

NOTE: This disposition is nonprecedential.

**United States Court of Appeals
for the Federal Circuit**

IN RE: ASSET GUARD PRODUCTS, INC.,
Appellant

2021-1902

Appeal from the United States Patent and Trademark
Office, Patent Trial and Appeal Board in No. 90/014,303.

Decided: April 13, 2022

KYRIE CAMERON, Patterson & Sheridan LLP, Houston,
TX, argued for appellant Asset Guard Products, Inc. Also
represented by BARDEN TODD PATTERSON.

MAI-TRANG DUC DANG, Office of the Solicitor, United
States Patent and Trademark Office, Alexandria, VA, ar-
gued for appellee Andrew Hirshfeld. Also represented by
KAKOLI CAPRIHAN, THOMAS W. KRAUSE, AMY J. NELSON,
FARHEENA YASMEEN RASHEED.

Before MOORE, *Chief Judge*, TARANTO and HUGHES,
Circuit Judges.

TARANTO, *Circuit Judge*.

The Patent and Trademark Office (PTO) instituted an ex parte reexamination of U.S. Patent No. 9,410,302, which is owned by Asset Guard Products, Inc. The PTO's examiner rejected claims 1–27 for obviousness, and the PTO's Patent Trial and Appeal Board affirmed the rejection. *Ex Parte Asset Guard Prods. Inc.*, No. 2020-006249, 2020 WL 6375849, at *9 (P.T.A.B. Oct. 27, 2020) (*Board Decision*). Asset Guard appeals. We affirm several of the Board's findings, but because we conclude that, as to one claim element, the Board erred in finding a teaching in the relied-on prior art, we vacate the Board's decision and remand for further proceedings.

I

The '302 patent describes a tank base that provides load-bearing support for “any type of storage, tank, or vessel.” '302 patent, col. 1, lines 17–22. The tank base includes at least two pieces, each made of a substrate such as expanded polystyrene coated with an elastomer such as polyurea for protection and strength. *Id.*, col. 2, lines 40–45, lines 55–60. The pieces are positioned adjacent to each other to form the base, with at least one seam between the substrates to allow moisture to pass through and seep down and away from the bottom of the tank. *Id.*, col. 5, line 39, through col. 6, line 4. That passage of moisture prevents the accumulation of standing water (from spillage or rainwater) that could corrode the tank. *Id.*, col. 2, lines 60–63; *id.*, col. 5, line 65, through col. 6, line 1. The specification discusses the use of such a tank base for above-ground storage tanks (ASTs) that are used to store water separated from oil and gas extracted from an underground well. *Id.*, col. 1, lines 24–34.

The patent has three independent claims. Independent claim 1 is representative:

1. A tank base sized to provide a load-bearing support for an above-ground storage tank and configured to allow moisture to pass, the above-ground

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storage tank having a bottom and defining an outer circumference, the tank base comprising:

a first encapsulated substrate, comprising:

a first part having a first thickness sized to provide the load-bearing support for the above-ground storage tank; and

a first elastomer encapsulating the first part;

wherein the first encapsulated substrate comprises a first planar portion;

a second encapsulated substrate positioned adjacent to the first encapsulated substrate, the second encapsulated substrate comprising:

a second part having a second thickness sized to provide the load-bearing support for the above-ground storage tank; and

a second elastomer encapsulating the second part;

wherein the second encapsulated substrate comprises a second planar portion; and

wherein the first and second planar portions are coplanar and perpendicular to each of the respective first and second thicknesses of the first and second parts; and

a first seam formed between the first and second encapsulated substrates to allow for moisture to pass between the first and

second encapsulated substrates so that moisture is allowed to seep away from the bottom of the tank, via the first seam, when the tank base provides the load-bearing support for the above-ground storage tank.

Id., col. 6, lines 35–65.

In May 2019, Sentinel Manufacturing filed a request for an ex parte reexamination of claims 1–3, 5, 7–8, 10–17, 19, 21, 23–25, and 27 of the '302 patent under 35 U.S.C. §§ 302–307. The PTO initiated an ex parte reexamination of claims 1–27. The examiner issued a non-final office action rejecting claims 1–3, 5–17, and 19–27 as unpatentable for obviousness over Noble (U.S. Patent No. 6,327,722) and Heinz (U.S. Patent No. 7,114,210), claims 1–3, 5–7, 10, 12–17, 19–20, and 24 as unpatentable for obviousness over Noble and Flam (U.S. Patent No. 6,418,861), and claims 4 and 18 as unpatentable for obviousness over a combination of Noble, Simonson (U.S. Patent No. 6,877,189), and either Heinz or Flam.

