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BEFORE THE PATENT TRIAL  
AND APPEAL BOARD

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*Ex parte* JOSEPH V. KURIAN and  
GERALDINE M. LENGES

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Appeal 2011-013637  
Application 12/196,955  
Technology Center 1700

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Before MARK NAGUMO, MICHAEL P. COLAIANNI, and  
GEORGE C. BEST, *Administrative Patent Judges*.

COLAIANNI, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 the final rejection of claims 1 and 3-19. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b).

We AFFIRM.

Appellants' invention is directed to a process for preparing shaped articles such as bottles using polyester pellet blend and melt extruded blend compositions containing poly(trimethylene terephthalate) and polyethylene terephthalate (Spec. 1: 7-10).

Claim 1 is illustrative:

1. A process comprising preparing a thermoplastic composition; heating the composition to a melt; molding the melt into a substantially tubular hollow preform; bringing the preform to a temperature between the glass transition temperature and the temperature of crystallization from the glass or cold crystallization of the composition; and stretching the preform in the axial direction, radial direction or combination thereof wherein

the composition comprises, based on the weight of the composition, about 55% to about 99 weight % of a poly(ethylene terephthalate) and about 3 to about 35 weight % of a poly(trimethylene terephthalate);

each polymer is a homopolymer or copolymer;

the composition does not contain a crystallization accelerator or nucleating agent;

the preform has one closed end and one open end; and

the stretching is optionally carried out by application of air pressure, mechanical pressure to the interior of the preform, or both to provide a shaped article.

Appellants appeal the following rejections:

1. Claims 1, 15, and 19 are rejected under 35 U.S.C. § 103(a), as being unpatentable over Kurian (US 6,902,802 B2 issued June 7, 2005) in view of Rogers (US 6,254,950 B1 issued July 3, 2001).
2. Claims 3-9, 14, 17, and 18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kurian in view of Rogers and Kezios (US 2007/0248778 A1 published Oct. 25, 2007).
3. Claims 10 and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kurian in view of Rogers, and Uehara (US 5,085,822 issued Feb. 4, 1992).
4. Claims 11-13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kurian in view of Rogers, Kezios, and Uehara.
5. Claims 1, 3-9, 14, 15, and 17-19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kurian in view of Kezios.
6. Claims 10-13, and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kurian in view of Kezios and Uehara.

#### REJECTIONS (1) AND (5)

Appellants' arguments focus on the subject matter of claim 1 only (App. Br. 3-5, 7-8).

#### ISSUES

1. Did the Examiner reversibly err in finding that the combined teachings of Kurian and either Rogers or Kezios would have suggested stretch blow molding a preform made of the poly(ethylene

- terephthalate) (PET)/poly(trimethylene terephthalate) (PTT) composition of claim 1? We decide this issue in the negative.
2. Does Appellants' evidence contained in the Declaration of Geraldine Lenges (hereinafter the "Lenges Declaration") establish unexpected results with regard to the step of "bringing the preform to a temperature between the glass transition temperature and the temperature of crystallization from the glass or cold crystallization of the composition" recited in claim 1? We decide this issue in the negative.

#### FINDINGS OF FACT AND ANALYSES

##### *Issue (1)*

Appellants argue that there is no motivation to combine the teachings of Kurian and either Rogers or Kezios because Kurian does not disclose using the PET/PTT composition in a stretch blow molding process (App. Br. 4, 7). As a further argument that there is no reason to combine, Appellants contend that while Rogers mentions making a blow molded hollow product, Rogers only exemplifies making extruded films of polyester blends other than PET/PTT (*id.* at 4).

Contrary to Appellants' argument, the Examiner relies on Kurian to teach the particular PET/PTT composition and Rogers or Kezios to teach that it was known to use polyester blends in stretch blow molding processes (Ans. 5-7, 13-17, 21-22). The Examiner finds that the combined teachings of Kurian and either Rogers or Kezios would have suggested using Kurian's PET/PTT composition in a stretch blow molding process as taught by Rogers or Kezios. Indeed, Appellants do not address the Examiner's finding

that Kurian teaches that the PET/PTT composition may be blow-molded (col. 9, ll. 55-57; Ans. 15). Appellants' arguments improperly attack the references individually instead of addressing the Examiner's rejection based upon what the combined teachings of the prior art would have suggested to one of ordinary skill in the art. *In re Keller*, 642 F2d 413, 425 (CCPA 1981).

