

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SRAM, LLC,
Petitioner,

v.

FOX FACTORY, INC.,
Patent Owner.

Case IPR2024-00216
Patent No. 8,550,223

PATENT OWNER'S SUR-REPLY

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I. Preliminary Statement

Petitioner asserts three anticipation grounds based on the Nakaya, Chen, and Gartner prior-art references against the challenged independent claims 1, 11, and 19 of the '223 patent,¹ but none of these references discloses, expressly or inherently, all the limitations of the claims. For example, Nakaya does not disclose a “damper,” neither Nakaya nor Chen discloses the fluid flow arrangement of the claimed invention, and Gartner does not disclose a “bottom out cup.” Without direct support from prior-art references, Petitioner argues that a skilled person would have understood the prior art to include the missing limitations. But anticipation cannot be based on conclusory testimony from experts attempting to fill gaps in the prior art, as Petitioner attempts to do here. Rather, the prior art must disclose every limitation of the claimed invention, arranged as in the claims. Petitioner’s anticipation grounds fail to do that.

Petitioner’s obviousness grounds against the challenged independent claims 1, 11, and 19 based on Chen alone, or Chen in view of Deferme or Fox '751, fare no better. Petitioner fails to explain how Deferme or Fox '751 discloses the limitations missing in Chen (they do not). Nor does Petitioner provide adequate motivation and a

¹ Gartner is only asserted against independent claims 1 and 19 (not independent claim 11).

reasonable expectation of success for the proposed combinations, and instead resorts to improper and incorrect comparisons of the modified Chen device to embodiments (not the claims) in the '223 patent. Ultimately, Petitioner has not sustained its burden of proving anticipation or obviousness of independent claims 1, 11, and 19, claims 2-9 which depend from claim 1, and claims 12-15 which depend from claim 11.

Additionally, dependent claim 13 is neither anticipated nor rendered obvious because Nakaya and Chen do not disclose a second fluid flow path between the “compression chamber” and the “bottom out cup” as required by claim 13. Accordingly, claim 13, and claims 14 and 15 which depend from claim 13, should be found patentable over Nakaya and Chen.

II. Claim Construction

As discussed in Patent Owner’s Response, at least the claim terms “bottom out cup” and “fluid communication from the cup to the compression portion of the chamber” should be construed by the Board to resolve the disputes between the parties in this IPR proceeding.

A. “bottom out cup”²

The term “bottom out cup” should be construed as a “cup-shaped feature configured for providing dampening only at the end portion of a compression stroke.” Ex. 2010, ¶37. That is, the Board’s preliminary construction should be modified to state that the “bottom out cup” provides dampening only in the final stages of a shock absorber’s compression stroke (not throughout the compression stroke). This modification is necessary to distinguish the claimed “bottom out cup” from the primary compression chamber of a damper, which is also a cup-shaped feature that provides dampening, albeit throughout the compression stroke. *Id.* Contrary to Petitioner’s allegation, Patent Owner’s construction does not limit the location of the “bottom out cup” to the end of the compression chamber. *See* Reply 3-4. Rather, Patent Owner’s proposed construction clarifies that the “bottom out cup” is activated only

² The term “bottom out cup” is only relevant to Ground V based on Gartner. Patent Owner is not disputing that the other references (Nakaya and Chen) in Grounds I-IV discloses features that at least “at first glance geometrically” appear to resemble the alleged “bottom out cup” of the ’223 patent. *See* Ex. 1020, 66:3-67:12. As compared to Nakaya and Chen, the alleged “bottom out cup” of Gartner “doesn’t even look like it,” and instead is “a whole new mechanism unto itself.” *Id.*

near the end of the compression stroke, regardless of its location in the lower end of the compression chamber or the upper end of the rebound chamber. Ex. 1020, 47:10-23; Ex. 1001, 1:65-2:9, 2:22-26.

Indeed, as explained by Patent Owner's expert, "the bottoming out cup is a bottoming out cup when it actually starts providing damping, and that, as one skilled in the art, understands that only happens when you have the cup-shaped feature where this secondary piston starts to enter it, now it starts providing dampening" which happens "near end of stroke." Ex. 1020, 72:3-21, 74:14-75:2; *see also id.* at 47:10-23, 76:17-78:17. Petitioner's experts also agree that the "bottom out cup" provides dampening only near the end of a compression stroke. Ex. 2011, 18:18-22:16 (Petitioner's expert, Mr. Wesling, testifying that "[t]he cup is there to hold the volume of fluid that is interacted with at the end of the stroke" and that the cup functions as a compression chamber "[a]t the end of the compression stroke, at some point when you're almost fully compressed[.]") (emphases added); Ex. 2012, 15:6-16:19 (Petitioner's expert, Dr. Wang, testifying that "[t]he bottom out cups in general are activated towards the end of [] the compression stroke, so that's the damping is at the end of the -- near the bottom out event," i.e., "toward the end of the stroke -- of the compression stroke, that bottom out cup becomes active and [the inventors] have included adjustable damping into that bottom out cup, which is active at the end of the compression stroke, near the bottom out event.") (emphases added). Thus, Petitioner's

