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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KELVIN S. GRAY and JAMES D. SHIPTON

Appeal 2018-001330
Application 14/289,042
Technology Center 1700

Before ADRIENE LEPIANE HANLON, JEFFREY B. ROBERTSON, and
WESLEY B. DERRICK, *Administrative Patent Judges*.

DERRICK, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

The Appellant¹ filed an appeal under 35 U.S.C. § 134(a) from an Examiner's decision finally rejecting claims 1–19. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as FCA US LLC. Appeal Brief dated June 26, 2017 (“Appeal Br.”), 3.

CLAIMED SUBJECT MATTER

The claimed subject matter relates to methods for forming a laminated article using a mold, including an article of a vehicle. Claims 1 and 12—the independent claims—are representative.

1. A method comprising:

heating a mold member including a molding surface;

conducting a first slush molding step to attach a first material to the molding surface;

conducting a second slush molding step to attach a second material to the first material; and

laminating a substrate to the second material while the second material is in a molten state.

12. A method for forming a molded article of a vehicle, comprising:

providing a mold including a molding surface, the molding surface having a shape that corresponds to that of the molded article;

heating the mold to a temperature sufficient to melt first and second thermoplastic materials of the molded article;

conducting a first slush molding step to attach the first thermoplastic material to the molding surface;

conducting a second slush molding step to attach the second thermoplastic material to the molding surface, the second thermoplastic material including a blowing agent; and

laminating a substrate to the first and second thermoplastic materials while at least the second thermoplastic material is in a substantially molten state and the blowing agent is releasing a gas to foam the second thermoplastic material,

wherein the first thermoplastic material forms an exterior surface of the molded article and the second thermoplastic material forms a foam of the molded article.

Appeal Br. 14, 16.

REJECTIONS

The Examiner rejects the claims under 35 U.S.C. § 103 for obviousness as follows:

Claims 1–6, 8–14, and 16–19 stand rejected over Tochioka² in view of Strebel³;

Claims 1–11 stand rejected over De Winter⁴ in view of Strebel; and

Claims 7 and 15 stand rejected over Tochioka in view of Strebel and De Winter.

DISCUSSION⁵

For any ground of rejection, “the Examiner bears the initial burden . . . of presenting a *prima facie* case of unpatentability.” *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). We consider the record to determine whether Appellant has identified reversible error in the Examiner’s rejection. *See In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011) (“[I]t has long been the Board’s practice to require an applicant to identify the alleged error in the examiner’s rejections,” citing *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential)). Further, “the burden of showing that the error is harmful normally falls upon the party attacking the agency’s determination. *In re Chapman*, 595 F.3d 1330, 1338 (Fed. Cir. 2010) (quoting *Shinseki v. Sanders*, 556 U.S. 396, 409 (2009)).

² Tochioka et al., US 6,552,095 B1, issued April 22, 2003.

³ Strebel, US 5,830,392, issued November 3, 1998.

⁴ De Winter et al., US 2006/0284330 A1, published December 21, 2006.

⁵ We refer to the Specification filed May 28, 2014 (“Spec.”), the Final Office Action dated January 27, 2017 (“Final Act.”), the Appeal Brief filed June 26, 2017, the Examiner’s Answer dated September 22, 2017 (“Ans.”), and the Reply Brief filed November 17, 2017 (“Reply Br.”).

Upon consideration of the rejections, Appellant's arguments, and the Examiner's response to those arguments, we are persuaded of reversible error in the Examiner's rejection of claims 1–11 over De Winter in view of Strebel, but are not persuaded of reversible in the Examiner's rejection of claims 1–6, 8–14, and 16–19 over Tochioka in view of Strebel, or of claims 7 and 15 in further view of De Winter.

Tochioka and Strebel – Claims 1–6, 8–14, and 16–19

Tochioka relates to thermoplastic resin materials formed into laminates with a thermoplastic material foam layer. Tochioka, Abstract. In rejecting claim 1, the Examiner relies on Tochioka for its teaching of a method of forming a molded article that includes heating a mold member (7) having a molding surface, conducting a first slush molding step to attach a skin material (powder 6) to the molding surface, conducting a second slush molding step to attach a powder containing a foaming agent (powder 10) to the first material, and laminating a substrate (17) to the second material as shown in Figure 2. Ans. 2 (citing Tochioka, 8:38–9:50; Fig. 2). The Examiner further relies on Tochoika as teaching foaming the second material, provided as powder 10, while the substrate is positioned in a closed mold. *Id.* (citing Tochioka, 7:42–55). As disclosed in Tochioka, the powder 10 is “a thermoplastic resin containing a foaming agent” (Tochioka, 8:48–50) and this can be foamed by heating the molds in which “the laminate of the skin material [6] and the thermoplastic resin foam layer [10], and the thermoplastic resin substrate[17]” coated with a “foam adhesive material” are positioned in order to form a molded laminate that includes the skin material, the thermoplastic resin foam layer, and the substrate (*id.* at 7:42–55).

