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jarcher@norris-law.com
nmanfredi@norris-law.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte THORSTEN KRAWINKEL,
ALEXANDER PRENZEL, and MINYOUNG BAI

Appeal 2019-005163
Application 13/948,398
Technology Center 1700

Before JEFFREY T. SMITH, KAREN M. HASTINGS, and
MERRELL C. CASHION, JR., *Administrative Patent Judges*.

CASHION, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1–23, 27, and 28. 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 tesa SE. Appeal Br. 2.

The invention relates to a pressure-sensitive adhesive tape. Spec. ¶ 2. Claim 1 illustrates the subject matter on appeal and is reproduced below (formatting added):

1. An adhesive tape comprising:
 - a carrier material comprising an acrylate-based foam layer bearing at least one layer of pressure-sensitive adhesive, the pressure-sensitive adhesive
 - (a) being composed of a mixture of at least two different synthetic rubbers based on vinylaromatic block copolymers;
 - (b) comprising a resin that is not soluble in the acrylates forming the foam layer; and
 - (c) being chemically uncrosslinked,
 - wherein the at least two different synthetic rubbers have a block polystyrene content of at least 18 wt%.

The Examiner maintains the following rejections from the Non-Final Office Action dated November 1, 2018:

- I. Claims 1–23 rejected under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Welke (US 2011/0315316 A1, published December 29, 2011), Waid (US 2010/0075132 A1, published March 25, 2010), and De Craene (US 5,777,039, issued July 7, 1998).
- II. Claims 27 and 28 rejected under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Welke, Waid, De Craene, and Zmarsly (US 2011/0281964 A1. Published November 17, 2011).

Appellant presents arguments for claim 1 (Appeal Br. 6) and argues claims 4, 27 and 28 as a group (*id.* at 9). We select claim 1 as representative of the subject matter claimed. We also select claim 4 as representative of the claims argued separately as a group. We therefore decide the appeal as to all grounds of rejection based on the arguments Appellant makes in support of the patentability of claims 1 and 4.

OPINION

After review of the respective positions the Appellant presents in the Appeal Brief and the Examiner presents in the Non-Final Office Action and the Answer, we AFFIRM the Examiner's rejections of claims 1–23, 27, and 28 under 35 U.S.C. § 103 for essentially the reasons the Examiner presents. Our reasoning follows.

Claim 1

We refer to the Examiner's Non-Final Office Action for a complete statement of the rejection of claim 1. Non-Final Act. 3–8.

In summary, the Examiner finds that the combined teachings of Welke and Waid suggest an adhesive tape comprising a foam layer carrier bearing at least one layer of chemically uncrosslinked pressure-sensitive adhesive that is composed of a mixture of at least two different synthetic rubbers based on vinylaromatic block copolymers. *Id.* 3–7.² The Examiner finds that the combined teachings of Welke and Waid do not suggest a pressure-sensitive adhesive having a polystyrene content of at least 18 wt% for the at least two different synthetic rubbers. *Id.* at 7. The Examiner turns to De Craene for the missing feature. The Examiner finds that De Craene teaches it is well-known in the art to make pressure sensitive adhesive composed of a mixture of at least two different synthetic rubbers based on vinylaromatic block copolymers, where the block copolymer has an average polystyrene content in the range of 10 to 50 wt%. Non-Final Act. 7–8; De

² The Examiner relies primarily on Welke for the teaching of a pressure-sensitive adhesive tape comprising a foam backing. Non-Final Act. 3; Welke ¶ 1. For completeness, Waid is also directed to a pressure-sensitive adhesive tape comprising a foam backing. Waid ¶¶ 9–11.

Craene col. 3, ll. 10–14; col. 11, ll. 25–26. The Examiner determines that it would have been obvious to one having ordinary skill in the art to modify the block copolymer in the adhesive of the combined teachings of Welke and Waid by providing a polystyrene content as claimed in view of De Craene’s teachings with the expectation that such an adhesive will be suitable as a pressure-sensitive adhesive composition. Non-Final Act. 8.

Appellant argues that Welke and Waid disclose crosslinked PSAs while the claimed invention recites uncrosslinked PSAs. Appeal Br. 5. Appellant further asserts that, while Waid discloses an adhesive layer which is optionally cross-linked, Waid’s disclosure does not exemplify an uncrosslinked adhesive but instead emphasizes that the adhesives must be crosslinked. Appeal Br. 6.

