

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

FREIGHTCAR AMERICA, INC.,

Petitioner,

v.

NATIONAL STEEL CAR LIMITED,

Patent Owner

Case IPR2025-01046

Patent No. 8,166,892

PATENT OWNER'S SUR-REPLY

On behalf of National Steel Car Limited

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EXHIBIT LIST	
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2003	Docket Sheet, No. 24-cv-00594-JLH-CJB (D. Del.)
2004	Plaintiff's Second Amended Complaint, D.I. 56, No. 24-cv-00594-JLH-CJB (D. Del.)
2005	Report and Recommendations Denying FreightCar's Motion to Dismiss, D.I. 45, No. 24-cv-00594-JLH-CJB (D. Del.)
2006	Order Adopting Report and Recommendation Denying Motion to Dismiss, D.I. 49, No. 24-cv-00594-JLH-CJB (D. Del.)
2007	FILED UNDER SEAL - Answer to Second Amended Complaint, D.I. 68, No. 24-cv-00594-JLH-CJB (D. Del.)
2008	Petitioner's Invalidity Contentions from No. 24-cv-00594-JLH-CJB (D. Del.)
2009	Petitioner's <i>Sotera</i> Stipulation
2010	Portions of United States District Courts-National Judicial Caseload Profile for 12-month period ending March 31, 2025; available at https://www.uscourts.gov/data-news/reports/statistical-reports/federal-court-management-statistics
2011	Time to Milestones for the District of Delaware, DocketNavigator
2012	U.S. Provisional Application No. 61/977,753
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2014	U.S. Patent No. 10,017,191
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2024	Complaint for Patent Infringement in <i>National Steel Car Ltd. v. FreightCar America, Inc.</i> , No. 11-cv-08743 (N.D. Ill.).
2025	Complaint for Patent Infringement in <i>National Steel Car Ltd. v. FreightCar America, Inc.</i> , No. 15-cv-03418 (N.D. Ill.).
2026	Complaint for Patent Infringement in <i>National Steel Car Ltd. v. FreightCar America, Inc.</i> , No. 15-cv-08643 (N.D. Ill.).
2027	FILED UNDER SEAL - 2017 Settlement Agreement between National Steel Car Limited and FreightCar America, Inc.
2028	FILED UNDER SEAL - Email Between National Steel Car Limited Employees
2029	Statistics for Judge Hall in Patent Cases Since January 1, 2021, DocketNavigator
2030	Tarmac PGA Stone Wagons
2031	Agreed Protective Order Regarding the Disclosure and Use of Discovery Material, D.I. 42, No. 24-cv-00594-JLH-CJB (D. Del.)
2032	Company, FreightCar America Webpage, available at https://freightcaramerica.com/company/
2033	FILED UNDER SEAL - FreightCar America's Response to Interrogatory No. 7
2034	U.S. Patent No. 8,132,515
2035	Declaration of Mark J. Viz Ph.D., P.E. Under 37 C.F.R. § 1.68
2036	Article, "This Company Got a \$10 Million PPP Loan, Then Closed Its Plant and Moved Manufacturing Jobs to Mexico", available at https://www.propublica.org/article/this-company-got-a-10-millionppp-loan-then-closed-its-plant-and-moved-manufacturing-jobs-tomexico
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2038	FILED UNDER SEAL - NSC024815
2039	FILED UNDER SEAL - NSC021773
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2041	FILED UNDER SEAL - NSC028291
2042	FCA0000280 Original
2043	FCA0000280 Reproduced
2044	Email from Counsel Robert Keeler to Justin Gillett
2045	Declaration of Laura Jewell
2046	Terminal Disclaimer of Claim 1 of U.S. Patent No. 8,166,892
2047	RESERVED

2048	FILED UNDER SEAL - NSC011814
2049	RESERVED
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2051	RESERVED
2052	Claim Construction Order, filed December 17, 2025, Document 177, 1:24-cv-00594-JLH-CJB
2053	Claim Construction Reports and Recommendations, November 21, 2025, Document 170-172, 1:24-cv-00594-JLH-CJB
2054	Amended Joint Claim Construction Chart, filed November 10, 2025, Document 163, 1:24-cv-00594-JLH-CJB
2055	<i>Manual of Standards and recommended practices. section C, part II. Design, Fabrication, and Construction of Freight Cars.</i> (2023). Association of American Railroads.
2056	Deposition transcript of Sylvia Hall-Ellis, Ph.D., taken February 27, 2026, and exhibits
2057	Deposition transcript of Medhi Ahmadian, Ph.D., taken March 5, 2026, and exhibits
2058	Declaration of Mark J. Viz, Ph.D., P.E. signed March 13, 2026 in support of Patent Owner Response
2059	Court’s Oral Order Denying Petitioner’s Motion to Stay, <i>National Steel Car Limited v. FreightCar America, Inc.</i> , No. 1:24-cv00594-JLH-CJB

I. INTRODUCTION

Patent Owner National Steel Car Limited (“NSC” or “PO”) submits this Sur-Reply, confined to the issues raised in Petitioner FreightCar America, Inc.’s Reply (Paper 53, the “Reply”). The Reply does not cure the Petition’s defects, it compounds them. Indeed, the Reply largely repeats the same conclusory assertions that the Board identified at institution as creating factual disputes, while failing to supply the structural analysis, engineering evidence, or claim-specific proof necessary to carry Petitioner’s ultimate burden by a preponderance of the evidence. On the merits, Petitioner concedes the dispositive structural distinctions, recasts Dr. Viz’s testimony out of context, relies on attorney argument unsupported by any technical declaration, and, most significantly, injects an entirely new “commercial failure” theory supported by new exhibits authenticated only by a lawyer (EX1057) and never analyzed by Petitioner’s own expert. That new evidence and argument exceeds the proper scope of a reply and should be disregarded. Because Petitioner still has not carried its burden by a preponderance of the evidence on any instituted ground, claims 2-15 should be confirmed.

