

NOTE: This disposition is nonprecedential.

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

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**TUBE-MAC INDUSTRIES, INC., GARY MACKAY,  
DAN HEWSON,**  
*Plaintiffs-Appellees*

v.

**STEVE CAMPBELL,**  
*Defendant-Appellant*

**TRANZGAZ, INC.,**  
*Defendant*

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2022-2170

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Appeal from the United States District Court for the  
Eastern District of Virginia in No. 2:20-cv-00197-RCY-  
LRL, Judge Roderick C. Young.

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Decided: March 15, 2024

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LYNN J. ALSTADT, Buchanan Ingersoll & Rooney PC,  
Pittsburgh, PA, for plaintiffs-appellees. Also represented  
by RALPH GEORGE FISCHER.

STEVE CAMPBELL, St. John's, NL, Canada, pro se.

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Before LOURIE, HUGHES, and STARK, *Circuit Judges*.

PER CURIAM.

Steve Campbell appeals from a decision and accompanying order of the United States District Court for the Eastern District of Virginia mandating the correction of inventorship of U.S. Patent 9,376,049 (the “049 patent”), as well as several corresponding foreign patents, to add Gary Mackay and Dan Hewson as named inventors. *Tube-Mac Indus., Inc. v. Campbell*, 616 F. Supp. 3d 498 (E.D. Va. 2022) (“*Decision*”). For the following reasons, we *affirm*.

#### BACKGROUND

Campbell was the original, sole inventor named on the ’049 patent, which claims a container for transporting gaseous fluids. *Decision* at 506–07. Independent claim 1 is presented below:

1. A lightweight intermodal container or road trailer based system for transporting refrigerated gaseous fluids, comprising:

an enclosed and insulated transportation housing;

a plurality of low-temperature resistant pressure vessels at least three feet in diameter secured within said transportation housing for containing said gaseous fluids, each of said pressure vessels including a body portion and opposing domed end portions attached to said body portion, each of said domed end portions having a wall thickness that is greater than a wall thickness of said body portion and an opening; and

at least one port boss affixed to each of said domed end portions, said at least one port boss including an inner component and an outer component, said inner component including an inner pipe and an inner plate transversely extending from said inner

pipe, and said outer component including an outer pipe and an outer plate transversely extending from said outer pipe, wherein said inner pipe is inserted through said opening in each of said domed end portions and through said outer pipe such that said inner component and said outer component are compressed together to cause said inner plate to engage an inner surface of a respective one of said domed end portions and said outer plate to engage an outer surface of said respective one of said domed end portions to affix said at least one port boss to each of said domed end portions.

'049 patent, col. 12 l. 43–col. 13 l. 3 (emphases added).

Campbell originally contracted with Composites Atlantic Ltd. (“Composites Atlantic”) to assist in fabrication of the claimed transportation vessels. *Decision* at 503. However, the resulting prototypes suffered from numerous problems, including slippage of the port boss on the vessel’s liner. *Id.* The port boss is essentially a nozzle comprising a male inner component compressed against a female outer component, which together sandwich the liner of the vessel that contains the gas to be transported. *See* '049 patent, col. 5 ll. 5–49; *see also id.* at FIG. 8 (female plate 40 compressed with male plate 36, sandwiching liner 44).

Campbell then approached Gary Mackay to help fix the port boss/liner slippage problem. *See Decision* at 504; *see also* A.A.<sup>1</sup> 252. Dan Hewson, the Vice President of Projects at Mackay’s company Tube-Mac Industries Ltd., subsequently provided preliminary design drawings to Campbell. *Decision* at 504. Over the next several months, Campbell, Mackay, and Hewson continued to exchange draft designs and components engineered to improve the port boss design. *Id.* at 504–06.

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<sup>1</sup> A.A. refers to the appendix filed by Appellees.

After issuance of the '049 patent, Mackay and Hewson brought an action contending that they should have been listed as co-inventors, as their contributions to the design process were described and claimed in the patent. *Decision* at 502. The district court agreed and subsequently ordered the U.S. Patent and Trademark Office to issue a certificate of correction adding Mackay and Hewson as named inventors on the '049 patent. A.A. 1–2. Campbell appealed.

We have jurisdiction under 28 U.S.C. § 1295(a).

#### DISCUSSION

We review inventorship disputes *de novo* and the underlying findings of fact for clear error. *Blue Gentian, LLC v. Tristar Prods., Inc.*, 70 F.4th 1351, 1358 (Fed. Cir. 2023). Under the clear error standard, factual findings “will not be overturned in the absence of a definite and firm conviction that a mistake has been made.” *Impax Lab’ys, Inc. v. Aventis Pharms. Inc.*, 468 F.3d 1366, 1375 (Fed. Cir. 2006) (internal quotation marks and citation omitted).

