US 20250265889A1

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2025/0265889 A1

INOKUCHI (43) Pub. Date: Aug. 21, 2025

(54) COMMODITY SALES SYSTEM, CONTROL METHOD FOR COMMODITY SALES SYSTEM, TICKET ISSUING DEVICE, AND LOCKER DEVICE

(71) Applicant: **GLORY LTD.**, Himeji-shi (JP)

(72) Inventor: **Tadashi INOKUCHI**, Himeji-shi (JP)

(73) Assignee: **GLORY LTD.**, Himeji-shi (JP)

(21) Appl. No.: **19/053,503**

(22) Filed: **Feb. 14, 2025**

(30) **Foreign Application Priority Data**

Feb. 16, 2024 (JP) 2024-022442

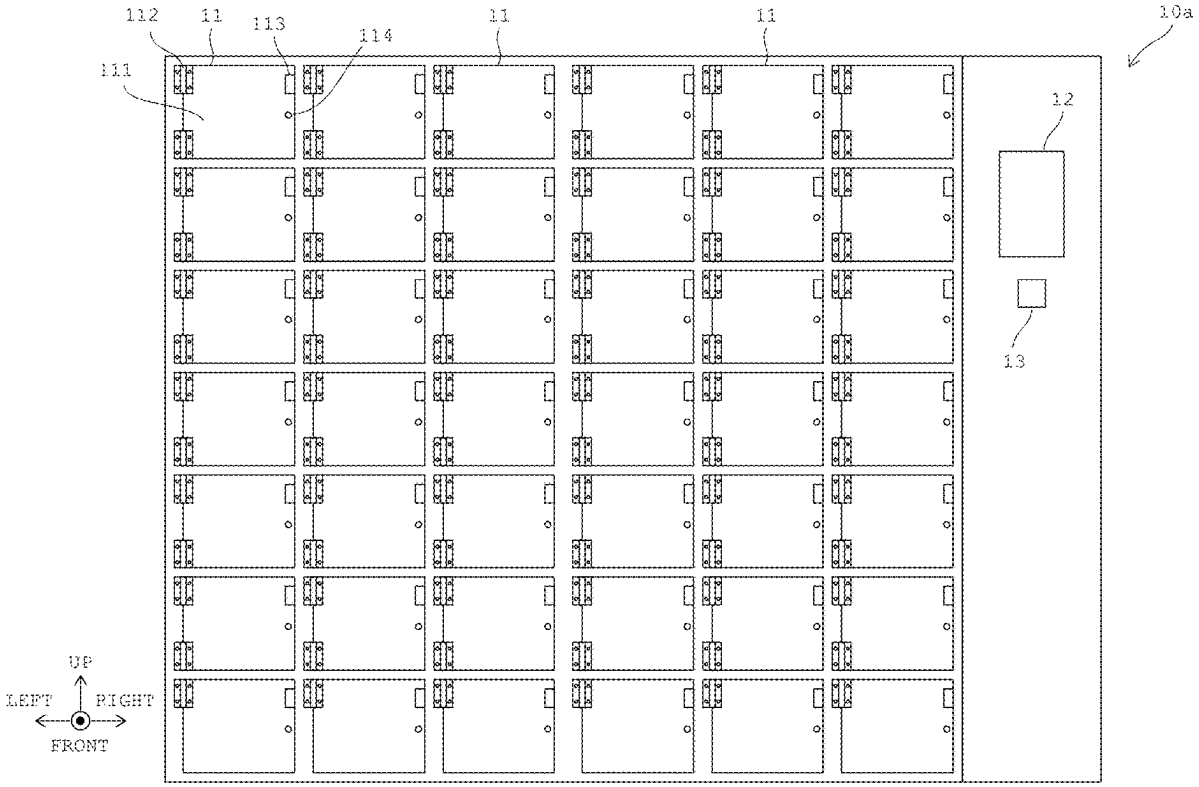
Publication Classification

(51) **Int. Cl.**
G07F 7/12 (2006.01)

(52) **U.S. Cl.**
CPC ***G07F 7/12*** (2013.01)

(57) **ABSTRACT**

A commodity sales system includes a locker device, a ticket issuing device, and a controller. The ticket issuing device includes a ticket issuer and an interface configured to accept an input from a user. The locker device includes a locking unit provided for each locker box, and a reader configured to read information. The controller accepts designation of a commodity to be purchased, via the interface, causes the ticket issuer to issue a purchase ticket holding unlocking information for unlocking the locker box in which the designated commodity is stored, in a form that can be read by the reader, and unlocks the locker box based on the unlocking information read from the purchase ticket by the reader.



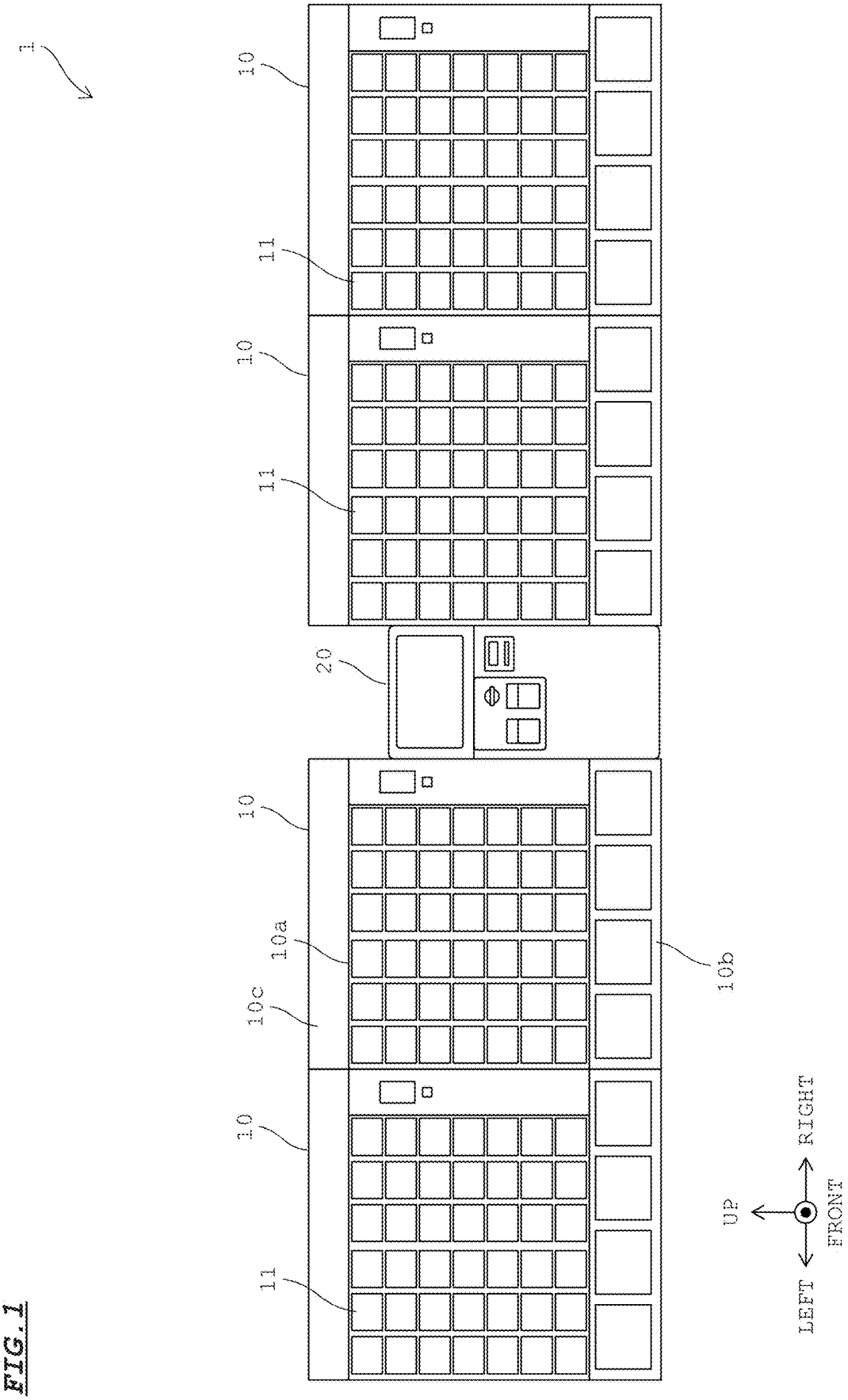


FIG. 1

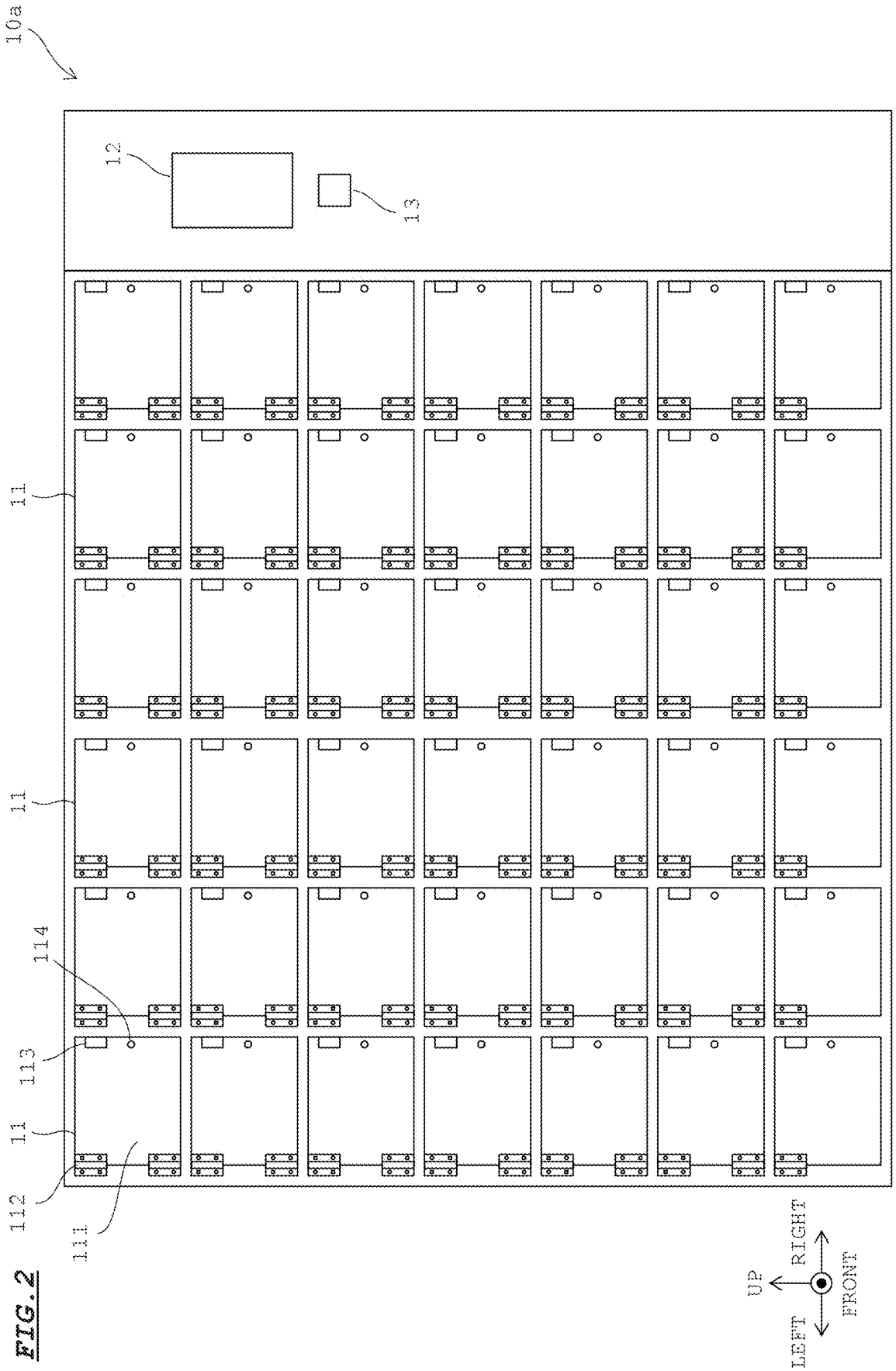


FIG.2

FIG. 3B

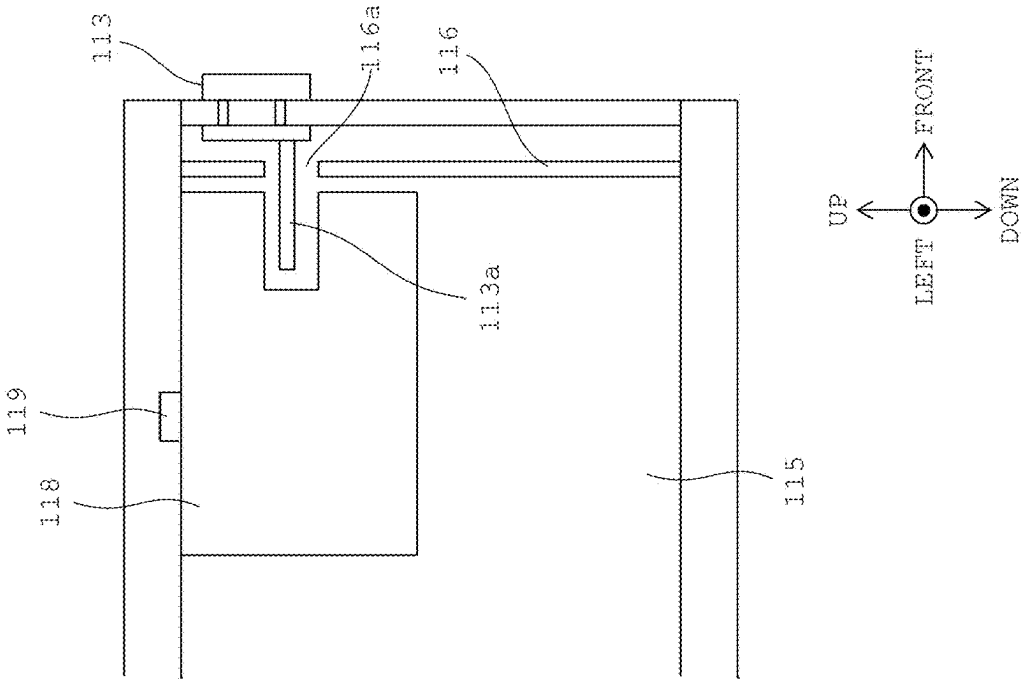
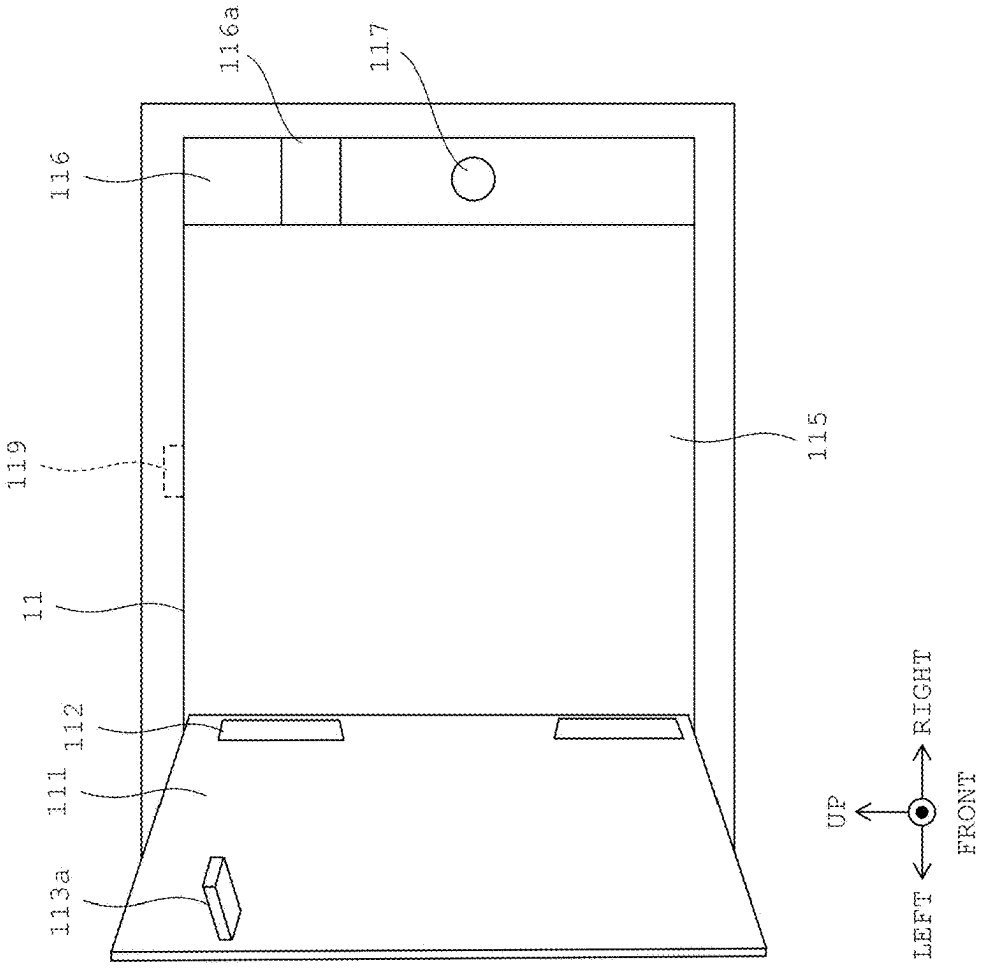
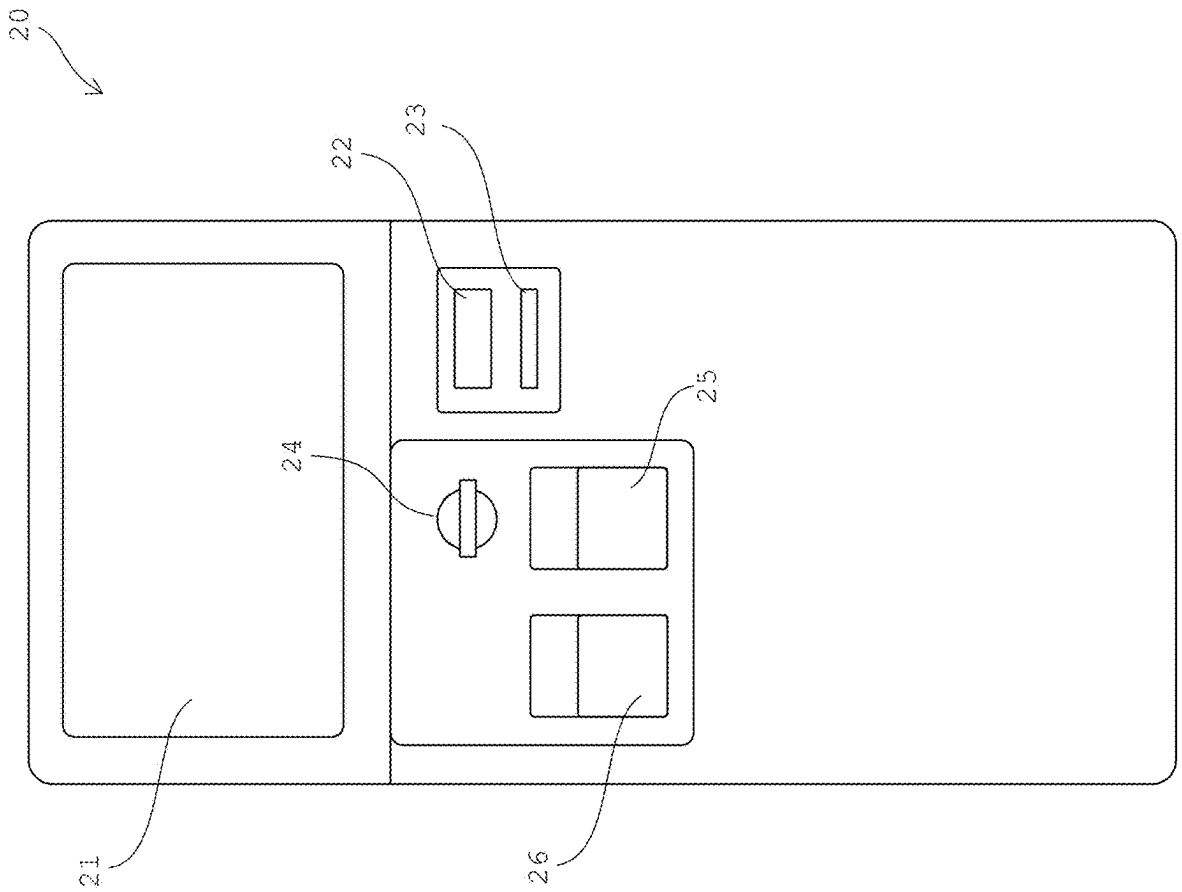

