

Date	September 26, 2016	Court	Intellectual Property High Court, Second Division
Case number	2016 (Gyo-Ke) 10020		
– A case in which, with regard to a patented invention titled "horizontal refrigerator," the court found an inventive step in the patented invention and rescinded a JPO decision that dismissed a claim in the request for a trial for invalidation of the patent, on the grounds that the JPO made an error in its determination on inventive step.			

References: Article 29, paragraph (2) of the Patent Act

Numbers of related rights, etc.: Invalidation Trial No. 2015-800066, Patent No. 3610005

Summary of the Judgment

1. This is an action to seek rescission of a JPO decision that dismissed a claim in the request for a trial for invalidation of a patent for an invention titled "horizontal refrigerator" (Patent No. 3610005, registered on October 22, 2004; the "Patent"). The major issue of the case is whether the patented invention involves an inventive step (whether the JPO made an error in its determination on the difference between the patented invention (the "Invention") and the cited inventions).

The JPO rejected the following allegations made by the plaintiff (the defendant of the invalidation trial): the Invention is unpatentable under Article 29, paragraph (2) of the Patent Act because [i] a person ordinarily skilled in the art could have easily made the Invention based on the invention disclosed in Exhibit Ko 1 (Publication of Unexamined Patent Application No.1999-294925; "Ko 1 Invention") and Exhibits Ko 2 to 11, and [ii] the invention disclosed in Exhibit Ko 3 (Publication of Unexamined Patent Application No.1998-281628; "Ko 3 Invention") and Exhibits Ko 1, 2, and 4 to 11.

2. In this judgment, the court, holding as summarized below, determined that the JPO decision should inevitably be rescinded on the grounds that the JPO made an error in the determination regarding inventive step of the invention described in Claim 1 of the Patent (Invention 1).

"Ko 1 Invention relates to a horizontal refrigerator for business use comprising two thermally insulated boxes, placed one beneath the other, that respectively have storage compartments to store things that need to be refrigerated. Therefore, it can be regarded as an invention relating to a horizontal refrigerator for business use comprising an inner box and outer box made of insulating materials, as well as two storage compartments, placed one beneath the other, that are separated by insulating materials filled in between them, or in other words, it is an invention relating to a horizontal

refrigerator for business use, the inside of which is divided into multiple compartments using insulating materials."

"Exhibit Ko 7 (Publication of Unexamined Patent Application No.1997-113089) discloses an example of cooling by a refrigerator for home use having a refrigerator compartment, freezer compartment, and vegetable compartment separated with partition walls made of insulating materials, and it states that the invention disclosed therein is useful not only for refrigerators for home use but also for various types of refrigerators that keep things at different temperatures in multiple compartments."

"Ko 1 Invention and the matters disclosed in Exhibit Ko 7 belong to the same general technical field and target the same general problem to solve, etc., and what is more, Examples 3 and 4 disclosed in Exhibit Ko 1 and the matters disclosed in Exhibit Ko 7 target the same specific problem to solve, i.e., preventing dehydration of things stored in the upper thermally insulated box while being cooled. Thus, it can be said that there is a motivation to apply the cooling method disclosed in Exhibit Ko 7 that uses vaporization of refrigerants by installing cooling pipes, as a method of cooling the inside the storage compartment of the upper thermally insulated box in Ko 1 Invention."

"Consequently, it can be concluded that at the time of the filing of the application in question, a person ordinarily skilled in the art could have easily made the structure involving Difference 2 in Invention 1, based on Ko 1 Invention and the matters disclosed in Exhibit Ko 7."

Judgment rendered on September 26, 2016
2016 (Gyo-Ke) 10020 case of seeking rescission of the JPO decision
Date of conclusion of oral argument September 12, 2016

	Judgment
Plaintiff	FUKUSHIMA INDUSTRIES CORP.
Defendant	HOSHIZAKI CORPORATION

Main Text

- 1 The court shall rescind the decision made by the JPO on December 14, 2015 with regard to the case seeking invalidation of patent No. 2015-800066
- 2 The defendant shall bear the court costs.

Fact and Reason

No. 1 Judicial decision sought by the plaintiff

The same as the main text

No. 2 Outline of the case

This is an action to seek rescission of a JPO decision that dismissed a request for a trial for invalidation of a patent. The major issue of the case is whether the patented invention involves an inventive step (whether the JPO made an error in its determination on the difference between inventions).

1 Outline of procedures at the JPO

The defendant filed an application for an invention entitled "Horizontal Refrigerator" on December 4, 2000 (Japanese Patent Application No. 2000-368949), and the registration of establishment of the patent (Patent No. 3610005) was made on October 22, 2004 (the number of claims is 3, Exhibits Ko 17 and 23, hereinafter referred to as "the Patent").

The plaintiff demanded a trial for invalidation of a patent against the inventions according to Claims 1 to 3 of the Patent, on March 16, 2015 (Invalidation Trial No. 2015-800066, Exhibits Ko 19 and 23.).

The Japan Patent Office made a decision "the demand for trial of the case was groundless" on December 14, 2015, and a certified copy thereof was delivered to the plaintiff on December 28, 2015.

2 Gist of the Invention

The description in the scope of claims according to the inventions of Claims 1 to 3 of the Patent is as follows (Exhibit Ko 17, hereinafter, these inventions are respectively referred to as "Invention 1" to "Invention 3," and Inventions 1 to 3 are collectively referred to as "the Invention"; the description and drawings described in the Patent Gazette (Exhibit Ko 17) of the Patent are collectively referred to as "the Description.")

[Claim 1] (Invention 1)

"A horizontal refrigerator which cools a refrigerator compartment (17) internally defined in a thermally insulating box (16) formed with no opening portion for cooling air on a ceiling portion on which a top plate (19) is arranged, by forcibly convecting air cooled with a cooler (27) of a freezing mechanism (24), and disposes a showcase (12) on an upper surface of the top plate (19) in the thermally insulating box (16), wherein

the showcase (12) is composed of an outer box (37), an inner box (38) provided inside the outer box (37) while keeping a required space, and an insulating material (39) filled between the two boxes (37, 38) separately from the thermally insulating box (16), is disposed on an upper surface of the thermally insulating box (16) while being thermally completely insulated, and is provided with an opening portion (12a) only on an upper part thereof, and

a cooling pipe (47) connected to the freezing mechanism (24) is arranged so as to contact an outer surface on the insulating material (39) of the inner box (38) to cool the inner box (38), and a storage compartment (40) internally defined in the showcase (12) is cooled by natural convection of air in contact with the inner box (38) and cooled.

[Claim 2] (Invention 2)

"A horizontal refrigerator which cools a refrigerator compartment (17) internally defined in a thermally insulating box (16) formed with no opening portion for cooling air on a ceiling portion on which a top plate (19) is arranged, by forcibly convecting air cooled with a cooler (27) of a freezing mechanism (24), and disposes a showcase (12) on an upper surface of the top plate (19) in the thermally insulating box (16), wherein

the showcase (12) is composed of an outer box (37), an inner box (38) provided inside the outer box (37) while keeping a required space, and an insulating material (39) filled between the two boxes (37, 38) separately from the thermally insulating box (16), is disposed on an upper surface of the thermally insulating box (16) while being completely thermally insulated, and is provided with an opening portion (12a) only on

an upper part thereof,

a cooling pipe (47) connected to the freezing mechanism (24) is arranged so as to contact an outer surface on the insulating material (39) of the inner box (38) to cool the inner box (38), and a storage compartment (40) internally defined in the showcase (12) is cooled through the cooling pipe (47), and

rail members (43, 44) are arranged between fore-and-aft upper end portions of the outer box (37) and the inner box (38) and a door (45) with a C-shaped cross section for opening/closing the opening portion (12a) is placed between the two rails (43, 44), thereby detachably and slidably arranging the door (45) to the opening portion (12a) of the showcase (12)."

[Claim 3] (Invention 3)

"The horizontal refrigerator according to Claim 1 or 2, comprising a stop means (64) stopping the cooling of the storage compartment (40) by the cooling pipe (47) while continuing the cooling of the refrigerator compartment (17) with the cooler (27)."

3 The defendant's (plaintiff's) allegation in the trial

Since the Invention [i]could have been easily invented by a person ordinarily skilled in the art based on the invention (Exhibit Ko 1 Invention) described in Exhibit Ko 1 (Japanese Unexamined Patent Application Publication No. 1999-294925) and Exhibits Ko 2 to 11 (including their branch numbers; the same shall apply hereinafter), and [ii]could have been easily invented by a person ordinarily skilled in the art based on the invention (Exhibit Ko 3 Invention) described in Exhibit Ko 3 (Japanese Unexamined Patent Application Publication No. 1998-281628) and Exhibits Ko 1, 2, and 4 to 11, the appellant should not be granted a patent under the provisions of Article 29, paragraph (2) of the Patent Act.

4 Gist of the reasons given in the JPO decision

(1) Regarding 3[i] above

A Finding of Exhibit Ko 1 Invention

Exhibit Ko 1 Invention is as follows.

"A horizontal refrigerator comprising: a lateral thermally insulating box body which is formed by an inner box, an outer box, and an insulating material, and has openings on a front surface and a top surface; a machinery compartment which stores a compressor and a condenser and the like and is installed adjacent to the thermally insulating box body; a cooling compartment which stores an evaporator and the like provided in the inner box; a thermally insulating door which blocks a front surface opening portion of

the thermally insulating box body so as to freely open/close; and a thermally insulating box which has a frontage matching a top surface opening portion of the thermally insulating box body on a bottom surface, and has doors freely opening/closing on a front surface or a top surface, wherein heat exchange is performed with the evaporator in the cooling compartment, and cold air sent from a cold air blowout port provided on an upper part of the cooling compartment by an in-compartment fan is, first, sent to the thermally insulating box to cool the thermally insulating box, and next, sent to the thermally insulating box body to cool the inside of the thermally insulating box body, and then is sucked from a cold air suction port to perform heat exchange with the evaporator again."

B Comparison with Invention 1

(A) Recognition of the corresponding features

In comparison of Invention 1 and Exhibit Ko 1 Invention, they are in correspondence in the following points.

"A horizontal refrigerator which cools a refrigerator compartment internally defined in a thermally insulating box equipped with a ceiling portion on which a top plate is arranged, by forcibly convecting air cooled with a cooler of a freezing mechanism, and disposes a case on an upper surface of the top plate in the thermally insulating box, wherein

the case is composed separately from the thermally insulating box, and is provided with an opening portion on an upper part thereof, and

a storage compartment internally defined in the case is cooled."

