

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 RANDAL RAY FORD
and RICHARD KINGSLEY STUART, JR.*

Appeal No. 2006-0646
Application 10/465,194

On Brief

Before WARREN, WALTZ and FRANKLIN, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

Decision on Appeal and Opinion

We have carefully considered the record in this appeal under 35 U.S.C. § 134, and based on our review, find that we cannot sustain the grounds of rejection of appealed claims 48 through 51, all of the claims in the application, under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being obvious over Lustig et al. (Lustig) in view of the evidence in Smith et al. (Smith) (answer, pages 3-5).

We refer to the answer and to the brief for a complete exposition of the positions advanced by the examiner and appellants.

The plain language of representative independent claim 48 encompasses *any* copolymer of ethylene and 1-hexene characterized by ethylene comprising at least about 50 weight percent of the copolymer, and further by the properties of differential scanning calorimetry melt transition temperature of about 116° to 122.7°C, a density of 0.917 g/cc, that is, g/cm³, a

n-hexane extractable of from 0 to 1.6 weight percent, and a melt flow ratio of from about 26 to 28. There is no limitation with respect to the method of preparing the copolymer or the testing methods used to determine the specified properties. *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 examiner relies on the disclosure in Lustig of a “low density polyethylene (LLDPE), film C” further identified in Lustig Table 3 as a biaxially stretched monolayer film which has the here relevant physical properties of density of 0.918 g/cm³, measured according to ASTM D-1505; melt index of 0.65 g/10 minutes, measured according to ASTM D-1238; and melting point of 118°C, which is the melting point *per se* and not the differential scanning calorimetry melt transition temperature (col. 9, ll. 39-49, and col. 11, l. 67-68).

“[T]he examiner believes that the disclosed density [in Lustig of 0.918 g/cc which is] . . . a 0.1% difference as compared to the claimed density . . . [is] experimental error associated with the method of determining the density of polyolefins,” and that the designation “LLDPE” indicates that the copolymer contains at least 50 weight percent ethylene, further relying in this respect, on the disclosure of an “ethylene content from 35 to 94 mole percent” for the very low density polyethylene copolymers (VLDPE) specifically described by Lustig at col. 8, ll. 36-56 (answer, pages 4 and 6). The examiner finds that the disclosure of “a melt flow index of from 22 to about 40 as being suitable for film application” for VLDPE specifically described by Lustig , pointing to col. 9, ll. 11-12, provides “a reasonable basis to believe that the melt flow rate properties of the LLDPE [C] should be within the range of from about 22 to about 40 in order to make film,” which in view of the alleged substantially identical composition and properties, “is inherently possessed” by LLDPE C (answer, pages 4 and 6).

The examiner further relies on Smith to evince the knowledge in this art that LLDPE has densities in the range of 0.915 to .940 g/cm³, and that “[t]he alpha-olefins utilized is usually 1-butene, 1-hexene, or 1-octene and Ziegler-type catalysts are usually employed (although Phillips catalysts are also used to produce LLDPE having densities at the higher end of the range)” (col. 2, ll. 18-27), alleging that “in view of the small number of choices (or species) as presented in [Lustig], it would not be difficult for one of ordinary skill in the art to obtain” the

claimed copolymers (answer, pages 4 and 6). The examiner further alleges that in view of “substantially identical” composition and “material properties” for the claimed copolymers and LLDPE C, there is “a reasonable basis to believe that the claimed n-hexane extractable property is inherently possessed” by LLDPE C, and “that such a minor difference in melting temperature . . . is within the experimental error of the DSC testing equipment” (answer, pages 5, 6 and 7-8).

On this basis, the examiner submits that the references provide “a reasonable basis to believe” that LLDPE C falls within claim 48, including the amount of ethylene, 1-hexene as the alpha-olefin comonomer and the specified properties, rendering the same anticipated or obvious, citing *In re Fitzgerald*, 619 F.2d 67, 70-71, 205 USPQ 594, 596-97 (CCPA 1980); *In re Best*, 562 F.2d 1252, 1255-56, 195 USPQ 430, 433-34 (CCPA 1977).

We agree with appellants that there is little evidence in the meager property information provided for LLDPE C in Lustig Table 3 which supports the examiner’s position. The differences in certain properties between the claimed properties and the properties described for LLDPE C and the absence of information with respect to other claimed properties is not cured by unsupported allegations of “experimental error” in determining the properties of LLDPE C reported in Lustig Table 3, and by imputing other properties to LLDPE C from those disclosed by Lustig for VLDPE specifically described therein. Furthermore, that there are “usually” three possibilities for the alpha-olefin comonomer for LLDPE produced with several different kinds of catalysts as acknowledged by Lustig, does not provide evidence establishing as a matter of fact that LLDPE C is prepared with 1-hexene using a catalytic method that would result in the copolymer having properties as claimed. In this respect, we find that Lustig very generally describes the complex state of the art of LLDPE. Cf., e.g., “Olefin Polymers (Polyethylene),” 17 *Kirk-Othmer Encyclopedia of Chemical Technology*, 704-05, 756-65 (4th ed., New York, John Wiley & Sons, 1996) (copy not provided).

Thus, on this record, we fail to find substantial evidence from which it would have reasonably appeared to one skilled in this art, with respect to § 102(b), or to one of ordinary skill in this art, with respect to § 103(a), that the copolymer LLDPE C as disclosed by Lustig would in fact be identical or substantially identical to copolymers falling within appealed claim 48, as we interpreted this claim above. See *In re Spada*, 911 F.2d 705, 708-09, 15 USPQ2d 1655, 1657-58 (Fed. Cir. 1990) (“The Board held that the compositions claimed by Spada ‘appear to be

identical' to those described by Smith. While Spada criticizes the usage of the word 'appear', we think that it was reasonable for the PTO to infer that the polymerization by both Smith and Spada of identical monomers, employing the same or similar polymerization techniques, would produce polymers having the identical composition."); *cf. In re Skoner*, 517 F.2d 947, 950, 186 USPQ 80, 82 (CCPA 1975) ("Appellants have chosen to describe their invention in terms of certain physical characteristics Merely choosing to describe their invention in this manner does not render patentable their method which is clearly obvious in view of [the reference]. [Citation omitted.]").

Accordingly, in the absence of an established *prima facie* case of anticipation under 35 U.S.C. § 102(b) and of obviousness under 35 U.S.C. § 103(a), we reverse the grounds of rejection.

The examiner's decision is reversed.

Reversed

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| CHARLES F. WARREN Administrative Patent Judge |))))) |
| THOMAS A. WALTZ Administrative Patent Judge |) BOARD OF PATENT) APPEALS AND) INTERFERENCES)) |
| BEVERLY A. FRANKLIN Administrative Patent Judge |)) |

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