Under 35 U.S.C. § 256, a district court may order the correction of inventorship of a patent once it determines that a co-inventor has been erroneously omitted. Evaluating an inventorship claim under § 256 begins with “a construction of each asserted claim to determine the subject matter encompassed thereby.” *Trovan, Ltd. v. Sokymat SA*, 299 F.3d 1292, 1302 (Fed. Cir. 2002). The alleged contributions of each asserted co-inventor are then compared with “the subject matter of the properly construed claim to then determine whether the correct inventors were named.” *Id.* “The named inventors are presumed correct, and the party seeking correction of inventorship must show by clear and convincing evidence that a joint inventor should have been listed.” *Blue Gentian*, 70 F.4th at 1357 (citing *Eli Lilly & Co. v. Aradigm Corp.*, 376 F.3d 1352, 1358 (Fed. Cir. 2004)).

To be a joint inventor, one must:

(1) contribute in some significant manner to the conception or reduction to practice of the invention, (2) make a contribution to the claimed invention that is not insignificant in quality, when that contribution is measured against the dimension of the full invention, and (3) do more than merely explain to the real inventors well-known concepts and/or the current state of the art.

*Pannu v. Iolab Corp.*, 155 F.3d 1344, 1351 (Fed. Cir. 1998). Although the district court here wrote generally of Mackay and Hewson’s “[c]ontribution to [c]onception or [r]eduction to [p]ractice,” *Decision* at 510 (alterations to punctuation added), it focused its analysis on the alleged joint inventors’ contributions to conception; we will do the same.

The contribution of a joint inventor must be significant. *See Fina Oil & Chem. Co. v. Ewen*, 123 F.3d 1466, 1473 (Fed. Cir. 1997) (“[A] joint inventor must contribute in some significant manner to the conception of the invention.”). We review a district court’s finding as to the significance of a purported joint inventor’s contribution for clear error. *See Plastipak Packaging, Inc. v. Premium Waters, Inc.*, 55 F.4th 1332, 1343 (Fed. Cir. 2022) (“[O]ften the assessment of what contribution has been made by a purported inventor, and whether that contribution is significant, is bound up with material fact disputes which a reasonable factfinder could resolve in favor of either party.”).

Campbell first argues that the district court erred in determining the scope of the subject matter of the claims. But Campbell misunderstands the first step of the inventorship analysis as well as the analysis conducted by the court. The court correctly began with “an independent claim construction analysis, which is the first step in determining inventorship.” *Trovan*, 229 F.3d at 1304. As explained by the court, neither party requested claim

construction, *Decision* at 510; thus the court moved on to identify the contributions of the alleged co-inventors.

Campbell further asserts that the district court erred by misidentifying the subject matter of the claims as “the port boss.” Appellant’s Br. at 4. We disagree, though we understand the source of the confusion. After the court concluded that claim construction was not necessary for the inventorship dispute, it proceeded, in the same “Step One” section of the decision, to identify the subject matter “at issue” in the dispute. *See Decision* at 510. In particular, the court concluded that, in view of allegations made by Mackay and Hewson, the port boss claimed in independent claim 1 and the “compression and crimping” thereof in dependent claim 5 provided the subject matter “at issue.” *Id.* at 510. Such a conclusion is better suited to be included in the second step of the inventorship analysis. However, the drafting choice to include it in a section addressing the first step of the inventorship analysis was not harmful, nor was the actual conclusion reached clear error. Indeed, the alleged contributions of Mackay and Hewson were made solely to the port boss and thus the subject matter upon which the inventorship dispute hinges primarily concerns only the port boss.

Turning to the second step of the inventorship analysis, Campbell argues that the district court clearly erred in determining the significance of Mackay’s and Hewson’s contributions to the claimed invention. We disagree.

The district court provided a thorough history of Mackay’s and Hewson’s contributions to the claimed port boss. In particular, the court summarized how Campbell approached Mackay to help with the port boss/liner slippage problem encountered with the earlier Composites Atlantic design. *Decision* at 504; *see also* A.A. 252. Mackay and Hewson subsequently proposed multiple changes to the structures of both the male and female components of the port boss. For example, in the original design provided by

Composites Atlantic, the baseplates and pipe portions of the port boss were smooth and were pressed together via a threaded connection. *Decision* at 504–05; *see also* A.A. 952–53 (photographs of the Composites Atlantic port boss). Mackay and Hewson updated the male baseplate to allow for the inclusion of an O-ring, as well as a modified t-groove, and further added angular grooves to the baseplate to create a better seal between the port boss components and the liner. *Decision* at 504–05; *see also* A.A. 247. They further added a starburst pattern of grooves to the female baseplate to create torsional rigidity and to resist twisting. *Decision* at 505. Still further, they modified the female pipe component to include thinner sections of metal, allowing for those sections to be crimped onto the male pipe. *Id.* at 504–05; *see also* A.A. 641.

