

Paper No. _____

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

IGB AUTOMOTIVE LTD.
and I.G. BAUERHIN GmbH
Petitioner

v.

GENTHERM GmbH
Patent Owner

Case IPR2014-00666
Patent 7,229,129

PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

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I. CLAIMS 1 – 3, 6, AND 7 ARE OBVIOUS OVER WYON IN VIEW OF SPITALNICK

A. Wyon Discloses “an opening for receiving air from the air mover”

Claim 1 of the '129 patent includes the recitation “a generally enclosed chamber . . . including an opening for receiving air from the air mover.” (Ex. 1001 at 9: col. 5, ll. 45-47). Wyon discloses an opening 11 in the bag 6 that is connected to tube 12, which is connected to the negative pressure side of a suction turbine 13. (Petition at 26). Patent Owner contends that the opening 11 in Wyon does not meet the above stated recitation in claim 1 because Wyon teaches “a suction device capable of producing negative air pressure connected to the opening.” (PO Resp. at 16). In other words, a suction device draws air away from the opening rather than delivering air to the opening. Regardless, the recitation “a generally enclosed chamber . . . including an opening for receiving air from the air mover” in claim 1 only positively requires that the generally enclosed chamber have an opening. The opening 11 in the bag 6 of Wyon is such an opening. The recitation “for receiving air from the air mover” focused on by Patent Owner is merely an intended use. Patent Owner’s expert, Dr. Rice, admitted at his deposition that the phrase “for receiving air from the air mover” describes the function of the opening. (Ex. 1015 at 127:8-14). Thus, while the opening 11 in Wyon is disclosed as being connected to a suction device, the opening 11 in Wyon is structurally capable of receiving air from a blowing device, and therefore is capable of the intended use recited in claim

1. And Dr. Rice admitted that Wyon itself mentions that the flow direction may be reversed, thereby reversing the direction of flow through the openings of the Wyon. (Ex. 1015 at 114:6-10; 115:11-20; 116:10-16). Therefore, contrary to the position taken by the Patent Owner, Wyon does disclose an opening for receiving air from the air mover.

Further, Dr. Rice admitted at his deposition that he had not construed the term “an opening for receiving air from the air mover” in his expert report and had only provided a claim construction of the term “spacer.” (Ex. 1015 at 121:23-122:2). Therefore, Dr. Rice has not set forth an opinion as to the claim construction of the phrase “for receiving air from the air mover.”

The Patent Owner also suggests that there is a distinct difference between a positive pressure system that blows air versus a suction device that produces negative pressure. (PO Resp. at 15-16). However, the disclosure of the ‘129 patent itself belies this suggestion and shows it to be without merit. The ‘129 patent states on more than one occasion that suction and blowing (direction of air flow caused by the air mover) are interchangeable: “In addition, known ventilated seating can include flow control to increase or decrease total air flow, as well as direction . . .” (Ex. 1001 at 7: col. 1, ll. 35-37; emphasis added); “If the air movement system is in a suction mode, air is drawn through the holes, into the spacer material and out of the bag. In a pressurization mode, air is forced into the

bag and outwardly through the holes.” (Ex. 1001 at 7: col. 2, ll. 39-43); “It can also be mentioned again here that the speed and direction of air movement can be controlled by a separate controller coupled to the air mover 50 or by using the fan speed and temperature controls of the vehicle. If a fan 50 is used which is not directly coupled to the vehicle’s air conditioning system, it is preferred that the fan be reversible to operate in a pressurizing or suction mode and that the fan be multi-speed, i.e., having at least low, medium and high settings.” (Ex. 1001 at 9: col. 5, ll. 25-33; emphasis added). If the ‘129 patent itself discloses that it is preferable for the fan to provide interchangeable suction and blowing functions, it is incorrect to suggest that suction and blowing devices provide mutually exclusive results. More specifically, it is erroneous to suggest that an opening for sucking air via a suction device could not be used to receive air from a blowing device, and vice versa. Dr. Rice has also admitted that the opening described in the ‘129 patent would receive air in either a pressure mode or a suction mode. (Ex. 1015 at 143:22-144:9). Additionally, Dr. Rice admitted that the specification of the ‘129 patent discloses that the direction of the air movement provided by the fan may be reversed, and that the specification is not limited to a pressurized mode. (Ex. 1015 at 129:14-19; 131:8-23). Therefore, the specification of the ‘129 supports the conclusion that the patent claims are not limited to the air mover blowing air rather than sucking air.

