

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 JOANN H. SQUIER
and DAVID R. WILLIAMS

Appeal No. 2006-0317
Application 10/192,106

ON BRIEF

Before KIMLIN, WARREN and OWENS, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

Decision on Appeal

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner finally rejecting claims 1 through 15, 21 and 22. Claims 16 through 20 are also of record and have been withdrawn from consideration by the examiner under 37 CFR § 1.142(b).

Claims 1 and 4 illustrate appellants' invention of an orientated polymeric film structure, and are representative of the claims on appeal:

1. An orientated polymeric film structure, comprising
a substrate and a cavitated skin layer on a surface of said substrate, said cavitated skin layer comprising a cold seal adhesive coating on at least part of an outer surface of said cavitated layer,

wherein said cavitated skin layer comprises a cavitating agent in an amount of from about 25 percent by weight to about 60 percent by weight, based on the total weight of the cavitated skin layer.

4. An orientated polymeric film structure, comprising

a substrate and a cavitated skin layer on a surface of said substrate, said cavitated skin layer comprising a cold seal adhesive coating on at least part of an outer surface of said cavitated layer,

wherein said substrate comprises a core layer and a first tie layer, said first tie layer being positioned between said core layer and said cavitated skin layer, said first tie layer being cavitated,

wherein said cavitated skin layer and said first tie layer each comprises a cavitating agent, and at least one of said cavitated skin layer and said first tie layer comprises from about 25 percent by weight to about 50 percent by weight, based on the total weight of the cavitated skin layer and first tie layer, respectively.

The references relied on by the examiner are:

Pike et al. (Pike)	4,859,521	Aug. 22, 1989
Liu et al. (Liu)	4,931,327	Jun. 5, 1990
Agent et al. (Agent)	6,228,505	May 8, 2001 (filed Aug. 11, 1998)

The examiner has rejected appealed claims 1 through 15, 21 and 22 under 35 U.S.C. § 103(a) as being unpatentable over Liu in view of Agent and evidenced by Pike (answer, pages 3-6).

Appellants' arguments are directed to independent claims 1, 4 and 6. Thus, we decide this appeal based on appealed claims 1, 4 and 6 as representative of the ground of rejection. 37 CFR § 41.37(c)(1)(vii) (September 2004).¹

We affirm the ground of rejection of claims 1 through 15, 21 and 22 because we agree with the examiner's conclusion that the claimed subject matter would have been obvious over the applied references. However, we designate our affirmance as involving a new ground of rejection pursuant to 37 CFR § 41.50(b) (2005) because we rely on the applied references in a manner materially different from that of the examiner, as to which appellants have not had an opportunity to respond. *See generally, In re Eynde*, 480 F.2d 1364, 1370-71, 178 USPQ 470, 474-75 (CCPA 1973); Manual of Patent Examining Procedure § 1213.02 (8th ed., Rev. 3, August 2005).

¹ Appellants take issue with the examiner's requirement for restriction (brief, pages 14-15). This matter is petitionable and is not before us. 37 CFR §§ 1.143 and 1.144 (2004). *See In re Watkinson*, 900 F.2d 230, 233, 14 USPQ2d 1407, 1409-10 (Fed. Cir. 1990); *In re Hengehold*, 440 F.2d 1395, 1404, 169 USPQ 473, 479 (CCPA 1971)

Rather than reiterate the respective positions advanced by the examiner and appellants, we refer to the answer and to the brief and reply brief for a complete exposition thereof.

Opinion

In order to review the examiner's application of prior art to independent claims 1, 4 and 6, we first interpret these claims by giving the terms thereof the broadest reasonable interpretation in their ordinary usage in context as they would be understood by one of ordinary skill in the art in light of the written description in the specification unless another meaning is intended by appellants as established in the written description of the specification, and without reading into the claims any limitation or particular embodiment disclosed in the specification. *See, e.g., In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364, 70 USPQ2d 1827, 1830 (Fed. Cir. 2004); *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989).

