

Case IPR2023-00580
Patent No. 10,669,738

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GLOBAL SHADE CORPORATION,
Petitioner,

v.

WITH-U E-COMMERCE (SHANGHAI) CO., LTD.,
Patent Owner.

Case IPR2023-00580
Patent 10,669,738

CONTINGENT *REVISED* MOTION TO AMEND

PURSUANT TO 37 C.F.R. § 42.121

Patent Owner's Contingent *Revised* Motion to Amend

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LIST OF EXHIBITS

Exhibit No.	Description
2001	Non-Final Office Action, September 26, 2019 (with accompanying Notice of References Cited, Search Notes, and EAST Search History)
2002	Non-Final Office Action, September 28, 2018
2003	U.S. Patent Publication No. 2015/0308147 (“Lee”)
2004	U.S. Patent No. 6,929,017 (“Byun”)
2005	Office Action Response, February 10, 2020
2006	Notice of Allowance, February 27, 2020
2007	Declaration of Wendy Reffeor, Ph.D. (with attached CV)
2008	U.S. Patent No. 5,230,358 (“Forell”)
2009	U.S. Patent No. 4,945,936 (“Surrendi”)
2010	U.S. Patent No. 4,202,363 (“Watts”)
2011	U.S. Patent No. 3,929,146 (“Maiken”)
2012	U.S. Patent No. 2,771,087 (“Simonson”)
2013	Originally-Filed Specification (U.S. Patent App. No. 15/925,314)
2014	Originally-Filed Drawings (U.S. Patent App. No. 15/925,314)
2015	Originally-Filed Specification (Parent Application - U.S. Patent App. No. 15/549,164)

2016	PCT Pub. No. WO2017/028659 (PCT/CN2016/091675)
2017	Espacenet Patent Translate Translation of PCT Pub. No. WO2017/028659 (PCT/CN2016/091675)
2018	Japanese Pat. Pub. No. JP3200660U (JP Patent App. No. 2015-004155U)
2019	Espacenet Patent Translate Translation of Japanese Pat. Pub. No. JP3200660U (JP Patent App. No. 2015-004155U)
2020	Declaration of Jared L. DuJack

I. INTRODUCTION AND SUMMARY

Pursuant to 35 U.S.C. § 316, 37 C.F.R. § 42.121, and the MTA Pilot Program, Patent Owner files this Contingent *Revised* Motion to Amend. Patent Owner proposes 5 substitute claims (numbered 15–19) which are set forth below in the Claims Appendix. *Infra* § IX. Substitute claims correspond, respectively, to challenged independent claim 1 and challenged dependent claims 2, 4, 13, and 14.

A. CONTINGENCY

This is a Contingent *Revised* Motion to Amend. If the claims of the ’738 Patent are found patentable, this *revised* motion is respectfully withdrawn.

B. BURDEN OF PERSUASION

Petitioner bears the burden of persuasion “to show that any proposed substitute claims are unpatentable by a preponderance of the evidence.”

Lectrosonics, Inc. v. Zaxcom, Inc., IPR2018-01129, -01130, Paper No. 15 (internal citations omitted); *see also* 37 C.F.R. § 42.121(d)(2).

II. CONTENT OF THE AMENDMENT

Substitute independent claim 15 includes the limitations of independent claim 1 and adds limitations regarding the central lock, hinged connection of the first connecting rod, and transition to the unfolded state. Substitute dependent claim 16 includes the limitations of dependent claim 2 and adds detail regarding the outer retractable unit and the first connecting rod. Substitute dependent claim

17 includes the limitations of claim 4, amends the dependency, and recites the location of the hinged connection of the first connecting rod. Substitute dependent claims 18 and 19 include the limitations of dependent claims 13 and 14, respectively, but amend the dependency.

III. SUPPORT FOR THE AMENDMENTS

Each of the proposed substitute claims is supported by the original disclosure of the '738 Patent and all priority documents. The '738 Patent was filed on March 19, 2018 as U.S. Pat. App. No. 15/925,314. The original specification is Exhibit 2013. The original drawings are Exhibit 2014. The '738 Patent claims priority to U.S. Pat. App. No. 15/549,164 (filed on August 6, 2017 and now U.S. Pat. No. 10,273,710) which is a national stage entry of PCT/CN2016/091675 (filed July 26, 2016) which claimed priority to JP App. 2015-004155U (filed August 18, 2015). The original specification of the parent application is Exhibit 2015. PCT/CN2016/091675 was published in Chinese as PCT Pub. No. WO2017/028659 (Pub. Date of February 23, 2017). A copy of PCT Pub. No. WO2017/028659 is Exhibit 2016. A machine translation of PCT Pub. No. WO2017/028659 available from the EPO's Espacenet Patent Translate system is Exhibit 2017 and referred to below as the "PCT Tr." JP App. 2015-004155U was published as JP3200660U on October 29, 2015. A copy of the JP3200660U publication is Exhibit 2018. A machine translation of the JP3200660U publication available from the EPO's Patent Owner's Contingent *Revised* Motion to Amend

Espacenet Patent Translate system is Exhibit 2019 and referred to below as the “JP Tr.” The subject matter, figures, and numerals of the parent, PCT/CN2016/091675, and JP App. 2015-004155U correspond to one another.

Support for proposed substitute claim 15 (amending independent claim 1):

Claim Limitation	Support in the Originally Filed Specification (Ex. 2013)	Support in the Priority Documents (Parent, PCT Tr., JP Tr.)
15. (Preamble) A collapsible canopy frame, comprising:	Page 1, ¶ 1 through Page 2, ¶ 2. Page 5, ¶ 1 through Page 7, ¶ 1. Figures 6, 19–21.	Parent: Page 1:3–3:11; 6 :22–9:13. PCT Tr.: Page 1:10–2:59. JP App Tr.: ¶¶ [0001]–[0013]. Figures 6, 19–21.
A. at least three supporting legs,	Page 2, ¶ 2. Page 5, ¶ 2. Figures 6, 19–21.	Parent: Page 2:22–23; 7: 22–23. PCT Tr.: Page 2:43–47; 5:194–199. JP App Tr.: ¶¶ [0007], [0012]. Figures 6, 19–21.
B. a plurality of outer retractable units, each outer retractable unit connected between two adjacent supporting legs, each said outer retractable unit comprises a plurality of hinged X-shaped rod members, each X-shaped rod member comprises a first eave pipe and second eave pipe hinged to one another,	Page 2, ¶ 2. Page 5, ¶ 2. Page 7, ¶ 2 (continuing onto Page 8). Figures 6, 18–21.	Parent: Page 2:22–27; 7:22–28; 9:14–10:13. PCT Tr.: Page 2: 43–47; 5:194–199; 6:239–7:264. JP App Tr.: ¶¶ [0007], [0012], [0014]. Figures 6, 18–21.
C. a plurality of inner retractable units comprising inner ends, each	Page 2, ¶ 2.	Parent: Page 2:22–27; 7: 22–28; 9:14–