incorrect and unsupported argument that “nearly every embodiment [of the ’223 patent] provides some amount of damping whenever the shock absorber **100** is compressing” is contradicted by Petitioner’s own experts’ testimony that the “bottom out cup” provides dampening only near the end of the compression stroke (until then it is just a cup holding a volume of fluid). *Compare* Reply at 4 with Ex. 2012, 15:6-16:19 and Ex. 2011, 18:18-22:16. Nowhere does the ’223 patent disclose or suggest that the “bottom out cup” provides some dampening throughout the compression stroke.

In short, both parties’ experts agree that the claimed “bottom out cup” provides dampening only near the end of the compression stroke. The term “bottom out cup” should be construed accordingly to differentiate it from the compression chamber of a damper, which provides dampening throughout the compression stroke.

Contrary to Petitioner’s allegation, Patent Owner has not applied different constructions of “bottom out cup” for different grounds. As Patent Owner’s expert explained, “[i]t is the same [construction] everywhere. I don’t change a construction based on which grounds are which, because as a POSITA reading [the ’223 patent], a bottoming out cup is this smaller diameter feature in the compression chamber that a smaller diameter portion of the piston enters in, and as soon as it enters in it, it starts to provide damping, and that’s the same for all references.” Ex. 1020, 79:12-23. More specifically, with respect to Grounds I-IV, Patent Owner is not disputing that the

Nakaya³ and Chen references disclose cup-shaped features that provide some amount of dampening only near the end of the compression stroke, and therefore, the construction of “bottom out cup” is not significant to Grounds I-IV. With respect to Ground V, however, Patent Owner maintains that Gartner does not disclose a “bottom out cup” as construed by Patent Owner. *See infra*, Section VII.

B. “fluid communication from the cup to the compression portion of the chamber”

Claim 1 of the '223 patent recites “fluid communication from the cup to the compression portion of the chamber,” and the “from ... to” language provides “directionality” of fluid communication. Ex. 2010, ¶40; Ex. 1020, 80:9-82:14 (“That’s what ‘from’ means []. It’s giving me a directionality.”). Petitioner’s interpretation of this limitation as requiring only a “path” or a “communication link” between the cup and the compression portion reads the words “from” and “to” out of the claims. *See* Reply, 6-7; *contra* Ex. 2010, ¶40.

Moreover, claim 1 already recites “a fluid flow path formed in the bottom out

³ Patent Owner does not dispute that the Nakaya device provides a small amount of dampening near the end of a compression stroke. However, as discussed in detail below, the Nakaya device is not a “damper” because the amount of dampening provided is minimal.

cup.” *See* Ex. 1001, 7:44-46 (claim 1 reciting “a fluid flow path formed in the bottom out cup for providing fluid communication from the cup to the compression portion of the chamber during a compression stroke of the damper”). Therefore, Petitioner’s view that “fluid communication from the cup to the compression portion of the chamber” means just a “path” without fluid-flow direction makes the claim language superfluous and renders claim 1 nonsensical. Petitioner’s proposed construction therefore cannot be correct. *Becton, Dickinson & Co. v. Tyco Healthcare Grp., LP*, 616 F.3d 1249, 1255 (Fed. Cir. 2010) (“A claim construction that renders asserted claims facially nonsensical cannot be correct.”) (quotation and citation omitted); *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1346 (Fed. Cir. 2005) (requiring that all words in the claim “must be given meaning and cannot be read out of the claim.”)

Petitioner’s reliance on the doctrine of claim differentiation to draw a distinction between independent claims 1 and 19 is also meritless because the Federal Circuit has consistently declined to apply claim differentiation between independent claims. *Indacon, Inc. v. Facebook, Inc.*, 824 F.3d 1352, 1358 (Fed. Cir. 2016) (declining to apply claim differentiation between independent claims where, as here, the claims are “not otherwise identical in scope”); *Atlas IP, LLC v. Medtronic, Inc.*, 809 F.3d 599, 607 (Fed. Cir. 2015) (rejecting claim differentiation argument “where it is invoked based on independent claims rather than the relation of an independent and dependent claim” and explaining that “patentees often use different language to capture the same

invention.”).

