INTELLECTUAL PROPERTY HIGH COURT OF KOREA

FIFTH - FIRST DIVISION

DECISION

Case No.	2021Heo3185 Scope of Rights Confirmation (Patent)
Plaintiffs	1. Corporation A
	Representative Director B
	2. Corporation C
	Representative Internal Director D
	Attorney for Plaintiffs Patent Attorney Jeong Hoon Ji
Defendant	Corporation E
	Representative Director F
	Attorney for Defendant Kim, Choi & Lim, LLC.
	Attorney in Charge Jae Hwan Lee
Date of Closing Argument	Oct. 5, 2021
Decision Date	Nov. 25, 2021

ORDER

1. The Plaintiffs' claim is dismissed in its entirety.

2. The cost arising from this litigation shall be borne by the Plaintiffs.

PLAINTIFF'S DEMAND

The IPTAB Decision 2020Dang1106, decided Apr. 2, 2021, shall be revoked.

OPINION

1. Background

A. Plaintiffs' Patented Invention at Issue (hereinafter, the "Subject Invention") (Plaintiffs' Exhibits 1 and 2)

1) Title of Invention: Heat recovering ventilation apparatus having bypass operation Filing Date of Application/ Date of Registration/ Registration Number: Nov. 12, 2014/ Dec. 7, 2015/ No. 10-1560192

2) Claims

[Claim 1] A heat recovering ventilation apparatus (hereinafter, "Element 1") comprising an apparatus housing (10) having a supply inlet (11) and an exhaust inlet (13) on one side and an exhaust outlet (14) and a supply outlet (12) on the other side, and a heat exchange element (20) installed where a supply flow path (S.F) that guides outdoor air (O.A) from the supply inlet (11) to the supply outlet (12) crosses an exhaust flow path (E.F) that guides indoor air (R.A) from the exhaust inlet (13) to the exhaust outlet (14) to exchange heat of the outdoor air (O.A) with heat of the indoor air (R.A),

wherein the heat recovering ventilation apparatus has bypass operation ("Claim 1"; hereinafter the same shall apply) comprising: a bypass damper (60) (hereinafter, "Element 2") installed on a partition (15) between the supply outlet (12) and the exhaust outlet (14) which is closed during heat exchange operation and opened during bypass operation, generating a bypass flow path (B.F) that connects the supply outlet (12) and the exhaust outlet (14);

a supply blower (30) and an exhaust blower (40) (hereinafter, "Element 3") installed on the supply outlet (12) and the exhaust outlet (14), respectively, and operated together in heat exchange operation but alternately in bypass operation;

and an open/close damper (50a, 50b) (hereinafter, "Element 4") installed at the supply inlet (11) and the exhaust inlet (13), respectively, which open together during heat exchange operation and close together during bypass operation.

[Claim 2] The heat recovering ventilation apparatus having bypass operation according to claim 1, wherein the supply blower (30) and the exhaust blower (40) are operated alternately for an operation time set respectively during bypass operation. However, during these alternate operations, they are both paused for a designated stop time before resuming alternate operation.

[Claims 3, 5 through 8] (deleted during examination)

[Claim 4] The heat recovering ventilation apparatus having bypass operation according to claim 2, wherein it additionally includes temperature sensing units (70a, 70b) sensing outdoor temperature and indoor temperature, respectively; and an operation control unit (80) computing the temperature difference between outdoor and indoor temperatures sensed by the temperature sensing units (70a, 70b) and controlling the heat exchange operation when the temperature difference exceeds a predetermined threshold and regulate bypass operation when the temperature difference falls below the same threshold.

3) Summary of the Invention[1]

① **Technical Field**

[1] The descriptions of the FIG numbers marked in the FIG are added for information. Hereinafter the same shall apply.

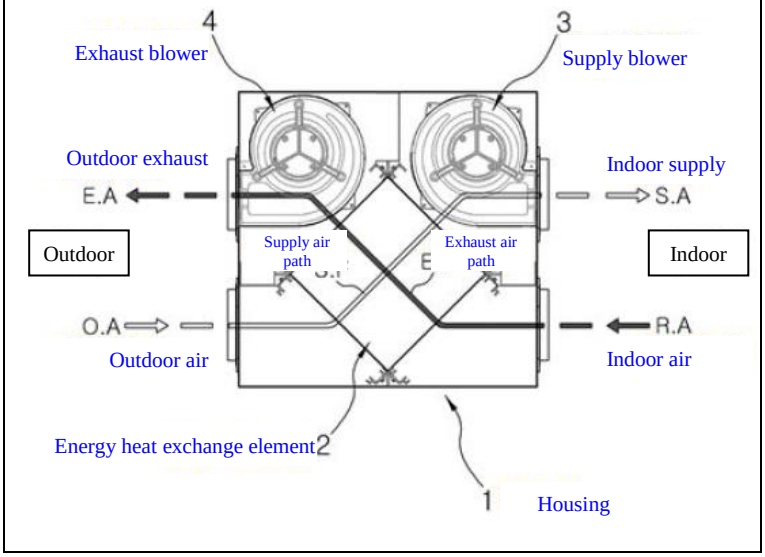
The present invention relates to a heat recovering ventilation apparatus having bypass operation, and more particularly, a heat recovering ventilation apparatus having bypass operation without passing through an heat exchange element based on use environment, thereby improving lifetime of the heat exchange element and minimizing unnecessary power consumption. ([1])

② Prior Art and Problem

FIG. 9 schematically illustrates a typical structure of heat recovering ventilation apparatus. As illustrated in FIG. 9, a housing (1) is provided with a supply flow path (S.F) through which outdoor air flows into a room and an exhaust flow path (E.F) through which indoor air exhausts to the outside and is equipped with a heat exchanging element (2) at an intersection of the S.F and the E.F. With this configuration, outdoor air (O.A) flowing into the S.F and indoor air (R.A) flowing into the E.F pass through the heat transfer element (2) and heat is exchanged. The outdoor air that is heat-exchanged is supplied to a room and the indoor air that is heat-exchanged is exhausted to outside. ([6], [7])

