

Filed February 9, 2023

On behalf of **Global Shade Corp.**

By: Marko R. Zoretic (Reg. No. 65,994)

Nathan D. Reeves (Reg. No. 77,806)

KNOBBE, MARTENS, OLSON & BEAR, LLP

2040 Main Street, 14th Floor

Irvine, CA 92614

Tel.: 949-760-0404 Fax: 949-760-9502

Email: BoxGlobalShade@knobbe.com

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.

IPR2023-00580
U.S. Patent 10,669,738

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT 10,669,738**

TABLE OF CONTENTS

Page No.

I.	SUMMARY OF ISSUES PRESENTED	1
II.	THE '738 PATENT	4
A.	Overview of the '738 Patent.....	4
B.	Prosecution of the '738 Patent	6
C.	Priority	7
D.	Level of Ordinary Skill in the Art	7
III.	CLAIM CONSTRUCTION	7
IV.	STATEMENT OF PRECISE RELIEF REQUESTED	7
A.	Grounds	7
B.	Status of References as Prior Art	8
V.	SPECIFIC PROPOSED GROUNDS FOR REJECTION	9
A.	Ground 1: Claims 1, 2, 4, and 14 Are Unpatentable Under 35 U.S.C. §103 as Obvious Over Rousselle and Tsai.....	9
1.	Overview of Rousselle.....	9
2.	Overview of Tsai.....	11
3.	Claim 1	12
a.	Limitation [A]: “at least three supporting legs”	12
b.	Limitation [B]: “a plurality of outer retractable units, each outer retractable unit connected between two adjacent supporting legs [“Outer Units”], each said outer retractable unit comprises a plurality of hinged X-shaped rod	

TABLE OF CONTENTS

(*cont'd*)

	Page No.
members, each X-shaped rod member comprises a first eave pipe and second eave pipe hinged to one another [“X-shaped Rod Members”]”	14
i. Outer Units	14
ii. X-Shaped Rod Members	18
iii. Motivation to Combine	20
c. Limitation [C]: “a plurality of inner retractable units comprising inner ends, each inner retractable unit connected to a supporting leg [“Inner Units”], wherein said outer retractable units and said inner retractable units form a roof of said collapsible canopy frame [“Roof Frame”]”	22
i. Inner Units	23
(a) Rousselle	23
(b) Tsai	25
(c) Motivation to Combine	28
ii. Roof Frame	29
(a) Rousselle	30
(b) Tsai	31
d. Limitation [D]: “a central lock”	33
i. Motivation to Combine	34
e. Limitation [D][1]: “a center top cap”	37

TABLE OF CONTENTS
(cont'd)

	Page No.
f. Limitation [D][2]: “a center bottom cap”	39
g. Limitation [D][3]: “a center pole positioned between said center top cap and said center bottom cap”	42
h. Limitation [D][3][i]: “wherein said central lock is locked when said center pole is connected to both said center top cap and said center bottom cap”	44
i. Limitation [D][3][ii]: “wherein said central lock is unlocked when there is a disconnection between said center bottom cap and said center pole”	45
j. Limitation [D][3][iii]: “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”	45
k. Limitation [D][3][iv]: “wherein said inner ends of said inner retractable units are connected through said central lock”	47
4. Claim 2	49
a. Limitation [A][1]: “each said supporting leg comprises a sliding sleeve for moving along a length direction of said respective supporting leg”	49
b. Limitation [A][2]: “an upper end of each said supporting leg is fixed with a fixed joint”	50

TABLE OF CONTENTS

(*cont'd*)

	Page No.
c. Limitation [B]: “each said inner retractable unit comprises a first oblique top pipe and a second oblique top pipe hinged to one another”	52
d. Limitation [C][1]: “said first oblique top pipe is hinged with a first connecting rod”	54
e. Limitation [C][2]: “said second oblique top pipe is hinged with a second connecting rod”	55
f. Limitation [D][1]: “an inner end of said first oblique top pipe is hinged with a center top cap of said central lock”	56
g. Limitation [D][2]: “an inner end of said first connecting rod is hinged with a center bottom cap of said central lock”	58
h. Limitation [E][1]: “an outer end of a first eave pipe and an outer end of said second oblique top pipe are hinged with said fixed joint”	58
i. Limitation [E][2]: “an outer end of said second eave pipe and an outer end of said second connecting rod are hinged with said sliding sleeve”	60
5. Claim 4.....	61
a. Limitation [A]: “a locking piece 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”	62

TABLE OF CONTENTS

(*cont'd*)

	Page No.
b. Limitation [B]: “a first through hole through which said center pole can pass through is provided in said locking piece”	63
c. Limitation [C]: “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”	64
i. Clamping Groove	64
ii. Clamp Locking Part	66
d. Limitation [D]: “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”	68
e. Limitation [E]: “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”	70
6. Claim 14	71
a. Limitation [A]: “said clamping groove is an annular groove”	71
b. Limitation [B]: “an end portion of said clamp locking part is provided with a guide part of a	

TABLE OF CONTENTS

(*cont'd*)

	Page No.
semispherical shape or a conical shape with a gradually decreased diameter”	72
B. Ground 2: Claims 4, 13, and 14 are Unpatentable Under 35 U.S.C. §103 as Obvious over Rousselle, Tsai, and Ohnishi.	74
1. Overview of Ohnishi.....	74
2. Claim 4.....	75
a. Limitation [A]: Locking Piece.....	76
b. Limitation [B]: Through Hole	78
c. Limitation [D]: Locked State.....	79
d. Limitation [E]: Unlocked State.....	81
e. Motivation to Combine.....	81
3. Claim 13.....	83
a. Clamping Hole Part	83
b. Through Hole Part	85
4. Claim 14.....	87
a. Limitation [A]: Annular Groove	87
b. Limitation [B]: Guide Part.....	88
VI. COLLATERAL ESTOPPEL.....	90
A. The Issues Are Identical.....	90
1. “each said outer retractable unit comprises a plurality of hinged X-shaped rod members, each X-shaped rod	

TABLE OF CONTENTS
(cont'd)

	Page No.
member comprises a first eave pipe and second eave pipe hinged to one another”	94
2. “[a center pole] positioned between said center top cap and said center bottom cap” and “[said central lock is locked] when said center pole is connected to both said center top cap and said center bottom cap”	95
3. “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”	95
B. The Issues Were Actually Litigated	96
C. Resolution Was Essential to the Judgment	97
D. With-U Had a Full and Fair Opportunity to Litigate	97
VII. SECONDARY CONSIDERATIONS	97
VIII. DISCRETIONARY FACTORS FAVORING INSTITUTION	98
A. §314 (Co-Pending Litigation)	98
1. Factor 1: Potential Stay	98
2. Factor 2: Proximity of Trial to FWD	99
3. Factor 3: Investment in Parallel Proceeding	100
4. Factor 4: Overlapping Issues	100
5. Factor 5: The Parties	101
6. Factor 6: Other Circumstances	101

TABLE OF CONTENTS
(cont'd)

	Page No.
B. §325 (Previous Consideration).....	102
IX. MANDATORY NOTICES PURSUANT TO 37 C.F.R.	
§42.8(A)(1)	102
A. Real Party-In-Interest (37 C.F.R. §42.8(b)(1))	103
B. Related Matters (37 C.F.R. §42.8(b)(2)).....	103
C. Lead and Backup Counsel (37 C.F.R. §42.8(b)(3))	103
D. Service Information (37 C.F.R. §42.8(b)(4))	103
X. PAYMENT OF FEES PURSUANT TO 37 C.F.R. §42.103	104
XI. REQUIREMENTS FOR REVIEW UNDER 37 C.F.R. §42.104	104
XII. CONCLUSION.....	104

TABLE OF AUTHORITIES

Page No(s).

<i>Apple v. Fintiv</i> , IPR2020-00019, Paper 11 (P.T.A.B. Mar. 20, 2020)	98, 99, 101, 102
<i>California Inst. of Tech. v. Broadcom Ltd.</i> , 25 F.4th 976 (Fed. Cir. 2022)	100
<i>CRFD Research, Inc. v. Matal</i> , 876 F.3d 1330 (Fed. Cir. 2017)	21, 28, 36
<i>In re Freeman</i> , 30 F.3d 1459 (Fed. Cir. 1994)	90
<i>Global Shade Corp. v. With-U E-Commerce (Shanghai) Co., Ltd.</i> , IPR2021-00365, Paper 36 (P.T.A.B. July 25, 2022)	<i>passim</i>
<i>Google LLC v. Hammond Development Int’l, Inc.</i> , 54 F.4th 1377 (Fed. Cir. 2022)	96
<i>Google LLC v. Jawbone Innovations, LLC</i> , IPR2022-00630, Paper 10 (P.T.A.B. Sept. 13, 2022)	101
<i>Hyper Ice, Inc. v. MerchSource, LLC</i> , No. 8:21-CV-01133-JVS(ADSx), 2022 WL 18542423 (C.D. Cal. March 7, 2022)	99
<i>KSR Int’l Co. v. Teleflex, Inc.</i> , 550 U.S. 398 (2007)	<i>passim</i>
<i>Leapfrog Enters. v. Fisher-Price, Inc.</i> , 485 F.3d 1157 (Fed. Cir. 2007)	97
<i>Mediatek, Inc. v. NXP Semiconductors N.V.</i> , No. CV-21-04969-GW(AFMx), 2022 WL 17185976 (C.D. Cal. June 21, 2022)	99

TABLE OF AUTHORITIES (*cont'd*)

	Page No(s).
<i>MicroPairing Techs. LLC v. Am. Honda Motor Co., Inc.</i> , No. CV-21-04034-JVS(KESx), 2022 WL 17219084 (C.D. Cal. June 24, 2022)	99
<i>Newell Cos. v. Kenney Mfg. Co.</i> , 864 F.2d 757 (Fed. Cir. 1988)	98
<i>Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Ltd.</i> , 868 F.3d 1013 (Fed. Cir. 2017)	7
<i>In re Nilssen</i> , 851 F.2d 1401 (Fed. Cir. 1988)	9
<i>Ohio Willow Wood Co. v. Alps S., LLC</i> , 735 F.3d 1333 (Fed. Cir. 2013)	90, 91, 94
<i>Papst Licensing GMBH & Co. KG v. Samsung Elecs. Am., Inc.</i> , 924 F.3d 1243 (Fed. Cir. 2019)	90
<i>Polaris PowerLED Techs., LLC v. LG Elecs., Inc.</i> , No. SACV-20-00125-JVS(DFMx), 2020 WL 6064964 (C.D. Cal. Aug. 26, 2020).....	99
<i>Samsung Elecs. Am. Inc. v. Snik LLC</i> , IPR2020-01428, Paper 10 (P.T.A.B. Mar. 9, 2021).....	100
<i>Sand Revolution II, LLC v. Cont'l Intermodal Grp.-Trucking LLC</i> , IPR-2019-01393, Paper 24 (P.T.A.B. June 16, 2020).....	101
<i>Sotera Wireless, Inc. v. Masimo Corp.</i> , IPR2020-01019, Paper 12 (P.T.A.B. Dec. 1, 2020).....	100
<i>Soverain Software LLC v. Victoria's Secret Direct Brand Mgmt., LLC</i> , 778 F.3d 1311 (Fed. Cir. 2015)	90, 94
<i>Unwired Planet, LLC v. Google Inc.</i> , 841 F.3d 995 (Fed. Cir. 2016)	8

TABLE OF AUTHORITIES
(cont'd)

Page No(s).

OTHER AUTHORITIES

35 U.S.C. §102.....	8
35 U.S.C. §103.....	8, 9, 74
35 U.S.C. §314.....	98
35 U.S.C. §318.....	97
35 U.S.C. §325.....	102

EXHIBIT LIST

Exhibit No.	Description
1001	U.S. Patent No. 10,669,738 (“the ’738 patent”)
1002	Declaration of Jeffrey L. Stein, Ph.D.
1003	U.S. Patent No. 6,345,639 (“Rousselle”)
1004	International Patent Publication No. WO2000/023676 (“Chang”)
1005	UK Patent Application No. GB2321913A (“Tsai”)
1006	U.S. Patent No. 8,066,300 (“Ohnishi”)
1007	U.S. Patent Publication No. 2005/0241688 (“Wu”)
1008	U.S. Patent No. 6,929,017 (“Byun”)
1009	U.S. Patent No. 7,735,505 (“Carter”)
1010	U.S. Patent Publication No. 2005/0178419 (“Tseng”)
1011	U.S. Patent No. 3,335,815 (“Oakes”)
1012	U.S. Patent No. 5,944,040 (“Jang”)
1013	Excerpts from Thomas W. Barber, <i>The Engineer’s Sketch-Book of Mechanical Movements, Devices, Appliances, Contrivances and Details</i> (3d ed. 1897)
1014	Excerpts from the ’738 Patent File History
1015	CV of Jeffrey L. Stein, Ph.D.
1016	Final Written Decision in <i>Global Shade Corp. v. With-U E-Commerce (Shanghai) Co., Ltd.</i> , IPR2021-00365, Paper 36 (P.T.A.B. July 25, 2022) (“ <i>Global Shade</i> ”)

Global Shade Corporation (“Petitioner”) requests *inter partes* review (“IPR”) of claims 1, 2, 4, 13, and 14 of U.S. Patent No. 10,669,738 (“the ’738 patent,” Ex. 1001), purportedly owned by With-U E-Commerce (Shanghai) Co., Ltd. (“PO”).

I. SUMMARY OF ISSUES PRESENTED

This Petition challenges independent claim 1 and its dependents, which recite a collapsible canopy including a center lock. The ’738 patent’s center lock and canopy are shown below:

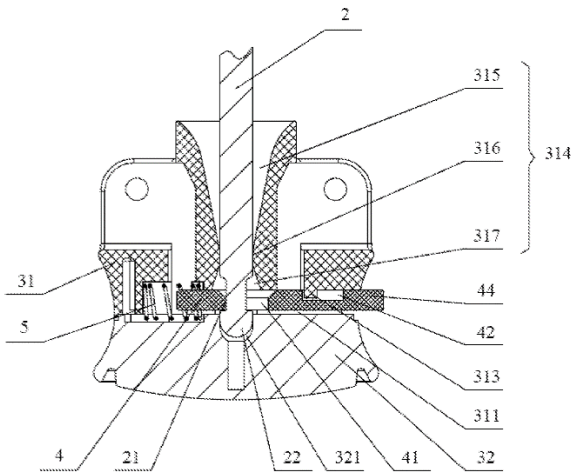


FIG. 6

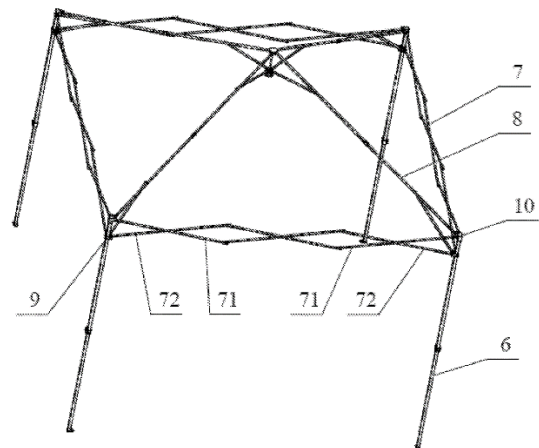
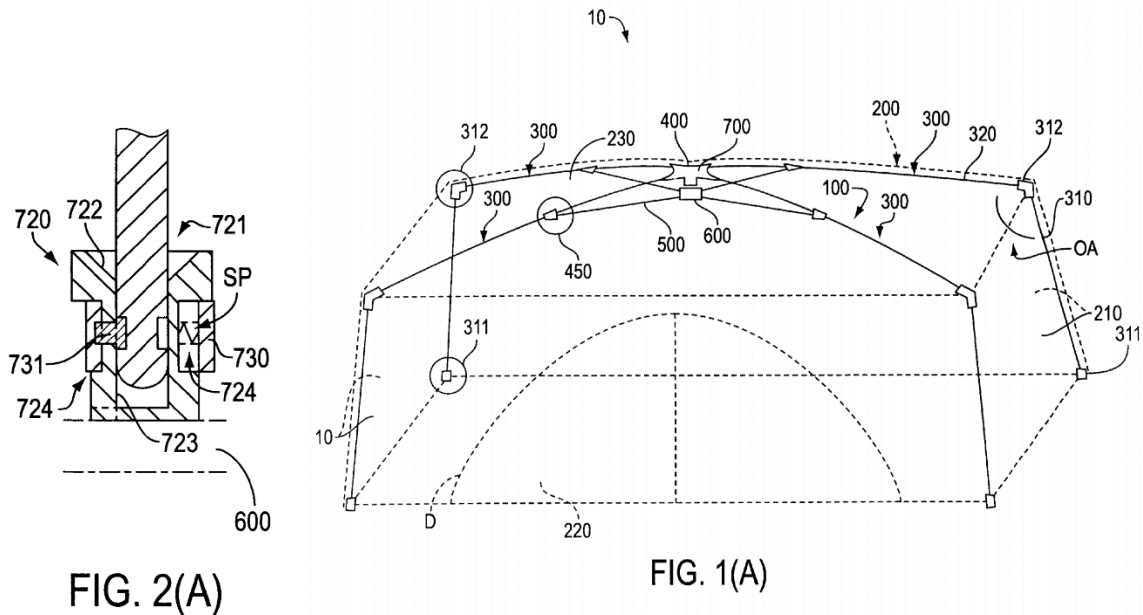


FIG. 16

Ex. 1001, Figs. 6, 16.

