

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 WILLIAM J. BAKKER

Appeal No. 2006-0445
Application 08/977,374

ON BRIEF

Before PAK, WARREN and TIMM, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

Decision on Appeal

This is an appeal under 35 U.S.C. § 134, the claims having been twice rejected, from the decision of the examiner rejecting claims 36 through 46 in the Office action mailed May 18, 2004, which are all of the claims in the application.

Claim 36 illustrates appellant's invention of a cover for sealing an open-topped container, and is representative of the claims on appeal:¹

36. A cover for sealing an open-topped container comprising:

a piece of heat shrinkable film shaped and sized to cover the open top of said container and to have a downwardly extending portion around an upper rim of said container, said piece of heat shrinkable film being a film substrate that contracts when heated and which remains unchanged upon exposure to radiant energy, said downwardly extending portion including a first means to convert the radiant energy to heat to heat said downward depending portion when said first means is exposed to the radiant energy, such that said downwardly extending portion is heat

¹ We have copied claim 36 as it stands of record and appears in the appendix to the brief.

shrunk around said container rim to form a spill resistant cover upon exposure to the radiant energy.

The references relied on by the examiner are:

Amberg et al. (Amberg)	3,955,699	May 11, 1976
Anderson et al. (Anderson)	5,113,479	May 12, 1992
Heilman et al. (Heilman) ² (published Australian Patent Specification)	27337/67	Sep. 18, 1967

The examiner has further relied on certain admissions by appellant in the following documents (“admissions” documents):

amendment filed February 17, 2004 (page 13, last paragraph, to page 14, second paragraph);
reply brief filed August 24, 2000 (page 2, fifth full paragraph); and
supplemental appeal brief filed May 12, 2000 (pages 5 and 6).

The examiner has advanced the following grounds of rejection on appeal:

claims 36 through 38 and 41 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Heilman in view of Amberg further in view of the “admissions” documents (answer, pages 5-7); and

claims 39, 40 and 42 through 46 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Heilman in view of Amberg further in view of the “admissions” documents as applied to 36 through 38 and 41, and further in view of Anderson (answer, pages 7-8).³

Appellant argues claims in four groups: claims 36 through 38, claims 39 and 40, claims 41, 44 and 46, and claims 42, 43 and 45 (brief, pages 3, 8, 11 and 12). We point out that different grounds of rejection are applied to claim 41 and to claims 44 and 46 of the third group. Thus, we decide this appeal based on appealed claims 36, 39, 41, 42 and 44 as representative of the grounds of rejection and appellant’s groupings of claims. 37 CFR § 41.37(c)(1)(vii) (September 2004).

We affirm.

² This reference is referred to in the answer mailed August 10, 2004, the brief filed December 17, 2004, and the reply brief filed October 12, 2005, which we consider on appeal, as “Heilman et al.,” listed on the document as “Applicant.” We will refer to the reference in that manner to avoid confusion, noting that Sternau is listed on the document as the “Actual Inventor.”

³ The examiner withdrew the grounds of rejection based on the judicially created doctrine of obviousness type double patenting in view of the terminal disclaimers filed on April 12, 2005 (answer, page 3).

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

Opinion

We have carefully reviewed the record on this appeal and based thereon find ourselves in agreement with the supported position advanced by the examiner that, *prima facie*, the claimed cover for sealing an open-topped container and the claimed roll of heat shrinkable film for forming such a cover encompassed by appealed claims 36 and 41, respectively, would have been obvious over the combined teachings of Heilman and Amberg, and the claimed cover for sealing an open-topped container encompassed by appealed claim 39 and 42 and the claimed roll of heat shrinkable film for forming such a cover encompassed by appealed claim 44 would have been obvious over the combined teachings of Heilman, Amberg and Anderson⁴ to one of ordinary skill in this art at the time the claimed invention was made. Accordingly, since a *prima facie* case of obviousness has been established by the examiner, we again evaluate all of the evidence of obviousness and nonobviousness based on the record as a whole, giving due consideration to the weight of appellant's arguments in the brief and reply brief. *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).

In order to review the examiner's application of prior art to appealed claims 36, 39, 41, 42 and 44, we must 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, including the drawings, unless another meaning is intended by appellant 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 Donaldson Co.*, 16 F.3d 1189, 1192-95,

⁴ A discussion of the "admissions" by appellant is not necessary to our decision with respect to either ground of rejection. *See In re Kronig*, 539 F.2d 1300, 1302-04, 190 USPQ 425, 426-28 (CCPA 1976).