However, since a conventional heat recovering ventilation apparatus is constituted only by the air flow paths (S.F, E.F) passing through the heat exchange element (2), only the heat exchange operation in which the air flow passes through the heat exchange element (2) is possible, as illustrated above. Thus, the lifetime of the energy heat exchange element (2) is shortened and the smooth air flow is obstructed. Also, the power consumption is unnecessarily wasted. ([9])

[FIG. 9] Typical heat recovering ventilation apparatus



③ Problem to Be Solved

The present invention has been made to solve the above-mentioned conventional problems, and the object of the present invention is to provide a heat recovering ventilation apparatus having bypass operation which can perform a heat exchange operation in the same manner as in the prior art in a use environment with a big temperature difference between the indoor and the outdoor, while, in an use environment with a small temperature difference between indoor and outdoor, enabling bypass operation through which ventilation is performed directly through a bypass flow path, not passing through the heat exchange element. By doing so, the present invention is to prevent shortening of life of the apparatus and minimizing unnecessary waste of power consumption. ([12])

④ Effect

During the bypass operation, air does not unnecessarily pass through the heat exchange element, preventing the energy heat exchange element from being contaminated, and thereby prolonging the life of the heat exchange element and maintaining the efficiency of the heat exchange element for a long time. Further, at the time of bypass operation, ventilation is performed through a relatively large bypass flow path without passing through the heat exchange element that has a corrugated narrow flow path, so air flow is improved and ventilation can be performed smoothly. This results in the prevention of an unnecessary increase in the loads of the supply blower and the exhaust blower and reduction of unnecessary waste of power consumption. ([24], [25])

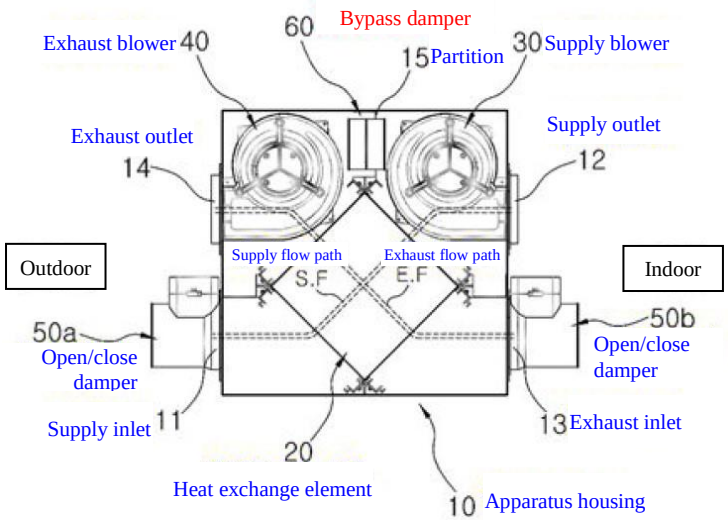
In addition, in the bypass operation, the supply blower and the exhaust blower are operated alternately and only one of the two blowers is operated, which has the effect of further reducing power consumption compared to the heat exchange operation in which the supply blower and the exhaust blower are operated simultaneously. ([26])

⑤ Details of the Invention

<Schematic Configuration>

A heat recovery ventilation apparatus having bypass operation (hereinafter, the "ventilation apparatus") according to an embodiment of the present invention may include an apparatus housing (10), an heat exchange element (20), a supply blower (30) and an exhaust blower (40), open/close dampers (50a, 50b), and a bypass damper (60). ([33])

[FIG. 1] Schematic Diagram



<Open/close dampers (50a, 50b)>

The open/close dampers (50a, 50b) are installed at the supply inlet (11) and at the exhaust inlet (13), respectively to open and close each inlet (11, 13). The open/close dampers (50a, 50b) may be electric dampers whose blades are rotated to open or close the inlets when the power is on. The electric damper of various known configurations may be used without being limited to a specific structure. ([45], [46])

<Bypass damper (60)>

The bypass damper (60) selectively generates a bypass flow path (B.F) between the supply outlet (12) and

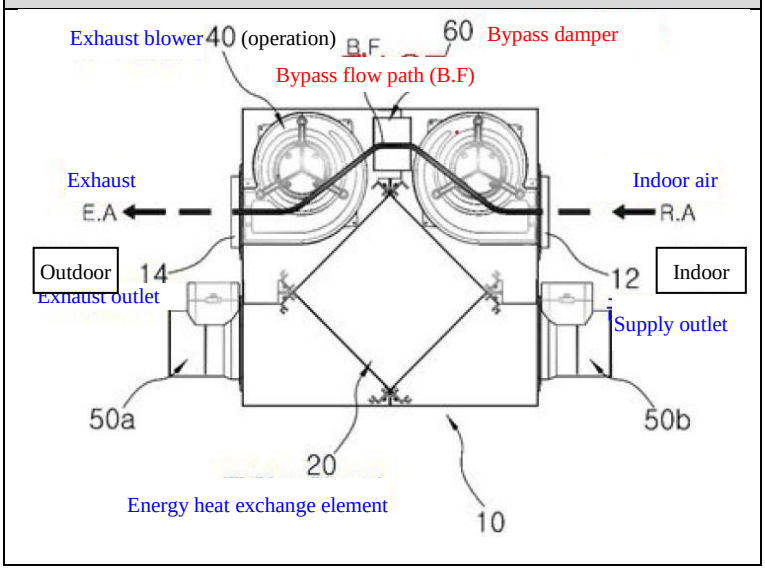
the exhaust outlet (14) in response to an opening and closing operation. The bypass damper (60) may be installed on a partition (15) between the supply outlet (12) and the exhaust outlet (14) and placed inside of the apparatus housing (10), as illustrated in FIG. 1. The bypass damper (60) may also be an electric damper that performs opening and closing operations as the blades are rotated upon application of power. The electric damper of various known configurations may be used without being limited to a specific structure. ([50], [52])