Noble discloses a support pad for a spa, the pad including at least two planar pieces of rigid plastic foam, such as polystyrene foam. Noble, col. 2, lines 7–11, col. 4, lines 56–60. The foam sections may be treated with a barrier coating to “insure against the influx of moisture from the ground,” as the buildup of moisture may cause mold and odors in the tank. *Id.*, col. 4, line 61, through col. 5, line 3. The sections are held together during installation with duct tape or a strip of fabric or plastic. *Id.*, col 4, lines 38–48. Heinz and Flam disclose a car ramp and a shipping pallet, respectively, each composed of a polystyrene foam core encapsulated in polyurea. Heinz, col. 1, lines 52–61; Flam, col. 1, lines 58–65. The examiner determined that it would have been obvious to modify the plastic foam core support pad of Noble by encapsulating the plastic foam (such as polystyrene foam) in polyurea, as suggested by either Heinz or Flam. The examiner also determined, in

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relevant part, that Noble's construction "*forms a seam . . . between the sections . . . that would allow moisture to seep away.*" J.A. 439.

Asset Guard, in its response, argued that the cited references are not analogous art because they are from different technical fields from that of the '302 patent. J.A. 474–75, 482–83. It also argued that Noble does not disclose the claimed seam to allow moisture to pass between the substrates, stressing that the tape or fabric that holds the sections together would impede the movement of moisture between them. J.A. 478–80. The examiner issued a final office action rejecting claims 1–27. The examiner explained that Noble is analogous art because it is in the same field of endeavor as the '302 patent (*i.e.*, providing a support pad for a tank), J.A. 502, and that Heinz and Flam are analogous art because they are reasonably pertinent to the problem faced by the inventors of the '302 patent (*i.e.*, creating a lightweight but strong material for load-bearing support), J.A. 502, 505. The examiner restated the position that Noble's construction forms a seam between the sections, J.A. 494, and also explained that, although Noble teaches a tape or fabric to hold the sections together, "the broad teachings of [Noble] do not preclude the seams from allowing moisture to pass between sections," J.A. 503, 506. Following Asset Guard's response and request for reconsideration, the examiner issued an advisory action in December 2019 maintaining the rejection.

Asset Guard appealed to the Patent Trial and Appeal Board. The Board affirmed the examiner's rejection of claims 1–27. *Board Decision*, 2020 WL 6375849, at *9. The Board held that Noble is analogous art on two independent grounds: first, because it is in the same field of endeavor as the '302 patent, as both inventions are support structures for tanks designed to hold large volumes of water; second, because Noble is reasonably pertinent to the particular problem with which the inventors of the '302 patent were concerned—creating a convenient and portable tank base.

Id. at *5. The Board also agreed with the examiner that “the broad teachings of Noble would allow for seams formed between encapsulated sections of the pad to allow moisture to pass,” as Noble “does not require the tape to be present after the spa is installed.” *Id.* at *7. After unsuccessfully seeking reconsideration, Asset Guard timely appealed.

II

Obviousness is a question of law, and we review the Board’s conclusion de novo and underlying factual determinations for substantial-evidence support. *PersonalWeb Techs., LLC v. Apple, Inc.*, 917 F.3d 1376, 1381 (Fed. Cir. 2019). Whether a reference is analogous art is an issue of fact. *Donner Tech., LLC v. Pro Stage Gear, LLC*, 979 F.3d 1353, 1359 (Fed. Cir. 2020). What a reference teaches, and whether a relevant artisan would have been motivated to modify the teachings of a reference, are also questions of fact. *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1327 (Fed. Cir. 2016); *Winner Int’l Royalty Corp. v. Wang*, 202 F.3d 1340, 1349 (Fed. Cir. 2000) (citation omitted).

A

A reference is analogous art if (a) it “is from the same field of endeavor, regardless of the problem addressed,” or (b) it “is reasonably pertinent to the particular problem with which the inventor is involved” even though it “is not within the field of the inventor’s endeavor.” *Donner Tech.*, 979 F.3d at 1359 (citing *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004)). The Board determined that Noble is both from the same field of endeavor as the ’302 patent and reasonably pertinent to the particular problems with which the inventors of the ’302 patent were concerned. We focus on the former determination, which is a sufficient basis to affirm the Board’s decision that the references are analogous art.