The plain language of independent claim 1 specifies an oriented polymeric film structure comprising at least a substrate having on a surface thereof a cavitated skin layer, wherein the cavitated skin layer comprises at least any amount, however small, of any cold seal adhesive coating on any part of the outer surface thereof, however small, and further comprises at least any cavitating agent in an amount of from about 25 to about 60 weight percent of the total weight of the cavitated skin layer. We determine from the preambular language that the substrate and the cavitated skin layer can be any manner of polymer capable of orientation. The meaning of the term "substrate" is not specified, and we determine that the same can be any manner of polymeric layer or layers, and indeed, one of ordinary skill in this art would find this term so used in the written description in appellants' specification (e.g., page 4). The multiple use of the open-ended terms "comprising" and "comprises" in transition and in the body of the claim opens the polymeric film structure as well as the substrate and cavitated skin layer to additional materials and layers, to the extent that the polymeric film structure can be oriented. *See generally, Exxon Chem. Pats., Inc. v. Lubrizol Corp.*, 64 F.3d 1553, 1555, 35 USPQ2d 1801, 1802 (Fed. Cir. 1995) ("The claimed composition is defined as comprising - meaning containing at least - five specific ingredients."); *In re Baxter*, 656 F.2d 679, 686-87, 210 USPQ 795, 802-03 (CCPA 1981) ("As long as one of the monomers in the reaction is propylene, any other monomer

may be present, because the term ‘comprises’ permits the *inclusion* of other steps, elements, or materials.”).

The plain language of independent claims 4 and 6 is similar to that of claim 1 with the same import, and further specifies that the substrate comprises at least a core layer and a first tie layer, wherein the tie layer is cavitated and positioned between the core layer and the cavitated skin layer. Indeed, contrary to the examiner’s position (answer, pages 4-5), the core layer and cavitated tie layer are specified to exist in fact and thus, must clearly be given effect. *See In re Geerdes*, 491 F.2d 1260, 1262-63, 180 USPQ 789, 791 (CCPA 1974). Both claims further specify that at least one of the cavitated skin layer and the cavitated tie layer must comprise any cavitating agent in the amount of from about 25 to about 50 weight percent of the total weight of the cavitated layer, the other layer containing any amount of cavitating agent, however small. The plain language of claim 6 further specifies that the substrate further comprises at least a second tie layer between the core layer and an indicia-receiving skin layer, wherein the second tie layer is on the other side of the core layer from the first tie layer.

We find that Liu would have disclosed to one of ordinary skill in this art an oriented polymeric film structure which comprises at least three layers a) to c), at least one to three of which are cavitated, and a cold seal adhesive coated on cavitated skin layer b): a) a core layer which can be cavitated, can be the same or different than cavitated skin layer b), and can be opaque; b) a cavitated polyolefin skin layer; and c) a skin layer which is either the same as cavitated skin layer b) or fabricated from hydrocarbon homopolymers, copolymers or blends thereof (e.g., col. 2, ll. 3-18 and 54-67, col. 4, ll. 26-35 and 52-66, and col. 6, ll. 46-68; **FIG. 1**). The cavitating particles, including calcium carbonate and polybutylene terephthalate (PBT), “can be present in amounts from about 1 to about 20 weight percent of layer (b) prior to orientation” (col. 5, ll. 20-35). We find no limitations on the amount of cavitating agent which can be used in the other layers, if different from layer b). However, the opacity of the core layer is obtained upon orientation with void creating particles which can include PBT, and which “can be present up to about 20% by weight of the matrix film” (col. 4, ll. 52-66). The film described in Example 1 contains 6 parts PBT in the core layer and 15 parts of calcium carbonate in a skin layer. Liu reports that calcium carbonate amounted to 3 percent by weight of the total structure (col. 7, l. 28-30), and appellants find that the calcium carbonate “appears” to be 15 weight

percent of the skin layer (brief, page 14). The weight percent of PBT based on the total weight of the cavitated core layer was not reported. Liu would have disclosed that the oriented polymeric film structure is a tamper-resistant film which can be used in the packaging of food products, with layer b) weakened because of voids or cavities formed by cavitating agents during orientation to the extent that “upon exertion of a force in a direction which tends to rupture the seal [formed with the cold adhesive], the integrity of the weakened layer will be disrupted” with “irreversible tearing of the film” (e.g., col. 1, ll. 65-68, col. 3, ll. 1-5 and 30-39, and col. 5, l. 6, to col. 6, l. 26).

