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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/321,288	07/01/2014	Kent LINDGREN	1033462-000359	3240
21839	7590	06/04/2020	EXAMINER	
BUCHANAN, INGERSOLL & ROONEY PC POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			ROLLAND, ALEX A	
			ART UNIT	PAPER NUMBER
			1796	
			NOTIFICATION DATE	DELIVERY MODE
			06/04/2020	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KENT LINDGREN,
HANS PERSSON, and GÖRAN ZIEGLER

Appeal 2019-002985
Application 14/321,288
Technology Center 1700

Before GEORGE C. BEST, CHRISTOPHER C. KENNEDY, and
DEBRA L. DENNETT, *Administrative Patent Judges*.

DENNETT, *Administrative Patent Judge*.

DECISION ON APPEAL¹

¹ In our Decision, we refer to the Specification (“Spec.”) of Application 14/321,288 (“the ’288 Appn.”) filed July 1, 2014; the Final Office Action dated July 30, 2018 (“Final Act.”); the Appeal Brief filed Nov. 19, 2018 (“Appeal Br.”); the Examiner’s Answer dated Jan. 23, 2019 (“Ans.”); and the Reply Brief filed Mar. 6, 2019 (“Reply Br.”).

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant² appeals from the Examiner's decision to reject claims 1–14, 17, 18, 25–28, and 30–36. *See* Final Act. 1. We have jurisdiction under 35 U.S.C. § 6(b). We heard oral argument from Appellant's representative on March 6, 2020.

We AFFIRM-IN-PART.

CLAIMED SUBJECT MATTER

The claims are directed to methods of manufacturing a building panel comprising a first and a second layer. *See, e.g.*, claims 1, 28, and 34.

Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A method of manufacturing building panel, comprising
applying a first binder and free lignocellulosic or
cellulosic particles on a first surface of a core for forming a first
layer, the core being a wood based board, the core possessing a
second surface opposite to the first surface,
applying a second binder and free lignocellulosic or
cellulosic particles on the first layer for forming a second layer,
wherein the first binder is different from the second
binder,
applying heat and pressure to the first and second layers
to form the building panel, and

² We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as VÄLINGE INNOVATION AB. Appeal Br. 2.

applying a balancing layer on the second surface of the core opposite to the first surface.

Appeal Br. 19 (Claims Appendix).

REFERENCES

The Examiner relies on the following prior art in rejecting the claims:

Name	Reference	Date
Von Der Heide et al. (Von Der Heide)	US 6,652,695 B1	Nov. 25, 2003
Petersen et al. ("Petersen")	US 2007/0243359 A1	Oct. 18, 2007
Pervan et al. ("Pervan")	US 2009/0155612 A1	June 18, 2009

REJECTION

The Examiner maintains the rejection of claims 1, 2, 4–14, 17, 18, 25–28, and 30–36 under 35 U.S.C. § 103 as being unpatentable over Pervan in view of Petersen in view of Von Der Heide. Final Act. 3–6.

OPINION

The '288 Application includes three independent claims—claims 1, 28, and 34. *See* Appeal Br. 19–25 (Claims App'x). Appellant argues each of the independent claims separately. *See id.* at 7–16. We address each independent claim in turn.

Claim 1

Appellant argues claims 1 and its dependent claims 2, 4–14, 17, 18, 26, 27, and 33 as a group.³ Appeal Br. 8–13, 17. We select claim 1 as

³ Claims 25 and 36 depend from claim 1, but Appellant provides separate arguments for patentability of each of these claims, thus they are not included in the group. *See* Appeal Br. 16–17.

representative of the group. Claims 2, 4–14, 17, 18, 26, 27, and 33 stand or fall with claim 1. 37 C.F.R. § 41.37(c)(1)(iv).

With respect to claim 1, the Examiner finds that Pervan teaches a method for forming a building panel comprising plural surface layers of binder and fibers over a core and balancing layer, and subjecting the layers to heat and pressure. Final Act. 3; Ans. 3. The Examiner finds that Pervan does not explicitly teach the core is a wood-based board, and relies on Petersen for this disclosure. Final Act. 3; Ans. 3. The Examiner determines that it would have been obvious to substitute the core material of Pervan with Petersen’s panel-like wood-based material because they serve the same function and would have predictably resulted in a fully functional floor panel. Ans. 3–4.