<Operation Method>

1. Heat exchange operation mode

First, in the heat exchange operation mode, all open/close dampers (50a, 50b) installed at the supply inlet (11) and the exhaust inlet (13) are opened, and the bypass damper (60) is closed (S210). When the bypass damper (60) is closed, the supply flow path (S.F) and the exhaust flow path (E.F) are formed like the ordinary ventilation apparatus by blocking the connection between the supply outlet (12) and the exhaust outlet (14). Also, all open/close dampers (50a, 50b) are opened, so that air can be supplied and exhausted through the supply flow path (S.F) and the exhaust flow path (E.F). In this state, the supply blower (30) and the exhaust blower (40) are operated simultaneously (S220). ([59], [61])

[FIG. 4] Bypass operation mode (exhaust)

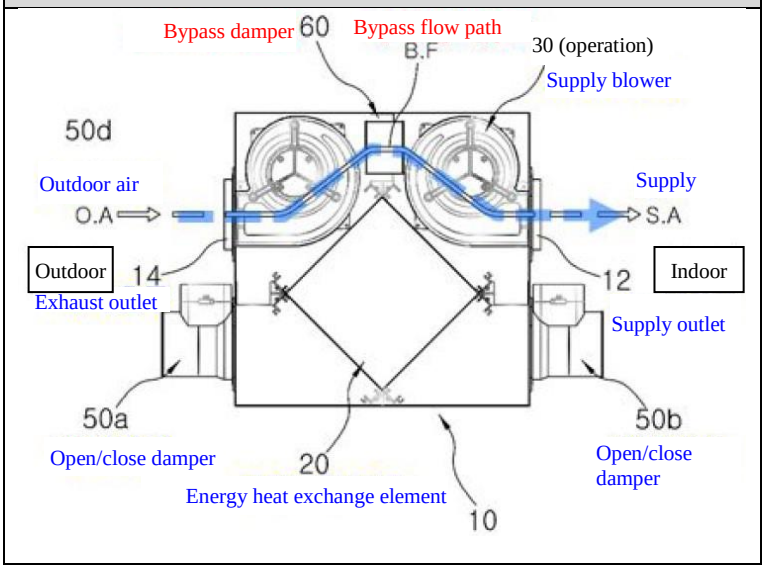


2. Bypass operation mode

Next, in the bypass operation mode, all open/close dampers (50a, 50b) that were opened are closed and the bypass damper (60) that was closed is opened (S310). When the bypass damper (60) is opened, a new bypass flow path (B.F) is generated between the supply outlet (12) and the exhaust outlet that had been blocked (14), allowing air to flow between the supply outlet (12) and the exhaust outlet (14). ([63], [64])

In this state, the step of alternate operation of the supply blower (30) and the exhaust blower (40) proceeds (S320). In the heat exchange operation mode, the supply and exhaust are performed independently through the separated supply flow path (S.F) and exhaust flow path (E.F). So the supply and the exhaust can be performed simultaneously. (Heat exchange between the indoor air and the outdoor air is possible only when they are done simultaneously.). In the bypass operation mode, air supply and exhaust are performed through a single bypass flow path (B.F). So, if the supply and exhaust are performed at the same time, the air flow is impeded, which makes it difficult to ventilate smoothly. ([66], [67])

[FIG. 3] Bypass operation mode (supply)



When the operation of the supply blower (30) and the exhaust blower (40) are alternated, the operation can be immediately switched, or further, the alternation can be made through a process in which the supply air blower (30) and the exhaust air blower (40) are both stopped for a certain set stop time ([70])

This is because when the supply blower (30) and the exhaust blower (40) are alternated immediately without a stop gap, an overlap occurs between the air flow of supply air (S.A) and exhaust air (E.A), inhibiting airflow at the time of alteration. This air flow inhibition can unnecessarily increase the initial operating load of the supply blower (30) and the exhaust blower (40), which is prevented by providing a certain interval in which the blowing force does not act. ([72])

B. Invention Subject to Confirmation (hereinafter, the "Invention for Review") (as corrected finally on Jan. 29, 2021. [Attached Form 3] of Plaintiffs' Exhibit 3)

The Invention for Review finally specified by the Defendant who filed a petition for trial relates to the "heat recovering ventilation apparatus having bypass operating". Its description and drawings are as described in the "Attached Form".

C. IPTAB Decision

1) On Apr. 6, 2020, the Defendant filed the petition for a defensive trial to confirm the scope of rights against the Plaintiffs, who are patentees of the Subject Invention, seeking to confirm that "the Invention for Review does not fall within the scope of rights of Claims 1, 2, and 4".

2) On Apr. 2, 2021, the IPTAB rendered a decision to accept the petition for a trial on the ground that "since the Invention for Review lacks some elements of Claim 1, the Invention for Review does not fall within the scope of rights of Claim 1. Also, since Claims 2 and 4 are dependent claims citing Claim 1, the Invention for Review

does not fall within the scope of rights of Claims 2 and 4" (hereinafter, the "**IPTAB Decision**").

[Factual Basis] Undisputed facts, statements in Plaintiffs' Exhibits 1 through 4, and purport of the overall argument

2. Whether IPTAB Erred

A. Plaintiffs' Arguments

The Invention for Review falls within the scope of rights of Claims 1, 2, and 4 on the following grounds, and thus, the IPTAB decision, which is inconsistent with the following analysis, shall not be upheld and shall be revoked.

