

The opinion in support of the decision being entered today
is *not* binding precedent of the Board

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TAKASHI ENOMOTO, IKUO YAMAMOTO,
NORIHITO OTSUKI, TERUYUKI FUKUDA,
and KAYO KUSUMI

Appeal 2007-1888
Application 10/258,067
Technology Center 1700

Decided: July 25, 2007

Before EDWARD C. KIMLIN, CHUNG K. PAK, and
CHARLES F. WARREN, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

DECISION ON APPEAL

Applicants appeal to the Board from the decision of the Primary Examiner finally rejecting for at least the second time claims 1 and 3 through 22 in the Office action mailed July 1, 2005. 35 U.S.C. §§ 6 and 134(a) (2002); 37 C.F.R. § 41.31(a) (2005).

We affirm the decision of the Primary Examiner.

Claims 1 and 11 illustrate Appellants' invention of a method of preparing a treated textile and a water- and oil-repellent agent for use in the method, and are representative of the claims on appeal:

1. A method of preparing a treated textile, comprising steps of:
 - (1) preparing a treatment liquid comprising a water- and oil-repellent agent,
 - (2) adjusting pH of the treatment liquid to at most 7,
 - (3) applying the treatment liquid to a textile,
 - (4) subsequent to applying the treatment liquid, treating the textile with steam, and

(5) washing the textile with water and dehydrating the textile,
wherein the water- and oil-repellent agent comprises at least one fluorine-containing compound selected from the group consisting of a fluorine-containing polymer and a fluorine-containing low molecular weight compound, and the water- and oil-repellent agent or the treatment liquid contains an organic salt which is a metal salt of an organic acid, provided that if the organic acid is a carboxylic acid, the organic acid is at least one selected from the group consisting of formic acid, acetic acid, oxalic acid, phthalic acid, citric acid, propionic acid and butyric acid, and if the organic acid is acetic acid, the metal salt of acetic acid is sodium acetate.

11. A water- and oil-repellent agent for use in a method of treating a textile, comprising steps of:

- (1) preparing a treatment liquid comprising a water- and oil-repellent agent,
- (2) adjusting pH of the treatment liquid to at most 7,
- (3) applying the treatment liquid to a textile,
- (4) subsequent to applying the treatment liquid, treating the textile with steam, and
- (5) washing the textile with water and dehydrating the textile,
wherein the water- and oil-repellent agent comprises at least one fluorine-containing compound selected from the group consisting of a fluorine-containing polymer and a fluorine-containing low molecular weight

compound, and the water- and oil-repellent agent or the treatment liquid contains an organic salt which is a metal salt of an organic acid, provided that if the organic acid is a carboxylic acid, the organic acid is at least one selected from the group consisting of formic acid, acetic acid, oxalic acid, phthalic acid, citric acid, propionic acid and butyric acid, and if the organic acid is acetic acid, the metal salt of acetic acid is sodium acetate.

The Examiner relies on the evidence in these references:

Nguyen	US 5,759,431	Jun. 2, 1998
Jones	US 5,851,595	Dec. 22, 1998

Appellants request review of the ground of rejection of claims 1 and 3 through 22 under 35 U.S.C. § 103(a) as obvious over Nguyen in view of Jones (Br. 9; Answer 3-6).

Appellants argue the claims as a group (Br. 10-12). Thus, we decide this appeal based on independent claims 1 and 11. 37 C.F.R.

§ 41.37(c)(1)(vii)(2005).

The Examiner contends the teachings of Nguyen differ from the claimed invention encompassed by the claims in that the reference does not teach the claimed method step of treating a textile with steam subsequent to applying thereto the treatment liquid of a stain resistant compound and a fluorochemical (Answer 5). The Examiner finds Jones teaches a method step of treating a textile with steam subsequent to applying thereto the treatment liquid of a stain resistant compound and a fluorochemical to improve exhaustion and efficiency of the method (*id.* 5-6 and 7). The Examiner concludes it would have been obvious to modify the teachings of Nguyen by using the method of Jones in applying the treatment liquid to a textile to obtain the benefits taught by Jones (*id.* 6).

Appellants contend the motivation to combine Nguyen and Jones is not found in the references as applied by the Examiner, arguing that “both

the steam-heating step of Jones and the immersing step of Nguyen perform a similar function, i.e., imparting stain resist properties to fiber,” and thus, “one of ordinary skill would not have been motivated to utilize an additional and unnecessary step, i.e., stream treatment, in the process of Nguyen” (Br. 10-12). Appellants further contend that “one of ordinary skill would not have been motivated to replace the single immersing step of Nguyen (heated bath) with both application (at ambient temperature) and steam treating, [with] the two-step process of Jones” (Br. 12, original emphasis omitted; Reply Br. 4-5).

The issue in this appeal is whether the Examiner has carried the burden of establishing a *prima facie* case of obviousness by combining Nguyen and Jones.

The plain language of method claim 1 specifies a method of treating any manner of textile comprising at least the five stated steps, including treating the textile in any manner with a treatment liquid comprising at least a water- and oil-repellent agent and then further treating the treated textile with steam. The water- and oil-repellent agent comprises at least any fluorine-containing polymer and/or fluorine containing low molecular weight compound, and any metal salt of any “organic acid” wherein the carboxylic acids falling under this term are limited as stated. The plain language of product claim 11 specifies a water- and oil-repellent agent of the scope specified in claim 1, which has the capability to be used in any method comprising at least the same five steps specified in claim 1. It is well settled that the term “comprising” opens the claim to include embodiments having

composition ingredients and process steps in addition to those specified.