Appellant’s arguments do not identify reversible error in the Examiner’s determination of obviousness. It is well settled that a reference may be relied upon for all that it discloses and not merely the preferred embodiments as suggested by Appellant. *See Merck & Co. v. Biocraft Labs., Inc.*, 874 F.2d 804, 807 (Fed. Cir. 1989) (“[A]ll disclosures of the prior art, including unpreferred embodiments, must be considered.” (quoting *In re Lamberti*, 545 F.2d 747, 750 (CCPA 1976))); *In re Fracalossi*, 681 F.2d 792, 794 n.1 (CCPA 1982) (explaining that a prior art reference’s disclosure is not limited to its examples). The disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or non-preferred embodiments. *In re Susi*, 440 F.2d 442, 446 n.3 (CCPA 1971).

As the Examiner explains, Waid teaches it is well known to use crosslinked and uncrosslinked adhesives as pressure-sensitive adhesives on

surfaces having low surface energy. Ans. 16–17; Waid ¶¶ 1, 13, 63. While Waid may prefer crosslinked adhesives, Appellant has not explained adequately why Waid’s disclosure of uncrosslinked PSAs as a non-preferred embodiment limits Waid’s disclosure or teaches away from Waid’s broader disclosure. Moreover, both Welke and Waid are directed to PSAs useful for surfaces having low surface energy. Welke ¶ 4; Waid ¶ 63. Given this disclosure, Appellant does not explain adequately why Waid’s uncrosslinked PSAs would be unsuitable for Welke’s purposes.

Appellant asserts that the adhesives of Welke and Waid are both different from the presently claimed pressure-sensitive adhesive because they use different block polymers and have different polystyrene content from the claimed content. Appeal Br. 5. Regarding the polystyrene content, Appellant argues that Welke and Waid use block copolymers with small a polystyrene content between 9.5 and 11.5 percent by weight while the claimed invention recites a polystyrene content of at least 18 wt%. Appeal Br. 5; Welke ¶ 134; Waid ¶ 79. Appellant additionally argues that De Craene specifically refers to block copolymers suitable for hot melt adhesive composition and, therefore De Craene’s teachings of a polystyrene content of 10–50% would not be applicable to the adhesives of Welke and Waid. Appeal Br. 8; De Craene col. 3, l. 13.

The Examiner does not rely on Welke for the teaching of a PSA composed of a mixture of at least two different synthetic rubbers based on vinylaromatic block copolymers. Non-Final Act. 4. Instead, the Examiner relies on the teachings of Waid and De Craene for this feature. *Id.* at 4–8. The Examiner finds that Waid teaches an uncrosslinked PSA composed of a mixture of butadiene and styrene, which correspond to the synthetic rubbers

disclosed in the Specification. Non-Final Act 4–6; Waid ¶¶ 24–25; Spec. 22. De Craene also teaches PSA formulations comprising a mixture of butadiene and styrene. Non-Final Act. 8; De Craene col. 1, ll. 5–12, col. 3, ll. 1–2; col. 11 (Example I). Appellant’s argument does not explain adequately the difference between the claimed synthetic rubbers and those taught by the combined teachings of the cited art.

Regarding the polystyrene content, we agree with the Examiner that the polystyrene contents that Welke and Waid disclose are exemplary in nature and do not limit the respective disclosures to such a range. Ans. 18. Moreover, Appellant’s arguments do not consider adequately that the Examiner relies on De Craene to meet the claimed polystyrene content range. *Id.* In this regard, Appellant argues that De Craene’s polystyrene content of 10–50% is applicable only to the De Craene’s hot melt adhesive embodiments and, thus, one skilled in the art would not look to De Craene’s teachings for a PSA composition. Appeal Br. 8. As the Examiner notes, this argument ignores De Craene’s express disclosure that “[a] preferred use of the present formulation is in the preparation of pressure-sensitive adhesive (PSA) tapes.” Ans. 20; De Craene col. 11, ll. 24–26. In fact, De Craene’s disclosed polystyrene content range is not limited to any particular type of adhesive. *See* De Craene col. 3, ll. 10–18. Instead, this disclosure provides one skilled in the art with a range of polystyrene content to adjust according to the characteristics desired for a given adhesive.

Thus, Appellant’s arguments fail to identify error in the Examiner’s determination of obviousness.