(B) Recognition of the different features

In comparison of Invention 1 and Exhibit Ko 1 Invention, they are different in the following points.

a Different Feature 1

Regarding a case, in Invention 1, it is a showcase (12), and the showcase (12) is composed of an outer box (37), an inner box (38) provided inside the outer box (37) while keeping a required space, and an insulating material (39) filled between the two boxes (37, 38), whereas, in Exhibit Ko 1 Invention, the case is the thermally insulating box.

b Different Feature 2

Regarding cooling in the case, in Invention 1, no opening portion for cooling air is formed on a ceiling portion on which a top plate is arranged, the case is disposed on an upper surface of the thermally insulating box (16) while being completely thermally insulated, and is provided with an opening portion (12a) only on an upper part thereof,

a cooling pipe (47) connected to the freezing mechanism (24) is arranged so as to contact an outer surface on the insulating material (39) of the inner box (38) to cool the inner box (38), and air in contact with the inner box (38) and cooled is in natural convection. On the other hand, in Exhibit Ko 1 Invention, it has an opening on a top surface, the case has a frontage matching a top surface opening portion of the thermally insulating box body on a bottom surface, and cold air sent from a cold air blowout port provided on an upper part of the cooling compartment by an in-compartment fan is, first, sent to the thermally insulating box to cool the thermally insulating box, and next, sent to the thermally insulating box body to cool the inside of the thermally insulating box body, and then is sucked from a cold air suction port to perform heat exchange with the evaporator again.

(C) Determination of the different features

a Determination of Different Feature 1

In Exhibit Ko 1, it is suggested that the thermally insulating box 12 forms a showcase.

Also, generally, it has been a well-known matter since before filing the application for the Patent (hereinafter, referred to as "the application of the case") that the showcase is formed as a case of a refrigerator.

Furthermore, it has been a well-known matter since before filing the application of the case that as a configuration of the showcase, it is composed of an outer box, an inner box provided inside the outer box while keeping a required space, and an insulating material filled between the two boxes.

Accordingly, it could have been easily achieved easily by a person ordinarily skilled in the art to form a showcase as the thermally insulating box of Exhibit Ko 1 Invention and adopt the well-known configuration, based on the suggestion.

Therefore, a person ordinarily skilled in the art could have easily conceived of such a configuration relating to Different Feature 1 relating to Invention 1.

b Determination of Different Feature 2

Regarding the cooling of the case, it can be said that the configuration "the case is disposed on an upper surface of the thermally insulating box (16) while being completely thermally insulated, and a cooling pipe (47) connected to the freezing mechanism (24) is arranged so as to contact an outer surface on the insulating material (39) of the inner box (38) to cool the inner box (38), and air in contact with the inner box (38) and cooled is in natural convection" itself relating to Invention 1 has been a well-known matter since before filing the application of the case.

However, in Exhibit Ko 1 Invention, by providing "a top surface opening

portion of a thermally insulating box body" and "a frontage" on "a bottom surface" of "the thermally insulating box," "heat exchange is performed with the evaporator in the cooling compartment, and cold air sent from a cold air blowout port provided on an upper part of the cooling compartment by an in-compartment fan is," "first, sent to the thermally insulating box" "to cool the thermally insulating box, and next, sent to the thermally insulating box body" "to cool the inside of the thermally insulating box body, and then is sucked from a cold air suction port." Then, Exhibit Ko 1 Invention, by adopting the configuration, shows an effect that "both can be cooled with one cooling unit," and can especially expand the use applications about a horizontal refrigerator for professional use that is generally called an under-counter."

Then, according to this, it can be said that the configuration provided with "a top surface opening portion of a thermally insulating box body" and "a frontage" on "a bottom surface" of "the thermally insulating box" is the major part of Exhibit Ko 1 Invention.

Even if the configuration about the cooling of the case relating to Invention 1 has been the well-known matter since before filing the application of the case, the fact that Exhibit Ko 1 Invention "having an opening on a top surface, wherein the case is equipped with a frontage matching a top surface opening portion of the thermally insulating box body on a bottom surface" is changed not to be provided with "a top surface opening portion of a thermally insulating box body" and "a frontage" on "a bottom surface" of "the thermally insulating box" means that the major part of Exhibit Ko 1 Invention is changed, so that an additional cooling means is required to be provided on the thermally insulating body, and Exhibit Ko 1 Invention does not have the effect that "both can be cooled with one cooling unit." Hence, in Exhibit Ko 1 Invention, there is no motivation for adopting the configuration which is not provided with "a top surface opening portion of a thermally insulating box body" and "a frontage" on "a bottom surface" of "the thermally insulating box."

Therefore, it cannot be said that a person ordinarily skilled in the art could have easily conceived of applying the described matters of Exhibits Ko 2 to 10 to Exhibit Ko 1 Invention, since there is no motivation in the application thereof.

Even though those described in Exhibits Ko 11-1 to 8 are well-known arts, even if applying the well-known arts to Exhibit Ko 1 Invention, a freezing circuit is applied, which takes a path passing through a compressor, a condenser, a receiver tank, and a dryer, then branches off into a path on a refrigerator side having a solenoid valve 1, an expansion valve 1, and an evaporator 1 and a path on a showcase side having a solenoid valve 2, an expansion valve 2, and an evaporator 2, and then merges and

returns to the compressor through an accumulator 1, a check valve, and an accumulator 2, and the showcase is separately provided with the evaporator as a cooling means, so that it is not that both are cooled with one cooling unit. Hence, it is not different in the point that there is no motivation for applying the described matters of Exhibits Ko 2 to 10 to Exhibit Ko 1 Invention.

c Summary

Therefore, Invention 1 could not have been easily invented by a person ordinarily skilled in the art, based on Exhibit Ko 1 Invention and Exhibits Ko 2 to 11.

C Comparison with Invention 2

(A) Recognition of the different features

In comparison of Invention 2 and Exhibit Ko 1 Invention, they are different in at least the following point (Different Feature 3).

Regarding cooling in the case, in Invention 2, no opening portion for cooling air is formed on a ceiling portion on which a top plate is arranged, the case is disposed on an upper surface of the thermally insulating box (16) while being completely thermally insulated, and a cooling pipe (47) connected to the freezing mechanism (24) is arranged so as to contact an outer surface on the insulating material (39) of the inner box (38) to cool a storage compartment (40) internally defined in a showcase (12) through the cooling pipe. On the other hand, in Exhibit Ko 1 Invention, it has an opening on a top surface, the case has a frontage matching a top surface opening portion of the thermally insulating box body on a bottom surface, and cold air sent from a cold air blowout port provided on an upper part of the cooling compartment by an in-compartment fan is, first, sent to the thermally insulating box to cool the thermally insulating box, and next, sent to the thermally insulating box body to cool the inside of the thermally insulating box body, and then is sucked from a cold air suction port to perform heat exchange with the evaporator again.

(B) Determination of Different Feature 3

In the same way as considered in the determination of Different Feature 2, it cannot be said that a person ordinarily skilled in the art could have easily conceived of applying the described matters of Exhibits Ko 2 to 11 to Exhibit Ko 1 Invention, since there is no motivation in the application thereof.

Therefore, Invention 2 could not have been easily invented by a person ordinarily skilled in the art, based on Exhibit Ko 1 Invention and Exhibits Ko 2 to 11.

D Comparison with Invention 3

Invention 3 cites Invention 1 or 2, and in comparison with Exhibit Ko 1 Invention, they are different in at least Different Features 2 and 3. Therefore, in the

same way as considered in the determination of Different Feature 2 and the determination of Different Feature 3, Invention 1 could not have been easily invented by a person ordinarily skilled in the art, based on Ko 1 Invention and Exhibits Ko 2 to 11.

(2) Regarding the above 3[ii]

A Recognition of Exhibit Ko 3 Invention

Exhibit Ko 3 Invention is as follows.

"A freezing refrigerator which

opens a taking in/out port 12 opened/closed by a door 11, on a front side in a depth direction of a top plate 10 of a freezing cabinet 1, and

installs a refrigerating cabinet 2 on a rear side in the depth direction in relation to the taking in/out port 12 on the top plate 10, wherein

a taking in/out port 14 is provided on a front surface side of the refrigerating cabinet 2 and a drawer 15 for storing refrigeration foods is inserted in the taking in/out port 14 so as to be inserted/extracted in the depth direction, and

the freezing cabinet 1 is equipped with a cooler 3 and fan 4 of a cooling device inside thereof, and a compressor 5 and a condenser 6 on a back surface side respectively, the fan forcibly circulating cold air in the freezing cabinet 1, the refrigerating cabinet 2 being uniquely equipped with a cooling function independently of the freezing cabinet 1, and the refrigerating cabinet 2 being not necessary to be installed in a state communicating with the inside of the freezing cabinet 1."

B Comparison with Invention 1

(A) Recognition of the corresponding features

In comparison of Invention 1 and Exhibit Ko 3 Invention, they are in correspondence in the following points.

"A refrigerator which cools a refrigerator compartment internally defined in a thermally insulating box formed with no opening portion for cooling air on a ceiling portion on which a top plate is arranged, by forcibly convecting air cooled with a cooler of a freezing mechanism, and disposes a case on an upper surface of the top plate in the thermally insulating box, wherein

the case is composed separately from the thermally insulating box, and is disposed on an upper surface of the thermally insulating box, and

a storage compartment internally defined in the case is cooled."

(B) Recognition of Different Features

In comparison of Invention 1 and Exhibit Ko 3 Invention, they are different in the following points.

a Different Feature 1

In Invention 1, a refrigerator is a horizontal refrigerator, and a case is a showcase (12). The showcase (12) is composed of an outer box (37), an inner box (38) provided inside the outer box (37) while keeping a required space, and an insulating material (39) filled between the two boxes (37, 38), and is provided with an opening portion (12a) only on an upper part thereof. On the other hand, in Exhibit Ko 3 Invention, a refrigerator is not a horizontal refrigerator, and a case is a refrigerating cabinet. A taking in/out port 14 is provided on a front surface side of the refrigerating cabinet and a drawer 15 for storing refrigeration foods is inserted in the taking in/out port 14 so as to be inserted/extracted in the depth direction.

b Different Feature 2

Regarding disposing of the case on an upper surface of a thermally insulating box, in Invention 1, it is disposed on an upper surface of the thermally insulating box (16) while being completely thermally insulated, whereas, in Exhibit Ko 3 Invention, it is not specified.

c Different Feature 3

Regarding the cooling of the case, in Invention 1, a cooling pipe (47) connected to the freezing mechanism (24) is arranged so as to contact an outer surface on the insulating material (39) of the inner box (38) to cool the inner box (38), and air in contact with the inner box (38) and cooled is in natural convection, and whereas, in Exhibit Ko 3 Invention, the refrigerating cabinet 2 is uniquely equipped with a cooling function independently of the freezing cabinet 1.

(C) Determination of Different Features

a Determination of Different Feature 1

It can be said that Exhibit Ko 3 Invention is supposed to be used in a narrow kitchen and to allow walking to a side part of the freezing cabinet for taking in/out food materials and has a comparatively narrow width.