On this record, we find that the Examiner has established a prima facie case of obviousness with regard to the subject matter of claim 1. We now consider Appellants' evidence of nonobviousness.

*Issue (2): Unexpected Results*

Appellants contend that the Lenges Declaration establishes that by operating within the narrow window of process temperatures (i.e., a temperature between the glass transition temperature (T<sub>g</sub>) and the temperature of crystallization from the glass or cold crystallization temperature (T<sub>cg</sub>)) Appellants were able to produce an optically clear, three-dimensional blow molded product with superior heat deformation and shrinkage properties (App. Br. 4, 7-8).

The Examiner responds that the Lenges Declaration merely shows the expected result from operating within the claimed temperature range between T<sub>g</sub> and T<sub>cg</sub> (Ans. 24). The Examiner finds that Kurian discloses the importance of operating within the temperature range from T<sub>g</sub> to T<sub>cg</sub>, the "amorphous processing window" according to Kurian (col. 5, ll. 23-27). Kurian further teaches that the PET/PTT films processed at temperatures within the amorphous processing window are optically clear, exhibit good

barrier properties, and are amorphous (*id.* at col. 5, ll. 57-60; col. 7, ll. 23-35).

Appellants have the burden of showing that the results are unexpected. *In re Nolan*, 553 F.2d 1261, 1267 (CCPA 1977). In light of the above Kurian disclosures, we agree with the Examiner that Appellants have not satisfied their burden. The Lenges Declaration merely shows the expected result of processing the PET/PTT composition at a temperature between T<sub>g</sub> and T<sub>cg</sub>: achieving an amorphous, optically clear article with good barrier properties. Appellants argue it was known that amorphous plastics shrink less than crystalline plastics (App. Br. 5). Accordingly, based on Appellants' own arguments, it would have been expected that Kurian's amorphous article has superior (i.e., reduced) shrinkage properties.

Furthermore, we note that Appellants argue that unexpected results occur over a "narrow processing window", which would not have been expected from the prior art (*id.* at 7, 8). However, the argument appears to be contradicted by the Lenges Declaration, which states that adding PET (Eastman 9921P) results in a "broader processing window" (i.e., broader temperature range from T<sub>g</sub> to T<sub>cg</sub> for the material) (Lenges Dec. 5). Kurian also teaches that adding PET to the PTT broadens the amorphous processing window temperature range by lowering T<sub>g</sub> (Kurian, col. 6, ll. 21-25; *See also*, Lenges Dec. 2). This broadening of the processing temperature range further undermines the arguments of unexpected results over or criticality of the argued narrow processing range.

On this record, we affirm the Examiner's rejection of claim 1 over Kurian in view of Rogers or Kezios.

REJECTIONS (2), (3), (4), AND (6)

Appellants rely on arguments made regarding Kurian, Rogers, and Kezios, and the Lenges Declaration evidence noted *supra*. We are unpersuaded by these arguments and evidence for the reasons noted above.

Regarding the dependent claims, Appellants argue that the references to do not teach certain limitations in the dependent claims, such as the reduced heat deformation shrinkage as compared to an article produced from PTT or from a composition comprising more than 50 wt.% PTT (claim 4) (App. Br. 5).

However, Appellants do not specifically respond to the Examiner's finding that Kurian and Kezios use PET/PTT blends in similar ratios and in a like manner such that the compositions would have been expected to have the same properties (*see e.g.*, Ans. 9). Appellants argue that Kurian and Kezios do not provide an expectation that the optimum operating window could be arrived at by merely simple combinations of the two materials (App. Br. 6). But the temperature ranges for T<sub>g</sub> and T<sub>cg</sub> in claim 7, for example, substantially overlap Kurian's T<sub>g</sub> and T<sub>cg</sub> temperature ranges (Kurian, col. 5, ll. 61-67).

Appellants' arguments that the references individually do not teach certain features, e.g., that Uehara does not teach using a PET/PTT blend (App. Br. 6, 7, 8), fail to address the suggestions of the combined teachings of the prior art used by the Examiner. Appellants do not specifically address the findings or reasoning with regard to the rejection of the dependent claims provided by the Examiner (Ans. 8-21).

On this record, we affirm the Examiner's rejections (2), (3), (4), and (6).

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Application 12/196,955

DECISION

The 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).

ORDER

AFFIRMED

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