113
116a
116
113a
119
118
115
UP
FRONT
LEFT
DOWN

FIG. 3A


116a
117
116
119
115
11
112
111
113a
UP
RIGHT
FRONT
LEFT



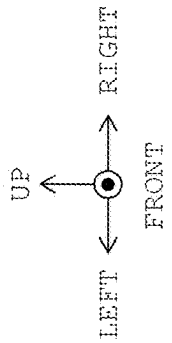


FIG. 4

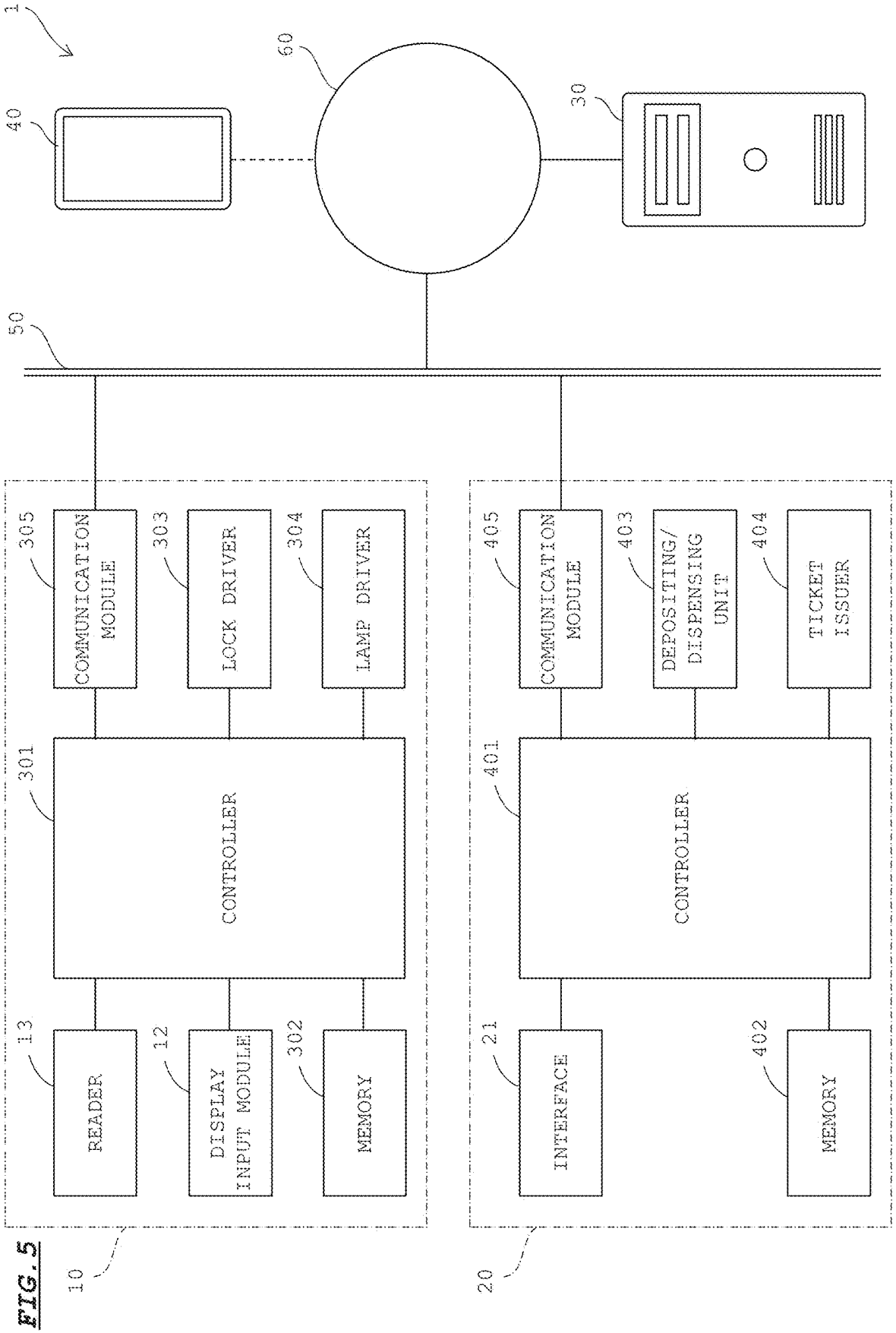

1
60
40
30
50
305
COMMUNICATION MODULE
303
LOCK DRIVER
304
LAMP DRIVER
301
CONTROLLER
13
READER
12
DISPLAY INPUT MODULE
302
MEMORY
10
405
COMMUNICATION MODULE
403
DEPOSITING/ DISPENSING UNIT
404
TICKET ISSUER
401
CONTROLLER
21
INTERFACE
402
MEMORY
20

FIG. 5

FIG. 6A LOCKER MANAGEMENT INFORMATION

LOCKER ID	AREA
ID1	AREA A
ID2	AREA B
ID3	AREA C
ID4	AREA D

FIG. 6B COMMODITY MANAGEMENT INFORMATION

COMMODITY TYPE	PRICE
EGG-XL	P1
EGG-L	P2
EGG-M	P3
EGG-S	P4

FIG. 6C BOX MANAGEMENT INFORMATION

BOX NUMBER	AREA	COMMODITY TYPE	STORAGE DATE AND TIME	TAKEOUT DATE AND TIME	SOLD
1	A	EGG-L	D11	-	NO
2	A	EGG-L	D11	D22	YES
⋮	⋮	⋮	⋮	⋮	⋮
42	A	EGG-L	D11	-	NO
43	B	EGG-M	D11	-	NO
⋮	⋮	⋮	⋮	⋮	⋮
84	B	EGG-M	D11	-	NO
85	C	EGG-XL	D12	-	NO
⋮	⋮	⋮	⋮	⋮	⋮

FIG. 7

BOX MANAGEMENT INFORMATION

BOX NUMBER	STORAGE DATE AND TIME	TAKEOUT DATE AND TIME	SOLD
1	D11	-	NO
2	D11	D22	YES
...	...	...	...
42	D11	-	NO

FIG. 8A

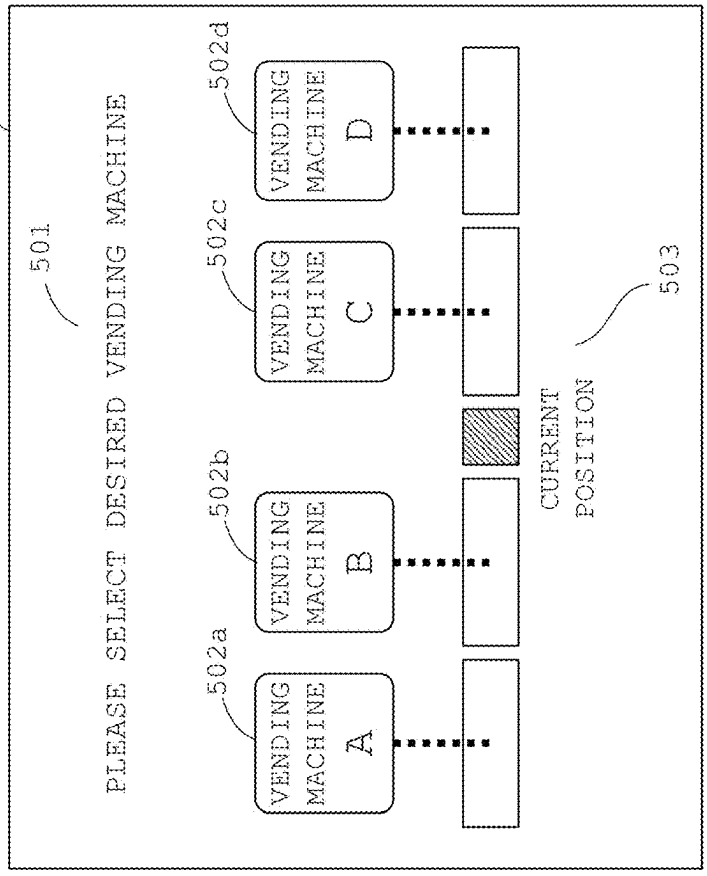

500
501
PLEASE SELECT DESIRED VENDING MACHINE
VENDING MACHINE A
VENDING MACHINE B
VENDING MACHINE C
VENDING MACHINE D
502a
502b
502c
502d
CURRENT POSITION
503

FIG. 8B

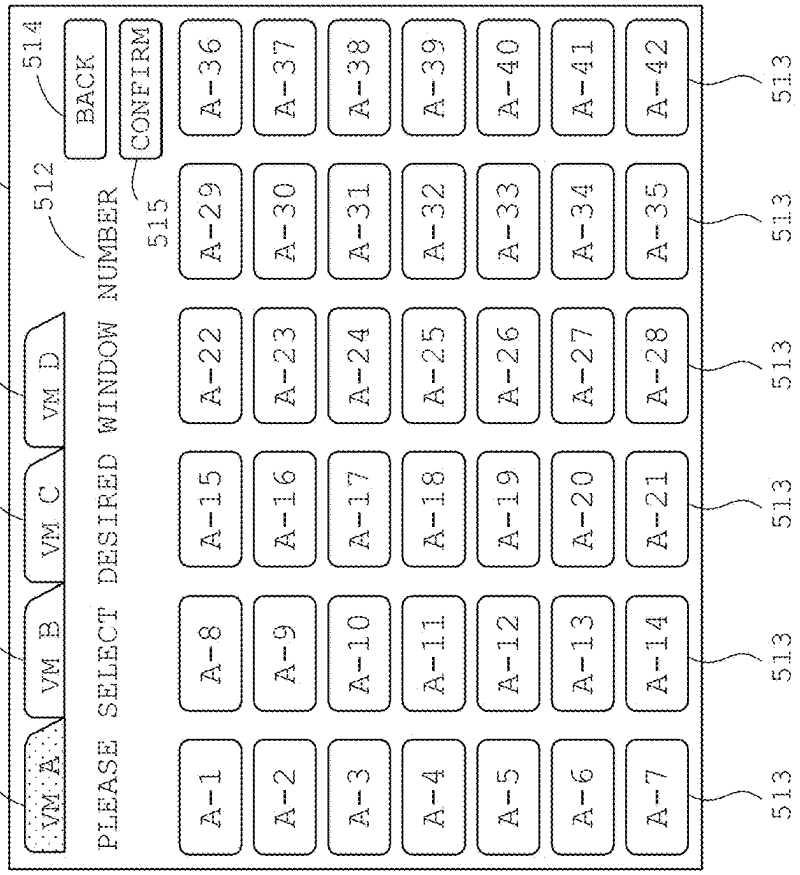

510
511a
511b
511c
511d
VM A
VM B
VM C
VM D
PLEASE SELECT DESIRED WINDOW NUMBER
512
514
BACK
CONFIRM
515
A-1
A-2
A-3
A-4
A-5
A-6
A-7
A-8
A-9
A-10
A-11
A-12
A-13
A-14
A-15
A-16
A-17
A-18
A-19
A-20
A-21
A-22
A-23
A-24
A-25
A-26
A-27
A-28
A-29
A-30
A-31
A-32
A-33
A-34
A-35
A-36
A-37
A-38
A-39
A-40
A-41
A-42
513

FIG. 9A

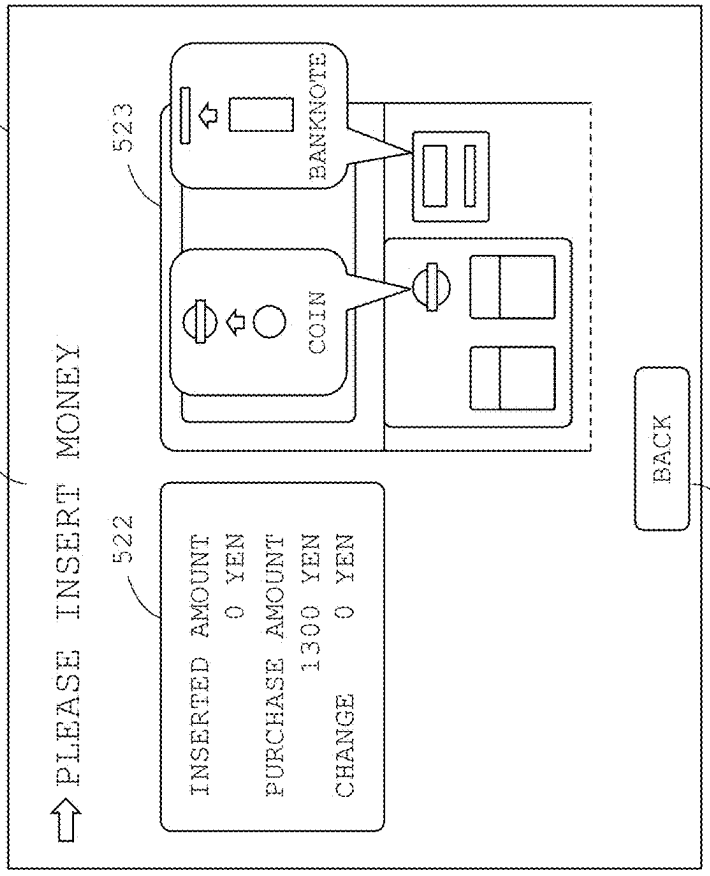
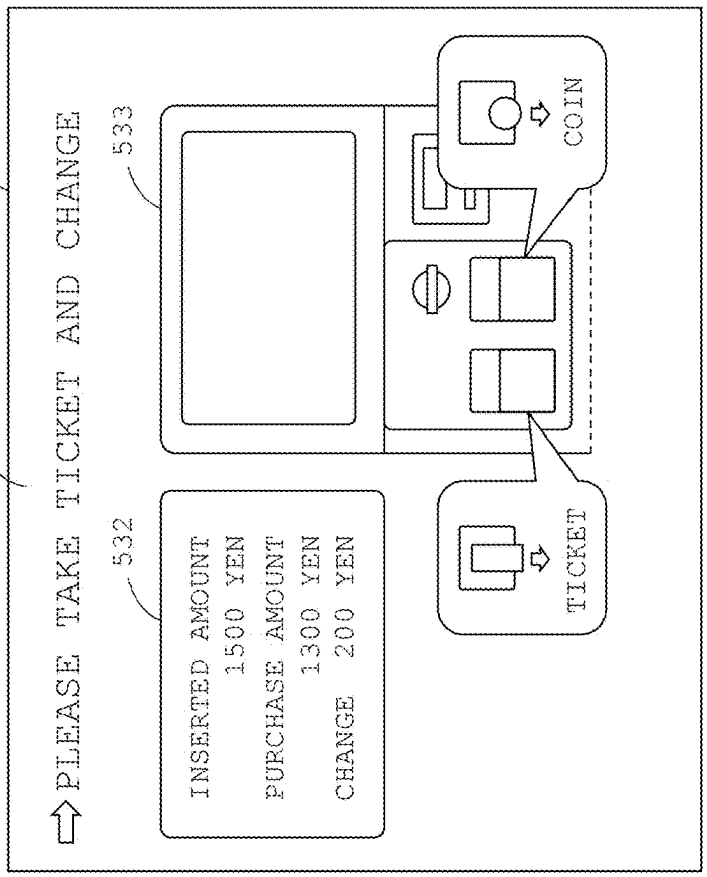

520
PLEASE INSERT MONEY
521
522
INSERTED AMOUNT
0 YEN
PURCHASE AMOUNT
1300 YEN
CHANGE
0 YEN
523
BANKNOTE
COIN
BACK
524

FIG. 9B


530
PLEASE TAKE TICKET AND CHANGE
531
532
INSERTED AMOUNT
1500 YEN
PURCHASE AMOUNT
1300 YEN
CHANGE 200 YEN
533
COIN
TICKET

