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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ROBERTO FORLONI

Appeal 2019-002080
Application 14/119,677
Technology Center 1700

Before ADRIENE LEPIANE HANLON, JEFFREY T. SMITH, and JANE E. INGLESE, *Administrative Patent Judges*.

INGLESE, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant[1] requests our review under 35 U.S.C. § 134(a) of the Examiner's decision to finally reject claims 1–19.[2] We have jurisdiction over this appeal under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies Cryovac, Inc. as the real party in interest. Appeal Brief filed October 12, 2018 ("Appeal Br.") at 2.

[2] Final Office Action entered November 6, 2017 ("Final Act.") at 1.

CLAIMED SUBJECT MATTER

Claim 1 illustrates the subject matter on appeal, and is reproduced below with emphasis added to highlight contested subject matter:

> 1. A coextruded, biaxially oriented multilayer film comprising
>
> a base layer comprising a polyester having an intrinsic viscosity measured according to ASTM method D4603-03 greater than 0.75 dl/g and a heat-sealable layer directly adhered to said base layer, said heat-sealable layer comprising
>
> - from about 25% to 70% by weight of an amorphous polyester having a melting temperature not higher than the melting temperature of the polyester of the base layer, wherein said amorphous polyester is derived from an aliphatic diol and a cycloaliphatic diol with one or more dicarboxylic acids,
>
> - from 10% to 20% by weight of a thermoplastic resin, wherein the thermoplastic resin comprises at least one member selected from the group consisting of polyamide, polystyrene, ionomer resin, ethylene/unsaturated carboxylic acid copolymer, ethylene/unsaturated ester copolymer, ethylene/propylene copolymer, and ethylene/cyclic olefin copolymer; and
>
> - from 20% to 60% by weight of a further polyester, which is different from the first amorphous polyester, wherein the further polyester resin comprises *at least one further polyester resin selected from those derived from one or more aliphatic diols and an aromatic dicarboylic acid* and it is *characterized by a melting point higher than 240°C.*

Appeal Br. 7 (Claims Appendix) (emphasis added).

REJECTION

The Examiner maintains the rejection of claims 1–19 under 35 U.S.C. § 103(a) as unpatentable over Forloni (WO 2007/093495 Al, published August 23, 2007) in view of Shih (US 5,859,116, issued January 12, 1999) in the Examiner's Answer entered November 14, 2018 ("Ans.").

FACTUAL FINDINGS AND ANALYSIS

Upon consideration of the evidence relied upon in this appeal and each of Appellant's timely contentions,[3] we affirm the Examiner's rejection of claims 1–19 under 35 U.S.C. § 103(a) for the reasons set forth in the Final Action, the Answer, and below.

We review appealed rejections for reversible error based on the arguments and evidence the appellant provides for each issue the appellant identifies. 37 C.F.R. § 41.37(c)(1)(iv); *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential) (cited with approval in *In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011) (explaining that even if the Examiner had failed to make a prima facie case, "it has long been the Board's practice to require an applicant to identify the alleged error in the examiner's rejections")).

Appellant presents arguments directed to the subject matter of claim 1 only, to which we accordingly limit our discussion. Appeal Br. 3–5; 37 C.F.R. § 41.37(c)(1)(iv).

Appellant does not dispute the Examiner's finding that Forloni discloses a coextruded, biaxially oriented multilayer film comprising a base layer having the features recited in claim 1, and a heat-sealable layer directly adhered to the base layer. *Compare* Final Act. 3 (citing Forloni Abstr.; ¶¶ 1, 35), *with* Appeal Br. 3–5. Nor does Appellant dispute the Examiner's

[3] We do not consider the new arguments Appellant raises in the Reply Brief (Reply Br. 2–3), because Appellant does not show that the arguments could not have been raised in the Appeal Brief, and Appellant does not show good cause for raising the arguments for the first time in the Reply Brief. 37 C.F.R. § 41.37(c)(1)(iv); 37 C.F.R. § 41.41(b)(2) (arguments raised for the first time in the Reply Brief that could have been raised in the Appeal Brief will not be considered by the Board unless good cause is shown).

finding that Forloni discloses that the heat-sealable layer comprises an amorphous polyester and a thermoplastic resin, both of which have the features recited in claim 1. *Compare* Final Act. 3–4 (citing Forloni ¶¶ 20, 24–26, 32), *with* Appeal Br. 3–5. The Examiner finds that Forloni does not disclose, however, that the heat-sealable layer includes a further polyester, which is different from the amorphous polyester, is derived from one or more aliphatic diols and an aromatic dicarboylic acid, and has a melting point higher than 240ºC. Final Act. 4. The Examiner relies on Shih for suggesting inclusion of such a further polyester in the heat-sealable layer of Forloni's multilayer film. Final Act. 4 (citing Shih Abstr.; col. 2, ll. 14–57; col. 4, ll. 45–50).