Petitioner further misrepresents Patent Owner’s expert’s Infringement Report in the related district court litigation to suggest that he agrees with respect to claim 1 that “fluid communication is made regardless of the direction of the fluid flow.” *See* Reply, 7. That is incorrect. The excerpted sentence from the Infringement Report was made in the context of claim 11 (not claim 1), which requires fluid communication “between” the cup and the primary compression chamber in a compression stroke of the damper. *See* Ex. 1025, ¶143 (Patent Owner’s expert: “it is my understanding that SRAM itself has said in its invalidity contentions with respect to claim 11 that ‘fluid communication is made regardless of the direction of the fluid flow.’”). In fact, claim 1 is not asserted in the district court litigation, and so the Infringement Report does not discuss claim 1. *Id.* at ¶¶2, 129.

In sum, a person skilled in the art would understand “fluid communication from the cup to the compression portion of the chamber” to mean that fluid flows from the cup to the compression portion during a compression stroke. Ex. 2010, ¶40. Petitioner’s interpretation of this claim limitation as only requiring a “path” between the cup and the compression portion (and no directionality of fluid flow) is incorrect for the reasons stated herein and in Patent Owner’s Response. *See* Response, 11-12.

III. Claims 1-9, 11-15, and 19 Are Not Anticipated or Rendered Obvious Based on Nakaya⁴

A. Nakaya does not disclose a “damper,” as required by independent claims 1, 11, and 19

As explained in Patent Owner’s Response, the Nakaya apparatus is not a “damper” because it does not dissipate significant amounts of energy, which is an essential characteristic of a “damper.” Response, 12-13, 24-26; Ex. 2010, ¶¶55-56, 59-61; Ex. 1020, 175:16-178:4 (Nakaya dissipates only “a couple percentage of energy” because “it is designed to be an efficient machine,” and therefore it is not a “damper,” which are designed to dissipate “tens of percentage of the energy put into the system.”), *see also* 172:13-175:15. Instead, Nakaya is an air-based system for a prosthetic limb to attain energy storage and recovery during walking in order to minimize energy expended by the amputee. Ex. 2010, ¶¶55-56; Ex. 1020, 175:6-10 (“A prosthetic is designed to assist a person to walk as naturally as possible with as little effort as possible, and if you’re taking the energy out and dissipating it somewhere, that’s not useful.”). Accordingly, one skilled in the art would not

⁴ Petitioner asserts anticipation based on Nakaya against claims 1-9, 11-5, and 19. Petitioner further asserts that Nakaya alone or in view of Kodama renders claim 4 obvious, but Petitioner did not assert an obviousness ground based on Nakaya against claims 1-3, 5-9, 11-15, or 19.

“reasonably understand or infer from [Nakaya’s] teaching” that a “damper” is disclosed. *Dayco Prods., Inc. v. Total Containment, Inc.*, 329 F.3d 1358, 1368 (Fed. Cir. 2003).

Petitioner does not disagree that Nakaya’s “various restrictions” will only cause minimal dampening, or that Nakaya is mainly an energy storage device, but argues nevertheless that Nakaya is a “damper.” Reply, 7-8. But according to the “second law of thermodynamics,” every apparatus, including Nakaya, provides some dampening, but that does not qualify Nakaya as a “damper” because the “intent of [Nakaya] is energy storage and return, so to aid in walking.” Ex. 1020, 90:22-91:13. Patent Owner’s expert acknowledges that the Nakaya apparatus will have some “losses” of energy, and in fact, if there was “absolutely zero damping and it was [an] idealistic pure mechanical spring, you couldn’t walk” because the prosthetic will act as “an oscillator.” *Id.* at 99:11-101:7. However, “the damping level is typically a couple percent at most,” i.e., “just enough so you don’t oscillate your leg.” *Id.*; *see also id.* at 106:7-107:8. In contrast, the energy dissipated by a “damper” for a shock absorber is “typically on the order of tens of percent.” *Id.* at 107:9-109:24. The Nakaya apparatus is therefore not a “damper.” *See id.*

Petitioner’s discussion of “air-based damper[s]” with reference to the Englund (Ex. 1018) and Kastan (Ex. 1021) patents is irrelevant because Patent Owner’s expert agrees that air-based dampers are possible, although not “as volume efficient as oil.”

Ex. 1020, 117:3-118:12. But that does not mean one skilled in the art would recognize Nakaya's prosthetic limb apparatus as an air-based "damper." Ex. 2010, ¶¶56, 59, 61.