Such devices, however, were not patentable at the time of the patent’s earliest possible priority date in July 2016. By that time, collapsible canopies and central locks like those claimed by the ’738 patent were well-known. Ex. 1002 ¶¶30-36; *see, e.g.*, Exs. 1003-1005. For example, in 2002, Rousselle disclosed a

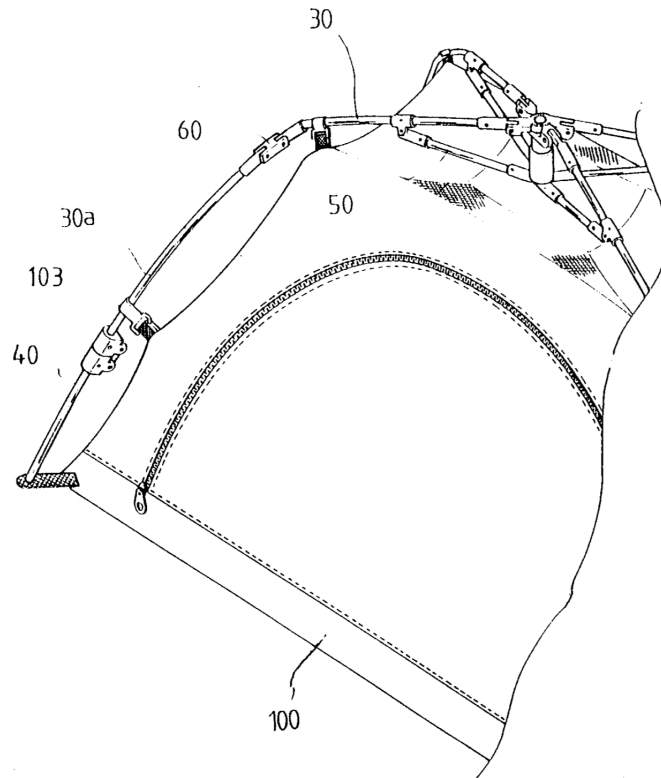
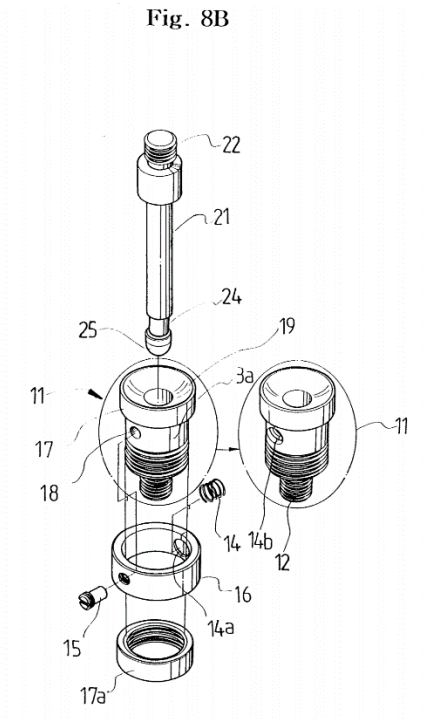
collapsible canopy with a central lock that “very securely maintains the structure in an erected position.” Ex. 1003, Abstract. Rousselle’s central lock “includes a generally vertical pin ... that is received inside a socket” which “has an engaging member therein that can engage a groove in the generally vertical pin[.]” *Id.*



Id., Figs. 1(A), 2(A); Ex. 1002 ¶30.

A second example, Chang, disclosed a similar collapsible canopy with a central lock in 2000. Chang’s canopy is “pitched and disassembled like an umbrella by one touch[.]” Ex. 1004, Abstract. Chang includes a locking mechanism consisting of “the Lock Pipe (11) and the Lock Pin (21),” which locks together Upper and Lower Hub Assemblies (10 and 20) “in order to prevent their separation” and thereby keep the canopy frame intact and in position. *Id.*, 14:5-8, Figs. 8-8C; Ex. 1002 ¶31.

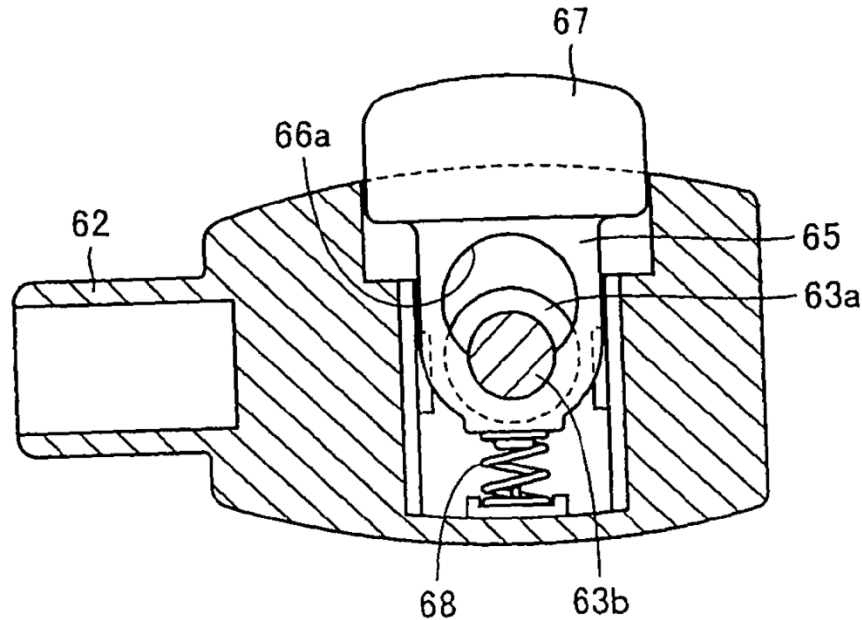
Fig. 11



Ex. 1004, Figs. 8B, 11.

Other references disclosed center locks like those disclosed in the '738 patent well before it was filed. In 2011, Ohnishi disclosed a center lock for a collapsible cart or carriage. Ohnishi's center lock includes a pole with a groove and a spring-loaded locking piece that clamps around the groove in a locked state but allows the pole to pass through in an unlocked state. Ex. 1006, 7:18-8:29, Figs. 9-11; Ex. 1002 ¶36.

FIG. 9



Ex. 1006, Fig. 9.

None of these references were applied by the Examiner. The '738 patent provides PO with a limited monopoly on conventional locks and canopies that were widely known and that PO did not invent. PO's claims should be cancelled.

II. THE '738 PATENT

A. Overview of the '738 Patent

The '738 patent discloses nothing more than well-known features. Ex. 1002 ¶¶37-44. The patent describes a collapsible canopy including a frame and a central lock. Ex. 1001, 3:31-4:17. The canopy frame includes well-known features such as legs and inner and outer retractable roof units. *Id.*; Ex. 1002 ¶¶37-38. The patent's central lock is connected to the inner units and allows the canopy to be

erected and locked. *See* Ex. 1001, 4:18-59. The overall structure of the canopy is shown in Figure 16:

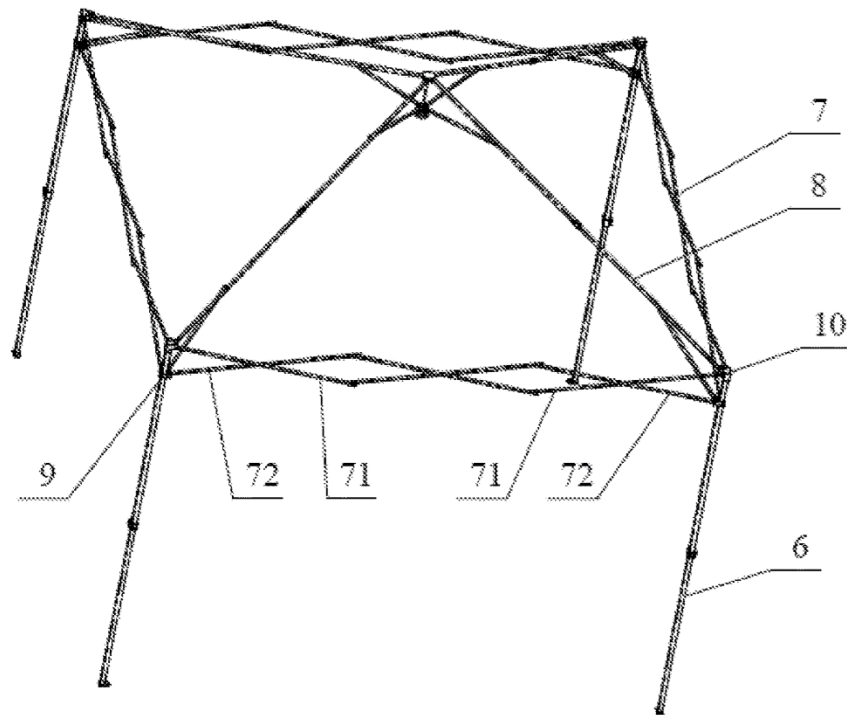


FIG. 16

Id., Fig. 16.

The '738 patent also discloses and claims a particular central lock embodiment that comprises known features. The patent's central lock includes top and bottom caps, a pole attached to the top cap that includes a groove partway up the pole, and a spring-loaded locking mechanism attached to the bottom cap that releasably clamps around the groove, locking the two caps together. *See, e.g., id.*, 3:31-63; Ex. 1002 ¶¶39-44. The '738 patent's center lock is shown in Figure 6:

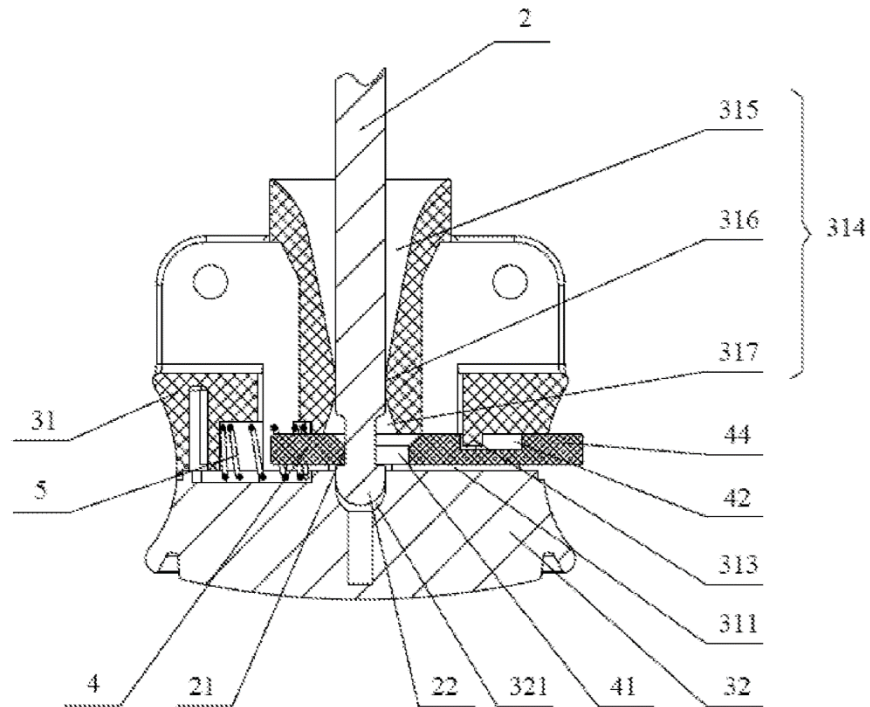


FIG. 6

Ex. 1001, Fig. 6.

B. Prosecution of the '738 Patent

PO filed the application for the '738 patent on March 19, 2018. Ex. 1014, 31. The Examiner allowed the claims when PO added a limitation to claim 1 regarding x-shaped outer retractable units. *See id.*, 174, 190; *see infra* §V.A.3.b. But Tsai, which clearly discloses such x-shaped outer retractable units, was critically not before the Examiner. The Examiner never applied Tsai, or any reference like it disclosing x-shaped outer retractable units, against that claim limitation.

C. Priority

The '738 patent's earliest possible priority date is July 26, 2016. Ex. 1001, 1.

D. Level of Ordinary Skill in the Art

A person of ordinary skill in the art ("POSITA") at the time of the claimed invention would have had at least a bachelor's degree in the mechanical arts, or a related discipline, and at least two years of experience in the design and/or analysis of mechanical devices, fabricated frames, and/or kinematic linkages. Ex. 1002 ¶¶25-28. Additional work experience could serve as a substitute for a formal degree and vice versa. *Id.*

III. CLAIM CONSTRUCTION

No claim terms require construction to resolve the challenges in this Petition. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Ltd.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017). The parties have not yet engaged in claim construction in the co-pending litigation (*With-U E-Commerce (Shanghai) Co., Ltd. v. Global Shade Corp.*, No. 8:22-cv-01295-JVS-JDE (C.D. Cal.)). For this proceeding only, Petitioner assumes the claims are not invalid under §112.

IV. STATEMENT OF PRECISE RELIEF REQUESTED

A. Grounds

Petitioner requests cancellation of claims 1, 2, 4, 13, and 14 as follows:

Ground 1: Claims 1, 2, 4, and 14 are unpatentable under 35 U.S.C. §103 as obvious over Rousselle and Tsai.

Ground 2: Claims 4, 13, and 14 are unpatentable under 35 U.S.C. §103 as obvious over Rousselle, Tsai, and Ohnishi.

Additional support is included in the Declaration of Jeffrey L. Stein, Ph.D. (Ex. 1002).

