

NOTE: This disposition is nonprecedential.

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

AMSTED RAIL COMPANY, INC.,
Appellant

v.

**JOHN A. SQUIRES, UNDER SECRETARY OF
COMMERCE FOR INTELLECTUAL PROPERTY
AND DIRECTOR OF THE UNITED STATES
PATENT AND TRADEMARK OFFICE,**
Intervenor

2025-1063

Appeal from the United States Patent and Trademark
Office, Patent Trial and Appeal Board in No. IPR2023-
00540.

Decided: July 24, 2026

RYAN NORTH MILLER, Fox Rothschild LLP, Philadel-
phia, PA, argued for appellant. Also represented by JEFF
E. SCHWARTZ, Washington, DC.

SHEHLA WYNNE, Office of the Solicitor, United States
Patent and Trademark Office, Alexandria, VA, argued for
intervenor. Also represented by MONICA BARNES LATEEF,

NICHOLAS THEODORE MATICH, IV, ROBERT MCBRIDE,
ROBERT J. MCMANUS.

Before PROST, CHEN, and STARK, *Circuit Judges*.

CHEN, *Circuit Judge*.

Amsted Rail Co., Inc. (Amsted) appeals a final written decision of the Patent Trial and Appeal Board (Board) determining certain claims of U.S. Patent No. 10,137,915 ('915 patent) unpatentable under 35 U.S.C. § 103 and denying Amsted's motion to amend. *Hum Indus. Tech., Inc. v. Amsted Rail Co., Inc.*, No. IPR2023-00540, 2024 WL 3678789 (P.T.A.B. Aug. 6, 2024) (*Decision*). We see no error in the Board's claim construction, factual findings, or denial of the motion to amend. We *affirm*.

BACKGROUND

The '915 patent claims systems and methods of detecting and analyzing operational anomalies in trains. '915 patent col. 1. ll. 13–17. Claim 1 recites:

1. A system for detecting operational anomalies on a train consist or railcar comprising:
 - (a) one or more communication management units mounted on one or more railcars;
 - (b) one or more sensors located on said one or more railcars configured to sense an operational parameter of said one or more railcars, said sensors being in communication with said one or more communication management units, wherein the one or more sensors comprise *one or more sensors configured to measure accelerations of the railcar*; and
 - (c) *one or more filters configured to filter at least a portion of the accelerations*,

wherein said communication management units perform the functions of:

- (i) collecting data regarding said one or more railcar operational parameters;
- (ii) analyzing said collected data for trends or events indicative of an anomalous operational condition; and
- (iii) communicating a message to a remote receiver when said trend or event is detected.

Id. at claim 1 (emphases added). Claim 25 depends from claim 1, “further comprising one or more wireless sensor nodes . . . wherein one or more of the wireless sensor nodes comprises a microprocessor configured to execute firmware . . . *wherein the firmware comprises one or more software filters . . .*” *Id.* at claim 25 (emphasis added).

Hum Industrial Technology, Inc. (Petitioner) petitioned for *inter partes* review, arguing claims 1, 21–30, 36, and 37 of the ’915 patent are unpatentable under 35 U.S.C. § 103. *Decision*, 2024 WL 3678789, at *1. After institution, Amsted filed a contingent motion to amend to substitute claims 38–48 in the event any challenged claims were held unpatentable. *Id.* The Board ultimately held all challenged claims unpatentable and denied Amsted’s motion to amend. *Id.* at *38. In so doing, the Board relied on four prior art references: Armitage,¹ Barone,² LeFebvre, and Winfree.³ *Id.*

¹ U.S. Patent Application Publication No. 2011/0282540 (Armitage).

² U.S. Patent Application Publication No. 2007/0208841 (Barone).

³ LeFebvre and Winfree are not relevant to our analysis.

Amsted appeals. Petitioner withdrew from this appeal after reaching a settlement with Amsted. ECF No. 14 at 1. The Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office (Director) intervened to defend the Board's decision. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

We review the Board's claim construction de novo and its factual findings for substantial evidence. *HD Silicon Sols. LLC v. Microchip Tech. Inc.*, 127 F.4th 919, 921 (Fed. Cir. 2025) (citation omitted).

Amsted first argues that the Board erred in its construction of claim 1, because, in its view, claim 1's sensor must first "sense" or "measure" the accelerations before the filter "filter[s] at least a portion of the accelerations." '915 patent at claim 1; Appellant Br. 32–33. We disagree.