29 USPQ2d 1845, 1848-50 (Fed. Cir. 1994) (*in banc*); *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989).

Independent claim 36 encompasses any cover for any open-topped container, the cover comprising at least any piece of any heat shrinkable film that covers the open top and extends downward around the rim of any container, the film shrinking when exposed to heat but unchanged upon exposure to radiant energy, wherein the downwardly extending portion includes at least to some extent “a first means” which has the function of converting radiant energy to heat so as to heat the downwardly extending portion thereby heat shrinking the downwardly extending portion around the container rim. The transition term “comprising” and the term “including” in the body of the claim open claim 36 to encompass covers containing other additional layers, layer structures and other components, and the downward extending portion of the heat shrinkable film to include other additional means to convert radiant energy to heat. *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.”); *see also In re Bertsch*, 132 F.2d 1014, 1019, 56 USPQ 379, 384 (CCPA 1942) (“it is true that the word ‘comprising’ is usually in patent law held to be synonymous with the word ‘including’”); *cf. Ex parte Davis*, 80 USPQ 448, 449 (Bd. App. 1948) (“the word ‘comprising’ alone being synonymous with ‘including’”). Independent claim 41 encompasses a roll of heat shrinkable film comprising at least a plurality of severable pieces of film formed in a continuous web wherein each severable piece of film is specified essentially as the piece of film specified in claim 1.

We find that each of claims 36 and 41 contain the limitation “a first means” for the specified function of “to convert the radiant energy to heat” but do not define structure which satisfies that function, and thus, the strictures of 35 U. S. C. § 112, sixth paragraph, apply. *See Texas Digital Systems, Inc. v. Telegenx, Inc.*, 308 F.3d 1193, 1208, 64 USPQ2d 1812, 1822-23 (Fed. Cir 2002), and cases cited therein. Therefore, the “means” language in this limitation must

be construed as limited to the “corresponding structure” disclosed in the written description in the specification and “equivalents” thereof. *Donaldson*, 16 F.3d at 1192-95, 29 USPQ2d at 1848-50.

The “corresponding structure” is that “structure in the written description necessary to perform that function [citation omitted],” that is, “the specification . . . clearly links or associates that structure to the function recited in the claims.’ [Citation omitted.]” *Texas Digital Systems*, 308 F.3d at 1208, 64 USPQ2d at 1822-23. “[A] section 112, paragraph 6 ‘equivalent[]’ . . . [must] (1) perform the identical function and (2) be otherwise insubstantially different with respect to structure. [Citations omitted.]” *Kemco Sales, Inc. v. Control Papers Co.*, 208 F.3d 1352, 1364, 54 USPQ2d 1308, 1315-16 (Fed. Cir. 2000). “[T]wo structures may be ‘equivalent’ for purposes of section 112, paragraph 6 if they perform the identical function in substantially the same way, with substantially the same result. [Citations omitted.]” *Kemco Sales*, 208 F.3d at 1364, 54 USPQ2d at 1315. “[T]he ‘broadest reasonable interpretation’ that an examiner may give means-plus-function language is that statutorily mandated in [35 U.S.C. § 112,] paragraph six,” and in this respect, the examiner should not confuse “impermissibly imputing limitations from the specification into a claim with properly referring to the specification to determine the meaning of a particular word or phrase in a claim. [Citations omitted.]” *Donaldson*, 16 F.3d at 1195, 29 USPQ2d at 1850; *see also Morris*, 127 F.3d 1048, 1055-56, 44 USPQ2d 1023, 1028 (explaining *Donaldson*).

The only disclosed structure in the written description in appellants’ specification with respect to the “first means” reads as follows:

The way in which the present invention seals heat shrinkable thin film onto a container, is to employ a first means to transfer heat to the downwardly extending portion of the cut piece of thin film. In this sense, the first means can comprise adapting the thin film to absorb energy . . . by being made from a tinted material, or by being coated with an energy absorbent coating, for example, printing. The ability of the opaque or coated film to absorb radiant energy will vary depending upon what type of tinting or coating is used. A darker or more opaque film will absorb more energy. [Page 12, l. 29, to page 13, l. 5.]

Thus, as found by the examiner, the structure which corresponds to the “means-plus-function” language of claims 36 and 41 is “the extending portion being a tinted material or having an energy absorbing coating, which can be colored and formed by printing” (answer,

pages 6-7). Each of dependent claims 39, 42 and 44 specify that “first means comprises” at least a radiant energy absorbing coating. In these claims, the other “first means” materials encompassed by the language in view of the open-ended term “comprises,” must be “corresponding structure,” that is, another radiant absorbing coating or tinted film in the downward extending area.