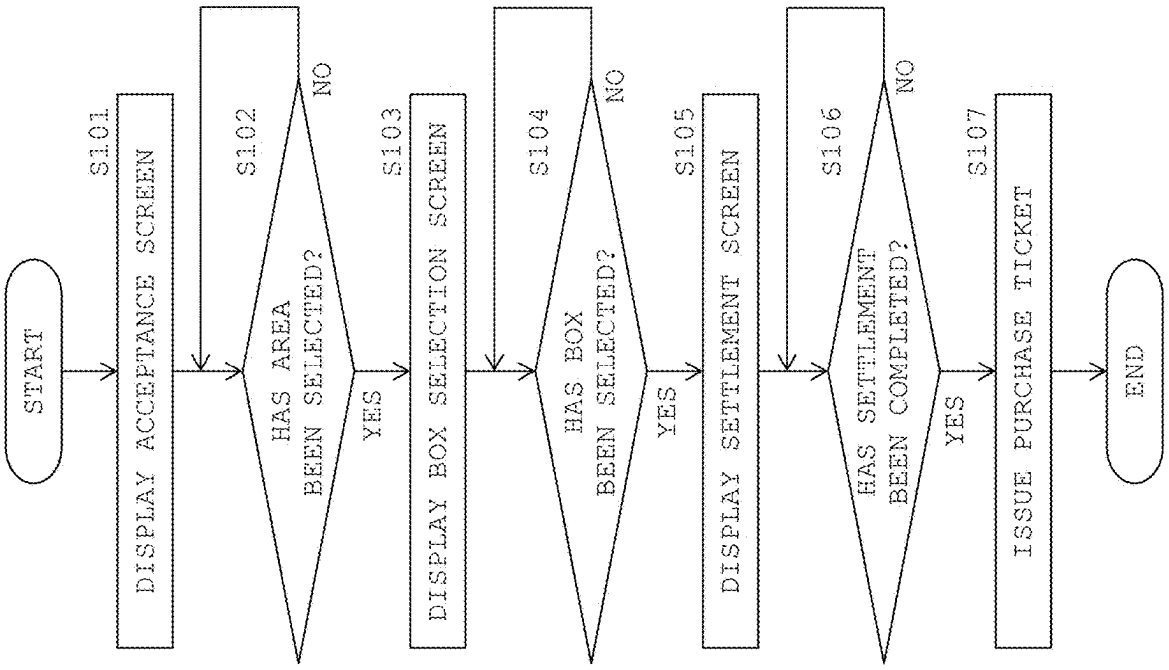

START
S101
DISPLAY ACCEPTANCE SCREEN
S102
HAS AREA BEEN SELECTED?
NO
YES
S103
DISPLAY BOX SELECTION SCREEN
S104
HAS BOX BEEN SELECTED?
NO
YES
S105
DISPLAY SETTLEMENT SCREEN
S106
HAS SETTLEMENT BEEN COMPLETED?
NO
YES
S107
ISSUE PURCHASE TICKET
END

FIG. 10

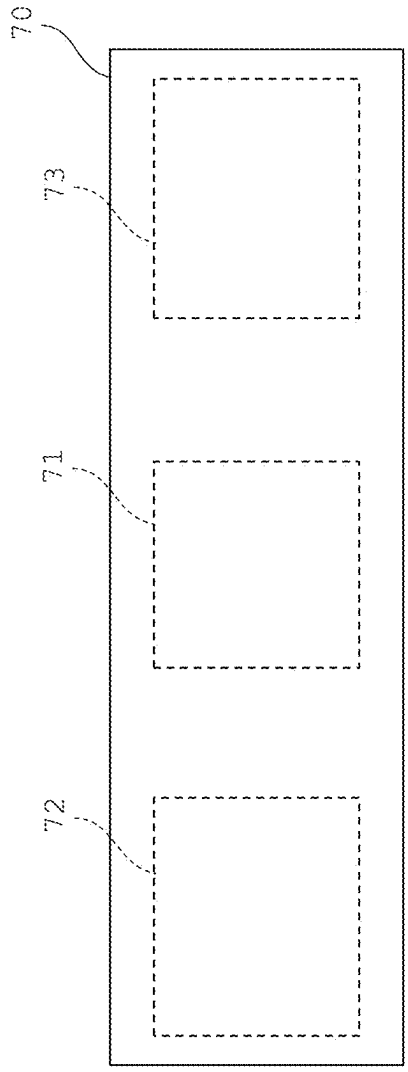


FIG. 11A

TICKET ISSUANCE DATE AND TIME	TICKET ISSUANCE NUMBER	TICKET ISSUING DEVICE ID	BOX NUMBER		STORE CODE
D01	N01	ID01	009		S01

FIG. 11B

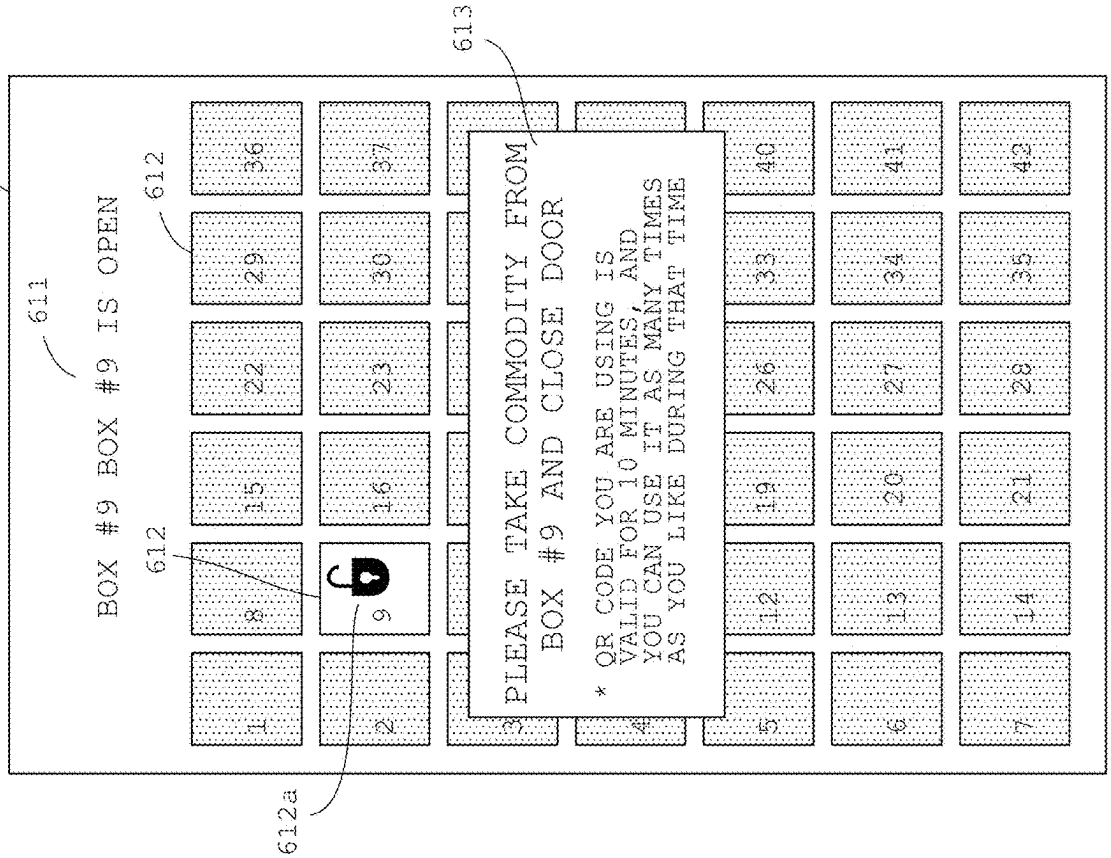


FIG.12B

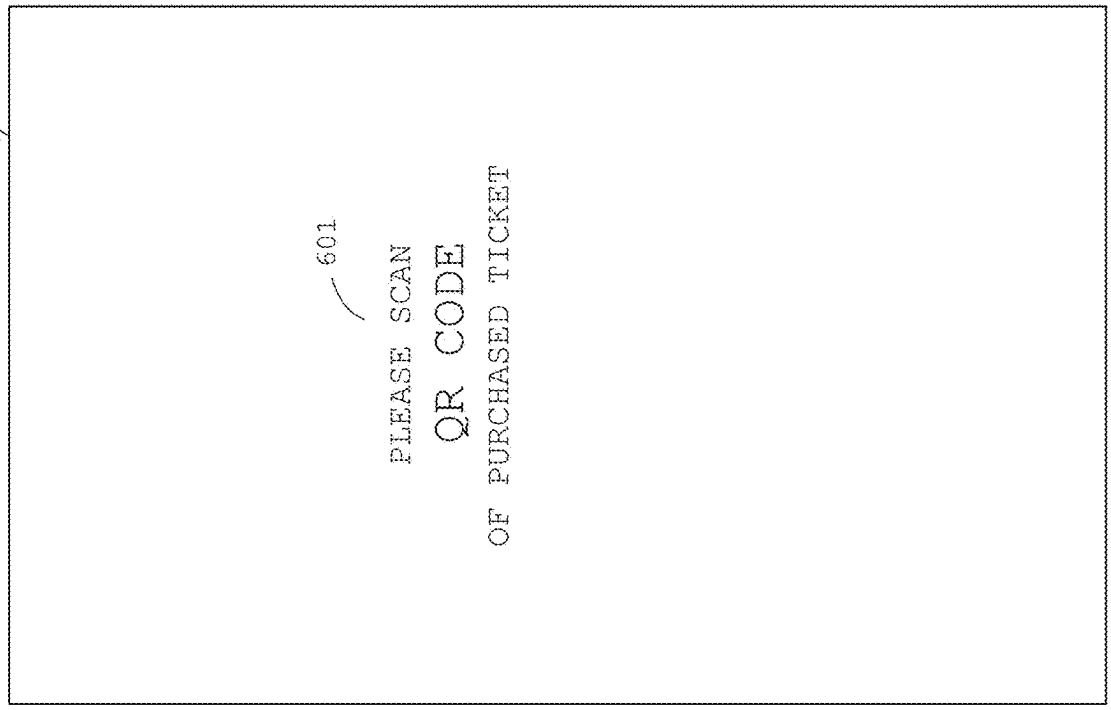


FIG.12A

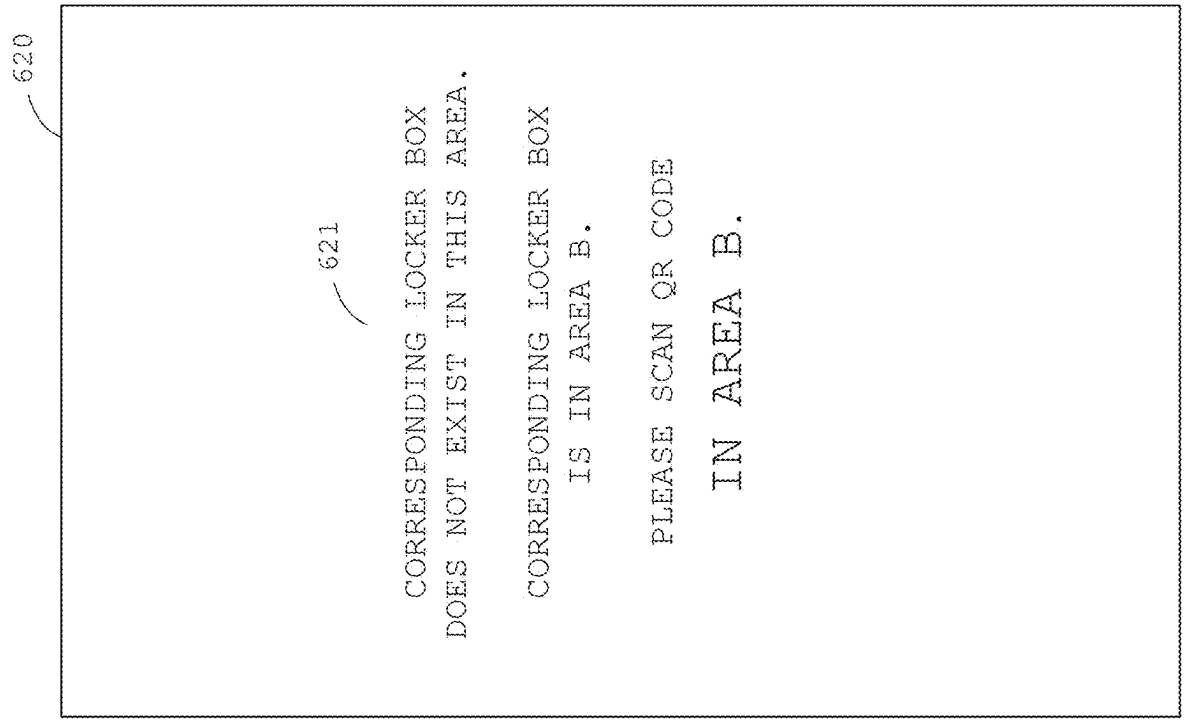

620
621
CORRESPONDING LOCKER BOX
DOES NOT EXIST IN THIS AREA.
CORRESPONDING LOCKER BOX
IS IN AREA B.
PLEASE SCAN QR CODE
IN AREA B.

FIG. 13

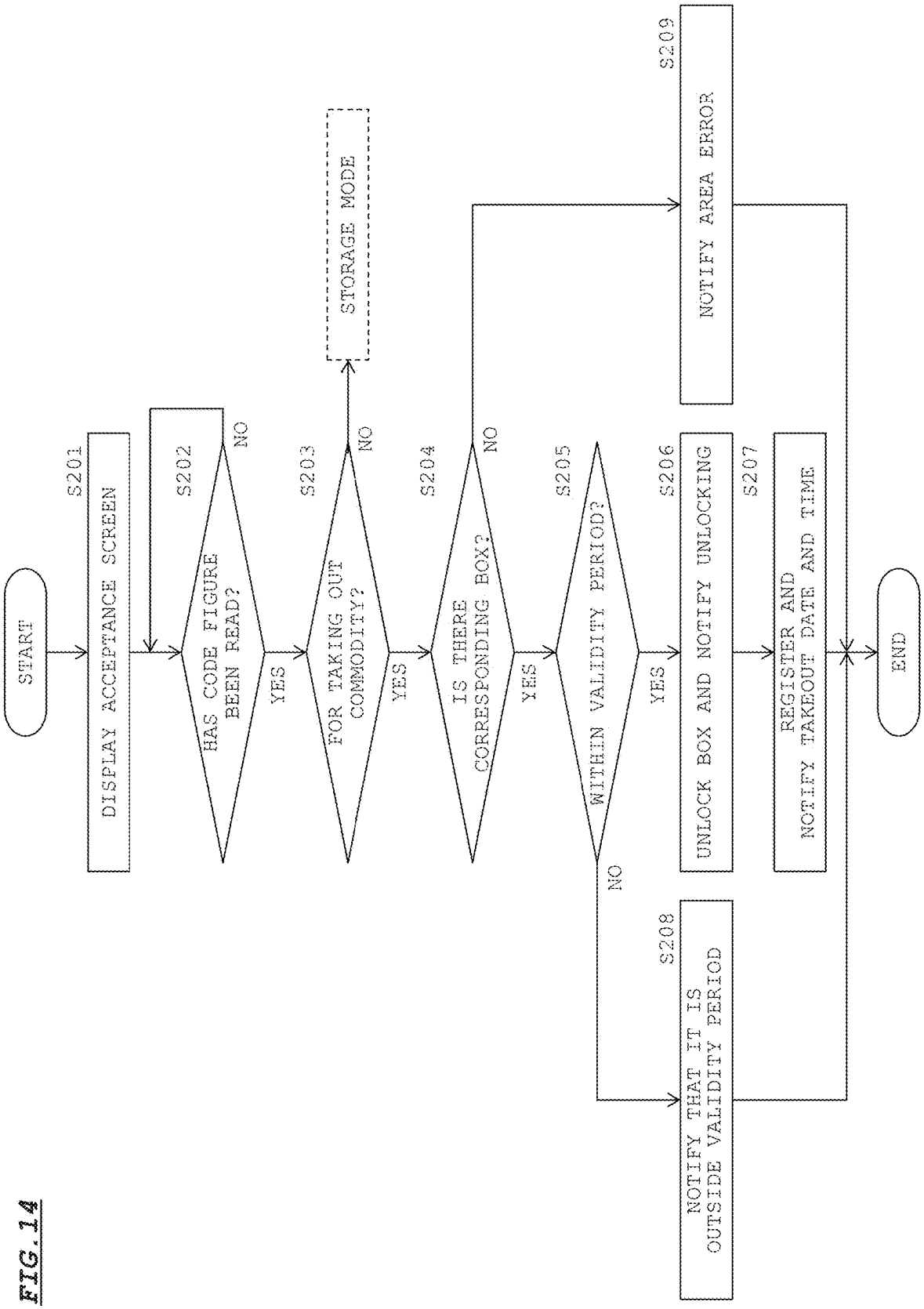

START
S201
DISPLAY ACCEPTANCE SCREEN
S202
HAS CODE FIGURE BEEN READ?
NO
YES
S203
FOR TAKING OUT COMMODITY?
NO
YES
STORAGE MODE
S204
IS THERE CORRESPONDING BOX?
NO
YES
S205
WITHIN VALIDITY PERIOD?
NO
YES
S206
UNLOCK BOX AND NOTIFY UNLOCKING
S207
REGISTER AND NOTIFY TAKEOUT DATE AND TIME
S208
NOTIFY THAT IT IS OUTSIDE VALIDITY PERIOD
S209
NOTIFY AREA ERROR
END

