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JOHNS MANVILLE 10100 WEST UTE AVENUE PO BOX 625005 LITTLETON, CO 80162-5005			PIZIALI, ANDREW T	
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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* DUANE PARADIS and MANDY B. SCHWEITZER

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Appeal 2019-002870  
Application 13/973,680  
Technology Center 1700

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Before LINDA M. GAUDETTE, JAMES C. HOUSEL, and  
JANE E. INGLESE, *Administrative Patent Judges*.

GAUDETTE, *Administrative Patent Judge*.

DECISION ON APPEAL<sup>1</sup>

The Appellant<sup>2</sup> appeals under 35 U.S.C. § 134(a) from the Examiner’s decision finally rejecting claims 5, 9, 10 and 12–16 under 35 U.S.C. § 103(a) as unpatentable over Harkins (US 4,698,258, issued October 6, 1987) in

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<sup>1</sup> This Decision includes citations to the following documents: Specification filed (“Spec.”); Final Office Action dated May 22, 2018 (“Final”); Appeal Brief filed October 19, 2018 (“Appeal Br.”); Examiner’s Answer dated December 31, 2018 (“Ans.”); and Reply Brief filed February 22, 2019 (“Reply Br.”).

<sup>2</sup> We use the word “Appellant” to refer to the “Applicant” as defined in 37 C.F.R. § 1.42. The Appellant identifies the real party in interest as Johns Manville. Appeal Br. 1.

view of Gluck (US 4,572,865, issued February 25, 1986) and von Kwiatkowski (US 4,774,107, issued September 27, 1988).<sup>3, 4</sup>

We AFFIRM.

### CLAIMED SUBJECT MATTER

The invention relates to a composite board containing glass fiber mat and a method of manufacture therefor. Claim 13, reproduced below, is illustrative of the claimed subject matter:

13. A method of making a composite board comprising:

providing a first glass fiber mat having an upper surface and a lower surface;

applying a first binding composition to the upper surface of the first glass fiber mat which penetrates into the glass fiber mat beyond the upper surface;

applying a second binding composition to the lower surface of the first glass fiber mat which penetrates into the first glass fiber mat beyond the lower surface;

injecting a thermosetting polymer foam onto the upper surface of the first glass fiber mat;

providing a second glass fiber mat having an upper surface and a lower surface;

applying a third binding composition to the upper surface of the second glass fiber mat which penetrates into the second glass fiber mat beyond the upper surface;

applying a fourth binding composition to the lower surface of the second glass fiber mat which penetrates into the second glass fiber mat beyond the lower surface;

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<sup>3</sup> We have jurisdiction under 35 U.S.C. § 6(b).

<sup>4</sup> The Examiner has withdrawn the rejection of claims 5, 9, 10 and 12–16 under 35 U.S.C. § 103(a) as unpatentable over Gluck in view of Harkins and von Kwiatkowski. Ans. 3.

wherein the viscosities of the first, second, third and fourth binding compositions are controlled such that the air permeability of both the first glass fiber mat and the second glass fiber mat is at least 300 seconds for 300 cubic centimeters of air to pass through 1 square inch;

*maintaining the second glass fiber mat spaced apart from the thermosetting polymer foam prior to heating and curing the thermosetting polymer foam; and*

*heating the thermosetting polymer foam until the thermosetting polymer foam cures, adheres to the upper surface of the first glass fiber mat, and rises to the lower surface of the second glass fiber mat and adheres to the lower surface of the second glass fiber mat.*

Appeal Br. 14–15 (Claims Appendix) (emphasis added).

#### OPINION

The Appellant argues the claims as a group. *See generally* Appeal Br. 3–8. Accordingly, we decide the appeal as to all claims subject to the rejection on the basis of claim 13. *See* 37 C.F.R. § 41.37(c)(iv).

