

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ARCHER E. D. BOOKER JR.

Appeal 2007-0910
Application 10/108,807
Technology Center 1700

Decided: July 25, 2007

Before CHUNG K. PAK, THOMAS A. WALTZ, and PETER KRATZ,
Administrative Patent Judges.

PAK, *Administrative Patent Judge.*

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the Examiner's final rejection of claims 18 through 39, all of the claims pending in the above-identified application. We have jurisdiction pursuant to 35 U.S.C. § 6.

STATEMENT OF THE CASE

The subject matter on appeal is directed to “a nonwoven fabric having a relatively low level of ionic contaminates which is achieved by exposing the fabric to a deionized water wash, preferably, in-line with the nonwoven production process...” (Specification 1). This fabric “may be manufactured into such end-use products as cleaning wipes and protective clothing for cleanrooms and surface coating operations, such as automotive paintrooms.”

(*id.*) Further details of the appealed subject matter are recited in representative claim 18 reproduced below:

18. A spun-bonded nonwoven fabric having low ion content and comprised of continuous multi-component fibers that are at least partially spilt along their length into individual component fibers, wherein the ions are selected from the group comprised of Na, Li, NH₄, K, Mg, Ca, Fl, Cl, NO₄, PO₄, and SO₄, and wherein the ions are present on the fabric at less than about 10,000 parts per billion, when tested according to Short Term Extraction Test IEST-RP-CC-004 §6.1.2

As evidence of unpatentability of the claimed subject matter, the Examiner has relied upon the following references:

Jeffers	US 4,925,722	May 15, 1990
Antonacci	US 5,244,724	Sep. 14, 1993
Groten	US 5,899,785	May 4, 1999
Morin	US 6,189,189 B1	Feb. 20, 2001

The Examiner has finally rejected the claims on appeal as follows:

- 1) Claims 18 through 27 and 30 through 34 under 35 U.S.C. § 103(a) as unpatentable over the combined teachings of Jeffers and Groten;

- 2) Claims 28, 29, and 35 through 39 under 35 U.S.C. § 103(a) as unpatentable over the combined teachings of Jeffers, Grotten and Antonacci;
- 3) Claims 18 through 27 and 30 through 34 under 35 U.S.C. § 103(a) as unpatentable over the combined teachings of Grotten and Morin; and
- 4) Claims 28, 29, and 35 through 39 under 35 U.S.C. § 103(a) as unpatentable over the combined teachings of Grotten, Morin, and Antonacci.

The Appellants appeal from the Examiner's decision finally rejecting the claims on appeal under 35 U.S.C. § 103(a).

ISSUE

Do the prior art references relied upon by the Examiner teach or would have suggested forming a nonwoven fabric with the claimed low ion contents within the meaning of 35 U.S.C. § 103?

FACTS, PRINCIPLES OF LAW, AND ANALYSES

Under 35 U.S.C. § 103, the factual inquiry into obviousness requires a determination of: (1) the scope and content of the prior art; (2) the differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) secondary consideration (e.g., the problem solved). *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18, 148 USPQ 459, 467(1966). “[A]nalysis [of whether the subject matter of a claim is obvious] need not seek out precise teachings directed to

the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int’l v. Teleflex, Inc.*, 127 S. Ct. 1727, 1740-41, 82 USPQ2d 1385, 1396 (2007) quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336-37 (Fed. Cir. 2006); *see also DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1361, 80 USPQ2d 1641, 1645 (Fed. Cir. 2006)(“The motivation need not be found in the references sought to be combined, but may be found in any number of sources, including common knowledge, the prior art as a whole, or the nature of the problem itself.”); *In re Bozek*, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969)(“Having established that this knowledge was in the art, the examiner could then properly rely, as put forth by the solicitor, on a conclusion of obviousness ‘from common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference.’”). The common knowledge imputed to the level of one of ordinary skill in the art includes the Appellant’s admission regarding what was known at the time of the invention. *See In re Nomiya*, 509 F.2d 566, 570-71, 184 USPQ 607, 611-12 (CCPA 1975) (the admitted prior art in an applicant’s Specification may be used in determining the patentability of a claimed invention); *see also In re Davis*, 305 F.2d 501, 503, 134 USPQ 256, 257-58 (CCPA 1962).

Here, there is no dispute that the prior art references relied upon by the Examiner teaches or would have suggested “[a] spun-bonded nonwoven fabric [wipe]...comprised of continuous multi-component fibers that are at least partially split along their length into individual components fibers....”

as recited in claims 18 and 28, (Compare the Answer in its entirety with the Brief in its entirety.) Nor is there any dispute that the prior art references relied upon by the Examiner would have suggested laminating the supun-bonded nonwoven fabric wipe as required by claim 28. (Compare the Answer in its entirety with the Brief in its entirety.) The Appellant only argues that the prior art references do not teach or would have suggested a non-woven fabric having the clamed level of ion impurities. (See the Brief in its entirety.)