We find that Agent would have disclosed to one of ordinary skill in this art an oriented polymeric film structure which has unidirectional tear characteristics in the machine direction, wherein the film comprises a core layer that can contain a cavitating agent, such as polyesters and calcium carbonate, that can be opaque; at least one skin layer on at least one surface of the core layer; and can further contain at least one tie layer that can be positioned between the core layer and the skin layer(s) (e.g., col. 2, ll. 10-57, and col. 5, ll. 11-26). The core layer is weakened by voids or cavities formed by the cavitating agent during orientation, and thus, the film can be torn, with the amount of cavitating agent in the core layer of from about 0 to 50 weight percent and preferably from about 2 to about 25 weight percent (e.g., col. 3, l. 32, to col. 4, l. 16). The film can be surface treated to improve ink receptivity (col. 5, ll. 53-57). The films can be used in food packaging.

The principal issue in this appeal is whether one of ordinary skill in the art following the combined teachings of Liu and Agent² would have increased the amount of cavitating agent in the skin layer of the oriented polymeric film structure of Liu over the upper limit of 20 weight percent suggested by the reference. We agree with the examiner that the combined teachings of these references would have reasonably suggested to one of ordinary skill in this art that the amount of cavitating agent used in at least one of the skin layers of the oriented polymeric film of Liu can be increased to an amount of more than 20 percent by weight as suggested by Agent in the reasonable expectation of obtaining an increase in opacity, and we further determine that,

² A discussion of Pike is unnecessary to our decision. See *In re Jones*, 958 F.2d 347, 349, 21 USPQ2d 1941, 1942 (Fed. Cir. 1992); *In re Kronig*, 539 F.2d 1300, 1302-04, 190 USPQ 425, 426-28 (CCPA 1976).

prima facie, the increased amount of cavitating agent would further weakened skin layer b) such that it can be more easily disrupted and torn, which is a principal property of the skin layer b) of Liu.

We find that the difference of about 5 weight percent between the amount of cavitating agent in the disruptable skin layer which Liu discloses “can be . . . about 20 weight percent,” and the lower end of the cavitating agent weight percent range for the skin layer specified in the appealed claims of “about 25 percent by weight” would have reasonably been considered by one of ordinary skill in this art to result in a polymeric film structure in which the skin layer can be more easily torn in view of the teachings of Agent that the core layer containing any amount of cavitating agent up to 50 weight percent can be torn. *In re Keller*, 642 F.2d 413, 425-26, 208 USPQ 871, 881-82 (CCPA 1981). (“The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.”); *see also In re O’Farrell*, 853 F.2d 894, 903-04, 7 USPQ2d 1673, 1680-81 (Fed. Cir. 1988) (“Obviousness does not require absolute predictability of success. . . . There is always at least a possibility of unexpected results that would then provide an objective basis for showing the invention, although apparently obvious, was in law nonobvious. [Citations omitted.] For obviousness under § 103, all that is required is a reasonable expectation of success. [Citations omitted.]”). Indeed, as the examiner points out, there is no teaching in Liu that the weight percent cavitating agent in the skin layer must not exceed about 20 weight percent, and thus, Liu would not have taught away from an increased amount of the cavitating agent.³ *See In re Gurley*, 27 F.3d 551, 552-53, 31 USPQ2d 1130, 1131-32 (Fed. Cir. 1994) (“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. The degree of teaching away

³ It is well settled that a reference stands for all of the specific teachings thereof as well as the inferences one of ordinary skill in this art would have reasonably been expected to draw therefrom, *see In re Fritch*, 972 F.2d 1260, 1264-65, 23 USPQ2d 1780, 1782-83 (Fed. Cir.

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. [Citations omitted.]"); *cf. In re Geisler*, 116 F.3d 1465, 1470, 43 USPQ2d 1362, 1366 (Fed. Cir. 1997) ("The statement in Zehender that '[i]n general, the thickness of the protective layer should not be less than about [100 Angstroms]' falls far short of the kind of teaching that would discourage one of ordinary skill in the art from fabricating a protective layer of 100 Angstroms or less.").

The issues of whether the combined teaching of Liu and Agent would have further motivated one of ordinary skill in the art to include in the polymeric film structure of Liu first and second tie layers and the indicia-receiving skin layer required by appealed claims 4 and 6 as we have interpreted these claims above, are also raised on this record. We find that Liu would have disclosed to one of ordinary a three layer polymeric film structure that can be used for packaging food which thus differs from the claimed polymeric film structures in the absence of a first tie layer, with respect to claim 4, and an additional, second tie layer and a skin layer that can receive indicia, with respect to claim 6. We found above that Agent would have disclosed to this person a polymeric film structure that can be used for packaging foods which can optionally contain at least one tie layers between the core and skin layer(s), and the surface treatment of a skin layer to receive ink and thus, be indicia-receptive.