The Examiner found that Harkins discloses Appellant’s claimed method of making a composite board comprising first and second fiber mats and a thermosetting polymer foam with the exception of the last two steps of “maintaining” and “heating.” Final 3; *see* claim 13 (italicized language) *supra*. The Examiner found that Gluck discloses a method of making a composite board that includes the claimed “maintaining” and “heating” steps, and discloses that these steps are useful in controlling board thickness, providing flat board surfaces, and securely interlocking a thermosetting foam with fibrous layers. *Id.* (citing Gluck 4:19–30, 8:11–9:7). Based on Gluck’s disclosure of these benefits, the Examiner found that one of ordinary skill in the art at the time of the invention would have modified

Harkins's method by maintaining the second glass fiber mat spaced apart from the thermosetting polymer foam prior to heating, and by curing the thermosetting polymer foam such that the foam rises to the lower surface of the second glass fiber mat. *Id.* at 3–4; *see* claim 13 (italicized language) *supra* p. 3.

The Appellant argues that Harkins and Gluck utilize entirely different methods and that the ordinary artisan would not have combined their teachings. *See generally* Appeal Br. 5–7. The Appellant contends that Harkins utilizes mats that are of a closed nature, i.e., mats that have been impregnated fully with binding compositions such that they have limited air permeability. *Id.* at 6–7. The Appellant argues that Harkins adds, e.g., laminates, the second mat to the composite board only after applying a foamed layer to the first mat and curing the layer. *Id.* at 6. The Appellant contends that Gluck's method requires mats that are of an open nature, so that when a foamed layer is added, the foam penetrates the mats. *Id.* at 7. In other words, Gluck's "method must involve glass mats that do not meet the air permeability requirements of the mats in the present claimed method." *Id.* The Appellant thus argues that "[t]he two references cannot be combined as suggested by the Examiner without destroying the very essence of at least one of the methods taught." *Id.*

The Appellant's arguments do not persuade us of reversible error in the Examiner's conclusion of obviousness. As noted by the Examiner, the Appellant's argument that Gluck requires mats that are of an open nature—a higher porosity than claimed—is not supported by Gluck's disclosure. Ans. 7. To the contrary, Gluck discloses a method that may be used with "a wide variety of fibrous layers or mats," including "more difficult[] penetrable

facing materials.” Gluck 16:45–58. Although the Appellant observes correctly that in Gluck’s process, the foamed layer material penetrates the glass mats to ensure secure interlocking (Appeal Br. 5), Gluck clearly counsels against “excessive penetration which would be wasteful” (Gluck 16:55–59).

Harkins discloses that a barrier coating applied to an impregnated fiber glass web provides a strong bond between the web and a foamed layer, and that the “layers tend to perform after fusion more like a homogeneous composite than a layered composite with marked delamination tendencies at the various interfaces.” Harkins 10:40–45. Given Harkins’s disclosure that a strong bond can be achieved without penetration of the foamed material into the glass web, and Gluck’s teaching that excessive penetration is wasteful, we are not persuaded of error in the Examiner’s finding that the ordinary artisan would have had a reasonable expectation of success in achieving a strong bond between Harkins’s coated fiber glass web and foamed layer when using Gluck’s method of maintaining the second glass fiber mat spaced apart from the thermosetting polymer foam prior to heating, and then curing the thermosetting polymer foam such that the foam rises to the lower surface of the second glass fiber mat.

The Appellant also has not shown error in the Examiner’s finding that the ordinary artisan would have been motivated to modify Harkins’s method to utilize Gluck’s maintaining and heating (curing) steps based on Gluck’s teaching that these steps are useful in controlling board thickness and providing flat board surfaces, both of which Harkins identifies as desirable. *See* Final 3; Gluck 8:53–9:3; Harkins 4:21–26, 33–40, 8:10–22; *see generally* Appeal Br. 4–7. We also observe that the Appellant does not

dispute the Examiner’s finding that “the binder impregnated glass fiber mats of Harkins inherently possess the claimed air permeability.” Final 5; *see generally* Appeal Br. 4–7.

Any arguments made by the Appellant in the Appeal and Reply Briefs, but not discussed explicitly in this decision, have been considered fully, but are not persuasive of reversible error for the reasons expressed in the Final, the Advisory Action dated August 1, 2018, and the Answer.

**CONCLUSION**

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
5, 9, 10, 12–16	103(a)	Harkins, Gluck, von Kwiatkowski	5, 9, 10, 12–16	

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**