B. Wyon and Spitalnick Are Combinable

Contrary to Patent Owner's arguments (PO Resp. at 16-22), one of ordinary skill in the art would have combined Wyon and Spitalnick to arrive at the claimed invention. (Petition at 24-33). Patent Owner contends that one of ordinary skill would have had no reasoned motivation to modify Wyon's device in view of Spitalnick to arrive at the claimed designs. Patent Owner also contends that one would not have had a reasonable expectation of success in combining Wyon with Spitalnick. (PO Resp. at 16). However, the combination of Wyon and Spitalnick raised by Petitioner in its Petition is proper and meets the requisite limitations of the claims of the '129 patent.

Patent Owner takes the position that one would be discouraged and lead away from combining Spitalnick's hole pattern with Wyon because Wyon teaches that a critical part of its cooling device is negative air pressure or suction, while the device of Spitalnick uses positive pressure. Patent Owner suggests that the combination of Spitalnick with Wyon would therefore render the device of Wyon inoperable. (PO Resp. at 17). However, Patent Owner misconstrues the combination of Wyon and Spitalnick set forth in the Petition and affirmed by the Board in the Institution Decision. (Decision at 11-14).

In this regard, Spitalnick has been applied for its teaching of variable perforations 20, the groups of perforations 20 closer to the air connection 25

having a smaller total cross-sectional area than groups of perforations 20 farther from the air connection 25, and the total cross-sectional area of the groups increasing as the distance from the air connection 25 increases. (Petition at 30). The holes 7 in the upper surface of the bag 6 of Wyon are of uniform size (cross-sectional area), and Spitalnick is combined with Wyon to modify the holes 7 so that they have the cross-sectional area arrangement as disclosed in Spitalnick. (Petition at 24). Spitalnick is not combined with Wyon to change the direction of air flow from suction to blowing; Wyon may still operate with suction when modified to have the variable hole size as taught by Spitalnick. The Board has affirmed this position, finding that “[f]or the remaining limitations in claim 1 relating to the relative hole size, IGB relies on the combination of Gendron and Suzuki or, alternatively, on Spitalnick. On the present record, we are persuaded that IGB is reasonably likely to show that Spitalnick teaches this limitation. Spitalnick teaches that the air permeability of front panel 15 may be made non-uniform by making the perforations closest to the air inlet smaller than those farther away from the air inlet ‘to ensure equal air flow at regions close and far from the air inlet.’” (Decision at 11-12).

Patent Owner’s arguments obfuscate the issue at hand, which is whether one of ordinary skill would be motivated to modify the hole pattern of Wyon as taught by Spitalnick, not whether the ventilated seat device of Wyon would be modified

to utilize blowing as in the ventilation device of Spitalnick. In any event, Dr. Rice has admitted that both Wyon and Spitalnick could function with the flow reversed (Ex. 1015 at 113:21-114:10; 140:9-142:2), that the uniform hole size pattern of Wyon may not provide equal flow of air through the holes (Ex. 1015 at 81:2-82:7), that a non-uniform hole pattern is a good idea for both suction and blowing applications (Ex. 1015 at 108:7-111:7), and that providing a non-uniform pattern of holes in Wyon may improve flow (Ex. 1015 at 134:10-137:6).

Patent Owner also contends that there is a critical difference between seat ventilation devices that utilize suction of air versus seat ventilation devices that utilize blowing of air. However, as noted in Section I.A. above, the ‘129 patent itself discloses that suction and blowing are interchangeable options. For example, regarding the device recited in claim 1 of the ‘129 patent, the ‘129 patent indicates that: “If the air movement system is in a suction mode, air is drawn through the holes, into the spacer material and out of the bag. In a pressurization mode, air is forced into the bag and outwardly through the holes. The features of the present invention are also accomplished by altering the hole sizes so that holes nearer the air flow entrance or exit are smaller, thereby equalizing the amount of air which passes through the holes.” (Ex. 1001 at 7: col. 2, ll. 39-46). Thus, as indicated by the ‘129 patent itself, a hole pattern in which the hole sizes vary depending on the distance from the air flow entrance or exit functions the same in a suction mode as

in a pressurization/blowing mode. Switching from suction to blowing changes the direction of air flow, but does not alter the flow dynamics of the air passing through the hole pattern, as confirmed by Dr. Rice. (Ex. 1015 at 108:7-110:17). Since the '129 patent itself discloses that it is preferable for the fan to provide interchangeable suction and blowing functions, it is flawed to suggest that suction and blowing devices cannot be combined and that they provide mutually exclusive results.

Furthermore, Patent Owner contends that one of ordinary skill would have had no motivation to modify Wyon's hole pattern as taught by Spitalnick, because Spitalnick is not an improvement over Wyon. (PO Resp. at 19). The crux of Patent Owner's argument is that Wyon discloses a hole pattern of same-sized holes that provides an equal suction effect at each hole; therefore, one of ordinary skill would not modify the size of the holes as taught by Spitalnick to achieve a more uniform distribution of air flow at regions close to and far from the air source. However, despite Wyon's purported belief that its hole pattern arrangement provides the same suction effect at each of the holes (i.e. equal air flow), the disclosures of Spitalnick and the '129 patent itself contradict this belief. Spitalnick indicates that "[t]he air permeability of the front panel may be made non-uniform to ensure equal air flow at regions close and far from the air inlet. The non-uniformity may be achieved by the variable perforations 20 or a variably woven

fabric 21.” (Ex. 1014 at 3: col. 2, ll. 54-58). Thus, Spitalnick indicates that equal air flow is actually achieved by varying the size of the perforations 20 based on the distance from the air inlet, as shown in FIG. 2 of Spitalnick. (Petition at 29-30). Likewise, the ‘129 patent itself discloses the following: “FIG. 2 also illustrates in greater detail the aspect of the preferred embodiment of the present invention which varies the size of the holes 22 as the distance from the air mover increases. In this Figure, three openings are provided in the bag extending up the backrest 32 with holes 37, 38 and 39 becoming gradually larger as the distance from fan 35 increases. A linear pattern is provided for these holes, as that pattern has been found to be acceptable for the heating or cooling of an occupant. The bag located on the cushion 34 also includes a pattern of openings 22, this time the openings being provided in a U-shape to rest under the legs and seat of the occupant. The opening 42 at the bottom of the “U” is the smallest and sets of openings 43, 44, 45, and 46 extend in a spaced relationship toward the front of the bag and grow gradually larger. This size and arrangement of the air holes, with the smaller holes being near the air mover, contributes to a more uniform flow of air from the air mover, in this case fan 35.” (Ex. 1001 at 8: col. 4, ll. 40-57). It is also noteworthy that the linear pattern of holes in the backrest as well as the U-shaped pattern of holes in the seat cushion disclosed in the ‘129 patent (and shown in FIG. 2 of the ‘129 patent) are identical to the hole patterns shown in FIG. 2 of Wyon, with the

only difference being the hole size. Thus, both Spitalnick and the '129 patent itself disclose that the hole pattern and hole size arrangement disclosed in Wyon does not provide uniform flow, and both Spitalnick and the '129 patent itself indicate that providing a pattern of hole sizes in which the hole size grows larger as the distance from the air mover increases results in a uniform flow of air, or at least that a variable size hole pattern provides more equal flow than a uniform size hole pattern. And, as noted above, Dr. Rice has admitted that varying the hole size in Wyon would improve the flow distribution. (Ex. 1015 at 134:10-137:6). Also, Dr. Rice has admitted that he has not performed testing on any seat inserts to support his position that Wyon and Spitalnick are not combinable. (Ex. 1015 at 18:18-21). Therefore, contrary to the argument made by Patent Owner, Spitalnick does provide an improvement of the device disclosed in Wyon.

Patent Owner finally contends that Larsson also supports the argument that one of ordinary skill would not modify the uniform hole size of Wyon. (PO Resp. at 21-22). However, Patent Owner's contention is flawed. First, Larsson was not applied to show any of the elements of independent claim 1. Larsson was only applied to show the limitation of a heater in connection with a seat ventilation device as recited in dependent claims 4 and 5. (Petition at 24-33 and 44-45; Decision at 14-15). Second, the portions of Larsson cited by Patent Owner disclose that a uniform suction effect is achieved on all parts of the seat that an

occupant would contact by providing a U-shaped hole pattern on the seat portion and a linear-shaped pattern on the backrest portion (so as to not ventilate portions of the seat that are not contacted by an occupant), rather than by a uniform hole size. In regards to hole size, Larsson indicates that the suction openings can have a diameter of about 10 mm, but does not indicate that the size of the openings are limited to this value or cannot be variable. (Ex. 1009 at 6, 8, 9: col. 1, l. 65 through col. 2, l. 16, col. 6, l. 58 through col. 7, l. 9). Third, Patent Owner draws the conclusion that Larsson's failure to include the hole size pattern disclosed in Spitalnick indicates that claims of the '129 patent would not have been obvious. (PO Resp. at 22). However, the simple fact that Larsson did not specifically discuss varying the size of the openings based on the distance from the air source does not itself indicate that the modification would not have been obvious. It could be that Larsson was simply silent on this issue. Also, it appears that Larsson was concerned with limiting the air flow at regions that are not in contact with an occupant (so as to increase efficiency and limit the size of the suction device necessary) and in general to limiting air flow loss, rather than the variation in flow amongst the openings at the contact regions of the seat. Therefore, Larsson may not have considered Spitalnick to be germane to the problem it was attempting to solve.

For all of these reasons, one of ordinary skill would not have been discouraged from combining Wyon with Spitalnick, and the combination does not teach away from the disclosures of either Wyon or Spitalnick. Thus, one of ordinary skill would have had motivation to combine Wyon with Spitalnick, and would have had a reasonable expectation of success that the combination would adequately provide for equal air flow at regions close and far from the air source in the ventilation device of Wyon. The combination would have maintained the respective functions of Wyon and Spitalnick, would have yielded predictable results, and would have improved similar seat ventilation devices in a similar way. (Petition at 24; Decision at 12).

C. Petitioner's Combination Includes All of the Elements

Patent Owner does not dispute that the combination of Wyon and Spitalnick discloses the limitations of claims 1 – 3, 6 and 7 of the '129 patent. In this regard, Patent Owner only takes the position that Wyon is not combinable with Spitalnick. Patent Owner did not contest Petitioner's evidence showing that Wyon and Spitalnick disclose all of the elements of claims 1 – 3, 6 and 7.

As delineated in the Petition, Wyon discloses all of the limitations of claim 1, except for the limitation that the holes located substantially the same distance from the chamber opening define a group having a total cross-sectional area, the top portion of the chamber including more than one group of holes, with the total

cross-sectional area of each defined group of holes increasing the farther each defined group of holes is from the chamber opening. Spitalnick discloses these limitations regarding the cross-sectional area of the holes which are missing from Wyon. (Petition at 24-32: Sections IV.B.2. and IV.B.2.i.). Wyon and Spitalnick also disclose all of the limitations of claims 2, 3, 6 and 7. (Petition at 32-33: Sections IV.B.2.ii. through IV.B.2.v.). The Board found that Petitioner has demonstrated sufficiently that Wyon and Spitalnick teach the limitations of claims 1 – 3, 6 and 7. (Decision at 12-14). Patent Owner has not challenged this finding.

Additionally, Patent Owner does not dispute that Spitalnick discloses that the holes located substantially the same distance from the chamber opening define a group having a total cross-sectional area, the top portion of the chamber including more than one group of holes, with the total cross-sectional area of each defined group of holes increasing the farther each defined group of holes is from the chamber opening. Patent Owner only contests the combinability of Spitalnick with Wyon.

Accordingly, Petitioner has demonstrated that Wyon in view of Spitalnick disclose all of the limitations of claims 1 – 3, 6 and 7 of the ‘129 patent.

II. CLAIMS 4 AND 5 ARE OBVIOUS OVER WYON AND SPITALNICK IN FURTHER VIEW OF LARSSON

Patent Owner does not provide a response to Petitioner’s evidence regarding the obviousness of dependent claims 4 and 5 over Wyon and Spitalnick in further

view of Larsson. Patent Owner appears, without explicitly stating, to simply take the position that claims 4 and 5 are patentable because Wyon and Spitalnick are not combinable. Petitioner has addressed this contention of Patent Owner in Section I.B. above.

Further, Petitioner has shown that Larsson includes the limitations recited in claims 4 and 5 related to a heater, and that Larsson is combinable with Wyon and Spitalnick. (Petition at 45-46). The Board found that Petitioner is reasonably likely to prevail in showing that claims 4 and 5 would have been obvious over the combination of Wyon, Spitalnick and Larsson, and that combining Larsson with Wyon and Spitalnick amounts to the use of a known technique to improve a similar device in a similar way. (Decision at 14-15) Patent Owner has not disputed this finding in its response.

Further, although not relied upon by Patent Owner in its response, Patent Owner's expert, Dr. Rice, appears to suggest that one of ordinary skill would not have combined the heater of Larsson with Wyon, because any air heated within the seat of Wyon would be directed away from the occupant (Ex. 2001 at 21: ¶¶ 64, 65). Apparently Dr. Rice basis this opinion on the ventilation device of Wyon including a suction device. However, it is noted that the ventilated vehicle chair 1 of Larsson (including electric heater 12) similarly includes a suction device 26. (Ex. 1001 at 1, 7: Abstract, col. 4, ll. 6-7). If the heater of Larsson functions

sufficiently in the ventilation device of Larsson utilizing suction, then the heater of Larsson would function at least as sufficiently in the ventilation device of Wyon which also utilizes suction. Further, although not explicitly stated in Larsson, it is generally understood that in one arrangement the suction function may be utilized for cooling (such as during the summer), while the heating function may be utilized separately for warming (such as during the winter). (Ex. 1009 at 6, 7: col. 1, l. 43 through col. 3, l. 11, col. 3, l. 48 through col. 4, l. 7). Thus, suction and heating may not be performed simultaneously. Moreover, even if suction and heating were performed at the same time, heat would still be transferred from the heater through the trim surface of the seat (conductive heat transfer) even if air were also being sucked from above the top of the trim surface (convective heat transfer). For these reasons, the opinion of Dr. Rice is without basis.

III. WAIVER OF PATENT OWNER'S ARGUMENTS

Patent Owner's only argument raised in support of the patentability of claims 1 – 3, 6, and 7 of the '129 patent is that Spitalnick is not combinable with Wyon. Patent Owner did not raise any argument in its response with respect to the patentability of dependent claims 4 and 5 over the combination of Wyon and Spitalnick with Larsson. The Board cautioned that "any arguments for patentability not raised in the response will be deemed waived." (Scheduling Order at 3). Patent Owner did not respond to any of Petitioner's evidence with

respect to the teachings of Wyon, Spitalnick, and Larsson. Patent Owner's arguments are thus waived.

IV. CONCLUSION

For the reasons set forth above and in the Petition, claims 1 – 7 of the '129 patent should be found unpatentable. Therefore, Petitioner respectfully requests that the Board cancel these claims.

Respectfully submitted,

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Dated: April 6, 2015

CERTIFICATE OF SERVICE

In accordance with 37 C.F.R. § 42.6, I hereby certify that a copy of the foregoing Petitioner's Reply To Patent Owner's Response was served in its entirety this 6th day of April, 2015 by electronic mail on the following counsel of record for the patent owner:

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