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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* BERNHARD STEINMETZ, MATTHIAS SCHAD, and  
PEGGY JANKOWSKI

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Appeal 2019-005524  
Application 14/420,067  
Technology Center 1700

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Before ADRIENE LEPIANE HANLON, JEFFREY T. SMITH, and  
JEFFREY R. SNAY, *Administrative Patent Judges*.

SNAY, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant appeals from the Examiner's decision rejecting claims 1–5, 16, and 18–21.<sup>1</sup> A hearing was held on May 13, 2020, a transcript of which will be made of record in due course. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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<sup>1</sup> We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies BASF COATINGS GMBH as the real party in interest. Appeal Br. 1.

## BACKGROUND

The invention relates to a method for producing a multicoat paint system. Spec. 1. According to the Specification, use of a specified ether component reduces occurrence of pinholes in the multicoat system. *Id.*

Claim 1 reads as follows:

Claim 1: A method for producing a multicoat color and/or effect paint system, the method comprising:

(1) applying a pigmented aqueous basecoat material to a substrate,

(2) forming a polymer film from the basecoat material applied in stage (1),

(3) applying a clearcoat material to the resulting polymer film, and subsequently

(4) curing the polymer film together with the clearcoat film,

wherein, in stage (1), a pigmented aqueous basecoat material is used which comprises at least one ether compound of the structural formula (I)



wherein  $\text{R}_1$  is a  $\text{C}_x$  alkyl radical,  $\text{R}_2$  is a  $\text{C}_y$  alkylene radical and  $\text{R}_3$  is a  $\text{C}_z$  alkyl radical,  $n$  is 0 to 5, wherein  $x + n \cdot y + z = 18$  to 24, and the sum total of the weight percentage fractions, based on the total weight of the aqueous basecoat material applied in stage (1), of all of the ether compounds of structural formula (I) is 0.1 % to 5% by weight, and the basecoat material forms a polymer film having an increased pinholing limit and/or a reduced number of pinholes.

Appeal Br. 47 (Claims Appendix).

Claim 20 essentially is the same as claim 1 except that  $n$  in formula (I) is zero. Each remaining claim on appeal depends from claim 1 or 20.

## REJECTIONS

- I. Claims 1–5, 16, and 20 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Baugh,<sup>2</sup> VammarD10,<sup>3</sup> Brenke,<sup>4</sup> and Hoy.<sup>5</sup>
- II. Claims 18, 20, and 21 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Sapper,<sup>6</sup> Brenke, and VammarD10.
- III. Claim 19 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Sapper, Brenke, VammarD10, Lamers,<sup>7</sup> and Fieberg.<sup>8</sup>

## OPINION

### *Rejection I: obviousness over Baugh and VammarD10*

With regard to the Examiner's Rejection I, Appellant separately argues claims 1, 5, and 20. *See* Appeal Br. 6–24, 43–45. Claims 2–4 and 16 stand or fall with claim 1. Separately argued claims are separately addressed below.

### *Claim 1*

With regard to claim 1 and relevant to Appellant's arguments on appeal, the Examiner finds Baugh discloses a multicoat paint system having a pigmented basecoat composition that includes an ether co-solvent. Final Act. 2. The Examiner also finds that VammarD10 was known at the time of

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<sup>2</sup> US 2003/0060560 A1, published March 27, 2003.

<sup>3</sup> ExxonMobil Chemical, *ExxonMobil Supported Uses – Use Mapping for Vammar™ D10*, dated October 2009.

<sup>4</sup> US 5,993,911, issued November 30, 1999.

<sup>5</sup> US 4,677,168, issued June 30, 1987.

<sup>6</sup> US 2006/0014857 A1, published January 19, 2006.

<sup>7</sup> US 2008/0070040 A1, published March 20, 2008.

