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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/483,730	06/12/2009	Harrison MURPHY	001339.00004.US01	9837
30827	7590	11/30/2016	EXAMINER	
Dentons US LLP 1900 K. Street, N.W. Washington, DC 20006			CONLEY, FREDRICK C	
			ART UNIT	PAPER NUMBER
			3673	
			NOTIFICATION DATE	DELIVERY MODE
			11/30/2016	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte HARRISON MURPHY and
JURAJ MICHAL DANIEL SLAVIK II

Appeal 2014-009405
Application 12/483,730
Technology Center 3600

Before: GEORGE R. HOSKINS, LEE L. STEPINA, and
FREDERICK C. LANEY, *Administrative Patent Judges*.

STEPINA, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Harrison Murphy and Juraj Michal Daniel Slavik II (“Appellants”) appeal under 35 U.S.C. § 134 from the Examiner’s decision to reject claims 1–27. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

CLAIMED SUBJECT MATTER

The claims are directed to halogen-free institutional mattresses and similar articles. Spec. 1 (Field of the Invention). Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A mattress, mattress foundation, or set thereof for reducing creation or release of hazardous halogen by-products when subjected to thermal decomposition, comprising:
 - a fluid resistant outer cover;
 - a fire barrier fabric; and
 - a core,wherein chlorine and bromine are not detected according to BS EN14582:2007 in each of said cover, fire barrier, and core.

Appeal Br. 15 (Claims App.).

REFERENCES

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Balk	US 5,733,944	Mar. 31, 1998
DeFranks	US 7,827,637 B2	Nov. 9, 2010
Nahmias	US 2006/0252329 A1	Nov. 9, 2006

REJECTIONS

(I) Claims 1–5, 7–14, 16–23, and 25–27 are rejected under 35 U.S.C. § 103(a) as unpatentable over DeFranks and Nahmias.

(II) Claims 6, 15, and 24 are rejected under 35 U.S.C. § 103(a) as unpatentable over DeFranks, Nahmias, and Balk.

OPINION

Rejection (I)

Appellants argue independent claims 1, 10, and 19 as a group (*see* Appeal Br. 7–13), and we take claim 1 as representative (*see* 37 C.F.R. § 41.37(c)(1)(iv)).

The Examiner finds that DeFranks discloses most of the features recited in claim 1, but fails to disclose that its structure is provided with “a negligible range of chlorine and bromine” as required by claim 1. Non-Final Act. 2–3. However, the Examiner finds that Nahmias discloses a material having negligible amount of chlorine and bromine, and the Examiner reasons that it would have been obvious to modify DeFranks to have this characteristic, yielding predictable results and providing “a suitable halogen[-]free¹ material that is well within the disclosed range taught by Nahmias.” Non-Final Act. 3. In the Answer, the Examiner elaborates on this determination, stating:

[Nahmias] discloses a material being free of halogens such as chlorine and bromine (paragraph [0062]). [Nahmias] further identifies the problem “that the additives to PVC do not always stay bound to the PVC. Additives can be lost to the air, washed out, consumed by microbes, and/or pass into other materials by direct contact. For example, depending on the temperature, PVC can give off chlorine, a gas that is generally harmful to humans” (paragraph [0006]). [Nahmias] discloses that the problem of chlorine gas has been well known.

Ans. 6. Thus, the Examiner finds that in addition to teaching a halogen-free material, Nahmias teaches that chlorine gas is harmful, and providing “mattress components that are halogen[-]free [] reduces the incidence and presence of harmful chlorine gas[, which] have been long recognized as

¹ Chlorine and bromine are members of the halogen group. Nahmias ¶ 62.

harmful to humans and present significant indoor air quality issues as explicitly taught by [Nahmias].” Ans. 7.

Appellants assert, “Nahmias does not disclose a material having undetected levels of chlorine and bromine, as required by claims 1, 10, and 19. Indeed, Nahmias expressly provides embodiments of laminate materials that contain halogen in the adhesive or flame resistant chemical additives. *See* Nahmias, ¶¶ [0083]–[0084].” Appeal Br. 8. Appellants further state, “Nahmias’ only disclosure of ‘a halogen-free material’ is in [0062] and is directed solely at top layer 12.” Appeal Br. 8; *see also* Reply Br. 3–5.

