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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* NICHOLAS FRANCIS BORRELLI and ZHIQIANG SHI<sup>1</sup>

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Appeal 2019-002293  
Application 14/660,230  
Technology Center 1700

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Before GEORGE C. BEST, MICHELLE N. ANKENBRAND, and  
CHRISTOPHER C. KENNEDY, *Administrative Patent Judges*.

KENNEDY, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1–7, 21, and 22. We have jurisdiction under 35 U.S.C. § 6(b). We AFFIRM.

BACKGROUND

The subject matter on appeal relates to methods of making sound absorbing panels. *E.g.*, Spec. ¶ 7; Claim 1. Claim 1 is reproduced below from page 12 (Claims Appendix) of the Appeal Brief:

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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. The Appellant identifies the real party in interest as Corning Incorporated. Br. 3.

1. A method of making a sound absorbing panel comprising the steps of:
  - a) applying a first mask having a first plurality of features to a first sheet of transparent photosensitive material to form a masked material;
  - b) exposing the masked material to ultraviolet light;
  - c) heating the first sheet of transparent photosensitive material to form crystals in exposed portions of the first sheet, the crystals comprising  $\text{Li}_2\text{SiO}_3$  crystals; and
  - d) etching the crystals to form a second plurality of features in the first sheet of transparent photosensitive material, wherein each of the second plurality of features has a diameter of up to about 60  $\mu\text{m}$ , and wherein the sound absorbing panel has a perforation ratio  $\sigma$  in a range from about 0.0025 to about 0.10.

#### ANALYSIS

Claims 1–7, 21, and 22 stand rejected under 35 U.S.C. § 103 as unpatentable over Flemming (US 2008/0248250 A1, published Oct. 9, 2008), Fuchs (US 5,700,527, issued Dec. 23, 1997), and Pfaffelhuber (US 2005/0133302 A1, published June 23, 2005). The Appellant argues the claims as a group. We select claim 1 as representative, and the remaining claims will stand or fall with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv).

After review of the cited evidence in the appeal record and the opposing positions of the Appellant and the Examiner, we determine that the Appellant has not identified reversible error in the Examiner’s rejection. Accordingly, we affirm the rejection for reasons set forth below, in the Final Action dated October 13, 2017, and in the Examiner’s Answer.

The Examiner finds that Flemming discloses a method of making glass structures with steps that correspond to the “applying,” “exposing,” “heating,” and “etching . . . to form . . . features” steps of claim 1. Final

Act. 4. The Examiner finds, however, that Flemming fails to disclose (1) that “the method can be utilized to make a sound absorbing panel,” *id.*, and (2) the diameter and perforation ratio of claim 1, *id.* at 6.

The Examiner finds that Fuchs discloses a method of making sound absorbing panels that include “microperforated holes” (i.e., a plurality of features). *Id.* at 5. The Examiner finds that Pfaffelhuber “discloses a method of producing a sound shielding element” that includes perforations that fall within the diameter and ratio requirements of claim 1. *Id.* at 6–7.

The Examiner determines that it would have been obvious to use Flemming’s feature forming method (i.e., the “applying,” “exposing,” “heating,” and “etching” steps) to make Fuchs’s sound absorbing panels because Flemming teaches that its method yields “improved throughput and accuracy.” *Id.* at 5; *see also* Ans. 4 (explaining the proposed combination as “utilizing the method of forming microstructures of Flemming to form the hole patterns of Fuchs/Pfaffelhuber”). The Examiner finds that it would have been obvious to use Pfaffelhuber’s diameter and perforation ratio in the sound absorbing panels because they are known suitable diameters and ratios in sound shielding materials and because they are known to “lead[] to absorption of incident [sound] waves.” Final Act. 7.

The Appellant first argues that Flemming’s glass structures “are hollow micro-needle arrays for transdermal drug delivery or the withdrawal of body fluids,” and that it would not have been obvious to modify Flemming’s needles into sound absorbing panels “because such a modification would render the glass structures of Flemming unsatisfactory for their intended purpose of being hollow micro-needles.” Br. 8. The Appellant also argues that modifying Flemming’s needles to be sound

absorbing panels “would change the principle of operation of Flemming by creating features suitable for sound-absorbing functions, as opposed to creating hollow micro-needles.” *Id.* at 8–9.