Strebel relates to processes for forming molded articles from thermoplastic resins having smooth exterior skins and foamed interiors. Strebel, Abstract. The Examiner relies on Strebel for its teaching of “a foamable powder [that] is slush molded onto a skin layer in which the decomposition of a blowing agent within the foamable material is higher than the melt temperature of the powder used.” Ans. 2–3 (citing Strebel, 4:7–14). The Examiner further relies on Strebel for its teaching that this foamable material “is placed within an elevated temperature oven to both melt the foamable material and activate the foaming agent.” *Id.* at 3 (citing Strebel, 6:43–49).

The Examiner concludes that “[i]t would have been obvious to one of ordinary skill in the art at the time [of] the invention . . . to bond the substrate of Tochioka to the foaming material while the second material is molten as Strebel teaches that it was known in the art that foamable powder for use in slush molding can have a foam activation temperature above the melt temperature of the powder.” *Id.*

As to claim 12, the Examiner similarly relies on Tochioka and Strebel (*id.* at 4–5), but highlights that Tochioka is directed to “manufacturing a laminate for use in vehicles” (*id.* at 4 (citing Tochioka, 1:15–30)).

Appellant contends that the combination of Tochioka and Strebel does not yield the claimed method that includes “laminating a substrate to the second material while the second material is in a molten state.” Appeal Br. 6–7. Appellant argues that Tochioka discloses two different two-part processes, including that depicted in Figure 2 relied on by the Examiner. *Id.* at 6. In describing the first process, Appellant relies on disclosure also cited by the Examiner, focusing in particular on Tochioka’s disclosure of the pre-

foam layer 11 that is formed of powder 10 for the foam that adheres to the skin material 8 that is formed of powder 6. *Id.* at 7–8 (citing Tochioka, 8:61–9:3; Fig. 2); Ans. 2 (citing Tochioka, 8:38–9:50; Fig. 2). Based on this disclosure, particularly column 8, line 61 to column 9, line 3, Appellant contends that the second material is foamed and cooled and that the intermediate part comprising the skin (first material) and foam (second material) is then adhered to the disclosed substrate 15 using an adhesive foam 17 that is sprayed onto the substrate. Appeal Br. 7; Reply Br. 5–6. Appellant argues that, accordingly, “the second material [10/11] that is added by slush molding is not in a ‘molten state’ when the substrate 15 is adhered thereto, as claimed.” Appeal Br. 7; *see also* Reply Br. 6. Appellant further argues that “this two-part process is different from the claimed invention” “even if the second material 10 of Tochioka is replaced by the material of Strebel as alleged by the Examiner.” Appeal Br. 7–8.

As to the second two-step process of Tochioka, Appellant argues that it does not include a second slush molding step, and that the spraying step to apply an adhesive foam layer does not suffice. Appeal Br. 8–10 (citing Tochioka, 10:8–12).

Appellant’s argument is not persuasive of error because it fails to squarely address the rejection as set forth by the Examiner grounded in part on Tochioka disclosing a method in which the second material 10/11 is foamed while the substrate 17 and a laminate of the skin material 6/8 and foam layer 10/11 are heated in a closed mold. Ans. 2 (citing Tochioka, 7:42–55). Further, as explained in this portion of Tochioka, after the heating and foaming step, “the molded laminate is cooled, . . . the molds are opened[,] . . . [and] the molded laminate is removed from the molds”

(Tochioka, 7:46–55), where the production method is “explained by making reference to a laminate comprising a skin material, a thermoplastic resin foam layer (an intermediate foam layer), an adhesive thermoplastic material foam layer (a foam adhesive layer), and a substrate” (*id.* at 7:11–15). Thus, Appellant’s argument that the second material is foamed and then cooled prior to the intermediate part comprising the skin (first material) and the foam (second material) being adhered to the substrate in the combination set forth by the Examiner is unfounded.

As to the further argument that the second two-step process in Tochioka identified by Appellant fails to disclose a second slush molding step, it is at best, a misapprehension of the rejection set forth by the Examiner. Ans. 8–9.

By not addressing the rejection as articulated by the Examiner, Appellant has not demonstrated how the Examiner erred.

Appellant also belatedly raises an argument as to Tochioka disclosing a foamable layer that is heated in a mold with the skin layer and the substrate. Reply Br. 7 (citing Ans. 9–10). While citing to particular language in the Answer, the Examiner had already raised the same points—using the same words—in the Final Office Action. *Compare id.*, and Ans. 9–10, with Final Act. 9–10. Appellant provides no good reason why the argument could not have been raised in the Appeal Brief. *See generally* Reply Br. We deem the argument waived, therefore, for purposes of the present appeal. 37 C.F.R. § 41.41(b)(2). *Cf. Becton Dickinson and Co. v. C.R. Bard, Inc.*, 922 F.2d 792, 800 (Fed. Cir. 1990) (citations and internal quotations omitted) (finding “no reason to depart from the sound practice that an issue not raised by an appellant in its opening brief, . . . is waived”);

McBride v. Merrell Dow and Pharms., Inc., 800 F.2d 1208, 1211 (D.C. Cir. 1986) (internal citations omitted) (“Considering an argument for the first time in a reply brief . . . is not only unfair to the appellee but also entails the risk of an improvident or ill-advised opinion on the legal issues tendered.”).