We do not agree with Appellants’ assertions that Nahmias does not disclose material with undetected levels of chlorine and bromine, or that the disclosure of such material is limited to top layer 12 of laminate 10. In this regard, Nahmias states:

To ensure that the overall laminate 10 remains halogen-free, it is helpful to use an FR chemical in the phosphate family (FR chemicals in the phosphate family do not necessarily contain halogens). FR chemicals containing halogens can, however, be usable if they are properly applied and configured to reduce likelihood of outgassing or other problems.

Nahmias ¶ 83 (emphasis added); *see also id.* ¶ 84 (discussing halogen-free backing layer 18 and halogen-free web layer 22). Thus, Appellants’ contention regarding the allegedly limited extent of Nahmias disclosure is not correct. Further, the Examiner’s rationale, to reduce human exposure to harmful materials such as chlorine gas (*see, e.g.*, Ans. 6–8) is supported by rational underpinnings in light of Nahmias’ teaching that chlorine gas is harmful and that providing a halogen-free laminate is beneficial (*see, e.g.*, Nahmias ¶¶ 62, 83–84, 123).

Appellants also assert that Nahmias is non-analogous art. Appeal Br. 8–10. Specifically, Appellants contend “Nahmias is not reasonably pertinent to the particular problem with which the claimed invention is meant to solve” because

Nahmias is directed to a problem of limiting the “offgassing” of halogens in laminated materials, such as wall coverings. Nahmias accomplishes this by treating the first layer or film of a multi-layer laminated article with FR chemistry that does not contain halogens. This is contrary to the problem being solved by the claimed invention of preventing a detectable amount of chlorine and bromine according to BS EN14582:2007 in each of said cover, fire barrier, and core of a mattress.

Appeal Br. 10.² Contrary to the statement above, in the Reply Brief, Appellants contend that the problem with which Appellants are concerned is “reducing the creation or release of hazardous halogen by-products when subjected to *thermal decomposition*,” and because Nahmias teaches halogen-free material used only in the top layer, the Nahmias laminate would release halogen if it were burned. Reply Br. 5 (emphasis added).

In response, the Examiner states, “[Nahmias] is reasonably pertinent to the particular problem of the release of harmful chlorine gas and air quality with which the Appellant was concerned.” Ans. 9. We agree with the Examiner on this point. Appellants define the problem to be solved in terms of providing three different halogen-free components, i.e., a cover, fire barrier, and core of a mattress. Appellants do not explain persuasively why Nahmias teaching that chlorine gas is harmful and further teaching to provide top layer 12 free of halogen are not pertinent to this problem. In other words, Appellants do not provide any persuasive evidence or technical

² Neither of independent claims 10 or 19 recites a mattress.

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explanation as to why making the claimed components halogen-free is so different from making top layer 12 of Nahmias halogen-free that Nahmias is not reasonably pertinent to Appellants' claimed arrangement. In any event, contrary to Appellants' contention, Nahmias teaches providing *three* halogen-free layers in laminate 10. *See* Nahmias ¶¶ 83–84, 123.

Appellants also contend that “Nahmias is not from the same field of endeavor as a mattress that is free of halogens” and “Nahmias does not even disclose a mattress. Instead, Nahmias broadly provides that the invention may be applied or adapted to a variety of household goods, such as ‘mattress pads.’” Appeal Br. 9. In this regard, Appellants contend that mattress pads and mattresses are “entirely different” from each other. Appeal Br. 9–10.

We are not persuaded on this issue. Nahmias teaches the reduction or elimination of halogens in household goods and specifically mentions “mattress pads.” Nahmias ¶¶ 46–47. Although Appellants contend that mattress pads are formed with different components from mattresses, and mattress pads are used on top of a mattresses (*see* Appeal Br. 9–10), Appellants do not persuasively explain why the use of different components (or the use of mattresses and mattress pads in combination with each other) differentiates the field of mattresses from the field of mattress pads from an analogous art perspective. This prong of the test for analogous art determines whether the art and the claimed invention are from the same *field* of endeavor, not whether the art and claimed invention have an identical structure and use. Further, claim 1 is not directed solely to a mattress. Rather, claim 1 recites “[a] mattress, mattress foundation, or set thereof.” Appellants' Specification states, “[a] mattress foundation comprises any surface such as foam, box springs or other, upon which a mattress is placed to lend it support for use in sleeping upon.” Spec. 9. Appellants do not

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explain persuasively why a mattress pad as taught by Nahmias is not in the same field as mattresses and mattress foundations.

