

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DANIEL J. ZILLIG, GARY L. OLSON
and THOMAS E. HASKETT

Appeal 2008-3398
Application 10/622,973
Technology Center 1700

Decided: August 28, 2008

Before THOMAS A. WALTZ, PETER F. KRATZ, and
MICHAEL P. COLAIANNI, *Administrative Patent Judges*.

COLAIANNI, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 the final rejection of claims 1-10, 12-36, 47, 49, 51, and 52. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.

INTRODUCTION

Appellants claim a cleaning wipe comprising, in relevant part, a fiber web with tacky material impregnated therein such that “the tacky material is

present at the working surface and a level of the tacky material is greater in the intermediate region than at the working surface” (claim 1). The distribution of the tacky material minimizes the surface drag characteristics of the cleaning wipe (Spec. 1).

Claims 1, 3-7, and 25 are illustrative:

1. A cleaning wipe comprising:
 - a fiber web defining opposing faces and an intermediate region between the opposing faces, wherein at least one of the opposing faces serves as a working surface for the cleaning wipe; and
 - a tacky material impregnated into the fiber web such that the tacky material is present at the working surface and a level of the tacky material is greater in the intermediate region than at the working surface.

3. The cleaning wipe of claim 1, wherein an amount of tacky material per area of fiber web material is greater in the intermediate region than at the working surface.

4. The cleaning wipe of claim 1, wherein the fiber web defines a central plane mid-way between, and parallel to, planes defined by the opposing faces, and further wherein a ratio of tacky material:web material is greater in the central plane than at the working surface.

5. The cleaning wipe of claim 1, wherein the fiber web defines a central region mid-way between the opposing faces and includes at least one fiber defining first and second sections and positioned such that the first section is proximate the central region and the second section is proximate the working surface, and further wherein a coating thickness of the tacky material at the first section is greater than a coating thickness of the tacky material at the second section.

6. The cleaning wipe of claim 1, wherein the fiber web defines a central region mid-way between the opposing faces and includes a plurality of randomly distributed fibers each defined by a first section that is more proximate the central region and less proximate the working face, and a second section that is more proximate the working face and less proximate

the central region, and further wherein each of fibers are coated with the tacky material such that a coated volume of the tacky material at the first section of each fiber is greater than a coated volume at the second section.

7. The cleaning wipe of claim 1, wherein the fiber web includes a center and defines a web thickness extending between the opposing faces, and further wherein the applied tacky material defines a tacky material gradient across the web thickness.

25. A cleaning wipe comprising:
a fiber web defining opposing faces and an intermediate region between the opposing faces, wherein at least one of the opposing faces serves as a working surface for the cleaning wipe; and
a tacky material impregnated into the fiber web at a level of greater than 10 g/m² and such that the tacky material is present at the working surface; wherein the working surface exhibits a Drag Value of not more than 5 pounds.

The Examiner relies on the following prior art references as evidence of unpatentability:

Tanaka	EP 822,093 A2	Feb. 4, 1998
Reiterer	EP 829,222 A1	Mar. 18, 1998
Willman	US 2002/0042962 A1	Apr. 18, 2002
Truong	EP 1,238,621 A1	Sep. 11, 2002

The rejections as presented by the Examiner are as follows:

1. Claims 1-10, 17-24, 47, and 49 are rejected under 35 U.S.C. § 102(b) as being unpatentable over Willman.
2. Claims 12-14 are rejected under 35 U.S.C. § 102(b) as being anticipated, or in the alternative, under 35 U.S.C. § 103 as being obvious over Willman.
3. Claims 1-10, 17-24, 47, and 49 are rejected under 35 U.S.C. § 103 as being unpatentable over Reiterer in view of Willman.

4. Claims 12-14 are rejected under 35 U.S.C. § 103 as being unpatentable over Reiterer in view of Willman and Truong.
5. Claims 15, 16, 25-36, 51, and 52 are rejected under 35 U.S.C. § 103 as being unpatentable over Reiterer in view of Willman, Truong, and Tanaka.