The Institution Decision (Paper 27, the “Institution Decision”) was necessarily based on a preliminary record and expressly left these issues for further development. The now-developed record confirms that Petitioner’s theories depend on oversimplified visual comparisons, unsupported assumptions regarding railcar

structures, and constructions that disregard how a POSITA would understand the claimed features in the context of freight-car structural design.

II. CLAIM CONSTRUCTION

A. “Sloped side sheet” - Petitioner continues to rely on a construction the District Court squarely rejected

Petitioner asserts that the claims are unpatentable “under any reasonable construction that accounts for the ’892 Patent’s only disclosed embodiment,” and defers the construction of “sloped side sheet” to its claim 6 discussion. (Reply at 1.) That framing is misleading. The District Court has already construed “sloped side sheet” to mean “a sheet extending in a longitudinal direction with respect to a side of the hopper and which forms a sloped surface,” expressly rejecting Petitioner’s position that the term means a “sloped portion of the side[w]all.” (Exs. 2052, 2053.) The Court reasoned that because the claims recite the “sloped side sheet” and the “sidewall” as two elements that “meet” each other at the transition portion, they are presumed to be separate structures, and Petitioner failed to rebut that presumption. (EX2053.) The Court further held that equating the “transition portion” (intermediate portion 98, which both sides agree is part of the sidewall) with the “sloped side sheet” produces the “nonsensical” result of a structure meeting itself. (*Id.*)

Petitioner's Reply does not grapple with this holding, instead maintaining its two separate interpretations under Grounds 1b and 2b. Petitioner argues that its "use of alternative constructions is . . . reasonable before the Board addresses claim construction" and that Ground 2b "also satisfies the District Court's post-petition construction." (Reply at 21.) Neither point is correct. The Board should apply the same *Phillips* standard the District Court applied, and the District Court's reasoned construction is highly persuasive intrinsic analysis the Board should not ignore. More fundamentally, Petitioner's Ground 2b mapping depends on treating the sloped part of the sidewall as the sloped side sheet, precisely the rejected construction. Petitioner cannot salvage that ground by now claiming its analysis "would apply equally to both" interpretations (Reply at 43), because under the correct construction there must be a separate sheet element that "meets" the sidewall at the transition portion, and Petitioner's Ground 2b never identifies one.

Petitioner attempts to dismiss the District Court's construction as merely one possible reading. But the Court's analysis was not policy-driven or outcome-driven; it flowed directly from the claim language itself. Most importantly, the Court recognized that two structures recited as meeting each other cannot be the same structure. Petitioner still offers no persuasive intrinsic evidence overcoming that fundamental premise.

III. GROUND 1B

A. Limitation [2i] - Petitioner concedes its theory requires collapsing two structures the patent keeps separate

Petitioner argues that the 1946 Cyclopedia's NSC Ore Car (which it defines as the "NOC") V-shaped end top chord is the claimed "first cross-wise extending beam." Petitioner's response is principally a claim-differentiation argument: it contends claim differentiation "merely requires that a dependent claim 'specify a further limitation'" and that nothing prevents the NOC structure from simultaneously being claim 2's beam and claim 8's "end top chord." (Reply at 2-3.) However, the specification itself repeatedly treats the reinforcement beam and top chord as separate structures with separate roles. Claim differentiation confirms what the intrinsic record already makes clear.

Dependent claim 8 separately adds an "end top chord," which presumes independent claim 2's "first cross-wise extending beam" is not that chord, absent contrary intrinsic evidence. Petitioner identifies no intrinsic evidence overcoming the patent's explicit differentiation of beam 140 and top chord 86. Nor does Petitioner explain why it would be reasonable to conclude that dependent claim 8 separately recites an outboard end top chord if claim 2 already encompasses the same structure. Petitioner's reading collapses the distinction the patent repeatedly draws between the reinforcement beam and the top chord.

The '892 Patent expressly distinguishes the “laterally extending end slope sheet reinforcement beam 140,” a substantially triangular closed section built at the slope-sheet interface, from “top chord 86,” a separate structure. *See* Figure 1. The patent describes the beam 140 and top chord 86 as different members serving different functions. (EX1001, hereinafter ('892 Patent”) at 16:36-45). The beam primarily reinforces the slope sheet, while the top chord is a critical stiffening member of the box beam structure formed overall by the entire hopper. The specification treats the reinforcement beam and top chord as distinct structural elements, and nowhere suggests that the top chord itself constitutes the claimed slope-sheet reinforcement beam. ('892 Patent at 16:36-45). Petitioner still points to no disclosure equating those structures.

Petitioner leans heavily on a single, generic line from Dr. Viz’s deposition—that “a top chord can serve as a beam, and vice versa.” (EX1056 at 261:18–262:10.) That generic, abstract observation about engineering nomenclature does not establish that the NOC’s particular V-shaped chord performs the claimed reinforcing function at the claimed locus. Dr. Viz consistently distinguished a “beam,” which is designed to resist bending and shear, from a stiffening member, explaining that whether a member is a beam “depends on the analysis . . . what loads are you trying to react” (EX1056 at 108:7-109:9.) Petitioner also faults NSC’s use of the word “primarily,” arguing a member can serve both functions. That observation does not

discharge Petitioner's burden to show the NOC chord actually "function[s] as that reinforcement at the claimed locus" rather than "capping the end wall generally." Labeling the chord "a beam" is not proof.

B. Limitation [21] – Petitioner's "feasibility" argument confirms the missing motivation to combine

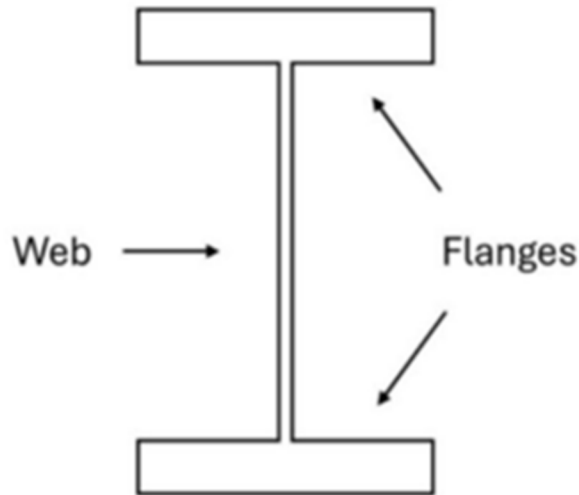
Petitioner argues that the NOC photograph at EX1004 at 28 shows "a door opening mechanism in the machinery space," which "proves feasibility of locating one" as claimed. (Reply at 12.) But feasibility is not the missing element. The issue has always been motivation to replace whatever mechanism the NOC car actually uses with Lindström's specific 1919 mechanism and to do so in the claimed configuration. If the NOC already depicts a door-opening mechanism, that fact undercuts Petitioner's premise that the drawings' silence means "any suitable mechanism would work." It raises, and Petitioner still never answers, what mechanism the photograph shows, whether it satisfies [21], and if not, why a POSITA would discard it to import Lindström's 1919 arrangement.

The Board's preliminary institution analysis relied in part on high-level similarities between the two railcars. (Institution Decision at 28.) But similarity of overall car type does not establish interchangeability of door-actuation systems. Even assuming *arguendo* that installation of a Lindström-type mechanism was feasible, obviousness requires more than feasibility. Petitioner must prove that a

POSITA would have had a reason to choose that specific mechanism and a reasonable expectation that doing so would achieve the claimed arrangement. Door mechanisms must operate within specific geometric constraints, load paths, maintenance requirements, and operating environments. Petitioner still has not shown why a POSITA would have selected Lindström's mechanism, rather than any number of alternative mechanisms available by 2009, much less why doing so would have been viewed as advantageous.

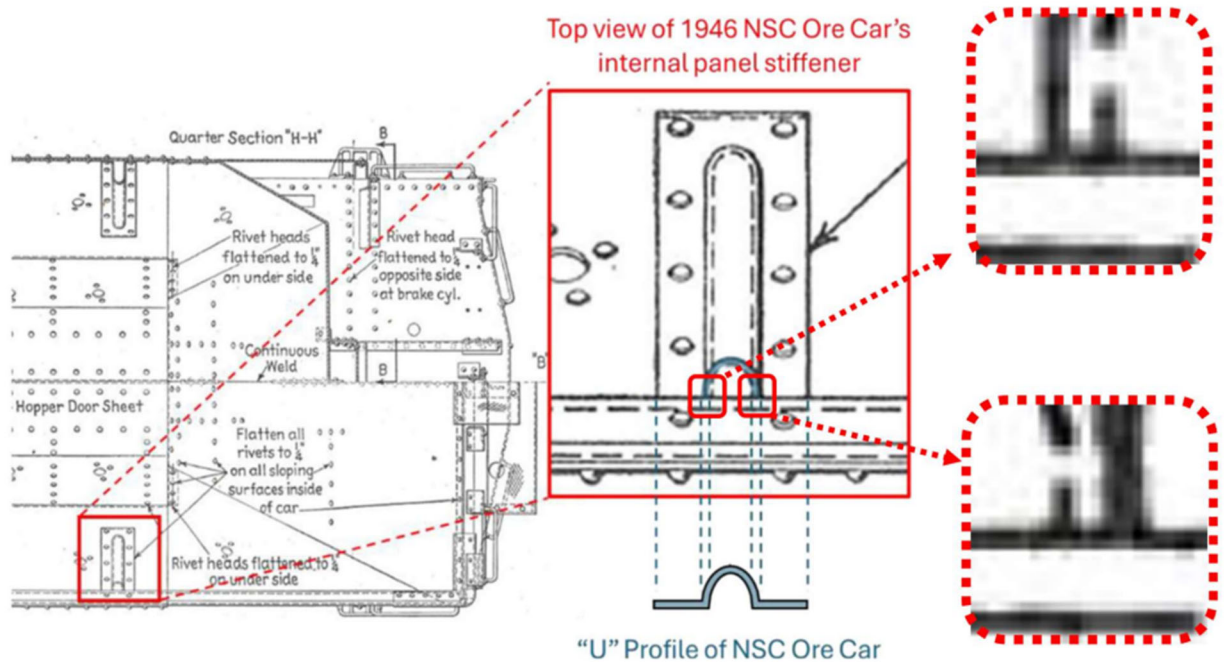
C. Limitation [2u] – the NOC's U-/hat-section stiffeners have no web, so they cannot have web continuity

Limitation [2u] recites that the claimed "sidewall stiffener" has "web continuity between said first and second portions thereof." "Web continuity" requires two things: structural elements that comprise a web, and that those webs be co-planar or substantially co-planar. ('892 Patent at 15:44-45.) As Dr. Viz explained, "alignment alone does not result in web continuity," which requires "the inclusion of a unique structural detail referred to as a 'web'," the component of a structural element that "resists shear loading." (EX2058 at ¶¶96-97; *See also* EX1056 at 255:15-19.)



Example Beam Section with Web.

The specification confirms this: co-planarity is the enabling condition (“such that”) for web continuity, not its definition. (’892 Patent at 15:44-46.) Petitioner argues that the NOC’s stiffeners “are posts with webs,” that “web” simply means “a wall or plate that is perpendicular to a flange,” and that each leg of a U-shaped stiffener forms a T-section with the sidewall and thus supplies the claimed web continuity. (Reply at 15.) This is a label-driven argument that the developed record refutes. The structure shown in the NOC is a hat- or U-shaped section fastened to the sidewall; it is not a web as a POSITA understands that term, as confirmed by Petitioner’s own annotations.



(Reply at 17.) Indeed, Petitioner's own annotations do not identify what part of the NOC stiffener is the required "web" portion.

Petitioner's position effectively reduces "web continuity" to "co-planarity." But if co-planarity alone were sufficient, the claim's express reference to a web would be meaningless. The Board should avoid a construction that renders a substantive claim term superfluous. *Intel Corp. v. Qualcomm Inc.*, 21 F.4th 801, 810 (Fed. Cir. 2021) ("It is highly disfavored to construe terms in a way that renders them void, meaningless, or superfluous."). Moreover, such an interpretation would render dependent claim 3 meaningless, as it requires that the "first and second portions of said sidewall stiffener are substantially co-planar, and are substantially vertically aligned when seen in a sectional view looking along the car." In the District Court case, the parties agreed that "said sidewall stiffener having web continuity between

said first and second portions thereof” meant “plain and ordinary meaning, i.e., said [sidewall] stiffener having substantial co-planar alignment of the first and second portions through a transition portion to resist shear force.” (EX2054 at 2.) Petitioner seizes on the “co-planar alignment” language and contends this “broad construction includes no special definition of web.” However, that argument reads the remaining words out of the construction.

On the preliminary record before institution, the Board focused on whether the two stiffener portions are substantially aligned within a common plane. (*See* Institution Decision at 31-34.) The developed record demonstrates why that analysis cannot stop there. The claim does not recite “alignment”; it recites “web continuity.” Alignment is a geometric relationship. A web is a structural component having a recognized engineering function. The presence of the word “web” in the claim therefore cannot be ignored.

Petitioner mischaracterizes Dr. Viz’s deposition. While Dr. Viz agreed that a web is generally perpendicular to a flange (EX1056 at 99:5-21, 100:16-101:22, 104:4-6, 114:15-19, 115:16-116:3), he expressly testified that an L-section or hat-section is “[n]ot classically” a web because such sections serve a different purpose, controlling displacement rather than resisting shear and bending loads (EX1056 at 107:22-109:19.) He further explained that “continuity” is a load-transfer concept—“meaningful from a load transfer standpoint more so...than a geometry

standpoint”—not satisfied by mere geometric alignment. (EX1056 at 105:2-16.) He confirmed that, even where alignment exists in the 1946 ore car, “that doesn’t establish web continuity” as taught in the ’892 Patent. (EX1056 at 256:13-257:1.) Petitioner’s reliance on the Board’s preliminary, institution-stage observations about claim scope (Paper 27 at 34) cannot substitute for the now-developed record showing the NOC and Lindström disclose hat-/U-sections, not webs. Petitioner’s own expert, Dr. Ahmadian, offered no analysis identifying a single stiffener web traversing the sheet, and admitted his opinions rest on conceptual renderings, not structural mapping. (EX2057 at 127:13-130:21, 172:5-20.)

Importantly, Dr. Viz did not testify merely that the cited art structures differ cosmetically from the claimed stiffener. He explained that the claimed web continuity reflects a load-transfer mechanism associated with a web member extending through the sidewall transition. (EX1056 at 105:2-16.) Petitioner has offered no competing structural analysis demonstrating that the NOC or Lindström stiffeners perform the same function in the same manner. Instead, Petitioner relies principally on visual correspondence. Visual correspondence, however, is not equivalent to structural continuity.

This distinction becomes especially important because Petitioner repeatedly relies on historic schematic drawings rather than engineering drawings or structural

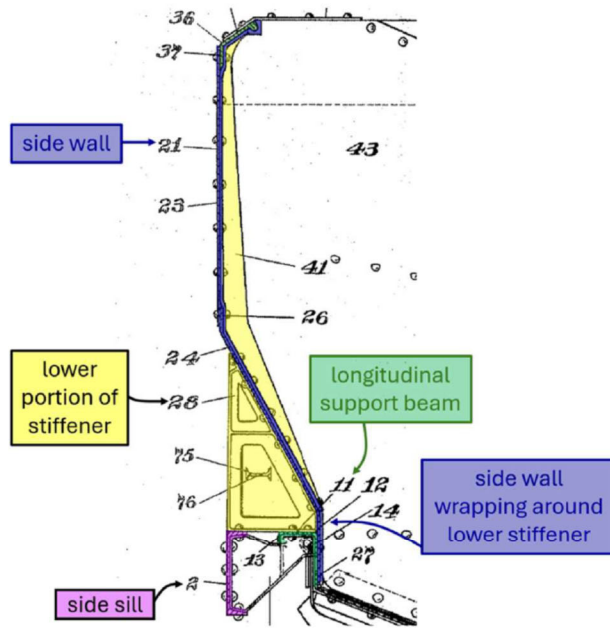
calculations. Without demonstrating the presence of an actual web structure, Petitioner's identification of alleged "web continuity" remains conclusory.

D. Claim 2 as a whole

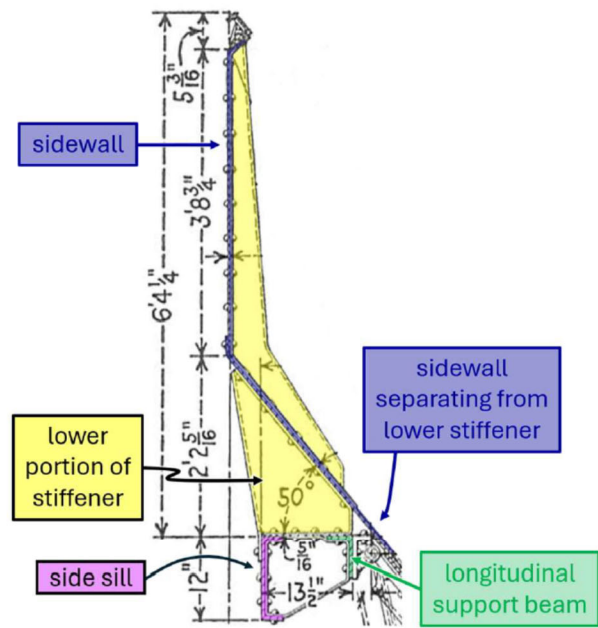
Petitioner's assertion that NSC's "claim 2 as a whole" argument "ignores pages 34-64 of the Petition" is no answer. NSC's point is that Petitioner failed to prove that the asserted art teaches limitations [2i], [2l], and [2u], and cannot establish that claim 2 as a whole is taught.

E. Claim 6

For claim 6, Petitioner contends its modification satisfies "both PO's proposed construction" and "the District Court construction." (Reply at 22.) However, Petitioner fails to address the fact that *neither* of the references have the sloped side sheet as required by this claim. In fact, Petitioner fails to identify a "sloped side sheet" in either of the pieces of asserted art, claiming that a POSITA would simply know to "add a sloped side sheet" after making other modifications to the NOC based on Lindström and removing large swaths of sidewall – which are categorically not part of the sloped side sheet. EX2053. The first time that Petitioner contends that the NOC has a "sloped side sheet" is on reply (*see* Reply at 21), and this directly contradicts Petitioner's own annotations from the Petition, which characterizes all of the inclined portion as part of the sidewall:



**Lindström
Fig. 5**



**NSC Ore Car
(Unmodified)**

Petition at 69. This is fatal to Petitioner's proposed obviousness combination.

Petitioner's proposed modification illustrates hindsight reconstruction. Petitioner provides no non-hindsight rationale to "wrap" the NOC sidewall around the lower stiffener and then "add back" a non-existent sloped side sheet-an admitted use of the '892 Patent as a roadmap. The modification begins with knowledge of the claimed arrangement and then reshapes the prior-art sidewall until it resembles the patented configuration. Petitioner identifies no prior-art teaching, design requirement, or engineering benefit that would have led a POSITA to undertake those specific modifications absent knowledge of the patent.

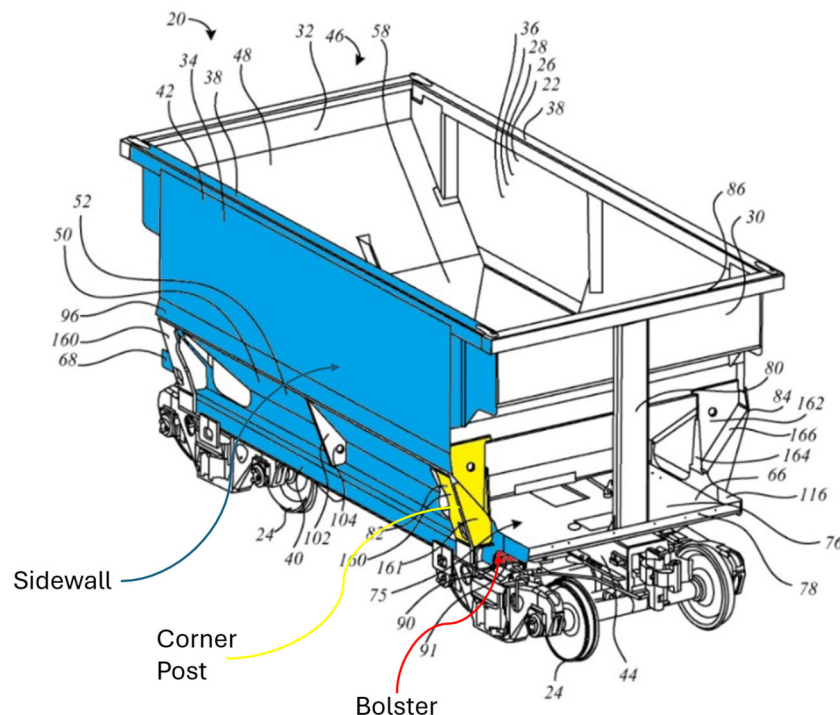
F. Claim 8

For claim 8, Petitioner repeats that “the same structure can be a crosswise beam (claim 2) and an outboard end top chord (claim 8)” and that “the end top chord does act to reinforce the slope sheet.” (Reply at 43.) For the reasons discussed in Section II.A, the patent distinguishes these structures, and Petitioner’s expert offers no analysis bridging the functional gap. Lindström, as Petitioner admits, has no end post, and Petitioner supplies no reasoned basis or expectation of success for adding one via the NOC.

G. Claim 11

In the Reply, Petitioner admits its position is that “the strong corner posts are part of, and mate with, the sidewalls.” (Reply at 26.) However, in accordance with *Phillips*, in interpreting the claim language the first inquiry is with the claims themselves. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005). And this claim is unambiguous, the corner posts and sidewalls are *separate* structures because the corner posts must “extend upwardly . . . to mate with the sidewalls.” *See Google LLC v. EcoFactor, Inc.*, 92 F.4th 1049, 1058 (Fed. Cir. 2024) (“there is a presumption that separately listed claim limitations may indicate separate and distinct physical structure”) (internal quotations omitted); *Becton, Dickinson & Co. v. Tyco Healthcare Grp., LP*, 616 F.3d 1249, 1254 (Fed. Cir. 2010) (same).

Petitioner attempts to rebut this presumption by citing to a single portion of the specification that shows the corner posts in an isometric view of the sidewall. However, the quote that Petitioner relies on does not affirmatively state that the corner posts are part of the sidewall. And the rest of the specification makes clear that the corner posts and sidewalls are separate structures. (*See e.g.*, '892 Patent at 14:21-26; 16:21-28; 16:58-65; 26:11-18.) The only other portion of the specification that Petitioner cites to support its theory simply states that the sidewall may “act as deep beams” and “carry vertical loads to main bolsters 90.” However, this quote does not help Petitioner because Fig. 1 of the specification shows that a portion of the sidewall itself extends down and sits between the side sill and bolster and, thus, can carry those vertical loads without assistance of the corner posts.



Accordingly, this claim requires that the corner posts and sidewalls be separate structures. And Petitioner's insistence that they are one in the same is fatal to its invalidity analysis.

H. Claim 12

Petitioner's arguments fail for the same reasons provided above regarding claim 11.

IV. GROUND 1C (CLAIM 9)

Petitioner argues that the Wong-derived modification yields a hollow cross-section beam at the slope-sheet/end-wall meeting, and that Dr. Viz "admitted that such 'fit-up' modifications (e.g., making a notch) were within the knowledge of a POSITA." (Reply at 33). That single deposition snippet cannot fill the gap in proof. The dispute is not whether a POSITA can make a notch in the abstract; it is whether Petitioner showed motivation and a reasonable expectation of success for placing a hollow reinforcing beam at the precise co-located point where the downwardly extending end wall meets the slope sheet. Petitioner's images rely on visual inference, not dimensioned evidence, weld lines, or a continuous hollow section co-located with the meeting, and Dr. Ahmadian performed no CAD/FEA or interface-geometry analysis. Petitioner also still does not otherwise engage the steel/aluminum

purpose mismatch underlying Wong, or the interference/fit concerns created by the added end-wall fold at the slope-sheet joint. (Reply at 4-7; 29-30; 32; 37; 39.) Because limitation [9b] ties three features to one location, an unworkable geometry defeats all three together.

On the preliminary record, the Institution Decision found that Petitioner had shown a reasonable likelihood that a POSITA could modify Wong's structure to create the claimed beam arrangement. But Petitioner still has not supplied a concrete implementation showing how the resulting structure would simultaneously satisfy all three co-located requirements of limitation [9b]. Instead, Petitioner relies on annotated figures and conceptual sketches, and a motivation to combine that results in non-practicing designs when implemented in the real world. At the merits stage, conceptual possibilities are insufficient; Petitioner must prove that the proposed combination actually teaches the claimed configuration.

Further, Petitioner's sole motivation to combine argument is not on point. Petitioner argues that a POSITA would be motivated to add an end wall to the NOC because it would increase the volume of the hopper. However, this claim limitation does not require an end wall that extends above end slope sheet and, accordingly, increase the volume of the hopper. To the contrary, this claim only requires that the end wall extends "*downward* of said end top chord" and meet the longitudinally outboard end of the first end slope sheet. As acknowledged by Petitioner, the upper

margin of the end slope sheet rests on the top chord of the NOC. (Reply at 2.) Accordingly, an end wall that extends *above* the end slope sheet (that would increase the volume of the hopper) is not required by this claim. And Petitioner's only stated motivation to combine would not motivate a POSITA to create a combination that practices the same.

At institution, the Board concluded that Petitioner's proposed modification was sufficiently plausible to warrant trial. The developed record now demonstrates the opposite problem: Petitioner has never moved beyond conceptual plausibility. Its theory remains dependent on annotated figures and generalized assertions about "fit-up" modifications, not an actual implementation showing how all three location-dependent requirements of limitation [9b] would be simultaneously satisfied.

V. GROUND 1D (CLAIM 15)

Petitioner argues that substituting the L&Y "flat bar" stiffeners would yield a web structure tracking the claimed embodiment, and that NSC "ignores Dr. Ahmadian's explanation of flat bar stiffeners." (EX1003 ¶¶ 38-40, 71; Reply at 37.) First, claim 15's "flat bar" presupposes a web (the web of an I-beam), and the NOC/Lindström structure is a hat/U-section with no web, so there is nothing to "substitute" into while preserving the other stiffener relationships. Second, Petitioner and Dr. Ahmadian never explain why Coates' L&Y discussion teaches "flat bar"; they merely present that conclusion as fact, and a POSITA viewing the

photographs would not necessarily read them as showing flat bar. For example, it is impossible to know if the L-brackets used to mount the outboard stiffeners to the sidewalls are “made of flat bar.” Only the engineering drawings of these components can show that they are actually flat bar and not something else. Changing the stiffener stock to flat bar changes stiffness, connection geometry, and load paths and would require redesign, not a “simple substitution,” a point Petitioner answers only with attorney argument, not engineering analysis.

VI. **GROUND 2B**

A. Limitation [2i] - Petitioner's new *KSR/Dillon* authorities do not excuse the unaddressed obstacles

Petitioner argues that Wong's “other stiffeners” are “logically irrelevant” and that it is “error to ‘look only to the problem the patentee was trying to solve,’” *citing KSR and In re Dillon* for the first time. (Reply at 37-38.) These authorities do not save Ground 2b. NSC does not argue that different utility alone defeats obviousness; it argues that Petitioner failed to show motivation and a reasonable expectation of success to graft Wong's aluminum/steel end-sheet joint geometry onto a steel ore car. Dr. Ahmadian himself agreed Wong is about using steel to bear loads and aluminum to reduce weight, that steel and aluminum have materially different stiffness/strength, and that welding steel to aluminum “is not a good practice.” (EX2057 at 174:4-175:9, 175:17-19, 73:18-22.) He also acknowledged that different

commodities and dynamic dumping loads drive different designs. (EX2057 at 20:8-21, 37:15-39:2). Structural similarity does not paper over those admissions. The Reply also does not address the practical reality that Wong's structure derives from design choices tied to its mixed-material construction. Petitioner repeatedly extracts isolated structural features while disregarding the engineering context in which those features operate. A POSITA would not view those features in isolation.

On implementation, Petitioner again invokes Dr. Viz's "fit-up" testimony to wave away the conflict with Lindström's outwardly extending stiffening flanges 51, which occupy the very space where Petitioner inserts the new beam. (Reply at 38.) A generic acknowledgment that fit-up modifications exist does not show that lengthening and bending Lindström's end wall is workable, or supply the fastening path to the slope sheet that the Petition never describes. Dr. Ahmadian performed no CAD modeling, no finite-element analysis, and no dimensioned interface work. Petitioner has failed to show that this claim limitation is disclosed or suggested by the asserted art.

B. Limitation [2j] - A channel is still not mapped at the claimed location

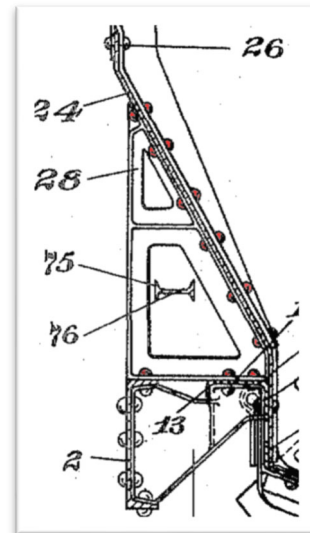
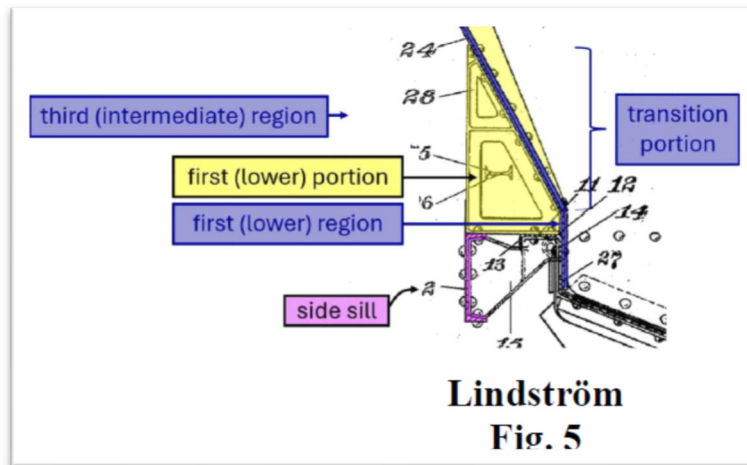
Petitioner responds that the Petition "shows the beam modification (labeled 'channel-shaped stiffener')" and that "a simple notch can be used for this fit-up process." (Reply at 38). But of the several Wong channels Petitioner gestures at, only

channel 68 sits at a lower, inboard end of an end slope, and Petitioner never shows that part transplanted into Lindström at the claimed location performing the reinforcing function. Petitioner's annotated art positions the "second beam" without a credible connection path, in a zone already occupied by flanges 51, and supplies no fastening detail (welds, rivet lands, brackets). Petitioner's rejoinder that adding the beam "would not 'likely destroy the structural integrity'...because Wong demonstrates using multiple stiffeners," (Reply at 39) and that Dr. Viz "agreed that Wong illustrates its stiffener 68 similarly" (*id.*) conflates Wong's native design with the proposed Lindström retrofit. The question is the consequence in Lindström's geometry-load paths, door framing, local buckling, clearances—which Petitioner never addresses. The absence of any engineering analysis is particularly telling because Petitioner bears the burden of proving not simply that a channel exists somewhere in Wong, but that a POSITA would have incorporated it into Lindström in the particular location and manner required by the claim.

C. Limitation [2r]

For [2r], the claim requires that the "first portion" of the "sidewall stiffener" be "mounted to said first region of said first upstanding sidewall." Petitioner's arguments focus on connection mechanisms rather than the crux of the dispute – whether the "first portion" is "mounted" to the "first region" of the sidewall. It is not. Petitioner never identifies where the upper portion is actually "mounted to" the

second region in Lindström. It is clear that Lindström's first portion of the sidewall stiffener is mounted to the inclined transition portion, not the first region of the sidewall.



Petition at 116 (cropped); Lindström Fig. 5 (modified).

Petitioner's allusion to "analogous mounting relationships" does not meet the claim limitation. (Reply at 40.)

D. Limitation [2s]

For [2s], Petitioner clarifies that "as shown above" refers to an illustration at Petition page 95, two pages (and two other illustrations) before the cross-reference and asserts NSC's arguments therefore "do not apply". The Petition is unclear and Petitioner did not meet its burden.

E. Limitation [2u]

For [2u] in Ground 2b, Petitioner argues that the “yellow web is not ‘single,’ ‘continuous,’ or ‘unified’ because the blue sidewall traverses it,” and that “the aligned webs of the dual T-sections” supply web continuity. This repeats the Ground 1b error: Lindström and the NOC disclose hat/U/L sections, not webs, so there is no continuous web to align. Petitioner identifies no continuous web in either reference, asserting only that the portions are “in the same vertical plane”—but co-planarity is not structural web continuity.

F. Claim 5

For claim 5, Petitioner argues that its proofs “do[] not require great precision.” (Reply at 41.) The flaw is the premise, however: Petitioner reads dimensions from a schematic as if drawn to scale. Lindström is a patent without dimensions; Patent drawings are not interpreted to scale unless so indicated. Dr. Viz explained that hopper geometry is governed by commodity angle of repose, discharge mechanics, load paths, and AAR clearance plates, not by free parameters a designer would adjust to hit a claimed fraction of L, so there is no art-based teaching to tune the transition height to the claimed range. EX2058 ¶104. Moreover, Petitioner offers no reason to combine Lindström with the NOC other than conclusory allegations, ignoring the complicated interrelation of hopper geometry described above.

G. Claim 6

For claim 6, Petitioner's contention that "any interpretation that avoids the alleged 'self-referential mapping' issue...would apply equally to both Lindström and the '892 patent" does not cure the defect. (Reply at 43.) Petitioner admits that it is comparing figures, not claim limitations. (*Id.*) Under the District Court's construction, the "sloped side sheet" must be a separate sheet that "meets" the sidewall at the transition portion; Petitioner's Ground 2b again treats the sloped sidewall portion as the sheet, improperly collapsing the two structures into one.

H. Claim 8

Regarding claim 8, as described in Section II.A, the Petitioner again conflates two separately claimed structures: the top chord and the cross-wise beam. Because Petitioner fails to identify the claimed structure in the alleged art, the Petition should fail.

I. Claim 11

As described above, Petitioner's argument that the corner posts and the sidewalls are one in the same fails. Petitioner thus does not meet its burden regarding this claim.

J. Claim 12

Claim 12 fails for the same reasons; the different dependency path does not cure the evidentiary gaps.

VII. GROUND 2C (Claim 15)

For Ground 2c, Petitioner states that NSC “provides no arguments beyond those it raised for Ground 1d” and that a POSITA “would have recognized flat bar in the L&Y photographs.” The deficiencies identified regarding ground 1D apply: claim 15 presupposes a web that the Lindström/NOC/Wong assembly lacks; Petitioner provides no material-identified or dimensioned proof of “flat bar”; and it offers no *KSR*-compliant rationale to substitute flat bar while preserving the other stiffener relationships.

VIII. The Reply’s Objective-Indicia Section Rests on Improper New Evidence and Lacks Any Expert Support

A. Petitioner’s new theories and exhibits are improper new matter

For the first time in this proceeding, Petitioner argues that NSC’s commercial embodiment “was a commercial failure,” supported by three new exhibits EX1059,

EX1060, EX1062¹ authenticated solely by the declaration of Petitioner's counsel, Justin J. Gillett. (EX1057.) A reply "may only respond to arguments raised in the . . . patent owner response." 37 C.F.R. § 42.23(b). Because Petitioner waited to provide its support, Petitioner's affirmative "commercial failure" theory, built on assertions that the discharge doors "failed too often," that the air system was "unreliable in cold temperature," and that CN later awarded orders to ARI and Petitioner, is a new theory with new evidentiary support, not a responsive rebuttal. The Board should decline to consider it and accord it no weight.

Moreover, the evidence Petitioner provides on reply is cherry-picked and incomplete. The pneumatic door mechanism of the 232 NSC Ore Cars was a requirement of the customer, Canadian National. Over a decade ago, one of NSC Ore Cars was retrofitted to have a mechanical door mechanism, like the ones installed on Petitioner's infringing cars. That retrofitted car has since been in continuous operation, proving that the patented railcar structure is not a commercial failure. However, at this stage of the proceedings, Patent Owner may not introduce

¹ Exhibits 1061 and 1064 were filed by Petitioner in violation of a Protective Order in the District Court case. Petitioner has since withdrawn these exhibits. (Paper 51.)

new evidence regarding this on sur-reply, compounding the prejudice caused by Petitioner's new arguments and evidence. 37 C.F.R. § 42.23(b).

B. Petitioner's objective-indicia case has no technical foundation

Even on the merits, Petitioner's objective-indicia rebuttal is attorney argument unmoored from expert analysis. Dr. Ahmadian's declaration stated only that he was "not aware of any evidence of secondary considerations." At deposition, he confirmed he did not consider commercial success as an "additional consideration" within the framework of his declaration did not analyze copying and did not know what "industry praise" meant in this context. (EX2057 103:11-108:12; 112:19-114:8.) In fact, Dr. Ahmadian found "secondary considerations" to be "secondary; not the key consideration." (EX2057 at 121:15-122:6.) Petitioner's new EX1057 declarant, Mr. Gillett, is a lawyer who merely authenticates documents; he offers no technical opinion on commercial success, nexus, or copying. Petitioner thus asks the Board to weigh contested factual and technical questions on attorney say-so alone. This is insufficient.

C. Nexus and copying

Petitioner argues there is no nexus because "the '892 patent does not claim 'open end sections,'" and the claims were allowed based on "the two-part sidewall stiffener with web continuity." (Reply at 46.) However, the claims recite specific

structure, such as cross-wise beams, that enable the open-end sections. *See* claim 2. NSC’s evidence is that its commercial embodiment practices the claims, that CN specifically requested the open-end-section design in later orders, and that the claims specify how to create that open end-section through the recited structural features, establishing the required connection. NSC sold 232 cars practicing the invention, ARI failed to replicate them (substituting a large vertical wall for the claimed cross-wise beams), and Petitioner inspected, measured, and copied NSC’s car after CN requested the patented open-end sections. *See* Patent Owner Response, Paper 39, at Section VIII.F.

Petitioner likewise never explains why FCA inspected, measured, and reproduced features of NSC’s design if those features merely reflected routine fleet-standardization requirements. *See, e.g.,* EX2004 ¶¶ 61-71. The more plausible inference is that the design itself possessed value that competitors sought to emulate, as other designs were not copied. *Id.* ¶¶ 73-75.

Petitioner counters that any similarity is “due to the customer’s desire to standardize its fleet,” citing the new EX1063 (DMIR standardization “began in 1937”). This newly introduced exhibit does not rebut copying, and a 1937-era standardization project hardly is relevant today or in 2009. Petitioner offers no expert testimony tying the alleged standardization to the specific claimed features. Petitioner’s “fleet standardization” theory, like its “commercial failure” theory, is

new attorney argument resting on new documents and should be given little or no weight.

IX. Conclusion

The Reply confirms that Petitioner cannot meet its preponderance burden on any instituted ground. At institution, the Board correctly recognized that these issues warranted further examination. The full evidentiary record now demonstrates that Petitioner's case depends on collapsing distinct structures, treating geometric alignment as structural equivalence, and filling critical gaps with attorney argument rather than engineering proof. For the foregoing reasons, the claims of the '892 Patent should be found patentable.

Respectfully Submitted,

Date: July 14, 2026

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CERTIFICATION UNDER 37 C.F.R. § 42.24(d)

I hereby certify that the foregoing complies with the type-volume limitation of 37 C.F.R. § 42.24 and contains 5,487 words based on the word count indicated by the word-processing system used to prepare the paper, excluding the table of contents, table of authorities, exhibit list, certificate of service, certificate of word count, and signature block.

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Date: July 14, 2026

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CORRECTED CERTIFICATE OF SERVICE

The undersigned hereby certifies that the foregoing **PATENT OWNER'S SUR-REPLY** was served electronically in its entirety on July 14, 2026 via electronic mail to the following attorneys of record:

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