

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

---

*Ex parte* STEPHEN R. ROHRER and JOSEPH M. ENDTER

---

Appeal 2009-001292  
Application 11/070,488  
Technology Center 3700

---

Decided: February 5, 2010

---

Before JOHN C. KERINS, MICHAEL W. O'NEILL, and  
FRED A. SILVERBERG, *Administrative Patent Judges*.

O'NEILL, *Administrative Patent Judge*.

DECISION ON APPEAL

## STATEMENT OF THE CASE

Stephen R. Rohrer and Joseph M. Endter (Appellants) appeal under 35 U.S.C. § 134 from the Examiner's final rejections under 35 U.S.C. § 103(a) of claims 2, 3 and 5-16 as unpatentable given Weisz (US 3,190,207, issued Jun. 22, 1965) and Lough (US 4,666,477, issued May 19, 1987) and of claim 4 as unpatentable given Weisz, Lough, and Smith (US 6,106,387, issued Aug. 22, 2000). We have jurisdiction under 35 U.S.C. § 6(b) (2002). We REVERSE.

### *The Invention*

The claims on appeal relate to an improvement in air curtain doorways. The air stream across the doorway counteracts the forces of the infiltrating air masses on both sides of the doorway.

Claim 14, reproduced below, is illustrative of the subject matter on appeal.

14. In an air curtain doorway for forming an air curtain across a doorway between a relatively low temperature area and a relatively high temperature area, comprising duct work including a supply air duct at a first side of the doorway, said supply air duct having a supply air outlet aperture extending substantially the height of the first side, a return air duct at a second side of the doorway opposite from the first side and having a return air inlet aperture extending substantially the height of the second side, an intermediate air duct extending between the supply and return air ducts, and an air mover for moving an air stream through the duct work from the return air inlet aperture to the supply air outlet aperture, and out of the duct work through the supply air outlet aperture so as to form an air curtain flowing from the supply air outlet aperture toward the return air inlet aperture, and to draw air into the ductwork through the return air inlet aperture, the improvement wherein:  
the return air inlet aperture is adjustable in area.

### ***The Rejections***

Based on Lough teaching an adjustable air damper for a clean room, the Examiner concludes that it would have been obvious to modify Weisz's air curtain system with Lough "in order to maintain the desired flow rates and pressure gradients (col. 1, ll. 26-27) in the air duct." Ans. 5. The Examiner finds that "having a pressure of at least 1" of water is [an] obvious matter of design choice to [a] person of ordinary skill in the art at the time of the invention (MPEP 2144.04) and is given little patentable weight." Ans. 5.

### ***Contentions***

Appellants contend that an adjustable return air inlet aperture as claimed is not rendered obvious based on the combined teachings of Weisz and Lough. App. Br. 5-7. Appellants traverse the Examiner's finding that having an air mover that creates a static pressure of at least one inch of water on the upstream side of the air mover is an obvious design choice. App. Br., 8-9.

## OPINION

### ***Issues***

The determinative issues in this appeal are:

(1) Whether the combined teachings of Weisz and Lough would render obvious an air curtain doorway having the return air inlet aperture being adjustable in area.

(2) Whether the Examiner has adequately provided a convincing line of reasoning for the conclusion that it is an "obvious matter of design choice" to have an air mover that creates a static pressure of at least one inch

of water on the upstream side of the air mover within an air curtain doorway as claimed.

### ***Pertinent Facts***

1. Weisz discloses an air curtain. Figure 8 shows a horizontal cross-section through the return duct 2. Return duct 2 lacks any features that can adjust the inlet opening 41.
2. Lough teaches an adjustable damper 14 for clean room systems. Lough teaches that the damper 14 is located in the air supply system at or near the ceiling. Lough does not teach locating the damper in a return duct.

### ***Principles of Law***

Rejections based on 35 U.S.C. § 103 must rest on a factual basis. In making such a rejection, the Examiner has the initial duty of supplying the requisite factual basis and may not, because of doubts that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in the factual basis. *See In re Warner*, 379 F.2d 1011, 1017 (CCPA 1967). Further, in rejecting claims as unpatentable on the basis of obviousness, the Examiner must provide “some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR Int’l. Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007).

