

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 29

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte FREDERIC LAGACE,  
JEAN-FRANCOIS GRONDIN,  
PIERRE CUSSON,  
MICHEL JULIEN,  
and DANIEL MARCOUX

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Appeal No. 1999-0316  
Application 08/329,124

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ON BRIEF

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Before STAAB, McQUADE, and GONZALES, Administrative Patent Judges.

McQUADE, Administrative Patent Judge.

DECISION ON APPEAL

This appeal involves the examiner's rejection of claims 12, 13 and 32 through 34, all of the claims currently pending in the application.

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The invention relates to a ventilation system designed to transfer heat and moisture between fresh and exhaust air flows. Claims 12 and 13 recite methods of defrosting the system, and claims 32 through 34 recite methods of balancing the air flows. A copy of these claims appears in the appendix to the examiner's supplemental answer (Paper No. 24).

The references relied upon by the examiner as evidence of obviousness are:

Spethmann 29, 1978	4,109,704	Aug.
Hajicek 1985	4,497,361	Feb. 5,
Besik 1990	4,952,283	Aug. 28,
Morissette et al. 1993 (Morissette)	5,193,610	Mar. 16,
Noda et al., (Noda) <sup>1</sup> (Japanese Patent Document)	3-87547	Apr. 12, 1991

Claims 12, 13 and 32 through 34 stand rejected under 35

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<sup>1</sup>An English language translation of this reference, prepared by the U.S. Patent and Trademark Office, is appended hereto.

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U.S.C. § 103 as follows:

a) claim 12 as being unpatentable over Hajicek in view of  
Morissette;

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b) claim 13 as being unpatentable over Hajicek in view of Morissette and Noda;

c) claim 32 as being unpatentable over Hajicek in view of Spethmann; and

d) claims 33 and 34 as being unpatentable over Hajicek in view of Spethmann and Besik.

Reference is made to the appellants' second substitute brief (Paper No. 20) and to the examiner's supplemental answer (Paper No. 24) for the respective positions of the appellants and the examiner regarding the merits of these rejections.

Hajicek, the examiner's primary reference, discloses a regenerative heat and humidity exchanging apparatus which can be employed to ventilate a building. The apparatus 10 includes a housing 12 defining two parallel air flow passages 26, 28, fans 54, 62 for blowing fresh air through passage 26 and exhaust air through passage 28 in opposite directions, and a rotating exchanger wheel comprising air-pervious media disks 110 which function to transfer heat and moisture from the

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exhaust air in passage 28 to the fresh air in passage 26.

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Hajicek does not teach and would not have suggested a method meeting any of the defrosting limitations recited in claims 12 and 13. The examiner's reliance on Morissette, taken alone or in combination with Noda, to overcome this deficiency is not well founded.

Morissette discloses a building ventilation system which utilizes a stationary heat recovery core 1, 11 to transfer heat from exhaust air to fresh air. In a defrost mode, the system prevents the intake of fresh air and circulates exhaust air through both the exhaust air path and the normally fresh air path and then back into the building.

Noda discloses an air conditioner having an aeration (exhaust) passage 16, a (fresh) air supply passage 18, a total enthalpy heat exchanger 28 for transferring heat from the aeration air flow to the fresh air flow, an auxiliary aeration heat exchanger 32 in the aeration passage 16 downstream of heat exchanger 28, and an auxiliary air supply heat exchanger 48 in the air supply passage downstream of the heat exchanger

28. In a defrost mode, the total enthalpy heat exchanger 28 stops and, as explained by Noda,

flowed air is supplied into aeration heat exchanger 32 at a relatively high temperature without heat-exchanging at total enthalpy heat exchanger 28. When said air at a high temperature is supplied into aeration heat exchanger 32, frost generated in aeration heat exchanger 32 disappears and is removed. At the same time, said air at a high temperature is heat-exchanged at aeration heat exchanger 32 [translation, pages 7 and 8].

The defrosting method recited in claim 12 includes the step of inducing a rotary exchanger wheel to rotate at a rotational speed of from 0 to 2 rpm such that the wheel is able to be defrosted by exhaust air. The appellants' specification (see, for example, pages 6 and 10) indicates that this speed range optimizes the efficiency of the defrosting operation. Notwithstanding the position taken by the examiner (see pages 4 and 5 in the supplemental answer), and even assuming for the sake of argument that Morissette would have suggested the redirection of Hajicek's exhaust air flow to effect defrosting in the manner set forth in claim 12, there is nothing in Morissette's disclosure of stationary heat

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recovery core 1, 11 which would have suggested the additional step of rotating Hajicek's rotary exchanger wheel at a speed of from 0 to 2 rpm. Inasmuch as

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Morissette's heat recovery core is stationary at all times, it is not apparent how or why it would have been suggestive of any particular rotational speed for Hajicek's rotary exchanger wheel.

