

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* GREGORY A. BRANDT and JOHN B. LETTS

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Appeal 2014-002723  
Application 13/652,858<sup>1</sup>  
Technology Center 3600

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Before PATRICK R. SCANLON, MICHELLE R. OSINSKI, and  
BRUCE T. WIEDER, *Administrative Patent Judges*.

WIEDER, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the Examiner's rejection of claims 1 and 3.<sup>2</sup> We have jurisdiction under 35 U.S.C. § 6(b). An oral hearing was held on June 23, 2016.

We AFFIRM.

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<sup>1</sup> According to Appellants, the real party in interest is Firestone Building Products Company, LLC. (Appeal Br. 3.)

<sup>2</sup> Claims 2, 4, and 5 were cancelled by the Amendment filed August 20, 2013, that was entered by the Examiner in the Advisory Action mailed September 5, 2013.

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### CLAIMED SUBJECT MATTER

Appellants' claimed "invention is directed toward high density polyurethane or polyisocyanurate construction boards and composite boards, as well as their use in flat or low-slope roofing systems." (Spec. ¶ 2.)

Claims 1 and 3 are the independent claims on appeal. Claim 1 is representative and is reproduced below (emphasis added):

1. A covered roof comprising:
  - (a) a roof deck;
  - (b) an insulation board including a polyurethane, a polyisocyanurate, or a mix of polyurethane and polyisocyanurate cellular structure, said insulation board having a density that is less than 2.5 pounds per cubic foot; and
  - (c) a coverboard including a polyurethane, a polyisocyanurate, or a mix of polyurethane and polyisocyanurate cellular structure, *said coverboard having a density greater than 2.5 pounds per cubic foot and less than 6 pounds per cubic foot* and a first planar surface and a second planar surface, said first planar surface and said second planar surface each having a facer positioned adjacent thereto.

### REJECTIONS

Claims 1 and 3 are rejected under 35 U.S.C. § 103(a) as unpatentable over Griffin (US 2006/0096205 A1, pub. May 11, 2006), Letts (US 5,891,563, iss. Apr. 6, 1999), and Lynn (US 6,093,481, iss. July 25, 2000).

### ANALYSIS

"Flat or low-slope roofs are often covered with multi-layered roofing systems. These roofing systems often include a roof deck, an insulation layer, and a protective, weather-resistant membrane. In some situations, a coverboard is also employed." (Spec. ¶ 3.) "The foam insulation boards are

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typically low density cellular structures.” (*Id.* ¶ 4.) “Coverboards are typically used to add integrity to the roof. . . . [T]he coverboard . . . provides protection to the insulation board, which is prone to denting or damage due to the fact that the insulation boards are low density cellular materials.” (*Id.* ¶ 5.)

In relevant part, claim 1 recites an insulation board having a density less than 2.5 pounds per cubic foot and a coverboard having a density greater than 2.5 pounds per cubic foot and less than 6 pounds per cubic foot.

Griffin discloses an insulation board having “a density less than 6 lbs/ft<sup>3</sup>, . . . and typically [having] a density between about 1 lbs/ft<sup>3</sup> and about 3 lbs/ft<sup>3</sup>.” (Griffin ¶ 24; *see* Final Action 2.) Griffin also discloses a coverboard having “a density between 6 lbs/ft<sup>3</sup> and 25 lbs/ft<sup>3</sup>.” (Griffin ¶ 23; *see* Final Action 3.)

Appellants argue “that Griffin requires that the coverboard have a density of at least 6 lbs/ft<sup>3</sup>” and that “Appellants’ claims are limited to a specific range where the density is greater than 2.5 pounds per cubic foot and less than 6 pounds per cubic foot.” (Appeal Br. 8.) Therefore, Appellants argue, “the claimed density range is distinct from the density range taught by Griffin.” (*Id.* at 9, emphasis omitted.)