<sup>8</sup> WO 2011/075718 A1, published June 23, 2011.

the invention for use as an ether co-solvent in paint coatings. *Id.* at 3. The Examiner determines one of ordinary skill in the art would have had a reason to use VammarD10 as a known ether co-solvent in Baugh's basecoat. *Id.* The Examiner finds Brenke teaches a compositional range of 1–20 wt.% for an ether co-solvent in coatings to reduce pinholing. *Id.*

Appellant argues that Brenke provides polyalkylene glycol dialkyl ethers having 3 to 10 units, and for that reason does not teach or suggest adding an ether co-solvent having less than 3 ethylene oxide and/or propylene oxide units as recited in Appellant's claims 5 and 18 to 21. Appeal Br. 8. Appellant's argument is not persuasive. Claim 1 does not require use of an ether co-solvent having less than 3 units. *See* claim 1 ("n is 0 to 5"). Appellant acknowledges that Brenke would have provided a reason to use an ether co-solvent within the recited formula (I) with n being at least 3. *Id.* at 12 ("Brenke reasonably would have taught one skilled in the art to add 1 to 20 wt.% of a dialkyl ether of formula (I) . . . wherein n is at least 3."). Moreover, there is no dispute that the material identified as VammarD10 meets the structural definition of formula (I) in claim 1. *See* Spec. 17 (identifying Vammar D10 as an "Inventive ether compound"); Decl. 2 (stating that the ether compound identified in the Specification "include[s] all the required components and meet[s] all the required properties of Claims 1 and 20").

Appellant also argues that "Brenke does not appear to provide a single example of a basecoat composition comprising 1 to 20 wt.% of a polyalkylene glycol dialkyl ether of formula (I)." Appeal Br. 9. However, Appellant does not present persuasive evidence or explanation as to why Brenke's lack of an anticipatory example negates the collective teachings of

the prior art relied upon in support of the Examiner's obviousness determination.

Appellant contends that experimental data presented in the Specification and in the Steinmetz Declaration shows that including 1.5 parts by weight of VammarD10 in a basecoat composition yields unexpected reduction of pinholing, bubbles, swelling, and steam jet deterioration. *Id.* at 10–13.

The burden of establishing that unexpected results support a conclusion of nonobviousness rests with the Appellant. *In re Huang*, 100 F.3d 135, 139 (Fed. Cir. 1996). “[W]hen unexpected results are used as evidence of nonobviousness, the results must be shown to be unexpected compared with the closest prior art.” *In re Baxter Travenol Labs.*, 952 F.2d 388, 392 (Fed. Cir. 1991). “[I]t is not enough to show that results are obtained which differ from those obtained in the prior art: that difference must be shown to be an *unexpected* difference.” *See In re Klosak*, 455 F.2d 1077, 1080 (CCPA 1972) (emphasis in original). Additionally, the relied-upon results must be commensurate in scope with the claims. *See In re Peterson*, 315 F.3d 1325, 1329–31 (Fed. Cir. 2003). “Establishing that one (or a small number of) species gives unexpected results is inadequate proof, for ‘it is the view of [the CCPA] that objective evidence of non-obviousness must be commensurate in scope with the claims which the evidence is offered to support.’” *See In re Greenfield*, 571 F.2d 1185, 1189 (CCPA 1978) (quoting *In re Tiffin*, 448 F.2d 791, 792 (CCPA 1971)). Finally, “it is well settled that unexpected results must be established by factual evidence. ‘Mere argument or conclusory statements in the specification does not suffice.’” *See In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997) (quoting

*In re De Blauwe*, 736 F.2d 699, 705 (Fed. Cir. 1994)); *see also In re Pearson*, 494 F.2d 1399, 1405 (CCPA 1974) (“Attorney’s argument in a brief cannot take the place of evidence.”).

Here, Appellant relies on Table 2 of the Specification, which reports a decreased formation of pinholes in a single sample containing 1.5 wt.% VammarD10 relative to a sample containing no ether component. Appeal Br. 12–13; Spec. 18. *See also* Reply Br. 8–10. Appellant also points to the Steinmetz Declaration, which compares bubble, swelling, and steam jet assessment properties for three samples having VammarD10 at 0 wt.%, 1.5 wt.% and 6 wt.%, respectively. Appeal Br. 12–13; Decl. 5. Thus, Appellant’s evidence concerns three compositional data points with regard to ether concentration, only one of which is within the range recited in claim 1.