Regarding the two different binders that claim 1 requires (“the first binder is different from the second binder”), the Examiner finds that Pervan teaches use of melamine- or urea-formaldehyde resin as a binder. Ans. 4. The Examiner finds that Von Der Heide teaches a method for production of a multi-layered panel using multiple, different resins which can be in different layers together. *Id.* The Examiner concludes

[I]t would have been obvious to one of ordinary skill in the art before the effective date of the claimed invention to practice Pervan and use urea formaldehyde resin in one layer and melamine formaldehyde resin in another layer because Van [*sic*] Der Heide teaches that doing so results in increased moisture resistance and considerable reduction of swelling of the panel products upon the penetration of moisture and because doing so predictably results in the successful formation of a floor panel.

Final Act. 4.

Appellant argues that Pervan does not teach applying a second binder and free lignocellulosic or cellulosic particles on the first layer, or that the

second binder should be different from the first binder. Appeal Br. 9–10. Appellant also argues that Petersen does not teach applying two layers of binders and free lignocellulosic or cellulosic particles, or that different binders should be used in the layers. *Id.* at 10. Appellant argues that Pervan’s invention specifically focuses on the use of a dry powder to form a surface layer on a core or the use of dry powders to integrally form a panel, and Petersen’s method is contrary to the fundamental purpose of Pervan’s invention. *Id.* at 11. Appellant contends that the Examiner provides no rational or explanation why Pervan would have been modified by Petersen’s teaching. *Id.*

Appellant argues that the Examiner relies only on a disclosure in the background section of Pervan for teaching the use of different binders. *Id.* at 12. Appellant contends that the teaching is not applicable to Pervan’s dry powder, and does not teach that one binder should be used in one layer applied on a core and another binder should be used in a second layer applied on to the first layer. *Id.* Appellant argues that Von Der Heide does not teach that urea formaldehyde resin should be used in one layer and melamine formaldehyde resin should be used in another layer. *Id.* at 13. According to Appellant, Von Der Heide merely discloses at most that three different binders should be used. *Id.*

In the Reply Brief, Appellant argues that the Examiner fails to provide sufficient “rationale for **why** an ordinarily skilled artisan would have found it obvious to modify Pervan’s alleged plural surface layers to include different binders.” Reply Br. 2. Appellant contends that Von Der Heide uses different binders so that an inner mass of wood chips impregnated with isocyanate to form particleboard will not stick to press plates. *Id.* at 3.

According to Appellant, such teaching is not applicable to Pervan's method of forming a decorative surface layer on a core to create a building panel.

Id. Appellant further contends that the record does not establish that melamine-formaldehyde resin or urea-formaldehyde resin stick to press plates and Pervan's dry powder method would not lead to the problems that Von Der Heide seeks to avoid (sticking of wet isocyanate binder). *Id.*

Citing *In re Giannelli*, 739 F.3d 1375, 1380 (Fed. Cir. 2014), Appellant argues that the Examiner fails to show a *specific reason* for why it was obvious to modify the prior art, thus fails to provide a sufficient rationale to support obviousness. Reply Br. 4–5.

Appellant's arguments are not persuasive of reversible error in the rejection of claim 1.

The Examiner does not rely on either Pervan or Petersen to teach using two different binders, relying instead on Von Der Heide for this disclosure. *See* Final Act. 4; Ans. 4. Therefore, Appellant's challenge that Pervan and Petersen do not teach two binders does not address the rejection of claim 1 over the combination of Pervan, Petersen, and Von Der Heide. "Non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references." *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). Each reference cited by the Examiner must be read, not in isolation, but for what it fairly teaches in combination with the prior art as a whole. *See id.*

With regard to Appellant's argument that Petersen's method is contrary to fundamental purpose of Pervan, we note that the Examiner relies on Petersen solely to teach a wood-based board as the core material. *See* Ans. 3. The Examiner does not attempt to modify the dry powder method

disclosed in Pervan with Petersen’s adhesive/filler method. *See* Appeal Br. 11. Both Pervan and Petersen concern producing panel-like materials for use as floor panels. *See* Pervan ¶ 2, Petersen ¶ 2. Both Pervan and Petersen disclose a building panel comprising a surface layer and a core, which comprises wood fibers. Pervan ¶ 41; Petersen ¶ 16. Thus, although Pervan and Petersen do not employ identical processes, we do not view Petersen as contrary to the fundamental purpose of Pervan. “The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference,” but what the combined teachings of the references would have suggested to those of ordinary skill in the art. *In re Keller*, 642 F.2d 413, 425 (CCPA 1981).

We disagree that the Examiner provides no rationale or explanation as to why an ordinarily skilled artisan would combine Petersen’s disclosure of a wood-based core with Pervan’s teachings. *See* Appeal Br. 11. The Examiner finds that Pervan’s core material and Petersen’s panel-like wood-based material core would have served the same function and predictably resulted in a fully functional floor panel. Ans. 3–4. This rationale is adequate to meet the requirements for combining references according to the Supreme Court:

[A] combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. . . . When a work is available in one field, design incentives and other market forces can prompt variations of it, either in the same field or in another. If a person of ordinary skill in the art can implement a predictable variation, and would see the benefit of doing so, § 103 likely bars its patentability. Moreover, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the

technique is obvious unless its actual application is beyond that person's skill. A court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions. . . . [A] court can consider the inferences and creative steps a person of ordinary skill in the art would employ.

KSR, 550 U.S. at 421.

We agree with Appellant that Von Der Heide does not teach that urea formaldehyde resin should be used in one layer and melamine formaldehyde resin should be used in another layer. *See* Appeal Br. 13. However, claim 1 recites only “the first binder is different from the second binder.” *See* Appeal Br. 19 (Claims App'x). Both Pervan and Von Der Heide disclose use of isocyanate, urea formaldehyde resin, and melamine formaldehyde resin as binders. Pervan ¶¶ 73, 274; Von Der Heide col. 1, ll. 26–36. Von Der Heide discloses using two different binders, and that such use confers specified advantages (a strongly increased moisture resistance and a considerable reduction of the swelling of the panel products upon penetration of moisture). *See* Von Der Heide col. 1, ll. 26–36.

Appellant contends that Von Der Heide uses different binders to avoid sticking to press plates and, therefore, is not applicable to Pervan. Reply Br. 3. However, “[o]ne of ordinary skill in the art need not see the identical problem addressed in a prior art reference to be motivated to apply its teachings.” *Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1323, (Fed. Cir. 2005) (citing *In re Oetiker*, 977 F.2d 1443, 1448 (Fed. Cir. 1992)). Our reviewing court holds:

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.”

Dystar Textilfarben GmbH v. C.H. Patrick Co., 464 F.3d 1356, 1368 (Fed. Cir. 2006). Appellant fails to show that one of ordinary skill in the art would not have been capable of combining Pervan, Petersen, and Von Der Heide to “yield predictable results,” satisfy “design incentives,” and implement “a predictable variation.” *See KSR*, 550 U.S. at 421; *see also Dystar*, 464 F.3d at 1368 (holding that an implicit motivation to combine exists 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). Appellant’s citation to *Giannelli* (*see* Reply Br. 4) is not persuasive of reversible error because the Examiner identifies sufficient reason to modify Pervan with two different binders. In *Giannelli*, the court found it was not obvious to modify a machine with handles designed to be pushed (a chest press) to one with handles adapted to be pulled (a rowing machine), holding held “[p]hysical capability alone does not render obvious that which is contraindicated.” *In re Giannelli*, 739 F.3d 1375, 1380 (Fed. Cir. 2014). Appellant identifies no such contraindication here.

For the reasons above, we sustain the rejection of claim 1 over Pervan in view of Petersen and Von Der Heide. For the same reasons, we also sustain the rejection of claims 2, 4–14, 17, 18, 26, 27, and 33. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Claim 28

The limitations of independent claim 28 are similar to those of claim 1, but further recite, “the first binder is urea formaldehyde resin, a mixture comprising urea formaldehyde resin, or a co-polymer comprising urea formaldehyde resin” and “the second binder is melamine formaldehyde resin, a mixture comprising melamine formaldehyde resin, or a co-polymer comprising melamine formaldehyde resin.” Appeal Br. 22–23 (Claims App’x).

