

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BLASTERS, INC.

Petitioner

v.

WATERBLASTING, LLC, D/B/A WATERBLASTING TECHNOLOGIES

Patent Owner

Case IPR2018-00504

Patent No. 7,255,116

PATENT OWNER'S SUR-REPLY TO PETITIONER'S REPLY

TABLE OF CONTENTS

	Page
TABLE OF AUTHORITIES	ii
TABLE OF EXHIBITS	iii
I. INTRODUCTION	2
II. PETITIONER’S REPLY PRESENTS NEW ARGUMENTS CONTRADICTING ITS ORIGINAL ARGUMENTS IN THE PETITION AND MR. BOOS’ OPINION	2
a. Petitioner’s <i>New</i> Arguments Highlights the Unreliability and Hindsight Bias of Petitioner’s Interested “Expert”.	3
III. IN CONTRAST TO MR. BOOS, DR. KING IS A QUALIFIED, UNBIASED EXPERT, AND DR. KING’S TESTIMONY AND DECLARATION SHOW THAT THE CITED REFERENCES DO NOT RENDER THE ’116 PATENT OBVIOUS	6
IV. CLAIM CONSTRUCTION	8
a. High Pressure	8
b. Articulating Link.....	10
V. THE CITED REFERENCES FAIL TO DISCLOSE OR SUGGEST THE CLAIMED “ARTICULATING LINK”, AND THEREFORE DO NOT RENDER THE ’116 PATENT OBVIOUS	11
VI. THERE IS NO PERMISSIBLE MOTIVATION TO COMBINE THE CITED REFERENCES TO ARRIVE AT THE CLAIMED INVENTION, AND PETITIONER’S HINDSIGHT ANALYSIS DOES NOT RENDER THE CLAIMS OF THE ’116 PATENT OBVIOUS	13
a. Mr. Boos Admits the Only “Motivation” To Add NLB to the Jones and Breither Combination, or to Clemons, is Legally Impermissible Hindsight	14
i. As Mr. Boos admits, NLB would not work for the objective of Jones.....	16
ii. Similarly, Clemons teaches away from adding the NLB pump.....	17
VII. CONCLUSION	17

TABLE OF AUTHROTIES

	Page
Cases	
<i>Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.</i> 800 F.3d 1375 (Fed. Cir. 2015).....	2, 13, 15
<i>In re Magnum Oil Tools Int’l, Ltd.</i> 829 F.3d 1364 (Fed. Cir. 2016).....	2, 13, 15
<i>Interconnect Planning Corp. v. Feil</i> 774 F.2d 1132 (Fed. Cir. 1985).....	15
<i>KSR Int’l Co. v. Teleflex Inc.</i> 550 U.S. 398 (2007).....	14, 15
<i>Orexo AB v. Actavis Elizabeth LLC</i> 903 F.3d 1265 (Fed. Cir. 2018).....	15
<i>Unigene Labs., Inc. v. Apotex, Inc.</i> 655 F.3d 1352 (Fed. Cir. 2011).....	14
<i>WBIP, LLC v. Kohler Co.</i> 829 F.3d 1317 (Fed. Cir. 2016).....	15
Regulations	
37 C.F.R. § 42.51(b)(1)(iii).....	2

TABLE OF EXHIBITS

Exhibit No.	Description	Abbreviated Title
1001	U.S. Patent No. 7,255,116 to Crocker	“the ’116 patent”
1002	U.S. Patent No. 3,902,219 to Jones	“Jones”
1003	U.S. Patent No. 3,011,206 to Breither	“Breither”
1006	Non-Patent Literature, NLB Cop. Brochure	“NLB”
1008	U.S. Patent No. 6,381,801 to Clemons	“Clemons”
1009	Declaration in Support of Petition for <i>Inter Partes</i> Review of U.S. Patent No. 7,255,116	“Boos Decl.”
1018	Deposition of Dr. Randall King	“King Dep.”
1019	Archived Webpage from NLB Corp.	“NLB Archive Page”
1022	FAA Archived Conference paper title “Airfield Rubber Removal” presented as the 2002 FAA Technology Conference	“FAA Paper”
1023	Deposition of Mr. Scott Boos	“Boos Dep.”
2012	Declaration of Dr. Randall K. King, Ph.D., P.E.	“King Decl.”