The Examiner finds Appellant’s evidence not commensurate in scope with the claims and insufficient to demonstrate that the reported results would have been unexpected. Ans. 5. We agree. Claim 1 encompasses any pigmented curable aqueous basecoat material, any curable clearcoat material, and a range of materials encompassed by formula (I). Appellant’s showing presents data concerning only a single composition, at different VammarD10 concentrations. Appellant does not point us to persuasive evidence to show that any results reported in the Specification or the Declaration would reasonably have been expected to be representative of other basecoat materials, clearcoat materials, and ethers within formula (I). Likewise, Appellant does not point us to persuasive evidence to show that a single ether concentration within the claimed range would reasonably have been expected to be representative of the entire range. Nor does Appellant

point us to persuasive evidence that any of the reported results purportedly attributable to VammarD10 concentration would have been unexpected. To the contrary, Appellant acknowledges that “Brenke teaches that the addition of 1 to 20 wt.% of a polyalkylene glycol dialkyl ether improves pinholing resistance.” Appeal Br. 11. Appellant’s reported properties of swelling, bubble formation and steam jet assessment are not discussed in the Specification. Moreover, Appellant’s data for these properties appear to show no swelling, no bubbles, and no deterioration under steam jet assessment for sample I1 which included VammarD10 at a concentration within the range recited in claim 1 and sample I1 which did not include VammarD10. *See* Decl. 5, 6.

Having considered the totality of the evidence presented, including Appellant’s argument and data relied upon to show unexpected results, we are not persuaded of reversible error in the Examiner’s obviousness determination.

Rejection I as applied to claim 1 is sustained.

*Claims 5 and 20*

Claims 5 recites that  $n$  in formula (I) is 0 to 2, and claim 20 recites that  $n$  is 0. Appellant contends that Brenke discloses ether co-solvents corresponding to formula (I) where  $n$  is 3 to 10. Appeal Br. 43 (“In Brenke’s polyalkylene glycol dialkyl ether co-solvents corresponding to formula (I) of claim 1,  $n$  is 3 to 10.”). *See also* Reply Br. 5–7. However, the Examiner relies on VammarD10 as evidence of a known ether co-solvent suitable for use in Baugh. Final Act. 3 (determining “it would have been obvious for someone of ordinary skill in the art to look at suitable ether co-solvents such



as Vammar™ D10 and use it in the composition of Baugh because it is known as suitable for paint compositions”). Appellant does not dispute that VammarD10 satisfies formula (I) as is recited in either claim 5 or 20.

For the foregoing reasons, Rejection I as applied to each of claims 5 and 20 also is sustained.

*Rejection II: obviousness of claims 18, 20, and 21*

With regard to the Examiner’s rejection of claims 18, 20, and 21 over Sapper, Brenke, and VammarD10, Appellant presents the same arguments as are presented in connection with Rejection I. *See* Appeal Br. 13–14. Accordingly, we sustain Rejection II for the reasons given above in connection with Rejection I.

*Rejection III: obviousness of claim 19*

Claim 19 requires that the recited basecoat includes a polyester and polyurethane (meth) acrylate having specified molecular weight. Appellant argues the Examiner applied impermissible hindsight in picking and choosing these materials from those listed in the prior art. Appeal Br. 42–43. The Examiner finds Lamers teaches that the recited polystyrene polymers “provide for good physical properties such as adhesion, solvent resistance and appearance.” Final Act. 7. The Examiner additionally finds Fieberg teaches that the recited polyurethane (meth) acrylate produces coating compositions having long term stability. *Id.* Appellant does not challenge these findings. The Examiner’s identification of a reason to provide the selected materials is contrary to Appellant’s allegation of impermissible hindsight.

Rejection III also is sustained.

### CONCLUSION

The Examiner's decision rejecting claims 1–5, 16, and 18–21 is affirmed.

### DECISION SUMMARY

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1–5, 16, 20	103(a)	Baugh, VammarD10, Brenke, Hoy	1–5, 16, 20	
18, 20, 21	103(a)	Sapper, Brenke, VammarD10	18, 20, 21	
19	103(a)	Sapper, Brenke, VammarD10, Lamers, Fieberg	19	
<b>Overall outcome</b>			1–5, 16, 18–21	

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