Appellants separately argue claims 1, 3-6, and 25. Claims 7-10 are argued as a group by Appellants.¹ (Reply Br. 6). Pursuant to 37 C.F.R. § 41.37(c)(1)(vii), we select claims 7 and 8 as representative claims from the argued group on which to render our decision. Accordingly, with regard to rejections 1 and 3 above, we address Appellants' arguments with regard to claims 1, and 3-8. With regard to rejection 5 above, we address Appellants' arguments with regard to claim 25.

Appellants' do not separately argue rejections 2 and 4 above with respect to any additional limitations added by rejected dependent claims 12-14. Rather, Appellants merely indicate that rejections 2 and 4 should be reversed for the same reasons that the § 102 rejection over Willman and the § 103 rejection over Reiterer in view of Willman of independent claim 1, from which claims 12-14 depend, should be reversed (App. Br. 10 and 11). Accordingly, rejections 2 and 4 of claims 12-14 stand or fall with the § 102 rejection over Willman and the § 103 rejection over Reiterer in view of Willman of claim 1, respectively.

¹ Appellants indicate with regard to the § 103 rejection over Reiterer in view of Willman that "Willman makes no mention of a tacky material gradient, let alone the tacky material gradient characteristics set forth in claims 8-10." (App. Br. 11). We treat claims 8-10 as being separately argued as a group and select claim 8 as a representative claim of the group on which to render our decision. 37 C.F.R. § 41.37(c)(1)(vii) (2006).

OPINION

35 U.S.C. § 102(b) REJECTION OVER WILLMAN, 35 U.S.C. § 103 REJECTION OVER REITERER IN VIEW OF WILLMAN, 35 U.S.C. §§ 102/103 REJECTION OVER WILLMAN, AND 35 U.S.C. § 103 REJECTION OVER REITERER IN VIEW OF WILLMAN AND TRUONG

CLAIMS 1, 7, AND 8

Appellants argue that Willman’s disclosure that a “substantial amount” of adhesive is applied at points on the sheet that are “inside” the sheet structure does not support the Examiner’s determination that Willman teaches the intermediate region of the fiber web contains more adhesive as compared to the working surface (App. Br. 8). Appellants contend that Willman deposits the additive (i.e., tacky material) from the exterior surface of an already formed sheet such that the level of additive (i.e., tacky material) at the surface would be greater than the level at an intermediate region of the sheet (App. Br. 8-10). Appellants contend that because neither Reiterer nor Willman disclose the tacky material level feature, the § 103 rejection cannot stand (App. Br. 10).

Regarding claim 7, Appellants argue that the Examiner failed to establish that Willman discloses a gradient across the web thickness (Reply Br. 6). Regarding claim 8, Appellants argue that Willman does not teach a tacky material gradient having the features of claim 8 (Br. 11, Reply Br. 6).

The Examiner finds that “the body of . . . [Willman’s] article provides greater volume due to its thickness in which to absorb the fluid [i.e., additive or tacky material] than its surfaces” such that the “level” of tacky material at the intermediate region must be greater than the “level” at the working

surface (Ans. 9). The Examiner further finds that this construction of the claim term “level” is consistent with the definition provided in Appellants’ Specification (Ans. 9). We agree.

During examination, claim terms are given their broadest reasonable interpretation consistent with the Specification. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). The Patent and Trademark Office applies to the claim terms the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant's Specification. *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997).

We begin our analysis by construing the claim terms “level” and “working surface.” Appellants’ Specification broadly indicates that “coating ‘level’ is in reference to one or more parameters commonly used in defining a coating material . . . [such as] a mass, volume, surface area, quantity, and/or thickness” (Spec. 7). The Specification further defines “working surface” as “outer surface 14 or 16 otherwise used to clean the surface” (Spec. 9). Accordingly, we construe these claim terms in the same manner as defined by Appellants.

Therefore, we construe the claim phrase “a level of the tacky material is greater in the intermediate region than at the working surface” as including a greater total volume or mass of tacky material (i.e., “level”) in the region between opposing faces than at the outer surface used to clean a surface.