We find that Heilman would have disclosed to one of ordinary skill in this art a piece of transparent heat shrinkable film, which can be a piece of severable film in a roll, that covers the open top of a container and extends downward around the upper rim of the container, wherein heat is applied to the downward extending portion of the film so as to shrink the film around the rim of the container (e.g., page 2, ll. 1-30, page 3, ll. 21-24, page 4, ll. 1-25, page 5, ll. 24-26, and pages 9-10; **FIGs. 6 and 6a**). We further find that Heilman would have further disclosed to this person that “the edges of the film [can be] exposed . . . to heat caused by . . . infrared heat . . . supplied . . . directly to the film in conventional manner” (page 9, ll. 18-23). Thus, Heilman would have taught one of ordinary skill in this art that the downward extending portion of the shrinkable film can be heated and thus, shrunk around the rim of the container by infrared radiant energy supplied directly to the film in conventional manner.⁵

We find that Amberg would have disclosed to one of ordinary skill in this art that closure **11** for open top container **12** has an annular skirt **15** of heat shrinkable material extending downward over the rim of container **12** which upon the application heat, is shrunk around the rim (e.g., col. 2, l. 61, to col. 4, l. 44, and col. 5, ll. 3-29; **FIGs. 1 and 4**). Amberg would have further disclosed to this person that where the “skirts [**15** are] formed of a material opaque to infra-red radiation, the shrinkage thereof can be effected very expeditiously by infra-red means 19, shown as comprising an infra-red electrical bulb 21 . . . directed toward the closure skirt [**15**]” (e.g., col. 4, l. 44, to col. 5, l. 2; **FIG. 1**).

Anderson would have disclosed to one of ordinary skill in this art that heat can be

⁵ 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. 1992); *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968), presuming skill on the part of this person. *In re Sovish*, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir. 1985).

generated in a desired area 7 of a thermoplastic film, that is part of a laminate, by coating area 7 with a printed strip 6 of a dark color which generates heat when exposed to an infrared lamp (e.g., col. 2, ll. 29-60, and col. 3, ll. 1-17).

With respect to claims 36 and 41, the examiner determines that, *prima facie*, it would have been within the ordinary skill in this art to modify the heat shrinkable film of Heilman by making the downward extending portion of the film opaque in order to absorb infrared radiation to generate heat as taught by Amberg in the reasonable expectation of shrinking the film of Heilman (answer, page 7). With respect to claim 41, the examiner further determines that Heilman would have taught a roll of individual pieces of the film (answer, page 7).

With respect to claims 39, 42 and 46, the examiner determines that, *prima facie*, it would have been within the ordinary skill in this art to modify the heat shrinkable film of the combined teachings of Heilman and Amberg by making the downward extending portion of the film opaque by printing with a dark coating that absorbs infrared radiation to generate heat as taught by Anderson in the reasonable expectation of shrinking the film of Heilman (answer, page 7).

Appellant submits that Heilman would not have suggested that the downward extending portion of the film is different than the remainder of the film with respect to absorbing radiant heat, and there is no suggestion to combine skirt 15 of Amberg with the film of Heilman because Amberg would have taught that the heat shrinkable skirt is a different material than the remainder of the cover and the combination thereof with Heilman would result in a multilayer film which would not function in Heilman's apparatus (brief, pages 3-8 and 11-12). Appellant contends that neither Heilman nor Amberg would have suggested the selective and sequential use of two different methods of shrinking film to seal a container (*id.*, page 8). Appellant further submits that Anderson would have taught away from heating the downward extending portion of Heilman's film since Anderson does not shrink film but softens a portion of a laminate away from the edge thereof, and thus, the combination of Heilman, Amberg and Anderson would not teach coating a film to absorb radiation to heat shrink the film, and Anderson would have suggested heating an area above the edge of the two layer film of Heilman and Amberg (*id.*, pages 8-11 and 12). Appellant argues that Anderson is unrelated prior art because it is not directed to shrinkwrap technology but to melting a thermoplastic laminate (*id.*, page 10).

The examiner responds that one of ordinary skill in this art would have taken from the disclosure of Amberg the teaching to use opaque material on an edge portion of a heat shrinkable film to heat shrink that portion using infrared radiation without bodily incorporating the edge structure of Amberg onto the film of Heilman, arguing that it is not necessary to bodily incorporate the features of Amberg into the structure of Heilman in order to combine the teachings of Amberg with that of Heilman (answer, page 12). The examiner further points out that shrinking the top of the film is optional in Heilman, and the grounds of rejection require only “that the edge portions be made opaque as taught by [Amberg] to allow the use of [infrared] lights directed only at the edge portions that need to be shrunk” (*id.*, page 14). The examiner argues that one of ordinary skill in this art would not have been led away from combining Heilman, Amberg and Anderson to “apply a black coating strip to an area . . . to be heated by [infrared] radiation, simply because [Anderson] teaches heating of a different area.” (*id.*, page 15). The examiner further argues that Anderson is analogous prior art because the reference “is also directed to the common problem of the use of [infrared] radiation to heat plastic materials” (*id.*, page 17).