Accordingly, on this record, we are not apprised of reversible error in the rejection of claims 1–6, 8–14, and 16–19 over Tochioka in view of Strebel.

De Winter and Strebel – Claims 1–11

De Winter relates to a method for manufacturing a composite automotive trim part that includes a skin layer and a rigid substrate layer with an intervening foam layer. De Winter, Abstract. The Examiner relies on De Winter for its teaching of slush molding of a skin layer (1) on the surface of a heated mold. Ans. 6 (citing De Winter ¶¶ 49, 51); De Winter, Fig. 1a. The Examiner relies on De Winter teaching of “pouring mold material [3] on to the skin layer [1]” as “a second slush molding step to attach a second material to the first material.” Ans. 6 (citing De Winter ¶ 45); De Winter, Fig. 1c. The Examiner maintains that “pouring a powder into the mold” meets the recited “slush molding step of the claim.” Ans. 10. The Examiner relies on De Winter “laminating the substrate [2] to the second material [3] through foaming.” *Id.* at 6 (citing De Winter ¶ 45). The Examiner relies further on De Winter for teaching that the second material [3] “the foamable material” “is a thermoplastic foam” and that “the substrate [2] and skin [1] are not completely hardened . . . during lamination.” *Id.* (citing De Winter ¶¶ 41, 65).

The Examiner relies on Strebel, in the same manner as in the combination with Tochioka, for its disclosure of “a foamable powder . . . in

which the decomposition temperature of a blowing agent within the foamable material” allowing “both melt[ing] the foamable material and activat[ing] the foaming agent.” *Id.* (citing Strebel, 4:7–14, 6:43–49).

The Examiner also again concludes that it would have been obvious to use Strebel’s disclosed foamable powder having a foam activation temperature above the melt temperature of the powder in what the Examiner takes to be a second slush molding step. *Id.* at 6–7.

Appellant contends that the disclosed pouring of foam material into the mold—relied on by the Examiner as the second slush molding step—is not a slush molding process. Appeal Br. 11; Reply Br. 8–10. Appellant argues, for example, that “one skilled in the art would recognize that ‘slush molding’ requires that any excess material must be drained off” and that this is not done in “the ‘pouring’ of the powder material that is conducted by De Winter.” Reply Br. 10.

The Examiner’s position, however, is that the meaning of “slush molding” in the Specification includes “spraying or rotational molding,” as the Examiner’s Answer sets forth that “Applicant’s own specification notes in the background section that several methods **including spraying** or rotational molding could read on ‘slush’ molding.” Ans. 10. While the Examiner is correct that the specification mentions spraying and rotational molding, the Examiner fails to explain why spraying or rotational molding alone is consistent with an understanding of “slush molding” that requires draining off excess material, consistent with Appellant’s arguments, or with the Specification. *See, e.g.*, Spec. ¶¶ 10, 14. For this reason, we are persuaded that the Examiner has failed to establish a factual basis for the rejection because there is no draining off of excess material manifest in

De Winter and this deficiency is not remedied. Ans. 6, 10. Accordingly, the Examiner has not met its burden to establish unpatentability of claim 1, or of claims 2–11 dependent thereon, over the combination of De Winter and Strebel. *In re Oetiker*, 977 F.2d at 1445.

Tochioka, Strebel, and De Winter – Claims 7 and 15

Claims 7 and 15 both recite that “the substrate includes a plurality of apertures that allow the gas to escape during the laminating of the substrate to” either “the second material” (claim 7) or “the second thermoplastic material” (claim 15).

The Examiner relies on Tochioka in view of Strebel, as discussed above, as “teach[ing] a method for foaming a laminate with a foam core, a skin, and a substrate within a pair of molds.” Ans. 8.

The Examiner relies on De Winter as “teach[ing] a similar laminate forming process” and for “teach[ing] that it was known to include a plurality of apertures in the substrate to allow for venting during the foaming process.” *Id.* (citing De Winter ¶ 53; Fig. 15).

The Examiner concludes that “[i]t would have been obvious to one of ordinary skill in the art at the time [of] the invention . . . to include vent holes in the substrate of Tochioka to allow for venting of the foaming gas as taught by De Winter “in order to obtain “the complete filling of the cavity between the substrate and the skin layer.” *Id.*

We find the combination including De Winter for its teaching of apertures to allow for venting well-founded. Any deficiency as to the rejection of claims 1–11 grounded on De Winter in view of Strebel is not manifestly material to this rejection.

Appellant does not address this ground of rejection.

Accordingly, on this record, we are not apprised of reversible error in the rejection of claims 7 and 15 over Tochioka in view of Strebel and in further view of De Winter.

CONCLUSION

The Examiner's decision is affirmed.

Claims Rejected	35 U.S.C. §	Rejection(s)/Basis	Affirmed	Reversed
1-6, 8-14, 16-19	103	Tochioka, Strebel	1-6, 8-14, 16-19	
1-11	103	De Winter, Strebel		1-11
7, 15	103	Tochioka, Strebel, De Winter	7, 15	
Overall Outcome			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