Willman discloses cleaning sheets suitable for removal and entrapment of dust, lint, hair, sand, food crumbs, and grass (Willman, ¶ [0002]). Willman discloses that the cleaning sheets include an additive (i.e., tacky material), and the type and level of additive are selected to improve the ability of the cleaning sheet to pick-up and retain particulate matter without leaving residue on or impairing the ability of the sheet to glide across the surface being cleaned (Willman, ¶ [0008]). Willman discloses that the sheet may include a macroscopic three-dimensionality such that the sheet has a first outer surface, a second outer surface and a contractible material such as scrim (Willman, ¶ [0098]). Willman further discloses that the resultant cleaning sheet is impregnated with the additive (Willman, ¶¶ [0107] - [0109]).² Willman discloses applying a “substantial amount” of the additive at points on the sheet that are “inside” the sheet structure, and that the three dimensional structures and/or multiple basis weights limits the amount of additive in contact with the surface (Willman, ¶ [0178]). Willman discloses that the additive is applied to the cleaning sheet via a variety of methods, such as manual rolling, mechanical rolling, slotting, ultrasonic spraying, pressurized spraying, pump spraying or dipping (Willman, ¶ [0180]).

These Willman disclosures indicate that the additive (i.e., tacky material) is impregnated (i.e., saturated or filled) into the fiber material at a level to improve the retention of particulate material, but the level of additive is selected so as not to affect the ability of the sheet to glide across a

² Appellants define “impregnated” as “to cause to be filled, imbued, permeated, or saturated; to permeate thoroughly” (App. Br. 8). The Examiner does not dispute Appellants’ definition. Accordingly, we accept Appellants’ definition of “impregnated.”

surface. Once impregnated (i.e., saturated), the volume of the region between first and second outer surfaces of the sheet must be filled with the additive (i.e., tacky material) such that volume (or mass) of the additive in the sheet is greater than the volume (or mass) at the working surface. The “working surface” is merely the surface of the sheet, which must inherently have a smaller volume than the region between the opposing surfaces of the sheet.

Appellants fail to indicate any flaw in the Examiner’s claim construction. Rather, Appellants’ arguments in response to this interpretation by the Examiner are that the “level” in the claim refers to a property of the coating (i.e., a coating level) not an aggregate volume (Reply Br. 3), and that Willman’s exterior application method on a preformed sheet would require that the additive level be greater at the surface and lesser toward the interior of the sheet. However, once Willman’s sheet is impregnated, the fibrous structure will be completely filled with additive such that the fibers are coated with the additive (i.e., tacky material). Accordingly, the aggregate volume of the region between opposing surfaces of the sheet filled with additive, must be greater than the “level” on the working surface.

Regarding dependent claims 7 and 8, we find that Willman discloses the argued feature. Specifically, claim 7 recites that the web has a thickness and that the applied tacky material defines a tacky material gradient across the web thickness (claim 7), and claim 8 recites that the tacky material gradient is characterized by a reduced level of tacky material at the opposing surfaces as compared to the center (claim 8). As with claim 1, Willman inherently discloses that the impregnated sheet will have a greater “level”

(i.e., volume or mass) of the additive in the region between the outer surfaces of the sheet than at the working surface. Accordingly, Willman discloses an additive gradient across the thickness of the sheet (i.e., the additive “level” is greater in the inner region of the sheet, including the center, than at the working surfaces).

For these reasons, we sustain the Examiner’s § 102 rejection over Willman of claims 1, 2, 7-10, 17-24, 47, and 49. We further sustain the Examiner’s § 102/103 rejection of dependent claims 12-14 over Willman for the same reasons because Appellants limit their argument in favor of these dependent claims to the arguments made against the rejection of independent claim 1.

Furthermore, contrary to Appellants’ argument regarding the § 103 rejection of Reiterer in view of Willman, we find that Willman discloses the argued tacky material level claim feature. Appellants do not contest the Examiner’s motivation for the combination or provide evidence of unexpected results. Accordingly, because we find that the only argued distinction is taught, we sustain the Examiner’s § 103 rejection of claims 1, 2, 7-10, 17-24, 47, and 49 over Reiterer in view of Willman. We further sustain the § 103 rejection of claims 12-14 over Reiterer in view of Willman and Truong. After all, Appellants’ argument there against is limited to the tacky material level feature of independent claim 1, which feature is taught by Willman.