Appellant argues that evidence in the Specification shows that the pressure-sensitive adhesive loses adhesive force when the block copolymers

are crosslinked and used in an adhesive. Appeal Br. 6. According to Appellant, Comparative Example 7 of the present Specification (cross-linked block copolymers) and Inventive Example 1 (uncrosslinked block copolymers), as shown in Table 2 shows that the adhesive force is reduced. *Id.*

When evidence of secondary considerations is submitted, we begin anew and evaluate the rebuttal evidence along with the evidence upon which the conclusion of obviousness was based. *In re Rinehart*, 531 F.2d 1048, 1052 (CCPA 1976). The burden of establishing unexpected results rests on the Appellant. Appellant may meet this burden by establishing that the difference between the claimed invention and the closest prior art was an unexpected difference. *See In re Klosak*, 455 F.2d 1077, 1080 (CCPA 1972). Appellant must establish the unexpected results with factual evidence; attorney statements are insufficient to establish unexpected results. *See In re Geisler*, 116 F.3d 1465, 1470–71 (Fed. Cir. 1997). Further, a showing of unexpected results with evidentiary support must be reasonably commensurate in scope with the degree of protection sought by the claims on appeal. *In re Grasselli*, 713 F.2d 731, 743 (Fed. Cir. 1983); *In re Clemens*, 622 F.2d 1029, 1035 (CCPA 1980).

We have considered Appellant’s evidence of unexpected results and agree with the Examiner’s analysis that the evidence is insufficient to show nonobviousness. Ans. 17.

We first note that it is not clear that Appellant has compared the claimed invention against the closest prior art (Welke). We also agree with the Examiner that Appellant does not explain why the single inventive

adhesive PSA 1 is representative of the broad scope of adhesives claimed.

Ans. 17.

Thus, on this record, Appellant has not explained adequately why one of ordinary skill in the art would have found the evidence relied upon unexpected or why that evidence is reasonably commensurate in the scope with the claims.

Claim 4

Claim 4 recites an adhesive tape wherein the acrylate forming the foam layer is a thermally crosslinked polyacrylate and crosslinking of the polyacrylate is done in the presence of at least one thermal crosslinker added to the polyacrylate.

The Examiner finds that Welke teaches this feature. Non-Final Act. 9; Welke ¶ 59.

Appellant contends that Welke teaches polymerization of an acrylate using a thermal initiator and not a thermally crosslinked polyacrylate, wherein the crosslinking is done in the presence of a thermal crosslinker added to the polyacrylate. Appeal Br. 9. According to Appellant, the invention first forms the polyacrylate and subsequently crosslinks it via thermal crosslinking. *Id.* Appellant further argues that Welke teaches away from thermal crosslinking of the acrylic foam because it discloses curing the foam and adhesive together via electron beam as well as chemically crosslinking the foam. Appeal Br. 9 (citing to Welke ¶ 141).

Appellant's arguments lack persuasive merit for the reasons the Examiner presents.

Moreover, Appellant acknowledges that Welke teaches crosslinking the polyacrylate to form the foam backing. Appeal Br. 9. Appellant also

acknowledges in the Specification that “the skilled person is familiar with the application for example of chemical/thermal crosslinking techniques.” Spec. 4. Thus, Appellant has not explained adequately why one skilled in the art, using no more than ordinary creativity, would not have been capable of modifying Welke’s adhesive tape by using a foam that was thermally crosslinked. *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007) (“A person of ordinary skill is also a person of ordinary creativity, not an automaton.”); *see also In re Sovish*, 769 F.2d 738, 743 (Fed. Cir. 1985) (presuming skill on the part of one of ordinary skill in the art). Nor does Appellant direct us to any objective evidence of criticality resulting from thermally crosslinking the polyacrylate.

While Appellant contends that Welke teaches simultaneously crosslinking the adhesive and foam via electron beam curing (Appeal Br. 9; Welke ¶ 141) or chemically crosslinking the foam (Appeal Br. 9; Welke ¶ 142), these are only an exemplary techniques used in Welke’s Examples A and B. Appellant directs us to no portion of Welke that would lead one skilled in the art to understand that these are the only techniques one skilled in the art can use in practicing Welke’s invention. Moreover, Waid suggest it is known in the art to apply a PSA layer onto a previously formed foam backing. Waid ¶¶ 12, 59.

Accordingly, we AFFIRM the Examiner’s prior art rejections of claims 1–23, 27, and 28 under 35 U.S.C. § 103 for the reasons the Examiner presents and we give above.

Arguments not specifically addressed are deemed not persuasive for the reasons the Examiner presents.

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1-23	103(a)	Welke, Waid, De Craene	1-23	
27, 28	103(a)	Welke, Waid, De Craene, Zmarsly	27, 28	
Overall Outcome			1-23, 27, 28	

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136.

AFFIRMED