B. Status of References as Prior Art

The relied-upon references are prior art under 35 U.S.C. §102(a)(1) because they each published more than one year before the '738 patent's earliest possible priority date (July 26, 2016). Rousselle issued on February 12, 2002 (Ex. 1003); Tsai published on August 12, 1998 (Ex. 1005); and Ohnishi issued on November 29, 2011 (Ex. 1006).

Rousselle and Tsai constitute analogous art because they are from the same field of endeavor as the '738 patent, e.g., collapsible tents or canopies. *Unwired Planet, LLC v. Google Inc.*, 841 F.3d 995, 1000 (Fed. Cir. 2016); Ex. 1002 ¶58. They are also reasonably pertinent to a particular problem the '738 patent's inventors were addressing, e.g., constructing sturdy, resilient, easy-to-use collapsible canopies. *Id.* Ohnishi constitutes analogous art because it relates to the same type of locking mechanisms for collapsible structures discussed in the '738 patent. *Id.* It is reasonably pertinent to a particular problem addressed by the '738

patent (the need for easy-to-use, reliable locking mechanisms for collapsible structures), is in the same field of endeavor (locking mechanisms for collapsible structures), and uses similar technology (e.g., locking onto a grooved central pole) as the '738 patent. *Id.* Therefore, a POSITA is presumed to have been aware of these references. *In re Nilssen*, 851 F.2d 1401, 1403 (Fed. Cir. 1988).

V. SPECIFIC PROPOSED GROUNDS FOR REJECTION

A. Ground 1: Claims 1, 2, 4, and 14 Are Unpatentable Under 35 U.S.C. §103 as Obvious Over Rousselle and Tsai.

1. Overview of Rousselle

Rousselle discloses a collapsible canopy that includes “an improved locking mechanism that very securely maintains the structure in an erected position.” Ex. 1003, Abstract. Rousselle’s canopy, shown below, includes a collapsible frame that is covered by a sheet-material cover. *Id.*, 6:30-38, Fig. 1(A). The frame includes legs attached via a roof frame structure to upper and lower clevises 400 and 600. *Id.*, 6:54-64; Ex. 1002 ¶53. The upper and lower clevises are detachably connected by, and part of, a locking mechanism. Ex. 1003, 6:54-67; Ex. 1002 ¶53.

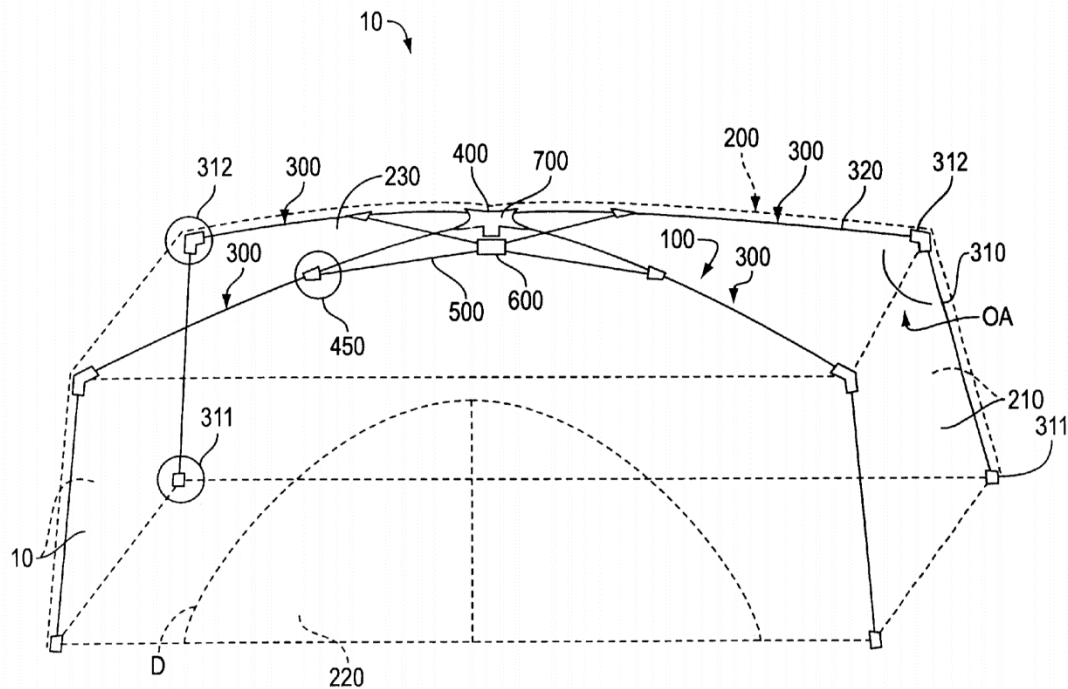


FIG. 1(A)

Ex. 1003, Fig. 1(A).

To erect the canopy, a user brings the upper and lower clevises together until the locking mechanism is engaged, locking the canopy into its erected state. *Id.*, 13:5-29; Ex. 1002 ¶54. To collapse the canopy, a user disengages the locking mechanism and detaches the upper and lower clevises. Ex. 1003, 14:29-59; Ex. 1002 ¶54. Figure 1(D) shows the collapsed state:

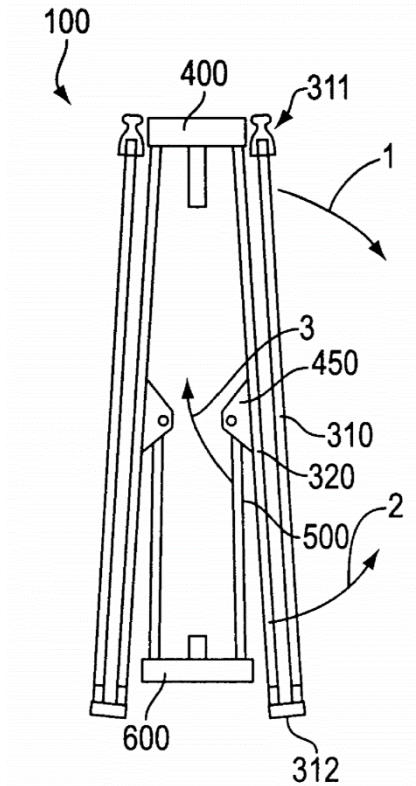


FIG. 1(D)

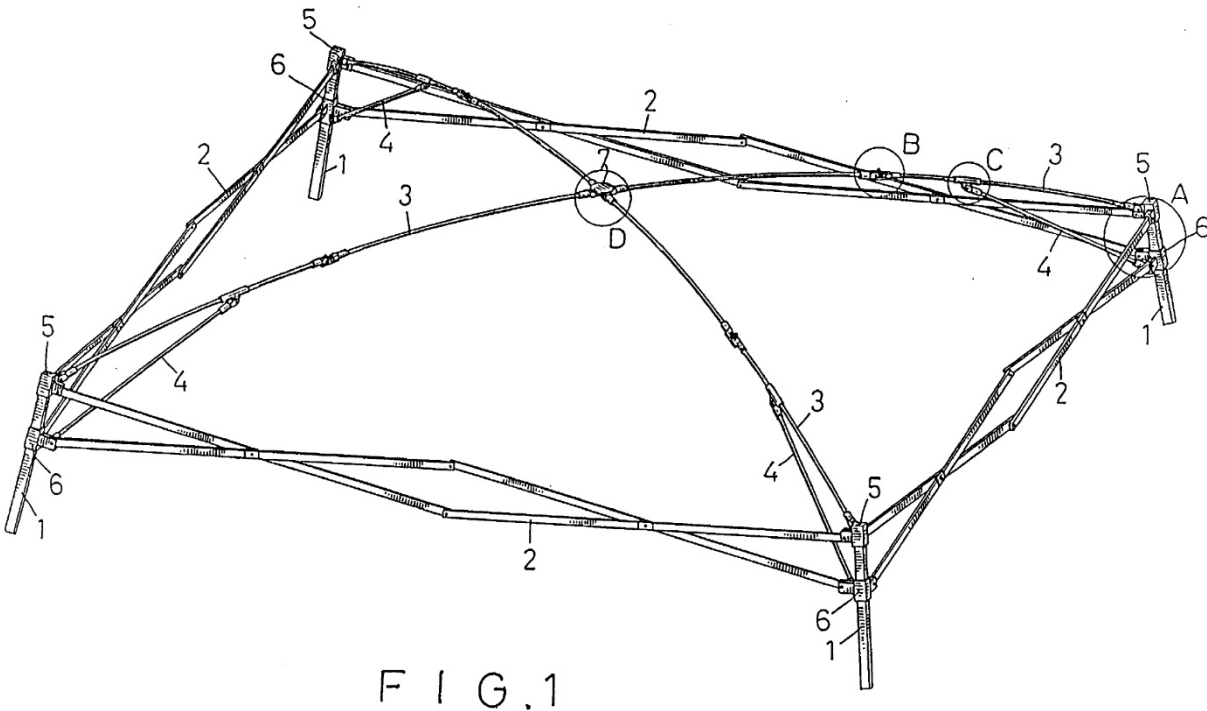
Ex. 1003, Fig. 1(D).

2. Overview of Tsai

Tsai discloses a collapsible canopy, shown below, that includes a “shelter frame that is less likely to allow the canopy to sag, will not reduce tent headroom and will ultimately produce an attractive shelter.” Ex. 1005, 3:11-19. Tsai discloses that prior canopies “will often sag” and, as a result, Tsai’s canopy provides “canopy support rod[s]” secured between the perimeter and center of the canopy, resulting in “an aesthetically pleasing shelter canopy that is less likely to sag.” *Id.*, 2:22-25, 4:11-22. Tsai’s canopy includes “linking assembl[ies]”

connecting each supporting leg, which Tsai discloses results in increased stability.

Id., 2:28-32, 3:20-4:4; Ex. 1002 ¶55.



Ex. 1005, Fig. 1.

3. Claim 1

The preamble of claim 1 recites “[a] collapsible canopy frame[.]” Rousselle discloses a collapsible canopy frame, e.g., “[a] collapsible shelter/tent,” that “includes an improved locking mechanism that very securely maintains the structure in an erected position.” Ex. 1003, Abstract; Ex. 1002 ¶60.

a. Limitation [A]: “at least three supporting legs”

Rousselle’s canopy can include “three or more legs[.]” Ex. 1003, 2:50-53; *id.*, 6:54-57, Figs. 1(A)-1(C). Each of Rousselle’s legs 300 includes a “leg tube

310” that extends from the ground to “hinge 312.” *Id.*, 6:57-61. Figure 1(A) discloses an embodiment with four legs:

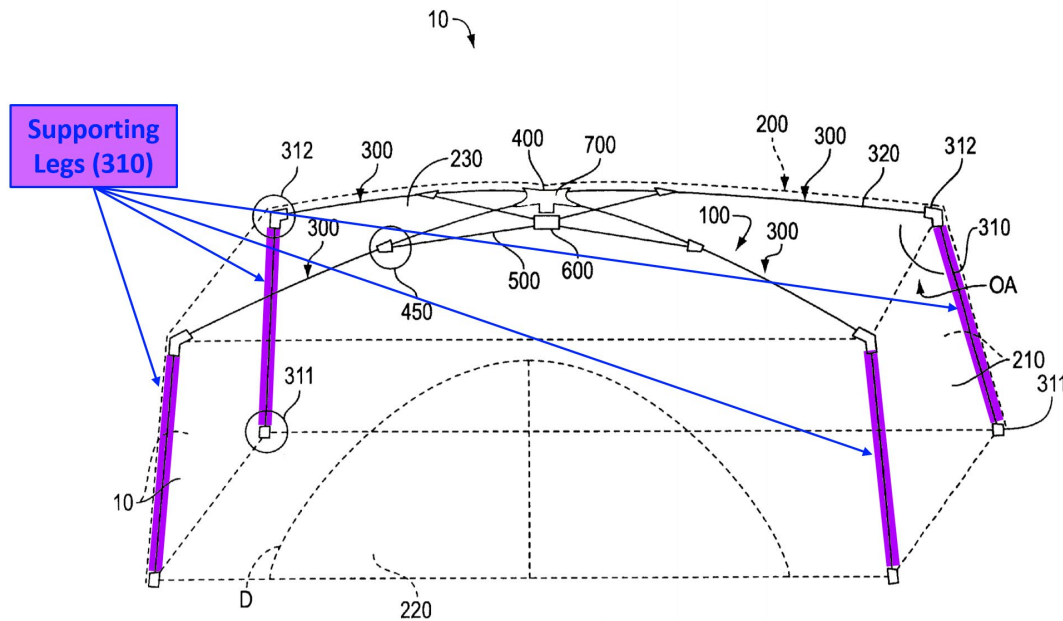
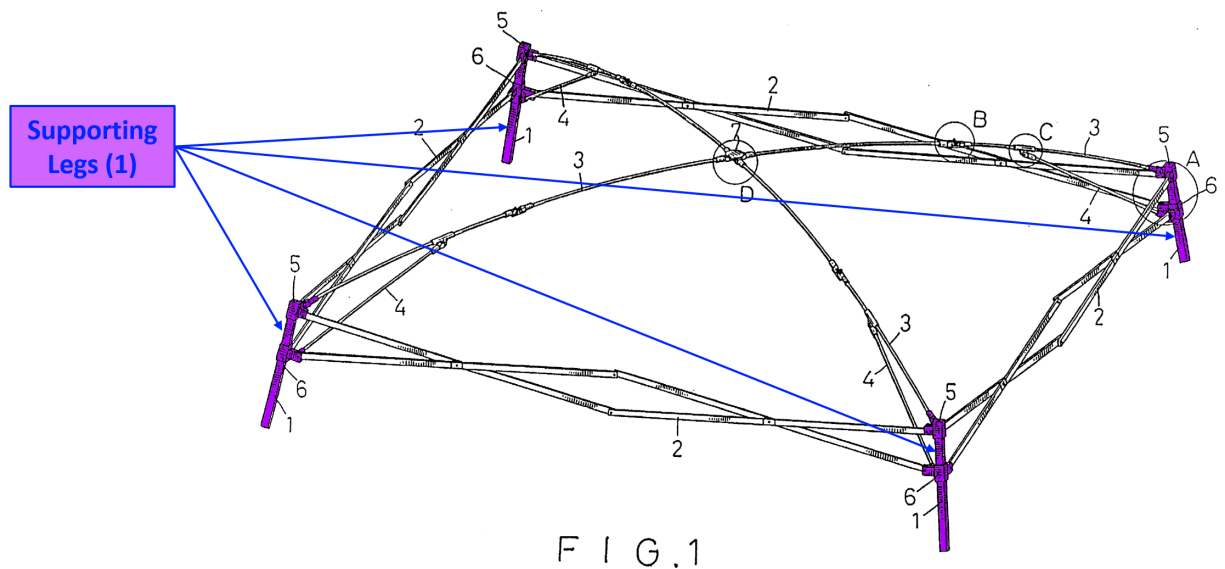


FIG. 1(A)

Id., Fig. 1(A).¹ Each leg tube 310 is a supporting leg, and thus, Rousselle discloses at least three supporting legs. *Id.*; Ex. 1002 ¶61; *Global Shade Corp. v. With-U E-Commerce (Shanghai) Co., Ltd.*, IPR2021-00365, Paper 36 at 41-42 (P.T.A.B. July 25, 2022) (“*Global Shade*”).

Tsai also discloses a canopy having “four upwardly extending poles 1” (e.g., four supporting legs). Ex. 1005, 7:4-20; Ex. 1002 ¶62.

¹ Figures have been colored and annotated for clarity.



Ex. 1005, Fig. 1; *id.*, Fig. 20. Thus, Tsai also discloses this limitation. Ex. 1002 ¶62.