FIG. 14

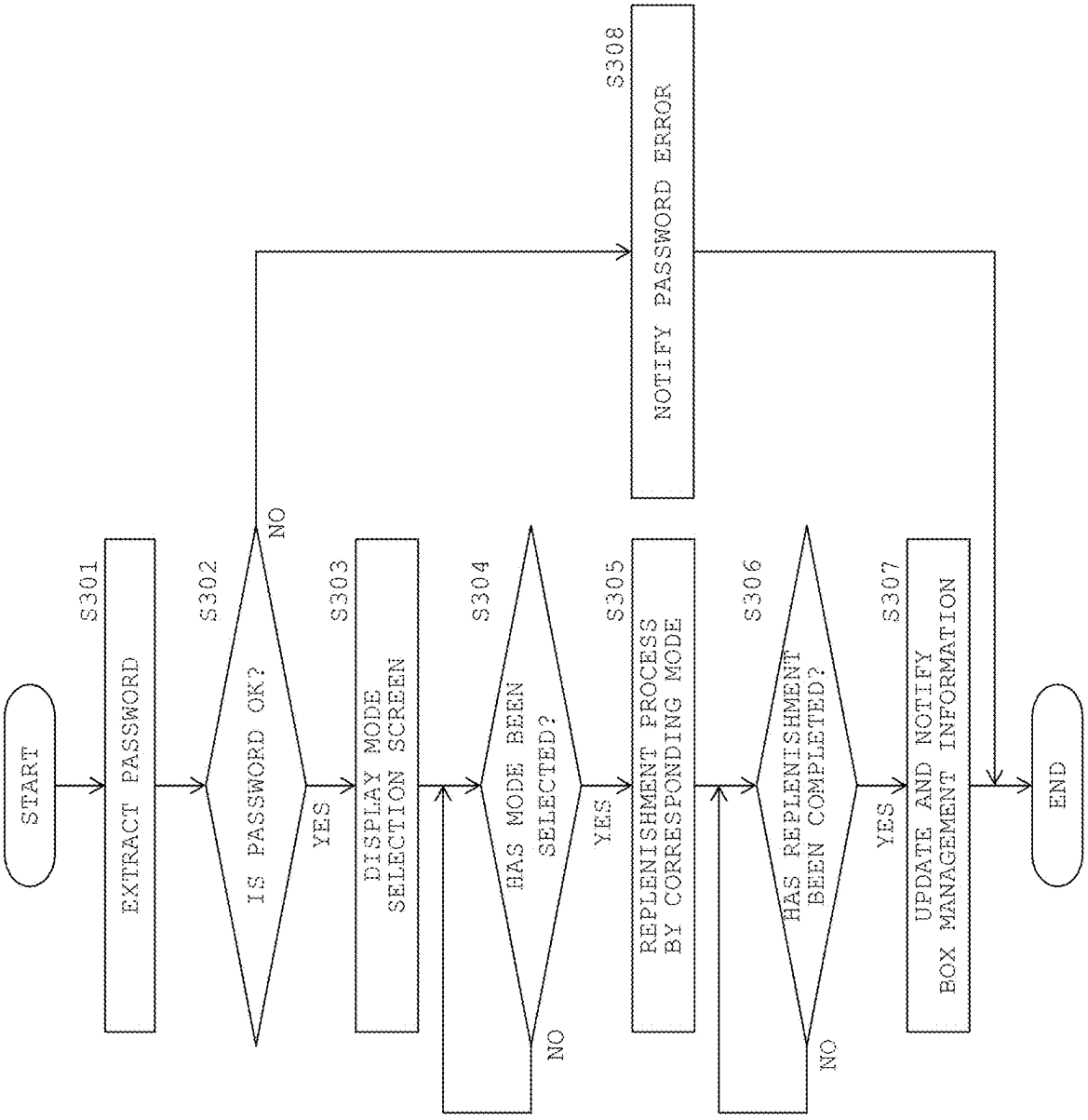

START
S301
EXTRACT PASSWORD
S302
IS PASSWORD OK?
NO
YES
S303
DISPLAY MODE SELECTION SCREEN
S304
HAS MODE BEEN SELECTED?
NO
YES
S305
REPLENISHMENT PROCESS BY CORRESPONDING MODE
S306
HAS REPLENISHMENT BEEN COMPLETED?
NO
YES
S307
UPDATE AND NOTIFY BOX MANAGEMENT INFORMATION
S308
NOTIFY PASSWORD ERROR
END

FIG. 15

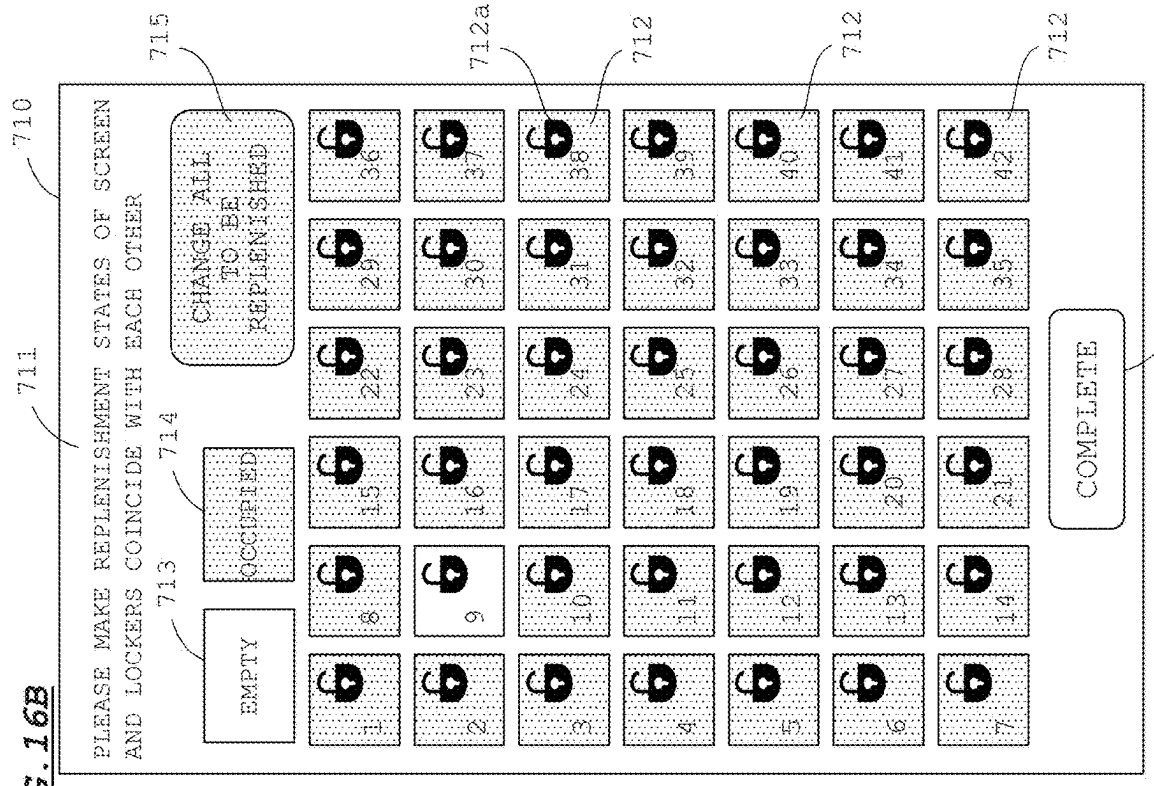


FIG. 16B

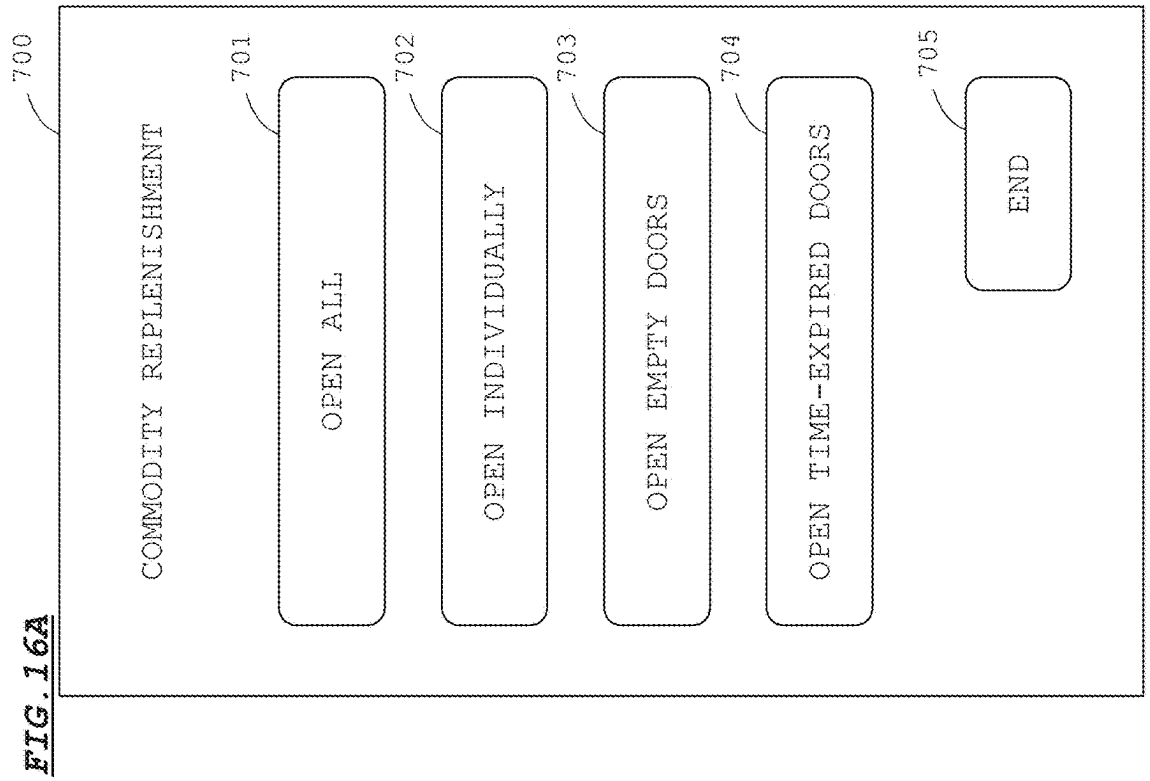


FIG. 16A

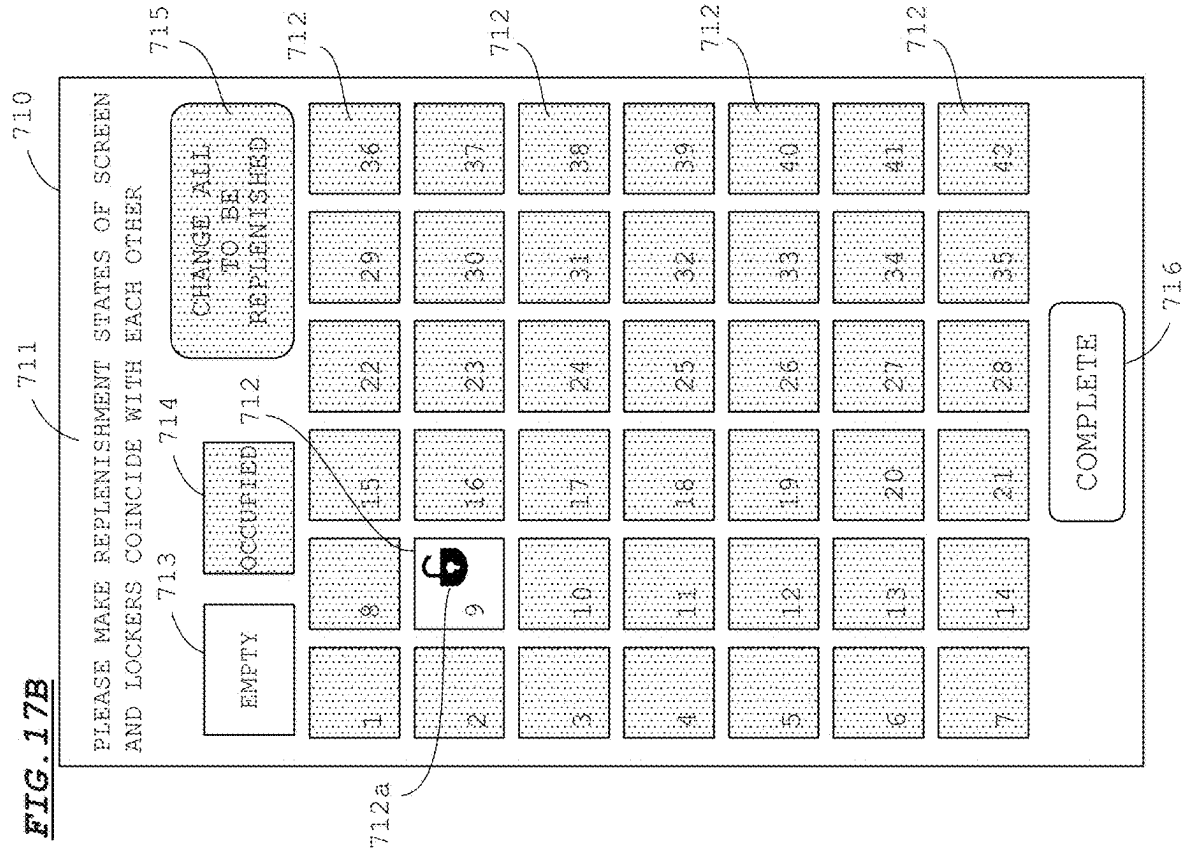


FIG. 17B

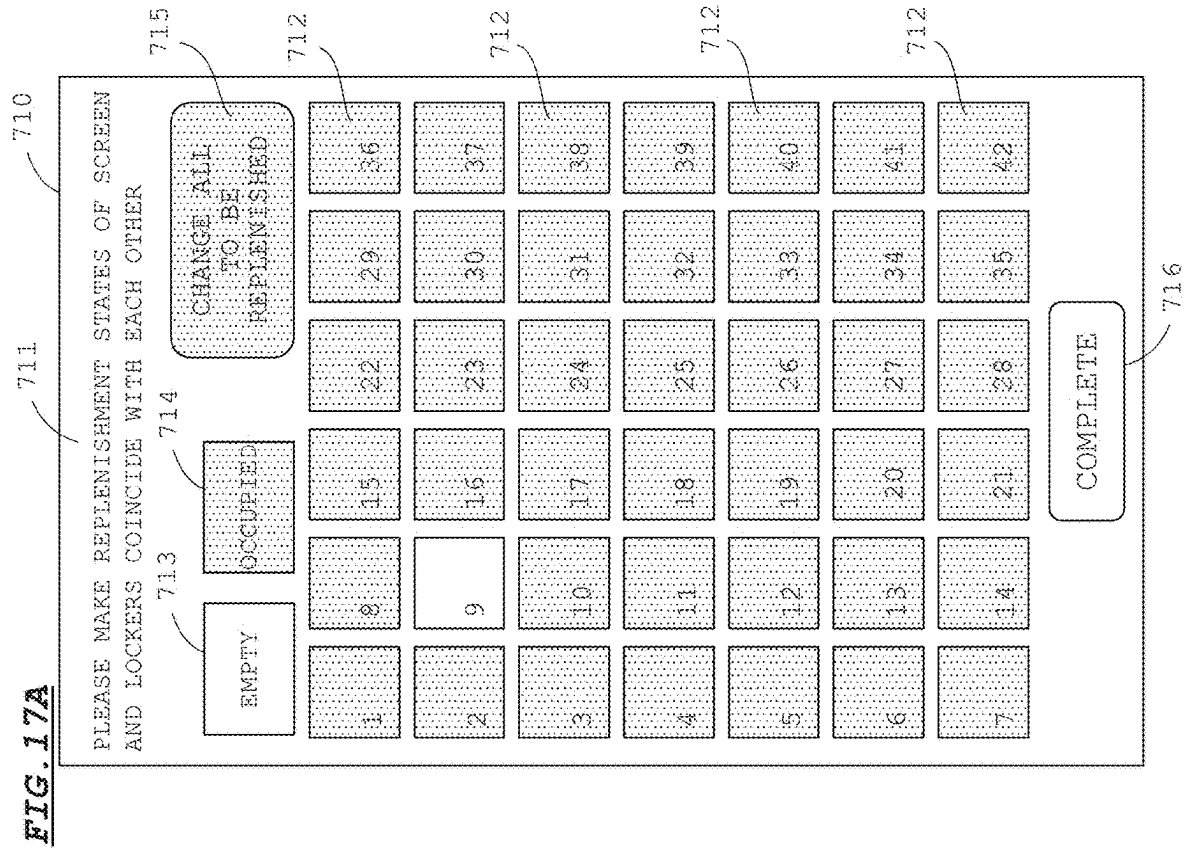


FIG. 17A

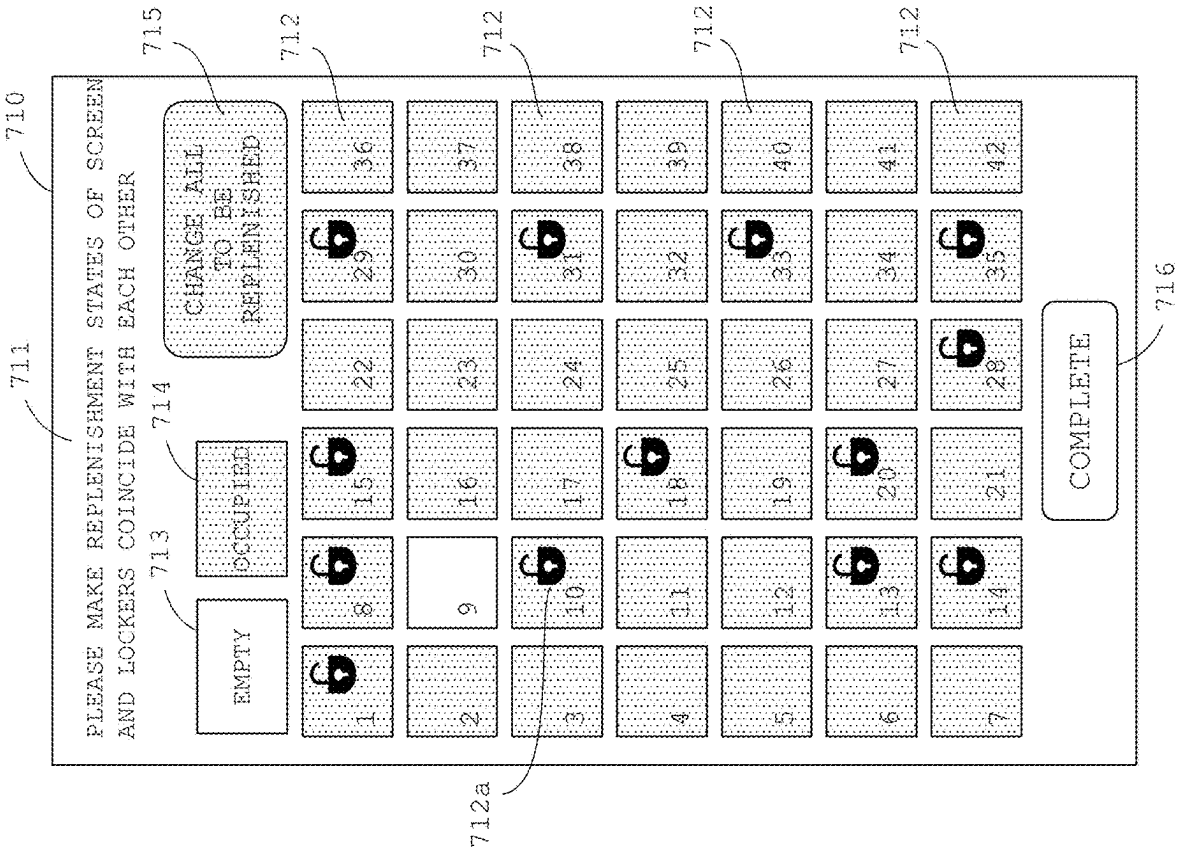

710
711
PLEASE MAKE REPLENISHMENT STATES OF SCREEN AND LOCKERS COINCIDE WITH EACH OTHER
713
EMPTY
714
OCCUPIED
715
CHANGE ALL TO BE REPLENISHED
712
712
712
712
712a
716
COMPLETE