1) Since Element 3 of Claim 1 is a configuration where a supply blower and an exhaust blower are installed on both sides of a bypass flow path which is a single path and thus one of them must be stopped when the other operates for ventilation, the "configuration where a supply blower operates and an exhaust blower stops during a bypass operation" in the Invention for Review corresponds thereto.

2) Even if Element 3 of Claim 1 is literally different from the corresponding configuration in the Invention for Review, the two inventions are identical in terms of problem-solving principle and show identical effects. Also, a person having ordinary skill in the art to which the Subject Invention belongs (hereinafter, the "PHOSITA") could easily derive such substitution.

3) In light of the following facts, the applicant, in the examination, did not intentionally deleted the configuration of Claim 5 which was included at the time of filing the application: at the time of filing the application, Claim 2 (a supply blower and an exhaust blower operating alternately) and Claim 5 (a supply blower and an exhaust blower, only one of which operates selectively) are not mutually exclusive but rather inclusive or overlapping, and thus the applicant organized such inclusive or overlapping relationship by deleting Claim 5, which was included when filing the application; and even if the applicant did not delete Claim 5 from the claim structure, the patent would be registered without problems.

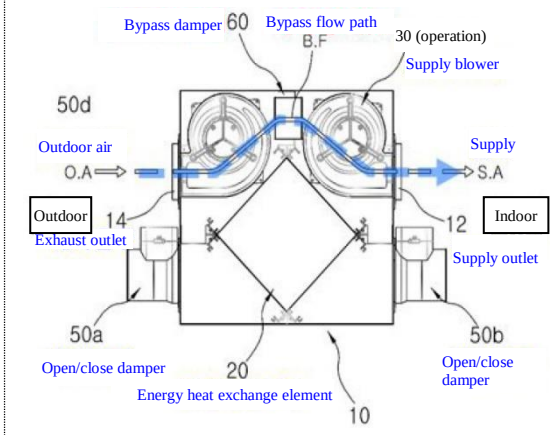
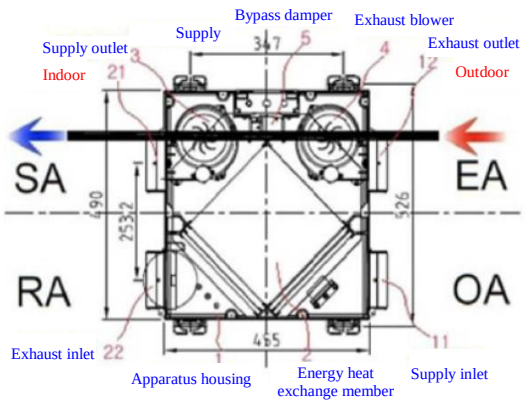
B. Whether the Invention for Review Falls within the Scope of Claim 1 of the Subject Invention

1) Element-by-Element Comparison

Element	Claim 1 of the Subject Invention	Invention for Review
1	A heat recovering ventilation apparatus including an apparatus housing (10) having a supply inlet (11) and an exhaust inlet (13) on one side and an exhaust outlet (14) and a supply outlet (12) on the other side, and a heat exchange element (20) installed where a supply flow path (S.F) that guides outdoor air	- A heat recovering ventilation apparatus including an apparatus housing (1) having a supply inlet (11) and an exhaust inlet (22) on one side and an exhaust outlet (12) and a supply outlet (21) on the other side and an

	(O.A) from the supply inlet (11) to the supply outlet (12) crosses an exhaust flow path (E.F) that guides indoor air (R.A) from the exhaust inlet (13) to the exhaust outlet (14) to exchange heat of the outdoor air (O.A) and heat of the indoor air (R.A);	energy heat exchange element (2)[2] installed where a supply flow path that guides outdoor air (O.A) from the supply inlet (11) to the supply outlet (21) crosses an exhaust flow path that guides indoor air (R.A) from the exhaust inlet (22) to the exhaust outlet (12) to exchange heat of the outdoor air (O.A) and heat of the indoor air (R.A);
2	A bypass damper (60) installed on a partition (15) between the supply outlet (12) and the exhaust outlet (14) which is closed during heat exchange operation and opened during bypass operation, generating a bypass flow path (B.F) that connects the supply outlet (12) and the exhaust outlet (14);	- A bypass damper (5) installed on a partition between the supply outlet (21) and the exhaust outlet (12) which is closed during heat exchange operation and opened during bypass operation, generating a bypass flow path (no drawing mark) that connects the supply outlet (21) and the exhaust outlet (12);
3	A supply blower (30) and an exhaust blower (40) installed at the supply outlet (12) and the exhaust outlet (14), respectively, and operated together in heat exchange operation but alternately in bypass operation;	- A supply blower (3) and an exhaust blower (4) installed at the supply outlet (21) and the exhaust outlet (12), respectively, and operated together in heat operation. But in bypass operation, the supply blower (3) operates and the exhaust blower (4) stops - Bypass mode: When the temperature difference between the inside and outside air is small in spring and fall, the outdoor exhaust outlet (12), indoor supply air outlet (21), and bypass damper (5) are opened to ventilate without heat exchange. So, all the opening and closing dampers are closed, and only the supply air blower (3) is operated to supply outside air to the indoor through the bypass flow to ventilate.
4	An open/close damper (50a, 50b) (hereinafter, "Element 4") installed at the supply inlet (11) and the exhaust inlet (13), respectively, which open together during heat exchange operation and closed together during bypass operation.	- An open/close damper installed on the supply inlet (11) and the exhaust inlet (22), respectively, which are open together during heat exchange operation and closed together during bypass operation.