inner retractable unit connected to a supporting leg, wherein said outer retractable units and said inner retractable units form a roof of said collapsible canopy frame, and	Page 5, ¶ 2 (continuing onto Page 6). Page 7, ¶ 2 through Page 8, ¶ 2. Figures 6, 18–21.	10:13. PCT Tr.: Page 2:43–47; 5:194–199; 6:239–7: 264. JP App Tr.: ¶¶ [0007], [0012], [0014]. Figures 6, 18–21.
D. a central lock, comprising:	Page 2, ¶ 2. Page 5, ¶¶ 1–2. Page 6, ¶ 2 (continuing onto Page 7). <i>See also</i> Page 8, ¶ 3 through Page 14, ¶ 2. Figures 1–16, 19–26.	Parent: Page 2:7–19; 7:20–22; 8:4–9:13; <i>see also</i> Page 10:27–16:17. PCT Tr.: Page 2: 43–59; 5:194–199; <i>see also</i> Page 7:265–10:410. JP App Tr.: ¶¶ [0007], [0012]–[0013]; <i>see also</i> ¶¶ [0016]–[0025]. Figures 1–16, 19–26.
1. a center top cap,	Page 5, ¶ 1. Page 6, ¶ 2 (first 2 lines). Page 12, ¶ 3 (first 4 lines). Figures 1–3, 7, 8, 12, 17, 19–22.	Parent: Page 6:22–7:19; 8:4–5;14:24–27. PCT Tr.: Page 5:174–205; 9:367–370. JP App Tr.: ¶¶ [0011], [0013], [0023]. Figures 1–3, 7, 8, 12, 17, 19–22.
2. a center bottom cap,	Page 5, ¶ 1. Page 6, ¶ 2. Page 7, ¶ 1. <i>See also</i> Page 8, ¶ 2 through Page through Page 14, ¶ 2. Figures 1–13, 17, 19–26.	Parent: Page 6:22–7:19; 8:4–9:13; <i>see also</i> Page 10:14–16:17. PCT Tr.: Page 5:174–205; 9:367–10:390; <i>see also</i> Page 7:265–10:410. JP App Tr.: ¶¶ [0011], [0013], [0015]–

		[0025]. Figures 1–13, 17, 19–26.
3. a center pole positioned between said center top cap and said center bottom cap, wherein said central lock is locked when said center pole is connected to both said center top cap and said center bottom cap, and wherein said center lock is unlocked when there is a disconnection between said center bottom cap and said center pole, wherein said central lock locks said collapsible canopy frame in an unfolded state when said central lock is locked and permits said collapsible canopy frame to be folded into a folded state when said central lock is unlocked, wherein said inner ends of said inner retractable units are connected through said central lock, and	Page 5, ¶ 1. Page 6, ¶ 2. Page 7, ¶ 1. <i>See also</i> Page 8, ¶ 2 through Page 14, ¶ 2. Figures 1–4, 6, 7–9, 12, 17, 19, 22, 23, 25.	Parent: Page 6:22–7:19; 8:4–9:13; <i>see also</i> Page 10:14–16:17. PCT Tr.: Page 5:174–205; 9:367–10:390; <i>see also</i> Page 7:265–10:410. JP App Tr.: ¶¶ [0011], [0013], [0015]–[0025]. Figures 1–4, 6, 7–9, 12, 17, 19, 22, 23, 25.
<u>4. a locking piece received in said center bottom cap,</u>	Page 5, ¶ 1. Figures 2–12.	Parent: Page 7:5–6. PCT Tr.: Page 5:177–181. JP App Tr.: ¶¶ [0011]. Figures 2–12.
<u>wherein said center bottom cap comprises a bottom cap seat and a bottom cap cover that are connected to one another, wherein said bottom cap seat is located between said bottom cap cover and said center top cap,</u>	Page 8, ¶ 3 (continuing onto Page 9). Page 8, ¶ 3 (lines 1–2) (“the center bottom cap 3 comprises a bottom cap seat 31 and a bottom cap cover 32 that are connected to one another...”). Figures 1–3, 5–8, 10–12, 22, 23, 25, 26. These figures all show the bottom cap seat	Parent: Page 10:27–11:19; 10:27–29. PCT Tr.: Page 7:275–289. JP App Tr.: ¶ [0016]. Figures 1–3, 5–8, 10–12, 22, 23, 25, 26.

	31 being located between the bottom cap cover 32 and the center top cap 1.	
<u>wherein said bottom cap seat is provided with a bottom cap seat through hole through which said center pole can enter,</u>	Page 12, ¶ 2 “the bottom cap seat 31 is provided with a second through hole 314 through which the center pole 2 can pass”. Page 12, ¶ 3 “The user continues to push the center bottom cap 3 to move upwards until the lower end of the center pole 2 enters the second through hole 314 in the bottom cap seat 31”. Figures 1, 6, 11, 23, 25.	Parent: Page 14:10–15:22; 14:10–11; 15:6–7. PCT Tr.: Page 9:356– 10:378. JP App Tr.: ¶¶ [0022]–[0023]. Figures 1, 6, 11, 23, 25.
<u>a receiving chamber is provided in said center bottom cap at a junction between said bottom cap seat and said bottom cap cover, and wherein said locking piece is located within said receiving chamber and between said bottom cap cover and said bottom cap seat;</u>	Page 8, ¶ 3 (lines 3–4). Page 9, ¶ 1 (lines 1–2). Figures 1, 6, 11.	Parent: Page 10:29–11:1; 11:3–5. PCT Tr.: Page 7:275–289. JP App Tr.: ¶ [0016]. Figures 1, 6, 11.
<u>wherein a first connecting rod is hinged with a connection piece of said bottom cap seat;</u>	Page 9, ¶ 1 (last four lines) (“The inner ends of the four first connecting rods 83 are disposed in the four receiving grooves of the bottom cap seat 31 and hinged with the connection pieces 318 through bolts respectively, and threads at end portions of the bolts are connected with nuts.”). Figures 1–3, 6–8, 11, 12, 17, 22, 23, 25.	Parent: Page 11:16–19. PCT Tr.: Page 8: 290–292. JP App Tr.: ¶ [0016]. Figures 1–3, 6–8, 11, 12, 17, 22, 23, 25.