- b. **Limitation [B]: “a plurality of outer retractable units, each outer retractable unit connected between two adjacent supporting legs [“Outer Units”], 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 [“X-shaped Rod Members”]”**

i. **Outer Units**

Figure 16 of the '738 patent shows an example of outer retractable units:

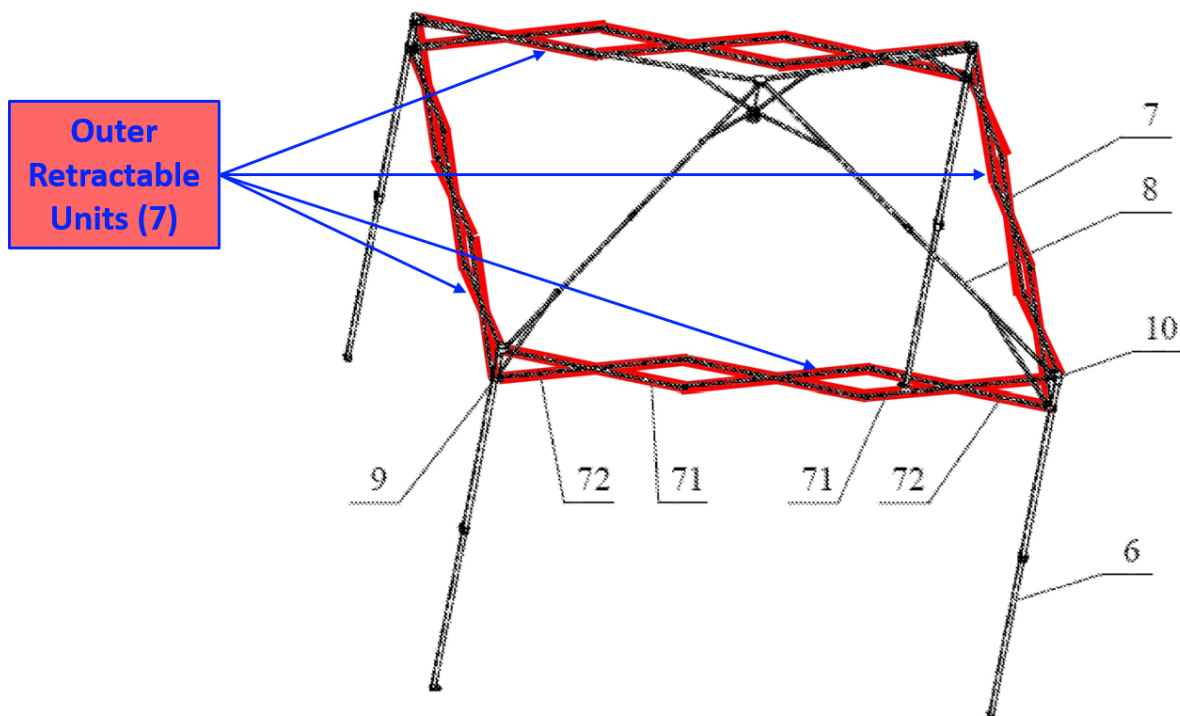
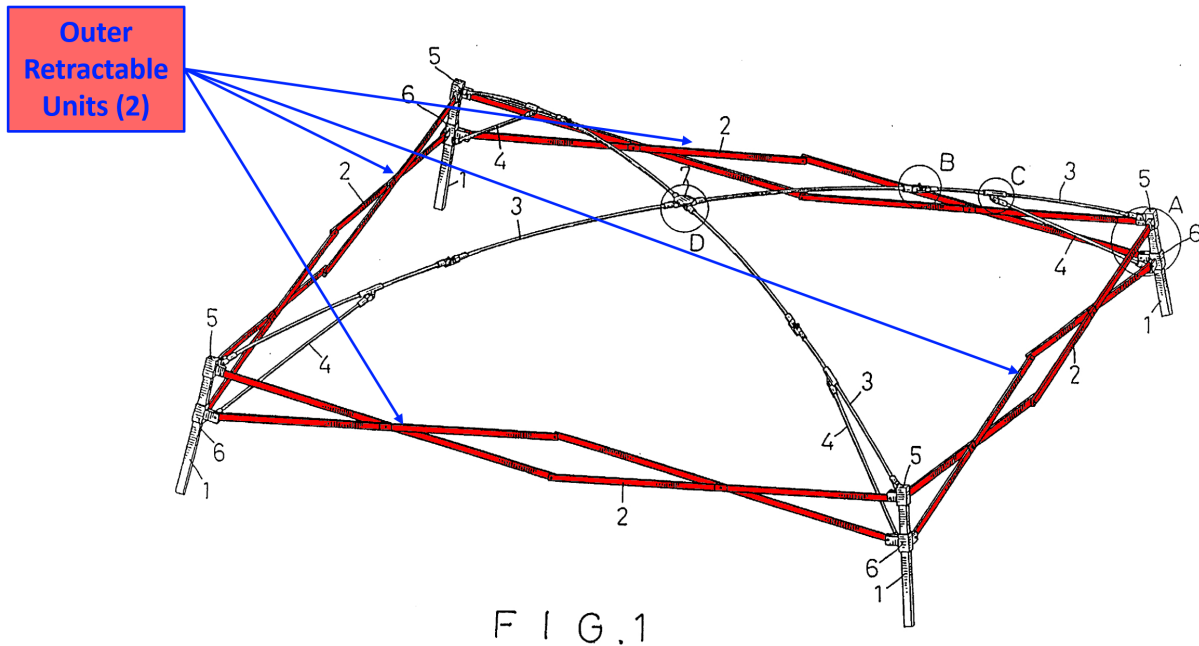


FIG. 16

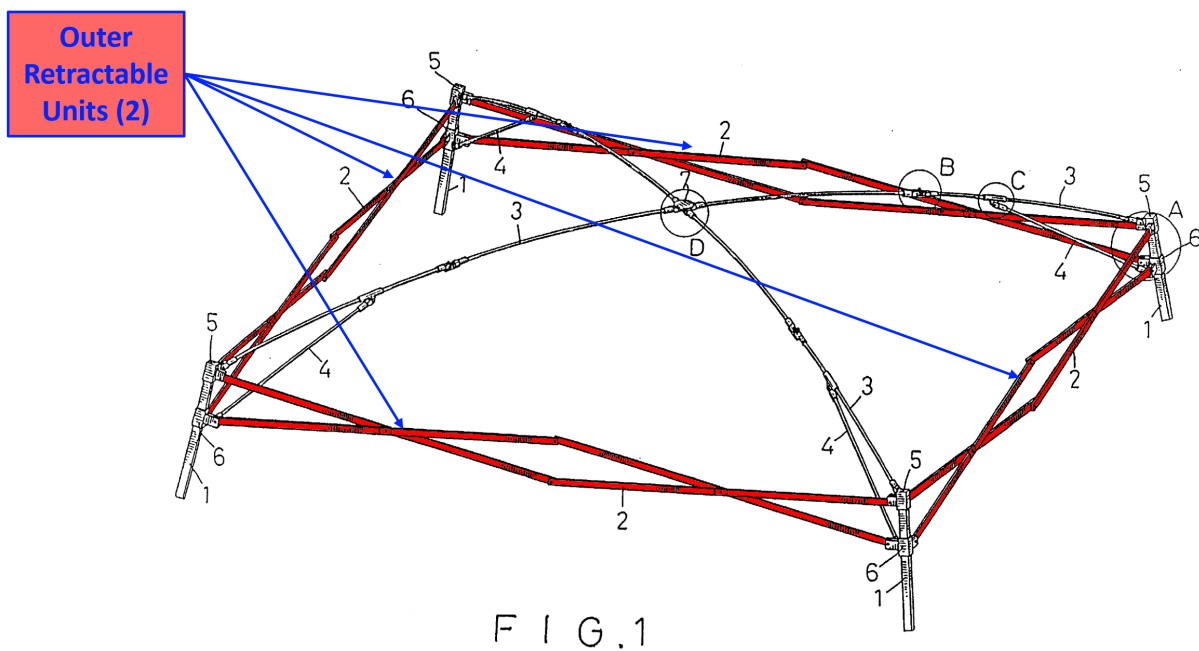
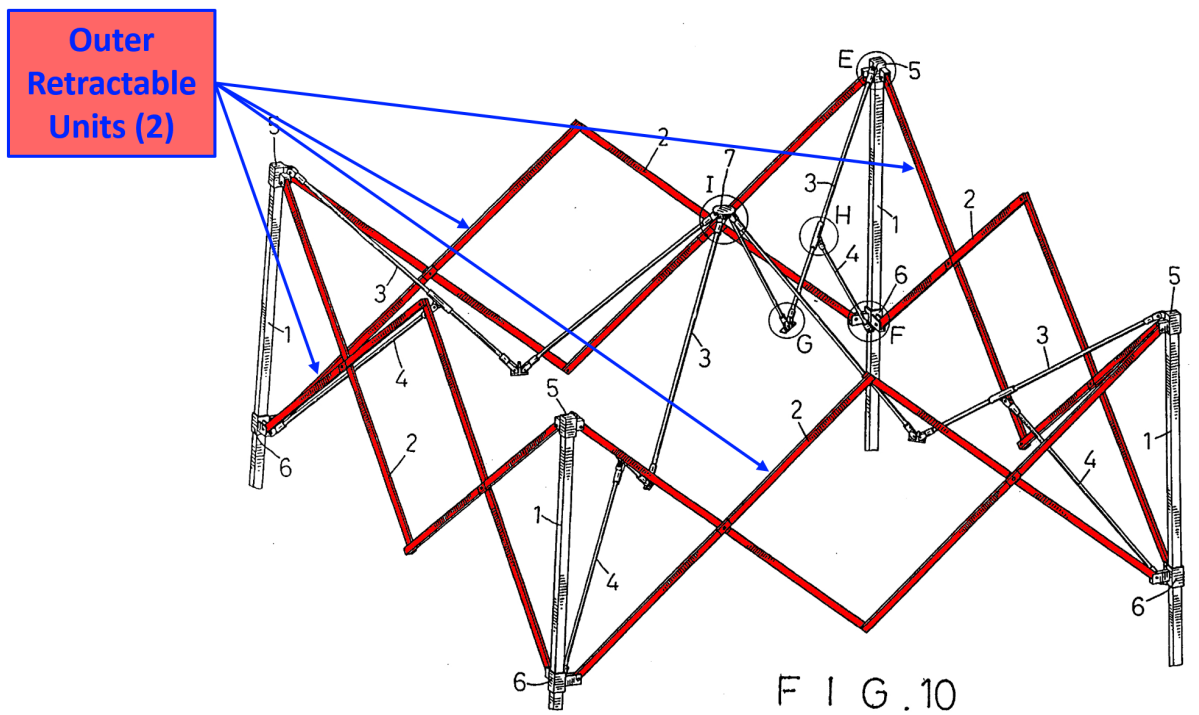
Ex. 1001, Fig. 16; Ex. 1002 ¶64.

Tsai discloses a “collapsible shelter” that includes a “shelter frame.” Ex. 1005, 3:11-19. Tsai’s shelter frame includes supporting legs that are “connected by a linking assembly having first and second scissors-type linkages and a linking device.” *Id.*, 3:20-4:4, 7:4-20, Figs. 1, 20. Figure 1 shows Tsai’s “linking assembly” may comprise an outer retractable unit connected between every two adjacent supporting legs:



Id., Fig. 1; Ex. 1002 ¶65; *Global Shade*, Paper 36 at 42.

Tsai's outer units are retractable both because they are designed to extend and retract with respect to the supporting legs (e.g., they connect two supporting legs, which are closer together when the canopy is collapsed and farther apart when the canopy is erected) and because they are designed to extend and retract with respect to the center of the canopy (e.g., they are farther from the center of the canopy when the canopy is erected than collapsed). Ex. 1002 ¶66. For example, Figure 10 shows the canopy partially collapsed, whereas Figure 1 shows the canopy erected:



Ex. 1005, Figs. 1, 10. Accordingly, Tsai's outer units are retractable. *Id.*; Ex. 1002 ¶66.

ii. X-Shaped Rod Members

Figure 16 of the '738 patent shows an example of a canopy with outer retractable units comprising a plurality (in this case, three) of hinged X-shaped rod members:

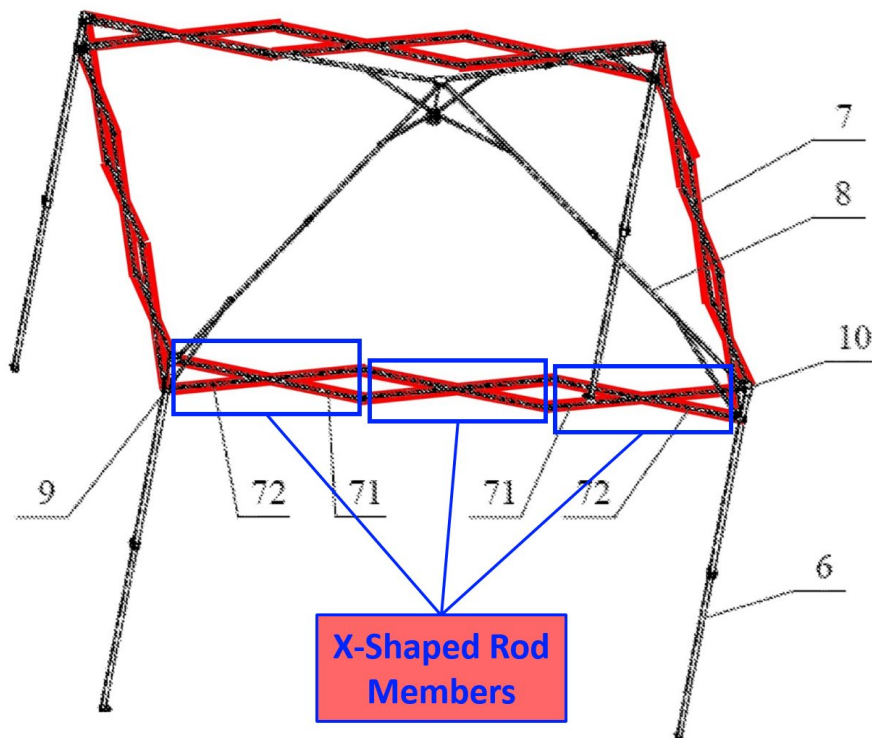
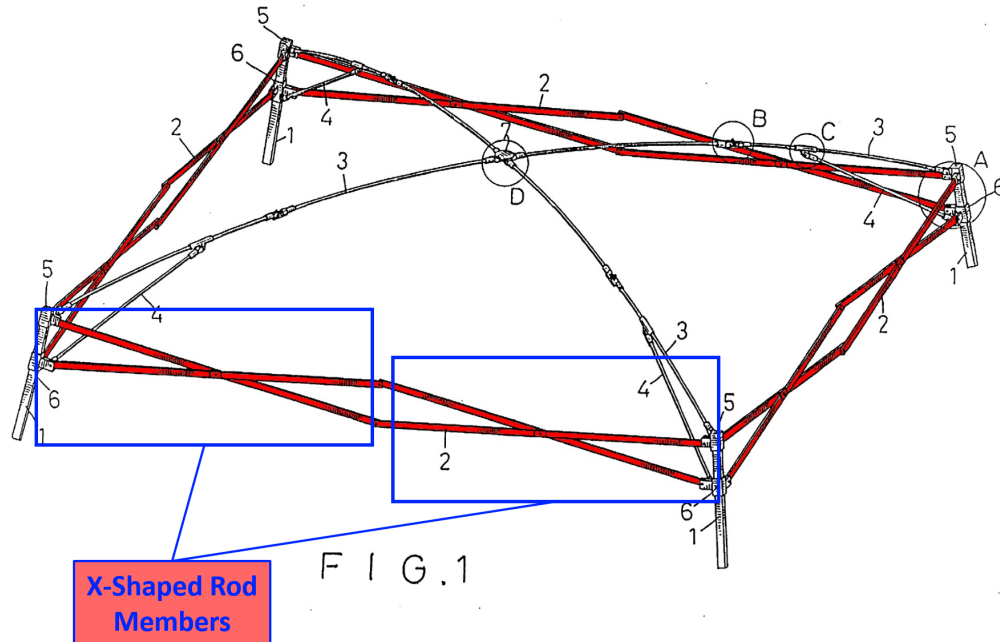


FIG. 16

Ex. 1001, Fig. 16; Ex. 1002 ¶67.