I. INTRODUCTION

Contrary to the Petitioner's arguments, U.S. Patent No. 7,255,116 ("the '116 patent") recites a novel and non-obvious addition to the field of high-pressure water cleaning devices. *See* Ex. 1001, '116 patent. As the Petitioner's Reply (DE 17, "Reply") highlights, the cited references fail to disclose each and every limitation of the invention claimed in the '116 patent. Indeed, it is only through a tortured exercise to broaden the claimed "articulating link" that the Petitioner attempts to argue that each reference teaches the claimed limitation. *See* Reply, at 8–9, 14–19. But Petitioner's argument is premised on reading the claimed structural "articulating link" as broadly as if the patent merely claimed that the blast head was "pivotably coupled" to the tractor. *See infra*, Section IV.B. Petitioner argues for a construction that is no more than the combination of the discrete terms "link" and "articulation", purposefully ignoring that the "articulating link" is a described structural element in the claims and throughout the specification. Reply, at 8–9, 14–19.

Unable to identify any motivation which can be gained from the cited references themselves, the Petitioner relies on its interested "expert," Mr. Boos, the President and CEO of the Petitioner Blasters, Inc., to argue that *he* would be motivated to combine the cited references. Discussed *infra*, Section VI.A., Mr. Boos admits his opinion is based on a desire to modify Jones or Clemons to make them capable of removing roadway markings, Boos Dep., at 243:2–18, 246:1–10, the epitome of impermissible hindsight. There is no motivation from U.S. Patent No. 3,902,219 to Jones (Ex. 1002, "Jones") or U.S. Patent No. 6,381,801 to Clemons (Ex. 1008, "Clemons") to add the ultra-high-pressure pump of the NLB Brochure (Ex. 1006, "NLB"). *Id.* Instead, Mr. Boos begins with the objective of the '116 patent and works backwards to find

components in the prior art to arrive at the invention of the '116 patent. *Id.* This is the very definition of a hindsight analysis.

While Petitioner relies on Mr. Boos for some purposes, the Reply presents evidence and *new* arguments which contradict Mr. Boos' opinion and highlights its unreliability. *See infra* Section II. Petitioner appears to have either failed to serve its contradicting evidence with the Petition, running afoul of 37 C.F.R. § 42.51(b)(1)(iii), or it sought out new evidence to change its argument after Mr. Boos' opinion was shown to be biased and based improperly on hindsight.

The Petitioner's last maneuver is to improperly shift the burden to the Patent Owner based on the Board's initial Decision to institute this proceeding. DE 6, "Decision"; *see In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1375–77 (Fed. Cir. 2016) (the burdens of production and persuasion *never* shift to the Patent Owner during an IPR proceeding); *see also Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). The Institution Decision, however, did not consider Petitioner's evidence contradicting Mr. Boos' opinion or the unbiased testimony of the Patent Owner's expert. Now that the record has been developed it should be clear that the '116 patent is patentable over the cited references. The evidence shows that there is no motivation to combine Petitioner's references to arrive at the invention claimed in the '116 patent. Further, the evidence shows that the claimed "articulating link" is absent from the cited references. Accordingly, the Board should enter judgement finding the '116 patent patentable over the cited references.

II. PETITIONER'S REPLY PRESENTS NEW ARGUMENTS CONTRADICTING ITS ORIGINAL ARGUMENTS IN THE PETITION AND MR. BOOS' OPINION.

Originally, Petitioner's arguments were based on the "expert" declaration of Petitioner's President and CEO, Mr. Boos. DE 1, Petition. Mr. Boos' opinion, however, was premised on an overly-broad classification of the invention claimed in the '116 patent as merely a generic

“cleaning system for cleaning anything”. *See* Boos Dep., at 238:21–239:3. This opinion was based on Mr. Boos’ premise that the claimed “high pressure” in the ’116 patent is simply any pressure “higher than normal, especially higher than atmospheric pressure.” Ex. 1009, ¶ 18; Boos Dep., at 247:2–6. Based on these over-broad positions, Mr. Boos opined that all the references were “similar prior art” to the ’116 patent, including Jones, a cleaning system spraying water at 200 psi. Boos Dep., at 123:23–124:12, 133:5–19; Jones, at col. 2:57–61.

In its Reply, however, the Petitioner presents *new* arguments that the “high pressure” claimed in the ’116 patent should be construed as “a pressure greater than 2,000 psi,” abandoning Mr. Boos’ opinion. Reply, at 7. In changing its arguments, Petitioner implicitly acknowledges that Mr. Boos’ opinion is unreliable, as it is based on interpreting “high pressure” as any pressure “higher than normal, especially higher than atmospheric pressure.” *Compare* Reply, at 7 *with* Petition, at 13; *see also* Reply, at 23 (citing Petition at 25–26 for motivation to combine Jones and U.S. Patent No. 3,011,206 to Breither (Ex. 1003, “Breither”) with NLB); Petition, at 23–26 (discussing that the only motivation arises from all three references have “significant overlap” and are “analogous”); Petition, at 27 (discussing that Jones is “high pressure” because it has a 200 psi pump). Further, in changing the argument, Grounds 1–3 of the petition should be considered withdrawn or abandoned as they are each premised on Mr. Boos’ opinion that Jones is a “high pressure” cleaning system. *See* Petition, at 27.