[2] The description of the Invention for Review described in Attached Form 3 of Plaintiffs' Exhibit 3 describes " heat exchange element (2)". However, since this is a clerical error, this decision describes it as "energy heat exchange element (2)".

Representative drawing		

2) Commonalities and Differences

a) Elements 1, 2, and 4 and Elements Corresponding Thereto

As illustrated in the comparison table above, Elements 1, 2, and 4 of Claim 1 of the Subject Invention are literally identical to corresponding elements in the Invention for Review (both parties do not argue in this regard).

b) Element 3 and Element Corresponding Thereto

(1) Element 3 in Claim 1 of the Subject Invention is identical to a corresponding element of the Invention for Review in that a supply blower and an exhaust blower are installed at a supply outlet and an exhaust outlet, respectively, and operate together during heat exchange operation

However, the two configurations are different in that Element 3 in Claim 1 of the Subject Invention operates the supply blower and the exhaust blower alternately during bypass operation, but the corresponding element of the Invention for Review operates the supply blower only and stops the exhaust during bypass operation.

(2) Meanwhile, a matter written in the claims shall be construed objectively and reasonably based on a general meaning of the language, while considering the technical meaning intended to be expressed by the language, considering the summary of invention, drawings, etc. Even if the summary of invention, drawings, etc. are taken into consideration, it is not permissible to limit or expand the scope of the claims based on other descriptions such as the description or drawings of the invention (Supreme Court Decision 2011Hu3230, decided Dec. 27, 2012; Supreme Court Decisions 2019Da222782, 222799, etc., decided Oct. 17, 2019).

Under the legal principles stated above, it would be reasonable to deem that the phrase “a supply blower and an exhaust blower operate alternately” in Element 3 of Claim 1 of the Subject Invention is limited

to mean that "a supply blower and an exhaust blower repeat to operate in turn for a certain amount of pre-set time" in light of the following facts: (1) Claim 1 of the Subject Invention states that "the supply blower (30) and the exhaust blower (40) [are] operated alternately in bypass operation"; (2) the word "alternate" refers to "work done by many in turns" (see Naver Korean Dictionary); and (3) as to the technical meaning of operating alternately, the summary of the invention in the specification (Plaintiffs' Exhibit 1) of the Subject Invention describes that "in this step (S320), the supply blower (30) and the exhaust blower (40) are alternately operated for the set operation time, and the supply air (S.A) and the exhaust air (E.A) are alternately supplied through the bypass flow path (B.F). For example, assuming that the set operating time is 5 minutes, only the supply blower (30) is operated for 5 minutes while the exhaust blower (40) is stopped, so that outdoor air (S.A) is introduced into the room … and then, in contrast, the supply blower (30) is stopped and the exhaust blower (40) is operated for 5 minutes, so that indoor air (E.A) is emitted. As the S.A and E.A are repeated alternately, the ventilation is performed directly without going through the heat exchanging element (20)" ([0068]–[0069]), and "it is preferable that the supply blower (30) and the exhaust blower (40) are alternately operated so that ventilation is smoothly performed through the intersection of the supply air (S.A) and the exhaust air (E.A) during the bypass operation. It is also possible that only one of the supply blower (30) and the exhaust blower (40) is selectively operated because there might be a case where only the supply air (S.A) or the exhaust air (E.A) is required. For example, as shown in FIG. 3, only the supply blower (30) may be operated to supply air (S.A), or conversely, only the exhaust blower (40) may be operated, as illustrated in FIG. 4, so that only exhaust air (E.A) is achieved" ([0044]). As such, like the corresponding element in the Invention for Review, the "configuration where only the supply blower is operated and the exhaust blower is stopped during a bypass operation" is not same with the "configuration where the supply blower and the exhaust blower operate alternately" in Element 3.

Thus, the Plaintiffs' argument that the corresponding configuration of the Invention for Review (a configuration where the supply blower operates and the exhaust blower stops when operating a bypass) is included in Element 3 ("the supply blower and the exhaust blower operate alternately") may not be accepted.

3) Analysis on Equivalents

a) Relevant Law

In determining whether an element is deliberately excluded from the claims of the patented invention during the filing of an application of the patented invention, not only a specification but also opinions of an examiner, an intent

of the applicant reflected in amendment, and a written statement, etc. submitted during the application process shall be considered. Thus, it shall not be concluded that all the elements existed between the reduction were deliberately excluded based on the comparison between the elements before and after the reduction, just because the scope of claims were reduced during filing of a patent application. There must be the exited intention of the applicant to exclude a certain element from the scope of rights. Further, this legal principle shall apply even when an applicant did not reduce the claims and expresses his/her opinion without by submitting a written statement, etc. (Supreme Court Decision, 2014Hu638, decided Apr. 26, 2017).

b) Analysis

In light of the legal principles stated above and the following circumstances, it would be reasonable to deem that Plaintiff C, who is an applicant for the Subject Invention (hereinafter, "C"), intentionally excluded the phrase "element where only the supply blower operates and the exhaust blower stops during bypass operation" in the Invention for Review from the scope of rights of Claim 1, by deliberately deleting a matter described in the claims at the time of application for the Subject Invention in order to overcome the ground of rejection raised by an examiner of the Korean Intellectual Property Office (KIPO).

(1) The application of the Subject Invention describes, in the summary of the invention, that "the present invention provides a heat recovering ventilation apparatus capable of performing a bypass operation in which direct ventilation is performed through a bypass flow path not passing through the heat exchange element, thereby preventing shortening of life of the apparatus and minimizing unnecessary waste of power consumption" ([12] of Plaintiffs' Exhibit 1).