<u>wherein said collapsible canopy frame is moved to said unfolded state by pushing said center bottom cap upwards to drive said plurality of inner retractable units outwardly, which causes said plurality of outer retractable units and said at least three supporting legs to extend outwards, until said center bottom cap is connected with said center top cap.</u>	Page 8, ¶ 2 (lines 1–7). <i>See also</i> Page 6, ¶ 2 (lines 5–17). Figures 1, 16, 17, and 19–21.	Parent: Page 10:14–20; <i>see also</i> Page 8:8–20. PCT Tr.: Page 7:265–270; <i>see also</i> Page 6:206–214. JP App Tr.: ¶¶ [0015]; <i>see also</i> ¶ [0013]. Figures 1, 16, 17, and 19–21.
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Support for proposed substitute claim 16 (amending dependent claim 2):

Claim Limitation	Support in the Originally Filed Specification (Ex. 2013)	Support in the Priority Documents (Parent, PCT Tr., JP Tr.)
16. Preamble: The collapsible canopy frame according as in claim [[1]] 15, wherein:	See above	See above
<u>each said outer retractable unit comprises three hinged X-shaped rod members,</u>	Page 7, ¶ 2 (lines 3–4). Figures 16, 19, and 21.	Parent: Page 9:16–17. PCT Tr.: Page 6:240–241. JP App Tr.: ¶¶ [0014]. Figures 16, 19, and 21.
<u>each said supporting leg comprises a sliding sleeve that is moved for moving along a length direction of said respective supporting leg by said pushing of said center bottom cap,</u>	Page 7, ¶ 2 (lines 1–2); Page 8, ¶ 2 (lines 2–5). Figures 16, 19, and 21.	Parent: Page 9:14–15; 10:16–18. PCT Tr.: Page 5:239–Page 6:274. JP App Tr.: ¶¶ [0014]–[0015]. Figures 16, 19, and 21.
<u>an upper end of each said supporting leg is fixed with</u>	Page 7, ¶ 2 (lines 2–3, 7–17). Figures 16–19, 21.	Parent: Page 9:15–16, 9:20–

a fixed joint, each said inner retractable unit comprises a first oblique top pipe and a second oblique top pipe hinged to one another, said first oblique top pipe is hinged with <u>[[a]] said first connecting rod</u>, said second oblique top pipe is hinged with a second connecting rod, an inner end of said first oblique top pipe is hinged with <u>[[a]] said center top cap of said central lock</u>,		10:1. PCT Tr.: Page 6: 239–7:264. JP App Tr.: ¶ [0014]. Figures 16–19, 21.
an inner end of said first connecting rod is <u>disposed within a receiving groove formed by at least two connection pieces of said bottom cap seat</u> ~~hinged with a center bottom cap of said central lock~~,	Page 9, ¶ 1 (“In addition, there are eight connection pieces 318 provided in the bottom cap seat 31 of the center bottom cap 3 and the center top cap 1 respectively, the eight connection pieces 318 form four connection piece groups which are provided at intervals of 900, i.e., each connection piece group comprises two connection pieces 318, with a receiving groove being formed between the two connection pieces 318....The inner ends of the four first connecting rods 83 are disposed in the four receiving grooves of the bottom cap seat 31 and hinged with the connection pieces 318 through bolts respectively, and threads at end portions of the bolts are connected with nuts.”). Figures 1–3, 6–8, 11, 12, 17, 22, 23, 25.	Parent: Page 11:9–13. PCT Tr.: Page 7:284–8:292. JP App Tr.: ¶ [0016]. Figures 1–3, 6–8, 11, 12, 17, 22, 23, 25.
<u>and, in said unfolded state, said first connecting rod extends from said bottom</u>	Page 7, ¶ 2 (continuing onto Page 8). Page 9, ¶ 1 (last four lines) (“The inner ends of the four first	Parent: Page 10:1–4; 11:16–19. PCT Tr.:

<u>cap seat to said first oblique top pipe to form a Y-shaped member,</u>	connecting rods 83 are disposed in the four receiving grooves of the bottom cap seat 31 and hinged with the connection pieces 318 through bolts respectively, and threads at end portions of the bolts are connected with nuts.”). Figures 1–3, 6–8, 11, 12, 16–19, 21–23, 25.	Page 7:254–264; 7:284–8:292. JP App Tr.: ¶¶ [0014], [0016]. Figures 1–3, 6–8, 11, 12, 16–19, 21–23, 25.
an outer end of a first eave pipe and an outer end of said second oblique top pipe are hinged with said fixed joint, an outer end of said second eave pipe and an outer end of said second connecting rod are hinged with said sliding sleeve.	Page 8, ¶ 1 (lines 6–12). Figures 16–19, 21.	Parent: Page 10:11–13. PCT Tr.: Page 6:239–7:264. JP App Tr.: ¶ [0014]. Figures 16–19, 21.