FIG. 18

MODIFICATION

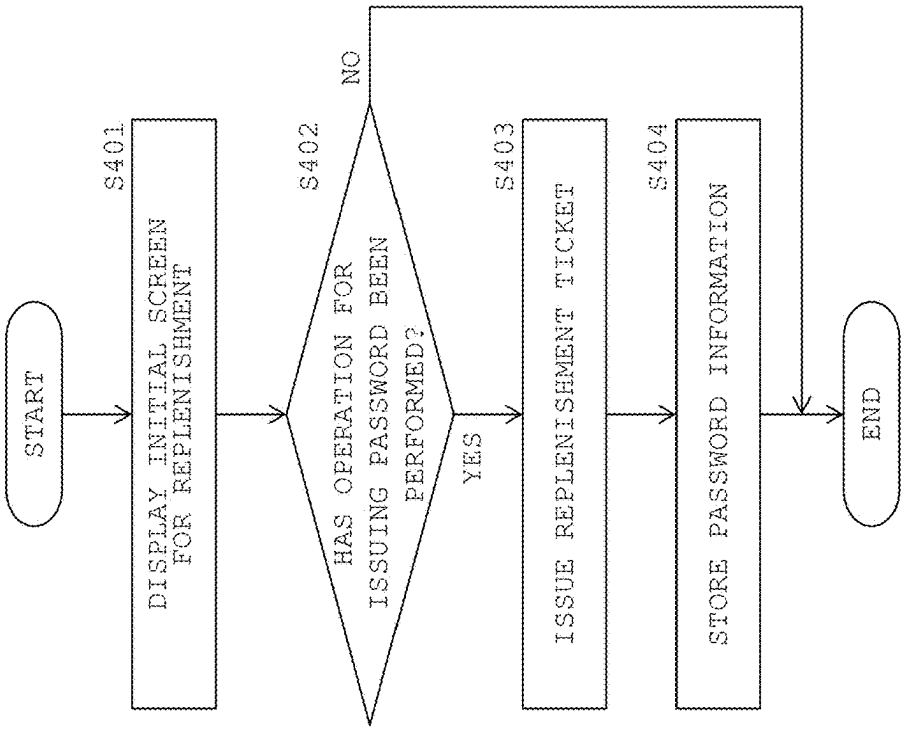


FIG. 19

COMMODITY SALES SYSTEM, CONTROL METHOD FOR COMMODITY SALES SYSTEM, TICKET ISSUING DEVICE, AND LOCKER DEVICE

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims priority under 35 U.S.C. Section 119 of Japanese Patent Application No. 2024-022442 filed Feb. 16, 2024, entitled "COMMODITY SALES SYSTEM, CONTROL METHOD FOR COMMODITY SALES SYSTEM, TICKET ISSUING DEVICE, AND LOCKER DEVICE". The disclosure of the above application is incorporated herein by reference.

BACKGROUND OF THE INVENTION

Field of the Invention

[0002] The present invention relates to a commodity sales system for selling a commodity using a locker device, a control method for the commodity sales system, a ticket issuing device, and a locker device.

Description of Related Art

[0003] To date, a non-face-to-face sales format can be used in stores. In this sales format, for example, a locker device in which commodities are stored in a plurality of locker boxes, respectively, can be used. Each locker box can be locked. When a user performs a payment process for a purchase price, the locker box is unlocked.

[0004] In the configuration described in Japanese Laid-Open Patent Publication No. 2018-163393, after the user deposits money, when the user selects a commodity to be purchased, the door of the locker box is set to be in an open state. Accordingly, the user can take out the commodity to be purchased from the locker box.

[0005] However, in the configuration described in Japanese Laid-Open Patent Publication No. 2018-163393, since the door is opened each time money is deposited and a commodity is selected, the user needs to take out the commodity each time. Such an operation is very troublesome when purchasing a plurality of commodities at once.

SUMMARY OF THE INVENTION

[0006] A first aspect of the present invention is directed to a commodity sales system. The commodity sales system according to this aspect includes: a locker device in which commodities are stored in a plurality of locker boxes, respectively; a ticket issuing device having a function of settling purchase prices of the commodities; and a controller. The ticket issuing device includes a ticket issuer, and an interface configured to accept an input from a user. The locker device includes a locking unit provided for each of the locker boxes, and a reader configured to read information. The controller accepts designation of a commodity to be purchased, via the interface, causes the ticket issuer to issue a purchase ticket holding unlocking information for unlocking the locker box in which the designated commodity is stored, in a form that can be read by the reader, and unlocks the locker box based on the unlocking information read from the purchase ticket by the reader.

[0007] With the commodity sales system according to this aspect, when purchasing a plurality of commodities at once, the user can acquire the purchase ticket for unlocking each of a plurality of locker boxes in which these commodities are stored, from the ticket issuing device, can unlock these locker boxes by causing the reader of the locker device to read the acquired purchase ticket, and can take out the commodities therefrom. Therefore, even when purchasing a plurality of commodities at once, the operation for purchasing the commodities can be smoothly and reliably performed.

[0008] A second aspect of the present invention is directed to a control method for a commodity sales system including a locker device in which commodities are stored in a plurality of locker boxes, respectively, and a ticket issuing device having a function of settling purchase prices of the commodities. The control method according to this aspect includes: accepting designation of a commodity to be purchased, via an interface; causing the ticket issuing device to issue a purchase ticket holding unlocking information for unlocking the locker box in which the designated commodity is stored, in a readable form; and unlocking the locker box based on the unlocking information read from the purchase ticket.

[0009] With the control method according to this aspect, the same effects as those of the above first aspect are achieved.

[0010] A third aspect of the present invention is directed to a ticket issuing device having a function of settling purchase prices of commodities stored in a plurality of locker boxes of a locker device, respectively. The ticket issuing device according to this aspect includes: a ticket issuer; an interface configured to accept an input from a user; and a controller. The controller accepts designation of a commodity to be purchased, via the interface, and causes the ticket issuer to issue a purchase ticket holding unlocking information for unlocking the locker box in which the designated commodity is stored, in a form that can be read by a reader of the locker device.

[0011] With the ticket issuing device according to this aspect, the same effects as those of the above first aspect are achieved.

[0012] A fourth aspect of the present invention is directed to a locker device constituting a commodity sales system together with a ticket issuing device configured to issue a purchase ticket holding unlocking information for unlocking a locker box in which a commodity to be purchased that is designated by a user via an interface is stored, in a readable form, in response to settlement of a purchase price of the commodity. The locker device according to this aspect includes: a plurality of locker boxes for storing commodities, respectively; a locking unit provided for each of the locker boxes; a reader configured to read information; and a controller configured to unlock the locker box based on the unlocking information read from the purchase ticket by the reader.

[0013] With the locker device according to this aspect, the same effects as those of the above first aspect are achieved.

[0014] The effects and the significance of the present invention will be further clarified by the description of the embodiment below. However, the embodiment below is merely an example for implementing the present invention. The present invention is not limited to the description of the embodiment below in any way.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015] FIG. **1** is a diagram showing a configuration of a commodity sales system according to an embodiment;

[0016] FIG. **2** is a front view showing a configuration of a main body of a locker device according to the embodiment;

[0017] FIG. **3**A is a front view showing a configuration of a locker box in a state where a door is opened, according to the embodiment;

[0018] FIG. **3**B is a see-through view schematically showing a configuration when the locker box in a state where the door is closed is seen through from the left side;

[0019] FIG. **4** is a front view showing a configuration of a ticket issuing device according to the embodiment;

[0020] FIG. **5** is a diagram showing configurations of circuitries of the locker device and the ticket issuing device according to the embodiment;

[0021] FIG. **6**A to FIG. **6**C are diagrams respectively showing configurations of various kinds of management information stored in a memory of the ticket issuing device according to the embodiment;

[0022] FIG. **7** is a diagram showing a configuration of box management information stored in a memory of the locker device according to the embodiment;

[0023] FIG. **8**A and FIG. **8**B are diagrams respectively showing configurations of an acceptance screen and a box selection screen displayed on an interface of the ticket issuing device when a commodity is to be purchased, according to the embodiment;

[0024] FIG. **9**A and FIG. **9**B are diagrams respectively showing configurations of a settlement screen and a settlement completion screen according to the embodiment;

[0025] FIG. **10** is a flowchart showing processing of the ticket issuing device when a commodity is to be purchased, according to the embodiment;

[0026] FIG. **11**A is a diagram showing a configuration of a purchase ticket according to the embodiment;

[0027] FIG. **11**B is a diagram showing a configuration of unlocking information held in a code figure on the purchase ticket according to the embodiment;

[0028] FIG. **12**A and FIG. **12**B are diagrams respectively showing configurations of an acceptance screen and an unlocking notification screen displayed on a display input module of the locker device when a commodity is to be taken out, according to the embodiment;

[0029] FIG. **13** is a diagram showing a configuration of an error notification screen displayed on the display input module of the locker device when a commodity is to be taken out, according to the embodiment;

[0030] FIG. **14** is a flowchart showing processing of the locker device when a commodity is to be taken out, according to the embodiment;

[0031] FIG. **15** is a flowchart showing processing performed by the locker device when the locker box is to be replenished with a commodity, according to the embodiment;

[0032] FIG. **16**A is a diagram showing a configuration of a mode selection screen displayed on the display input module of the locker device when the locker box is to be replenished with a commodity, according to the embodiment;

[0033] FIG. **16**B is a diagram showing a replenishment acceptance screen displayed when a full open mode is selected on the mode selection screen, according to the embodiment;

[0034] FIG. **17**A is a diagram showing a configuration of the replenishment acceptance screen displayed when an individual open mode is selected on the mode selection screen, according to the embodiment;

[0035] FIG. **17**B is a diagram showing a configuration of the replenishment acceptance screen displayed when an empty open mode is selected on the mode selection screen, according to the embodiment;

[0036] FIG. **18** is a diagram showing a configuration of the replenishment acceptance screen displayed when a time-expired open mode is selected on the mode selection screen, according to the embodiment; and

[0037] FIG. **19** is a flowchart showing processing of issuing a password for commodity replenishment according to a modification.

DETAILED DESCRIPTION

[0038] Hereinafter, an embodiment of the present invention will be described with reference to the drawings.

[0039] FIG. **1** is a front view showing a configuration of a commodity sales system **1**.

[0040] The commodity sales system **1** includes a locker device **10** and a ticket issuing device **20**. Here, four locker devices **10** are installed in a store. However, the number of locker devices **10** installed in the store is not limited to this number, and it is sufficient that at least one locker device **10** is installed therein. The ticket issuing device **20** is used for settling the purchase prices of commodities stored in each of the four locker devices **10**. A plurality of pairs of at least one locker device **10** and a ticket issuing device **20** may be installed in the store.

[0041] Each locker device **10** includes a main body **10***a*, a stand **10***b* on which the main body **10***a* is installed, and a base **10***c* that is placed on the main body **10***a*. In the main body **10***a*, a plurality of locker boxes **11** are arranged in a matrix pattern. Here, 42 locker boxes **11** are arranged in each locker device **10**. However, the number of locker boxes **11** arranged in one locker device **10** is not limited to this number.

[0042] A commodity to be sold is stored in each locker box **11**. The commodity to be sold is, for example, eggs. A predetermined number of eggs are packed and stored in each locker box **11**. However, the commodity to be sold is not limited to eggs and may be another commodity such as agricultural products.

[0043] In the stand **10***b*, a plurality of doors through which equipment, etc., can be stored are arranged. In the base **10***c*, circuitries such as a power supply circuit, a power switch, and a control board of the locker device **10** are housed.

[0044] FIG. **2** is a front view showing a configuration of the main body **10***a* of the locker device **10**.

[0045] In the main body **10***a*, a display input module **12** and a reader **13** are placed in addition to the 42 locker boxes **11**.

[0046] The display input module **12** is composed of a touch panel or the like and is capable of displaying and inputting information. The display input module **12** presents information such as an unlocking procedure to a user, who is a customer, when a locker box **11** for taking out a purchased commodity is to be unlocked. When a purchased

commodity is to be taken out, an input to the display input module **12** is invalidated. In addition, the display input module **12** presents information such as an unlocking procedure to a manager when a locker box **11** for commodity replenishment is to be unlocked. In this case, an input to the display input module **12** is validly accepted.

[0047] The reader **13** reads unlocking information on a purchase ticket issued by the ticket issuing device **20**, as described later. Here, the unlocking information is held as a QR code (registered trademark) on the purchase ticket. The reader **13** is a QR code (registered trademark) reader. However, the form of holding the unlocking information is not limited to this form, and the unlocking information may be held on the purchase ticket in another form such as a barcode, for example.

[0048] Each locker box **11** includes a transparent door **111**. The door **111** is installed in the locker box **11** by means of two hinges **112** so as to be able to be opened and closed. The door **111** includes a knob **114** that is grasped when opening and closing the door **111** and a locked part **113** for locking the door **111** into a closed state. The knob **114** may be translucent.

[0049] FIG. **3**A is a front view showing a configuration of the locker box **11** in a state where the door **111** is opened. FIG. **3**B is a see-through view schematically showing a configuration when the locker box **11** in a state where the door **111** is closed is seen through from the left side.

[0050] As shown in FIG. **3**A, when the door **111** is opened, a storage part **115** (storage space) for storing a commodity is opened. A flat plate **116** is placed at the right end of the storage part **115** so as to extend vertically. The flat plate **116** is provided with a lighting part **117** at a position corresponding to the knob **114** on the door **111** side. The lighting part **117** is composed of, for example, an LED. The lighting part **117** may be composed of a lamp other than an LED. When the lighting part **117** lights up in a state where the door **111** is closed, the knob **114** on the front of the door **111** and an area surrounding the knob **114** emit light in the color of the lighting part **117**. The color of the light emitted by the lighting part **117** is set to a color that is easily visible to the user, such as green or blue.

[0051] The flat plate **116** is provided with a gap **116***a*. As shown in FIG. **3**B, a lock mechanism **118** is placed at the back of the gap **116***a*. Meanwhile, the locked part **113** on the door **111** side is provided with a claw part **113***a* that protrudes from the back side of the door **111**. When the door **111** is closed, the claw part **113***a* fits into the lock mechanism **118**. When the claw part **113***a* fits into the lock mechanism **118**, the claw part **113***a* is automatically locked by the lock mechanism **118**. Accordingly, the door **111** is locked into a closed state.

[0052] An illumination part **119** for illuminating the interior of the storage part **115** is placed on the inner surface on the upper side of the storage part **115**. The illumination part **119** is composed of, for example, an LED. The illumination part **119** may be composed of a lamp other than an LED. When the door **111** is unlocked, the illumination part **119** is lit and a commodity stored in the storage part **115** is illuminated by the light from the illumination part **119**. In addition, a part of the light from the illumination part **119** is guided from the transparent door **111** to the outside. Accordingly, the user can smoothly take out the commodity from the unlocked locker box **11**.

[0053] FIG. **4** is a front view showing a configuration of the ticket issuing device **20**.

[0054] The ticket issuing device **20** includes an interface **21**, a banknote inlet **22**, a banknote outlet **23**, a coin inlet **24**, a coin outlet **25**, and a ticket issuing port **26**.

[0055] The interface **21** presents predetermined information to the user and accepts an input from the user in response to the presented information. The interface **21** is composed of, for example, a touch panel. However, the configuration of the interface **21** is not limited thereto.

[0056] The banknote inlet **22** is used for depositing banknotes when settling the price of a commodity. The banknote outlet **23** is used for dispensing change banknotes. In addition, if a banknote deposited from the banknote inlet **22** is an unfit note, the banknote outlet **23** is used for returning the banknote. The coin inlet **24** is used for depositing coins when settling the price of a commodity. The coin outlet **25** is used for dispensing change coins. In addition, if a coin deposited from the coin inlet **24** is a deformed coin, the coin outlet **25** is used for returning the coin.

[0057] The ticket issuing port **26** is used for issuing a purchase ticket. When settlement for a commodity to be purchased is completed, a purchase ticket for unlocking the locker box **11** in which this commodity is stored is issued from the ticket issuing port **26**. As described above, unlocking information for unlocking the locker box **11** is held as a QR code (registered trademark) on the purchase ticket. That is, the QR code (registered trademark) holding the unlocking information is printed on the surface of the purchase ticket. Other information such as the commodity name, the price, and the date and time of settlement may be printed on the surface of the purchase ticket.

[0058] FIG. **5** is a diagram showing configurations of circuitries of the locker device **10** and the ticket issuing device **20**.

[0059] FIG. **5** also shows a server device **30** and a mobile terminal **40**. The server device **30** and the mobile terminal **40** are used when the locker device **10** is to be replenished with a commodity, as described later. That is, the server device **30** and the mobile terminal **40** constitute a system that issues other unlocking information for unlocking a locker box **11** when the locker device **10** is to be replenished with a commodity.

[0060] FIG. **5** shows the configuration of the circuitry of only one locker device **10**, and the four locker devices **10** shown in FIG. **1** have the same circuit configuration. The four locker devices **10** are all capable of communicating with the ticket issuing device **20** via a LAN (Local Area Network) **50** and also capable of communicating with the server device **30** via the LAN **50** and an external communication network **60**.

[0061] In addition to the display input module **12** and the reader **13** shown in FIG. **2**, the locker device **10** includes a controller **301**, a memory **302**, a lock driver **303**, a lamp driver **304**, and a communication module **305**.

[0062] The controller **301** includes an arithmetic processing circuit such as a CPU (Central Processing Unit) and controls each component according to a program stored in the memory **302**. The memory **302** includes memories such as a ROM (read only memory) and a RAM (random access memory) and stores the above program therein. In addition, the memory **302** is used as a work area when the controller **301** executes the above program.

[0063] The lock driver **303** individually drives the above-described lock mechanism **118** which is placed in each locker box **11**. As described above, the lock mechanism **118** automatically locks the claw part **113***a* when the door **111** is closed. The lock driver **303** includes a driver that drives the lock mechanism **118** so as to unlock the claw part **113***a* under control from the controller **301**, for each locker box **11** (for each lock mechanism **118**).

[0064] The lamp driver **304** drives the lighting part **117** and the illumination part **119** described above, which are placed in each locker box **11**. The lamp driver **304** includes a plurality of drivers provided for the locker boxes **11**, respectively. The communication module **305** communicates with the ticket issuing device **20** and the server device **30** under control from the controller **301**.