Tsai's outer retractable units likewise comprise a plurality (two) of hinged X-shaped rod members:



Ex. 1005, Fig. 1; *id.*, Fig. 20; Ex. 1002 ¶68. Tsai’s specification confirms that each of its canopy’s supporting legs are connected by “pairs of scissors-type (or x-type) linkages” which are “pivotally secured” to each other and to the legs. Ex. 1005, 7:7-15.

Furthermore, each of Tsai’s x-shaped rod members comprises a first eave pipe hinged to a second eave pipe, as shown in Figure 1. Ex. 1002 ¶69. Tsai discloses that each of the “scissors-type linkages” (e.g., x-shaped rod members) comprises “respective first structural members pivotally coupled to respective second structural members[.]” Ex. 1005, claim 1. A POSITA would have understood that the structural members that form Tsai’s x-shaped rod members are eave pipes because they perform the same function in the same manner as the eave

pipes claimed in the '738 patent. *Compare, e.g.*, Ex. 1001, Fig. 16 *with* Ex. 1005, Fig. 1; Ex. 1002 ¶¶69.

To the extent PO argues that Tsai's structural members are not "eave pipes" that form "x-shaped rod members" because they are not pipes or rods, it would have been obvious to use pipes and/or rods as Tsai's structural members. Ex. 1002 ¶70. A POSITA would have understood that pipes and rods were well-known examples of structural members and were commonly used in canopies like Tsai's. *Id.*; *see generally* Ex. 1003 (discussing "center tube 500" and "leg tube 310"); Ex. 1005, 7:15-20 (discussing "canopy supporting rods"); Ex. 1009, 1:62-2:18; Ex. 1010 ¶¶[0004], [0026]. Tsai discloses that "numerous modifications and/or additions to the above-described preferred embodiments would be readily apparent to one skilled in the art" and are within the scope of Tsai's disclosure. Ex. 1005, 11:12-23. Thus, Tsai suggests the modification. Ex. 1002 ¶70. Furthermore, a POSITA would have been motivated to use pipes and rods in Tsai's canopy frame because pipes and rods are lightweight, strong structural members. *Id.*; *see* Ex. 1005, 1:16-25 (discussing goals of stability and portability).

Thus, Tsai discloses this limitation. Ex. 1002 ¶¶67-71.

iii. Motivation to Combine

A POSITA would have been motivated to include Tsai's outer retractable units in Rousselle's canopy for several reasons. Ex. 1002 ¶¶72-78. First, Tsai

discloses the benefits of outer retractable units. Tsai explains that “prior open-type collapsible tent[s]” (Ex. 1005, 1:26-2:11), which do not include outer retractable units, are “somewhat unstable because the legs ... are only connected to one another by the [central] structure[.]” *Id.*, 2:12-25. Tsai discloses that “stability is increased [when] adjacent support poles are connected to one another by respective pairs of scissors-type linkages.” *Id.*, 2:26-32; Ex. 1002 ¶73.

Second, Rousselle suggests the combination because it discloses that “various aspects of the present invention are not limited to frame structures exactly as described” and that “the locking mechanisms 700 ... can be used with a variety of other frame structures[.]” Ex. 1003, 15:59-63; Ex. 1002 ¶74; *see CRFD Research, Inc. v. Matal*, 876 F.3d 1330, 1347-49 (Fed. Cir. 2017) (primary reference may provide motivation).

Third, outer retractable units like those disclosed in Tsai were well-known, leading a POSITA to reasonably expect success in the combination. Ex. 1002 ¶75; *see, e.g.*, Exs. 1007-1010.

Fourth, the combination represents nothing more than the simple addition of one known element (Tsai’s outer retractable unit) to another known element (Rousselle’s shelter/tent) to obtain predictable results (a shelter/tent as in Rousselle with outer retractable units). Ex. 1002 ¶76; *see KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 417 (2007).

Fifth, the combination represents the use of a known technique (erecting a canopy including outer retractable units like Tsai's) to improve a similar device and method (Rousselle's shelter/tent) in the same way. Ex. 1002 ¶77; *KSR*, 550 U.S. at 417.

Sixth, the combination applies a known technique (including outer retractable units like Tsai's with a canopy structure) to a known device and method (Rousselle's shelter/tent) that is ready for improvement and yields predictable results (a canopy that includes outer retractable units). Ex. 1002 ¶78; *KSR*, 550 U.S. at 417.

In an IPR of a related patent, PO did not dispute, and the Board held, that a POSITA would have combined Rousselle and Tsai in exactly the manner suggested here. *Global Shade*, Paper 36 at 52-53.

- c. **Limitation [C]: “a plurality of inner retractable units comprising inner ends, each inner retractable unit connected to a supporting leg [“Inner Units”], wherein said outer retractable units and said inner retractable units form a roof of said collapsible canopy frame [“Roof Frame”]”**

Figure 16 of the '738 patent shows an example of a canopy having four inner retractable units:

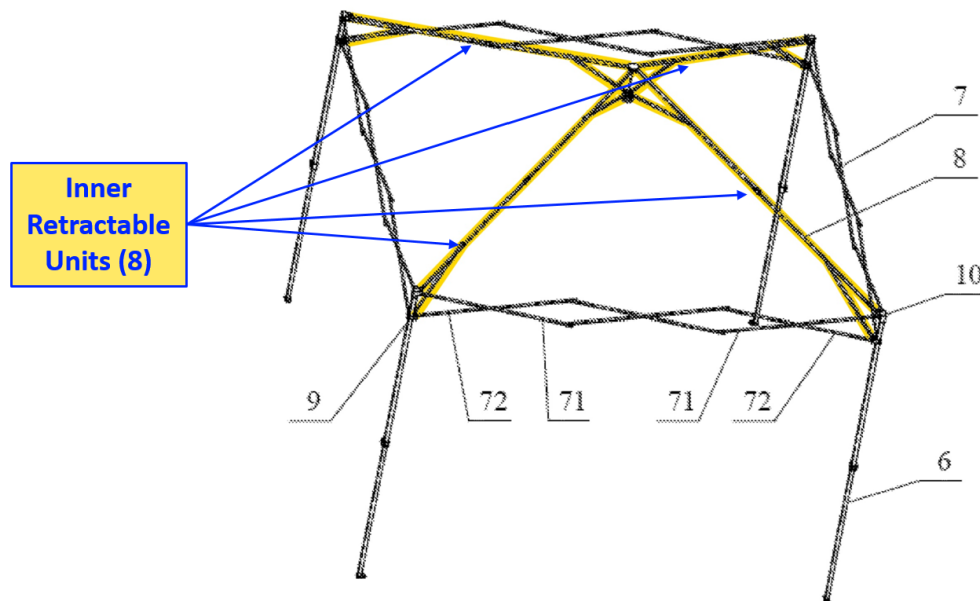


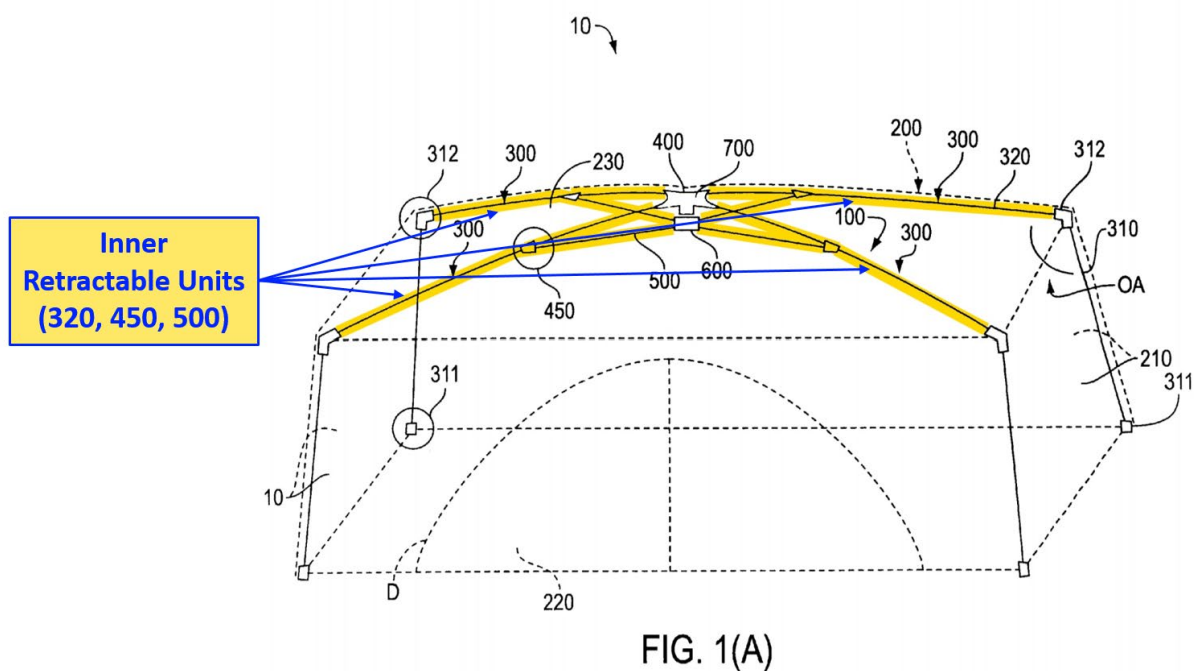
FIG. 16

Ex. 1001, Fig. 16, 5:20-41; Ex. 1002 ¶80.

i. Inner Units

(a) Rousselle

Each of Rousselle’s legs 300 includes “a band bar 320 extending from the hinge 312 to the upper clevis 400.” Ex. 1003, 6:57-61. Additionally, “[e]ach of the legs 300 also includes a hinge 450 that pivotally supports an outer end of a center tube 500, while an inner end of the center tube 500 is pivotally connected to a lower clevis 600.” *Id.*, 6:61-64. Thus, Rousselle discloses a plurality of inner units (each comprised of band bar 320, hinge 450, and center tube 500) and discloses that an inner unit is connected to each supporting leg (leg tube 310, via hinge 320). *Id.*; *see also id.*, Figs. 1(A)-1(C); Ex. 1002 ¶81; *Global Shade*, Paper 36 at 42-44.



Ex. 1003, Fig. 1(A).

Rousselle's inner units are retractable at least because they are designed to extend and retract relative to the center of the canopy. Ex. 1002 ¶82. For example, Figure 1(A) shows Rousselle's canopy in an erected state, while Figure 1(D) shows Rousselle's canopy in a collapsed state, with the inner units retracted relative to the center of the canopy:

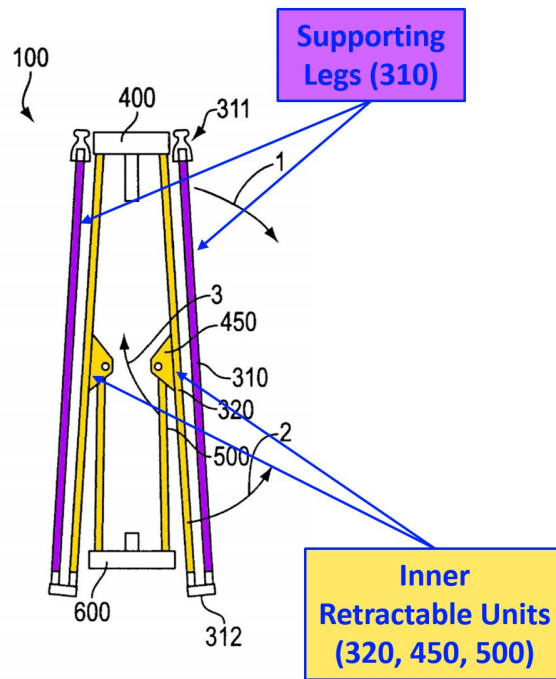


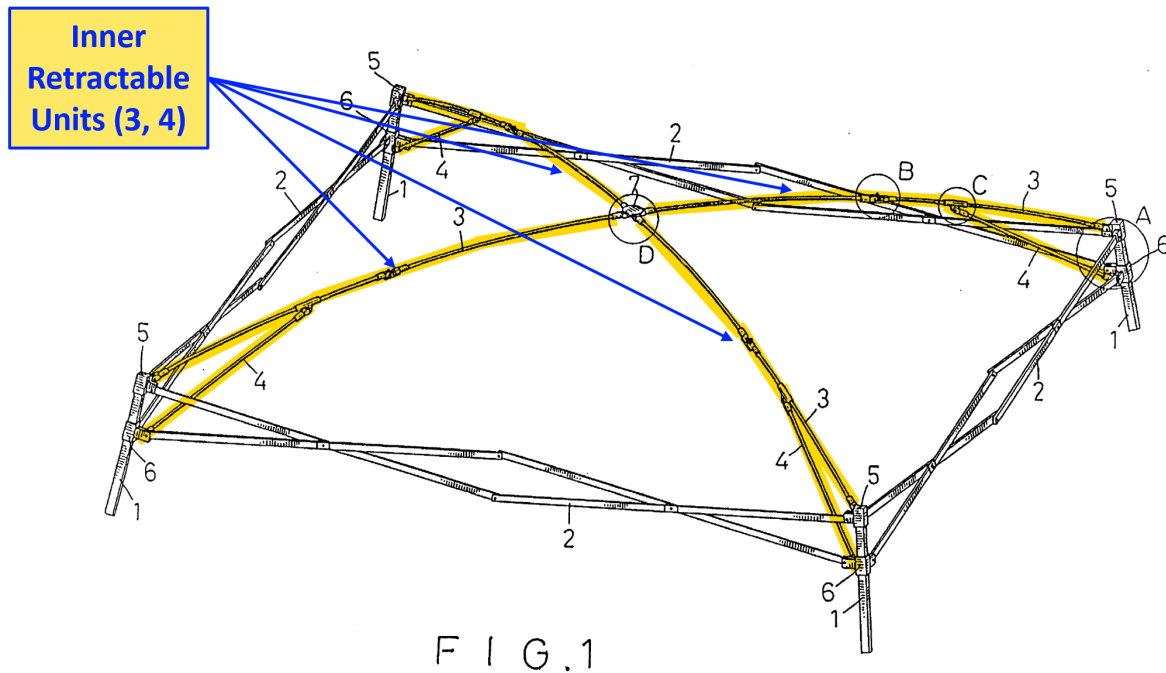
FIG. 1(D)

Ex. 1003, Fig. 1(D); Ex. 1002 ¶82. Rousselle’s inner units are also retractable because they are designed to retract on themselves (e.g., Figure 1(D)’s center tube 500 folds in against the band bar 320). *Id.* Accordingly, Rousselle’s inner units are retractable. Ex. 1002 ¶82.