Also, Exhibit Ko 3 Invention "taking food materials in/out from the refrigerating cabinet 1 is carried out by opening/closing the taking in/out port 12 on the front side of the top plate 10 of the freezing cabinet 1"; similarly, "taking food materials in/out from the freezing cabinet 2 can be also carried out by drawing the drawer 15 on the front side of the top plate 10 of the freezing cabinet 1." Therefore, Exhibit Ko 3 Invention is "a freezing refrigerator which opens a taking in/out port 12 opened/closed by a door 11, on a front side in a depth direction of a top plate 10 of a freezing cabinet 1, and installs a refrigerating cabinet 2 on a rear side in the depth direction in relation to the taking in/out port 12 on the top plate 10," and furthermore,

has a configuration in which "a taking in/out port 14 is provided on a front surface side of the refrigerating cabinet 2 and a drawer 15 for storing refrigeration foods is inserted in the taking in/out port 14 so as to be inserted/extracted in the depth direction." This configuration is a major part of Exhibit Ko 3 Invention.

Then, it cannot be normally assumed by a person ordinarily skilled in the art that the freezing refrigerator of Exhibit Ko 3 Invention which has a configuration of a size supposed to be used in a narrow kitchen and to allow walking to a side part of the freezing cabinet is made to be a horizontal refrigerator with a comparatively wide width.

In addition, so as to change Exhibit Ko 3 Invention to the horizontal refrigerator which is acknowledged as "one equipped with a work table on an upper surface," it is required to modify the taking in/out port 12 for making the front side of the top plate work as a cooking table, and hence the configuration of the major part of the premise refrigerator itself has to be changed greatly.

From the above, in Exhibit Ko 3 Invention, there is no motivation for adopting the configuration relating to Different Feature 1.

Even though those described in Exhibits Ko 11-1 to 8 are well-known arts, even if applying the well-known arts to Exhibit Ko 3 Invention, it is not a motivation of making "the freezing cabinet 1" the horizontal refrigerator and providing an opening portion only on an upper part while using "the refrigerating cabinet 2" as a showcase.

Therefore, a configuration relating to Different Feature 1 of Invention 1 could not have easily conceived by a person ordinarily skilled in the art, based on Exhibit Ko 3 Invention and Exhibits 1, 2, and 4 to 11.

b Determination of Different Feature 2

Since in Exhibit Ko 3 Invention, "the refrigerating cabinet 2 is uniquely equipped with a cooling function independently of the freezing cabinet 1, and the refrigerating cabinet 2 being not necessary to be installed in a state communicating with the inside of the freezing cabinet 1," it could have been properly made by a person ordinarily skilled in the art that when the refrigerating cabinet 2 is installed on the freezing cabinet 1, it is "disposed while being completely thermally insulated." Also, it could have been easily done by a person ordinarily skilled in the art to make it to be a configuration relating to Different Feature 2, as a layout of the refrigerating cabinet 2 of Exhibit Ko 3 Invention.

c Determination of Different Feature 3

Regarding the cooling of the case, a form in which it is composed of an outer box, an inner box provided inside the outer box while keeping a required space, and an

insulating material filled between the two boxes, and in which a pipe that is an evaporator connected to the freezing mechanism is arranged so as to contact with an outer surface on the insulating material side of the inner box, has been a well-known matter since before filing the application of the case, and it is obvious that air in the case is in natural convection. Therefore, as the cooling of the case of Exhibit Ko 3 Invention, it could have been easily done by a person ordinarily skilled in the art to make it to be a configuration relating to Different Feature 3 of Invention 1, by adopting the well-known matter before filing the application of the case.

d Summary

Therefore, Invention 1 could not have been easily invented by a person ordinarily skilled in the art, based on Exhibit Ko 3 Invention and Exhibits Ko 1, 2, and 4 to 11.

C Comparison with Invention 2

(A) Recognition of the different features

In comparison of Invention 2 and Exhibit Ko 3 Invention, they are different in at least the following point (Different Feature 4).

In Invention 2, a refrigerator is a horizontal refrigerator, and a case is a showcase (12). The showcase (12) is composed of an outer box (37), an inner box (38) provided inside the outer box (37) while keeping a required space, and an insulating material (39) filled between the two boxes (37, 38), and is provided with an opening portion (12a) only on an upper part thereof. On the other hand, in Exhibit Ko 3 Invention, a refrigerator is not a horizontal refrigerator, and a case is a refrigerating cabinet. A taking in/out port 14 is provided on a front surface side of the refrigerating cabinet and a drawer 15 for storing refrigeration foods is inserted in the taking in/out port 14 so as to be inserted/extracted in the depth direction.

(B) Determination of Different Feature 4

In the same way as considered in the determination of Different Feature 1, the configuration relating to Different Feature 4 of Invention 2 could not have been easily done by a person ordinarily skilled in the art, based on Exhibit Ko 3 Invention and Exhibits Ko 1, 2, and 4 to 11.

Therefore, Invention 2 could not have been easily invented by a person ordinarily skilled in the art, based on Exhibit Ko 3 Invention and Exhibits Ko 1, 2, and 4 to 11.

D Comparison with Invention 3

Invention 3 cites Invention 1 or 2, and in the same way as considered in the determination of Different Feature 1 and the determination of Different Feature 4, it

could not have been easily invented by a person ordinarily skilled in the art, based on Exhibit Ko 3 Invention and Exhibits Ko 1, 2, and 4 to 11.

No. 3 The grounds for rescission of the JPO decision of the plaintiff's allegation

1 Grounds for rescission 1 (lack of inventive step of the Invention - by citing Exhibit Ko 1 Invention as a main Cited Document)

(1) Regarding determination of Different Feature 2

A Regarding a motivation

(A) In a refrigerator, it is a well-known art that an opening portion for cold air is not provided between two cooling compartments which are different in application, objects to be stored, set temperature, and the like, or that each cooling compartment is cooled by an independent cooling system (for example, refer to Exhibits Ko 2 to 7).

Limited to the field of a horizontal refrigerator with a showcase, in Exhibit Ko 32 which is a United States Patent Publication issued in 1992, it is described that an opening portion for cold, which was provided between a refrigerator compartment of a refrigerator on a lower side and a storage place of a showcase on an upper side, is omitted, and the storage place is cooled by a wall surface cooling system using a cooling pipe. Also, in Exhibit Ko 33 which is a United States Patent Publication issued in 1994, a configuration is described, in which a refrigeration tube is arranged so as to surround a compartment of a showcase on an upper side to cool the inside of the compartment by a wall surface cooling system and no opening portion for cold air exists between a refrigerator compartment of a refrigerator on a lower side and the compartment. In the field of a horizontal refrigerator with a showcase, it was common technical knowledge as of the filing to have a configuration in which no opening portion for cold air is provided between a showcase on an upper side and a horizontal refrigerator on a lower side, and to cool the showcase on the upper side by a cooling system independent of the refrigerator on the lower side.

According to the above, determination of the trial decision that recognizes the existence of "an opening portion" and "a frontage" of Exhibit Ko 1 Invention as a major part and assumes that there is no motivation for having a configuration which is not provided with those is incorrect.

Even if those are major parts of Exhibit Ko 1 Invention, it is merely change within a category of common general technical knowledge to take a configuration which is not provided with these, and the change could have been easily made by a person ordinarily skilled in the art. Also, determination of the trial decision overlooked the common technical knowledge as of the filing in the field of horizontal

refrigerator with a showcase, and there is an error to be rescinded.

(B) In Exhibit Ko 1 Invention, it is merely a predictable event for a person ordinarily skilled in the art in the field of a horizontal refrigerator with the showcase that if an additional cooling means is provided on a thermally insulating box (showcase) on an upper side, it will not play an effect to cool both the thermally insulating box (showcase) and a thermally insulating box body with one cooling unit, and therefore, it cannot be a basis for denying the motivation for adopting the configuration which is not provided with the ceiling opening portion of the thermally insulating box body and a frontage on a bottom surface of the thermally insulating box. A person ordinarily skilled in the art would never hesitate to provide an additional cooling means in the thermally insulating box (showcase) on the upper side of Exhibit Ko 1 Invention because of the reason that the above-mentioned effect cannot be obtained.

B Regarding the application of the well-known art relating to Exhibits Ko 2 to 11 to Exhibit Ko 1 Invention

(A) It was a well-known art as of the filing that in a refrigerator, in order to solve problems such as in-chamber drying, adhesion of frost, and deterioration of the cooling capacity of the cooler derived from circulating cool air, each refrigerator compartment is made to be in a non-communication state and is given its own cooling function to cool each refrigerator compartment with its own cooling function.

(B) There is a motivation for applying the well-known arts relating to Exhibits Ko 2 to 11 to Exhibit Ko 1 Invention.

a Exhibit Ko 1 Invention relates to a horizontal refrigerator which is a kind of refrigerator, and matters described in Exhibits Ko 2 to 11 also relate to refrigerators. Exhibit Ko 1 Invention and the well-known arts relating to Exhibits Ko 2 to 11 belong to the same technical field.

b In a refrigerator equipped with a plurality of refrigerator compartments, there were problems commonly well-known to a person ordinarily skilled in the art in the field of refrigerators as of the filing of the application of the patent relating to Exhibit Ko 1 Invention to provide each refrigerator compartment with optimum cooling performance according to objects to be stored, to improve the cooling performance of each refrigerator compartment, to suppress the deterioration of the cooling performance of each refrigerator compartment, etc. Therefore, regardless of whether or not the above problems are described in Exhibit Ko 1, there is the motivation for applying the well-known arts relating to Exhibits Ko 2 to 11 to Exhibit Ko 1 Invention.

(C) There is no obstacle to applying the well-known arts relating to Exhibits Ko 2 to 11 to Exhibit Ko 1 Invention.

Since a cooling system in which an opening portion is provided to communicate two refrigerator compartments and use circulation cold air, and a cooling system in which an opening portion is not provided and two refrigerator compartments are not communicated with each other, are merely options of the cooling systems that can be selected appropriately according to the use mode of a refrigerator, the presence/absence of the opening portion 11 in Exhibit Ko 1 Invention is merely a design matter and cannot be an obstacle when applying the well-known arts relating to Exhibits Ko 2 to 11 to Exhibit Ko 1 Invention.

(D) From the above, Invention 1 could have been easily conceived by a person ordinarily skilled in the art by combining the well-known arts relating to Exhibits Ko 2 to 11 with Exhibit Ko 1 Invention.

C Regarding the application of the matter described in Exhibit Ko 7 to Exhibit Ko 1 Invention

(A) Exhibit Ko 1 Invention adopts a wall surface cooling system which cools the heat transfer panel 19 with cold air sent from the cold air blowout port 20 on the horizontal refrigerator (thermally insulating box body 1) side, and cools the inside of the thermally insulating box 12 by natural convection heat transmission and a radiation cooling action by the cooled heat transfer panel 19, as a cooling system of the thermally insulating box (showcase).

In Exhibit Ko 7, it is described to adopt the wall surface cooling system which cools the inside of the refrigerator compartment 6 with a refrigerant flowing through a refrigerator compartment cooling pipe 18 arranged on the outer surface on the insulating material 2 side of the inner box 3B which becomes an inner wall of the refrigerator compartment 6 ([0025], [0028]), and cools the inside of the vegetable compartment 9 with a vegetable compartment cooling pipe 19 arranged on the outer surface on the insulating material 2 side of the lower partition wall 5 which becomes an inner wall of the vegetable compartment 9 ([0026], [0030]).