The PTO is “to determine the appropriate field of endeavor by reference to explanations of the invention’s

subject matter in the patent application, including the embodiments, function, and structure of the claimed invention.” *Bigio*, 381 F.3d at 1325. The explanations of the invention’s subject matter in the ’302 patent support the Board’s finding that Noble and the ’302 patent are in the same field of endeavor. As the Board noted, the inventors of the ’302 patent explained in the background of the invention that the tank base may be used to provide load-bearing support and protect against spills and leaks associated with “any type of storage, tank, or vessel.” *Board Decision*, 2020 WL 6375849, at *5 (citing ’302 patent, col. 1, lines 19–22). The patent also explains that the tank base “is applicable to any number of secondary containment systems and vessel storage areas.” *Id.*, col. 3, lines 53–59. Finally, it explains that “one skilled in the art, armed with this disclosure, will recognize that the claimed invention works equally well within secondary containment systems of varying orientation, shape and positions” and that the tank base “can be modified or custom built to accommodate any size and shape desired.” *Id.*, col. 3, lines 59–67. The specification thus indicates that the field of endeavor of the ’302 patent includes support structures for storage systems of various shapes and sizes, such as Noble’s tank base supporting a water-filled spa. Based on these disclosures, the Board correctly rejected Asset Guard’s argument that the field of endeavor of the ’302 patent is limited to structural supports for a specific type of large-volume tank (*i.e.*, an AST). *See In re Mettke*, 570 F.3d 1356, 1359 (Fed. Cir. 2009) (rejecting patent owner’s argument that the Board defined the field of endeavor too broadly in light of the specification’s broad disclosures of related technology).

The structural similarities between Noble and the ’302 patent also support the Board’s finding that the references are in the same field of endeavor. *Bigio*, 381 F.3d at 1325. Each reference discloses planar structures composed of at least two sections of rigid plastic, which sit below a storage vessel and provide load-bearing support for that vessel.

See '302 patent, col. 2, lines 40–60; Noble, col. 2, lines 7–11, 22–30. We conclude that the Board had substantial evidence to support its finding that Noble and the '302 patent are in the same field of endeavor and thus are analogous art. We affirm that finding.

Because we determine that Noble and the '302 patent are in the same field of endeavor, we need not decide whether Noble is “reasonably pertinent to the particular problem with which the inventor is involved.” *Bigio*, 381 F.3d at 1325. We do, however, note that Asset Guard has not supported its contention that, in order for a reference to be reasonably pertinent, the reference must be concerned with a problem that was of “central importance” to the inventors. Asset Guard cites only *CyWee Group Ltd. v. Google LLC*, where this court affirmed a factual determination by the Board that a problem addressed in a prior art reference was of “central importance” to the inventors, and therefore the reference “logically would have commended itself to the inventor’s attention.” 847 F. App’x 910, 914 (Fed. Cir. 2021) (nonprecedential) (citation omitted). *CyWee* held only that, if a problem addressed in a reference is of “central importance” to the inventors, that fact is *sufficient* for the reference to pass the “reasonably pertinent” test, not that it is necessary. In fact, *CyWee* explained that a reference must be reasonably pertinent only to “*one or more* of the particular problems to which the claimed inventions relate.” *Id.* at 913 (emphasis added) (citation omitted). And that formulation accurately states our law. See *Donner Tech.*, 979 F.3d at 1359 (“[I]f the two references have ‘pertinent similarities’ such that [the prior art reference] is reasonably pertinent to one or more of the problems to which the . . . patent pertains, then [the prior art reference] is analogous art.”). Here, as noted, we need not decide whether the Board’s finding that Noble is reasonably pertinent to one or more of the particular problems to which the '302 patent relates is supported by substantial evidence.

B

We also affirm the Board’s determination that Heinz and Flam are analogous art. The Board had substantial evidence to support its finding that both references are reasonably pertinent to one or more of the particular problems with which the inventors of the ’302 patent were concerned—indeed, centrally concerned: “strengthening a core foam material by encapsulating it with an elastomer.” *Board Decision*, 2020 WL 6375849, at *5–6. The ’302 patent explains that the improved tank base pieces include a polystyrene foam core encapsulated with an elastomer such as polyurea, “which helps encapsulate the polystyrene and keeps it from flaking off and failing under the weight of . . . the tank,” ’302 patent, col. 4, lines 43–49, and which adds “protection and strength,” *id.*, col. 2, lines 42–45. And, as the Board explained, both Heinz and Flam disclose coating a polystyrene foam core material with polyurea to strengthen the core material. *See Board Decision*, 2020 WL 6375849, at *5–6 (citing Heinz, col. 1, lines 57–61; Flam, col. 1, lines 58–65).

Asset Guard invokes *In re Oetiker*, which explains that it is necessary to consider “the reality of the circumstances—in other words, common sense” when deciding the fields in which a relevant artisan “would reasonably be expected to look for a solution to the problem facing the inventor.” 977 F.2d 1443, 1447 (Fed. Cir. 1992) (citation omitted). *Oetiker* does not undermine the Board’s decision here. Because the references at issue are directed to the (central) ’302 patent problem of encapsulating a plastic foam material for strength, and indeed use the same materials as the ’302 patent (a polystyrene foam encapsulated in polyurea), the references “logically would have commended [themselves] to [the] inventor’s attention,” *Airbus S.A.S. v. Firepass Corp.*, 941 F.3d 1374, 1382 (Fed. Cir. 2019) (quoting *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992)), and common sense dictates that they are analogous art. We conclude that the Board’s analogous-art

determination as to Heinz and Flam is supported by substantial evidence.

C

We next address the merits of the Board's obviousness determination. Asset Guard argues that there is no disclosure, in any of the references, of a seam formed between substrates "to allow for moisture to pass between the first and second encapsulated substrates so that moisture is allowed to seep away from the bottom of the tank" through the seam, a limitation required by representative independent claim 1.¹ The Board rested its obviousness conclusion on its determination that "the broad teachings of Noble *would allow* for seams formed between encapsulated sections of the pad to allow moisture to pass," as Noble "*does not require* the tape to be present after the spa is installed," *Board Decision*, 2020 WL 6375849, at *7 (emphasis added). That reasoning, we conclude, is insufficient under the law of obviousness.

To reach an obviousness conclusion, the Board had to find a reason a relevant artisan would have arrived at the claimed invention, with this particular claimed property.

¹ The limitation that "moisture is allowed to seep away from the bottom of the tank" is present only in challenged independent claims 1 and 15. Challenged independent claim 24 relevantly discusses only a seam "to allow for moisture to pass between the first and second encapsulated substrates," with no directional element. '302 patent, col. 8, line 45, through col. 9, line 23. Neither party has made a separate argument as to claim 24 before us. We presume that it is properly interpreted to have the directional meaning of claims 1 and 15, given that the specification refers only to moisture passing downward, to get it away from the tank bottom, rather than moisture passing upward so that it reaches the tank bottom.

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The Board relied entirely on Noble, not the other prior art at issue, to supply that reason. But the Board did not suggest, and could not have suggested, that Noble expressly teaches a seam to allow moisture to pass down and away from the tank. Defending the Board in this court, the Director cites to nothing in Noble that expressly so teaches. Indeed, Noble’s concern with moisture is a concern with “the influx of moisture *from* the ground,” Noble, col. 4, line 62 (emphasis added), moving up to cause odorous growths in (or otherwise damage) the foam base—a concern that does not involve the seam and that is addressed by a coating. Noble, col. 4, line 61, to col. 5, line 13.

Nor did the Board find that the seam taught in Noble inherently had the property of allowing moisture to pass down through the seam to seep away from the tank. An obviousness determination can rest on finding a claimed property to be inherent in prior art. *See PAR Pharm., Inc. v. TWI Pharm., Inc.*, 773 F.3d 1186, 1194–95 (Fed. Cir. 2014). But “[t]he mere fact that a certain thing *may* result from a given set of circumstances is not sufficient” to show inherency. *Id.* at 1195 (emphasis added). Rather, the limitation “necessarily must be present, or the natural result of the combination of elements explicitly disclosed by the prior art.” *Id.* at 1196. The Board, in saying that “the broad teachings of Noble *would allow* for seams formed between encapsulated sections of the pad to allow moisture to pass,” did not make such a finding. *Board Decision*, 2020 WL 6375849, at *7 (emphasis added).