B. Nakaya does not disclose fluid communication or fluid flow from the "bottom out cup" to the compression chamber during a compression stroke, as required by independent claims 1 and 19

In the Nakaya apparatus, air (fluid) flows from compression chamber 821 to chamber 822 (alleged "bottom out cup") during a compression stroke (not the other way). Response, 27-33. This flow direction is fully supported by Nakaya's disclosure. For example, Nakaya states that "at a stage where the bending degree of the knee is increased and the second chamber 82 is divided into two, the constant throttle valve 140 increases the pressure in the chamber 822 and the throttle valve 824 increases the pressure in the chamber 821." Ex. 1005, 9:24-30 (emphasis added). And it is undisputed that "[f]luid will only flow from high pressure to low pressure," *See, e.g.*, Ex. 1020, 82:15-19; *cf.* Reply, 14. Accordingly, it cannot be disputed that air will necessarily flow from the higher-pressure chamber 821 (alleged "compression chamber"/"compression portion") to the lower-pressure chamber 822 (alleged "bottom out cup") through passage 823 (and similarly air will flow from chamber 822 through passage 102 to the rebound chamber). Ex. 1020, 132:25-134:23; Ex. 2010, ¶¶75-77.

Petitioner's argument that "air in the bottom out cup moves into the compression portion during a compression stroke of the damper, thereby increasing the pressure in the compression portion" is incorrect. Reply, 13 (emphasis added). As Petitioner's

expert, Dr. Wang, testified: “the direction of flow depends on the pressure differential” and “flow doesn’t increase pressure”; rather, “[p]ressure creates the flow.” Ex. 2012, 123:5-124:9. That is, the increased pressure in compression chamber 821 is not due to the flow of air into that chamber because “flow doesn’t increase pressure.” *See id.*; Ex. 2010, ¶74 (Patent Owner’s expert explaining that air flowing into a chamber does not increase pressure). Rather, pressure in compression chamber 821 increases because of the downward motion of piston 113 during a compression stroke and the resistance to air flow provided by throttle valve 824 in passage 823. Ex. 2010, ¶75. Due to the increased pressure in compression chamber 821 during compression, air will flow from compression chamber 821 to chamber 822 (alleged “bottom out cup”), not the other way around. *Id.* at ¶¶75-77.

C. Nakaya does not disclose a second “fluid flow path formed between the cup and the primary compression chamber,” as required by claim 13

There can be no dispute that claims 11 and 13 require two separate fluid flow paths: “an adjustable fluid flow path formed in the cup” (claim 11) and a separate “fluid flow path formed between the cup and the primary compression chamber” (claim 13). Ex. 2010, ¶79. In fact, Petitioner’s expert Dr. Wang admitted in his non-infringement report for the district court litigation that claim 13 requires a “second fluid flow path ... in addition to” the flow path of claim 11. Ex. 2013, ¶168 (emphases added).

Petitioner misrepresents Patent Owner's infringement positions in the district court litigation by relying on preliminary infringement contentions that have long been superseded by expert reports and stating incorrectly that "Petitioner's reading of claim 13 simply tacks Patent Owner's current position in the District Court proceeding." Reply, 17-18. Not so. In Patent Owner's infringement expert report, which represents Patent Owner's current infringement positions, Patent Owner has mapped two separate flow paths for claims 11 and 13. *Compare* Ex. 1025, ¶143 (communication between flows from the "bottom out cup" and the "compression chamber" to a reservoir) *with* ¶146 (flow from the reservoir to the "compression chamber" through the "bottom out cup").