See, e.g., Exxon Chem. Pats., Inc. v. Lubrizol Corp.,
64 F.3d 1553, 1555, 35 USPQ2d 1801, 1802 (Fed. Cir. 1995); *In re Baxter,*
656 F.2d 679, 686-87, 210 USPQ 795, 802-03 (CCPA 1981).

We find Nguyen would have disclosed to one of ordinary skill in this art a stain resistant and water- and oil- repellent agent containing composition comprising a sulphated or sulphonated surfactant for application to textiles, wherein the composition can contain, among other things, polymers and copolymers of methacrylic acid (Nguyen, e.g., col. 3, l. 1, to col. 4, l. 14); partially sulphonated novolak resins (*id.*, e.g., col. 4, ll. 15-60); anionic or nonionic fluorochemicals (*id.*, e.g., col. 7, l. 51, to col. 8, l. 12); sodium metal salts of organic sulfate acids and organic sulfonic acids (*id.*, e.g., col. 4, l. 61, to col. 5, l. 51, and Example 2); and divalent metal salts of organic acids, including acetates and formates (*id.*, e.g., col. 7, ll. 8-20). We find Nguyen would not have specified any particular method of applying the composition to a textile, and illustrates a method of applying the composition to a textile and optionally drying the treated textile with heat which can cure the fluorochemicals (*id.*, e.g., col. 2, ll. 30-44, col. 8, ll. 19-33, col. 11, ll. 17-29, col. 13, ll. 44-66, and col. 14, ll. 19-54). We find no disclosure in Nguyen specifying the composition must be heated prior to applying the composition it to the textile.

We find Jones would have disclosed to one of ordinary skill in this art a method of treating a carpet textile with a stain resistant and water- and oil-repellent agent containing composition, wherein the method comprises at

least the five steps specified in appealed claims 1 and 11, including treating the carpet textile in any manner with the composition and then further treating the treated textile with steam (Jones, e.g., col. 3, ll. 35-46, col. 4, l. 48, to col. 5, l. 38, col. 8, ll. 33-43, and col. 9, ll. 8-21). We find Jones discloses a stain resistant and water- and oil- repellent composition useful in the method that can contain, among other things, polymers and copolymers of methacrylic acid (*id.*, e.g., col. 3, l. 48, to col. 4, l. 19, and col. 4, ll. 33-42); sulphonated novolak resins (*id.*, e.g., col. 4, ll. 20-28); and anionic or nonionic fluorochemicals (*id.*, e.g., col. 3, ll. 13-34). Jones discloses that the heat treatment of the treated textile, which can be accomplished with steam, improves exhaustion of the fluorochemical onto the fiber which improves method efficiency and can cure or fix the fluorocarbon to the textile (*id.*, e.g., col. 5, ll. 12-28).

We find Nguyen and Jones would have disclosed the same anionic or nonionic fluorochemicals, methacrylic polymers, and sulphonated novolak resins in the treatment compositions (Nguyen, e.g., col. 7, l. 58, to col. 8, l. 3, and col. 4, ll. 11-14 and 30-35; Jones, e.g., col. 3, ll. 13-28, and col. 4, ll. 3-8, 20-28, and 33-42).

We determine the combined teachings of Nguyen and Jones, the scope of which we determined above, provide convincing evidence supporting the Examiner's case that the claimed invention encompassed by method claim 1 and product claim 11, as we interpreted this claim above, would have been *prima facie* obviousness of to one of ordinary skill in the textile treatment arts familiar with the application of compositions comprising water- and oil-repellent agents. The textile treatment compositions disclosed by Nguyen

fall within the compositions encompassed by claims 1 and 11 and the methods of applying such compositions disclosed by Jones fall within the methods encompassed by claims 1 and 11.

Indeed, contrary to Appellants' contentions, one of ordinary skill in this art would have recognized that Nguyen's compositions can be used in Jones' methods in view of the commonality of ingredients between Nguyen's compositions and the compositions used by Jones to illustrate the methods disclosed, and the methods of both references apply heat to the treated textile subsequent to treatment. Thus, as the Examiner contends, this person would have been motivated to combine Nguyen and Jones leading to the application of Nguyen's compositions to textiles via Jones' methods to obtain the benefits conferred by the process when using such compositions.

Accordingly, one of ordinary skill in this art routinely following the combined teachings of Nguyen and Jones would have reasonably arrived at the claimed methods and products encompassed by claims 1 and 11, including all of the limitations thereof arranged as required therein, without recourse to Appellants' specification. *See, e.g., In re Dow Chem. Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988) ("The consistent criterion for determination of obviousness is whether the prior art would have suggested to one of ordinary skill in the art that [the claimed process] should be carried out and would have a reasonable likelihood of success, viewed in light of the prior art." (citations omitted)); *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981) ("The test for obviousness is not whether . . . the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings

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of the references would have suggested to those of ordinary skill in the art.”); *In re Siebentritt*, 372 F.2d 566, 567-68, 152 USPQ 618, 619 (CCPA 1967) (express suggestion to interchange methods which achieve the same or similar results is not necessary to establish obviousness).

Accordingly, based on our consideration of the totality of the record before us, we have weighed the evidence of obviousness found in the combined teachings of Nguyen and Jones with Appellants’ countervailing evidence of and argument for nonobviousness and conclude that the claimed invention encompassed by appealed claims 1 and 3 through 22 would have been obvious as a matter of law under 35 U.S.C. § 103(a).

The Primary Examiner’s decision 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)(1)(iv) (2006).

AFFIRMED

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