(b) Tsai

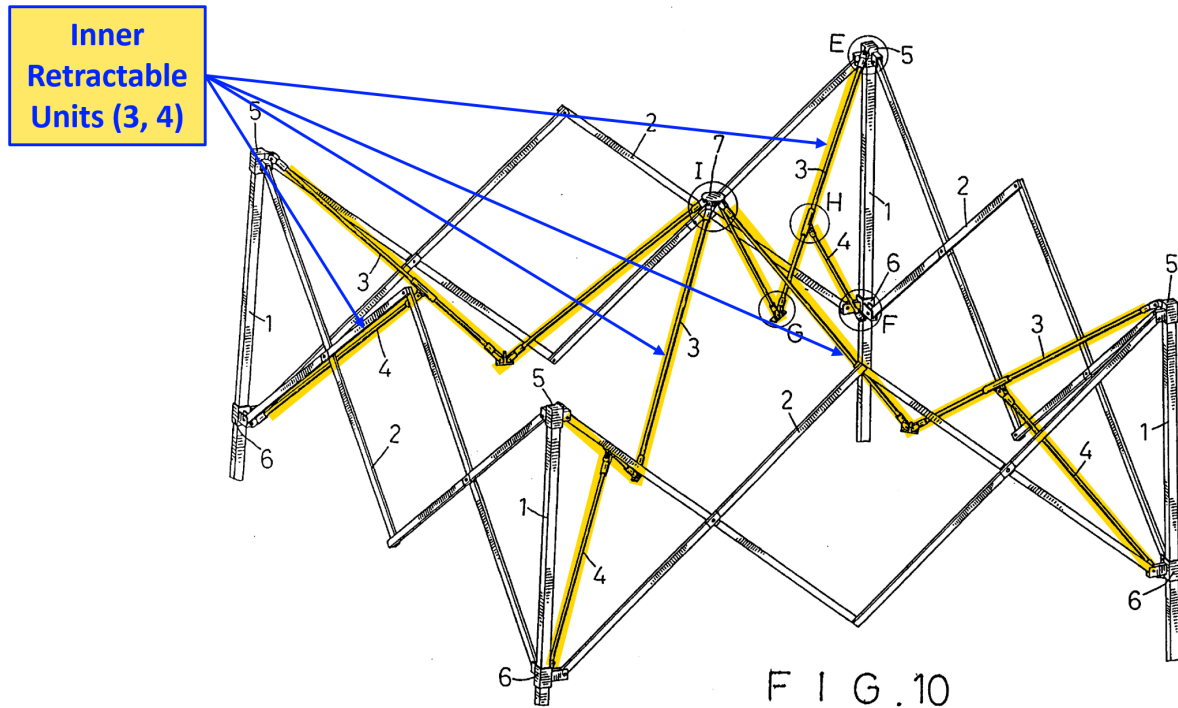
It would also have been obvious to a POSITA to combine Rousselle’s canopy with Tsai’s inner retractable units to arrive at this feature. Tsai’s canopy includes “canopy support rod[s] 3” which “consist[] of two rod members pivotally connected to one another by an intermediate pivot connector 31.” Ex. 1005, 8:34-9:10. Tsai’s canopy support rods 3, along with “linking rods 4” (which are

“pivotally secured” to the canopy support rods), are inner units that connect a supporting leg to the central hub of the canopy. *See id.*, 8:34-9:35, Fig. 1; Ex. 1002 ¶83; *Global Shade*, Paper 36 at 43-44.



Ex. 1005, Fig. 1; Ex. 1002 ¶83.

Tsai’s inner units are retractable because they are designed to extend and retract relative to the center of the canopy, including folding on themselves. Ex. 1002 ¶84. For example, Figure 1 shows the canopy in its erected state, while Figure 10 shows the canopy in a collapsed state, with the inner units retracted and folded:



Ex. 1005, Fig. 10; Ex. 1002 ¶84. Tsai's inner units are also retractable because they are designed to retract on themselves (e.g., the lower support extending from the leg folds in against the upper support, as shown in Figure 10). *Id.* Accordingly, Tsai's inner units are retractable. Ex. 1002 ¶84.

A POSITA would have understood that, when combining Tsai's inner retractable units (canopy support rods) with Rousselle's canopy, it would be preferred to retain Rousselle's hinge 450 and center tube 500, so as to connect Tsai's canopy support rod to both the upper and lower clevis of Rousselle. *Id.* ¶85. The resulting inner retractable units would have a Y-shaped member at the outside, attached to the supporting leg (as in Tsai), and a Y-shaped member at the inside, attached to the upper and lower clevises (as in Rousselle). *Id.* A POSITA would

have been motivated to make this modification because a POSITA would have understood the benefits of it; for example, that such inner retractable units would allow for the functioning of Rousselle’s center lock while providing additional stability as in Tsai. *Id.* A POSITA would have reasonably expected success because each of Rousselle’s hinge and center tube and Tsai’s canopy support rods and linking rods would function in the same way as in Rousselle or Tsai’s canopy. *Id.*

(c) Motivation to Combine

A POSITA would have been motivated to combine Tsai with Rousselle for several reasons. Ex. 1002 ¶¶86-93. First, a POSITA would have understood that Tsai’s folding inner retractable units would allow for a more compact collapsed canopy. *Id.* ¶87. Second, a POSITA would have understood that the additional bracing at the connection to the supporting legs provided by Tsai’s inner retractable units would increase stability. *Id.* ¶88.

Third, Rousselle suggests the combination because it discloses that “various aspects of the present invention are not limited to frame structures exactly as described” and that “the locking mechanisms 700 ... can be used with a variety of other frame structures[.]” Ex. 1003, 15:59-63; Ex. 1002 ¶89; *see CRFD*, 876 F.3d at 1347-49.

Fourth, inner retractable units such as those disclosed in Tsai were well-known, leading a POSITA to reasonably expect success in the combination. Ex. 1002 ¶90; *see, e.g.*, Exs. 1004, 1007-1009.

Fifth, the combination represents nothing more than the simple addition of one known element (Tsai's inner retractable unit) to another known element (Rousselle's shelter/tent) to obtain predictable results (a shelter/tent as in Rousselle with folding inner retractable units). Ex. 1002 ¶91; *KSR*, 550 U.S. at 417.

Sixth, the combination represents the use of a known technique (erecting a canopy including folding inner retractable units like Tsai's) to improve a similar device and method (Rousselle's shelter/tent) in the same way. Ex. 1002 ¶92; *KSR*, 550 U.S. at 417.

Seventh, the combination applies a known technique (including folding inner retractable units like Tsai's with a canopy structure) to a known device and method (Rousselle's shelter/tent) that is ready for improvement and yields predictable results (a canopy that includes folding inner retractable units). Ex. 1002 ¶93; *KSR*, 550 U.S. at 417.

ii. Roof Frame

The '738 patent discloses that canopies generally comprise “a foldable canopy frame and a canopy fabric, the canopy frame consists of a roof frame and four or more supporting legs ... the canopy fabric covers the roof frame[.]” Ex.

1001, 1:15-21. Accordingly, a POSITA would have understood that a “roof” of a “frame” provides support for a fabric roof. Ex. 1002 ¶95. Figure 16 of the ’738 patent shows an example of such a roof frame, made up of inner and outer retractable units:

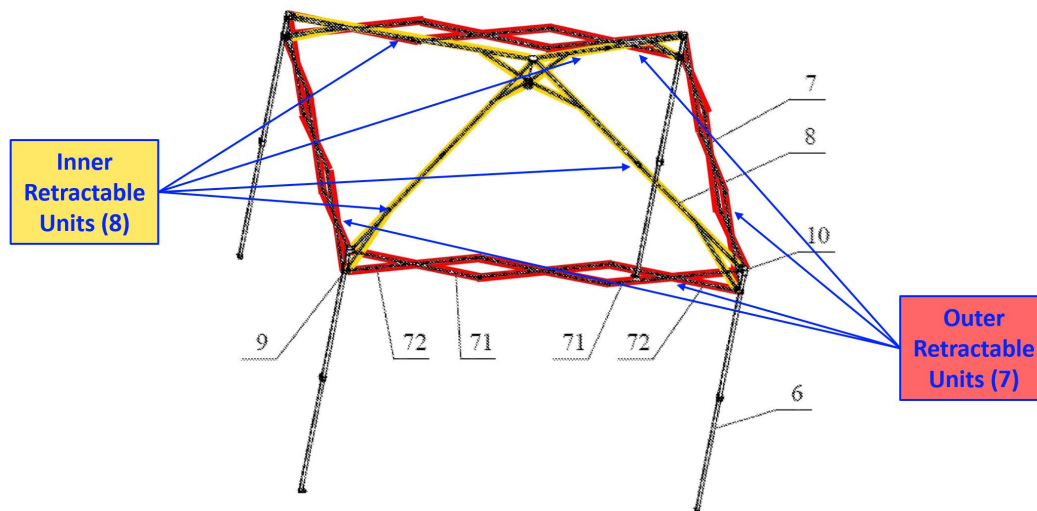


FIG. 16

Ex. 1001, Fig. 16; Ex. 1002 ¶95.

(a) **Rousselle**

Rousselle’s inner retractable units make up a “collapsible frame 100” which “supports a sheet-material cover 200[.]” Ex. 1003, 6:30-33, Fig. 1(A).

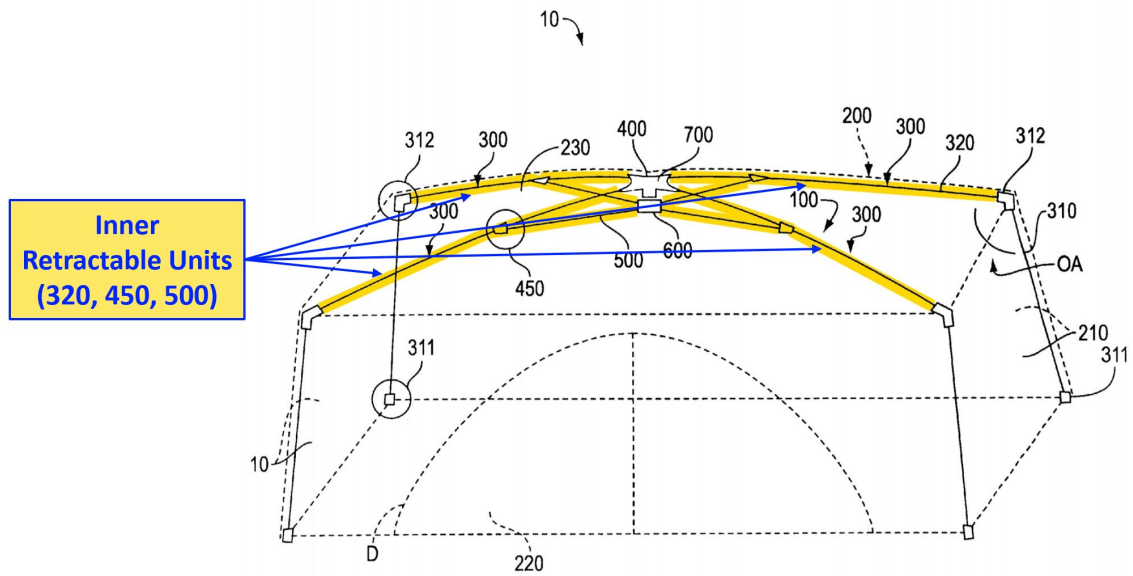
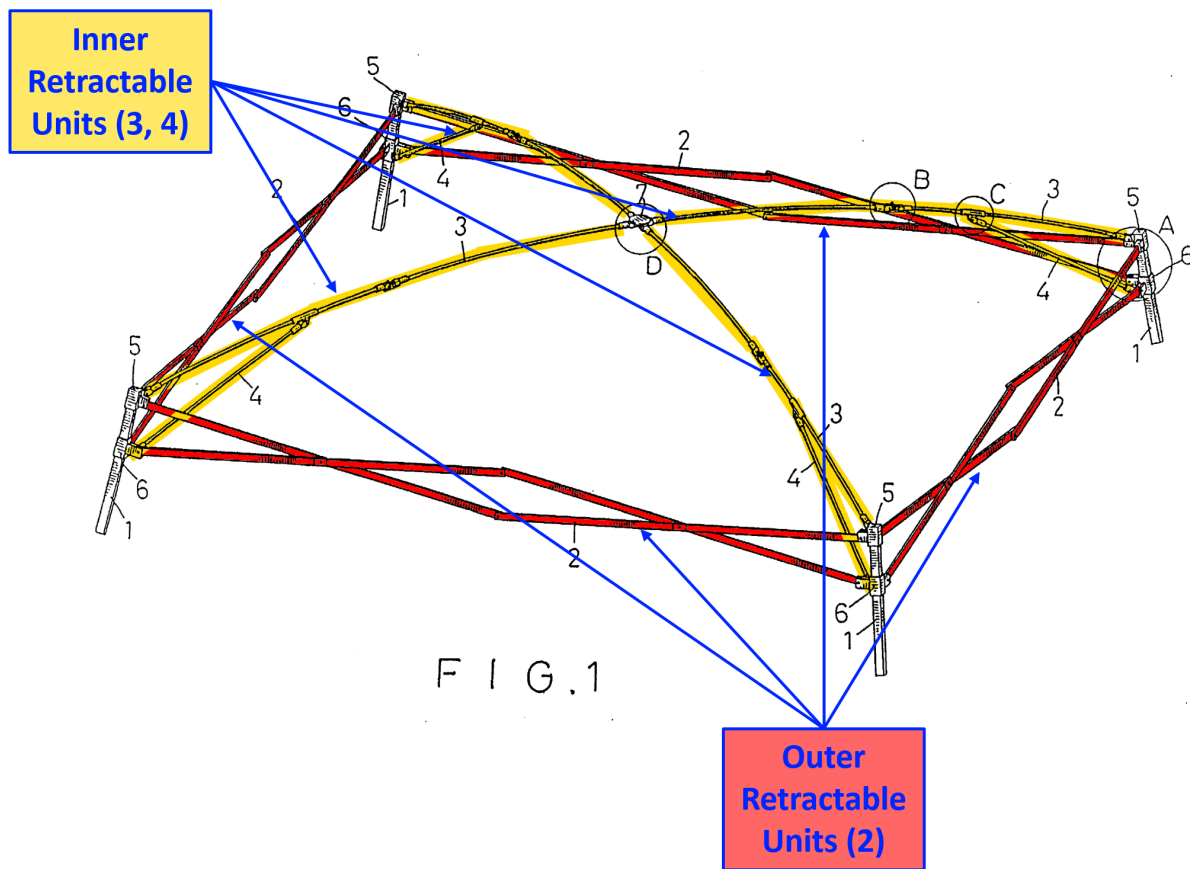


FIG. 1(A)

Id., Fig. 1(A). As shown in Figure 1(A), Rousselle's inner retractable units form a roof frame because they extend over the top of the canopy, supporting the roof formed by the sheet-material cover 200. *Id.*; Ex. 1002 ¶96. In addition, if a POSITA included outer retractable units in Rousselle's canopy, those outer retractable units would form part of a roof frame because they would extend around the edge of the top of the canopy, supporting the roof cover. *Id.*

(b) Tsai

Tsai discloses a “shelter frame” including a “canopy support” comprising outer retractable units (e.g., x-type linkages 2) and inner retractable units (e.g., canopy support rod 3). Ex. 1005, 7:4-20, Fig. 1.