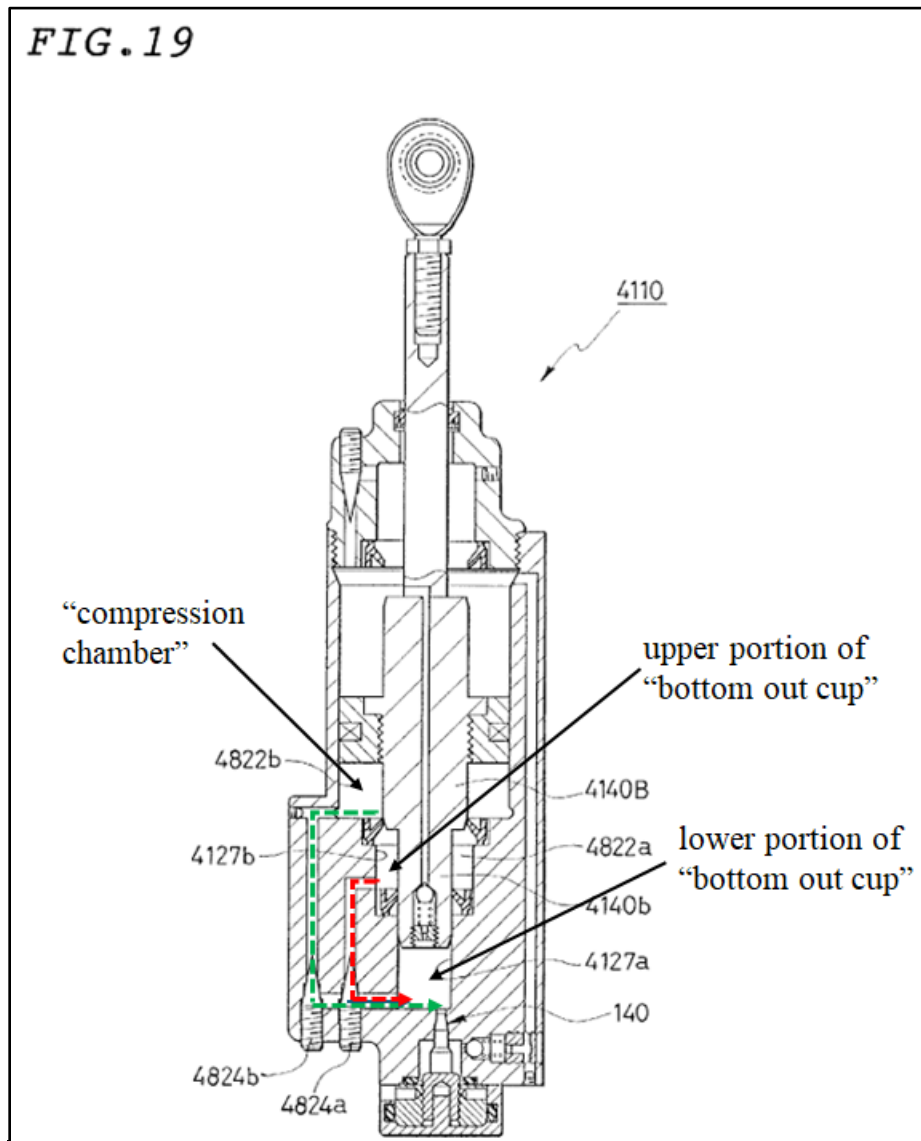
The Petition, however, maps the same flow path in Nakaya to both the "adjustable fluid flow path" of claim 11 and the "fluid flow path formed between the cup and the primary compression chamber" of claim 13. Pet., 45-46, 49 (referring to throttle passage 823 in "first embodiment," or throttle passage having valve 4824b in "fourth embodiment," as the flow paths of claims 11 and 13).

With respect to Nakaya's "first embodiment," it cannot be disputed that there is a single flow path (throttle passage 823) between the compression chamber 821 and "bottom out cup" 822. Ex. 2010, ¶81.

With respect to Nakaya's "fourth embodiment," Petitioner's Reply contends that an auxiliary connector between the upper and lower portions of the alleged

“bottom out cup” (volume defined by 4127b and 4127a) is the second fluid flow path of claim 13. *See* Reply, 18-20. This is incorrect. Figure 19 of the “fourth embodiment” (annotated below) and related text show that the auxiliary connector connects the upper and lower portions of the alleged “bottom out cup,” and does *not* provide fluid connection between the upper portion (volume 4127b/chamber 4822a) of the “bottom out cup” and compression chamber 4822b as alleged by Petitioner. *See* Ex. 1005, 10:45-50 (“throttle valves 4824a, 4824b, which are provided for the chambers 4822a, 4822b, respectively, take the role for throttling.”) (emphasis added). That is, throttle valve 4824a connects the upper portion (volume 4127b/chamber 4822a) with the lower portion (volume 4127a) of the “bottom out cup”, and throttle valve 4824b connects compression chamber 4822b with the lower portion (volume 4127a) of the “bottom out cup,” as shown below. If Petitioner’s interpretation is accepted, i.e., that the upper portion (volume 4127b/chamber 4822a) communicates with compression chamber 4822b through the auxiliary connector, then compression chamber 4822b would be double throttled by valves 4824a and 4824b during the purported air flow from compression chamber 4822b to upper portion 4822a of the “bottom out chamber.” *See id*; Ex. 2010, ¶81. But nowhere does Nakaya disclose that; instead, Nakaya specifies that valves 4824a, 4824b throttle the chambers 4822a, 4822b “respectively.” Ex. 1005, 10:45-50. Thus, it is clear from Nakaya’s disclosure that there is a single path connecting compression chamber (4822b) and lower portion of the “bottom out cup”

(volume 4127a), and the auxiliary path simply connects the upper and lower portions of the “bottom out cup.” Ex. 2010, ¶81.



Ex. 1005, Fig. 19 (annotations added).

Because Nakaya does not disclose two separate and distinct fluid flow paths between the “compression chamber” and the “bottom out cup,” claim 13 is not anticipated by Nakaya. Ex. 2010, ¶82.

IV. Claims 1-5, 9, 11-15, and 19 are Not Anticipated by Chen or Rendered Obvious by Chen Alone or in View of Deferme

A. Neither Chen alone, nor Chen in combination with Deferme, discloses fluid flow from the “bottom out cup” to the compression portion of the damper during a compression stroke, as required by independent claims 1 and 19

In the Chen device, fluid (oil) flows from the compression portion of the damper to the alleged “bottom out cup” through flow way 86 during a compression stroke. *See* Ex. 1007, Fig. 5, 1:18-24 (when projecting post 821 “fits into the accommodating cavity 84 to block the same,” oil in hydraulic chamber 8 “can only flow through the small diameter flow way 86 into the accommodating cavity 84 and then out from the oil outlet 85.”) (emphasis added); Ex. 2010, ¶¶84-86; Response, 41-45.

Petitioner’s Reply does not address this shortcoming of Chen. *See* Reply, 23-27. Instead, Petitioner adds misleading and incorrect annotations to figures of the ’223 patent and Chen to argue that Chen in combination with Deferme discloses the same structure and function as recited in the ’223 patent claims. *See id.* But Petitioner’s annotations and arguments are incorrect for at least the following reasons:

- 1) Petitioner makes no distinction between compression and rebound flows, even though claims 1 and 19 require fluid flow from the “bottom out cup” to the compression portion during a compression stroke. Petitioner misleadingly adds an arrow in Figure 4 of Chen, implying fluid flows from accommodation cavity 84 to hydraulic cylinder 8 through flow way 87, even

though this may occur only during rebound (not compression). *See* Reply, 25; *but see* Ex. 2010, ¶¶90, 91; Response, 48-51.

- 2) Petitioner adds a double-sided arrow in Figure 4 of Chen to suggest bidirectional fluid flow through flow way 86 of Chen. But fluid only flows from hydraulic cylinder 8 to accommodation cavity 84 through flow way 86 during compression (not the other way). Response, 41-45, 49-50.
- 3) Petitioner adds a double-sided arrow in modified Figure 4 of the '223 patent to suggest bidirectional fluid flow through path 350, but the '223 patent does not disclose this, nor has Patent Owner's expert confirmed it. *See* Reply, 24. Additionally, comparing the figures of the '223 patent to those of Chen is not pertinent to determining anticipation or obviousness based on Chen.

Because Chen does not disclose fluid flow from the alleged "bottom out cup" to the alleged "compression portion"/"compression chamber" during compression, Chen does not anticipate or render obvious claims 1 and 19, and claims 2-5 and 9 that depend from claim 1.

Deferme, which Petitioner cites only with regard to a piston with bidirectional flow between the compression and rebound portions of the damper, does not overcome Chen's deficiency. Ex. 2010, ¶¶87-89. Petitioner's conclusory "design choice" and "motivated to try" reply arguments also do not cure the deficiencies of Chen, or Chen in view of Deferme, because Petitioner has not explained how or why one skilled in

the art would change geometries or reverse the flow paths of Chen to allow fluid to flow from accommodating cavity 84 (alleged “bottom out cup”) to the compression portion of hydraulic cylinder 8. Reply, 26; *but see Innogenetics, N.V. v. Abbott Labs.*, 512 F.3d 1363, 1373, 1374 n.3 (Fed. Cir. 2008) (requiring “explanation as to how or why the references would be combined to produce the claimed invention.”). Without any explanation of the motivation and reasonable expectation of success for modifying Chen to reverse the flow directions, Petitioner’s obviousness arguments amount to mere speculation and an impermissible hindsight reconstruction of the claimed invention.

B. Neither Chen nor Deferme discloses “a bottom out piston formed on the movable rod,” as required by independent claim 11

Petitioner appears to admit that Chen’s projecting post 821 (alleged “bottom out piston”) extends from piston 81, not from piston rod 82. *See* Reply, 27. Petitioner nevertheless argues that claim 11 does not exclude intervening structures or connections between the “movable rod” and the “bottom out piston.” *Id.* That is incorrect. Claim 11 specifies that the “bottom out piston [is] formed on the movable rod,” which implies there is a direct connection between the rod and the “bottom out piston.” The ’223 patent also shows that bottom out piston 250 is directly attached, i.e., formed on, shaft 215 and is spaced apart from main piston 210. *See* Ex. 1001, Fig. 2. Because Chen’s projecting post 821 is not formed on piston rod 82, Chen does not

disclose or suggest a “bottom out piston formed on the movable rod,” as required by claim 11. Deferme does not disclose or suggest a “bottom out piston,” and therefore does not overcome this deficiency of Chen. Accordingly, claims 11-15 are neither anticipated by Chen, nor rendered obvious by Chen alone or in view of Deferme.