Support for proposed substitute claim 17 (amending dependent claim 4):

Claim Limitation	Support in the Originally Filed Specification (Ex. 2013)	Support in the Priority Documents (Parent, PCT Tr, JP Tr.)
17. Preamble: The collapsible canopy frame as in claim [[1]] 15,	See above	See above
where said central lock further comprises: [[a]] <u>said locking piece, wherein said locking piece is capable of moving back and forth along a radial direction of said center pole, wherein said locking piece is received in said center bottom cap, a first through hole through which said center pole can pass through is provided in said locking piece, and an end portion of said center pole is provided with a clamping groove and</u>	Page 5, ¶ 1. Figures 2–12.	Parent: Page 7:5–9. PCT Tr.: Page 5:177–182. JP App Tr.: ¶ [0011]. Figures 2–12.

a clamp locking part located at the lower end of said clamping groove;		
when said central lock is in a locked state, part of an inner wall of said first through hole of said locking piece is clamped with said clamping groove of said center pole, [[and]] an upper end surface of said clamp locking part abuts against a lower end surface of said locking piece,	Page 5, ¶ 1. Figures 2–12.	Parent: Page 7:9–14. PCT Tr.: Page 5:182–187. JP App Tr.: ¶ [0011]. Figures 2–12.
<u>and said first connecting rod is hinged with said connection piece at a location above said clamp locking part of said center pole;</u>	Page 9, ¶ 1 (last four lines) (“The inner ends of the four first connecting rods 83 are disposed in the four receiving grooves of the bottom cap seat 31 and hinged with the connection pieces 318 through bolts respectively, and threads at end portions of the bolts are connected with nuts.”). Figures 1–3, 6–8, 11, 12, 17, 22, 23, 25. Specifically, Figures 3, 6, 8, 11, 12, 23, and 25 all show the connection piece(s) 318 of the bottom cap seat 31 located above the clamp locking part 22 of the center pole 2 when the central lock is in the locked state.	Parent: Page 11:16–19. PCT Tr.: Page 8:290–292. JP App Tr.: ¶ [0016]. Figures 1–3, 6–8, 11, 12, 17, 22, 23, 25.
and when said central lock is in said unlocked state, said inner wall of said first through hole of said locking piece is separated from said clamping groove and said clamp locking part can pass through said first through hole.	Page 5, ¶ 1. Figures 2–12.	Parent: Page 7:14–19. PCT Tr.: Page 5:187–191. JP App Tr.: ¶ [0011]. Figures 2–12.

Proposed substitute claims 18 and 19 (amending dependent claims 13 and 14) only amend the dependency to the appropriate substitute claim.

IV. NUMBER AND SCOPE OF THE SUBSTITUTE CLAIMS

A reasonable number of substitute claims is proposed. Only one substitute claim for each of challenged claims 1, 2, 4, 13, and 14 is proposed. The scope is narrowed and not enlarged. No new matter is included.

V. LEVEL OF SKILL

Patent Owner proposes that the level of skill for the substitute claims be that set forth in the Patent Owner Preliminary Response and the Patent Owner Response. This is consistent with the Board's indication that "no express finding is necessary" regarding the level of skill is required. Institution Decision 10.

VI. CLAIM CONSTRUCTION

Patent Owner does not propose any specific construction for the proposed substitute claims. This is consistent with the Board's determination that no explicit construction was required. Institution Decision 11.

VII. THE AMENDMENTS ARE RESPONSIVE AND THE SUBSTITUTE CLAIMS ARE PATENTABLE

In accordance with 37 C.F.R. § 42.121, the amendments presented respond to at least one asserted ground of unpatentability. The amendments of substitute claims 15–17 respond to Grounds 1 and 2 asserted by Petitioner. Further, the

amendments respond to the additional art raised by Petitioner's Opposition to Patent Owner's Motion to Amend and discussed in the Preliminary Guidance.

A. SUBSTITUTE CLAIM 15

The proposed combination(s) do not teach the limitations of substitute claim 15 and the claim is patentable.

1. KHATCHADOURIAN IS NOT ANALOGOUS ART

In the Opposition to Patent Owner's Motion to Amend, Petitioner relied on new art, namely Khatchadourian. This reference is not analogous and proposed combinations using this reference are improper. The MPEP and Federal Circuit are clear that "[i]n order for a reference to be proper for use in an obviousness rejection under 35 U.S.C. § 103, the reference must be analogous art to the claimed invention." MPEP § 2141.01(a) (citing *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004)). A reference is analogous to the claimed invention if:

- (1) the reference is from the same field of endeavor as the claimed invention (even if it addresses a different problem); or
- (2) the reference is reasonably pertinent to the problem faced by the inventor (even if it is not in the same field of endeavor as the claimed invention).

Id. Khatchadourian fails both of these tests. Petitioner is moving the goalposts on both the field of endeavor and the problem faced by the inventor in an attempt to shoehorn Khatchadourian into a combination with the other references.

Khatchadourian is directed to the field of jewelry clasps and is therefore not from the same field. Petitioner originally identified the field of endeavor as “collapsible tents or canopies,” Pet. 8, or as “locking mechanisms for collapsible structures,” *id.* at 9. Because Khatchadourian is not directed to either of these fields, Petitioner’s Expert for the first time now recharacterizes the field as merely “locking mechanisms.” Ex. 1102, ¶ 49. This is contrary to Petitioner’s Expert’s original declaration in which the field of endeavor was identified as “collapsible tents or canopies.” Ex. 1002, ¶ 58. In summary, Petitioner now proposes removing nearly all of the structural components, namely, the tent or canopy and collapsible structure, from the field in order to broaden the scope of the art to find limitations not taught by its proposed combination.

Likewise, Khatchadourian is not pertinent to the problem faced by the inventor. The ’738 Patent identifies the problem, stating: “What is needed is **collapsible canopy frame** with a better locking mechanism.” Ex. 1001, 1:46–47 (emphasis added); *see also*, Ex. 2015, 2:4–6 (stating, in the parent specification, “one technical problem to be solved by the present invention is to provide a central lock **enabling to support an entire canopy and enabling the canopy to be uniformly stressed.**”) (emphasis added). Petitioner originally identified the problem as “constructing sturdy, resilient, easy-to-use collapsible canopies,” Pet. 8, or as “the need for easy-to-use, reliable locking mechanisms for collapsible