Id., Fig. 1. As shown in Figure 1, Tsai's inner retractable units form a roof frame because they extend over the top of the canopy, supporting the roof cover. *Id.*; Ex. 1002 ¶97. Likewise, Tsai's outer retractable units form part of a roof frame because they extend around the edge of the top of the canopy, supporting the roof cover. *Id.*

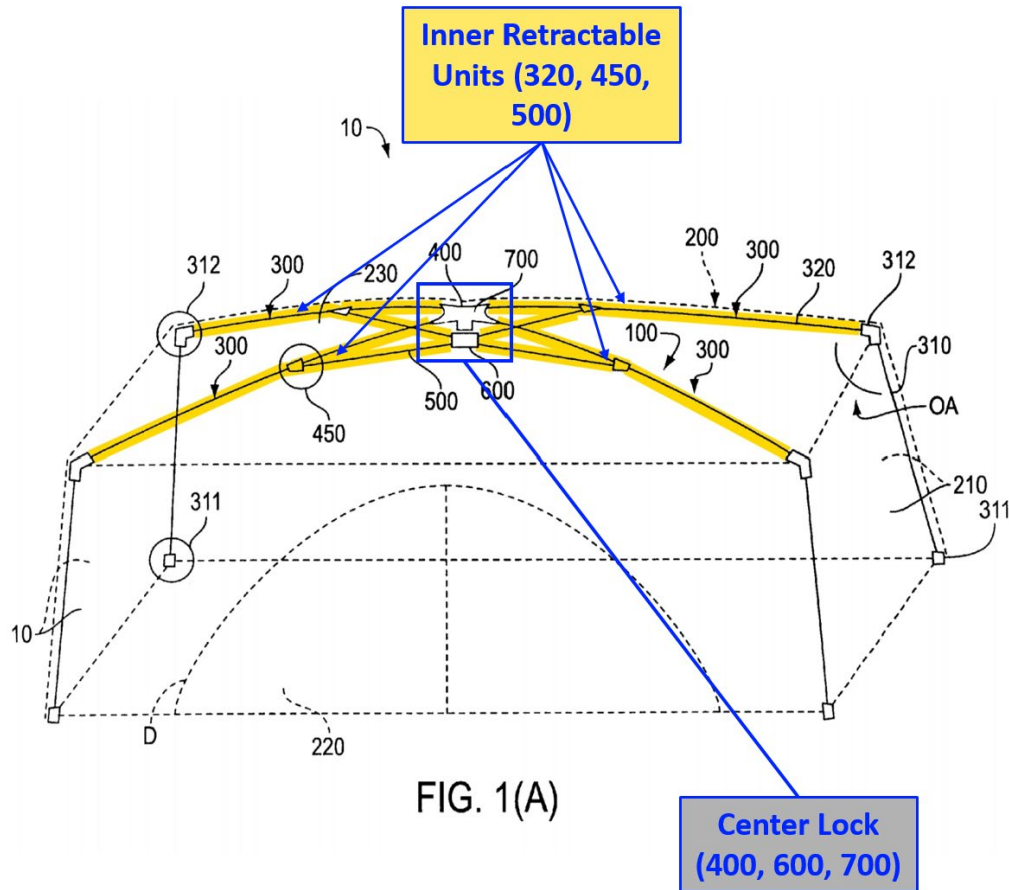
Thus, Rousselle's frame, as modified by Tsai, discloses inner retractable units and outer retractable units that form a roof frame for the collapsible canopy. Ex. 1002 ¶98. A POSITA would have been motivated to combine Rousselle with Tsai, and would have had a reasonable expectation of success in doing so. *See*

supra §§V.A.3.b.iii; V.A.3.c.i.(c); Ex. 1002 ¶98. Accordingly, Rousselle and/or Tsai disclose, or at least suggest, limitation [C]. Ex. 1002 ¶¶79-98; *Global Shade*, Paper 36 at 44.

d. Limitation [D]: “a central lock”

Rousselle discloses “a novel locking mechanism 700” which connects the “upper and lower devises² 400 and 600.” Ex. 1003, 6:65-67. Rousselle’s locking mechanism 700 along with the upper and lower clevises comprise a central lock. Ex. 1002 ¶100. Figure 1(A) shows the locking mechanism 700 and upper and lower clevises are centrally located:

² Rousselle uses the terms “devises” and “clevises” interchangeably when referring to elements 400 and 600. Ex. 1002 ¶100 n.2.



Ex. 1003, Fig. 1(A); Ex. 1002 ¶100.

Accordingly, Rousselle discloses, or at least suggests, this limitation. Ex. 1002 ¶¶99-100; *Global Shade*, Paper 36 at 44-46.

i. Motivation to Combine

As discussed above, a POSITA would have been motivated to combine Tsai's outer and/or inner retractable units with Rousselle's canopy. *Supra* §§V.A.3.b.iii; V.A.3.c.i.(c). Alternatively, a POSITA would have been motivated to combine Rousselle's central lock with Tsai's canopy (which includes supporting

legs and inner and outer retractable units that form a roof frame) for the following reasons. Ex. 1002 ¶¶101-08.

First, Rousselle discloses the benefits of center locks over the locking mechanisms used in the prior art, including in Tsai. *Id.* ¶102. Tsai includes separate locking mechanisms on each leg 1, which include a spring-loaded button that pops out to retain the bracket 6 in position when the canopy is erected. Ex. 1005, 4:29-5:5, 8:5-33, Figs. 1-2, 18-19. Rousselle discloses benefits of a central lock over Tsai’s individual-leg locking system; for example, that a center lock is “more convenient for the user because the user can unlock the device from a position within the shelter/tent.” Ex. 1003, 3:45-47. Furthermore, a central lock “does not need to be exposed to the environment since, for example, the locking mechanism can be internalized within the clevis assembly, and notably substantially within the lower clevis member,” which means that the locking mechanism “is thus less likely to become corroded, to accumulate dirt or dust, etc., which could negatively effect [sic] the device or its operation.” *Id.*, 3:38-44. Accordingly, Rousselle discloses benefits of center locks like the embodiments disclosed in Rousselle that would motivate a person of ordinary skill to modify Tsai’s canopy to include one. Ex. 1002 ¶102.

A POSITA would also have recognized further benefits of a central lock. For example, a central lock provides a way for a user to unlock the entire canopy at

once, whereas Tsai’s individual-leg system requires the user to unlock each leg separately. *Id.* ¶103. Thus, a POSITA would have recognized that replacing Tsai’s individual-leg locks with Rousselle’s central lock would make the canopy easier and more convenient for a single user to operate. *Id.* Alternatively, a POSITA would have recognized that using Rousselle’s central lock while retaining Tsai’s individual-leg locks would have resulted in increased assurance that the canopy would stay in the erected or locked position and would not collapse. *Id.*

Second, Rousselle suggests the combination because it discloses that “various aspects of the present invention are not limited to frame structures exactly as described” and that “the locking mechanisms 700 . . . can be used with a variety of other frame structures[.]” Ex. 1003, 15:59-63. This would reinforce a person of ordinary skill in the art’s reasonable expectation of success in such a combination, which would already be strong because center locks were well-known and understood in the art. *See, e.g.*, Exs. 1003-1004; Ex. 1002 ¶104; *see CRFD*, 876 F.3d at 1347-49.

Third, the combination represents nothing more than the simple addition of one known element (Rousselle’s center lock) to another known element (Tsai’s canopy) to obtain predictable results (a canopy with the claimed center lock). Ex. 1002 ¶105; *KSR*, 550 U.S. at 417.

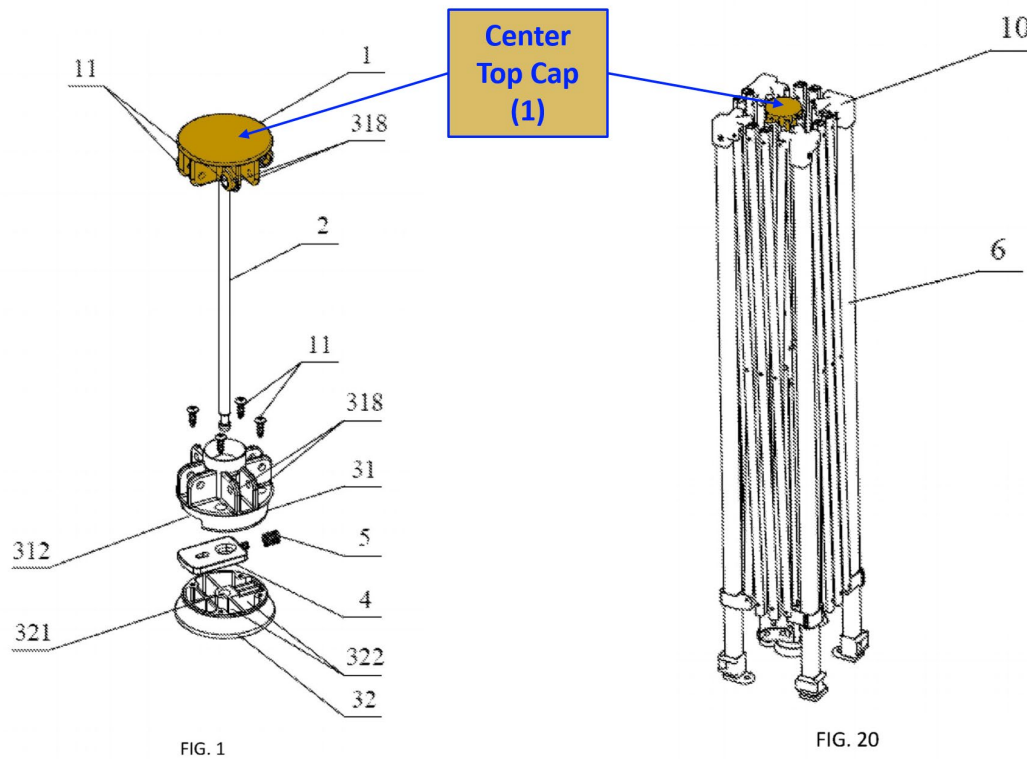
Fourth, the combination represents the use of a known technique (locking using a center lock as disclosed in Rousselle) to improve a similar device and method (Tsai’s canopy) in the same way. Ex. 1002 ¶106; *KSR*, 550 U.S. at 417.

Fifth, the combination applies a known technique (locking using a center lock as disclosed in Rousselle) to a known device and method (Tsai’s canopy) that is ready for improvement and yields predictable results (a canopy with the claimed center lock). Ex. 1002 ¶107; *KSR*, 550 U.S. at 417.

A POSITA would have modified Tsai’s canopy to include Rousselle’s hinges 450 and center tubes 500 to connect Tsai’s inner retractable units with both the top and bottom of Rousselle’s central lock. Ex. 1002 ¶108. A POSITA would have been motivated to do so, and reasonably expected success, for the reasons discussed above. *Supra* §V.A.3.c.i.

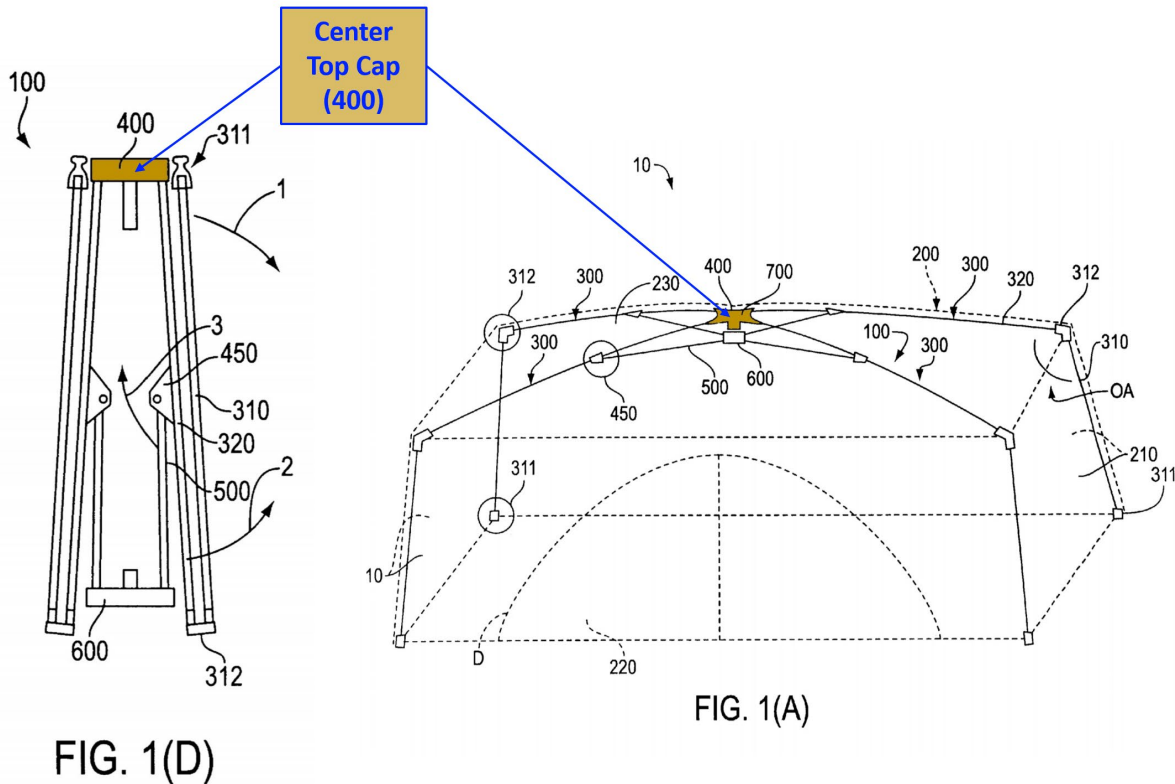
e. **Limitation [D][1]: “a center top cap”**

Figures 1 and 20 of the ’738 patent show a center top cap:



Ex. 1001, Figs. 1, 20; Ex. 1002 ¶110.

Rousselle’s locking mechanism 700 includes a center top cap referred to as an “upper clevis 400.” Ex. 1003, 6:65-7:19, Figs. 1(A), 1(D); Ex. 1002 ¶111.



Ex. 1003, Figs. 1(A), 1(D). Rousselle’s upper clevis 400 performs the same function in the same manner as the ’738 patent’s center top cap. Ex. 1002 ¶111. For example, Rousselle’s upper clevis 400 is centrally located and at the top of both the locking mechanism 700 and the canopy as a whole. Ex. 1003, Figs. 1(A), 1(D); Ex. 1002 ¶111. Furthermore, as shown, Rousselle’s upper clevis 400 connects the inner retractable units. *Id.* Accordingly, Rousselle’s upper clevis 400 is a center top cap, and thus Rousselle discloses, or at least suggests, this limitation. Ex. 1002 ¶¶109-11; *Global Shade*, Paper 36 at 46.

f. Limitation [D][2]: “a center bottom cap”

The ’738 patent shows an example of a center bottom cap in Figure 6:

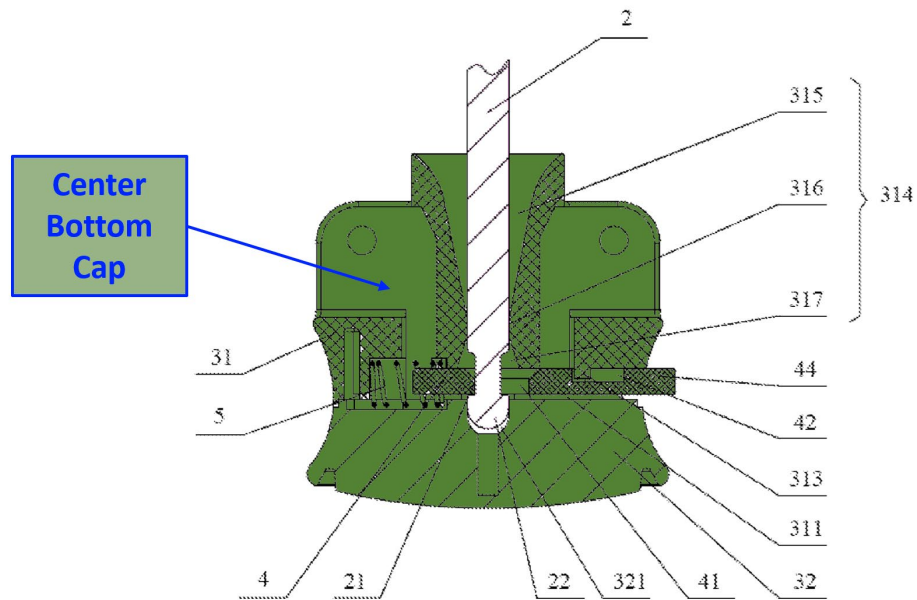


FIG. 6

Ex. 1001, Fig. 6. As shown the '738 patent's center bottom cap receives a center pole (§V.A.3.g, *infra*). *Id.*

Rousselle's locking mechanism includes a "socket 720 fixed to the lower clevis 600," which together comprise a center bottom cap. Ex. 1003, 7:1-5, Figs. 1(D), 2(A); Ex. 1002 ¶114.