[0065] In addition to the interface **21** shown in FIG. **4**, the ticket issuing device **20** includes a controller **401**, a memory **402**, a depositing/dispensing unit **403**, a ticket issuer **404**, and a communication module **405**.

[0066] The controller **401** includes an arithmetic processing circuit such as a CPU and controls each component according to a program stored in the memory **402**. The memory **402** includes memories such as a ROM and a RAM and stores the above program therein. In addition, the memory **402** is used as a work area when the controller **401** executes the above program.

[0067] The depositing/dispensing unit **403** performs depositing and dispensing of banknotes and coins with respect to the banknote inlet **22**, the banknote outlet **23**, the coin inlet **24**, and the coin inlet **24**. The depositing/dispensing unit **403** includes a transport mechanism that transports banknotes and coins along a transport path, a recognition unit that recognizes the denominations of banknotes and coins on the transport path, and a plurality of banknote storage parts and a plurality of coin storage parts that store deposited banknotes and coins by denomination. The transport path for banknotes is connected to the banknote inlet **22** and the banknote outlet **23** in FIG. **4** and the plurality of banknote storage parts. The transport path for coins is connected to the coin inlet **24** and the coin outlet **25** in FIG. **4** and the plurality of coin storage parts.

[0068] The ticket issuer **404** issues the above-described purchase ticket. The ticket issuer **404** includes a printing unit that prints the QR code (registered trademark) holding the unlocking information, etc., on a roll of paper, and a cutting unit that cuts the roll of paper on which printing has been performed by the printing unit into a predetermined length to generate the purchase ticket.

[0069] FIGS. **6**A to **6**C are diagrams respectively showing configurations of various kinds of management information stored in the memory **402** of the ticket issuing device **20**.

[0070] FIG. **6**A shows a configuration of locker management information for managing the locker devices **10** installed in the store. The locker management information is configured by associating a locker ID that is identification information of each locker device **10** and area information indicating an area where each locker device **10** is installed.

[0071] The locker ID is, for example, a product code assigned to each locker device **10**. The area information is an area code assigned to the installation area of each locker device **10**, in a layout image described later. Here, four installation areas are set on the layout image and area codes that are areas A to D are assigned to these four installation areas, respectively. The setting of the installation areas on the layout image and the association of each installation area with the locker ID is performed by a manager of the store or a worker who installs the commodity sales system **1**, via a predetermined setting screen prepared in the ticket issuing device **20**.

[0072] FIG. **6**B shows a configuration of commodity management information for managing commodities stored in each locker device **10**. The commodity management information is configured by associating each commodity type and the commodity price of each commodity type. Here, four commodity types of eggs from XL size to S size are set. The setting of the commodity types and the prices is performed by the manager of the store via a predetermined setting screen prepared in the ticket issuing device **20**.

[0073] FIG. **6**C shows box management information for managing the status of the commodity in each locker box **11**.

[0074] The box management information is configured by associating a box number, area information, a commodity type, storage date and time, takeout date and time, and sold information.

[0075] The "box number" is a number assigned to each locker box **11**. Here, a series of numbers is set for all locker boxes **11** provided in the four locker devices **10**.

[0076] That is, numbers 1 to 42 are assigned to the 42 locker boxes **11** of the locker device **10** installed in the area A, respectively. Numbers 43 to 84 are assigned to the 42 locker boxes **11** of the locker device **10** installed in the area B, respectively, and numbers 85 to 126 are assigned to the 42 locker boxes **11** of the locker device **10** installed in the area C, respectively. Numbers 127 to 168 are assigned to the 42 locker boxes **11** of the locker device **10** installed in the area D, respectively.

[0077] In each locker device **10**, the first number is assigned to the locker box **11** in the upper left corner, and the last number is assigned to the locker box **11** in the lower right corner. The number increases in increments of 1 from the locker box **11** at the uppermost stage toward the locker box **11** at the lowermost stage. After the number is assigned to the locker box **11** at the lowermost stage, the next number is assigned to the locker box **11** at the uppermost stage in the column to the right, and the numbers are assigned to the column. In this manner, consecutive numbers are assigned from the locker box **11** in the upper left corner to the locker box **11** in the lower right corner.

[0078] The "area information" is the installation area (area code) of the locker device **10** to which the locker box **11** of each box number belongs. As described above, the relationship between each area and each box number is defined in advance. In accordance with this relationship, an area is associated with each box number.

[0079] The "commodity type" is the type of a commodity stored in the locker box **11** of each box number. Any of the commodity types set in the commodity management information in FIG. **6**B is registered therein. In the example in FIG. **6**C, the commodity type is different for each area. The method for setting a commodity type is not limited thereto, and, for example, the same commodity type may be set for all areas, or the same commodity type may be set for two areas. The setting of a commodity type for each area is performed by the manager of the store via a predetermined setting screen prepared in the ticket issuing device **20**.

[0080] The "storage date and time" is the date and time when a commodity was stored in the locker box **11** of each box number. When the locker box **11** is replenished with a

commodity by a replenishment mode described later, a notification of this is transmitted from the corresponding locker device **10** to the ticket issuing device **20**. In response to this, the ticket issuing device **20** (controller **401**) registers the date and time when this notification was received, in the cell of "storage date and time" for the corresponding locker box **11**. This notification may include the storage date and time (see FIG. **7**) of the commodity set on the locker device **10** side. In this case, the ticket issuing device **20** (controller **401**) registers the storage date and time included in this notification, in the cell of "storage date and time" for the corresponding locker box **11**.

[0081] The "takeout date and time" is the date and time when the commodity was taken out from the locker box **11** of each box number. When the commodity is taken out from the locker box **11** by a takeout mode described later, a notification of this is transmitted from the corresponding locker device **10** to the ticket issuing device **20**. In response to this, the ticket issuing device **20** (controller **401**) registers the date and time when this notification was received, in the cell of "takeout date and time" for the corresponding locker box **11**. This notification may include the takeout date and time (see FIG. **7**) of the commodity set on the locker device **10** side. In this case, the ticket issuing device **20** (controller **401**) registers the takeout date and time included in this notification, in the cell of "takeout date and time" for the corresponding locker box **11**.

[0082] The "sold" is information indicating whether or not the commodity in the locker box **11** of each box number has been sold, that is, information indicating whether or not the locker box **11** is empty. When a commodity is stored in the locker box **11** and the date and time is registered in the cell of "storage date and time", information indicating that the commodity has not been sold (here, information of "NO") is registered in the cell of "sold" for this locker box **11**. When the commodity is taken out from the locker box **11** and the date and time is registered in the cell of "takeout date and time", information indicating that the commodity has been sold (here, information of "YES") is registered in the cell of "sold" for this locker box **11**.

[0083] FIG. **7** is a diagram showing a configuration of box management information stored in the memory **302** of the locker device **10**.

[0084] The box management information managed on the locker device **10** side is the box management information in FIG. **6**C from which the "area" and "commodity type" items are omitted. The "box number" is the number for each of the 42 locker boxes **11** of the locker device **10**. Here, box numbers 1 to 42 are assigned to each locker device **10**. That is, in each locker device **10**, box numbers 1 to 42 are assigned from the locker box **11** in the upper left corner to the locker box **11** in the lower right corner. Numbers 1 to 7 are assigned to the column in the up-down direction including the locker box **11** in the upper left corner, and numbers 8 to 14 are assigned to the column to the right of this column. In this manner, numbers are assigned up to the rightmost column using the same rule.

[0085] The "storage date and time", "takeout date and time", and "sold" items are the same as the corresponding items of the box management information in FIG. **6**C. When a commodity is stored in the locker box **11** corresponding to a certain box number, the controller **301** of the locker device **10** registers the date and time when this commodity is stored, in the cell of "storage date and time" for this box number. In addition, when a commodity is taken out from the locker box **11** corresponding to a certain box number, the controller **301** of the locker device **10** registers the date and time when this commodity is taken out, in the cell of "takeout date and time" for this box number.

[0086] When a commodity is stored or taken out for a certain box number, the controller **301** of the locker device **10** transmits a notification of this together with this box number and the locker ID of the locker device **10** to the ticket issuing device **20**. The controller **401** of the ticket issuing device **20** identifies the area of this locker device **10** using the locker management information in FIG. **6**A from the received locker ID. Then, the controller **401** converts the received box number into a numbering system corresponding to the identified area (a sequential numbering system for the four locker devices **10**), and registers the date and time when these notifications were received, in the cells of "storage date and time" and "takeout date and time" associated with the converted box number. For example, when a notification indicating a commodity for a box number "33" has been taken out is received from the locker device **10** in the area B, the controller **401** of the ticket issuing device **20** registers the date and time when this notification was received, in the cell of "takeout date and time" associated with a box number "75".

[0087] When a commodity takeout process is executed a plurality of times using the same purchase ticket as described later, the date and time of takeout in the first takeout process is registered in the cell of "takeout date and time" item. The cell of "takeout date and time" is blanked when a process of replenishing the locker box **11** of the corresponding box number with a new commodity is performed. At this time, the cell of "storage date and time" for this box number is updated with the storage date and time of the new commodity, and the cell of "sold" is updated with information of "NO".

<Purchase Mode>

[0088] FIG. **8**A is a diagram showing a configuration of an acceptance screen **500** displayed on the interface **21** of the ticket issuing device **20** when a commodity is to be purchased.

[0089] Prior to purchasing a commodity, the user, who is a customer, refers to the commodity stored in each locker box **11** of the four locker devices **10**, through the transparent door **111**, determines a commodity to be purchased by the user, and grasps the position of this commodity. Then, the user moves to the ticket issuing device **20** in order to purchase the commodity and operates the acceptance screen **500** displayed on the interface **21** of the ticket issuing device **20**.

[0090] The acceptance screen **500** includes a message **501** that urges the user to select a locker device **10** (vending machine), selection buttons **502***a* to **502***d* for selecting a locker device **10** (vending machine), and a layout image **503** showing the layout of the four locker devices **10** (vending machines). The selection buttons **502***a* to **502***d* are labeled with the area names (A to D) indicating the installation areas of the four locker devices **10** shown in the layout image **503**, and the selection buttons **502***a* to **502***d* are also associated with figures of the respective locker devices **10** on the layout image **503** by dotted lines, respectively.

[0091] The user can grasp the locker device **10** holding the commodity to be purchased by the user, from the selection

buttons **502***a* to **502***d* and the layout image **503**. Accordingly, the user operates the selection button corresponding to the locker device **10** holding the commodity to be purchased by the user, among the selection buttons **502***a* to **502***d*.

[0092] FIG. **8**B is a diagram showing a configuration of a box selection screen **510** displayed on the interface **21** when the selection button **502***a* is operated on the acceptance screen **500** in FIG. **8**A.

[0093] The box selection screen **510** includes tab images **511***a* to **511***d* indicating which locker device **10** (vending machine) is being selected, a message **512** that urges the user to select a locker box **11**, 42 selection buttons **513** for selecting a locker box **11**, a button **514** for returning the screen to the acceptance screen **500**, and a confirmation button **515** for confirming a selection.

[0094] The 42 selection buttons **513** are arranged in the same layout as the 42 locker boxes **11** in the locker device **10**. Each selection button **513** is labeled with a symbol indicating the area of this locker device and the box number of the corresponding locker box **11**. For example, A-1 on the selection button **513** in the upper left corner indicates that the locker box **11** of a box number "1" in the locker device **10** installed in the area A corresponds to this selection button **513**. Here, the selection button **513** corresponding to a box number for which "YES" is in the cell of "sold" in FIG. **6**C is grayed out and cannot be selected.

[0095] The user operates the selection button **513** corresponding to the locker box **11** holding the commodity to be purchased by the user among the 42 selection buttons **513**. When there are a plurality of commodities to be purchased, the user can operate a plurality of selection buttons **513** corresponding to a plurality of locker boxes **11** in which these commodities are stored, respectively. When the user operates the desired selection button **513**, that selection button **513** is displayed in a different color from the non-selected selection buttons **513**. Accordingly, the user can grasp the selection button **513** selected by the user. When the user operates the selected selection button **513** again, the selection for that selection button **513** is canceled. Accordingly, the color of this selection button **513** is returned to the color in a non-selected state.

[0096] After operating the desired selection button **513** as described above, the user operates the confirmation button **515**. Accordingly, the selection of the locker box **11** is completed, and a settlement screen for settling the price of the selected commodity is displayed.

[0097] FIG. **9**A is a diagram showing a configuration of a settlement screen **520**.

[0098] The settlement screen **520** includes a message **521** that urges the user to insert money for settlement, a settlement display region **522** indicating a monetary amount for settlement, an image **523** indicating the locations for inserting banknotes and coins in the ticket issuing device **20**, and a button **524** for returning the screen to the box selection screen **510**.

[0099] In the settlement display region **522**, an item indicating a total monetary amount (purchase amount) of commodities selected by the user, a total monetary amount (inserted amount) of coins inserted by the user, and a change monetary amount obtained by subtracting the purchase amount from the inserted amount are displayed. The purchase amount is acquired by the controller **401** of the ticket issuing device **20**, based on the commodity type (see the box management information in FIG. **6**C) associated with each locker box **11** selected by the user and the price (see the commodity management information in FIG. **6**B) associated with this commodity type. When the user selects a plurality of locker boxes **11** on the box selection screen **510** in FIG. **8**B, the controller **401** calculates the total value of the monetary amounts acquired for the respective selected locker boxes **11**, as the purchase amount.

[0100] If the total monetary amount of coins inserted by the user becomes equal to or greater than the purchase amount displayed in the settlement display region **522**, the controller **401** displays a settlement completion screen **530** in FIG. **9**B on the interface **21**.

[0101] The settlement completion screen **530** includes a message **531** that urges the user to take out a purchase ticket and change, a settlement display region **532** similar to the settlement display region **522** in FIG. **9**A, and an image **533** indicating the locations for taking out the purchase ticket and change in the ticket issuing device **20**. The user takes out the purchase ticket from the ticket issuing port **26** of the ticket issuing device **20** by referring to the message **531** and the image **533**. Accordingly, the operation of the ticket issuing device **20** when a commodity is to be purchased is completed.

[0102] When a plurality of locker boxes **11** are selected on the box selection screen **510** in FIG. **8**B, a purchase ticket is issued for each selected locker box **11**. For example, when five locker boxes **11** are selected on the box selection screen **510**, five purchase tickets are issued. On each purchase ticket, a QR code (registered trademark) for unlocking the corresponding locker box **11** is printed.

[0103] FIG. **10** is a flowchart showing processing of the ticket issuing device **20** when a commodity is to be purchased.

[0104] The controller **401** of the ticket issuing device **20** displays the acceptance screen **500** in FIG. **8**A on the interface **21** and accepts selection of an area (S**101**). When the user selects an area via the acceptance screen **500** (S**102**: YES), the controller **401** displays the box selection screen **510** in FIG. **8**B on the interface **21** and accepts selection of a locker box **11** (S**103**).

[0105] When the user selects a locker box **11** via the box selection screen **510** (S**104**: YES), the controller **401** displays the settlement screen **520** in FIG. **9**A on the interface **21** and settles the purchase price (S**105**). When the user completes the settlement of the purchase price via the box selection screen **510** (S**106**: YES), the controller **401** displays the settlement completion screen **530** in FIG. **9** on the interface **21** and issues a purchase ticket (S**107**).

[0106] In the case where the ticket issuing device **20** includes a speaker, when displaying the screens in FIG. **9**B and FIGS. **10**A and **10**B on the interface **21**, the controller **401** may cause the speaker to output message sounds having the same contents as the messages **512**, **521**, and **531**.

<Configuration of Purchase Ticket>

[0107] FIG. **11**A is a diagram showing a configuration of a purchase ticket **70**.

[0108] The purchase ticket **70** has a code FIG. **71** displayed at the center thereof. As described above, the code FIG. **71** is a figure of a QR code (registered trademark). In a region **72**, the installation area (areas A to D) of the locker device **10** holding a purchased commodity, the box number of the locker box **11** in which the commodity is stored, the commodity type of the commodity stored in the locker box

11, etc., are displayed. In a region **73**, the name of the store where the commodity is purchased, the purchase date and time (ticket issuance date and time), a ticket issuance number, etc., are displayed. In order for the purchase ticket **70** to serve as a receipt, the purchase amount may also be displayed in the region **73** or the like.

[0109] FIG. **11**B is a diagram showing a configuration of unlocking information held in the code FIG. **71**.

[0110] The unlocking information includes the ticket issuance date and time, the ticket issuance number, a ticket issuing device ID, the box number, and a store code. The "ticket issuance date and time" is the date and time when the purchase ticket **70** was issued. The "ticket issuance number" is a number that is incremented by one each time the ticket issuing device **20** issues a ticket from the time of start of ticket issuance. The "ticket issuing device ID" is identification information (e.g., product code) of the ticket issuing device **20**. The "box number" is the box number of the locker box **11** in which the commodity to be purchased is stored. The "box number" has any number from 1 to 168. The "store code" is identification information of the store where the ticket issuing device **20** is installed. The store code is set by the manager of the store via a predetermined setting screen.

<Takeout Mode>

[0111] FIG. **12**A is a diagram showing a configuration of an acceptance screen **600** displayed on the display input module **12** of the locker device **10** when a commodity is to be taken out.

[0112] The acceptance screen **600** includes a message **601** that urges the user to cause the reader **13** to read the code FIG. **71** of the purchase ticket **70** acquired from the ticket issuing device **20**. The user holds the code FIG. **71** of the purchase ticket **70** acquired by the user over the reader **13** in response to the message **601**, thereby causing the reader **13** to read the code FIG. **71**. Accordingly, the unlocking information is acquired from the purchase ticket **70**.

[0113] If the box number included in the unlocking information matches any of the locker numbers of the 42 locker boxes **11** of the locker device **10**, the locker box **11** corresponding to the matched locker number is unlocked. At the same time, the lighting part **117** and the illumination part **119** of the unlocked locker box **11** are lit up. Accordingly, the user grasps the unlocked locker box **11**. Furthermore, an unlocking notification screen **610** in FIG. **12**B is displayed on the display input module **12**.

[0114] Here, the locker number included in the unlocking information is a number assigned as a consecutive number to each of a total of 168 locker boxes **11** of the four locker devices **10**. The controller **301** of the locker device **10** converts the locker numbers assigned to the 42 locker boxes **11** of the locker device **10** from the area code of the locker device **10** notified from the ticket issuing device **20** into locker numbers that are the above-described consecutive numbers. For example, if the area code of the locker device **10** is the area B, the controller **301** of the locker device **10** converts the box numbers 1 to 42 of the 42 locker boxes **11** of the locker device **10** into box numbers 43 to 84. Then, if the box number in the unlocking information read from the purchase ticket **70** matches any of the converted box numbers, the controller **301** displays the unlocking notification screen **610** shown in FIG. **12**B on the display input module **12**.