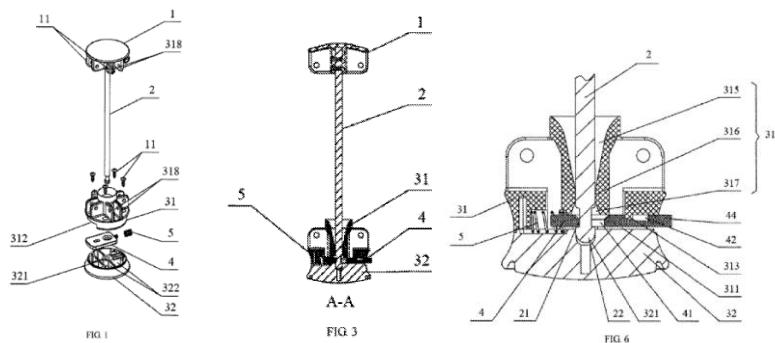
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structures,” *id.* at 9. Because Khatchadourian is not pertinent to any of the problem statements laid out above, **whether from the ’738 Patent or from Petitioner’s own Expert**, Petitioner now attempts to move the goalposts on the problem statement, recharacterizing the problem as “the need for easy-to-use, reliable locking mechanisms.” Ex. 1102, ¶ 49. Again, this is contrary to Petitioner’s Expert’s original declaration in which the problem was identified as “the need for sturdy, resilient, easy-to-use collapsible tents or canopies.” Ex. 1002, ¶ 58. Further, as with the newly-proposed recharacterized field, this newly-proposed recharacterized problem removes nearly all of the structural components, namely, the tent or canopy and collapsible structure, to try to find limitations not taught by Petitioner’s proposed combinations.

When starting from the proper field of endeavor and/or problem faced by the inventor, it is clear that Khatchadourian’s jewelry clasp is not analogous art that can be used in an obviousness rejection of the instant claims. Clasps used for jewelry are not analogous to locking mechanisms for collapsible structures as jewelry is neither collapsible nor a support structure. Jewelry, such as the piece taught by Khatchadourian, does not support a grounded load (support structure) nor does it fold/unfold between a collapsed state and a deployed state (collapsible).

2. THE LIMITATIONS RELATED TO THE LOCK

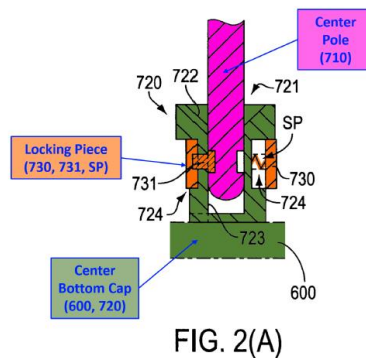
Proposed substitute independent claim 15 includes additional features of the central lock that are not taught by any proposed ground of rejection. The '738 Patent teaches that, in embodiments, the lock includes a bottom cap seat and a bottom cap cover, a receiving chamber provided in said center bottom cap at a junction between said bottom cap seat and said bottom cap cover. Ex. 1001, 6:9–14; Ex. 2013, Page 8, ¶ 3. Further, the locking piece is located within said receiving chamber and between said bottom cap cover and said bottom cap seat. Ex. 1001, 6:17–20; Ex. 2013, Page 9, ¶ 1 (lines 1–2). **Still further, the bottom cap seat is located between said bottom cap cover and said center top cap.** Ex. 1001, 6:9–14, Figures 1–3, 5–8, 10–12, 22, 23, 25, 26; Ex. 2013, Page 8, ¶ 3 (lines 1–2). This structure is depicted in exemplary Figures 1, 3, and 6 shown below:



Ex. 1001, Figs. 1, 3, 6. As shown, the locking piece 4 is positioned between the bottom cap seat 31 and the bottom cap cover 32. Further, the bottom cap seat 31 is positioned **between** the bottom cap cover 32 and the center top cap 1.

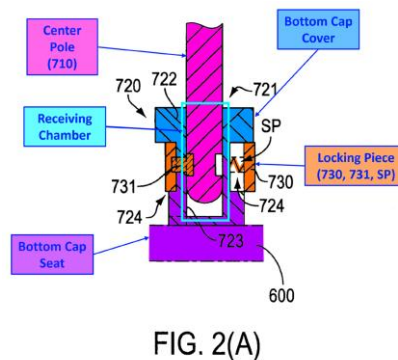
Tsai does not teach a central lock and thus does not teach this structure.

Rousselle also fails to teach this structure. Rousselle does not position the locking piece between the bottom cap seat and the bottom cap cover. In fact, Petitioner's interpretations of Rousselle confirm this difference. In the Petition, Petitioner provided an annotated version of Rousselle's Fig. 2A reproduced below:



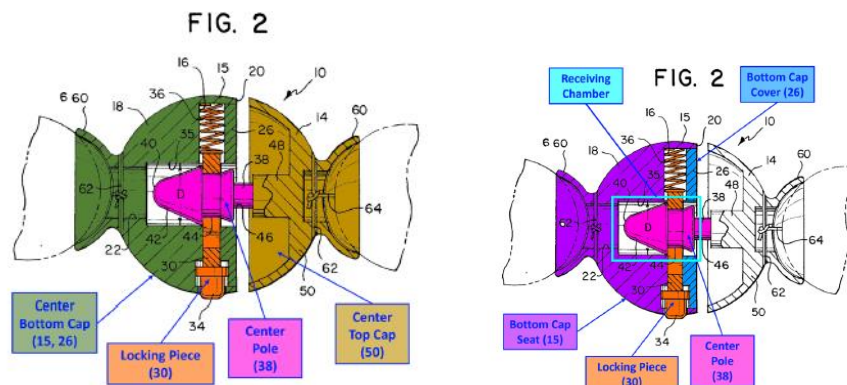
Pet. 62. As shown therein, Petitioner interpreted the alleged locking piece as being positioned within the alleged center bottom cap. The locking piece is not, and cannot be interpreted as, located within said receiving chamber and between said bottom cap cover and said bottom cap seat as recited in the substitute claim.

In the Opposition to Patent Owner's Motion to Amend, Petitioner provided a different interpretation of Rousselle's Fig. 2A reproduced below:



Opposition, Paper 19, at 9. This interpretation was asserted to be a trivial design change; however, as noted in the Preliminary Guidance, moving the boundary of the pieces is not a mere “trivial design change.” Preliminary Guidance 7. Further, Petitioner’s rationale for making this change comes from non-analogous art to Khatchadourian as discussed above. Without adding this improper reference, the proposed combination does not teach the limitations.