(B) There is a motivation for applying the wall surface cooling system of Ko 7 Invention, to Exhibit Ko 1 Invention, instead of the wall surface cooling system of Exhibit Ko 1 Invention.

a The matters described in Exhibit Ko 1 Invention and Ko 7 Invention are common not only in the technical field of refrigerators or multi-stage refrigerators, but also in the technical field in the point of adopting the wall surface cooling system as a cooling system.

b The invention relating to Exhibit Ko 7 is made so as to solve problems that since "the opening portion" or "the opening" of Exhibit Ko 1 Invention exists to circulate cold air

between the refrigerator 106 and the vegetable compartment 109, the inside of the refrigerator compartment 106 and the vegetable compartment 109 are dried, and the cooling performance of the cooler 115 is deteriorated, since moisture in the moisture-rich refrigerator compartment 106 and in the vegetable compartment 109 adheres to the cooler 115 as frost.

c Exhibit Ko 1 Invention discloses that stored items can be stored at high humidity by adopting the wall surface cooling system, and Exhibit Ko 7 describes that foods stored in the refrigerator compartment 6 and the vegetable compartment 9 do not dry by adopting the wall surface cooling system. They are common in the technical problems such as prevention of drying of stored items and maintenance of humidity, and specific solutions of the technical problems.

(C) Even if the major part of Exhibit Ko 1 Invention is that "the opening portion" or "the opening" is provided, since Exhibit Ko 7 actively eliminates these configurations, there is motivation for applying the matter described in Exhibit Ko 7 to Exhibit Ko 1 Invention.

(D) From the above, Invention 1 could have been easily conceived by a person ordinarily skilled in the art by applying the matter described in Exhibit Ko 7 to Exhibit Ko 1 Invention.

(2) Determination of Different Feature 3

As described above, since the determination of the trial decision relating to the determination of Different Feature 2 about Invention 1 is incorrect, the determination of the trial decision relating to the determination of Different Feature 3 about Invention 2 which is applied mutatis mutandis pursuant to that is also incorrect.

(3) Counterarguments to the defendant's allegations

The plaintiff does not allege new reasons for invalidation different from those addressed in the trial, and does not allege causes of new reasons for invalidation in the comparison with the well-known arts which were not judged in the trial.

It is permitted to submit new materials to recognize the technical common sense as of filing and thereby clarify the technical significance of the cited example in the suit against trial decision (see Judgment 1979 (Gyo-Tsu) 2 by the Supreme Court, 1st Petty Bench, on January 24, 1980/Minshu Vol. 34, No. 1, page 80)

The plaintiff submits Exhibits Ko 32 and 33 as materials showing the technical common sense of a person ordinarily skilled in the art as of the filing to clarify the technical significance of the cited example, and the allegation of the plaintiff is not "an allegation lagging behind the times."

2 Grounds for rescission 2 (lack of inventive step of the Invention - by citing Exhibit Ko 3 Invention as a main Cited Document)

(1) Although there are various types of refrigerators with different structures and shapes, any of those is used for the common application of "cooling an object."

In Exhibit Ko 3, it is clearly stated that the refrigerating cabinet 2 and the freezing cabinet 1 may be not communicated with each other or that the refrigerating cabinet 2 may be uniquely equipped with a cooling function independently of the freezing cabinet 1, and since those are completely identical with the configuration of the Invention in the point that "the opening portion for cold air" is not provided and that the cooling pipe that is a cooling means is provided on the showcase, the application of other matters to Exhibit Ko 3 Invention should be considered possible.

(2) As described above, since the determination of the trial decision about the application of Exhibit Ko 3 Invention is incorrect, the trial decision must be rescinded.

No. 4 Counterargument of the defendant

1 Regarding Grounds for rescission 1

(1) Regarding the determination of Different Feature 2

A Exhibit Ko 1 Invention provides a horizontal refrigerator for professional use which can cool both of a thermally insulating box 12 on an upper side and a thermally insulating box body 1 on a lower side with one cooling unit. In the horizontal refrigerator, top surface opening portions 11 are provided at two places on a top surface of the thermally insulating box body so as to send cold air generated in a cooling compartment (9) to the thermally insulating box 12 on the upper and the thermally insulating box body 1 on the lower side by an in-compartment fan (14) to circulating fluidize in the cooling compartment (9), and openings matching the respective top surface opening portions 11 are provided on a bottom surface of the thermally insulating box 12.

If the top surface opening portions 11 of the thermally insulating box body 1 and the bottom surface openings of the thermally insulating box 12 are not provided, the circulating fluidization of the cold air becomes impossible, so that both of the thermally insulating box 12 and the thermally insulating box body 1 cannot be cooled with one cooling unit.

Therefore, there is no motivation for applying the matters described in Exhibits Ko 2 to 10 to Exhibit Ko 1 Invention, and the determination of Different Feature 2 of the trial decision is reasonable.

B Also, unless the technical problems specific to the horizontal refrigerator disclosed

in Exhibit Ko 1 Invention are recognized, there is no motivation for applying the matters described in Exhibits Ko 32 and 33.

(2) Regarding the determination of Different Feature 3

For the same reason as (1) above, the determination of Different Feature 3 of the trial decision is reasonable.

(3) Defendant's allegation

A Exhibits Ko 32 and 33 are new evidences which were not submitted in the prior instance, and since the contents thereof were not judged in the prior instance, the plaintiff's allegation based on the contents of Exhibits Ko 32 and 33 departs from the scope of examination of this litigation (see Judgment 1967 (Gyo-Tsu) 28 by the Supreme Court, Grand Bench, on March 10, 1976/Minshu Vol. 30, No. 2, page 79)

B The trial decision understands the well-known technology as of the filing of this application and accurately makes determination, and the plaintiff's allegation that it was a well-known configuration as of the filing of this application to take the wall surface cooling system as a cooling system of the showcase on the upper side of the horizontal refrigerator with the showcase, is an allegation lagging behind the times.

2 Regarding Grounds for rescission 2

The horizontal refrigerator of Invention 1 is disposed in a narrow kitchen and a front side of a top plate is used as a kitchen table enabling cooking work, and even though those described in Exhibits Ko 11-1 to 8 are well-known arts, even if applying the well-known technology to Exhibit Ko 3 Invention, it does not become the motivation of making "the freezing cabinet" the horizontal refrigerator and providing an opening portion only on an upper part while using "the refrigerating cabinet 2" as a showcase.

Also, in Exhibit Ko 3 Invention, although the refrigerating cabinet 2 is uniquely equipped with a cooling function independently of the freezing cabinet 1, this is understood to mean that both of the freezing cabinet 1 and the refrigerating cabinet 2 are not cooled with one cooling unit.

No. 5 Judgment of this court

1 Findings

(1) Regarding the Invention

Although the Invention is as described in No. 2-2 above, in the Description (Exhibit Ko 17), the Invention is roughly described as follows.

The Invention relates to a horizontal refrigerator which installs a showcase on

an upper surface of a thermally insulating box ([0001]).

As the one which installs the showcase for keeping food materials such as sushi material and vegetables on the upper surface of the horizontal refrigerator used in a kitchen in a restaurant and the like, a prior art exists, in which cold air cooled by a cooler configuring a freezing mechanism together with a compressor and a condenser is sent into a refrigerator compartment in the inside of the thermally insulating box forming a body of the refrigerator by an in-compartment fan to cool the refrigerator compartment, and an opening portion is provided at a position corresponding to an opening portion opened on a ceiling portion of the thermally insulating box on a bottom part of the showcase and the cold air in the refrigerator compartment is introduced into a storage compartment defined in the showcase through both opening portions to cool the storage compartment ([0002]).

However, in the refrigerator, there is a problem that food material and the like stored in the storage compartment is dried due to a flow of the cold air and freshness tends to be deteriorated since it is a system for forcibly convecting the cold air into the refrigerator compartment and the storage compartment by using the in-compartment fan. Also, in the refrigerator, although there is proposed a system in which a heat transfer panel cooled by the cold air introduced from the refrigerator compartment is arranged on the showcase and the storage compartment is cooled by the natural convection of the cold air cooled by the heat transfer panel, in the cooling of this natural convection system, there was a problem that although drying of food materials and the like in the storage compartment is suppressed, since the heat transfer panel cannot be arranged at a taking-out port opened on the showcase, a cooling area by the panel is small and cooling efficiency is low ([0003]). Furthermore, since the refrigerator compartment and the storage compartment are communicated with the opening portion, there are a problem that a large amount of warm air containing moisture flows into the compartment from the storage compartment of the showcase where the sliding door is frequently opened and closed, and the moisture in the air in both compartments adheres as a frost to a single cooler for cooling both compartments in a large amount in a short time, thereby causing insufficient cooling and deteriorating cooling performance; a problem that since the taking-out port of the showcase is formed from an upper part to a front part, when the slide door is open, the cold air near the bottom part flows out and warm air flows into the storage compartment and the refrigerator compartment to make temperature in both compartments easier to rise; a problem that although the refrigerator has a configuration in which the opening portion opened on the ceiling portion of the thermally insulating body is closed by a lid so as

to remove the showcase from the thermally insulating body and use only the thermally insulating box side, heat insulation performance at the opening portion closed with the lid is low, and the cooling performance is deteriorated as compared with a product which is not provided with an opening at the upper part of the thermally insulating box; and a problem that since a part where the opening portion is closed with the lid is weaker than the product which is not provided with the opening portion on the upper part of the thermally insulating box, the deflection on a box upper surface and the sinking of the lid and its surroundings are likely to be generated, and there is a risk of causing a trouble in cooking work on the thermally insulating box ([0004], [0005]). Furthermore, in the refrigerator, since the cold air in the refrigerator compartment flows out to the storage compartment from the opening portion of the thermally insulating box even if the showcase is not used, there is a problem that cooling efficiency on the storage compartment side is deteriorated, a compressor load increases accordingly, power consumption also increases, and running costs are increased. Also, in the configuration in which the opening portion can be closed with the lid, although the outflow of the cold air from the refrigerator compartment to the storage compartment can be prevented to some extent, it is difficult to completely suppress the outflow of cold air from a gap between the lid and the thermally insulating box, and also, even if the lid has an insulating structure, the thickness of the insulating material thereof is thinner than the thickness of the insulating material of the thermally insulating material, and it was impossible to suppress the generation of heat exchange to the storage compartment side and an increase in the running cost due to a large increase in the compressor load ([0006]).

Then, the Invention is to provide a horizontal refrigerator which can improve the cooling efficiency of the refrigerator compartment and the storage compartment, suppress the deterioration of the cooling performance, and prevent the deterioration of the cooling efficiency on the refrigerator compartment side when the showcase is not used ([0007]).

The Invention cools a refrigerator compartment internally defined in a thermally insulating box formed with no opening portion for cooling air on a ceiling portion on which a top plate is arranged, by forcibly convecting air cooled with a cooler of a freezing mechanism, disposes a showcase on an upper surface of the top plate in the thermally insulating box while being completely thermally insulated, and is provided with an opening portion only on an upper part thereof, in which a cooling pipe connected to the freezing mechanism is arranged so as to contact with an outer surface of the inner box on an insulating material filled between the inner box and an outer box

to cool the inner box, and a storage compartment internally defined in the showcase is cooled by natural convection of air in contact with the inner box and cooled.