CLAIMS 3-6

Regarding claims 3-6, Appellants argue that the gradient features of these claims are not disclosed by Willman (Reply Br. 4-6). Appellants contend that the exteriorly applied coating in Willman has either a uniformly saturated amount throughout the web or a greater amount of coating on the working surface with a lesser amount in the interior. We agree.

Claim 3 recites that amount of tacky material per area of fiber web material is greater in the intermediate region than at the working surface. Claim 4 recites that the fiber web has a central plane mid-way between and parallel to, planes defined by the opposing faces such that the ratio of tacky material: web material is greater in the central plane than at the working surface. Claim 5 recites that the fiber web has at least one fiber with a first section positioned in the central region of the web and second section of the fiber is positioned proximate the working surface such that a coating thickness of the tacky material at the first section is greater than a coating thickness of the tacky material at the second section. Claim 6 is similar to claim 5, except that it recites that a plurality of randomly distributed fibers have a first section proximate the central region and a second section proximate the working face, such that the coated volume of the tacky material is greater in the first section than a coated volume at the second section.

Willman discloses that the resultant clean sheet is impregnated with the additive (Willman, ¶¶ [0107] - [0109]). Willman discloses that the additive is applied to the cleaning sheet via a variety of methods, such as manual rolling, mechanical rolling, slotting, ultrasonic spraying, pressurized spraying, pump spraying or dipping (Willman, ¶ [0180]).

As noted above, “impregnated” indicates that Willman’s sheet is saturated or filled with additive (i.e., tacky material). Accordingly, Willman’s spraying or rolling application of the additive to the sheet would require that the material seep into the sheet from an exterior surface. Because the sheet is impregnated (i.e., saturated or filled) with additive, the sheet must be either completely filled with additive, or, if partially impregnated, the amount of additive toward the exterior surface where the material was applied, could be greater than at an intermediate or central region, according to the relative tacky material amount measurements required by claims 3-7. Accordingly, we do not find Willman to disclose that the per area amount of tacky material (claim 3), coating thickness of the tacky material (claims 5 and 6) or ratio of tacky material: fiber web (claim 4) would vary such that the particular value is greater at an intermediate region than at the working surface of the sheet.

For the above reasons, we do not sustain the Examiner’s § 102 rejection over Willman or the § 103 rejection over Reiterer in view of Willman of claims 3-6, both of which rejections are predicated, in part, on the unproven assertion that Willman necessarily describes the argued limitations of claims 3-6.

35 U.S.C. § 103 REJECTION OVER REITERER IN VIEW OF WILLMAN, TANAKA AND TRUONG

CLAIM 25

Appellants argue that Willman teaches away from impregnating the web with tacky material at a level greater than 10 g/m² because Willman limits the additives at a level less than 10 g/m² (App. Br. 12). Appellants

further argue that Truong's cleaning implement is for scouring a surface, not for retaining particulate material such that "Truong does not provide an enabling disclosure sufficient to modify Reiterer/Willman with a reasonable expectation of success in producing the invention of claim 25" (App. Br. 13). Appellants contend that in view of Willman's teaching away from a tacky material level greater than 10 g/m², there is no motivation for increasing the additive level in Reiterer's in view of Willman's cleaning sheet to Tanaka's higher additive level (App. Br. 14).

We have considered Appellants' arguments and are not persuaded for the reasons below.

It would have been obvious for an artisan with ordinary skill to develop workable or even optimum ranges for art-recognized, result-effective parameters. *In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990); *In re Boesch*, 617 F.2d 272, 276 (CCPA 1980); *In re Aller*, 220 F.2d 454, 456 (CCPA 1955).