The district court subsequently correctly identified how Mackay’s and Hewson’s updates to the port boss are depicted in the figures, specification, and claims of the ’049 patent. *Decision* at 512–13; *see also, e.g.*, ’049 patent, col. 6 ll. 17–32, FIG. 8 (describing O-rings); *id.* col. 6 ll. 33–43, FIGS. 7 & 8 (describing ringed grooves in the male baseplate); *id.* col. 6 l. 65–col. 7 l. 3, FIG. 6A (describing starburst grooves in the female baseplate); *id.* col 6 ll. 5–9, FIGS. 6–8 (describing crimp-fitting the female pipe to the male pipe). The court also took note of dependent claim 5, which recites that the “port bosses are affixed to the apex of a dome segment of said liner parts by compression and crimping.” *Id.* col. 13 ll. 20–22 (emphasis added).

The district court then evaluated whether or not Mackay and Hewson contributed significantly to the conception of at least one claim and found that they did by providing those updates to the port boss that, although mostly unclaimed, nevertheless contributed to the conception of the invention. *Decision* at 510–14. Campbell disputes that conclusion.

The district court found that before Mackay and Hewson's contribution, Campbell had a "major problem," specifically the problem "of slippage" between the port boss and the vessel's liner material. *Decision* at 512 n.3. That slippage problem was explicitly mentioned in a report prepared by Composites Atlantic, which led Campbell to contact Mackay to help with port boss design. *Id.* at 503–04; *see also* A.A. 628–29, 633 (report describing "dome/boss slippage" and the "issue of liner / boss misalignment" being "of major concern" and "a likely road block to certification"). Accordingly, the court found that, prior to Mackay's and Hewson's involvement, Campbell did not have an idea that required only ordinary skill to reduce the invention to practice, without extensive research or experimentation. *Decision* at 512–13. The court reasoned that Mackay's and Hewson's subsequent contributions, including, *e.g.*, the starburst groove patterns on the female baseplate, solved the slippage problem that precluded previous prototypes from being successful and that they thus contributed significantly to the conception of the invention. *Id.* According to the court, "[w]ithout solving the slippage issue, the invention would not be viable." *Id.* at 513.

The record before us, including the Composites Atlantic report describing the problems with slippage of the port boss, the documented suggestions and contributions made by Mackay and Hewson, and the disclosures made in the '049 patent, does not leave us with a definite and firm conviction that a mistake has been made in concluding that Mackay and Hewson contributed significantly to the conception of the claimed invention. *See Impax Lab'ys*, 468 F.3d at 1375. We therefore affirm the district court's judgment that Mackay and Hewson should be listed as co-inventors on the '049 patent.

#### MOTION TO COMPEL

Separately, Campbell moves at ECF No. 87 to compel Appellees to produce various documentation and

information. As Campbell notes, we have already twice rejected a substantially similar motion to compel. ECF No. 87 at 1. Nevertheless, Campbell requests that we “reconsider and issue an order compelling the Appellees to disclose [a] rejected patent filing documentation such that said rejected application is included in [our] equitable assessment of this appeal.” *Id.* Appellees oppose the motion. ECF No. 88.

Campbell’s motion appears predicated on arguments that the Appellees’ conduct “exhibited unclean hands and deceptive intent since May 2007.” *See, e.g.*, ECF No. 87 at 3. He further raises arguments relating to the “evolutionary history of [the claimed port] Boss.” *Id.* at 4. Those arguments belong in the merits briefing, and Campbell has not shown that additional or supplemental briefing is warranted beyond what the court’s rules provide. As to Campbell’s request for the production of various patent documents, the court ordinarily decides matters based on the record before the district court, *see* Fed. R. App. P. 10(a), and we see no basis to depart from that usual practice here. We therefore deny the motion.

#### CONCLUSION

We have considered Campbell’s remaining arguments but find them unpersuasive. For the foregoing reasons, we *affirm* the district court’s decision and order finding that Mackay and Hewson are co-inventors on the ’049 patent.

**AFFIRMED**