The dispositive question is, therefore, whether one of ordinary skill in the art would have been led to form a spun-bonded nonwoven fabric wipe having the claimed level of ion impurities within the meaning of 35 U.S.C. § 103(a). On this record, we answer this question in the affirmative.

As is apparent from the record, Jeffers teaches that its nonwoven fabric is subject to a deionized water wash. The Specification, at page 1, discloses that the claimed ion impurity level is achieved by “exposing the fabric to a deionized water wash...” As stated in *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977):

Where . . . the claimed and prior art products are identical or substantially identical, *or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product.* . . . Whether the rejection is based on "inherency" under 35 U.S.C. § 102, on 'prima facie obviousness' under 35 U.S.C. § 103, jointly or alternatively, the burden of proof is the same, and its fairness is evidenced by the PTO's inability to manufacture products or to obtain and compare prior art products. [Citation omitted; emphasis added.]

Consistent with *Best*, the Examiner has provided sufficient evidence to shift the burden to the Appellant to evince that the prior art fabric does not possess the claimed ion levels. However, the Appellant has not proffered any factual evidence to show that prior art fabric does not possess the claimed level of ion impurities.

Even were we to determine that the prior art fabric does not have the claimed level of ion impurities, our conclusion would not be altered. As acknowledged by the Appellant (Specification 1, 2, and 4):

Various types of fabrics have historically been manufactured into wiping cloths, or wipers, for utilization in a number of different cleaning applications, such as industrial cleanrooms, preparing surfaces for coatings, and general cleaning. Each different application emphasizes certain standards that these types of wipers should attain. For example, wipers utilized in cleanrooms must meet stringent performance standards. These standards are related to sorbency and contamination, including maximum allowable particulate, unspecified extractable matter and individual ionic contaminates. The standards for particulate contaminant release are especially rigorous and various methods have been devised to meet them....

Ions such as Na, Li, NH₄, K, Mg, Ca, Fl, Cl, NO₄, PO₄, and SO₄ are generally inherently present in a textile fabric. These ions may be detrimental to a cleanroom environment, especially in the semi-conductor industry, because the ions: (a) can be transferred to the silicon wafer circuitry; (b) can cause corrosion on the wafer circuitry, and (c) can cause short circuit in the wafer circuitry. *It is known that deionized water may be used to reduce or eliminate these ions from the fabric so they may be suitable for use, for example, in cleanroom applications.* Deionized water acts as an attractant to the ions in the fabric so that the ions are pulled off the fabric

and into the water, which can then be discarded or filtered for reuse. . .

. . . recent developments in the area of spun-bonded fiber production have resulted in the creation of nonwoven fabrics with improved drape, hand, and moisture absorption characteristics ("hand" typically describes the tactile qualities of a fabric such as softness, firmness, elasticity, etc.). For example, U.S. Patent Nos. 5,899,785 and 5,970,583, both assigned to Firma Carl Freudenberg, describe a spun-bonded nonwoven lap of very fine continuous filament and the process for making such nonwoven lap using traditional spun-bonded nonwoven manufacturing techniques. Such references disclose, as important raw materials, spun-bonded composite, or multi-component, fibers that are longitudinally splittable by mechanical or chemical action into microdenier size individual fibers. However, while this nonwoven production process may be cheaper and simpler than a comparable knitted or woven process, the fabric produced therein would likely need to be processed at a cleanroom laundry to meet the requirements for end-use products, such as, for examples, wipers for a cleanroom or a paintroom. [Emphasis added.]

Given the advantage of employing nonwoven fabric wipes and the need for and recognition of removing ion contaminants via a deionized water wash, we determine that one of ordinary skill in the art would have been led to employ a deionized water wash in the nonwoven fabric wipes suggested by the applied prior art references, motivated by a reasonable expectation of successfully removing a desired amount of ion contaminants, such as those claimed, for use as cleanroom wipers. *See KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. at 1739, 82 USPQ2d at 1395 ("The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results."). This is especially true in this case

since Jeffers, by virtue of employing a deionized water wash to its fabric, would have impliedly suggested to a person of ordinary skill in the art, having the knowledge of the utility of a deionized water wash, to remove ion contaminants from nonwoven wipes. *See, e.g., In re Hoeschele*, 406 F.2d 1403, 1406-07, 160 USPQ 809, 811-812 (CCPA 1969) (“[I]t is proper to take into account not only specific teachings of the references but also the inferences which one skilled in the art would reasonably be expected to draw therefrom...”).

In view of the forgoing, we determine that the prior art relied upon by the Examiner would have rendered the claimed subject matter obvious to one of ordinary skill in the art within the meaning of 35 U.S.C. § 103.

ORDER

The decision of the Examiner is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

sld/ls

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