A. Petitioner’s New Arguments Highlight the Unreliability and Hindsight Bias of Petitioner’s Interested “Expert”.

Mr. Boos, the Petitioner’s President, CEO, and “expert” in this proceeding, is an interested technical expert. Boos Dep., at 94:21–22. His bias was raised by the Patent Owner in its Response, addressing that he is financially invested in the outcome of this proceeding because his company is presently accused in related litigation in U.S. District Court of infringing the ’116

patent. DE 14, “PO Response”, at 5–7. The unreliability of Mr. Boos’ testimony was tied to his unrealistic construction of the term “high pressure” as “any pressure greater than atmospheric pressure”—despite the Board noting that the ’116 patent expressly addressed that pressures of 5,000 psi and less were *not* the claimed “high pressure.” Decision, at 10–11. Mr. Boos used this untenable position to argue that each cited reference was “similar prior art” in that they were all essentially for the same function. *See* Boos Dep., at 123: 23–124:12; 161:25–162:19; 235:7–236:18; 238:21–239:3; 245:16–246:19.

In Petitioner’s Reply, it has now abandoned Mr. Boos’ opinion and argues that “high pressure” is pressure “greater than 2,000 psi”, citing evidence presented for the first time in the Reply. Reply, at 7–8. One possible reason for Petitioner’s deviation from its original theory, is that Mr. Boos admittedly did not consider the prosecution history of the ’116 patent for his opinion. *See* Ex. 1009, at 7–8 (materials considered in making Mr. Boos’ opinion do not include the prosecution history of the ’116 patent). As noted in the Board’s Institution Decision, the prosecution history is important to properly construing, at least, the claimed “high pressure”, since it was expressly discussed and limited during the exchange between the Patent Owner’s representative and the Examiner. Decision, at 10–11. During Mr. Boos deposition it became unclear whether he reviewed and ignored the prosecution history in making his opinion, or if he only reviewed the prosecution history *after* the Board highlighted its importance to this proceeding. *See* Boos Dep., at 92:4–14, 248:3–6

Similar to unreliability disqualifying an expert on a *Daubert* challenge, Mr. Boos’ declaration is inherently unreliable—beyond his financial interest in the outcome of this proceeding—since his opinion is premised on a claim construction contradicted by the intrinsic record of the patent. *See* Petition, at 13–14; Ex. 1009, ¶ 18; Boos Dep., at 247:2–18. Mr. Boos’

opinion about the motivation to “improve” the Jones or Clemons reference with the “high pressure” pump and vacuum from NLB *requires* his erroneous position that “high pressure” is simply a pressure “higher than normal, especially higher than atmospheric pressure.” This false premise is necessary for his later opinion that Jones and Clemons—low-pressure cleaning systems—are in the “same field of endeavor” as the ultra high-pressure water blasting system disclosed in NLB. *See* Boos Dep., at 123:23–124:12; *but see* Boos Dep. at 162:2–3, 243:2–18, 246:1–10 (noting that the references *are not* for the same endeavors). Mr. Boos’ unreasonable construction underlying his opinion leads to inherently unreliable testimony.

It is clear from Mr. Boos’ testimony that his opinion on motivation to combine references requires his underlying false premise that any pressure over ambient qualifies as the claimed “high pressure”. Boos Dep., at 205:14–206:5 (arguing lower pressure references can invalidate the ’116 patent claims because it’s just a cleaning system, instead of a high-pressure cleaning system).

The Patent Owner raised the unreliability of Mr. Boos’ opinion in its Opposition. In apparent agreement with the Patent Owner’s arguments that Mr. Boos’ opinion is unreliable and deficient, the Petitioner—directed by Mr. Boos—provides changed arguments relying on evidence unrelated to Mr. Boos. *See* Reply, at 7–8.

B. By Abandoning Mr. Boos’ Opinion on “High Pressure”, Petitioner Implicitly Acknowledges That Grounds 1–3 Must Fail, as There Is No Evidence of Motivation to Combine NLB with a Jones and Breither Combination.