Also, in another configuration, the Invention is configured to cool the refrigerator compartment with a cooler of a freezing mechanism, disposes the showcase, is provided with an opening portion as described above, arranges a cooling pipe connected to the freezing mechanism as described above, and cools the refrigerator compartment through the cooling pipe, and rail members are arranged between fore-and-aft upper end portions of the outer box and the inner box and a door with a C-shaped cross section for opening/closing the opening portion is placed between the two rails, thereby detachably and slidably arranging the door to the opening portion of the showcase ([0008]).

Embodiments of the Invention are as the following FIGS. 1 to 4 ([0009], [0018]).

FIG. 1 a primary part longitudinal side view

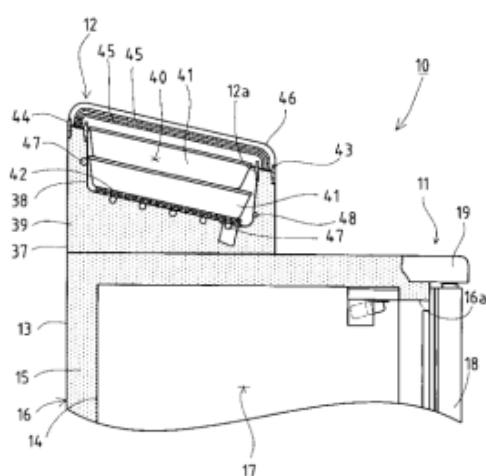


FIG. 2 a schematic perspective view

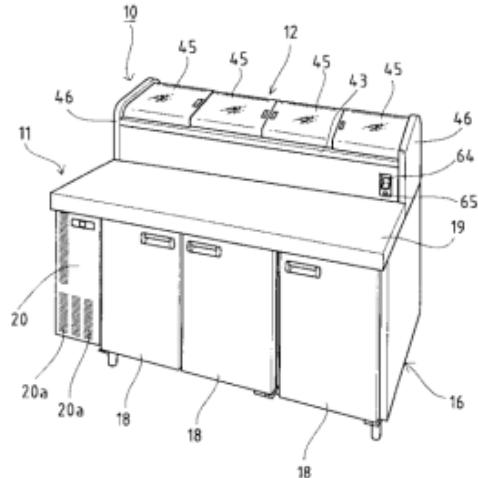


FIG. 3 a longitudinal front view diagram

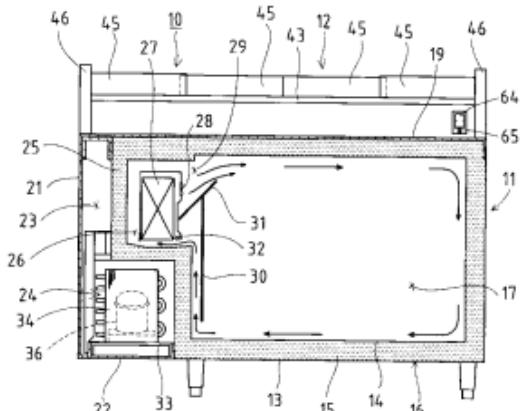
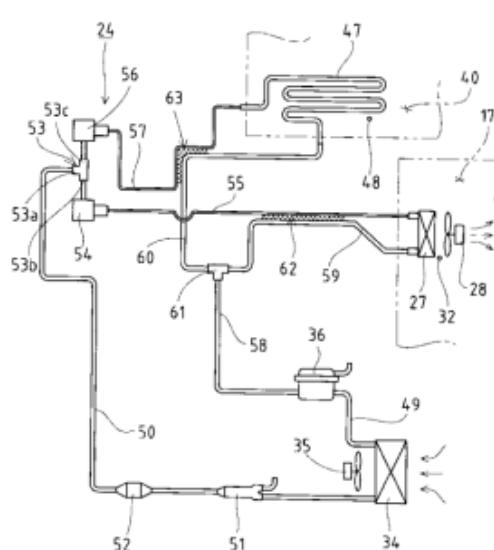


FIG. 4 a schematic configuration



That is, the horizontal refrigerator 10 relating to the embodiment is fundamentally composed of the refrigerator body portion 11 disposed on the lower side, and a showcase 12 disposed on the upper side ([0009]).

In a refrigerator body portion 11, a refrigerator compartment 17 for storing refrigerated goods such as foods and beverages is defined in a thermally insulating box 16. A top plate 19 is arranged on the upper surface of an outer box 13 in the thermally insulating box 16, and an upper part on the top plate 19 is configured to be usable as a cooking table. Under the top plate 19, a machinery compartment 23 is defined, and a freezing mechanism 24 is stored in the machinery compartment 23. A storing portion 25 for a cooler suspended from a lower surface of the top plate 19 defining an upper part of the machinery compartment 23 with height as high as an intermediate position of the machinery compartment 23 is arranged. In the inside of the storing portion 25 for the cooler, a cooler compartment 26 communicating with the refrigerator compartment 17 is defined, and a cooler 27 and an in-compartment fan 28 of the freezing mechanism 24 are stored in the cooler compartment 26. Cold air cooled by circulating and supplying a refrigerant into the cooler 27, is forcibly convected into the refrigerator compartment 17 by the operation of the in-compartment fan 28 to cool the refrigerator compartment 17. On a left side wall opposite to the machinery compartment 23 of the thermally insulating box 16, a cold air blowout port 29 is opened at a position corresponding to the cooler compartment 26, and the cold air cooled in the cooler compartment 26 is blown out to the refrigerator compartment 17.

through the cold air blowout port 29 by the operation of the in-compartment fan 28. Also, on a left side wall of the thermally insulating box 16, a cold air suction duct 32 is arranged under the cold air blowout port 29, and it is configured to suck the air of the refrigerator compartment 17 into the cooler compartment 26 through the duct 30. Near the cooler 27, a first temperature sensor 32 for detecting the temperature of the refrigerator compartment 17 is arranged, and a refrigerator compartment solenoid valve 54 is set to be open/close controlled based on a detection temperature of the sensor. ([0010] to [0012], and [0024]).

On a base plate 33 stored in the machinery compartment 23 and configured to enable taking in/out from a front side, components such as a condenser 34, a condenser fan 35, and a compressor 36 configuring the freezing mechanism 24 are attached in this order from a front surface side ([0013]).

The showcase 12 disposed on a rear part side on the upper surface of the thermally insulating box 16, is composed of an outer box 37, an inner box 38 provided inside the outer box 37 while keeping a required space, and an insulating material 39 filled between the two boxes 37, 38, and an opening portion 12a functioning as a taking-out port is provided only on an upper part thereof. In the inside of the inner box 38, a storage compartment 40 for storing food materials and the like is defined. Between fore-and-aft upper end portions of the outer box 37 and the inner box 38, rail members 43, 44 are arranged over the total length in a longitudinal direction (a right-and-left direction in FIG. 3), and a plurality of slide doors 45 are formed between the rail members 43, 44 to have a C-shaped cross sections by a transparent material is arranged detachably and slidably in the longitudinal direction ([0014], [0015]).

On an outer surface on the insulating material side on a bottom surface portion and a rear surface portion of the inner box 38, a cooling pipe 47 connected to the freezing mechanism 24 is arranged in a meandering state while being contacted, and is configured to cool the whole of the inner box 38 by the circulation of the refrigerant supplied from the freezing mechanism 24. That is, the storage compartment 40 is cooled by the natural convection of the cold air cooled by the inner box 38. ([0016])

On the outer surface of the inner box 38, a second temperature sensor 48 for detecting the temperature of the storage compartment 40 is arranged, and on the basis of a detection temperature of the sensor 48, a storage compartment solenoid valve 56 is set to be open/close controlled. It is also possible to arrange the second temperature sensor 48 in the inside of the storage compartment 40 and perform the open/close control of the storage compartment solenoid valve 56 by directly detecting room temperature. ([0017])

The freezing mechanism 24 is configured to connect a discharge pipe 49 led out from a refrigerant discharge side of the compressor 36 to a refrigerant inlet out of the condenser 34, and to supply the high pressure and high temperature vaporized refrigerant compressed by the compressor 36 to the condenser 34 to condense. A refrigerant pipe 50 led out from a refrigerant outlet side of the condenser 34 is connected to a first connection port 53a of a first cheese 53. To a second connection port 53b of the first cheese 53, a first capillary tube 55 is connected through the refrigerator compartment solenoid valve 54, and the first capillary tube 55 is connected to a refrigerant inlet side of the cooler 27. Also, to a third connection port 53c of the first cheese 53, a second capillary tube 57 is connected through the storage compartment solenoid valve (switching means) 56, and the second capillary tube 57 is connected to the refrigerant inlet side of the cooling pipe 47. ([0018])

A suction pipe 58 is connected to a refrigerant suction side of the compressor 36, a first return pipe 59 led out from the refrigerant outlet side of the cooler 27 and a second return pipe 60 led out from the refrigerant outlet side of the cooling pipe 47 are connected through a second cheese 61. Vaporized refrigerant whose temperature was increased due to the heat exchange by the cooler 27 and the cooling pipe 47, is configured to return to the compressor 36 through the corresponding first return pipe 59, the second return pipe 60, and the suction pipe 58 ([0019]).

In the freezing mechanism 24, the vaporized refrigerant compressed by the compressor 36 is air-cooled and condensed by the condenser 34, and the liquefied refrigerant is branched and supplied to the first capillary tube 55 and the second capillary tube 57. The liquefied refrigerant flowing through the first capillary tube 55 is evaporated in the cooler 27 to perform heat exchange with the air in the cooler compartment 26 in contact with the cooler 27 to cool. The cold air cooled by the cooler 27 is blown out from the cold air blowout port 29 toward the refrigerator compartment 17, and the cold air circulates in the refrigerator compartment 17 to cool the refrigerator compartment 17. That is, the refrigerator compartment 17 is cooled by a cold air forced convection system. ([0018], [0023], [0024])

Also, the liquefied refrigerant circulating in the second capillary tube 57 is evaporated in the cooling pipe 47 to perform heat exchange with the inner box 38 to cool. The inner box 38 is formed by a material with good thermal conductivity, the bottom surface portion, the front surface portion, the rear surface portion, and both side surface portions of the inner box 38 are cooled, air in contact with the inner box 38 is cooled in the storage compartment 40, and the storage compartment 40 is cooled by the natural convection of the cold air. That is, in the showcase 12, the storage

compartment 40 is cooled in a natural convection direction of the cold air, so that there is no possibility that food materials and the like stored in the storage compartment 40 are dried by a flow of the cold air. ([0018], [0025], [0033])

In such a freezing operation, based on the detection temperature of the refrigerator compartment 17 by the first temperature sensor 32, the refrigerator compartment solenoid valve 54 is open/close controlled, thereby repeating the supply and stop of the refrigerant to the cooler 27, and the refrigerator compartment 17 is maintained at a temperature set in advance. Also, in the same way in the showcase 12, based on the detection temperature of the storage compartment 40 by the second temperature sensor 48, the storage compartment solenoid valve 56 is open/close controlled, thereby repeating the supply and stop of the refrigerant to the cooling pipe 47, and the storage compartment 40 is maintained at a temperature set in advance. ([0026])

The opening portion 12a taking material and the like into and out of the storage compartment 40 is opened only on the upper part of the showcase 12, so that even if the slide door 45 is slid to open the opening portion 12a, the heavy cold air cooled in the storage compartment 40 hardly flows out of the room through the opening portion 12a of the upper part. As a result of almost no outdoor moist light warm air flowing into the room through the opening 12a, there is almost no temperature change in the storage compartment 40, and it is possible to suppress the deterioration of the food materials and maintain freshness. In the showcase 12, all of the bottom surface portion, the front surface portion, the rear surface portion, and both side surface portions of the inner box 38 thereof are covered by the insulating material 39, and the inner box 38 is formed by the material with good heat conductivity, so that it has good heat insulating performance, and cools the whole of the inner box 38 uniformly and efficiently, thereby suppressing the occurrence of temperature unevenness in the storage compartment 40 and preventing the deterioration of the food materials and the like. ([0027], [0033], [0034]).