The Board rejected Amsted's position that claim 1 filters "already measured accelerations." *Decision*, 2024 WL 3678789, at *11. We agree with the Board that claim 1 does not require any specific order for the performance of the sensor and filter functions. Moreover, as the Board observed, Amsted's construction would clash with dependent claim 23, which recites that "the one or more filters" of claim 1 "are disposed to remove the undesirable accelerations before the undesirable accelerations reach the one or more sensors that are configured to measure accelerations." '915 patent at claim 23; *see also id.* at dependent claim 26 ("The system of claim 1, wherein the one or more filters comprise one or more mechanical filters."). Dependent claim 23 therefore lends strong support to the Board's construction that claim 1's filter function need not occur after the sensor function. *See Baxalta Inc. v. Genentech, Inc.*, 972 F.3d 1341, 1345–46 (Fed. Cir. 2020) (rejecting a construction that would "render several dependent claims meaningless") (citation omitted). We are unpersuaded by

Amsted's assertion that claim 23 was drafted in error, a proposition for which Amsted cites no record support. *See* Appellant Br. 36. Accordingly, the Board did not err in construing claim 1.

Amsted next argues that the Board lacked substantial evidence to find a motivation to combine Armitage and Barone. Appellant Br. 42–46. We disagree. When analyzing motivation to combine Armitage and Barone, the Board relied on Barone's "removal of unwanted data." *Decision*, 2024 WL 3678789, at *13. The Board explained that Barone's data filtering technique "could be predictably applied to Armitage's system . . . with the benefit of improving data processing." *Id.* Substantial evidence supports the Board's finding, as the Board reasonably credited Petitioner's expert, Mr. Ricca, who opined that a skilled artisan would have been motivated to employ Barone's principle of removing "unwanted data" in Armitage's system. *Id.* (citing J.A. 1038 ¶ 67).⁴

Amsted further argues that the Board lacked substantial evidence in finding that the Armitage-Barone combination disclosed limitation 25[d], which requires a "software filter" executed on "firmware." Appellant Br. 46; '915 patent at claim 25. Amsted specifies that the Board failed to explain why Barone's analog filtering could operate on Armitage's digital firmware. Appellant Br. 48–49. The Board agreed with Amsted that Barone disclosed "analog, not digital" filtering, but further explained that Amsted misunderstood Petitioner's argument, which was that a skilled artisan would have implemented Barone's general filtering principle in Armitage's existing firmware because

⁴ Because we affirm the Board's findings regarding a motivation to combine Armitage and Barone to filter data, we need not address Amsted's argument as to whether Armitage discloses filtering.

a skilled artisan would understand how to implement Barone’s filtering principles “electronically, mechanically, and digitally.” *Decision*, 2024 WL 3678789, at *16 (citing J.A. 1044 ¶ 79). Therefore, notwithstanding Barone’s analog filtering, substantial evidence supports the Board’s conclusion that a skilled artisan would understand Barone’s general principle of removing unwanted data would be performed by a software filter executed on Armitage’s firmware. And contrary to Amsted’s contentions, this theory was advanced in the petition. *See* J.A. 276 (incorporating by reference J.A. 264–68).

Finally, we address Amsted’s argument that the Board incorrectly denied its motion to amend with substitute claims after concluding they would be unpatentable under § 103. Appellant Br. 51, 54–56. Substitute claim 38 introduces three new limitations: a “tri-axis sensor configured to measure accelerations . . . along a plurality of axes,” a “plurality of filters,” and a “plurality of detectors.” *Decision*, 2024 WL 3678789, at *27–28 (strikethrough and underlining omitted). Amsted contends that Armitage is only configured to measure accelerations in one axis and therefore fails to teach measuring, filtering, and detecting accelerations in all three axes. Appellant Br. 54–55.

Substantial evidence supports the Board’s findings. The Board relied on Armitage paragraph 45 and Mr. Ricca’s opinion to conclude that a skilled artisan would understand Armitage’s 3-D accelerometer to measure accelerations in all three axes. *See Decision*, 2024 WL 3678789, at *32 (first citing Armitage ¶ 45; and then citing J.A. 3168 ¶ 29). Armitage paragraph 45 explains that “[i]n some examples” its 3-D accelerometer monitors “a single axis.” J.A. 1137. The Board reasonably found this means that Armitage monitors more than one axis in other instances and its accelerometer is not exclusively configured to monitor only one axis. Mr. Ricca also opined that the pluralities of filters and detectors require simple duplica-

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tions of hardware that would be obvious to a skilled artisan. *Decision*, 2024 WL 3678789, at *32; *see also* J.A. 2929 ¶¶ 33–34. Accordingly, we see no error in the denial of the motion to amend.

CONCLUSION

We have considered Amsted’s remaining arguments and find them unpersuasive or forfeited. For the foregoing reasons, we affirm.

AFFIRMED