Grounds 1–3 of the Petition challenge the patentability of the ’116 patent based on modifying the Jones reference to include the water tank of Breither and the ultra-high-pressure water pump system of the NLB reference. Petition, at 17–58; Boos Decl., at 33–36 (identifying each of the three references as “analogous” because they are “cleaning systems” and his motivation to add the NLB reference is to include system operating at up to 40,000 psi to remove

pavement markings); Boos Dep., at 75:17–21 (“[The ’116 patent is] a cleaning system as is some of the other prior art that’s out there. Those are cleaning systems. You know, Jones has a cleaning system. Clemons has a cleaning system. There’s a lot of cleaning systems out there that are commonly known.”). Mr. Boos’ opinion as to why a skilled artisan would consider the 200 psi Jones “cleaning system” analogous to the ’116 patent or the NLB reference is because he considers 200 psi to be “high pressure”. *See* Boos Decl., at 33–36; Boos Dep., at 75:17–21.

Petitioner’s new argument, however, admits that systems below 2,000 psi are *not* “high pressure”, making Jones non-analogous art. As Grounds 1–3 and Mr. Boos’ opinion require Jones as the base reference for the argument, these Grounds should now be considered abandoned with Petitioner’s abandonment of Mr. Boos’ opinion.

III. IN CONTRAST TO MR. BOOS, DR. KING IS A QUALIFIED, UNBIASED EXPERT, AND DR. KING’S TESTIMONY AND DECLARATION SHOW THAT THE CITED REFERENCES DO NOT RENDER THE ’116 PATENT OBVIOUS.

In what seems to be a mere tit-for-tat response to the Patent Owner’s challenge of Mr. Boos’ opinion as an “expert” for the Petitioner—an “expert” who is financially invested in the outcome of this proceeding and whose only articulated motivation for combining references seems to be simply a motivation to recreate the claimed invention of the ’116 patent, *see infra* Sections VII.A, B—the Reply attempts to impugn the reliability of Dr. King’s testimony. *See* Reply, at 10–14. The only “challenge” Petitioner raises, however, is a misplaced argument that Dr. King’s cross-examination contradicts his declaration and a specious argument that Dr. King is not, in fact, an expert because he is not an expert in the employ of the Patent Owner—implicitly contrasting Dr. King’s “lack of experience” with Mr. Boos’ bias as the principal of the Petitioner. *See* Reply, at 12–14.

Belying Petitioner’s allegations, however, even Mr. Boos represents that a “person of ordinary skill in the art is a person presumed to be aware of pertinent art prior to July 2, 2004,

has *ordinary* creativity, and thinks in accordance with conventional wisdom,” has “had 4–5 years of experience working with surface cleaning devices and system *and/or* a degree in mechanical engineering or an equivalent education.” Ex. 1009, ¶ 11 (emphasis added). Dr. King has a “bachelors, masters, and doctoral degree[] in mechanical engineering from Oklahoma State University.” King Decl., ¶ 1. Additionally, Dr. King has research experience at the Fluid Power Research Center, working specifically with hydraulic pumps, filtration, and fluid handling equipment. *Id.*, ¶ 2. Dr. King has also worked as a “pump design engineer for Haliburton Energy Services for 10 years, designing, developing, and testing high-pressure positive displacement pumps and oilfield equipment for hydraulic fracturing (fracking) of oil and gas wells.” *Id.*, at ¶ 3. Accordingly, based on Mr. Boos’ admission, Dr. King is more than qualified as an expert in this proceeding—Petitioner’s argument to the contrary is misplaced and desperate.

Contrary to Petitioner’s argument, Dr. King’s cross-examination testimony was consistent with his declaration. Misrepresenting Dr. King’s testimony, Petitioner argues that Dr. King’s deposition contradicts his declaration in: (1) the definition of “high pressure”, (2) whether Clemons is a low-pressure system, and (3) whether Jones teaches the *claimed* “articulating link”. Reply, at 12.

But while Petitioner misrepresents that Dr. King testified that “high pressure” is understood as low as 10,000 psi, Petitioner ignores that its citation is from a discussion of hydraulic fracturing pressure, rather than water blasting pressures. *Compare* Reply, at 12 with King Dep., at 10:17–12:10. Similarly, Petitioner misrepresents Dr. King’s testimony that he has used pressure washers, King Dep., at 13:1–7, as an admission that a 2,000 psi water pump is sufficient to “remove a stripe from a highway”, Reply at 12, despite Dr. King’s clear testimony

that such handheld pressure washers are “certainly not on the scale that the patent is discussing,” King Dep., 23:1–25.

Petitioner then attempts to fabricate an admission from Dr. King about Jones disclosing an “articulating link”. Reply, at 12. Contrary to Petitioner’s argument, Dr. King testified that Jones includes a handle attached to a lever to pull a cable attached to a link that raises the nozzle up and down so that will not drag across the turf when the tractor is driving around, King Dep., 48:12–21, 51:3–16, i.e., describing merely what is in the Jones reference, a wheeled nozzle assembly where the wheels are in constant contact with the ground but the nozzle can be raised and lowered for use. Dr. King goes on to describe—in contradiction to Petitioner’s representation and arguments—that Jones only discloses a pin joint allowing the wheeled assembly to follow the Jones “tractor” without having to drag the wheels when turning. King Dep., 49:3–52:13. Dr. King testifies clearly that Jones does *not* disclose the claimed “articulating link”, King Decl., ¶ 50, a position maintained during his deposition.

IV. CLAIM CONSTRUCTION

Petitioner’s Reply highlights two claim terms of significance: “high pressure” and “articulating link.” Reply, at 7–9. The “articulating link” is significant here because the evidence leads to the conclusion that none of the cited references disclose the claimed “articulating link”. By contrast, the Patent Owner does not argue that “high pressure” is not disclosed by the new references, but the proper construction of “high pressure” (1) highlights the *changed argument* that Petitioner has presented in its Reply, and (2) evidences the underlying false premise underlying, and therefore rendering unreliable, Mr. Boos’ opinion.

A. “High Pressure”

In the Petition, the Petitioner argued that “high pressure” was simply pressure above atmospheric pressure. Petitioner, relying on Mr. Boos’ “expert” opinion about what a person of

ordinary skill in the art would consider “high pressure”, proposed “high pressure” be construed as “of or relating to pressures higher than normal, especially higher than atmospheric pressure.” Petition, at 13–14; Ex. 1009, ¶ 18. This argument was addressed by the Board, identifying that the prosecution history of the ’116 patent clearly established that 5,000 psi and less was expressly defined as *not* the claimed “high pressure.” Decision, at 11. Mr. Boos maintained this position at his deposition, despite the Board’s discussion of the prosecution history, arguing that to him “high pressure” is “anything above atmospheric pressure” including pressures as low as 100 psi. Boos Dep., at 247:2–18. Petition, at 13–14; Ex. 1009, ¶ 18

In the Reply, however, the Petitioner has abandoned Mr. Boos’ opinion, and, for the first time argues that “high pressure” should be construed as “a pressure greater than 2,000 psi.” Reply at 7. This *new* position, contradicting its original position and showing Mr. Boos’ opinion to be unreliable, is based on *new* evidence cited in the Reply, specifically an archived webpage from NLB—separate from the NLB reference relied upon in the Petition—which purports to show that NLB offers two distinct groupings of “water jetting” pumps, high pressure in the range of 2,000 psi to 20,000 psi or ultra-high pressure in the range of, presumably, greater than 20,000 psi up to 40,000 psi. Reply, at 7; *see* Ex. 1019. The Petitioner also relies on a paper from a 2002 FAA Airport Technology Conference, which discusses two distinct classifications of water pressure blasters, high-pressure devices in the range of 2,000–15,000 psi and ultra-high-pressure devices, devices greater than 15,000 psi and up to 40,000 psi. Reply, at 7–8; Ex. 1022, at pg. 4.

In the Decision to Institute, the Board preliminarily found the Patent Owner had not sufficiently explained why “high pressure” is “at least 25,000 psi,” but found that references of 5,000 psi or less were described in the intrinsic record “as being ‘low pressure’ rather than the claimed ‘high pressure.’” Decision, at 11. As addressed above, *supra* Section II.B., this *new*

position taken by the Petitioner contradicts Mr. Boos' prior testimony, who argued that each of the cited references were "in the same field" because of the new-abandoned theory that "high pressure" is "anything above atmospheric pressure." Petition, at 13–14; Ex. 1009, ¶ 18; Boos Dep., at 247:2–18. Petitioner's new evidence, however, establishes why the Board should construe the claimed "high pressure" as, at least greater than 15,000 psi, since that would be the broadest interpretation of Petitioner's new evidence that is reasonable, i.e., an interpretation that encompasses the operating range of 25,000–40,000 psi described in the '116 patent. *Compare* '116 patent, col. 3:59–60 *with* Ex. 1019, Ex. 1022, pg. 4.

B. "Articulating Link"

The Petitioner maintains its position that the broadest *reasonable* interpretation of the claimed "articulating link" is determined by the separate meanings of "link" and "articulation". Reply, at 8–9. But as the Petitioner's argument concedes, there is no inherent definition of an "articulating link", no inherent meaning to a person of ordinary skill in the art. *See id.*

Petitioner's proposed construction seems to unreasonably broaden the claim scope of the "articulating link" to mean "a connecting structure that connects two parts in such a way as to permit relative movement," a proposed construction more properly associated with a claim limitation of "pivotably coupled". But the claim does not recite such a broad construction. Such an unreasonably broad construction is necessary for Petitioner's argument that an "articulating link" is disclosed by the prior art. But contrary to the Petitioner's over-broad proposed construction, the '116 patent does not claim the "mobile blast head" is "pivotably coupled" to the "tractor".

The claim reads that the "mobile blast head is mounted at the distal end of an articulating link," and "a proximal end of said articulating link [is] secured to a tractor." '116 patent, col. 6, ll. 53–55 (emphasis added). The language of the claim makes clear that the broadest reasonable

interpretation of this claim term requires recognition that a specific type of structure is claimed, a structure connecting the mobile blast head to the tractor: a structure called an “articulating link”. *See id.* But an “articulating link” is not a term readily known to a person of ordinary skill in the art, as evidenced by the Petitioner’s argument for combining the separate definitions of each word in the term. *See Reply*, at 8–9.

To properly construe the “articulating link” a person of ordinary skill in the art would need to look to the specification itself, which clearly describes what is meant by an “articulating link” and provides figures specifically directed to showing what an “articulating link” is and what its role is in the claimed invention. The “articulating link” is more than simply a structure allowing an operator to position where the mobile blast head is operating during use, it is the structure that allows the tractor to be stored in a compact configuration—as the Petitioner admits. *See Ex. 1009, Boos Decl.*, ¶ 117 (recognizing that the claimed “articulating link” must be able to move in the horizontal and vertical planes; *see also id.*, ¶¶ 134–135 (admitting that the “articulating link” allows for the blast head to be “flipped up and back to reduce the overall length of the utility vehicle” in attempting to argue that Jones teaches the “articulating link”); *Reply*, at 14–19 (same); *Ex. 2012, King Decl.* ¶ 16 (explaining that the articulating link is what permits the tractor to have a width less than 8’6” when docked to allow for safe, fast, and legal over-the-road travel between work sites).

V. THE CITED REFERENCES FAIL TO DISCLOSE OR SUGGEST THE CLAIMED “ARTICULATING LINK”, AND THEREFORE DO NOT RENDER THE ’116 PATENT OBVIOUS.

As shown in the Petitioner’s *Reply*, only through a tortured and overbroad construction of “articulating link” can the Petition even argue its presence in the prior art. *Reply*, at 8–9, 14–19. While arguing that “articulating link” should be construed overbroadly as “a connecting structure that connects two parts in such a way as to permit relative movement,” *Reply* at 8–9, Petitioner’s

proposed construction is fractured by its arguments, admitting that the claimed “articulating link” must be a structure capable of pivoting in the horizontal and vertical planes as well as be capable of flipping up and back for easy transportation and storage, *see* Reply, at 14–19. Petitioner theorizes, without any support from the references themselves that this functionality is possible with the pin-joint link of Jones, Reply, at 15–17, the “arm” of Clemons which raises and lowers the cleaning head, Reply at 17, and “fixed support” of NLB which, rather than pivot in the horizontal plane, is moved along a plate track by a separate structure, Reply, at 18.

With Jones, however, the “linkage mechanism” does not physically lift the “cleaning head” up or down, as shown in the figures cited by Petitioner. Reply at 15–17. Rather, the “cleaning head” portion of Jones remains on the ground following the tractor as the tractor moves, Reply at 16, the “linkage mechanism” merely allows the nozzles themselves to raise off the ground so as to not drag, but as seen in the figures, the portion connected by the “linkage mechanism” *never* raises off the ground. Reply at 16–17 (showing the wheels act as a fulcrum, maintaining their position on the ground); King Dep., at 51:17–52:13. Further, there is no support or suggestion that Jones is even capable of “flipping” the “cleaning head” up and back, despite Petitioner’s theorizing. As it is clearly shown in the Jones figures, including those shown in the Reply, the center of mass of the “cleaning head” system is far from the pivot of the “linkage mechanism”, making Petitioner’s theory highly unlikely if not impossible. *See* King Decl., ¶ 94 (noting the Jones “linkage mechanism” actually *increases* the distance of the “cleaning head” from the tractor). A person of ordinary skill in the art would not consider Jones to have the claimed “articulating link”. *Id.*, ¶¶ 50, 73.