Since the showcase 12 and the thermally insulating box 16 of the refrigerator body portion 11 are not communicated with each other, air in the storage compartment 40 in the showcase 12 and warm air entering by opening the opening portion 12a are not contacted with the cooler 27 for cooling the refrigerator compartment 17 of the thermally insulating box 16, and the deterioration of freezing performance due to a lot of frost in a short time is suppressed ([0029], [0033]).

When the showcase 12 is separated from the refrigerator body portion 11 and the refrigerator body portion 11 is used alone, the opening portion for the cold air is

not formed on the ceiling portion of the thermally insulating box 16, so that the deterioration of heat insulation performance or the deterioration of strength of the ceiling portion are not caused. That is, a cooling performance of the refrigerator compartment 17 in the refrigerator body portion 11 does not deteriorate and a deflection or sinking and the like are not generated when cooking on the top plate 19, and the cooking can be performed without problems. ([0029], [0034])

Also, if the showcase 12 is not used, by turning off a power supply switch 64, the storage compartment solenoid valve 56 is maintained in a close state which stops the supply of the refrigerant to the cooling pipe 47, and the efficient cooling of the refrigerator compartment 17 is achieved. Furthermore, since the refrigerator body portion 11 and the showcase 12 are completely thermally insulated, the compressor load can be decreased, so that a life of the compressor 36 can be extended, and the running cost can be reduced by decreasing power consumption. ([0030], [0035])

(2) Regarding Exhibit Ko 1 Invention

Exhibit Ko 1 Invention is as described in No. 2-4 (1) A above (There is no dispute between the parties.), and is roughly recognized as follows.

Exhibit Ko 1 Invention relates to the improvement of a thermally insulating box, aiming at improving the configuration of a horizontal refrigerator for professional use which is generally referred to as an undercounter, and expanding the range of commodities which can be stored in a compartment so as to especially expand the range of use ([Problem] of [Abstract], [0001].)

Conventionally, as this type of horizontal refrigerator, although the one composed of a lateral thermally insulating box which defines a cooling compartment storing a cooler; a machinery compartment which is provided on a side part of the thermally insulating box, and stores a condenser, a compressor configuring a freezing cycle together with the cooler; a duct which is provided on an upper part in the thermally insulating box, extends in a lateral direction oppositely to a discharge port of the cooling compartment, and is formed with cold air blowout ports on a front surface and a side surface; and a thermally insulating door which blocks the front surface opening of the thermally insulating box so as to freely open/close exists, its use has been restricted to the undercounter and the like of a kitchen space, and the place where it can be installed was naturally limited ([0002], [0003]).

Then, the purpose of Exhibit Ko 1 Invention is to provide a horizontal refrigerator which is equipped with a frontage matching a top surface opening portion of a top surface of a thermally insulating box body; installs a thermally insulating box having a door freely opening/closing on a front surface or the top surface; enables one

machine playing roles of two kinds of machines such as the thermally insulating box body also functioning as a horizontal refrigerator and the thermally insulating box of the upper part also functioning as a showcase, by using a transparent member for the door on the top surface of the thermally insulating body of the upper part; enables attachment/remove the thermally insulating box of the upper part according to an installation place and use purpose to provide a further wider range of usage, by making the thermally insulating box of the upper part freely attached/detached; uses the thermally insulating box body as a usual horizontal refrigerator and the thermally insulating box of the upper part as a constant temperature high humidity compartment to expand the range of commodities that can be saved, by providing a heat transfer panel on a bottom surface, a back surface, or the top surface of the thermally insulating box of the upper part; is provided with a lid freely opening/closing at a cold air blowout port provided in the cooling compartment; and can increase the cooling speed of the thermally insulating box body by closing the lid of the cold air blowout port sending cold air to the thermally insulating box of the upper part and opening the lid of the cold air blowout port sending cold air to the thermally insulating box body, if there is no need to cool the thermally insulating box of the upper part ([Problem] and [Solution] of [Abstract], [0005] to [0012], [0063]).

Example 1 of Exhibit Ko 1 Invention is as shown in the following FIGS. 1 and 2 ([0018]).

FIG. 1 an appearance structure perspective view

- | | |
|----|-------------------------------|
| 1 | Thermally insulating box body |
| 7 | Machinery compartment |
| 10 | Thermally insulating door |
| 11 | Top surface opening portion |
| 12 | Thermally insulating box |
| 13 | Door |

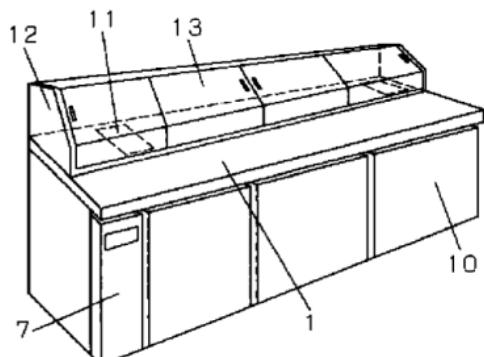
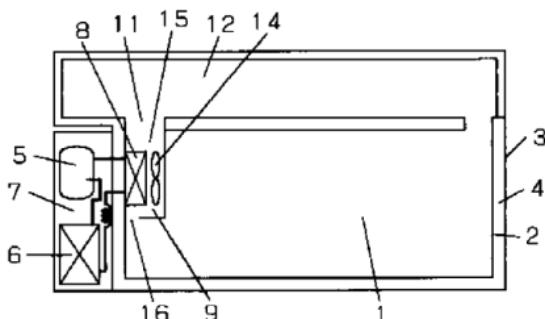


FIG. 2 a front cross-sectional view

- | | |
|----|-----------------------------|
| 1 | Thermally insulating box |
| 2 | Inner box |
| 3 | Outer box |
| 4 | Insulating material |
| 5 | Compressor |
| 6 | Condenser |
| 7 | Machinery compartment |
| 8 | Evaporator |
| 9 | Cooling compartment |
| 11 | Top surface opening portion |
| 12 | Thermally insulating box |
| 15 | Cold air blowout port |



That is, a horizontal refrigerator relating to Example 1 is composed of a lateral thermally insulating box body 1 which is formed by an inner box 2, an outer box 3, and an insulating material 4, and has openings on a front surface and a top surface; a machinery compartment 7 which stores a compressor 5, a condenser 6, and the like and is installed adjacent to the thermally insulating box body 1; a cooling compartment 9 which stores an evaporator 8 and the like provided in the inner box 2; a thermally insulating door 10 which blocks a top surface opening portion of the thermally insulating box body 1 so as to freely open/close; and a thermally insulating box which is equipped with a frontage matching a top surface opening portion of the thermally

insulating box body 1, and has a door freely opening/closing on a front surface or a top surface ([0013], [0019]).

On the top surface of the thermally insulating box body 1, top surface opening portions 11 are provided at two places, and a thermally insulating box 12 which has the frontage matching the top surface opening portion 11 on the bottom surface is installed while having depth of about half of the top surface of the thermally insulating box body 1. On the thermally insulating box 12, a door 13 which is made by a transparent plate and freely opens/closes is installed from the top surface to a front surface, and it is possible to directly check commodities stored in the thermally insulating box 12 through the door 13. ([0020], [0021])

Cold air which performs heat exchange with the evaporator 8 in the cooling compartment 9 and is sent from a cold air blowout port 15 provided on an upper part of the cooling compartment by an in-compartment fan 14, is first sent to the thermally insulating box 12 to cool the thermally insulating box 12. After that, it is sent to the thermally insulating box body 1 to cool the inside of the thermally insulating box body 1, and then is sucked from a cold air suction port 16 to perform heat exchange with the evaporator 8 again ([0022]).

The thermally insulating box body 1 can be used in the same way as a usual horizontal refrigerator, and a half on a front half of the top surface can be used as a work table for cooking as before. The thermally insulating box 12 installed on a deep side of the top surface can be used as a showcase, and by storing food materials used for cooking in the thermally insulating box 12, it is possible to visually check the freshness of the food materials at all times. By storing the food materials used for this cooking in the thermally insulating box 12, work can be performed only on the top plate of the horizontal refrigerator, and work efficiency can be improved. Also, it becomes possible to cool the thermally insulating box body 1 and the thermally insulating box 12 which play different roles respectively with one cooling unit ([Solution] of [Abstract], [0023], [0063]).

Example 2 of Exhibit Ko 1 Invention is one which makes the thermally insulating box 12 of Example 1 detachable. By making the thermally insulating box 12 detachable as described above, even if only the usual horizontal refrigerator can be installed due to the installation place, it is possible to correspond with the same machine, and it can be used differently when the thermally insulating box 12 is necessary or unnecessary according to the seasons. Furthermore, if the thermally insulating box 12 is removed, the volume to be cooled becomes small as compared with a case when it is mounted, and cooling speed can be increased. ([0014], [0027] to

[0034], [0064])

Example 3 of Exhibit Ko 1 Invention is provided with heat transfer panels which are arranged at a predetermined intervals so as to form a cooling space from a side surface to a back surface and the top surface, sends cold air into the cooling space, cools the heat transfer panels by forced convection heat transmission action, and cools the inside of the thermally insulating box 12 with the cooled heat transfer panels, by natural convection heat transmission and a radiation cooling action. By adopting such a structure, the thermally insulating box 12 can be used as a constant temperature high humidity showcase, and sushi material and vegetables that need to be stored at high humidity can be stored in this part. Also, the usual horizontal refrigerator and the constant temperature high humidity showcase can be cooled with one cooling unit. ([Solution] of [Abstract], [0039] to [0044], [0065]).

Example 4 of Exhibit Ko 1 Invention is the one which makes the thermally insulating box 12 of Example 3 detachable ([0048] to [0057]).