Also, according to the claims at the time of filing the application of the Subject Invention, Claim 1 describes a "bypass damper (60) generating a bypass flow path (B.F)" only but does not mention anything about a supply blower (30) and an exhaust blower (40). Meanwhile, Claim 2 directly cites Claim 1 and applies a limitation of "the supply blower (30) and the exhaust blower (40) which are installed on the supply outlet (12) and the exhaust outlet (13), respectively, and operate together during heat exchange operation and operate alternately during bypass operation". Claim 5 directly cites Claim 1 and applies the limitation of "the supply blower (30) and the exhaust blower (40) which are installed on the supply outlet (12) and the exhaust outlet (13), respectively, and operate together when operating a heat exchange and operate separately and selectively when operating a bypass".

(2) In this regard, on Feb. 26, 2015, the examiner of KIPO issued notice of rejection of the appeal and required submission of a written argument,

stating that a person having ordinary skill in the art could, at the time of filing the application, easily derive the "bypass damper (60) generating the bypass flow path (B.F)" in Claim 1 from the "bypass dampers (208a, 209a, FIGs. 4–6)" of Cited Invention 1[3] or the "heat exchange ventilation and bypass ventilation" of Cited Invention 2[4] ([27]–[28]). Further, a person having ordinary skill in the art could, at the time of filing the application, easily derive the "supply blower (30) and the exhaust blower (40)" in Claims 2 and 5 from the "supply fan (205) and the exhaust fan (206)" in Cited Invention 1.

(3) In response, Plaintiff C, who is an applicant of the Subject Invention, made an amendment by deleting Claim 5, etc. and incorporating the limitation added to Claim 2 into Claim 1, and submitted a written argument, saying the following: "the alternate operation of supply blower and exhaust blower is a configuration derived from an organic combination relationship with bypass dampers that generates the bypass flow path and is a characteristic feature of the present invention not implied or disclosed by Cited Invention 1; since the bypass flow paths are formed separately for supply or exhaust in Cited Invention 1, there is no technical motivation to operate the supply fan and the exhaust fan alternately; thus, a person having ordinary skill in the art could not easily derive the elements stated above from Cited Invention 1". As a result, the Subject Invention was granted a patent.

(4) In light of statements in the specification of the Subject Invention and the examination of the application thereof, it seems that Plaintiff C, who is an applicant of the Subject Invention, did the following: determined that the "bypass damper generating the bypass flow path" described in Claim 1 at the time of filing the application could be easily derived from Cited Invention 1 or 2, as presented in the grounds for rejection by the examiner of KIPO for non-obviousness; deleted Claim 5 added in the application at the time of filing, to which the "supply blower and the exhaust blower, only one of which is operated alternately during bypass operation" was added to avoid the grounds for rejection; incorporated into Claim 1 the "alternate operation of the supply blower and the exhaust blower" added in Claim 2 at the time of filing the application; and stressed, in the written argument, that the "alternate operation of the supply blower and the exhaust blower" added to Claim 2 at the time of filing the application is a key technical feature of the Subject Invention. It seems that the examiner of KIPO acknowledged such arguments, and the Subject Invention was granted a patent.

---

[3] Cited Invention 1 (Defendant's Exhibit 3) relates to the "film-type ventilation apparatus" disclosed in Patent Laid-Open Publication No. 10-0628088 (published Sep. 26, 2006).

[4] Cited Invention 2 (Defendant's Exhibit 4) relates to the "heat exchange ventilation apparatus" disclosed in Japan Patent Publication No. 2003-113473 (published Jun. 10, 2013).

So, it would be reasonable to deem that in response to the examiner's notice for submitting a written argument, Plaintiff C, who is the applicant of the Subject Invention, made an amendment and deliberately deleted Claim 5 at the time of filing that includes the phrase "supply blower and the exhaust blower, only one of which is operated alternately during a bypass operation", and therefor deliberately excluded Claim 5 from the scope of rights of the Subject Invention

(5) At the time of filing the application, Claim 2 included the element of the "supply blower (30) and the exhaust blower (40) that operate alternately during a bypass operation" with an aim to protect the "element where the supply blower and the exhaust blower repeat to operate in turn for a certain period of time". Meanwhile, at time of filing the application, Claim 5 included the phrase, "supply blower (30) and the exhaust blower (40), one of which is operated selectively during a bypass operation", with an aim to protect the "element where only one of the supply blower and the exhaust blower operates during a bypass operation". For this reason, it may not be deemed, as argued by the Plaintiffs, that the two are inclusive or overlapping. This is even more so in light of the fact that Claims 2 and 5 were, at the time of filing the application, dependent claims directly citing Claim 1.

Plus, in light of what was analyzed above and what was argued by Plaintiff C through written arguments in the application examination process, it may not be deemed that the Plaintiffs would have been able to receive a patent, if they had not deleted Claim 5 in the amendment at the time of filing the application.

For this reason, it may not be deemed that Element 3 in Claim 1 of the Subject Invention are equivalent to the corresponding element of the Invention for Review. Therefore, the Plaintiffs' argument that Element 3 in Claim 1 of the Subject Invention is equivalent to the corresponding element of the Invention for Review shall not be accepted

4) Summary of Analysis

As analyzed above, elements of the Invention for Review corresponding to Element 3 in Claim 1 of the Subject Invention are not literally identical to Element 3 and may not be deemed to be equivalent thereto. Thus, it would be reasonable to deem that the Invention for Review lacks Element 3 among the elements in Claim 1 of the Subject Invention. Therefore, the Invention for Review does not fall within the scope of rights of Claim 1 of the Subject Invention.

C. Whether the Invention for Review Falls within the Scope of Claim 2 of the Subject Invention

1) Technical Element of Claim 2 of the Subject Invention

Claim 2 of the Subject Invention is a dependent claim citing Claim 1 of the Subject

Invention, to which the limitation of "wherein the supply blower (30) and the exhaust blower (40) are operated alternately for an operation time set respectively when operating a bypass and operated alternately after being stopped together for a set stop time when being alternated" is added.