Moreover, even if the proposed change was attempted using the non-analogous reference to Khatchadourian, it would be directly contrary to the rest of the substitute claim language regarding the bottom cap seat. Petitioner’s proposed modification does not result in a structure wherein the bottom cap seat is between the bottom cap cover and the center top cap. Instead, Petitioner’s proposed modification locates the bottom cap seat distally to the center top cap as shown in Petitioner’s annotated versions of both Rousselle (shown above) and Petitioner’s annotated versions of Khatchadourian’s Fig. 2 reproduced below:



Thus, even the improper combination with Khatchadourian does not teach the recited limitations.

Ohnishi also does not teach these limitations.

Thus, none of the references teach or suggest these structural limitations, and the proposed combination (even with Khatchadourian) would not arrive at the recited structure.

3. THE CONNECTION OF THE FIRST CONNECTING ROD

Proposed substitute independent claim 15 also includes additional structural details regarding the connection of the first connecting rod to the center lock, namely, wherein a first connecting rod is hinged with a connection piece of said bottom cap seat. This structure is also not taught by the references.

As discussed above, Rousselle does not locate the bottom cap seat between the bottom cap cover and the center top cap. Likewise, Rousselle does not teach any connection piece on a bottom cap seat located in that position and does not teach any first connecting rod that is hinged at that location.

The other references also fail to teach these features. Tsai does not use a center lock and does not teach these limitations. Ohnishi also does not teach this structure. Finally, even if the non-analogous reference to Khatchadourian is considered, it also fails to teach the recited structure as it does not locate the

bottom cap seat in the recited location nor include any connection piece/first connecting rod.

4. THE UNFOLDING IS NOT TAUGHT

Substitute claim 15 also includes a recitation of how the collapsible canopy frame is moved from the unfolded state. Petitioner's proposed combinations do not teach or suggest these limitations and are inoperable for them.

a. THE PRIMARY MODIFICATION IS INOPERABLE

As discussed in detail in the Patent Owner Response and Sur-Reply, Petitioner's primary modification involved starting with Rousselle's umbrella tent and adding in the alleged outer retractable units from Tsai. This proposed addition of Tsai's outer units and X-shaped members to Rousselle's umbrella tent would result in an umbrella tent **incapable of being folded**. Rousselle's umbrella tent does not and cannot use X-shaped members between the legs, **because Rousselle's legs have a degree of freedom and invert/pivot** as part of the unfolding process. Ex. 1003, Fig. 1(D). Adding Tsai's outer units and X-shaped members to Rousselle's umbrella tent as proposed by Petitioner would result in several additional attachment points between Rousselle's leg tubes, such that Rousselle's leg tubes would not be capable of performing the pivoting and thus they (and the resulting structure) would not be capable of folding. Accordingly, the primary modification would not arrive at a device that can be moved from the folded state

to the unfolded state by pushing the center bottom cap upwards to drive said plurality of inner retractable units outwardly, which causes said plurality of outer retractable units and said at least three supporting legs to extend outwards.

b. THE ALTERNATIVE MODIFICATION IS ALSO INOPERABLE

As argued in the Patent Owner Response and Sur-Reply, Tsai is activated by pulling on the legs and Tsai's structure uses that action to drive the unfolding. Ex. 1005, 10:25–11:11. This is different from the recited limitations. Further, Tsai teaches against any center activation like that of the proposed claim. Tsai disparages center activation because it requires another user in the center of the tent to push the central components up. *Id.* at 2:19–22. Moreover, Tsai uses leg locks instead of a central lock and expressly teaches that such leg locks are preferable to other locking methods, for example, center locking methods such as those Tsai explicitly disparages. *Id.* at 5:3–5; *see also id.* at 2:12–25. Still further, the alleged inner units 3 of Tsai are “canopy supporting rods” and serve to hold up the canopy material and prevent sagging of that canopy material. *Id.* at 4:19–22. These inner units do not provide meaningful structural support other than holding up the canopy, nor do they drive the folding/unfolding of the structure. In fact, Tsai is clear that the canopy support (and canopy support rods) are not directly pushed. *Id.* at 4:27–28 (stating “the canopy support need not be manually pushed

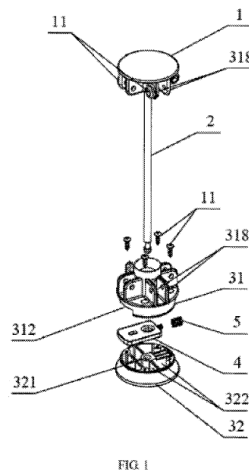
to its unfolded orientation”). The entire unfolding and positioning is driven by the legs and outer units. Thus, Tsai expressly teaches against incorporating central activation and teaches away from a device that can be moved from the folded state to the unfolded state by pushing the center bottom cap upwards to drive said plurality of inner retractable units outwardly, which causes said plurality of outer retractable units and said at least three supporting legs to extend outwards. In fact, Tsai’s legs are connected to each other through additional structural members (contrary to Rousselle’s use of unconnected legs that have degrees of freedom to pivot/invert), making central activation with Rousselle’s central lock infeasible.

B. SUBSTITUTE CLAIM 16

Substitute claim 16 also adds structure that is not taught by the references. As discussed above, none of the references teach a structure where the sliding sleeve is moved by pushing of the center bottom cap. Again, Rousselle and Tsai would not be combined to arrive at a device intended to perform or capable of performing central activation. Thus, the references do not teach these limitations. Further, the references do not teach that the first connecting rod is hinged with the bottom cap seat (located between the bottom cap cover and the center top cap).

The references also fail to teach the details of the first connecting rod disposed within a receiving groove formed by at least two connection pieces of that bottom cap seat. As shown in Figure 1 reproduced below, in embodiments of the

'738 Patent, a receiving groove is formed between two connection pieces 318 and an inner end of the first connecting rod is disposed in that receiving groove. Ex. 1001, 6:26–42; Ex. 2013, Page 9, lines 7–17.



None of the cited references teach or suggest this structure.

Still further, the '738 Patent teaches that the outer retractable unit 7 may comprise three hinged X-shaped rod members, Ex. 1001, 5:15–16; Ex. 2013, Page 7, ¶ 2 (lines 3–4), and depicts this embodiment, for example, in Figure 16.