Those arguments are not persuasive. To the extent that the Final Action lacks clarity as to the Examiner’s proposed modification, *see* Final Act. 4–7, the Examiner’s Answer makes clear that the Examiner is proposing to form the microperforated holes of Fuchs’s sound absorbing panels using the known method of forming microfeatures that Flemming discloses. *E.g.*, Ans. 4 (explaining the proposed combination as “utilizing the method of forming microstructures of Flemming to form the hole patterns of Fuchs/Pfaffelhuber”). The Examiner is not proposing to convert Flemming’s needles into sound absorbing panels. The Appellant did not file a Reply Brief to contest the Examiner’s rationale as clarified in the Answer. On this record, we are not persuaded of reversible error in the rejection on the basis of the Appellant’s arguments concerning intended purpose or principle of operation. *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 . . .”).

The Appellant also argues that, because neither Fuchs nor Pfaffelhuber teaches forming holes by masking and etching, “there is no teaching, motivation, or suggestion” to make the proposed combination, and “Fuchs and Pfaffelhuber teach away from the method of Flemming.” Br. 9.

Those arguments are not persuasive because they attack the references individually. *See In re Keller*, 642 F.2d 413, 426 (CCPA 1981) (“[O]ne cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references.”). The

Examiner finds that a person of ordinary skill would have been motivated to use Flemming's method to form Fuchs's sound absorbing panels because Flemming teaches increased throughput and accuracy. *E.g.*, Final Act. 5; Ans. 4. The Appellant does not address or otherwise identify error in that rationale.

As to the Appellant's "teach away" argument, *see* Br. 9, the Appellant fails to identify any disclosure in any reference that criticizes, disparages, or otherwise teaches away from Flemming's method of forming features, which are recited in claim 1. *See In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004). That Fuchs and Pfaffelhuber do not disclose the same method of forming features as Flemming or claim 1 does not constitute a teaching away. *See id.* ("The prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of the[] [disclosed] alternatives . . .").

Finally, the Appellant argues that "none of the references cited teaches or suggests" the formation of  $\text{Li}_2\text{SiO}_3$  crystals, as claim 1 requires. Br. 9. The Appellant acknowledges that "Flemming teaches forming and etching crystals," but argues that Flemming "does not specify the composition of said crystals." *Id.* The Appellant does not argue that it would not have been obvious to use Flemming's glass in the panels of Fuchs or Pfaffelhuber.

Although the Appellant is correct that the Examiner does not specifically address the formation of  $\text{Li}_2\text{SiO}_3$  crystals in the Final Action, in the Answer the Examiner finds that, because the glass Flemming teaches has "substantially similar chemical components" as glass the Specification discloses, and because Flemming teaches a heating step at temperatures that

encompass temperatures the Specification discloses, the formation of  $\text{Li}_2\text{SiO}_3$  would necessarily flow from practicing Flemming's method using glass that Flemming teaches as suitable for its method. Ans. 6–7; *cf. Ex parte Obiaya*, 227 USPQ 58, 60 (BPAI 1985) (“The fact that appellant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious.”).

Consistent with the Examiner's findings, Flemming discloses suitable glasses that include ingredients (e.g.,  $\text{SiO}_2$ ,  $\text{Li}_2\text{O}$ ,  $\text{CeO}_2$ ,  $\text{Ag}_2\text{O}$ ) and quantities of ingredients comparable to those the Specification discloses as suitable. Compare Flemming ¶ 103 (Table 2), with Spec. ¶¶ 30–31. Flemming also discloses heating temperatures that encompass exemplary temperatures the Specification discloses. Compare Flemming ¶ 11, with Spec. ¶ 31. The Appellant did not file a Reply Brief to contest the Examiner's relevant findings, which are consistent with the record. Accordingly, we are not persuaded of reversible error in the Examiner's rejection on the basis of the Appellant's arguments concerning  $\text{Li}_2\text{SiO}_3$ . See *Jung*, 637 F.3d at 1365.

We affirm the Examiner's rejection of claim 1. Because we affirm the rejection of claim 1, we also affirm the rejection of claims 2–7, 21, and 22.

## CONCLUSION

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>References</b>	<b>Affirmed</b>	<b>Reversed</b>
1–7, 21, 22	103	Flemming, Fuchs, Pfaffelhuber	1–7, 21, 22	

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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