Regarding the phrase “for reducing creation or release of hazardous halogen by-products when subjected to thermal decomposition” in the preamble of claim 1, the Examiner states, “a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.” Non-Final Act. 5.

Appellants argue

the prior art simply teaches the individual components and that it would allegedly have been obvious to have each of the components consist of chlorine and bromine as taught by the prior art, but fails to mention the necessity of all the components being halogen free to reduce creation or release of hazardous halogen by-products when the components are subjected to thermal decomposition.

Appeal Br. 11. In this regard, Appellants discuss *In re Omeprazole Patent Litigation*, 536 F.3d 1361 (Fed. Cir. 2008) and other cases, and assert they discovered a problem in the prior art (that burning products that contain halogens, such as institutional mattresses, produces harmful byproducts), and “discovery of a previously unknown problem by the patentee is basis for a conclusion of **non-obviousness**.” Appeal Br. 10–13.

The Examiner finds that Nahmias discloses that it was known for over thirty years that halogen by-products were harmful to humans. Ans. 10. In this regard, the Examiner states, “[it is] unclear how the Appellant discovered a problem that hasn’t already been known when even the Appellant’s own claim relies upon a known standard or measurable quantity such as a standard destructive analysis of BS EN14582:2007.” Ans. 10.

In reply, Appellants argue that “[t]he creation and/or release of hazardous halogen by-products by thermal decomposition was not a concern, nor is it taught by Nahmias, and therefore was not known for over thirty years as alleged by the Examiner.” Reply Br. 6. Appellants argue that Nahmias is concerned with indoor air quality and not an environment that would be affected by the burning of a material. Reply Br. 6. As for the BS EN14582:2007 standard recited in claim 1, Appellants argue that the existence of a standard for determining whether a material is characterized as halogen-free is different from the discovery that burning products such as institutional mattresses or similar items that contain halogen releases harmful halogen by-products. Reply Br. 7.

Although a combination of old elements may be nonobvious in view of the discovery of a previously-unknown problem (*see Omeprazole*, 536 F.3d at 1379–81), we find unpersuasive Appellants’ argument regarding the phrase “for reducing creation or release of hazardous halogen by-products when subjected to thermal decomposition” in the preamble of claim 1. In *Omeprazole*, the Federal Circuit agreed with the district court’s conclusion of nonobviousness based on that court’s finding that a person of ordinary skill in the art would not have seen any reason to combine the prior art elements to obtain the claimed invention. *See id.* at 1380–81. In this case, however, the Examiner identifies an adequate reason for modifying DeFranks as proposed, namely, that Nahmias teaches that chlorine gas is harmful to humans, and providing a mattress free of halogens would reduce the exposure of a user to harmful chemicals. The Examiner’s proposed combination of DeFranks and Nahmias results in an arrangement that satisfies the structural limitations recited in claim 1. This structure also satisfies the functional requirement of “reducing creation or release of

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hazardous halogen by-products when subjected to thermal decomposition” inasmuch as the cover, fire barrier, and core of the Examiner’s proposed combination provides that “chlorine and bromine are not detected according to BS EN14582:2007 in each of said cover, fire barrier, and core” as recited in claim 1.³

We have reviewed all of Appellants’ arguments for the patentability of independent claims 1, 10, and 19, but we find them to be unpersuasive. Appellants make no separate arguments for claims 2–5, 7–9, 11–14, 16–18, 20–23, and 25–27. Accordingly, we sustain the Examiner’s rejection of claims 1, 10, and 19 and corresponding dependent claims 2–5, 7–9, 11–14, 16–18, 20–23, and 25–27 as unpatentable over DeFranks and Nahmias.

Rejection (II)

Appellants rely on the arguments made for the patentability of claims 1, 10, and 19 to address Rejection (II). *See* Appeal Br. 13. Accordingly, claims 6, 15, and 24 fall with claims 1, 10, and 19, from which they depend.

DECISION

The Examiner’s decision to reject claims 1–27 is affirmed.

³ We need not reach the question of whether this functional language, in the *preamble* of claim 1, limits the scope of this claim because the Examiner’s proposed combination fully satisfies this language. In other words, even assuming for the purposes of argument, that the language in the preamble of claim 1 carries the same weight as the language in the body of claim 1, the Examiner’s proposed combination still meets all the requirements of claim 1.

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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). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED