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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MINGCHENG GUO, YAQIN ZHANG,
and YUN ZHENG

Appeal 2017-004773
Application 14/023,320
Technology Center 1700

Before TERRY J. OWENS, MONTÉ T. SQUIRE, and BRIAN D. RANGE,
Administrative Patent Judges.

OWENS, *Administrative Patent Judge.*

DECISION ON APPEAL
STATEMENT OF THE CASE

The Appellant (SABIC Global Technologies B.V.) appeals under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1–7, 9–17, 19, 22, 24–26, 28–36, 38–40, and 48. We have jurisdiction under 35 U.S.C. § 6(b).

The Invention

The claims are to a blended thermoplastic composition and an article comprising the composition. Claim 1 is illustrative:

1. A blended thermoplastic composition comprising:
 - a. one or more first polycarbonate components, wherein the total amount of the first polycarbonate components in the thermoplastic composition is from about 35 wt% to 50 wt% of [sic];

b. one or more second polycarbonate components that are branched chain polycarbonate polymers, wherein the total amount of the second polycarbonate components in the thermoplastic compositions is from about 10 wt% to about 15 wt%;

c. from about 10 wt% to about 15 wt% of at least one polycarbonate-polysiloxane copolymer component; and

d. from about 5 wt% to about 30 wt% of titanium dioxide;

wherein the combined weight percent value of all components does not exceed about 100 wt%;

wherein all weight percent values are based on the total weight of the composition;

wherein a molded sample of the blended thermoplastic composition has a through-plane thermal conductivity when determined in accordance with ASTM E1461 of greater than or equal to about 0.4 W/mK; and

wherein a molded sample of the blended thermoplastic composition has an in-plane thermal conductivity when determined in accordance with ASTM E1461 of greater than or equal to about 1.0 W/mK.

The References

DeRudder	US 2007/0135569 A1	June 14, 2007
Li	US 2008/0081860 A1	Apr. 3, 2008
Akasawa (as translated)	JP 51-37149 A	Mar. 29, 1976
Hoover	EP 0 524 731 A1	Jan. 27, 1993
van der Mee	WO 2012/114309 A1	Aug. 30, 2012

The Rejections

The claims stand rejected under 35 U.S.C. § 103(a) as follows:

claims 1–7, 9, 11–17, 19, 22, 24–26, 29–36, 38–40,
and 48 over 1) DeRudder, 2) DeRudder in view of van der Mee,
3) DeRudder in view of Hoover, and 4) DeRudder in view of
van der Mee and Hoover;

claim 10 over 1) DeRudder in view of Li, 2) DeRudder in view of van der Mee and Li, 3) DeRudder in view of Hoover and Li, and 4) DeRudder in view of van der Mee, Hoover, and Li; and

claim 28 over 1) DeRudder in view of Akasawa, 2) DeRudder in view of van der Mee and Akasawa, 3) DeRudder in view of Hoover and Akasawa, and 4) DeRudder in view of van der Mee, Hoover, and Akasawa.

OPINION

We affirm the rejections.

The Appellant argues the claims as a group (App. Br. 3–15). We therefore limit our discussion to one claim, i.e., claim 1. Claims 2–7, 9–17, 19, 22, 24–26, 28–36, 38–40, and 48 stand or fall with that claim. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2012).

DeRudder discloses in Example 16 a blended thermoplastic composition comprising 39.38 wt% co-polycarbonate (Co-poly 2) (which corresponds to the Appellant's first polycarbonate component), 13.12 wt% branched polycarbonate (PC-2) (which corresponds to the Appellant's second polycarbonate component), and 10 wt% polydimethylsiloxane-bisphenol A polycarbonate copolymer (which corresponds to the Appellant's polycarbonate-polysiloxane copolymer component), and a stabilizing package containing 1.59 phr TiO₂ (¶¶ 123 (Table 1), 143 (Table 2), 144). The composition can contain a filler or reinforcing agent which can be TiO₂ in an amount of about 0 to about 100 parts by weight per 100 parts by weight of total polymer (i.e., about 0 to about 50 wt%) (¶¶ 93, 94).

The Appellant asserts that claim 1 requires “that the **total** amount of the **one or more** branched chain polycarbonate polymers is about 10wt% to about 15 wt%” (App. Br. 4).

Claim 1 requires that the total amount of the second polycarbonate components, not the total amount of branched chain polycarbonate polymers, is about 10 wt% to about 15 wt%. The claim’s “comprising” transition term opens the claim to a third polycarbonate which is a branched chain polycarbonate polymer such as branched polycarbonate PC-1 in DeRudder’s Example 16. *See In re Baxter*, 656 F.2d 679, 686 (CCPA 1981). Moreover, the claim does not preclude the one or more first polycarbonate components from being branched chain polycarbonate polymers.

The Appellant asserts that claim 1 requires “that the **total** amount of the **one or more** first polycarbonate components is about 35 wt% to 50 wt%” (App. Br. 4), and “DeRudder’s Example 16 (which includes two polycarbonate [components] totaling 52.51 wt.% of that composition) falls outside the scope of the appealed claims” (Reply Br. 2).

Claim 1’s “comprising” transition term opens the claim to one or more fourth polycarbonate components such as co-polycarbonate Co-poly 1 in DeRudder’s Example 16.

The Appellant asserts that DeRudder’s fillers do not include titanium dioxide (App. Br. 9, n. 10).

DeRudder discloses that suitable fillers or reinforcing agents include TiO₂ (¶ 93) and that the amount of filler or reinforcing agent generally is about 0 to about 100 parts by weight per 100 parts by weight of total polymer (i.e., about 0 to about 50 wt%) (¶ 94).

The Appellant asserts that “DeRudder’s Examples do not characterize the TiO₂ as a filler – it is characterized as a component of a ‘stabilization package’” (Reply Br. 5).

DeRudder is not limited to its examples. *See In re Fracalossi*, 681 F.2d 792, 794 n.1 (CCPA 1982); *In re Mills*, 470 F.2d 649, 651 (CCPA 1972). Instead, all disclosures therein must be evaluated for what they would have fairly suggested to one of ordinary skill in the art, *see In re Boe*, 355 F.2d 961, 965 (CCPA 1966). DeRudder discloses that the TiO₂ can be a filler and that the amount of filler can be about 0 to about 100 parts by weight per 100 parts by weight of total polymer (i.e., about 0 to about 50 wt%) (¶¶ 93, 94).

The Appellant asserts that “in addition to being referred to as a ‘filler or reinforcing agent,’ DeRudder also refers to TiO₂ as a light stabilizer (paragraph [0098]) and a colorant (paragraph [100])” (Reply Br. 5).

Those disclosures do not remove the disclosure that TiO₂ can be a filler (¶ 93) in the disclosed amount which encompasses the amount required by the Appellant’s claim 1 (¶ 94).

The Appellant asserts that comparing the Appellant’s Specification’s inventive formulations (4 and 11)¹ with formulations (1–3 and 7–10) which lack the Appellant’s branched chain polycarbonate polymer and/or polycarbonate-polysiloxane copolymer shows surprising improvement in

¹ The Appellant’s statement that formulations 5 and 6 are within claim 1 is incorrect (App. Br. 10). Those formulations contain 20 wt% branched chain polycarbonate copolymer which is outside claim 1’s range of about 10 wt% to about 15 wt%.

notched and unnotched impact strength, tensile elongation, and thermal conductivity (App. Br. 10–13; Reply Br. 6).

We have begun anew and determined that for the following reasons the totality of the evidence supports a conclusion of obviousness of the Appellant’s claimed invention. *See In re Rinehart*, 531 F.2d 1048, 1052 (CCPA 1976).

First, the Appellant’s showing of unexpected results does not provide a comparison of the claimed invention with the closest prior art. *See In re Baxter Travenol Labs.*, 952 F.2d 388, 392 (Fed. Cir. 1991); *In re De Blauwe*, 736 F.2d 699, 705 (Fed. Cir. 1984). DeRudder’s Example 16 which includes the Appellant’s first and second polycarbonate components and polycarbonate-polysiloxane copolymer component is closer to the claimed composition than the Appellant’s comparative examples which lack the second polycarbonate component and/or the polycarbonate-polysiloxane copolymer component.

Second, it is not enough for the Appellant to show that the results for the Appellant’s invention and the comparative examples differ. The difference must be shown to be an unexpected difference. *See In re Freeman*, 474 F.2d 1318, 1324 (CCPA 1973); *In re Klosak*, 455 F.2d 1077, 1080 (CCPA 1972). The Appellant provides mere attorney argument that the results would have been unexpected (App. Br. 10–13), and arguments of counsel cannot take the place of evidence. *See Blauwe*, 736 F.2d at 705; *In re Payne*, 606 F.2d 303, 315 (CCPA 1979); *In re Greenfield*, 571 F.2d 1185, 1189 (CCPA 1978); *In re Pearson*, 494 F.2d 1399, 1405 (CCPA 1974).

Third, the evidence is not commensurate in scope with the claims. *See In re Grasselli*, 713 F.2d 731, 743 (Fed. Cir. 1983); *In re Clemens*, 622

F.2d 1029, 1035 (CCPA 1980). Claim 1 encompasses linear and branched polycarbonate polymers and polycarbonate-polysiloxane copolymers generally, and about 35–50 wt% of the one or more first polycarbonate components, about 10 to about 15 wt% of the one or more second polycarbonate components, and about 10 to about 15 wt% of the one or more polycarbonate-polysiloxane components, but the Appellant’s inventive examples (4 and 11) include only two amounts of first polycarbonate component (40 and 50 wt%) and one amount (10 wt%) of each of the second polycarbonate and polycarbonate-polysiloxane components. We find in the evidence of record no reasonable basis for concluding that the great number of materials in the amount ranges encompassed by Appellant’s claim would behave as a class in a manner comparable to the particular materials tested. *See In re Lindner*, 457 F.2d 506, 508 (CCPA 1972); *In re Susi*, 440 F.2d 442, 445–46 (CCPA 1971).

For the above reasons we are not persuaded of reversible error in the rejections.

DECISION

The Examiner’s decision rejecting claims 1–7, 9–17, 19, 22, 24–26, 28–36, 38–40, and 48 under 35 U.S.C. § 103(a) 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).

AFFIRMED