for enclosure 78 at station 43 and the barriers 105 and 106 at station 42, the respective motors 87 and 104 are energized by suitable circuitry prior to the unlocking of the door locks 110 and 96 respectively and any limit switches, such as 94, are similarly actuated in the desired sequence.

As each magnetic key card 92 is inserted in any reader 68, 69 or 71, the multiplexer 145 scans all readers, locates the active reader and a signal is transmitted to halt the multiplexer 145. The multiplexer 145, data converter 146, data controller 147 and access controller 148 all cooperate in requesting and accepting the data from the reader on portions 141 and 142 of the cards 92, causing the controller to generate valid signals in response to a valid card. The valid signals generated first actuate the circuit 66 to move the conveyor, then actuate the comparator circuit 143 to assure that there is a match at the dispensing station between the code of the user and the code on the garments, and then either the access controller actuates the door lock 128, if the segregation means is moved mechanically, as in FIGS. 2 and 3, or first closes the circuit to the enclosure motors 104 or 87 and then to the door locks 110 or 96, if the segregation means is power moved, as in FIGS. 4 and 5.

The access control units remain actuated as long as the card is held in the reader, but the multiplexer is released within one-half second to cycle the next reader waiting to be read. The printer 149 records the date, the time from clock 151, card code number and other information, and the void control 152 and automatic voiding system 153 denies access at the reader location while closing a suitable alarm circuit to the void alarms 154, 155 and 156.

When the system is actuated by the combined coin receptor-card dispenser for checking, a coin deposited in coin receptor 161, activates the system 67, through controller 148 to energize the conveyor motor 65 to move the conveyor to a station, actuate the segregation means 77, then open the door at the station so that garments may be placed on the conveyor. Upon closing the door it is locked and the card dispenser 162 dispenses a card 92 to the user. Upon re-insertion of the card 92 in card dispenser 162, the controller 148 retrieves the garments, actuates segregation means 77 and opens the door to permit removal of the garments. When the door snaps shut, the system is reset for the next user.

While not illustrated, it will be understood that the separation means may comprise a relatively wide shallow compartment 124 with an outer door 45, which may be a sliding door. The segregation means 77, in this case, may comprise transfer means in the form of an automatic, powered arm, or linkage, arranged at the transfer station to grip a set of garment hangers halted at the station, bodily transport the same over into the compartment 124, whereupon an inner door closes to isolate the compartment, the inner door corresponding in function to the rear walls 82, 111 and 134 of the other embodiments to prevent pilferage. The arm, or linkage and the transfer station may be located between two conveyors to serve both through the same dispensing opening.

1. Apparatus for automatically dispensing, or receiving, articles, said apparatus comprising:

a. a plurality of article storage area enclosed by a wall having an article transfer opening therein;

b. conveyor means, within said area for conveying a plurality of individual, distinctive articles successively along a path including an article transfer station at said opening;

c. segregation means including a pilfer-proof enclosure at said article transfer station having side walls, top and bottom encompassing said article transfer opening during transfer;

d. separation means including a normally locked door covering said article transfer opening and including rear wall means covering the inner portion of said enclosure for isolating articles halted at said station and in said enclosure from adjacent articles on said conveyor to prevent pilferage thereof;

e. code means, including coded indicia on said conveyor means distinguishing each article from the other; and

f. automatic control means, operable from outside said wall at said closure, to selectively retrieve any one of said articles in accordance with said code means, move the same on said conveyor to a halt at said transfer station, actuate said segregation means and said separation means and then reset;

whereby articles may be deposited in, and retrieved from, said storage area automatically, by self-service, initiated by coded customer identification elements inserted in said automatic control means.

2. Apparatus as specified in claim 1 wherein:

a. said articles are hanger supported garments depending, at spaced intervals, from said conveyor means;

b. said conveyor means includes a U shaped turn opposite said transfer station to create openings on each side of the garments selected to be retrieved and halted at that station;

c. said segregation means is an upstanding enclosure normally poised out of the path of said garments but movable into said path to straddle, and enclose, the garments to be retrieved while blocking access to adjacent garments upon signal from said automatic control means.

3. Apparatus as specified in claim 2 wherein:

a. said enclosure is a wire cage having an access opening in its outer edge, and a slot in its upper edge for receiving said hangers, and said enclosure is supported on an endless conveyor, powered by a reversible electric motor.

4. Apparatus as specified in claim 1 wherein:
said articles are hanger supported garments, depending at spaced intervals from said conveyor means;

and said segregation means is an enclosure of pilfer-proof material normally poised out of the path of said garments at said station but movable into said path to enclose the garments halted at said station and block access to adjacent garments, upon signal from said control means.

5. Apparatus as specified in claim 1, wherein:
said articles are hanger supported garments;
said conveyor means includes a plurality of said enclosures depending at spaced intervals therefrom; each for containing at least one garment and each enclosure having a vertical outer edge opening for transfer of garments thereinto and therefrom;
and said segregation means includes a pair of movable bars each on an opposite side of said normally locked door at said transfer station, normally poised out of the path of said enclosures but movable into said path along each opposite side of the enclosure halted at said station to block access to the enclosures adjacent thereto.