(3) Regarding Exhibit Ko 7

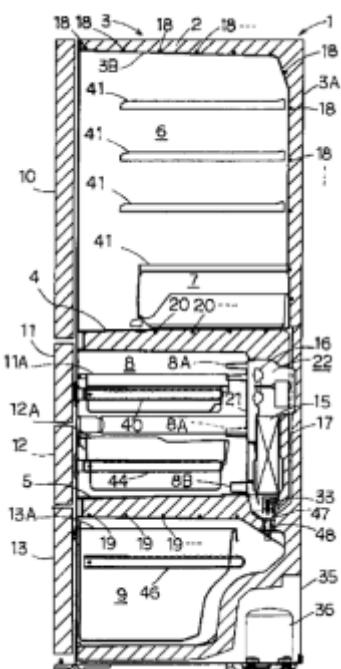
Japanese Unexamined Patent Application Publication No. 1997-113089 (Exhibit Ko 7) roughly describes as follows. The invention relating to Exhibit Ko 7 relates to a refrigerator which divides the inside of the thermally insulating box to form a center freezing compartment, and a refrigerator compartment and a vegetable compartment above and below the freezing compartment ([0001]).

In a conventional refrigerator, since cold air from the cooler which has low temperature for cooling the freezing compartment is circulated in the refrigerator compartment above that and the vegetable compartment under that, there are problems that the inside of the refrigerator compartment or the inside of the vegetable compartment are dried, that the cooling performance of the cooler is deteriorated due to moisture in the humid refrigerator compartment or vegetable compartment which becomes frost and becomes adhered to the cooler, that the size of the cooling compartment storing the cooler is increased to compress the effective volume inside the freezing compartment, and that since a back surface duct for circulating the cold air into the refrigerator compartment and the vegetable compartment must be provided, the effective capacities of the freezing compartment, the refrigerator compartment, and the vegetable compartment are compressed ([0012], [0013]).

In order to solve such conventional technical problems, the purpose of the invention relating to Exhibit Ko 7 is to expand the effective capacity to enhance storage efficiency, and to improve the cooling performance of each compartment, in the refrigerator which is provided with a refrigerator compartment cooling pipe and a

vegetable compartment cooling pipe on the insulating material side of inner walls of the refrigerator compartment and the vegetable compartment, cools the walls of the refrigerator compartment and the vegetable compartment by making a part of a refrigerant flow into those and evaporating that, cools the inside of the refrigerator compartment and the inside of the vegetable compartment by forcibly convecting the cold air in the refrigerator compartment and the vegetable compartment, and has the center freezing compartment, the refrigerator compartment above that, and the vegetable compartment under that ([Solution] of [Abstract], [0014], [0028], [0030]).

The embodiments thereof are as shown in the following figures ([0018]).



A refrigerator 1 fills an insulating material 2 between an outer box 3A and an inner box 3B, and divides the inside of a thermally insulating box 3 opening to a front surface with heat-insulating partition walls (an upper partition wall 4 and a lower partition wall 5) to form a center freezing compartment 8, and a refrigerator compartment 6 and a vegetable compartment 9 above and below the freezing compartment 8. The refrigerator 1 is equipped with a cooling compartment 22 divided and formed in a deep part in the freezing compartment 8, a freezing compartment cooler 15 installed in the cooling compartment 22, a blower 16 which circulates cold air from the freezing compartment cooler 15 into the freezing compartment 8, a refrigerator compartment cooling pipe 18 (ice temperature corner cooling pipe 20) provided on the insulating material 2 side of the inner box 3B (inner wall) corresponding to the refrigerator compartment 6, and a vegetable compartment cooling pipe 19 provided on the insulating material 2 side of the inner box 3B (inner wall) corresponding to the vegetable compartment 9 ([0015], [0018] to [0020], [0023]).

The freezing compartment cooler 15 is composed of a plurality of rectangular radiating fins made from an aluminum thin plate arranged in parallel at predetermined intervals, and refrigerant piping fitted with those. An inlet side of the refrigerant piping is connected to piping on a discharge side of a compressor 36 through a

decompression device and a condenser, and an outlet side is connected to a suction side of the compressor 36. Also, on the inner box 3B which is the inner wall of the refrigerator compartment 6 and the insulating material 2 side on an upper surface of the upper partition wall 4 (which is a part of the inner box 3B), the refrigerator compartment cooling pipe 18 is arranged in a meandering state. One side thereof is piping-connected to an inlet side of the freezing compartment cooler 15 through a solenoid valve controlled by a controller, and the other side is merged with an outlet side of the freezing compartment cooler 15 to be piping-connected. Furthermore, on the insulating material 2 on a lower surface of the lower partition wall 5 which is the inner wall of the vegetable compartment 9, the vegetable compartment cooling pipe 19 is arranged in a meandering state. One side thereof is piping-connected to the inlet side of the freezing compartment cooler 15 through the solenoid valve controlled by the controller, and the other side is merged with the outlet side of the freezing compartment cooler 15 to be piping-connected. ([0024] to [0026])

A machinery compartment 35 is configured at a lower rear part of the thermally insulating box 3, and in the machinery compartment 35, the compressor 36 which configures a well-known freezing cycle together with the freezing compartment cooler 15, each cooling pipe 18, 19 is installed ([0026]).

The compressor 36 and the blower 16 are operation-controlled by the controller, based on the temperature of the freezing compartment 8, and a decompressed refrigerant flows into the freezing compartment cooler 15 to evaporate. The cold air cooled by the freezing compartment cooler 15 is blown out into the freezing compartment 8 from freezing compartment discharge ports 8A 8A by the blower 16. Then, after circulating and cooling in the inside of the freezing compartment 8, the cold air returns from a freezing compartment suction port 8B at a lower part to a lower part of the freezing compartment cooler 15 in the cooling compartment 22. ([0027])

A part of the decompressed refrigerant also flows into the refrigerator compartment cooling pipe 18 through the solenoid valve to evaporate. Thereby, an inner wall surface of the refrigerator compartment 6 is cooled, and the cold air naturally convects to cool the inside of the refrigerator compartment 6. Also, at the lower part in the refrigerator compartment 6, an ice temperature corner 7 partitioned from the other space is divided, and the inside of the ice temperature corner 7 is comparatively strongly cooled by an ice temperature corner cooling pipe 20 (a part of the cooling pipe 18) arranged in the inside of the upper partition wall 4 under the ice temperature corner 7. ([0028], [0029])

Furthermore, a part of the refrigerant also flows into the vegetable compartment

cooling pipe 19 to evaporate, and cools an upper wall in the inside of the vegetable compartment 9. Thereby, the cold air naturally convects to cool the inside of the vegetable compartment 9, and the controller controls the solenoid valve so as to open/close on the basis of the temperature of the vegetable compartment 9, thereby controlling an amount of the refrigerant flowing into the vegetable compartment cooling pipe 19. ([0030]).

As such, by providing the refrigerator compartment cooling pipe 18 and the vegetable compartment cooling pipe 19, the inside of the refrigerator compartment 6, the inside of the ice temperature corner 7, and the inside of the vegetable compartment 9 are directly cooled, so that a duct provided in a rear wall of the refrigerator compartment 6 and a duct provided in the lower partition wall 5 are unnecessary, unlike the conventional case. Also, since the freezing compartment cooler 15 only needs to cool the freezing compartment 8, the capacity can be reduced. Furthermore, since the cold air from the freezing compartment cooler 15 which is low in temperature is not supplied into the refrigerator compartment 6 and the vegetable compartment 9, food stored in the refrigerator compartment 6 and the vegetable compartment 9 is not dried. In addition, it is possible to prevent moisture in the refrigerator compartment 6 and the vegetable compartment 9 from frosting and adhering to the freezing compartment cooler 15 and deteriorating the cooling performance. Therefore, the effective capacities (storage space) of the freezing compartment 8, the refrigerator compartment 6, and the vegetable compartment 9 can be extremely widened, and the storage efficiency of the refrigerator 1 can be greatly improved. ([0031], [0032], [0046], [0047]).

Also, in the example, a household refrigerator was mentioned; not limited to this, the invention relating to Exhibit Ko 7 is also effective for various kinds of refrigerators which use a cooler for cooling the interior of the compartment, and divide the interior of the compartment and control them at different temperature ([0045]).

2 Judgment on the grounds for rescission

(1) Regarding Grounds for rescission 1 (lack of inventive step of the Invention - by citing Exhibit Ko 1 Invention as a main Cited Document)

A Regarding the application of the matter described in Exhibit Ko 7 to Exhibit Ko 1 Invention

(A) As the different feature between Invention 1 and Exhibit Ko 1 Invention, although there is Different Feature 2 as described in No. 2, 4(1)B(B)b (there is no dispute between the parties), according to the findings (1(2)), since Exhibit Ko 1

Invention relates to a horizontal refrigerator for professional use which is composed of upper and lower two thermally insulating boxes respectively having storage compartments for storing refrigerated goods, it can be said that it is the invention relating to a horizontal refrigerator for professional use which has upper and lower two storage compartments divided by an inner box and an outer box of the thermally insulating body and an insulating material filled between them; namely, a horizontal refrigerator for professional use whose interior is divided into plural parts by the insulating material.

On the other hand, according to the findings (1(3)), although Exhibit Ko 7 describes the example of cooling in the household refrigerator which has the refrigerator compartment, the freezing compartment, and the vegetable compartment divided by the heat-insulating partition walls, not limited to the household refrigerator, it is described that Exhibit Ko 7 is the invention effective for various kinds of refrigerators which divide the interior of the compartment and control them at different temperatures.

According to the above, the matters described in Exhibit Ko 1 Invention and Ko 7 are common in the technical field, at least in the point that they relate to a refrigerator having a plurality of storage compartments.

b As described in 1(2) above, in Exhibit Ko 1, it is described that especially for the purpose of expanding use applications, it is an invention concerning improvement of a thermally insulating box aiming at widening the range of commodities that can be stored in a compartment. Then, it can be said that the problem of Exhibit Ko 1 Invention is to expand the use applications and to widen the range of refrigerated goods that can be stored.

On the other hand, according to the findings (1(3)), it can be said that the problem of the matter described in Exhibit Ko 7 is to prevent drying in the refrigerator compartment and the vegetable compartment by circulation of the cold air of low temperature, to prevent the deterioration in cooling performance due to moisture in the refrigerator compartment or the vegetable compartment in a high humidity condition which becomes frost and adheres to the cooler, and to prevent compression on the effective volume of the freezing compartment, the refrigerator compartment, and the vegetable compartment by increasing the size of the cooler and installing the back surface duct and the like. Although these presuppose the existence of a plurality of compartments in the interior, it can be understood that each division such as the freezing compartment for foods requiring freezing, the refrigerator compartment for foods requiring refrigerating, and the vegetable compartment for vegetables especially

desirable in high humidity condition is provided, and that the problem is to keep it in a high humidity condition for the refrigerator compartment and the vegetable compartment. Therefore, it can be evaluated that the problem is to expand the width of the necessary refrigerated items that can be stored in the refrigerator, by providing a suitable refrigeration state according to each food.