Accordingly, we determine that, *prima facie*, one of ordinary skill in the art routinely following the combined teachings of Liu and Agent would have additionally modified the polymeric film structure of Liu by the positioning of at least one tie layer between the core and the skin layers and by surface treating a skin layer to receive indicia, in the reasonable expectation of obtaining a polymeric film structure having such layers in which at least one skin layer containing a cavitating agent can be disrupted and torn and a skin layer can receive indicia, the resulting oriented polymeric film structure being useful in the packaging of food, thus arriving at the claimed polymeric films encompassed by appealed claims 1, 4 and 6 and claims dependent thereon. *See Keller*, 642 F.2d at 425-26, 208 USPQ at 881-82; *see also O'Farrell*, 853 F.2d at 903-04, 7 USPQ2d at 1680-81.

1992); *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968), presuming skill on

We have again considered the arguments advanced by appellants in the brief and reply brief to the extent that they apply to the new ground of rejection we enter here. Appellants focus on the upper limit of the range of about 50 weight percent of cavitating agent in the core layer in the teachings of Agent, contending that there is no reasonable motivation or expectation of success in the combined references to modify the skin layer of Liu to contain more than about 20 weight percent of cavitating agent based on an increase in opacity, and Agent does not teach including any cavitating agent in the skin layer (brief, pages 12-13; reply brief, page 4-6). Appellants further submit that Liu would have taught away from including more than 20 weight percent cavitating agent in skin layer b) by disclosing this amount as the upper end of the cavitating agent weight percent range, and by illustrating the polymeric film structure disclosed therein with Example 1 which “appears to contain a skin layer with 15 wt% of cavitating agent” (brief, pages 13-14; reply brief, pages 6-7).

We agree with appellants that Agent would not have disclosed including a cavitating agent in a skin layer. However, we find that one of ordinary skill in this art would have recognized that the common purpose of including the cavitating agent in skin layer b) of Liu and in the core layer of Agent is the disruption and tearing of the film, albeit in different layers. Thus, we determine that this person would have found in the combined teaching of these references the reasonable suggestion that additional disruption and tearing of skin layer b) of Liu can be achieved by increasing the amount of cavitating agent as taught Agent. As we discussed above, there is no disclosure in Liu, including the amount of cavitating agent in the skin layer of the illustrative polymeric film of Liu Example 1, which would have taught away from increasing the amount of cavitating agent in skin layer b). This is because Liu does not contain any disclosure which criticizes, discredits or otherwise discourages an increase in the amount of cavitating agent in skin layer b). *See In re Fulton*, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1145-46 (Fed. Cir. 2004); *Gurley*, 27 F.3d at 552-53, 31 USPQ2d at 1131-32.

Accordingly, having reconsidered appellants’ arguments, including consideration of the objective evidence in the specification in light of appellants’ arguments in the brief and reply brief, as they pertain to the new ground of rejection under 35 U.S.C. § 103(a) which we entered

the part of this person. *In re Sovish*, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir. 1985).

above, we remain of the opinion that the claimed invention is *prima facie* obvious over the combined teachings of Liu, Agent and Pike as we have applied these references to claims 1 through 15, 21 and 22. Thus, the burden of going forward with respect to the new ground of rejection remains with appellants. *See generally, In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984).

The examiner's decision is affirmed and we have entered new a ground of rejection pursuant to our authority under 37 CFR § 41.50(b) (2005)..

This decision contains a new ground of rejection pursuant to 37 CFR § 41.50(b) (2005).

37 CFR § 41.50(b) provides “[a] new ground of rejection shall not be considered final for purposes of judicial review.”

37 CFR § 41.50(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

(1) *Reopen prosecution*. Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceedings will be remanded to the examiner. . . .

(2) *Request rehearing*. Request that the application be reheard under § 41.52 by the Board upon the same record. . . .

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv) (2005).

AFFIRMED-IN-PART

37 CFR 41.50(b)

Appeal No. 2006-0317
Application 10/192,106

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