[0115] The unlocking notification screen **610** includes a message **611** that notifies that the locker box **11** corresponding to the box number in the unlocking information read from the purchase ticket **70** has been unlocked, box images **612** showing the 42 locker boxes **11** together with the box numbers, and a message image **613** including a message that urges the user to take out the commodity from the unlocked locker box **11** and close the door **111**.

[0116] The message image **613** includes a message that notifies that the code FIG. **71** of the purchase ticket **70** is valid for 10 minutes from this unlocking. In addition, the box image **612** corresponding to the unlocked locker box **11** is displayed in a different color from the other box images **612**, and a mark **612***a* indicating that the locker box **11** has been unlocked is added thereto.

[0117] The user grasps the position of the unlocked locker box **11** by referring to the unlocking notification screen **610**, takes out the commodity from the locker box **11**, and closes the door **111** of the locker box **11**. Accordingly, the door **111** of the locker box **11** is locked by the lock mechanism **118**. As a result, the process of taking out the commodity is completed. Accordingly, as described above, the date and time of takeout is registered in the cell of "takeout date and time" for the box number corresponding to the locker box **11** in the box management information shown in FIG. **6**C and FIG. **7**.

[0118] If, by any chance, the user opens the door **111** of the unlocked locker box **11** but closes the door **111** without taking out the commodity in the locker box **11**, the user can unlock the locker box **11** by causing the reader **13** to read the code FIG. **71** of the purchase ticket **70** within 10 minutes from that time. Accordingly, the user can assuredly take out the desired commodity from the locker box **11**.

[0119] If the box number in the unlocking information read from the purchase ticket **70** does not match any of the locker numbers of the 42 locker boxes **11** of the locker device **10** (consecutive numbers for the four locker devices **10**), the controller **301** displays an error notification screen **620** in FIG. **13** on the display input module **12**.

[0120] The error notification screen **620** includes a message **621** that notifies that the locker box **11** corresponding to the box number in the unlocking information read from the purchase ticket **70** does not exist. Furthermore, the message **621** includes a message that notifies the user of the area where the corresponding locker box **11** exists, and a message that urges the user to cause the code FIG. **71** of the purchase ticket **70** to be read in that area. Accordingly, the user can smoothly take out the commodity from the locker device **10** in the appropriate area.

[0121] FIG. **14** is a flowchart showing processing of the locker device **10** when a commodity is to be taken out.

[0122] The controller **301** of the locker device **10** displays the acceptance screen **600** in FIG. **12**A on the display input module **12**, thereby urging reading of the purchase ticket **70** (code FIG. **71**) (S**201**). When the user holds the code FIG. **71** over the reader **13**, the controller **301** acquires the reading result of the code FIG. **71** from the reader **13** (S**202**: YES). The controller **301** determines whether or not the reading result is unlocking information for taking out a commodity (S**203**). Specifically, the controller **301** determines whether or not the reading result conforms to the format in FIG. **11**B.

[0123] If the reading result is not unlocking information for taking out a commodity (S**203**: NO), the controller **301** executes the replenishment mode described later. On the

other hand, if the reading result is unlocking information for taking out a commodity (S**203**: YES), the controller **301** refers to the box number in the unlocking information and determines whether or not the box number matches any of the box numbers assigned to the 42 locker boxes **11** of the corresponding locker device **10** (consecutive box numbers for the four locker devices **10**) (S**204**).

[0124] If the result of the determination in step S**204** is NO, the controller **301** displays the error notification screen **620** in FIG. **13** on the display input module **12** (S**209**) and ends the processing. In the case where the locker device **10** includes a speaker, the controller **301** may output a message sound that is the same as the message **621** in the error notification screen **620**, from the speaker in step S**209**.

[0125] The controller **301** determines NO in step S**204** if the store code in the unlocking information does not match the store code of the locker device **10**, that is, the store code set for the locker device **10** by the manager of the store as a store code for the store where the locker device **10** is installed. In addition, the controller **301** determines NO in step S**204** if the difference between the ticket issuance date and time in the unlocking information and the current date and time does not satisfy a predetermined condition (e.g., the date in the ticket issuance date and time and the date in the current date and time are the same). In each of these cases, the controller **301** displays an error notification screen indicating the reason for the error, on the display input module **12**. The above condition may be settable as desired by the manager of the store.

[0126] If the result of the determination in step S**204** is YES, the controller **301** refers to the box management information in FIG. **7** and determines whether or not the current reading of the unlocking information is within a validity period (10 minutes from the date and time in the cell of "takeout date and time"). If the result of the determination in step S**205** is NO, the controller **301** displays a notification screen that notifies that the purchase ticket **70** has expired, on the display input module **12** (S**208**). In the case where the locker device **10** includes a speaker, the controller **301** may cause the speaker to output a sound message having the same content.

[0127] If the result of the determination in step S**205** is YES, the controller **301** displays the unlocking notification screen **610** in FIG. **12**B on the display input module **12** and unlocks the corresponding locker box **11** (S**206**). At the same time, the controller **301** lights up the lighting part **117** and the illumination part **119** of the unlocked locker box **11**.

[0128] Then, the controller **301** registers the current date and time in the cell of "takeout date and time" associated with the box number for the current takeout in the box management information in FIG. **7** and further transmits a notification indicating the commodity has been taken out for the box number, to the ticket issuing device **20** together with the area code of the locker device **10** (S**207**). Accordingly, the "takeout date and time" corresponding to the locker box **11** in the box management information on the ticket issuing device **20** side is updated. Thus, the controller **301** ends the processing in FIG. **14**.

<Replenishment Mode>

[0129] If a locker box **11** in the locker device **10** becomes empty, the manager of the store stores a new commodity in the locker box **11** (replenishes the locker box **11** with a new commodity). In addition, even when there are no empty locker boxes **11**, the manager of the store exchanges unsold commodities at regular intervals.

[0130] In these cases, in the present embodiment, the manager of the store acquires a password from the server device **30**, which manages the commodity sales system **1**, using the mobile terminal **40** possessed by the manager. An application program for performing communication with the server device **30** is installed in the mobile terminal **40**.

[0131] The acquired password is displayed on the mobile terminal **40** in the form of a code figure (QR code: registered trademark) that can be read by the reader **13** of each locker device **10**. The format of information held in this code figure is different from the format in FIG. **11**B, and the password and the issuance date and time thereof are mainly held in the code figure. The validity period of the password is, for example, 5 minutes. The manager causes the reader **13** of the locker device **10** to be replenished to read the code figure on the mobile terminal **40** within this validity period and performs replenishment with a new commodity.

[0132] FIG. **15** is a flowchart showing processing performed by the locker device **10** when a locker box **11** is to be replenished with a commodity.

[0133] If the result of step S**203** in FIG. **14** is NO, the controller **301** of the locker device **10** extracts the password from the information acquired from the code figure in step S**202** (S**301**) and determines whether or not the password is correct (S**302**).

[0134] Here, if the password fails to be extracted from the information, the controller **301** determines NO in step S**302**. If the password is successfully extracted from the information, the controller **301** makes an inquiry to the server device **30** as to whether or not this password is correct.

[0135] The server device **30** checks whether or not the password in question was issued within a most recent predetermined time (e.g., within 5 minutes which is the validity period of the password) by referring to a password issuance history held (stored) by the server device **30** and transmits the check result to the locker device **10** that has made an inquiry. If the received check result indicates that the password was issued within the most recent predetermined time, the controller **301** determines YES in step S**302**, and in other cases, the controller **301** determines NO in step S**302**.

[0136] If the result of the determination in step S**302** is NO, the controller **301** displays a notification screen that notifies that the password of the code figure is not correct, on the display input module **12** (S**308**). In the case where the locker device **10** includes a speaker, the controller **301** may further output a message sound that notifies this, from the speaker.

[0137] If the result of the determination in step S**302** is YES, the controller **301** displays a screen for selecting a mode of commodity replenishment on the display input module **12** and accepts a mode selection from the manager (S**303**). Accordingly, if the manager selects a predetermined mode (S**304**: YES), the controller **301** executes processing for commodity replenishment by the selected mode (S**305**).

[0138] When, in accordance with this processing, the manager performs commodity replenishment with respect to the locker device **10** and performs a predetermined completion operation (S**306**: YES), the controller **301** updates the box management information for the locker box **11** replenished with commodities and transmits a notification indicating this update to the ticket issuing device **20** together with

the area code (S307). In response to this notification, the box management information on the ticket issuing device **20** side for the locker box **11** is updated. Thus, the controller **301** ends the processing in FIG. **15**.

[0139] FIG. **16**A is a diagram showing a configuration of a mode selection screen **700** displayed in step S**303** in FIG. **15**.

[0140] The mode selection screen **700** includes four mode selection buttons **701** to **704** and a button **705** for terminating the replenishment process without selecting a mode.

[0141] A mode in which the doors **111** of all the locker boxes **11** are unlocked (full open mode) is assigned to the mode selection button **701**. A mode in which the door **111** of the locker box **11** desired by the manager is individually unlocked (individual open mode) is assigned to the mode selection button **702**. A mode in which the door **111** of the empty locker box **11** is unlocked (empty open mode) is assigned to the mode selection button **703**. A mode in which the door **111** of the locker box **11** in which the commodity has been stored for a time longer than a certain period (time-expired open mode) is assigned to the mode selection button **704**.

[0142] FIG. **16**B is a diagram showing a configuration of a replenishment acceptance screen **710** displayed in step S**305** in FIG. **15** when the mode selection button **701** (full open mode) is selected on the mode selection screen **700** in FIG. **16**A.

[0143] The replenishment acceptance screen **710** includes a message **711**, 42 box images **712**, explanation images **713** and **714**, a collective change button **715**, and a completion button **716**.

[0144] The message **711** has a content that alerts the manager to make the commodity replenishment state of each locker box **11** on the replenishment acceptance screen **710** coincide with the actual commodity replenishment state of each locker box **11**.

[0145] The 42 box images **712** are associated with the 42 locker boxes **11**, respectively, and are labeled with the box numbers thereof and images **712***a* indicating an unlocked state.

[0146] The explanation images **713** and **714** are images that explain the colors added to the box images **712**. If no commodity is stored in the locker box **11** corresponding to a box image **712**, the color of the explanation image **713** is added to this box image **712**. If a commodity is stored in the locker box **11** corresponding to a box image **712**, the color of the explanation image **714** is added to this box image **712**. When the display of the replenishment acceptance screen **710** starts, whether or not a commodity is stored in each locker box **11** is determined based on the "sold" item in the box management information in FIG. **7**.

[0147] The collective change button **715** is operated by the manager when the manager collectively sets all the locker boxes **11** to a state of being replenished with a commodity. The completion button **716** is operated by the manager in response to completion of commodity replenishment.

[0148] Since the full open mode is selected here, all the 42 locker boxes **11** are unlocked. Therefore, an image **712***a* indicating an unlocked state is added to all the 42 box images **712**. Here, only the locker box **11** of a box number "9" is empty due to commodity purchase. Each time the manager operates a box image **712**, the manager can cyclically change the state of the locker box **11** corresponding to this box image **712** between presence of a commodity and absence of a commodity.

[0149] The manager opens the door **111** of each locker box **11** and replenishes the locker box **11** with a new commodity. When the manager replenishes a locker box **11** with a new commodity, the manager operates the box image **712** corresponding to this locker box **11** as appropriate to set this locker box **11** to a commodity-replenished state. This setting may be performed by the manager operating the collective change button **715** after replenishing of all the locker boxes **11** with new commodities is completed.

[0150] After performing the operation of replenishing all the locker boxes **11** with new commodities as described above, the manager operates the completion button **716**. Accordingly, the result of the determination in step S**306** in FIG. **15** becomes YES.

[0151] In this case, in step S**307**, the box management information in FIG. **7** is updated for all the locker boxes **11** replenished with new commodities (the locker boxes **11** for which the box image **712** is set to a commodity-stored state). That is, for these locker boxes **11**, the current date and time is registered in the "storage date and time" item, the cell of "takeout date and time" is blanked, and information of "NO" is registered in the "sold" item.

[0152] For all the locker boxes **11** replenished with new commodities, a notification indicating that replenishment with a commodity has been performed is transmitted to the ticket issuing device **20** together with the area code. Accordingly, in the box management information in FIG. **6**C, the information of the box numbers corresponding to all the locker boxes **11** replenished with new commodities is similarly updated.

[0153] FIG. **17**A is a diagram showing a configuration of the replenishment acceptance screen **710** displayed in step S**305** in FIG. **15** when the mode selection button **702** (individual open mode) is selected on the mode selection screen **700** in FIG. **16**A.

[0154] The configuration of the replenishment acceptance screen **710** is the same as in FIG. **16**B. However, since the individual open mode is selected here, none of the 42 locker boxes **11** are unlocked. Therefore, an image **712***a* indicating an unlocked state is not added to any of the 42 box images **712**.

[0155] In this case, the manager operates the box image **712** corresponding to the locker box **11** that the manager desires to unlock for replenishment with a new commodity. Accordingly, the locker box **11** is unlocked, and an image **712***a* indicating an unlocked state is added to the corresponding box image **712**.

[0156] The manager replenishes the unlocked locker box **11** with a new commodity. Furthermore, the manager operates the box image **712** corresponding to the locker box **11** to set the locker box **11** to a replenished state (commodity-stored state). The setting of the replenished state may be performed by operating the collective change button **715**. Then, the manager operates the completion button **716**. Accordingly, the result of the determination in step S**306** in FIG. **15** becomes YES, and the process in step S**307** is executed.

[0157] Here, after the manager operates the box image **712** for unlocking, the box management information in FIG. **7** is updated only for the locker box **11** for which the box image **712** is set to the replenished state. In addition, a notification

of this is transmitted to the ticket issuing device **20** together with the area code, and the box management information in FIG. **6**C is updated. In the box management information in FIG. **6**C as well, the "storage date and time", "takeout date and time", and "sold" items are updated only for the same locker box **11**.

[0158] FIG. **17**B is a diagram showing a configuration of the replenishment acceptance screen **710** displayed in step S**305** in FIG. **15** when the mode selection button **703** (empty open mode) is selected on the mode selection screen **700** in FIG. **16**A.

[0159] The configuration of the replenishment acceptance screen **710** in this case is the same as in FIG. **16**B. However, since the empty open mode is selected here, only the locker box **11** that is empty among the 42 locker boxes **11** is unlocked. Therefore, an image **712***a* indicating an unlocked state is added to the box image **712** corresponding to the empty locker box **11** among the 42 box images **712**.

[0160] In this case, the manager replenishes the unlocked empty locker box **11** with a new commodity. Furthermore, the manager operates the box image **712** corresponding to the locker box **11** to set the locker box **11** to a replenished state. The setting of the replenished state may be performed by operating the collective change button **715**. Then, the manager operates the completion button **716**. Accordingly, the result of the determination in step S**306** in FIG. **15** becomes YES, and the process in step S**307** is executed.

[0161] Here, the box management information in FIG. **7** is updated only for the locker box **11** that is set to the replenished state by the manager operating the box image **712** after being unlocked due to being empty. In addition, a notification of this is transmitted to the ticket issuing device **20** together with the area code, and the box management information in FIG. **6**C is updated. In the box management information in FIG. **6**C as well, the "storage date and time", "takeout date and time", and "sold" items are updated only for the same locker box **11**.

[0162] FIG. **18** is a diagram showing a configuration of the replenishment acceptance screen **710** displayed in step S**305** in FIG. **15** when the mode selection button **704** (time-expired open mode) is selected on the mode selection screen **700** in FIG. **16**A.

[0163] The configuration of the replenishment acceptance screen **710** in this case is the same as in FIG. **16**B. However, since the time-expired open mode is selected here, only the locker boxes **11** in each of which a commodity has been stored for a time longer than a certain period among the 42 locker boxes **11** are unlocked. Therefore, an image **712***a* indicating an unlocked state is added to the box images **712** corresponding to these locker boxes **11** among the 42 box images **712**.

[0164] In this case, the manager replenishes the unlocked time-expiration locker boxes **11** with new commodities. Furthermore, the manager operates the box image **712** corresponding to each of the locker boxes **11** to set the locker box **11** to a replenished state. The setting of the replenished state may be performed by operating the collective change button **715**. Then, the manager operates the completion button **716**. Accordingly, the unlocked locker boxes **11** are locked, and the process in step S**307** in FIG. **15** is executed.

[0165] Here, the box management information in FIG. **7** is updated only for the locker boxes **11** that are set to the replenished state by the manager operating the box images **712** after being unlocked due to the time-expiration. In addition, a notification of this is transmitted to the ticket issuing device **20** together with the area code, and the box management information in FIG. **6**C is updated. In the box management information in FIG. **6**C as well, the "storage date and time", "takeout date and time", and "sold" items are updated only for the same locker boxes **11**.

Effects of Embodiment

[0166] As shown in FIG. **1** to FIG. **5**, the commodity sales system **1** includes the locker device **10** in which commodities are stored in the plurality of locker boxes **11**, respectively, the ticket issuing device **20** having a function of settling the purchase prices of commodities, and the controllers **301** and **401**. The ticket issuing device **20** includes the ticket issuer **404** and the interface **21** that accepts an input from the user, and the locker device **10** includes the locked part **113** and the lock mechanism **118** (locking unit) provided for each locker box **11**, and the reader **13** that reads information. As shown in FIGS. **8**A and **8**B and FIG. **10**, the controller **401** accepts designation of a commodity to be purchased, via the interface **21** (S**101** to S**104**), and causes the ticket issuer **404** to issue the purchase ticket **70** holding the unlocking information for unlocking the locker box **11** in which the designated commodity is stored, in a form that can be read by the reader **13**. The controller **301** unlocks the locker box **11** based on the unlocking information read from the purchase ticket **70** by the reader **13**.

[0167] With this configuration, when purchasing a plurality of commodities at once, the user can acquire the purchase ticket **70** for unlocking each of a plurality of locker boxes **11** in which these commodities are stored, from the ticket issuing device **20**, can unlock these locker boxes **11** by causing the reader **13** of the locker device **10** to read the acquired purchase ticket **70**, and can take out the commodities therefrom. Therefore, even when purchasing a plurality of commodities at once, the operation for purchasing the commodities can be smoothly and reliably performed.