6. Apparatus as specified in claim 1 wherein:
said conveyor means includes a U-shaped turn opposite said transfer station to create an opening on each opposite side of an article halted at said station;
and said segregation means includes a pair of movable bars each normally poised out of the path of said articles but movable into said openings to form said enclosure around said halted article, while said locked door is unlocked, to prevent access to adjacent articles on said conveyor means.

7. Apparatus as specified in claim 6 wherein:
said barriers are each an upwardly, arcuate partition mounted to rotate on a vertical axis in a horizontal plane and each powered by a reversible electric motor.

8. Apparatus as specified in claim 1 wherein:
said articles are hanger supported garments;
said conveyor means includes a plurality of wire cage-like said enclosures depending at spaced intervals therealong, each having a wire cage insert telescopably sleeved therein and adapted to support said hangers, and includes a relatively small diameter curve therein at said transfer station to spread apart the outer edges of the enclosures rounding said curve and,
said segregation means includes a dispensing compartment at said station for receiving and enclosing the outwardly projected portion of the wire cage insert at said station and actuation means, coupled to said door for enhancing said insert upon unlocking of said door.

9. Apparatus as specified in claim 8 wherein:
said actuation means comprises a cam face fixed at said station and hook pivotally connected to said door, said hook riding on said cam and lifting to engage the bottom of said insert to pull it outwardly with the opening of said door, then pushing said insert in the direction of retraction with the closing of said door and then dropping off said cam face to disengage from said insert and remain out of the path of said wire cage-like enclosures.

10. Apparatus as specified in claim 8 wherein:
said actuation means is coupled to said door by mechanical means, energized by the opening of said door, said mechanical means including ratchet and pawl mechanism for engaging each insert halted at said station and pulling it into said compartment, said insert being spring retracted back into its enclosure when said door is re-locked.

11. Apparatus as specified in claim 1 wherein:
said articles are garments supported front-to-back on conventional hangers by said conveyor means;
and said segregation means includes transfer means for bodily transporting the garments halted at said transfer station away from said conveyor means and into a stationary compartment constituting said pilfer-proof enclosure.

12. Apparatus as specified in claim 11 wherein:
the rear wall means of said enclosure is an inner door, automatically closed when said locked door is open.

13. Apparatus as specified in claim 1 wherein:
said conveyor means and said storage area contain cleaned garments as said articles;
said storage area is separated by said wall from a soiled garment cleaning area;
and said wall includes a second opening, proximate the opening of said separation means, for receiving soiled garments into said soiled garment cleaning area;
whereby cross infection is avoided but uses self-service in both depositing soiled garments and retrieving cleaned garments is achieved.

14. In a garment cleaning establishment of the type having an endless conveyor for advancing a plurality of hanger supported garments individually and successively along a closed path at spaced distances apart, the combination of:
a pilfer-proof wall extending along the outside of said path, said wall having a garment dispensing opening, at a garment transfer station on said path, and said opening being normally closed by a lockable door;
combined segregation and separation means at said transfer station, including a stationary compartment of pilfer-proof material extending around said garment dispensing opening to constitute a barrier isolating the garments therein from the remaining garments, and including transfer means for bodily transporting the garments halted at said transfer station away from said conveyor into said stationary compartment; and
automatic control means, actuated by a customer from outside said door and wall, at said station, and including code means, to selectively deliver the garments of the customer on said conveyor to said station, actuate said transfer means, and interpose said barrier, permit said lockable door to open for retrieval of said garments and open said barrier upon re-locking of said door.

15. The method of automatically retrieving garments from an endless conveyor in a closed storage area, from outside thereof, by means of a garment transfer member, a garment container member and a lockable door providing access to said garment container member, said method comprising the steps of:
arranging said garments on said conveyor in accordance with a code to respond to a coded signal im-
parted at said door and deliver the selected garments to a transfer station; upon arrival of the selected article at said station, moving only one of said members in one direction, relative to the other of said members, to block access to adjacent garments on said conveyor; then permitting said door to open, in further response to said signal, to enable removal of said garments from said container, through said opening, and upon closing of said door, permitting the same to lock and moving said one of said members relative to the other of said members in the opposite direction to make ready for the next retrieval signal.

16. In automatic self-service apparatus for receiving articles into, and dispensing articles from a storage area, said apparatus including an endless conveyor within said area for supporting said articles, means for advancing said articles on said conveyor to at least one article transfer station and halting a selected article at said station, and an opening to outside said area at said station, said opening having a closure, the combination of: separation means at said station, including mechanism associated with said closure for normally sealing said opening and locking said closure to prevent access to said area through said opening; segregation means, operable at said station, including a rectilinearly movable enclosure of pilfer-proof material adapted to isolate articles halted at said station from nearby articles on said conveyor and to prevent access into said area through said opening during transfer when said closure is unsealed and unlocked; and automatic control means for rectilinearly moving said enclosure to segregate articles halted at said station and then to unlock said closure to permit access to said segregated articles for removal from said conveyor.

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