Shih discloses a heat-shrinkable film comprising a polyester blend that includes "an improved clarity" diethylene glycol (DEG)-modified polyethylene terephthalate (PET) (DEG-modified PET) copolyester, which Shih discloses eliminates haze in the heat-shrinkable film. Shih col. 2, ll. 14–24, 49–52. Shih discloses that the DEG-modified PET copolyester comprises a dicarboxylic acid residue component and a diol residue component. Shih col. 4, ll. 17–20. Shih discloses that the dicarboxylic acid residue component comprises terephthalic acid residues, and the diol residue component comprises diethylene glycol residues, ethylene glycol residues, and may include cyclochexanedimethanol. Shih col. 4, ll. 22–24, 33–36, 40–42.

The Examiner finds that Shih thus discloses "a DEG modified PET copolyester derived from ethylene glycol, cyclohexanedimethanol and terephthalic acid" (Final Act. 4), which Appellant's Specification indicates is a preferred "further polyester . . . deriv[ed] from one or more aliphatic diols

and an aromatic dicarboylic acid" as recited in claim 1. Spec. ¶ 28. ("Suitable further polyesters are those deriving from one or more aliphatic diols, preferably ethylene glycol and/or cyclohexandimethanols [sic], and an aromatic dicarboxylic acid, preferably terephthalic acid.").

The Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time of Appellant's invention "to add the DEG modified PET copolyester of Shih to the film of Forlani [sic] in order to provide a film having improved clarity." Final Act. 4. The Examiner finds that because "the DEG modified PET copolyester of Shih is identical to the instantly claimed further polyester (derived from ethylene glycol, cyclohexanedimethanol and terephthalic acid) . . . it will intrinsically have a melting point higher than 240°C." Final Act. 4. The Examiner alternatively determines that in view of Forloni's disclosure that the heat-sealable layer of Forloni's multilayer film is sealed at temperatures up to 200°C, it "would have been obvious to one of ordinary skill in the art to use a polyester having a melting temperature significantly higher than the sealing temperature such as 240°C so that the heat seal layer would not completely melt and run off during sealing and therefore would provide a good seal." Final Act. 4–5 (citing Forloni ¶ 65).

Appellant argues that the Examiner does not meet the burden of showing that "the DEG modified PET of Shih inherently has a melting point of higher than 240ºC" because "Shih does not teach any melting point for any type of DEG modified PET, nor what the effect of the relative amount of DEG co-monomer has for melting point." Appeal Br. 4–5. Appellant argues that "the DEG modified PET of Shih is not primarily derived from CHDM [cyclohexanedimethanol] monomer." Appeal Br. 4.

Appellant's arguments do not identify reversible error in the Examiner's rejection, for reasons that follow.

Claim 1 recites that the "further polyester resin" is "derived from one or more aliphatic diols and an aromatic dicarboylic acid." Claim 1 does not require the further polyester resin to be primarily derived from cyclohexanedimethanol [CHDM] monomer. Nor does claim 1 require the further polyester resin to include any particular amount of aliphatic diol monomer.

Shih discloses a copolyester (diethylene glycol-modified polyethylene terephthalate) derived from the same monomeric components as the "further polyester resin" recited in claim 1—ethylene glycol (aliphatic diol), cyclohexanedimethanol (aliphatic diol), and terephthalic acid (aromatic dicarboxylic acid). Shih col. 4, ll. 22–24, 33–36, 40–42. And as discussed above, Appellant's Specification indicates that a preferred "further polyester resin" derived from one or more aliphatic diols and an aromatic dicarboxylic acid recited in claim 1 is derived from the same monomeric components as Shih's copolyester: ethylene glycol and/or cyclohexandimethanols, and terephthalic acid. Spec. ¶ 28.

Thus, a preponderance of the evidence supports a finding that Shih discloses a copolyester that is the same as, or substantially similar to, the "further polyester resin" recited in claim 1. The Examiner, therefore, has a reasonable basis for finding that the diethylene glycol-modified polyethylene terephthalate polyester disclosed in Shih would have a melting point higher than 240°C as recited in claim 1. *In re Best*, 562 F.2d 1252, 1255 (CCPA 1977) (citation and footnote omitted) ("Where . . . the claimed and prior art products are identical or substantially identical, or are produced by identical

or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product. Whether the rejection is based on 'inherency' under 35 U.S.C. § 102, on 'prima facie obviousness' under 35 U.S.C. § 103, jointly or alternatively, the burden of proof is the same, and its fairness is evidenced by the PTO's inability to manufacture products or to obtain and compare prior art products.").

The burden, therefore, shifts to Appellant to show that a diethylene glycol-modified polyethylene terephthalate polyester as disclosed in Shih would not have a melting point higher than 240°C. *Best*, 562 F.2d at 1255. On the record before us, Appellant does not meet this burden because Appellant does not argue, much less direct us to evidence to demonstrate, that a diethylene glycol-modified polyethylene terephthalate polyester as disclosed in Shih would not have a melting point higher than 240°C. Appeal Br. 3–5.