In choosing those words, the Board did not adopt the examiner’s differently worded statement that Noble’s construction “*forms a seam . . . between sections . . . that would allow moisture to seep away.*” J.A. 439. The Board carefully said only that Noble “would allow” a seam with the property of allowing downward seepage, not, as the examiner said, that Noble teaches a construction that actually “forms a seam” that would allow for the downward seepage.

The Board had good reason for not adopting the examiner's statement.

As noted, nothing in Noble says this about its seam. Moreover, when Noble's sections are placed adjacently, neither the examiner nor the Board pointed to evidence (in Noble or otherwise) showing that the seam would *necessarily* allow for moisture to pass through and seep away from the bottom of the tank. A tight enough fit of the pieces might well prevent such seepage even without tape or fabric holding the pieces together. But Noble in fact teaches the use of tape or fabric placed on top of the pieces to hold the construction together—"to allow [the sections] to be held together during installation," Noble, col. 4, lines 29–31, "while [the] spa [] is lowered in place," *id.*, col. 4, lines 46–47—and Noble never directs removal of the tape or fabric once the spa is lowered in place (which would present a challenge) or even once under-base utility lines are connected, *see id.*, col. 4, lines 47–54.

One passage in Noble refers to "temporarily adhering [the sections] together along their contiguous top surfaces, tilting one of the sections upward [for electric and water line installation] . . . and then returning the tilted section to planar assembly." *Id.*, col. 2, lines 22–30. The word "temporarily" may suggest removal, but the Board did not address that passage, let alone draw out of the word "temporarily" an implication of necessary removal. And in any event, the Board did not make a finding of necessary possession of the claimed downward-drainage property if the tape or fabric is removed.

The Board also made no finding that a relevant artisan would have been motivated to make a choice, within the range of seams permitted by Noble, to use sufficient spacing within the seam to meet the claim requirement regarding downward drainage. "A claimed invention may be obvious even when the prior art does not teach each claim limitation, so long as the record contains some reason why

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one of skill in the art would modify the prior art to obtain the claimed invention.” *Nike, Inc. v. Adidas AG*, 812 F.3d 1326, 1334 (Fed. Cir. 2016), *overruled on other grounds by Aqua Prods., Inc. v. Matal*, 872 F.3d 1290 (Fed. Cir. 2017) (en banc); *see also Dow Jones & Co., Inc. v. Ablaise Ltd.*, 606 F.3d 1338, 1350–51 (Fed. Cir. 2010) (holding claims invalid as obvious where a relevant artisan would have been motivated to add a “well known” feature to a prior art reference to meet the limitations). But here, there was no discussion by the Board, supported by a disclosure in the ’302 patent or Noble, or by any other evidence, that a relevant artisan would have 1) recognized that standing water in secondary containment systems was a problem, or 2) been motivated to do something not required by Noble (*e.g.*, separating the sections) to solve such a problem.

For those reasons, the Board’s finding about the downward-drainage claim limitation cannot stand. We vacate the Board’s obviousness determination and remand to the Board for such further proceedings as are appropriate.

D

Asset Guard finally challenges the Board’s finding of a motivation to combine Noble with Heinz or Flam. We determine that the Board had substantial evidence to support its determination that a relevant artisan would have combined the spa support of Noble with the coating disclosed in Heinz or Flam. Here, Noble itself provides a motivation to combine when it discloses that “[i]t is preferred that [the] rigid foam sections . . . be treated to insure against the influx of moisture from the ground” in order to prevent mold and odors, Noble, col. 4, lines 61–67, and specifically suggests the application of a barrier coat to the foam surface, *id.*, col. 4, line 67, through col. 5, line 13. The Board had substantial evidence that a relevant artisan would have treated the plastic foam (*e.g.*, polystyrene foam) sections in Noble with the polyurea coating of Heinz and Flam (disclosed as encapsulating a polystyrene material to add

protection) in order to achieve Noble's objective of preventing an influx of moisture. We agree with the Board that Asset Guard's argument that encapsulating Noble's sections in polyurea would prevent piercing of the sections necessary to install the spa's utility lines is unsupported, as Asset Guard presented no evidence that the use of such a coating would prevent piercing. *Board Decision*, 2020 WL 6375849, at *8.

III

For the foregoing reasons, we affirm several of the Board's determinations but vacate the Board's determination of obviousness and remand for further proceedings consistent with this opinion.

The parties shall bear their own costs.

AFFIRMED IN PART, VACATED, AND REMANDED