Accordingly, we shall not sustain the standing 35 U.S.C. § 103 rejection of claim 12 as being unpatentable over Hajicek in view of Morissette.

The defrosting method recited in claim 13 differs from the one recited in claim 12 in that it requires the step of stopping rotation of the exchanger wheel such that it is able to be defrosted by the exhaust air. For the reasons explained above, Morissette would not have suggested stopping Hajicek's rotary exchanger wheel during a defrosting operation.

Although Noda's total enthalpy heat exchanger 28 "stops" during a defrosting mode, the exchanger which is defrosted, aeration heat exchanger 32, does not "stop." Here again, it is not apparent how or why the stoppage of one exchanger to defrost a different functioning exchanger would have been

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suggestive of stopping Hajicek's sole exchanger during a  
defrosting operation.

Therefore, we shall not sustain the standing 35 U.S.C. § 103 rejection of claim 13 as being unpatentable over Hajicek in view of Morissette and Noda.

Claim 32 recites a method for balancing fresh air and exhaust air flows through an operating ventilation system wherein fresh and exhaust air static pressure differences determined across an exchanger means are used to compare air flow values corresponding to the static pressure differences.<sup>2</sup> As conceded by the examiner (see pages 5 and 6 in the supplemental answer), Hajicek does not disclose or suggest such a method. The examiner's reliance on Spethmann, taken alone or in combination with Besik, to cure this deficiency is unsound.

Spethmann discloses an air conditioning system 10 having a hot deck 19 for supplying heated air and a cold deck 20 for

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<sup>2</sup>In defining this method, Claim 32 mentions the transfer between the air flows of a member of "the group comprising i) sensible heat and ii) sensible heat and water moisture" (two occurrences). To the extent that this group constitutes a Markush group, the use of "comprising" instead of "--consisting of--" is improper. See MPEP § 2173.05(h).

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supplying cooled air. The hot deck includes a heating coil 22 and the cold deck includes a cooling coil 30. Pressure sensors 23, 24 on either side of the heating coil and pressure sensors 31, 32 on either side of the cooling coil contribute to the generation of signals representative of the volumes of air flowing through the hot and cold decks. These signals are utilized to minimize heating and cooling costs by controlling the relative amounts of outdoor (fresh) and return (exhaust) air in, and thus the temperature of, the air mix supplied to the decks.

According to the examiner, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to

employ in Hajicek in the first air stream . . . first and second pressure taps across the first heat exchanger and in the second air stream . . . third and fourth pressure taps across the second heat exchanger in order to determine the air flowrate within the first and second air streams for the purpose of controlling the air temperature as disclosed in Spethmann [supplemental answer, page 6].

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Spethmann's air mix control system, however, has little, if any, relevance to the sort of ventilation system disclosed by Hajicek. We are satisfied that the only suggestion for combining the disparate teachings of these references in the manner proposed by the examiner stems from hindsight knowledge impermissibly derived from the appellants' own disclosure. As for claims 33 and 34, which depend from claim 32, suffice to say that this basic flaw in the Hajicek-Spethmann combination finds no cure in Besik's disclosure of an air conditioning apparatus which is reversibly operated to transfer heat and moisture between fresh and exhaust air flows.

Therefore, we shall not sustain the standing 35 U.S.C. § 103 rejection of claim 32 as being unpatentable over Hajicek in view of Spethmann or the standing 35 U.S.C. § 103 rejection of claims 33 and 34 as being unpatentable over Hajicek in view of Spethmann and Besik.

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In summary, the decision of the examiner to reject claims  
12, 13 and 32 through 34 is reversed.

REVERSED

LAWRENCE J. STAAB )  
Administrative Patent Judge )  
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) BOARD OF PATENT  
JOHN P. McQUADE ) APPEALS  
Administrative Patent Judge ) AND  
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INTERFERENCES )  
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JOHN F. GONZALES )  
Administrative Patent Judge )

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Timothy E. Nauman  
Fay, Sharpe, Beall, Fagan,  
Minnich & McGee  
1100 Superior Ave.  
Ste. 700  
Cleveland, OH 4114-2518