In comparing Petitioner’s arguments regarding Clemons and NLB to its arguments for Jones, Petitioner’s Reply tacitly admits that neither Clemons nor NLB discloses the claimed

“articulating link”. *Compare* Reply, at 14–17 *with* Reply, at 17–18. With Jones, Petitioner acknowledges that the claimed “articulating link” requires the ability to raise the “blast head up” and “flip” it out of the way. Reply, at 15. For Clemons and NLB, however, Petitioner ignores this functionality. Reply, at 17–18. Further, neither the Clemons “arm” nor NLB “fixed support” disclose a link pivoting in the horizontal direction. *See id.*

As none of the cited references disclose a structure performing the same functions as the claimed “articulating link”, none of the cited references, when read by a person of ordinary skill in the art, disclose the claimed “articulating link”. King Decl., at ¶¶ 55, 64, 73, 83, 94, 98. Further, none of the cited references disclose a motivation to modify the devices by including an “articulating link”.

VI. THERE IS NO PERMISSIBLE MOTIVATION TO COMBINE THE CITED REFERENCES TO ARRIVE AT THE CLAIMED INVENTION, AND PETITIONER’S HINDSIGHT ANALYSIS DOES NOT RENDER THE CLAIMS OF THE ’116 PATENT OBVIOUS.

As is clear from Mr. Boos’ testimony, the only “motivation” to add the NLB ultra-high-pressure pump to the Jones or Clemons references is with the hindsight of attempting to recreate a device capable of removing roadway markings, i.e., the invention claimed in the ’116 patent. Boos Dep., at 243:2–18, 246:1–10. Petitioner attempts to evade this deficiency with an improper burden shifting argument to suggest that the Institution Decision has established that the combination of Jones, Breither, and NLB is “proper” and renders the ’116 patent obvious. Reply, at 19; *but see In re Magnum Oil Tools*, 829 F.3d at 1375–77 (the burdens of production and persuasion *never* shift to the Patent Owner during an IPR proceeding); *Dynamic Drinkware*, 800 F.3d at 1378.

In addition to Petitioner’s combination failing to disclose or suggest each and every limitation of the claimed invention, *supra* Section V, there is no motivation to combine the cited

references to arrive at the claimed invention, *see KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (there must be a reason that would have prompted a person of ordinary skill in the art to combine the references); *Unigene Labs., Inc. v. Apotex, Inc.*, 655 F.3d 1352, 1360 (Fed. Cir. 2011) (“obviousness requires the additional showing that a person of ordinary skill at the time of the invention would have selected and combined those prior art elements . . .”). Mr. Boos even admits that the motivation to add the ultra-high-pressure system NLB to Jones is an attempt to create a pavement-marking removal machine, Boos Dep., at 243:2–18, not for the turf cleaning purpose of Jones, *see id.*, at 162:2–3 (“You wouldn’t build an NLB machine to clean turf.”). Similarly, Mr. Boos admits that there is no motivation to add the ultra-high-pressure pump from NLB to the Clemons reference. *See* Boos Dep., at 243:2–18 (testifying on re-direct by his own attorneys that the motivation to add NLB to Clemons is to make Clemons “more maneuverable” by adding the tractor, not the ultra-high-pressure pump). Indeed, the NLB ultra-high-pressure pump would be contrary to the objectives of Jones and Clemons. Boos Dep., at 162:2–3, 243:2–18, 246:1–10.

A. Mr. Boos Admits the Only “Motivation” To Add NLB to the Jones and Breither Combination, or to Clemons, is Legally Impermissible Hindsight.

Petitioner’s only “motivation” to add the NLB ultra-high-pressure pump to the Jones or Clemons references is based on hindsight, attempting to create a device capable of removing roadway markings, i.e., the invention claimed in the ’116 patent. Boos Dep., at 243:2–18, 246:1–10. Though Mr. Boos’ announced “motivation” is “to build the best system for the objective,” Boos Dep., 132:12–18, 231:22–232:1 (“[t]he motivation would be to ultimately yield the best system.”), his “objective” is clearly stated as removing pavement markings: the teaching of the ’116 patent, *not* the objective of Jones or the objective of Clemons. Boos Dep., at 243:2–18, 246:1–10, 210:12–13 (“You wouldn’t use a turf cleaning machine to do a rubber removal

project . . .”), 128:21–129:5 (“It’s basically a rearrangement of commonly-known components.”), 129:9–14 (the only “motivation” is to put a higher-pressure pump on the Jones reference), 208:21–23 (“You wouldn’t go to clean a runway with an artificial turn machine.”).

Attempting to evade this fatal admission, Petitioner again attempts to improperly shift the burden, suggesting that the Institution Decision has established that the combination of Jones, Breither, and NLB is “proper” and renders the ’116 patent obvious. Reply, at 19. But the Federal Circuit has explicitly made clear that the burden *never* shifts to the Patent Owner in an IPR proceeding. *In re Magnum Oil Tools*, 829 F.3d at 1375–77; *Dynamic Drinkware*, 800 F.3d at 1378. Petitioner has the burden to prove obviousness, and the evidence shows that burden cannot be met.