According to the above, it can be said that the matters described in Exhibit Ko 1 Invention and Exhibit Ko 7 are common in the problem, in terms of expanding the use applications, widening the range of refrigerated goods.

c According to the findings (1(2)), Exhibit Ko 1 Invention installed another thermally insulating body on the top surface of the horizontal refrigerator made from the thermally insulating box, is provided with the evaporator coupled with the compressor and the condenser to circulate the refrigerant, in the inside of the inner box of the lower thermally insulating box, and circulates the cold air cooled by the evaporator not only in the lower thermally insulating box, but also in the upper thermally insulating box to cool the upper and lower two thermally insulating boxes.

On the other hand, according to the findings (1(3)), in Exhibit Ko 7, it is described that the freezing compartment cooler coupled with the compressor and the condenser, the freezing compartment cooling pipe and the vegetable compartment cooling pipe piping-connected to the inlet side and the outlet side of the freezing compartment cooler are provided to circulate the refrigerant, the freezing compartment circulates the cold air cooled by the freezing compartment cooler to cool, and the freezing compartment and the vegetable compartment cool the inner wall surface of each compartment by the evaporation of the refrigerant circulating in the freezing compartment cooling pipe and the vegetable compartment cooling pipe and cool the inside of each compartment by the natural convection of the cold air.

According to the above, the matters described in Exhibit Ko 1 Invention and Exhibit Ko 7, although there is a difference whether one evaporator is provided or a plurality of evaporators are provided, are common in the action/function in which one compressor and one condenser are coupled with the cooler or the cooling pipe, the refrigerant is circulated therein, and a plurality of storage compartment in the refrigerator is cooled by the evaporation of the refrigerant.

d As described 1(2) above, Exhibit Ko 1 describes the method (Examples 3 and 4) which is provided a heat transfer panel so as to form the cooling space on the outside of the storage compartment of the upper thermally insulating box, circulates the cold air in the cooling space to cool the heat transfer panel, and cools the inside of the storage compartment by natural convection heat transmission and a radiation cooling

action. Also, it is described that the lower thermally insulating box can be used as the usual horizontal refrigerator and the upper thermally insulating box can be used as the constant temperature high humidity showcase which can preserve sushi material and vegetables that need to be stored at high humidity, by adopting the above-mentioned method. Then, since it can be said that Exhibit Ko 1 describes that so as to prevent the drying of foods, a cooling method other than the forced convection of the cold air that can maintain high humidity condition is adopted, it can be said that there is a suggestion about changing the cooling method in the storage compartment of the upper thermally insulating box of Exhibit Ko 1 Invention to another cooling method which can prevent the drying of food.

On the other hand, as described in 1(3) above, in Exhibit Ko 7, there is a description that since the cold air from the freezing compartment cooler which has low temperature is not supplied into the refrigerator compartment and the vegetable compartment, the foods stored in the refrigerator compartment and the vegetable compartment are not dried, and it can be said that it describes that cooling by the evaporation of the refrigerant circulating in the refrigerator compartment and the vegetable compartment cooling pipes is a cooling method which can maintain a high humidity state for preventing the drying of the food. Then, it can be said that Exhibit Ko 7 suggests that when the storage compartment of the upper thermally insulating box of Ko 1 Invention is used for preserving sushi material and vegetables that need to be stored at high humidity, the cooling method inside thereof is changed to the cooling method by the evaporation of the refrigerant by installing the cooling pipes described in Exhibit Ko 7.

Also, as described in a above, in Exhibit 7, it is described that not limited to the household refrigerator, it is the invention effective for various kinds of refrigerators which divide the interior of the compartment and control them at different temperature, and Exhibit Ko 1 Invention is the refrigerator having the plurality of storage compartments. Therefore, it can be said that Exhibit Ko 7 suggests that the matter described in Exhibit Ko 7 is applied to Ko 1 Invention.

e According to the above, since the matters described in Exhibit Ko 1 Invention and Exhibit Ko 7 are common not only in the general technical field and problems, but also in the specific problem that prevents the drying of the stored goods during cooling in the upper thermally insulating box, in Examples 3 and 4 described in Exhibit Ko 1 and the matters described in Exhibit Ko 7, it can be said that there is the motivation for applying the cooling method by the evaporation of the refrigerant by installing the cooling pipe described in Exhibit Ko 7 to Exhibit Ko 1 Invention, as the cooling

method inside the storage compartment of the upper thermally insulating box.

(B) As described 1(2) above, although Exhibit Ko 1 Invention includes the configuration that is "the thermally insulating box" which is "equipped with a frontage matching a top surface opening portion of the thermally insulating box body on a bottom surface," "a top surface opening portion" and "a frontage" are opening portions for cold air which sends the cold air sent from the cold air blowout port provided on the upper part of the cooling compartment by the in-compartment fan to the upper thermally insulating box to cool the same, and then send the cold air to the lower thermally insulating box to cool the same.

Then, although in the method which circulates the cold air in the upper and lower thermally insulating boxes to cool the same, the opening portion for making the cold air pass through is required between the upper and lower thermally insulating boxes, in the method which circulates the refrigerant in the upper and lower thermally insulating boxes to cool the same, instead of requiring the opening portion which makes the cold air pass through between the upper and lower thermally insulating boxes, the opening portion which makes the cooling pipe pass through is required, and there is no other reason to provide openings for cold air, so that whether the opening portion for the cold air is required between the upper and lower thermally insulating boxes is merely a problem of selection of the cooling method as to whether or not the upper thermally insulating box is cooled by the circulation of the cold air from the thermally insulating box.

Also, in Exhibit Ko 1, as described in 1(2) above, it is described that the upper and lower thermally insulating boxes can be cooled with one "cooling unit," according to the entire import of argument, although it is recognized that "the cooling unit" is composed of at least the compressor, the condenser, and the evaporator, the cooler and the cooling pipe have a function performing cooling by the evaporation of the refrigerant, and it can be recognized to correspond to the evaporator. Therefore, if the cooling method described in Exhibit Ko 7 is applied to Exhibit Ko 1 Invention, the cooling pipe for the upper thermally insulating box and the cooler for the lower thermally insulating box are separately provided, so that it becomes impossible to cool the upper and lower thermally insulating boxes with one "cooling unit."

However, as described in 1(2) above, the purpose of Exhibit Ko 1 Invention is to improve the configuration of the horizontal refrigerator for professional use, and to widen the range of refrigerated goods that can be stored in the interior, especially for expanding the applications. It is irrelevant for this purpose to have only one evaporator to cool the upper and lower thermally insulating boxes with one "cooling

unit." Also, according to the findings (1(3)), in addition to the fact that the drying inside the storage compartment cooled by the evaporation of the refrigerant in the cooling pipe, it is described that [i] it is possible to prevent the moisture in the moisture-rich refrigerator compartment or the vegetable compartment from frosting and adhering to the cooler, thereby preventing the cooling performance of the cooler from deteriorating, [ii] it is not necessary to increase the size of the cooler, and the division for accommodating the cooler can be reduced in capacity to widen the effective volume of the freezing compartment, and [iii] it becomes unnecessary to provide a duct or the like for cold air circulation so that the effective volume of the divisions of the freezing compartment, the refrigerator compartment and the vegetable compartment can be widened. Therefore, it corresponds to the design matter which a person ordinarily skilled in the can adopt as appropriate by considering an effect when designing whether to adopt the method which cools each storage compartment by providing the plurality of evaporators or the method which circulates the cold air cooled with the evaporator in all storage compartments to cool the same by providing one evaporator.

According to the above, it cannot be recognized that the configuration in which the opening portion for making the cold air pass through is not provided between the upper and lower thermally insulating boxes or the configuration having the plurality of evaporators can become the cause of inhibition in applying the matter described in Exhibit Ko 7 to Exhibit Ko 1 Invention.

(C) Therefore, it can be said that the configuration relating to Different Feature 2 of Invention 2 could have been easily invented by a person ordinarily skilled in the art from Exhibit Ko 1 Invention and the matter described in Exhibit Ko 7 Invention.

B Regarding the defendant's allegation

(A) The defendant, in Exhibit Ko 1 Invention, alleges that if the top surface opening portion of the thermally insulating box body 1 and the top surface opening of the thermally insulating box 12 are not provided, since it becomes impossible to circulate the cold air, both of the thermally insulating box 12 and the thermally insulating box body 1 cannot be cooled with one cooling unit, so that the motivation for applying the matters described in Exhibits Ko 2 to 10 to Exhibit Ko 1 Invention is impossible.

However, as described in A above, the defendant's allegation cannot be accepted.

(B) The defendant alleges that unless the technical problems specific to the horizontal refrigerator disclosed in Exhibit Ko 1 Invention is recognized, there is no motivation for applying the matters described in Exhibits Ko 32 and 33.

Even if the allegation is understood to mean that there is no motivation for applying the matter described in Exhibit Ko 7 to Exhibit Ko 1 Invention, the specific allegation is unclear as to what kind of unique technical problems in the horizontal refrigerator denies the motivation. Also, in Exhibit Ko 1, for example, there is no description that some technical difficulties that cannot be found in household refrigerators where the width is not wide occur due to the wide width of the refrigerator, and there is no sufficient evidence to acknowledge that there are technical problems unique only to horizontal refrigerators.

Therefore, the defendant's allegation is unreasonable and cannot be accepted.

(C) Although the defendant alleges that since the contents of Exhibits Ko 32 and 33 were not judged in the prior instance, the plaintiff's allegation based on Exhibits Ko 32 and 33 departs from the scope of examination of this litigation, the statement of A above does not recognize that it could have been easily conceived, by the application of the matters described in Exhibit Ko 32 or Exhibit Ko 33 to Exhibit Ko 1 Invention.

Therefore, the defendant's allegation is unreasonable.

(D) Although the defendant alleges that the plaintiff's allegation in which the wall surface cooling system is adopted as the cooling system of the showcase on the upper side of the horizontal refrigerator with the showcase is a well-known configuration as of the filing the application of the case is an allegation lagging behind the times, according to the entire import of argument, it is recognized that the plaintiff made the allegation in the plaintiff's first brief stated on the first preparatory proceeding date of the case, and it is not recognized that it falls under "the method of attack or defense that the party submitted delayed due to deliberate or serious negligence" (Article 157, paragraph (1) of the Code of Civil Procedure).

Also, even if the defendant's allegation is interpreted as equivalent to the defendant's claim of (C) above, as described in (C) above, it is unreasonable.

(E) No other allegation and proof sufficient to overturn the recognition are found.

(2) Summary

As described above, it can be said that a person ordinarily skilled in the art could have been easily invented Invention 1 as of the filing of the application of the case, from Exhibit Ko 1 Invention and the matter described in Exhibit Ko 7.

No. 6 Conclusion

For the above reasons, since there is an error in the determination of inventive step of Invention 1 citing Exhibit Ko 1 Invention as a main Cited Document and the trial decision shall be definitely rescinded, without examining other points of the

plaintiff's allegation, the plaintiff's demand should be admitted, and the judgment has been rendered as stated in the main text.

Intellectual Property High Court, Second Division

Presiding Judge	SHIMIZU Misao
Judge	NAKAMURA Kyo
Judge	MORIOKA Ayako