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Vorys, Sater, Seymour and Pease LLP 1909 K St., NW 9th Floor WASHINGTON, DC 20006-1152			FREEMAN, JOSHUA E	
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JAMES M. LORENZO and ROBERT A. PYLES

Appeal 2018-001185
Application 14/126,891
Technology Center 3600

Before STEFAN STAICOVICI, BRANDON J. WARNER, and
ALYSSA A. FINAMORE, *Administrative Patent Judges*.

WARNER, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1–22, which are all the pending claims. Appeal Br. 1. We have jurisdiction over the appeal under 35 U.S.C. § 6(b). An oral hearing, scheduled for September 19, 2019, was waived.

We AFFIRM.

¹ We use the word “Appellant” to refer to the “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Covestro LLC. Appeal Br. 1.

CLAIMED SUBJECT MATTER

Appellant’s disclosed invention “relates in general to blast and ballistic protection and more specifically to a polycarbonate laminate useful for protection against close-proximity blast, ballistic and severe storm events.” Spec., p. 1, ll. 10–12. Claims 1, 8, 15, and 22 are independent. Claim 1, reproduced below, is illustrative of the subject matter on appeal.

1. A laminate for protecting an object against one of a close-proximity blast, a ballistic event and a severe storm event, the laminate comprising:
 - two or more layers of polycarbonate; and
 - one or more layers of a thermoplastic polyurethane, wherein each layer of [] thermoplastic polyurethane is positioned in between two or more layers of polycarbonate.

EVIDENCE

The Examiner relied on the following evidence in rejecting the claims on appeal:

Pinckney	US 2011/0088541 A1	Apr. 21, 2011
Krause	US 8,011,146 B2	Sept. 6, 2011
Carberry	US 2012/0297964 A1	Nov. 29, 2012

REJECTION

The following rejection is before us for review:² Claims 1–22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Krause and Pinckney. Final Act. 2–4.

ANALYSIS

The Examiner determined that a combination of teachings from Krause and Pinckney renders obvious the subject matter recited in claims 1–22. *See* Final Act. 2–4. Appellant argues that the Examiner’s reasoning is insufficient to support the obviousness rejection. *See* Appeal Br. 6–8; Reply Br. 1–4. Appellant’s argument is unpersuasive.

In particular, Appellant asserts that “the layers in Krause are already bonded together by silicone, so there is no motivation to add a layer of thermoplastic polyurethane in between each layer of polycarbonate.” Appeal Br. 7; *see id.* at 6–8; *see also* Reply Br. 1–2 (same assertion). Upon review of the cited art, we agree with the Examiner that Krause discloses laminated window 120 being bonded to mullion 40 and pressure bar 80 with structural silicone adhesive, but that “Krause is silent [as] to how the layers of laminate armor are bonded together.” Ans. 5–6 (underlining omitted); *see also* Krause, Fig. 3 (depicting laminated window 120 being formed of

² We note that rejections of claims 1–4, 7–11, 14–17, and 21 under 35 U.S.C. § 103(a) as being unpatentable over Carberry, and of claims 5, 6, 12, 13, 18–20, and 22 under 35 U.S.C. § 103(a) as being unpatentable over Carberry and Pinckney, have been withdrawn by the Examiner “to expedite the appeal process” and thus are not before us for review as part of the instant appeal. Ans. 5; *see* Final Act. 4–8.

multiple layers, but not depicting any particular adhesive, such as structural silicone adhesive, disposed *between the layers*).

The Examiner found that Pinckney discloses a transparent laminate armor where the layers of laminate are bonded together with thermoplastic polyurethane layers disposed therebetween, as in the present claims. *See* Final Act. 2; *see also* Pinckney, Fig. 2 (depicting bonding material 18 between the layers of laminate), ¶ 18 (disclosing that the layers of laminate “[are] bonded together using either (1) a two-part epoxy material of negligible thickness, or (2) using an autoclave process with thermoplastic polyurethane (PU) adhesive layers,” where both known bonding materials are represented by numeral 18 in Figure 1).

Given the prior art teachings relied upon, we discern no error in the Examiner’s rationale that, “[w]hile Krause discloses adhesive along the edge as sufficient to bond the composite laminate to the resistant mullion 40 and pressure bar 80, Krause is silent [as] to how the individual layers of the composite armor 120 are bonded together,” such that “[i]t would be more securely held together if the entire interlayer was covered, as taught by Pinckney,” where “[t]he benefit would be more securely bonding the layers together prior to attachment to the mullion and pressure bar.” Ans. 6 (emphasis omitted).

As the Examiner correctly notes, our reviewing court has stated:

“[A]n implicit motivation to combine exists not only when a suggestion may be gleaned from the prior art as a whole, but when the ‘improvement’ is technology-independent and the combination of references results in a product or process that is more desirable, for example because it is stronger, cheaper, cleaner, faster, lighter, smaller, more durable, or more efficient. Because the desire to enhance commercial opportunities by

improving a product or process is universal-and even common-sensical-we have held that there exists in these situations a motivation to combine prior art references even absent any hint of suggestion in the references themselves. In such situations, *the proper question is whether the ordinary artisan possesses knowledge and skills rendering him capable of combining the prior art references.*”

Ans. 6–7 (quoting *DyStar Textilfarben GmbH & Co. v. C.H. Patrick Co.*, 464 F.3d 1356, 1368 (Fed. Cir. 2006)) (emphasis added).

Accordingly, we discern no error in the Examiner’s reasonable conclusion that “it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Krause such that the armor laminate had thermoplastic polyurethane interlayers, in view of Pinckney, to obtain the desired result of bonding all of the layers more securely together providing a more durable system.” Ans. 7.

Further, Appellant does not persuasively explain how the Examiner’s combination of incorporating a known laminate layer bonding material of thermoplastic polyurethane (from Pinckney) in between known polycarbonate laminate layers (from Krause) would have yielded unpredictable results or somehow been beyond the level of ordinary skill in the art. *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007). In this regard, Appellant’s assertions neglect to adequately consider that “[a] person of ordinary skill is also a person of ordinary creativity, not an automaton.” *KSR Int’l Co.*, 550 U.S. at 421. The analysis under 35 U.S.C. § 103 presumes not only common sense, but also skill in the art. *See In re Sovish*, 769 F.2d 738, 743 (Fed. Cir. 1985).

After careful consideration of the record before us, Appellant’s arguments do not apprise us of error in the Examiner’s factual findings,

which are supported by a preponderance of the evidence, or the Examiner's reasonable conclusion of obviousness, which is rationally articulated based on prior art teachings. In short, we sustain the rejection of claims 1–22 based on the reasoned positions set forth therein, and in light of the Examiner's thorough responses to Appellant's arguments. *See* Final Act. 2–4; Ans. 5–7.

DECISION

We AFFIRM the Examiner's decision rejecting claims 1–22 under 35 U.S.C. § 103(a) as being unpatentable over Krause and Pinckney.

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).

CONCLUSION

In summary:

Claims Rejected	Basis	Affirmed	Reversed
1–22	35 U.S.C. § 103(a) Krause and Pinckney	1–22	

AFFIRMED