Mr. Boos admits that Petitioner’s obviousness argument, and his opinion, are based on legally impermissible hindsight. *See* Boos Dep., at 243:2–18, 246:1–10. “It is inappropriate to use the template provided by the inventor, to render the inventor’s contribution obvious.” *Orexo AB v. Actavis Elizabeth LLC*, 903 F.3d 1265, 1271 (Fed. Cir. 2018) (citing *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138 (Fed. Cir. 1985) (“The invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art that existed at the time. The invention must be evaluated not through the eyes of the inventor, who may have been of exceptional skill, but as by one of ‘ordinary skill’.”)); *accord KSR*, 550 U.S. at 421; *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1337 (Fed. Cir. 2016) (“The real question is whether the skilled artisan would have plucked one reference out of the sea of prior art . . .”).

When discussing adding NLB to Jones and Breither, Mr. Boos stated on re-direct that “the motivation to add the teachings of NLB to [the Jones/Breither] system” is:

And so it was very clear to me that my motivation to combine the technology was to combine, you know, with the Jones and then Breither and then NLB as well as

the high pressure pump because we weren't trying to do, necessarily artificial turf cleaning. But if we wanted to go out and take markings off, it made sense to combine the technology and use the NLB for potentially roadway projects.

Boos Dep., at 243:11–18. Similarly, with respect to adding NLB to Clemons, Mr. Boos admitted the “motivation” was:

To achieve the objective. The Clemons machine was a street cleaning machine. And if you wanted to take off markings, you know, if you wanted to do marking removal or stripe removal, you would want to utilize the higher pressure. So the motivation is to combine the technologies to yield paint or marking removal.

Boos Dep., at 246:4–10.

As Petitioner's only evidence of obviousness is based on Mr. Boos' opinion, which Mr. Boos admits is legally impermissible hindsight, the Board should find that the '116 patent is not obvious.

1. As Mr. Boos admits, NLB would not work for the objective of Jones.

Mr. Boos is clear, a skilled artisan “wouldn't build an NLB machine to clean turf.” Boos Dep., at 162:2–3; *accord* Boos Dep., at 162:12–13. According to Mr. Boos, the desire is the “best system,” yet Mr. Boos states the “best system” would be the “most viable system,” meaning “the most workable system and potentially the economical system, simplest system . . . that uses less parts so the operating costs less.” Boos Dep., at 229:3–9.

When challenged about his opinion being based on hindsight, Mr. Boos responded only that you could modify Jones because “the technology is out there to be able to [make the invention of the '116 patent]. It's commonly-known components that are on the market. Instead of starting from scratch, it was obvious to combine the prior art, the prior art techniques that were out there.” Boos Dep., at 156:5–20.

But Mr. Boos' re-direct confirms that a skilled artisan would not add NLB to Jones, Jones is a turf cleaner, and a skilled artisan “wouldn't build an NLB machine to clean turf.” Boos

Dep., at 162:2–3. Mr. Boos confirms the Patent Owner’s arguments that Jones teaches away from a combination with NLB. *See id.*; *see also* PO Response, at 13, 16; Ex. 2012, ¶¶ 78, 83.

2. Similarly, Clemons teaches away from adding the NLB pump.

Clemons is a street cleaning machine, and Mr. Boos’ only motivation to add an NLB pump is to remove the roadway markings that Clemons’ purpose is to clean. *See* Boos Dep., at 246:1–10.

VII. CONCLUSION

Petitioner has failed to meet its burden of production and burden of persuasion. The evidence, including Petitioner’s financially interested “expert”, establishes that there is no *permissible* motivation to combine the cited references. Further, the cited references fail to disclose all elements of the claimed invention. Accordingly, the Board should enter a Judgment finding that claims 1–6 and 10 of the ’116 patent are not obvious in light of the cited references.

Date: February 22, 2019

Respectfully Submitted,

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CERTIFICATE OF WORD COUNT

The undersigned hereby certifies that, in accordance with 37 C.F.R. § 42.24(d), the total number of words in this Sur-Reply excluding the table of contents, table of authorities, certificates of word count and service, and appendix of exhibits is 5,519.

Date: February 22, 2019

/s/**Kenneth W. Cohen**

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that, in accordance with 37 C.F.R. § 42.6(e)(1), the above Patent Owner's Sur-Reply was served in its entirety on February 22, 2019 upon

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