In other words, it is improper to base a conclusion of obviousness upon facts gleaned only through hindsight. “To draw on hindsight knowledge of the patented invention, when the prior art does not contain or suggest that knowledge, is to use the invention as a template for its own reconstruction—an illogical and inappropriate process by which to

determine patentability.” *Sensonics, Inc. v. Aerosonic Corp.*, 81 F.3d 1566, 1570 (Fed. Cir. 1996) (citing *W.L. Gore & Assoc. v. Garlock, Inc.*, 721 F.2d 1540, 1553 (Fed. Cir. 1983)). “The invention must be viewed not after the blueprint has been drawn by the inventor, but as it would have been perceived in the state of the art that existed at the time the invention was made.” *Id.* (citing *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138 (Fed. Cir. 1985)).

To support a conclusion that a claim is directed to obvious subject matter, prior art references must suggest expressly or impliedly the claimed invention or an Examiner must present a “convincing line of reasoning” as to why one of ordinary skill in the art would have found the claimed invention to have been obvious. *Ex parte Clapp*, 227 USPQ 972, 973 (BPAI 1985). When determining whether a rejection based on design choice is appropriate, the Examiner must review the Specification and ascertain *if the limitation in question* is disclosed as serving any advantage or particular purpose, or whether it solves a stated problem. The Examiner also should explain the reasoning used to determine that the prior art would have performed equally as well as the claimed invention. These two steps help present the aforementioned “convincing line of reasoning.” *Ex parte Clapp*, 227 USPQ at 973.

### ***Analysis***

#### ***Issue (1)***

Weisz describes an air curtain lacking a return air inlet aperture that is adjustable in area. Fact 1. Lough describes an adjustable damper, but that damper is located on the supply side of an air supply filtration system; not the return side. Fact 2. As such, Appellants’ argument that the combination

of Weisz and Lough fail to render obvious having a return air inlet aperture that is adjustable in area has merit. The Examiner's rejection overlooks the context of Lough, namely, that Lough's adjustable damper is on the supply side of an air supply system. Further, the Examiner does not cogently explain how to modify Weisz's return air inlet with Lough's teaching of an adjustable damper. The Examiner should note that

a patent [claim] composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.

*KSR Int'l.*, 550 U.S. at 418.

In this case, the Examiner has not provided a cogent reason to employ a supply side adjustable damper on a return side air inlet, nor has the Examiner established that a person of ordinary skill in the art would reasonably expect to be able to adequately control desired flow rates and pressure gradients in Weisz (the rationale advanced by the Examiner for combining the teachings) by providing an adjustable area at the return side air inlet. Based on the disclosures of Weisz and Lough and the Examiner's reasoning to combine Weisz and Lough, this case is not seen as being an obvious combination of prior art elements or a simple substitution of one known element for another, leading to predictable results, or any other indicator of potential obviousness. Rather, given the extensive amount of modification needed to incorporate Lough's adjustable damper into the

return side of Weisz's air curtain, and the lack of any teaching or suggestion in Weisz or Lough of any particular result that might be achieved in making the modification, the conclusion of obviousness appears born from the use of impermissible hindsight reconstruction in view of Appellants' Specification.

*Issue (2)*

The Examiner has not provide any convincing line of reasoning why it is an "obvious matter of design choice" to have an air mover that creates a static pressure of at least one inch of water on the upstream side of the air mover within an air curtain doorway as claimed. Appellants have articulated that a person of ordinary skill in the art would not reasonably infer or deduce anything about the air mover of the air curtain of the present invention from either Weisz or Lough and that there is an advantage of improving the separation of the two environments on either side of the air curtain. Consequently, without some line of convincing reasoning on the Examiner's part, this situation does not arise to where the combination of Weisz and Lough differs only by a "minor" difference that the Examiner may concluded to be a matter of "obvious design choice."

CONCLUSIONS

Since (a) the rejections proffered by the Examiner are based on a combination of prior art that fails to render obvious a return air inlet aperture being adjustable in area, (b) the Examiner has not provided a convincing line of reasoning to support the conclusion of "design choice.", and (c) the Examiner does not rely on Smith to cure the above noted deficiencies, we are constrained to reverse the obviousness rejections.

Appeal 2009-001292  
Application 11/070,488

DECISION

The Examiner's decision to reject the claims is reversed.

REVERSED

mls

QUARLES & BRADY LLP  
411 E. WISCONSIN AVENUE  
SUITE 2040  
MILWAUKEE, WI 53202-4497