C. Neither Chen nor Deferme discloses a second fluid flow path as required by claim 13

Petitioner and its experts map the same flow path in Chen, i.e., flow way 86, to both the “adjustable fluid flow path formed in the cup” of claim 11 and the “fluid flow path formed between the cup and the primary compression chamber” of claim 13. Pet., 70-73; Ex. 1002, ¶¶133, 137 (referring to flow way 86 as both flow paths of claims 11 and 13); Ex. 1003, ¶¶127, 131 (same). This is erroneous under *Becton, Dickinson, Kyocera* and other cases. Response, 35-39. Petitioner’s Reply does not address this deficiency of Chen.

Deferme, which only provides flow paths through Deferme’s piston between the compression and rebound chambers, does not overcome Chen’s deficiency. Accordingly, claim 13, and claims 14 and 15 which depend from claim 13, are neither anticipated by Chen, nor rendered obvious by Chen alone or in view of Deferme.

V. Claims 1-5, 9, 11-15, and 19 Are Not Rendered Obvious by Fox ’751 in View of Chen

For the Fox ’751 in view of Chen ground, Petitioner exclusively depends on Chen for the purported disclosure of a “bottom out cup” and associated flow

arrangements. But as discussed in Section IV, above, Chen does not disclose fluid flow from Chen's accommodating cavity 84 (the alleged "bottom out cup") to the compression portion of Chen's hydraulic chamber 8, as required by claims 1 and 19. Nor does Chen disclose "a bottom out piston formed on the movable rod," as required by claim 11. The Petition also does not identify two separate and distinct fluid flow paths between Chen's compression chamber and the alleged "bottom out cup," as required by claim 13.

Fox '751 does not disclose or suggest these features that are missing from Chen, primarily because Fox '751 does not include a "bottom out cup" or a bottom out piston. Ex. 2010, ¶101. Therefore, Fox '751 in view of Chen does not disclose or suggest every limitation of independent claims 1, 11, and 19, and dependent claim 13. Accordingly, claims 1-5, 9, 11-15, and 19 are not rendered obvious by Fox '751 in view of Chen.

VI. Claims 5-9 Are Not Rendered Obvious by the Combination of Nakaya and/or Kodama with Fox '751 in View of Chen Because There is No Motivation or Reasonable Expectation of Success for Combining These References

As explained in Patent Owner's Response, Petitioner's experts did not explain how the oil-based systems of Chen and Fox '751 may be combined with the air-based systems of Nakaya or Kodama, or why one skilled in the art would have been motivated to combine Chen, or Fox '751 in view of Chen, with Nakaya/Kodama.

Response, 56-58; Ex. 2010, ¶¶102, 103. Petitioner’s Reply does not address any of these deficiencies in the Petition. Accordingly, claims 5-9 are not rendered obvious by the combination of Fox ’751 in view of Chen with Nakaya and/or Kodama.

VII. Claims 1-5, 9, and 19 are Not Anticipated by Gartner Because Gartner Does Not Disclose a “Bottom Out Cup”

Ground V of the Petition alleges that independent claims 1 and 19, and claims 2-5 and 9 which depend from claim 1, are anticipated by Gartner.⁵ As the Federal Circuit explained in *Richardson v. Suzuki Motor Co., Ltd.*, “an invention is anticipated if the same device, including all the claim limitations, is shown in a single prior art reference. Every element of the claimed invention must be literally present, arranged as in the claim.” 868 F.2d 1226, 1236 (Fed. Cir. 1989) (emphases added). Here, Gartner does not anticipate claims 1-5, 9, and 19 because Gartner does not disclose the “bottom out cup” element of independent claims 1 and 19. Ex. 2010, ¶¶104, 105.

Petitioner’s experts rely on the embodiment of Gartner shown in Figures 12A, 12B, and 12C to argue that Gartner’s shock absorber 420 includes a “bottom out cup”

⁵ Petitioner further asserts that Gartner in view of Kodama renders claim 4 obvious, but Petitioner did not assert an obviousness ground based on Gartner against claims 1-3, 5, 9, or 19.

defined by the compression volume 460.4 (or purported cylinder 460⁶) of internal shock absorber 400, which is located within main shock absorber 420. Pet., 106 (“*Gartner* includes an additional compression volume **460.4** (pink), which is the same as the claimed bottom out cup.”) (emphasis in original); *see also* Pet., 108 (referring to purported cylinder 460 of the internal shock absorber 400 as the “bottom out cup”); Reply, 27, 28 (same). But nowhere does *Gartner* identify or describe element 460.4 (or 460) of internal shock absorber 400 as a “bottom out cup.” Instead, *Gartner* identifies element 460.4 as the compression volume of internal shock absorber 400, and element 460 is not even mentioned or labelled in *Gartner*. *See* Ex. 1010, 9:33-37.