2) Analysis

The Invention for Review does not fall within the scope of rights of Claim 2 of the Subject Invention on the following grounds:

a) As analyzed above, the Invention for Review lacks Element 3 among the elements in Claim 1 of the Subject Invention.

b) Also, the technical element added in Claim 2 of the Subject Invention relates to "during these alternate operations, the supply blower and the exhaust blower are both paused for a designated stop time before resuming alternate operation". However, since the Invention for Review operates only the supply blower (3) and stops the exhaust blower (4) during a bypass operation, the supply blower and the exhaust blower do not operate alternately. So, in the Invention for Review, both blowers are not stopped together for a set stop time when being alternated. Therefore, the Invention for Review also lacks a technical element added in Claim 2 of the Subject Invention.

D. Whether the Invention for Review Falls within the Scope of Claim 4 of the Subject Invention

1) Technical Element of Claim 4 of the Subject Invention

Claim 4 of the Subject Invention is a dependent claim citing Claim 2 of the Subject Invention with a technical feature of "temperature sensing units (70a, 70b) sensing outdoor temperature and indoor temperature, respectively; and an operation control unit (80) computing the temperature difference between the outdoor and the indoor sensed by the temperature sensing units (70a, 70b), and controlling the heat exchange operation when the temperature difference exceeds a predetermined threshold and regulating bypass operation when the temperature difference falls below the same threshold

2) Discussion

The Invention for Review does not fall within the scope of rights of Claim 4 of the Subject Invention on the following grounds:

a) As analyzed above, the Invention for Review lacks the technical element added in Claims 1 and 2 of the Subject Invention.

b) The technical element added in Claim 4 of the Subject Invention relates to "temperature sensing units sensing outdoor temperature and indoor temperature; and an operation control unit computing the temperature difference between the outdoor and the indoor sensed by the temperature sensing units". However, since the Invention for Review does not have a

temperature sensing unit that detects the indoor and outdoor temperatures, the Invention for Review lacks a technical element added in Claim 4 of the Subject Invention.

E. Summary of Discussion

As analyzed above, the Invention for Review does not fall within the scope of rights of Claims 1, 2, and 4 of the Subject Invention. The IPTAB decision is consistent with the above analysis and the IPTAB did not err in its decision, contrary to what is argued by the Plaintiffs.

3. Conclusion

The Plaintiffs' claim to revoke the IPTAB decision is without merit and is therefore dismissed. It is decided as ordered.

Presiding Judge Hyeong Geun Lee

Judge Donggyu Kim

Judge Sungyop Woo

[Attached Form]

Description and Drawings of the Invention for Review

1. Title of Invention: Heat recovering ventilation apparatus

2. Outline of Drawings

FIG. 1 illustrates the configuration of the Invention for Review and shows a state of heat exchange mode.

FIG. 2 shows a state of bypass mode of the Invention for Review.

** Description of drawing symbols **

1: Apparatus housing 2: Heat exchange element 3: Supply blower 4: Exhaust blower 5: Bypass damper 11: Supply inlet 12: Exhaust outlet 21: Supply outlet 22: Exhaust inlet O.A: Supply flow path R.A: Exhaust flow path

3. Description of the Invention for Review

"A heat recovering ventilation apparatus ((hereinafter, "Element for Review 1") comprising an apparatus housing (1) having a supply inlet (11) and an exhaust inlet (22) on one side and an exhaust outlet (12) and a supply outlet (21) on the other side and an energy heat exchange element (2)[5] installed where a supply flow path that guides outdoor air (O.A) from the supply inlet (11) to the supply outlet (21) crosses an exhaust flow path that guides indoor air (R.A) from the exhaust inlet (22) to the exhaust outlet (12) and energy heat exchanges the outdoor air (O.A) and the indoor air (R.A),

wherein the heat recovering ventilation apparatus has bypass operation: comprising

a bypass damper (5) (hereinafter, "Element for Review 2") installed on a partition between the supply outlet (21) and the exhaust outlet (12) which is closed during heat exchange operation and opened during bypass operation, generating a bypass flow path (no drawing mark) that connects the supply outlet (21) and the exhaust outlet (12); ---

a supply blower (3) and an exhaust blower (4) (hereinafter, "Element for Review 3") installed on the supply outlet (21) and the exhaust outlet (12), respectively, and operated together in heat. exchange operation, during bypass operation, the supply blower (3) operates and the exhaust blower (4) stops;

and an open/close damper (hereinafter, "Element for Review 4") installed on the supply inlet (11) and the exhaust inlet (22), respectively, which open together when operating an energy heat exchange or close together when operating a bypass".

Also, the Invention for Review is heat recovering apparatus capable of bypass operation having the feature that "the supply blower (3) and the exhaust blower (4) are a heat recovering ventilation apparatus capable of bypass operation, wherein the supply blower (3) operates and

[5] The description of the Invention for Review described in Attached Form 3 of Plaintiffs' Exhibit 3 describes "energy energy heat exchange element (2)". However, since this is a clerical error, this decision describes it as "energy heat exchange element (2)".

the exhaust blower (4) stops when operating a bypass".

That is, in the Invention for Review, the supply blower (3) and the exhaust blower (4) do not operate alternately when operating a bypass. Thus, both blowers would not be stopped together for a set stop time when alternating.

Also, the Invention for Review is not equipped with temperature sensing units (70a, 70b) that detect outdoor and indoor temperatures, respectively.