Appellant replies that “changing the edge portion of Heilman to absorb infrared radiation directly is not supported by the applied references,” contending that “[n]either Heilman nor Amberg make any suggestion of a single sheet material with different properties in the center and the edge” (reply brief, page 2). In this respect, appellant points out that “Amberg specifically teaches that the center portion **14** and the skirt **15** should be of different materials ([col. 3, ll. 17-33])” which “eliminates the film concept and substitutes a pre-formed two-piece closure” (*id.*). Appellant further argues that Anderson is inapplicable because it heats dark-colored strip **6** to melt thermoplastic film on a portion of a substrate which is not edge **5** thereof, submitting “that if one were to apply the fair teachings of Anderson to Heilman or Amberg, one would place a black strip on the substrate, i.e., the cup to be sealed” (*id.*, pages 2-3).

We find substantial evidence in the combined teachings of Heilman and Amberg, with respect to claims 36 and 41, and in the combined teachings of Heilman, Amberg and Anderson, with respect to claims 39, 42 and 44, in support of the examiner’s position. We are of the opinion that, as we found above, Heilman would have taught a transparent heat shrinkable film

that extends downward over the rim of a container to which infrared radiation can be directly applied to heat the downward extending portion in conventional manner, shrinking the film around the container rim. Thus, one of ordinary skill in the art would have been motivated to determine conventional means for this purpose. This person would have known that infrared radiant energy would pass through transparent thermoplastic material as seen from the transparent film and the opaque film which are heat shrunk in different manner and alternatively used for skirt **15** in Amberg (e.g., col. 3, ll. 49-61 and col. 4, l. 44, to col. 5, l. 2) and from the transparent film which contains an opaque strip **6** for heating purposes in Anderson (e.g., col. 2, ll. 29-42 and 49-63, and col. 3, ll. 1-14), and indeed, appellant has not disclosed that he was the first to recognize this (*see* specification, page 12, ll. 18-20). Thus, this person would have found in Amberg alone and as combined with Anderson the teaching that an opaque section on a transparent thermoplastic material, which can be heat shrinkable, will absorb infrared radiation to the extent that the thermoplastic material is changed by shrinking or melting. Therefore, we are of the view that one of ordinary skill in this art would have recognized from Amberg alone and as combined with Anderson that the application of an opaque coating to a transparent thermoplastic film will cause infrared radiation to absorb infrared radiation, directly heating the film, and thus, would have applied such a coating to the portion of the transparent, heat shrinkable film of the cover of Heilman that extends downward over the rim of the container in order to directly heat and thus shrink the film in that area in conventional manner.

We are not convinced otherwise by appellant's arguments. We agree with the examiner that it is not necessary to a finding of obviousness that the structure of the thermoplastic film vis-à-vis the remainder of the cover or laminate, and the position of the opaque material on the film in Amberg and/or Anderson must be read into the structure of the film of Heilman, as appellant contends. *See In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (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."). Indeed, the teachings of Amberg alone and as combined with Anderson would have reasonably suggested to one of ordinary skill in this art to apply an opaque coating to a

thermoplastic film in the reasonable expectation of successfully heating the film with infrared radiation only at that location. *See 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] Both the suggestion and the expectation of success must be founded in the prior art, not in the applicant’s disclosure.”); *Keller*, 642 F.2d at 425, 208 USPQ at 881; *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.]”). Therefore, as the examiner finds, Anderson is analogous prior art because it is reasonably pertinent to the problem of directly heating heat shrinkable thermoplastic film as directed by Heilman which appellant is attempting to solve. *See In re Clay*, 966 F.2d 656, 658, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992). Furthermore, we find no teachings in Anderson which would have led one of ordinary skill in this art away from applying an opaque strip to an area of a thermoplastic film other than the area coated by Anderson. This is because Anderson does not contain any disclosure which criticizes, discredits or otherwise discourages forming such a strip at any other position of the film. *See In re Fulton*, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1145-46 (Fed. Cir. 2004).⁶

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 Heilman, Amberg and the “admission” documents and the combined teachings of Heilman, Amberg, the “admission”

⁶ *See also 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 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.]”).

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documents and Anderson with appellants' countervailing evidence of and argument for nonobviousness and conclude that the claimed invention encompassed by appealed claims 36 through 46 would have been obvious as a matter of law under 35 U.S.C. § 103(a).

The examiner's decision is affirmed.

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

CHUNG K. PAK)	
Administrative Patent Judge)	
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CHARLES F. WARREN)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
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