A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994). The degree of teaching away will of course depend on the particular facts; in general, a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant. *Id.* Although a reference that teaches away is a significant factor to be considered in determining unobviousness, the nature of the teaching is highly relevant, and must be weighed in substance. *Id.*

Willman discloses that the cleaning sheets include an additive (i.e., tacky material), and the type and level of additive are selected to improve the ability of the cleaning sheet to pick-up and retain particulate matter without leaving residue on or impairing the ability of the sheet to glide across the surface being cleaned (Willman, ¶¶ [0008]; [0070]; [0074]; [0105]; [0165]). Willman discloses that “[t]ypically, the present polymeric additives are impregnated onto the present cleaning sheets at a level of polymeric additive no greater than *about* 10.0 g/m² . . .” (emphasis added) (Willman, ¶ [0165]).

We do not determine that Willman’s disclosures teach away from using an additive amount greater than 10 g/m². Rather, the nature of Willman’s disclosures is that it is “typical,” but not required, to use an amount of additive less than about 10 g/m². Moreover, Willman modifies the “10 g/m²” disclosure with the term “about,” which would include values larger than 10 g/m².

Moreover, Willman’s disclosures indicate that the level of additive is a result effective variable for controlling the glide and particle retention characteristics of the sheet (Willman, ¶¶ [0008]; [0070]; [0074]; [0105]; [0165]). Accordingly, it would have been within the skill of one ordinary skill in the art to optimize the level of additive (i.e., tacky material) to include a value greater than 10 g/m² as disclosed by Tanaka to achieve a sheet with the desired glide (i.e., Drag Value) and particle retention characteristics without leaving residue on the surface. *Boesch*, 617 F.2d at 276.

Accordingly, we find that Willman does not teach away from using an additive amount greater than 10 g/m² such that there is motivation for using

Tanaka's greater amount of adhesive in the cleaning pad of Reiterer in view of Willman. Furthermore, the Examiner has provided motivation directly from Tanaka for using a greater amount of adhesive, which Appellants have not rebutted (Ans. 8).

Contrary to Appellants' arguments, we determine that there is a reasonable expectation of success in combining Truong's Drag Values for a cleaning implement with the cleaning sheet provided by the combination of Reiterer in view of Willman. Truong is directed to a low drag cleaning implement suitable for dry, damp or wet cleaning (Truong, ¶ [0005]). Similarly, Reiterer and Willman are directed to cleaning sheets (i.e., cleaning implements) (Willman, ¶ [0002]; Reiterer, col. 2, ll. 6-8). Willman discloses that the amount of additive (i.e., tacky material) is controlled to affect the glide (i.e., Drag Value) of the pad (Willman ¶¶ [0008]; [0070]; [0074]; [0105]; [0165]).

In view of these findings, we determine that there is a reasonable expectation that one of ordinary skill in the art would look to Truong's cleaning implement for acceptable Drag Values and successfully tailor the level of additive in Reiterer's in view Willman's cleaning pad according to Willman's disclosures to achieve acceptable glide (i.e., Drag Value). As noted above, we determine that Willman discloses the level of additive is a result effective variable such that one of ordinary skill would have optimized the level of additive to achieve the desired glide (i.e., Drag Value) characteristics. *Boesch*, 617 F.2d at 276.

For the above reasons, we sustain the Examiner's § 103 rejection of claims 15, 16, 25-36, 51, and 52 over Reiterer in view of Willman, Tanaka and Truong.

DECISION

We do not sustain the Examiner's § 102(b) rejection of claims 3-6 over Willman.

We do not sustain the Examiner's § 103(a) rejection of claims 3-6 over Reiterer in view of Willman.

We sustain the Examiner's § 102(b) rejection of claims 1, 2, 7-10, 17-24, 47, and 49 over Willman.

We sustain the Examiner's § 103 rejection of claims 1, 2, 7-10, 17-24, 47, and 49 over Reiterer in view of Willman.

We sustain the Examiner's §§ 102/103 rejection of claims 12-14 over Willman.

We sustain the Examiner's § 103 rejection of claims 12-14 over Reiterer in view of Willman and Truong.

We sustain the Examiner's § 103 rejection of claims 15, 16, 25-36, 51, and 52 over Reiterer in view of Willman, Tanaka and Truong.

The Examiner's decision is affirmed-in-part.

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).

AFFIRMED-IN-PART

tc/cam

Appeal 2008-3398
Application 10/622,973

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