Rousselle does not teach retractable outer units. Tsai does not teach retractable outer units comprising three hinged X-shaped rod members. Tsai's primary embodiment only uses two alleged X-shaped rod members as shown in Figure 1. Ex. 1005, Figure 1. Tsai's other embodiments rely on more complex arrangements using two scissors-type linkages along with an additional linking device. Ex. 1005, 9:29 through 10:15. This is significantly different and more complicated than the three hinged X-shaped rod members shown in the '738 Patent and now recited.

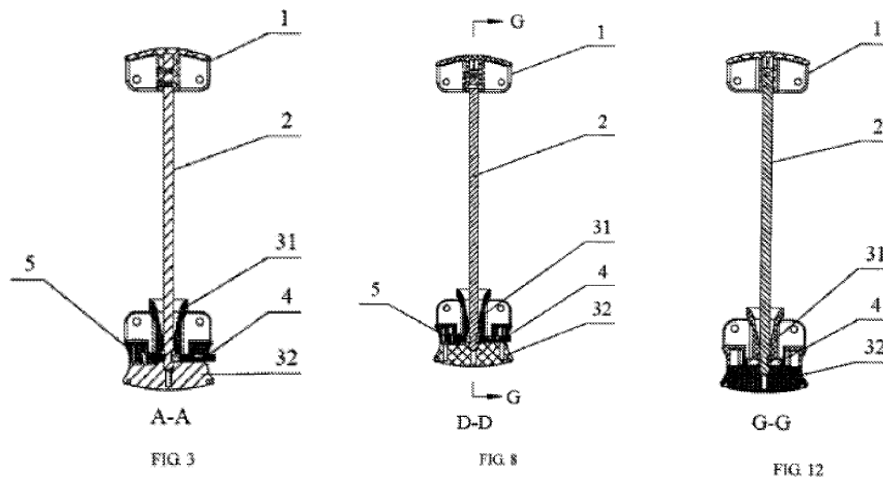
Finally, neither Ohnishi nor Khatchadourian teach any of these structures.

C. SUBSTITUTE CLAIM 17

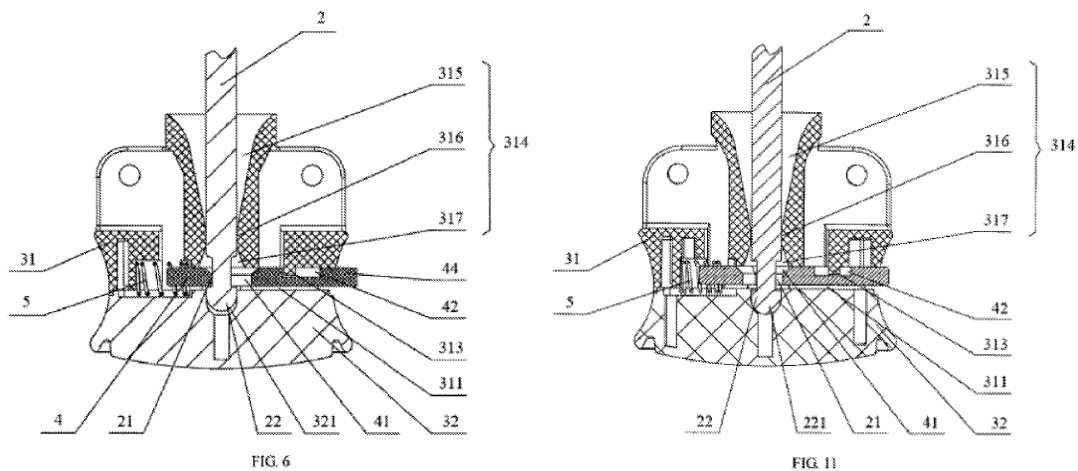
Substitute claim 17 also adds structure that is not taught by the references.

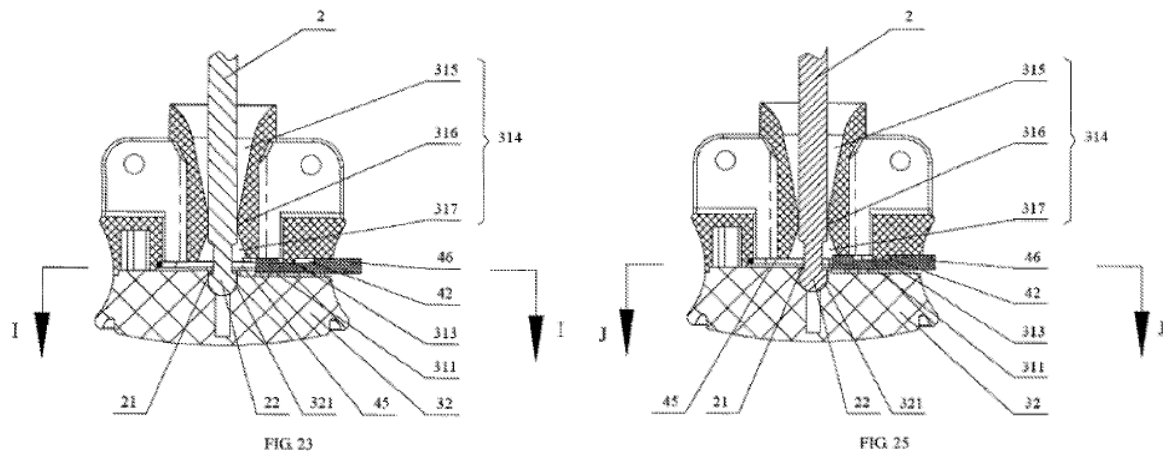
As discussed above, none of the references teach the recited structure of the bottom cap seat, connection piece, first connecting rod, etc. Further, Petitioner's interpretation of the references is directly contrary to the recited location of the bottom cap seat (between the bottom cap cover and center top cap).