[0168] As shown in FIG. **8**B, the controller **401** accepts designation of the locker box **11** in which the commodity to be purchased is stored, as designation of a commodity, and causes the purchase ticket **70** to be issued so as to include the box number (specifying information) specifying the designated locker box **11** in the unlocking information in FIG. **11**B. As shown in FIG. **14**, the controller **301** unlocks the locker box **11** corresponding to the box number (specifying information) in the unlocking information read by the reader **13** (S**204**, S**206**).

[0169] With this configuration, the user can take out the commodity designated by the user from the corresponding locker box **11**. Therefore, the commodity itself individually desired by the user can be provided to the user.

[0170] As shown in FIG. **1** and FIG. **5**, the commodity sales system **1** includes the plurality of locker devices **10**, and each locker device **10** includes the display input module **12** (notifier). As shown in FIG. **13** and FIG. **14**, if the locker box **11** corresponding to the unlocking information read by the reader **13** of the locker device **10** does not exist in this locker device **10** (S**204**: NO), the controller **301** of this locker device **10** causes the display input module **12** (notifier) to output a notification of this fact (S**209**).

[0171] With this configuration, if the user accidentally causes a locker device **10** that is not the intended one to read

the purchase ticket **70**, this fact can be notified to the user. Therefore, the user can smoothly advance commodity takeout.

[0172] As shown in FIG. **13**, in the notification in step S**209** in FIG. **14**, the controller **301** causes the display input module **12** (notifier) to notify the locker device **10** (area) including the locker box **11** corresponding to the unlocking information read by the reader **13**.

[0173] With this configuration, the user can grasp which locker device **10** to go to in order to take out the commodity to be purchased. Therefore, the user can smoothly advance commodity takeout.

[0174] As shown in FIGS. **8**A and **8**B and FIG. **11**B, the controller **401** accepts designation of the locker device **10** and the locker box **11** in which the commodity to be purchased is stored, as designation of a commodity, and causes the purchase ticket **70** to be issued so as to include the box number (specifying information) that specifies the designated locker box **11** in the designated locker device **10** and is a consecutive number for the four locker devices **10**, in the unlocking information. As shown in FIG. **14**, if the box number (specifying information) in the unlocking information read by the reader **13** matches any locker box **11** of the locker device **10** that has performed this reading (S**204**: YES), the controller **301** unlocks the matched locker box **11**.

[0175] With this configuration, in the case where a plurality of locker devices **10** are installed, the user can smoothly take out the commodity designated by the user from the locker box **11** of the corresponding locker device **10**. Therefore, the commodity itself individually desired by the user can be reliably provided to the user.

[0176] As shown in FIG. **14**, within a certain period (within the validity period) from a predetermined timing (takeout date and time) in the process of taking out the commodity in response to the first unlocking using the purchase ticket, the controller **301** accepts re-unlocking of the locker box **11** using the same purchase ticket **70** (S**205**).

[0177] With this configuration, if the user accidentally closes the door **111** of the locker box **11** without taking out the commodity, the user can unlock the locker box **11** again using the same purchase ticket **70** within the certain period (within the validity period). Therefore, the commodity to be purchased can be reliably provided to the user.

[0178] It is also possible to deal with the human error by the user as described above, by control in which the door **111** of the locker box **11** is not locked within a certain period after being unlocked using the purchase ticket **70**. However, with this control, the user can open the door **111** of the locker box **11** within the certain period even after properly taking out the commodity. Therefore, there is a risk that an unwanted commodity will be stored in this locker box **11** during this period. For this reason, it is preferable that the door **111** is locked in response to the door **111** being closed after being unlocked. With the above configuration, the above effect is exhibited when this control is performed.

[0179] As shown in FIG. **15**, based on the reader **13** reading password information (other unlocking information) for commodity replenishment with respect to the locker box **11** (S**302**: YES), the controller **301** executes the replenishment mode for commodity replenishment (S**303** to S**306**).

[0180] With this configuration, the same reader **13** can be further used for a commodity replenishment process. In addition, the manager can smoothly advance commodity replenishment with respect to the locker box **11** by causing the reader **13** of the locker device **10** to be replenished to read the password information (other unlocking information).

[0181] As shown in FIG. **16**A, the replenishment mode includes the empty open mode (mode selection button **703**) for unlocking the locker box **11** from which the commodity has been sold.

[0182] With this configuration, the manager can smoothly replenish the empty locker box **11** from which the commodity has been sold, with a commodity.

[0183] As shown in FIG. **16**A, the replenishment mode includes the time-expired open mode (mode selection button **704**) for unlocking the locker box **11** from which the commodity has not been sold and that satisfies a predetermined commodity replacement condition (time-expiration).

[0184] With this configuration, the locker box **11** that requires commodity replacement can be smoothly replenished with a new commodity.

[0185] Here, the commodity replacement condition is that a period during which the commodity is continuously stored in the locker box **11** exceeds a predetermined threshold value.

[0186] With this configuration, the commodity whose quality has decreased due to being stored in the locker box **11** for a long time can be smoothly replaced with a new commodity.

[0187] As shown in FIG. **5**, the commodity sales system **1** further includes a system (server device **30**, mobile terminal **40**) that issues password information (other unlocking information) for commodity replenishment.

[0188] With this configuration, the manager can acquire the password information (other unlocking information) by the other system.

[0189] In the case where food is stored in each locker box **11** as described above, it is preferable that the heat generated by the ticket issuing device **20** does not reach the food in each locker box **11** as much as possible from the viewpoint of maintaining the quality of the food. In addition, it is also preferable that the heat generated in each locker box **11** does not reach the ticket issuing device **20** as much as possible in order to suppress the influence on the operation (coin handling, printing, etc.) of the ticket issuing device **20**. In contrast, in the above embodiment, the locker device **10** and the ticket issuing device **20** are installed separately, so that the heat generated in one device is less likely to propagate to the other device. Therefore, both devices can be operated properly and stably.

<Modification>

[0190] In the above embodiment, the code figure including the password for commodity replenishment is provided from the server device **30** to the mobile terminal **40**, but this code figure may be issued by the ticket issuing device **20**.

[0191] FIG. **19** is a flowchart showing processing of issuing a password for commodity replenishment according to a modification.

[0192] The manager performs an operation for displaying a screen for issuing a password, via the interface **21**. At this time, the manager inputs a manager ID and an own password to the ticket issuing device **20**. Accordingly, the controller **401** of the ticket issuing device **20** displays an acceptance screen for issuing a password on the interface **21** (S**401**).

[0193] When the manager performs an operation for issuing a password for the locker device **10** in the desired area

on the acceptance screen (S**402**: YES), the controller **401** causes the ticket issuer **404** to issue a replenishment ticket for performing commodity replenishment with respect to the locker device **10** in this area (S**403**). On the replenishment ticket, a code figure holding the area, the password, and the current date and time as password information is printed. The controller **401** stores this password information in the memory **402** (S**404**).

[0194] The manager causes the reader **13** of the corresponding locker device **10** to read the code figure on the issued replenishment ticket. Through the processes from steps S**201** to S**203** in FIG. **14** to steps S**301** and S**302** in FIG. **15**, the controller **301** of the locker device **10** extracts the password information from the code figure and determines whether or not the password information is correct. In step S**302**, the controller **301** determines whether or not the area code in the password information matches the area code of the locker device **10** including this controller **301**. If these area codes do not match, the controller **301** determines NO in step S**302**. If these area codes match, the controller **301** makes an inquiry to the ticket issuing device **20** as to whether or not the password in the password information is correct.

[0195] The checking process in the ticket issuing device **20** is the same as the checking process in the server device **30**. If the password is not correct, the controller **301** executes the same process as in step S**308** and ends the processing. If the password is correct, the controller **301** executes the processes in step S**303** and the subsequent steps.

[0196] With this configuration, commodity replenishment can be performed for the locker device **10** desired by the manager, without using the password issuance system including the server device **30** and the mobile terminal **40**. Therefore, the operation of the commodity sales system **1** can be made more convenient.

<Other Modifications>

[0197] In the above embodiment, as shown in FIG. **11**B, the box number of the locker box to be unlocked is held in the code FIG. **71** of the purchase ticket **70**, but the unlocking information held in the code FIG. **71** is not limited to this.

[0198] For example, in the case where a screen for selecting a commodity name or a commodity type is displayed instead of the box selection screen **510** in FIG. **8**B when a commodity is to be purchased, the unlocking information held in the code FIG. **71** may include a commodity name or a commodity type instead of the box number. In this case, the controller **301** of the locker device **10** may unlock any locker box **11** in which the commodity is stored, among the locker boxes **11** corresponding to the commodity name or the commodity type read from the code FIG. **71**.

[0199] In addition, instead of the box number in FIG. **11**B (the box number that is a consecutive number for the plurality of locker devices **10**), the unlocking information may include information specifying a locker device **10** (e.g., an area code) and the number of a locker box **11** (any of 1 to 42) in the locker device **10**. In this case, in step S**204** in FIG. **14**, the controller **301** of the locker device **10** may determine whether or not the locker box **11** to be unlocked exists, based on whether or not the information (e.g., area code) of the locker device **10** read from the purchase ticket **70** matches the locker device **10** including this controller **301**.

[0200] In the above embodiment, the validity period in step S**205** in FIG. **14** is set based on the date and time when the locker box **11** was first unlocked using the same purchase ticket **70**, but the reference time (starting point) for the validity period may be any other date and time as long as it is a timing included in the process of taking out the commodity in response to the first unlocking.

[0201] For example, in the case where each locker box **11** has a sensor that detects opening and closing of the door **111**, the validity period may be set based on the date and time when the door **111** was first opened using the same purchase ticket **70**, or the validity period may be set based on the date and time when the door **111** was closed after being first opened. Alternatively, the validity period may be set based on the date and time when the door **111** was closed and locked after this door **111** was first opened. In addition, in the case where each locker box **11** has a sensor for detecting whether or not a commodity is stored therein, the validity period may be set based on the date and time when it was detected that the commodity had been taken out after the door **111** was first opened. In each of these cases, in step S**207** in FIG. **14**, the reference date and time is registered in the box management information in FIG. **7**, and a notification of this is transmitted to the ticket issuing device **20** at the reference date and time.

[0202] It is also possible to set the validity period based on the date and time when the purchase ticket **70** was issued at the ticket issuing device **20**. However, if the validity period is set as described above, when the user purchases a plurality of commodities at once, the user has to take out these commodities from the locker device **10** within a certain period from the ticket issuance, which is inconvenient for the user. In contrast, if the validity period is set as in the above embodiment, the user does not have to be restricted by the validity period when taking out each commodity. Therefore, it is preferable that the validity period is set based on a timing (date and time) included in the takeout process in which the locker box **11** is initially unlocked using the same purchase ticket **70**.

[0203] In the above embodiment, the processing from purchase to takeout of a commodity is shared by the controller **401** of the ticket issuing device **20** and the controller **301** of the locker device **10**, but the configuration of the controllers is not limited thereto. In the case where the controller **401** of the ticket issuing device **20** also controls each locker device **10**, the controller **401** may perform the above processing from purchase to takeout of a commodity. Alternatively, in the case where a control unit that controls the locker device **10** and the ticket issuing device **20** is provided in addition to the locker device **10** and the ticket issuing device **20**, the control unit may perform the above processing from purchase to takeout of a commodity. The controller described in the claims may be composed of the controllers **301** and **401** which are placed in the locker device **10** and the ticket issuing device **20**, respectively, as in the above embodiment, or may be composed of one controller as described above.

[0204] In the above embodiment, when a plurality of commodities are purchased at once and the total monetary amount is settled at the ticket issuing device **20**, the purchase ticket **70** is issued for each commodity (each locker box **11**). However, the present invention is not limited thereto, and when a plurality of commodities are purchased at once, one

purchase ticket **70** common to the plurality of commodities (plurality of locker boxes **11**) may be issued.

[0205] In this case, unlocking information for unlocking the plurality of locker boxes **11** is held in the code FIG. **71**. When the code FIG. **71** is read by the reader **13**, the plurality of locker boxes **11** indicated by the unlocking information are unlocked simultaneously, and the lighting parts **117** and the illumination parts **119** of these locker boxes **11** are lit up. In addition, the unlocking of these locker boxes **11** is reflected in the box images **612** and the message image **613** on the unlocking notification screen **610** in FIG. **12**B. The user may take out the commodities from the plurality of unlocked locker boxes **11** while checking the lighting of the lighting parts **117** and the illumination parts **119** and the unlocking notification screen **610**.

[0206] Alternatively, in this case, when the code FIG. **71** is read by the reader **13**, the plurality of locker boxes **11** indicated by the unlocking information may be unlocked sequentially, and the lighting part **117** and the illumination part **119** of the unlocked locker box **11** may be lit up. In this case, when the user takes out the commodity from the unlocked locker box **11** and closes the door **111** of the locker box **11**, the door **111** of the next locker box **11** is unlocked, and the lighting part **117** and the illumination part **119** of the locker box **11** are lit up. Such operations are performed sequentially for all the locker boxes **11** held in the code FIG. **71**.

[0207] In the above embodiment, the validity period in step S**205** in FIG. **14** is 10 minutes, but the validity period is not limited to 10 minutes. Similarly, the validity period of the password for commodity replenishment is not limited to 5 minutes.

[0208] In the above embodiment, as shown in FIG. **16**A, the time-expired open mode is set as a replenishment mode in which the locker box **11** from which the commodity has not been sold and that satisfies the predetermined commodity replacement condition is unlocked, but the commodity replacement condition is not limited to time-expiration. For example, in the case where each locker box **11** has a sensor that detects the freshness or degree of deterioration of a commodity, the commodity replacement condition may be that the freshness decreases to become equal to or lower than a threshold value or the degree of deterioration rises to become equal to or higher than a threshold value.

[0209] In the above embodiment, as shown in FIG. **2**, each locker box **11** is not labeled with a locker number, but each locker box **11** may be labeled with a locker number.

[0210] The configuration of each locker device **10** and the configurations of the various screens shown in the above embodiment are merely examples and may be other configurations. Each locker box **11** may have a refrigeration function or a freezing function. In addition, settling of a purchase price at the ticket issuing device **20** is not limited to settling in cash, and the ticket issuing device **20** may have a non-cash payment unit that can handle credit card, electronic money, code payments, etc.

[0211] In addition to the above, the embodiment of the present invention can be modified as appropriate within the scope of the claims.

What is claimed is:

1. A commodity sales system comprising:

a locker device in which commodities are stored in a plurality of locker boxes, respectively;

a ticket issuing device having a function of settling purchase prices of the commodities; and

a controller, wherein

the ticket issuing device includes

a ticket issuer, and

an interface configured to accept an input from a user,

the locker device includes

a locking unit provided for each of the locker boxes, and

a reader configured to read information, and

the controller

accepts designation of a commodity to be purchased, via the interface,

causes the ticket issuer to issue a purchase ticket holding unlocking information for unlocking the locker box in which the designated commodity is stored, in a form that can be read by the reader, and

unlocks the locker box based on the unlocking information read from the purchase ticket by the reader.

2. The commodity sales system according to claim **1**, wherein

the controller

accepts designation of the locker box in which a commodity to be purchased is stored, as designation of the commodity,

causes the purchase ticket to be issued so as to include specifying information specifying the designated locker box in the unlocking information, and

unlocks the locker box corresponding to the specifying information in the unlocking information read by the reader.

3. The commodity sales system according to claim **1**, wherein

a plurality of the locker devices are included,

each of the locker devices includes a notifier, and

if the locker box corresponding to the unlocking information read by the reader of one said locker device does not exist in the one said locker device, the controller causes the notifier to output a notification indicating that this locker box does not exist in the one said locker device.

4. The commodity sales system according to claim **3**, wherein the controller causes the notifier to notify the locker device including the locker box corresponding to the unlocking information read by the reader, in the notification.

5. The commodity sales system according to claim **3**, wherein

the controller

accepts designation of the locker device and the locker box in which a commodity to be purchased is stored, as designation of the commodity,

causes the purchase ticket to be issued so as to include specifying information specifying the designated locker box in the designated locker device, in the unlocking information, and

if the specifying information in the unlocking information read by the reader matches any of the locker boxes of the locker device that has performed the reading, unlocks the matched locker box.

6. The commodity sales system according to claim **1**, wherein the controller accepts re-unlocking of the locker box using the purchase ticket within a certain period from a predetermined timing in a process of taking out the commodity in response to the unlocking.

7. The commodity sales system according to claim 1, wherein the controller executes a replenishment mode for commodity replenishment, based on the reader reading other unlocking information for commodity replenishment with respect to the locker box.

8. The commodity sales system according to claim 7, wherein the replenishment mode includes a mode in which the locker box from which the commodity has been sold is unlocked.

9. The commodity sales system according to claim 7, wherein the replenishment mode includes a mode in which the locker box from which the commodity has not been sold and that satisfies a predetermined commodity replacement condition is unlocked.

10. The commodity sales system according to claim 9, wherein the commodity replacement condition includes a condition that a period during which the commodity is continuously stored in the locker box exceeds a predetermined threshold value.

11. The commodity sales system according to claim 7, further comprising a system configured to issue the other unlocking information.

12. The commodity sales system according to claim 7, wherein the controller causes the ticket issuer to issue a replenishment ticket holding the other unlocking information in a readable form, in response to a predetermined input to the interface.

13. A control method for a commodity sales system including a locker device in which commodities are stored in a plurality of locker boxes, respectively, and a ticket issuing device having a function of settling purchase prices of the commodities, the control method comprising:

accepting designation of a commodity to be purchased, via an interface;

causing the ticket issuing device to issue a purchase ticket holding unlocking information for unlocking the locker box in which the designated commodity is stored, in a readable form; and

unlocking the locker box based on the unlocking information read from the purchase ticket.

14. A ticket issuing device having a function of settling purchase prices of commodities stored in a plurality of locker boxes of a locker device, respectively, the ticket issuing device comprising:

a ticket issuer;

an interface configured to accept an input from a user; and

a controller, wherein

the controller

accepts designation of a commodity to be purchased, via the interface, and

causes the ticket issuer to issue a purchase ticket holding unlocking information for unlocking the locker box in which the designated commodity is stored, in a form that can be read by a reader of the locker device.

15. A locker device constituting a commodity sales system together with a ticket issuing device according to claim 14, the locker device comprising:

a plurality of locker boxes for storing commodities, respectively;

a locking unit provided for each of the locker boxes;

a reader configured to read information; and

a controller configured to unlock the locker box based on the unlocking information read from the purchase ticket by the reader.

* * * * *