A “claimed invention is rendered *prima facie* obvious by the teachings of a prior art reference that discloses a range that touches the range recited in the claim.” *In re Geisler*, 116 F.3d 1465, 1469 (Fed. Cir. 1997), citing *In re Malagari*, 499 F.2d 1297, 1303 (CCPA 1974). In this case, the claimed range for insulation board overlaps the range for insulation board disclosed in Griffin. (*See* Griffin ¶ 24.)

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The claimed range for the coverboard (at the high end being “less than 6 pounds per cubic foot”) does not overlap the range for the coverboard disclosed in Griffin (at the low end being 6 pounds per cubic foot). (*See id.* ¶ 23.) However, “when the difference between the claimed invention and the prior art is the range or value of a particular variable, then a *prima facie* rejection is properly established when the difference in the range or value is minor.” *Haynes Int’l, Inc. v. Jessop Steel Co.*, 8 F.3d 1573, 1577 n.3 (Fed. Cir. 1993). Here, the Examiner finds that “[t]he difference between ‘at least 6 pounds per cubic feet’ compared to ‘less than 6 pounds per cubic feet’ is virtually negligible.” (Answer 4.) We agree. Indeed, in this case, the difference could not be smaller. Therefore, the Examiner has presented a *prima facie* case of obviousness. *See Titanium Metals Corp. of Am. v. Banner*, 778 F.2d 775, 783 (Fed. Cir. 1985).

As [the Federal Circuit] has explained, “[o]ne way for a patent applicant to rebut a *prima facie* case of obviousness is to make a showing of ‘unexpected results,’ *i.e.*, to show that the claimed invention exhibits some superior property or advantage that a person of ordinary skill in the relevant art would have found surprising or unexpected.” *In re Soni*, 54 F.3d 746, 750, 34 USPQ2d 1684, 1687 (Fed.Cir.1995).

*In re Geisler*, 116 F.3d at 1469. Appellants, however, present no persuasive evidence of such unexpected results.

Appellants additionally argue that “Griffin teaches against coverboards that have a density less than 6 lbs/ft<sup>3</sup>.” (Appeal Br. 12.) Specifically, Appellants argue that “Griffin cannot teach that insulation boards can be ‘less than 6 lbs/ft<sup>3</sup>’ (e.g., 5.9 lbs/ft<sup>3</sup>), teach that these need protection by use of a coverboard, and at the same time suggest to a person skilled in the art that the coverboards can have a density less than 6 lbs/ft<sup>3</sup>.”

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(*Id.*) Appellants' argument suggests that some critical board property changes at a density of precisely 6 pounds per cubic foot. But Appellants present no evidence to support such a suggestion. "The prior art's mere disclosure of more than one alternative [e.g., a range] does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed." *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004).

To the extent Appellants may be arguing that one of skill in the art would not be motivated to provide Griffin's coverboard with the same or lower density than Griffin's insulation board (e.g., a coverboard with density of 5.99 lbs/ft<sup>3</sup> and an insulation board with density of 5.99 lbs/ft<sup>3</sup>), we note that Griffin's disclosure of insulation board having "a density less than 6 lbs/ft<sup>3</sup>" specifically contemplates insulation board "preferably less than 4 lbs/ft<sup>3</sup>, and typically a density between about 1 lbs/ft<sup>3</sup> and about 3 lbs/ft<sup>3</sup>" (Griffin, ¶ 24) such that a slight change in the density of Griffin's coverboard would not necessarily result in a coverboard with the same or lower density than its insulation board. In addition, Appellants point to no evidence in the record suggesting that one of ordinary skill in the art would have expected a coverboard with density of 5.99 lbs/ft<sup>3</sup> to have different properties than a coverboard with density of 6.00 lbs/ft<sup>3</sup>.

In view of the above, Appellants have not persuaded us that the Examiner erred in rejecting claim 1. Claim 3 contains similar language and is not separately argued. Thus, for the same reasons, we are not persuaded that the Examiner erred in rejecting claim 3.

Appellants' other arguments have been considered but are not deemed persuasive of error.

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**DECISION**

The Examiner's rejection of claims 1 and 3 under 35 U.S.C. § 103(a) is affirmed.

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**