Recognizing the shortcomings of its anticipation argument, Petitioner changes tack in the Reply to contend that bottom out cup 275 of the ’223 patent also functions as a shock absorber with compression and rebound chambers. *See* Reply, 29. But Petitioner’s belated reply argument is incorrect because the ’223 patent identifies the bottom out cup as a “secondary compression chamber,” not as a shock absorber having

⁶ *Gartner* does not identify or describe an element 460 in relation to the embodiment shown in its Figures 12A, 12B, and 12C. But based on other embodiments disclosed in *Gartner*, Patent Owner assumes Petitioner is using the numerical identifier 460 to refer to the cylindrical body of internal shock absorber 400. *See, e.g.*, Ex. 1010, Fig. 10 and 8:46-55 (referring to the body of internal shock absorber 300 as cylinder 360).

compression and rebound chambers. Ex. 1001, Abstract; *see also id* at 2:22-35, 2:43-48, 3:1-3; Ex. 1020, 19:25-20:16.

While it is correct that *ipsis verbis* support is not needed to establish anticipation, here Petitioner's labeling of element 460.4 (or 460) as a "bottom out cup" is not supported by Gartner; rather it is contradicted because Gartner clearly identifies element 460.4 as the compression volume of shock absorber 400. Ex. 1010, 9:33-37. As the Federal Circuit explained in *AstraZeneca LP v. Apotex Inc.*, "[i]n the context of anticipation, the question is not whether a prior art reference 'suggests' the claimed subject matter []. Rather, 'the dispositive question regarding anticipation [is] whether one skilled in the art would reasonably understand or infer from a [prior art reference]' that every claim element is disclosed in that reference." 633 F.3d 1042, 1055 (Fed. Cir. 2010) (citing and quoting *In re Baxter Travenol Labs*, 952 F.2d 388, 390 (Fed. Cir. 1991)). Here, one skilled in the art would not reasonably envisage the "small miniature" shock absorber 400 as the claimed "bottom out cup." *See* Ex. 1020, 150:24-152:11; *see also id.* at 66:3-67:12 ("But with Gartner, [the alleged bottom out cup] doesn't even look like it"), 71:2-72:2 ("Gartner, I don't see, has [a bottom out cup]"), 150:24-152:11 ("I don't think Gartner has a bottom out cup. It has a second shock absorber within a shock absorber"), 154:3-18 (the shock absorbers 420 and 400 of Gartner are "two shock absorbers in series").

Furthermore, Gartner does not anticipate claims 1 and 19 because element 460.4 (or 460) does not meet the correct construction of “bottom out cup.” As discussed in the Patent Owner Response and herein, “bottom out cup” should be construed as “cup-shaped feature configured for providing dampening only at the end portion of a compression stroke.” But as admitted by Petitioner, compression volume 460.4 (or purported cylinder 460) of Gartner will “provide *some level of damping anytime fluid flows though [sic] it*, which will occur to some extent during the entire compression stroke because fluid will move into the reservoir on the left side of *Gartner’s* Figure 12A.” Reply, 28 (emphasis in original). Thus, if the Board agrees with Patent Owner’s construction of “bottom out cup,” then Gartner does not anticipate the challenged claims because compression volume 460.4 (or purported cylinder 460) of Gartner provides some dampening throughout the compression stroke (not just in the final stages of compression) as admitted by Petitioner.

Kodama, which Petitioner cites only with regard to dependent claim 4, does not disclose a “bottom out cup” and therefore does not overcome this deficiency of Gartner. Accordingly, claim 4 is not rendered obvious by Gartner in view of Kodama.

Respectfully submitted,

Dated: January 3, 2025

By: /Arpita Bhattacharyya/
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CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), I, Arpita Bhattacharyya, certify that **Patent Owner's Sur-Reply** contains 5,581 words, excluding those portions identified in 37 C.F.R. § 42.24(c), as measured by the word-processing system used to prepare this paper.

Dated: January 3, 2025

/Arpita Bhattacharyya/

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CERTIFICATE OF SERVICE

The undersigned certifies that a copy of the foregoing **Patent Owner's Sur-Reply** was served electronically via email on January 3, 2025, in its entirety on the following:

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