Appellant argues that "[i]t is well known and economically logical that one of skill desires the heat sealing process be conducted as quickly as possible at a lower temperature." Appeal Br. 5. Appellant argues that if one of ordinary skill in the art "[e]ncounter[ed] a problem with the heat seal layer 'completely melting and running off during sealing,"' as the Examiner proposes, the ordinarily skilled artisan "would more likely solve the problem by reducing the sealing pressure, reducing the sealing frame temperature, or reducing the dwell time (i.e., speed up the process), rather than adding a higher melting point polyester [as disclosed in Shih] that would likely cause the need for increased dwell time, increased sealing pressure, and increased sealing temperature." *Id.* Appellant argues that "[t]here is no evidence that

the addition of a higher melting point polyester is beneficial for creating a good seal, much less that the selection of an additional polyester having a melting point higher than 240°C would be beneficial when the sealing frame temperature is from 140°C to 200°C as in Forloni." *Id.*

Appellant's arguments again do not identify reversible error in the Examiner's rejection, for the following reasons. We point out initially that Appellant does not direct us to evidence to support the assertion that "[i]t is well known and economically logical that one of skill desires the heat sealing process be conducted as quickly as possible at a lower temperature." *Id*. Appellant's unsupported assertion is thus mere attorney argument, which does not constitute the requisite evidence necessary to establish that one of ordinary skill in the art would have desired to conduct heat sealing as quickly as possible at "a lower temperature." *In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997) ("An assertion of what seems to follow from common experience is just attorney argument and not the kind of factual evidence that is required to rebut a prima facie case of obviousness."); *In re Schulze*, 346 F.2d 600, 602 (CCPA 1965) ("Argument in the brief does not take the place of evidence in the record.").

Nor does Appellant direct us to evidence to support the assertion that if one of ordinary skill in the art encountered a problem with the heat seal layer completely melting and running off during sealing, the ordinarily skilled artisan would more likely solve the problem by reducing the sealing pressure, sealing temperature, or dwell time, rather than by adding a higher melting point polyester as disclosed in Shih. These unsupported assertions do not constitute the requisite evidence necessary to establish how one of ordinary skill in the art would have addressed the problem of a heat seal

layer completely melting and running off during sealing.

In view of Forloni's disclosure that the heat-sealable layer of Forloni's multilayer film is sealed at temperatures of to 140°C to 200°C, one of ordinary skill in the art reasonably would have used a polyester in the heat-sealable layer having a melting temperature higher than the sealing temperature, such as 240°C as recited in claim 1, so that the heat seal layer would not melt during sealing. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 420–21 (2007) (explaining that the skilled artisan is "a person of ordinary creativity, not an automaton."). One of ordinary skill in the art likely would have recognized that preventing the heat seal layer from melting during sealing could be achieved in numerous ways, such as using a polyester in the heat-sealable layer having a melting temperature significantly higher than the sealing temperature, or by reducing the sealing pressure, sealing temperature, and/or dwell time, as Appellant argues. Any such approach, consequently, would have been obvious to one of ordinary skill in the art at the time of Appellant's invention, and recognition of one such approach would not have negated recognition of other approaches.

Although Appellant argues that "[t]here is no evidence that the addition of a higher melting point polyester is beneficial for creating a good seal, much less that the selection of an additional polyester having a melting point higher than 240°C would be beneficial when the sealing frame temperature is from 140°C to 200°C as in Forloni" (Appeal Br. 5), we note that claim 6 of Forloni, when read in combination with claims 1 and 11, explicitly recites a coextruded, biaxially oriented multilayer film comprising a base layer comprising a polyester having intrinsic viscosity greater than 0.75, and an outer heat-scalable layer directly adhered to the base layer

comprising (1) an amorphous polyester having a melting temperature not higher than the melting temperature of the polyester of the base layer, (2) a second material selected from polyamides, ethylene/unsaturated carboxylic acid copolymers, ionomers, polystyrenes, ethylene/cyclic olefin copolymers, and ethylene/propylene copolymers, and (3) *a copolyester of terephthalic acid with ethylene glycol and 1, 4-cyclohexanedimethanol*.

This explicit disclosure in Forloni of including a copolyester of terephthalic acid with ethylene glycol and 1, 4-cyclohexanedimethanol in Forloni's heat sealable layer constitutes further evidence supporting the Examiner's conclusion of the obviousness of including a polyester resin derived from one or more aliphatic diols and an aromatic dicarboxylic acid in the heat-sealable layer of the coextruded, biaxially oriented multilayer film of claim 1.

We, accordingly, sustain the Examiner's rejection 1–19 under 35 U.S.C. § 103(a) as unpatentable over Forloni in view of Shih.

CONCLUSION

Claims	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–19	103(a)	Forloni, Shih	1–19	

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