The configuration and operation relationship of the Invention for Review are as follows:

Configuration of heat recovering ventilation apparatus:

The following are included: an apparatus housing (1) in which a supply inlet (11) through which air is introduced from the outdoors, an exhaust outlet (12) through which air is emitted, a supply outlet (21) through which air is provided to the indoors, and an exhaust inlet (22) through which air is emitted from the indoors are formed; a heat exchange element (2) installed where a supply flow path between the outdoor supply inlet (11) and the indoor supply outlet (21) of the apparatus housing (1) crosses an exhaust flow path between the outdoor exhaust outlet (12) and the indoor exhaust inlet (22); the supply blower (3) installed near the indoor supply outlet (21); the exhaust blower (4) installed near the outdoor exhaust outlet (12). The outdoor supply inlet and outlet (11, 12) and indoor supply outlet (21) and the exhaust inlet (22) have dampers that open and close the respective outlet. Also, a bypass damper (BP) (5) that forms a bypass flow path on a partition between the indoor supply outlet (21) and the outdoor exhaust outlet (12) is installed and provides outdoor air to the indoors by being closed during heat exchange operation and by being opened during bypass operation.

Description of operating relationship of heat recovering ventilation apparatus

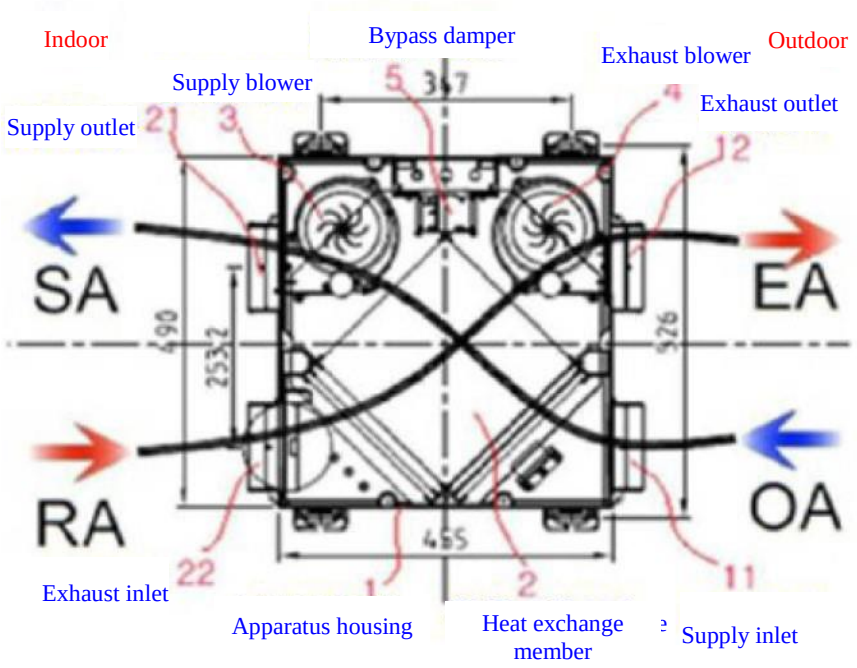
Heat exchange mode: To ventilate indoor and outdoor air in summer and winter with minimal heat loss by exchanging heat, the outdoor air inlet (11), exhaust outlet (12), indoor air inlet (21) and exhaust outlet (22) are opened, and air inlet blower (3) and exhaust blower (4) are operated to supply outdoor air to the indoors through the heat exchange element (2) and discharge the indoor air. In that procedure, heat exchange occurs between the indoor and outdoor air and save cooling and heating energy.

Bypass mode: Bypass mode: When the temperature difference between the inside and outside air is small in spring and fall, the outdoor exhaust outlet (12), indoor supply air outlet (21), and bypass damper (5) are opened to ventilate without heat exchange. So, all the opening and closing dampers are closed, and only the supply air blower (3) is operated to supply outside air to the indoor through the bypass flow to ventilate.

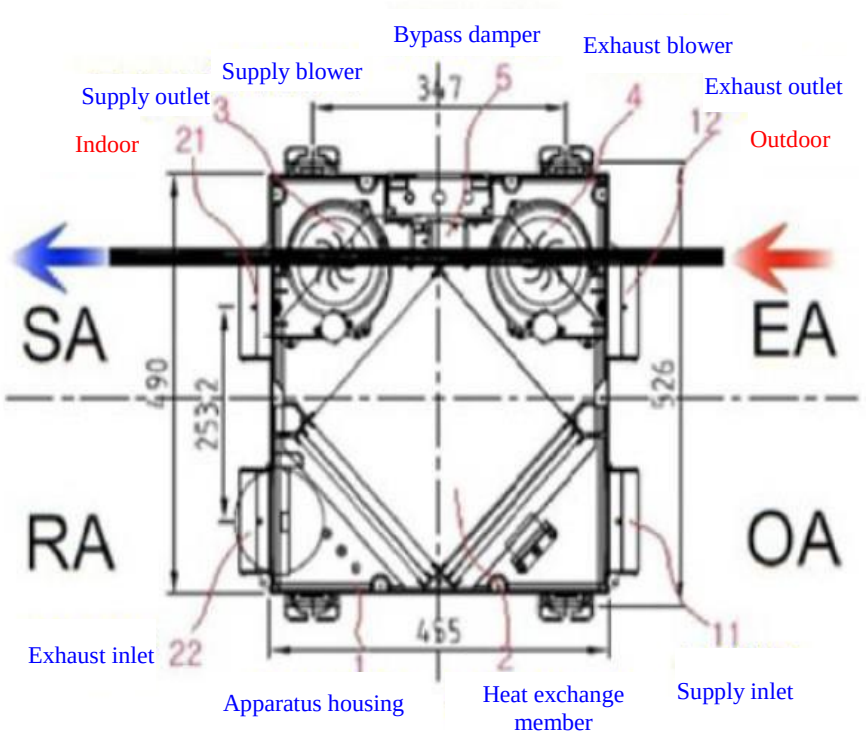
[Margin for inserting drawings]

4. Drawings

[FIG. 1]



[FIG. 2]



End.