The Examiner rejects claim 28 as obvious over the same references as applied to claim 1. Final Act. 3–4. The Examiner finds that Von Der Heide discloses that “a combination of urea and melamine formaldehyde resin as a binder, with one binder in one layer and a different binder in another layer, results in increased moisture resistance and considerable reduction of swelling of the panel products upon the penetration of moisture.” *Id.* at 4.

Appellant argues that claim 28 requires a combination of specifically recited first and second binders that are not disclosed in any of the cited references. Appeal Br. 14. We agree.

The Examiner overstates the disclosure of Von Der Heide. The reference states:

[U]se a *mixture* of isocyanate and well as urea-, melamine-, and phenol formaldehyde resin glue or adhesive as a binder, *or* for example, [] bind the chips in the cover layer with melamine resin and the chips of the middle layer with pure isocyanate solution, or vice versa. By the use of a *mixture* of the above named binders, a strongly increased moisture resistance and a consideration reduction of the swelling of the panel products upon the penetration of moisture are achieved.

Von Der Heide col. 1, ll. 26–36 (emphasis added). Thus, Von Der Heide teaches no more than using a combination of *isocyanate* with urea-, melamine-, and/or phenol formaldehyde resin glue or adhesive, or using

isocyanate as one binder and urea-, melamine-, and/or phenol formaldehyde as a second binder. *See id.* Von Der Heide does not teach a urea formaldehyde resin (or mixture thereof) as a first binder and melamine formaldehyde resin (or a mixture thereof) as a second binder, as required by claim 28.

We do not sustain the rejection of claim 28 over the combined references. For the same reasons, we do not sustain the rejection of claims 30–32 that depend from claim 28.

Claim 34

The limitations of independent claim 34 of similar to claim 1, but further recite, *inter alia*, “the first binding comprising urea formaldehyde resin and the second binder comprising melamine formaldehyde resin.” Appeal Br. 24 (Claims App’x).

The Examiner relies on the findings discussed in our review of claim 1, and further finds that Pervan provides an example where the surface layer mix is a total of 260 g/m², and that the surface layer is the total of the plural surface layers. Final Act. 6.

Appellant relies on the discussion of Von Der Heide as not teaching the specific required first and second binders. Appeal Br. 15–16. In addition, Appellant argues that Pervan does not disclose a second layer with a different binder in an amount of 100–700 g/m². *Id.* at 15.

For the reasons discussed in relation to claim 28, the combined references do not disclose the required first and second binders. In addition, Pervan does not disclose a second binder applied in the recited amount. *See generally*, Pervan.

We do not sustain the rejection of claim 28. We, likewise, do not sustain the rejection of claims 30–32 which depend from claim 28.

Claims 25 and 36

Claims 25 and 36 depend directly from claim 1. *See* Appeal Br. 21, 24–25. Claim 25 further recites that the first binder is urea formaldehyde resin and the second binder is melamine formaldehyde resin. *Id.* at 21. Claim 36 further recites, *inter alia*, that the first binder is a dry powder of urea formaldehyde resin and the second binder is a dry powder of melamine formaldehyde resin. *Id.* at 24–25.

The Examiner relies on the same findings for rejection of claims 25 and 36 as relied on for rejection of claim 1. Final Act. 3–4. Because, as discussed regarding claim 28, Von Der Heide does not teach a first binder is urea formaldehyde resin and a second binder is melamine formaldehyde resin, we do not sustain the rejection of claims 25 or 36.

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–14, 17, 18, 25–28, and 30–36	103(a)	Pervan, Petersen, Von Der Heide	1–14, 17, 18, 26, 27, 33	25, 28, 30–32, 34–36
Overall Outcome			1–14, 17, 18, 26, 27, 33	25, 28, 30–32, 34–36

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TIME PERIOD FOR RESPONSE

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 IN PART