Substitute claim 17 further specifies the structure of the center lock by reciting that the when the central lock is in the locked state the first connecting rod is hinged with the connection piece at a location above said clamp locking part of said center pole. As discussed above, in embodiments of the '738 Patent, a receiving groove is formed between two connection pieces 318 and an inner end of the first connecting rod is disposed in that receiving groove. Ex. 1001, 6:26–42; Ex. 2013, Page 9, lines 7–17. Further, as depicted in each of Figures 1–3, 6–8, 11, 12, 17, 22, 23, and 25, the connection pieces 318 of the bottom cap seat 31 are located above the clamp locking part 22 of the center pole 2 when the central lock is in the locked state. Representative Figures 3, 8, and 12 are reproduced below:



Ex. 1001, Figs. 3, 8, and 12. As can be seen in each of these cut away depictions of the center lock in the locked state, the center pole 2 extends into the center bottom cap such that the clamp locking part 22 is positioned further (lower) into the center bottom cap than the connection piece (not labeled but clearly depicted and visible) on bottom cap seat 31. Additional depictions are shown in further representative Figures 6, 11, 23, and 25 reproduced below:





Ex. 1001, Figs. 6, 11, 23, and 25. Again, each of these cut away depictions show the clamp locking part 22 positioned further (lower) into the center bottom cap than the connection piece. None of the cited references teach this structure.

D. SUBSTITUTE CLAIMS 18 AND 19

Substitute dependent claims 18 and 19 amend the dependency of the respective claim to the appropriate substitute claim.

VIII. CONCLUSION

Patent Owner respectfully requests that, should claims 1, 2, or 4 of the '738 Patent be found to be unpatentable, the Board grant this Contingent *Revised* Motion to Amend with respect to the corresponding substitute claim(s). Should the challenged claims be upheld as patentable, Patent Owner respectfully requests that this Contingent *Revised* Motion to Amend not be considered.

Case IPR2023-00580
Patent No. 10,669,738

Respectfully submitted,

Date: March 18, 2024

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IX. CLAIMS APPENDIX

1–14. (Unchanged)

15. (Revised Proposed Substitute for Claim 1) A collapsible canopy frame, comprising:

A. at least three supporting legs,

B. a plurality of outer retractable units, each outer retractable unit connected between two adjacent supporting legs, each said outer retractable unit comprises a plurality of hinged X-shaped rod members, each X-shaped rod member comprises a first eave pipe and second eave pipe hinged to one another,

C. a plurality of inner retractable units comprising inner ends, each inner retractable unit connected to a supporting leg, wherein said outer retractable units and said inner retractable units form a roof of said collapsible canopy frame, and

D. a central lock, comprising:

1. a center top cap,

2. a center bottom cap,

3. a center pole positioned between said center top cap and said center bottom cap, wherein said central lock is locked when said center pole is connected to both said center top cap and said center bottom cap, and wherein said center lock is unlocked when there is a disconnection between said center bottom cap and said center pole, wherein said central lock locks said collapsible canopy frame in an unfolded state when said central lock is locked and permits said collapsible canopy frame to be folded into a folded state when said central lock is unlocked, wherein said inner ends of said inner retractable units are connected through said central lock, and

4. a locking piece received in said center bottom cap, wherein said center bottom cap comprises a bottom cap seat and a bottom cap cover that are connected to one another, wherein said bottom cap seat is located between said bottom cap cover and said center top cap, wherein said bottom cap seat is provided with a bottom cap seat through hole through which said center pole can enter, a receiving chamber is provided in said center bottom cap at a junction between said bottom cap seat and said bottom cap cover, and wherein said locking piece is located within said receiving chamber and between said bottom cap cover and said bottom cap seat;

wherein a first connecting rod is hinged with a connection piece of said bottom cap seat;

wherein said collapsible canopy frame is moved to said unfolded state by pushing said center bottom cap upwards to drive said plurality of inner retractable units outwardly, which causes said plurality of outer retractable units and said at least three supporting legs to extend outwards, until said center bottom cap is connected with said center top cap.

16. (Revised Proposed Substitute for Claim 2) The collapsible canopy frame according as in claim [[1]] 15, wherein: each said outer retractable unit comprises three hinged X-shaped rod members, each said supporting leg comprises a sliding sleeve that is moved ~~for moving~~ along a length direction of said respective supporting leg by said pushing of said center bottom cap, an upper end of each said supporting leg is fixed with a fixed joint, each said inner retractable unit comprises a first oblique top pipe and a second oblique top pipe hinged to one another, said first oblique top pipe is hinged with [[a]] said first connecting rod, said second oblique top pipe is hinged with a second connecting rod, an inner end of said first

oblique top pipe is hinged with [[a]] said center top cap of said central lock, an inner end of said first connecting rod is disposed within a receiving groove formed by at least two connection pieces of said bottom cap seat ~~hinged with a center bottom cap of said central lock~~, and, in said unfolded state, said first connecting rod extends from said bottom cap seat to said first oblique top pipe to form a Y-shaped member, an outer end of a first eave pipe and an outer end of said second oblique top pipe are hinged with said fixed joint, an outer end of said second eave pipe and an outer end of said second connecting rod are hinged with said sliding sleeve.

17. (Revised Proposed Substitute for Claim 4) The collapsible canopy frame as in claim [[1]] 15, where said central lock further comprises: [[a]] said locking piece, wherein said locking piece is capable of moving back and forth along a radial direction of said center pole, wherein said locking piece is received in said center bottom cap, a first through hole through which said center pole can pass through is provided in said locking piece, and an end portion of said center pole is provided with a clamping groove and a clamp locking part located at the lower end of said clamping groove; when said central lock is in a locked state, part of an inner wall of said first through hole of said locking piece is clamped with said clamping groove of said center pole, [[and]] an upper end surface of said clamp locking part abuts against a lower end surface of said locking piece, and said first connecting rod is hinged with said connection piece at a location above said clamp locking part of said center pole; and when said central lock is in said unlocked state, said inner wall of said first through hole of said locking piece is separated from said clamping groove and said clamp locking part can pass through said first through hole.

18. (Proposed Substitute for Claim 13) The collapsible canopy frame as in claim [[4]] 17, wherein: said first through hole comprises a clamping hole part and a through hole part arranged side by side, said clamping hole part has a diameter not smaller than that of said clamping groove, said through hole part has a diameter greater than that of said clamp locking part.

19. (Proposed Substitute for Claim 14) The collapsible canopy frame as in claim [[4]] 17, wherein: said clamping groove is an annular groove, an end portion of said clamp locking part is provided with a guide part of a semispherical shape or a conical shape with a gradually decreased diameter.

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the Patent Owner's
Contingent *Revised* Motion to Amend is being served on March 18, 2024, via
email directed to counsel of record for the Petitioner at the following:

BoxGlobalShade@knobbe.com

with copies to:

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Date: March 18, 2024

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