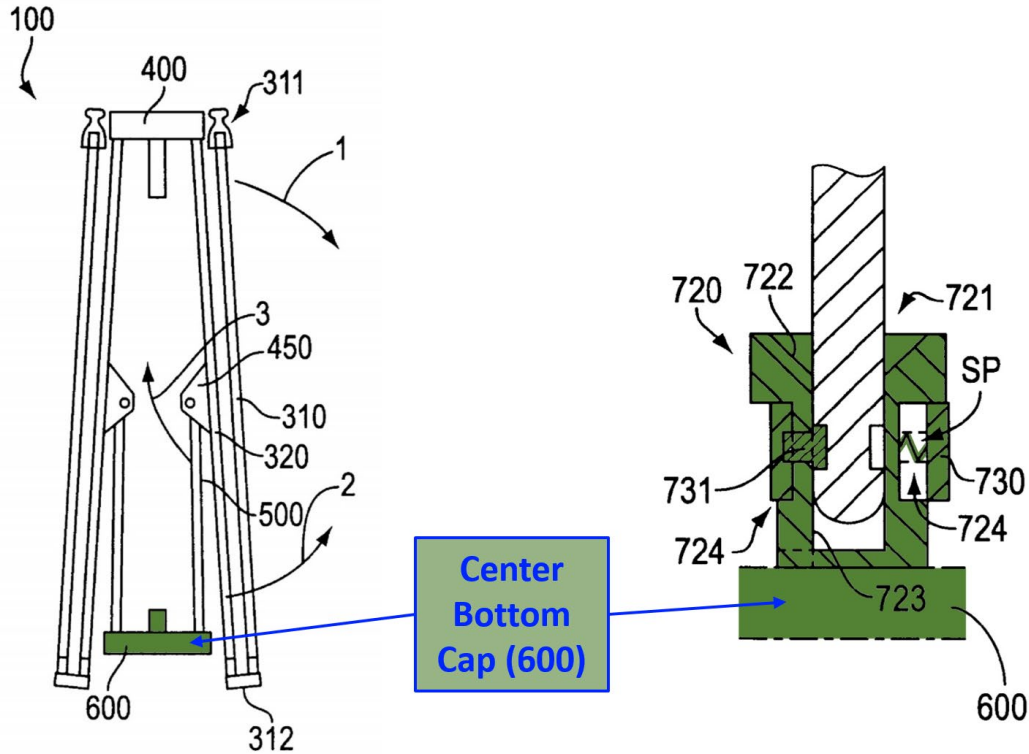


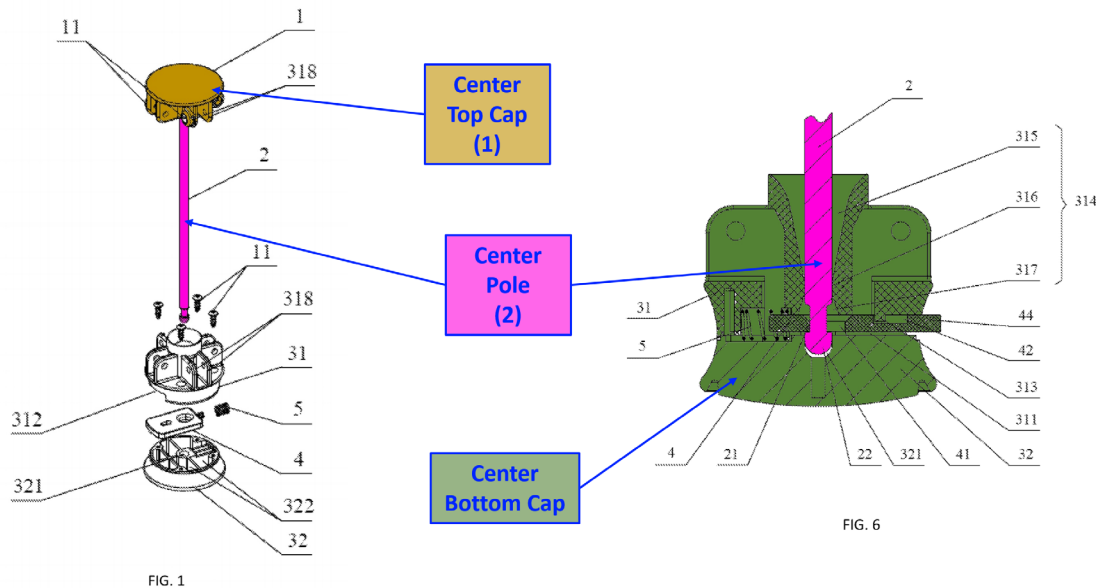
FIG. 1(D)

FIG. 2(A)

Ex. 1003, Figs. 1(D), 2(A). Rousselle's lower clevis 600 and socket 720 perform the same function in the same manner as the '738 patent's center bottom cap. Ex. 1002 ¶114. For example, Rousselle's center bottom cap is centrally located in the canopy, is at the bottom of Rousselle's central lock, and receives a center pole. Ex. 1003, Figs. 1(D), 2(A); Ex. 1002 ¶114; §V.A.3.g, *infra*. Thus, Rousselle discloses, or at least suggests, a center bottom cap (socket 720 and lower clevis 600). Ex. 1002 ¶¶112-14; *Global Shade*, Paper 36 at 48-49.

g. **Limitation [D][3]: “a center pole positioned between said center top cap and said center bottom cap”**

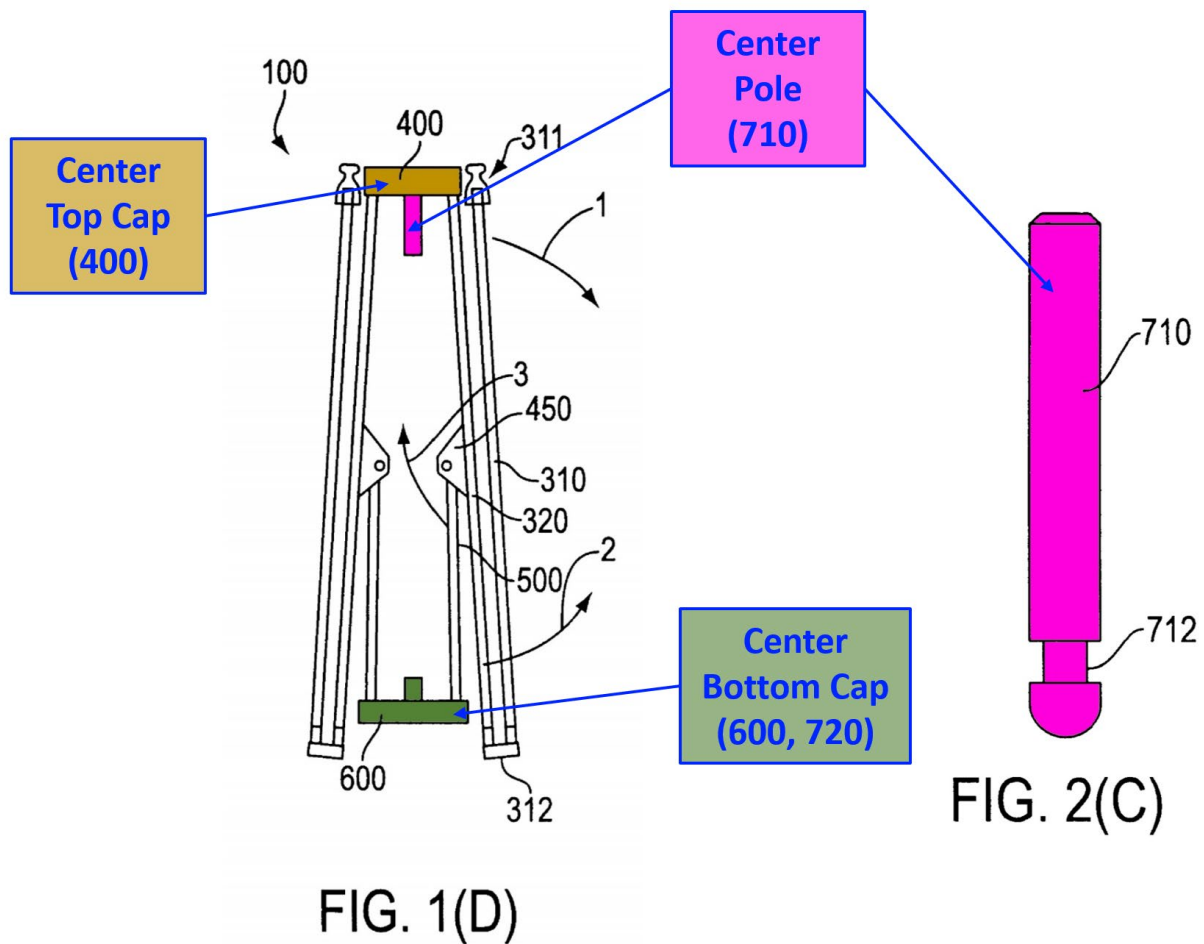
The '738 patent shows an example of a center pole in Figures 1 and 6:



Ex. 1001, Fig. 1. As shown, the '738 patent's center pole is positioned between the center top cap and center bottom cap and is received by the center bottom cap.

Ex. 1002 ¶116.

Rousselle's locking mechanism 700 includes a center pole referred to as a "pin 710." Ex. 1003, 7:1-19; Figs. 1(D), 2(A)-2(C); Ex. 1002 ¶117. Rousselle's pin 710 performs the same function in the same manner as the '738 patent's center pole. Ex. 1002 ¶117. For example, as shown in Figure 1(D) of Rousselle, pin 710 is positioned between Rousselle's center top cap and center bottom cap. Ex. 1003, 7:1-19, Figs. 1(D), 2(A)-2(C); Ex. 1002 ¶117.



Ex. 1003, Figs. 1(D), 2(C); Ex. 1002 ¶117. Furthermore, Rousselle discloses that the pin 710 is received in Rousselle's center bottom cap:

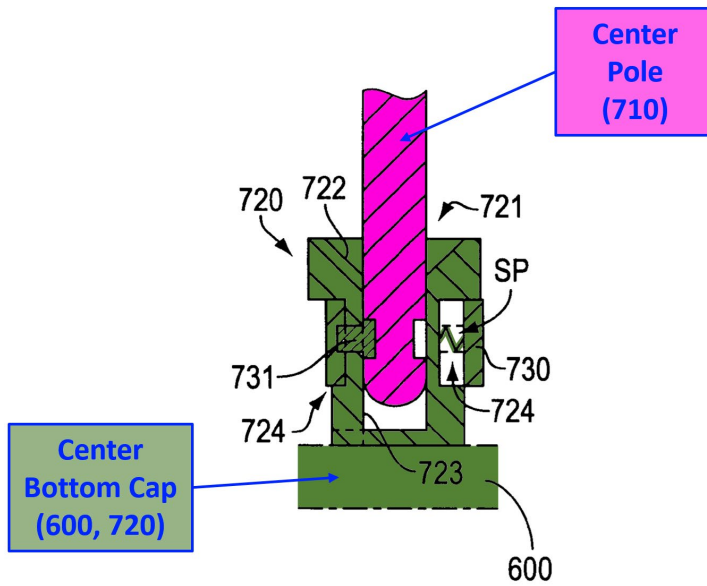


FIG. 2(A)

Ex. 1003, Fig. 2(A); Ex. 1002 ¶¶117. Thus, Rousselle discloses this limitation. Ex. 1002 ¶¶115-17; *Global Shade*, Paper 36 at 46-47.

h. Limitation [D][3][i]: “wherein said central lock is locked when said center pole is connected to both said center top cap and said center bottom cap”

As discussed in further detail below (*infra* §V.A.3.j), Rousselle discloses that its central lock is locked when the pin (e.g., center pole) 710, which is rigidly connected to the upper clevis (e.g., center top cap) 400, is also connected to the lower clevis (e.g., center bottom cap) 600. Ex. 1002 ¶119. For example, Rousselle discloses that a pin 731, which is part of the center bottom cap, is inserted into a groove 712 in the pin 710 (center pole) “to lock the upper and lower devices 400 and 600 together[.]” Ex. 1003, 7:25-40; *id.*, 13:37-40 (“the frame is securely locked via the locking mechanism 700”); Ex. 1002 ¶119. Rousselle further

discloses that in the locked state, “the upper and lower devises are securely locked together via the locking mechanism 700,” of which pin 710 is a part. Ex. 1003, 13:22-36; Ex. 1002 ¶119. Thus, Rousselle discloses this limitation. Ex. 1002 ¶¶118-19.

i. **Limitation [D][3][iii]: “wherein said central lock is unlocked when there is a disconnection between said center bottom cap and said center pole”**

As discussed in further detail below (*infra* §V.A.3.j), Rousselle discloses that its central lock is unlocked when the pin (e.g., center pole) 710 is disengaged from the lower clevis (e.g., center bottom cap). *See* Ex. 1003, 7:32-35, 14:44-50; Ex. 1002 ¶121. In this unlocked state, a user “can thus move the upper clevis 400 away from the lower clevis 600,” which also moves the pin 710 (e.g., the center pole) away from the lower clevis 600 (e.g., the center bottom cap). Ex. 1003, 14:57-59; Ex. 1002 ¶121. Thus, Rousselle discloses this limitation. Ex. 1002 ¶¶120-21.

j. **Limitation [D][3][iii]: “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”**

Rousselle discloses that a user sets up its canopy by first moving it to an unfolded state. Ex. 1003, 13:5-29; Ex. 1002 ¶123. Once in an unfolded state, and with the central lock engaged, “the upper and lower devises are securely locked

together via the locking mechanism 700,” and thus “the frame is securely locked via the locking mechanism 700.” Ex. 1003, 13:30-41. Thus, the central lock locks Rousselle’s collapsible canopy frame in an unfolded state when the central lock is locked. Ex. 1002 ¶123.

When the central lock is unlocked (for example, before the canopy is erected), the frame is in “an initially collapsed state.” Ex. 1003, 13:5-8. This is shown in Figure 1(D), which shows the upper and lower clevises (e.g., center top cap and center bottom cap) separated and the central lock unlocked:

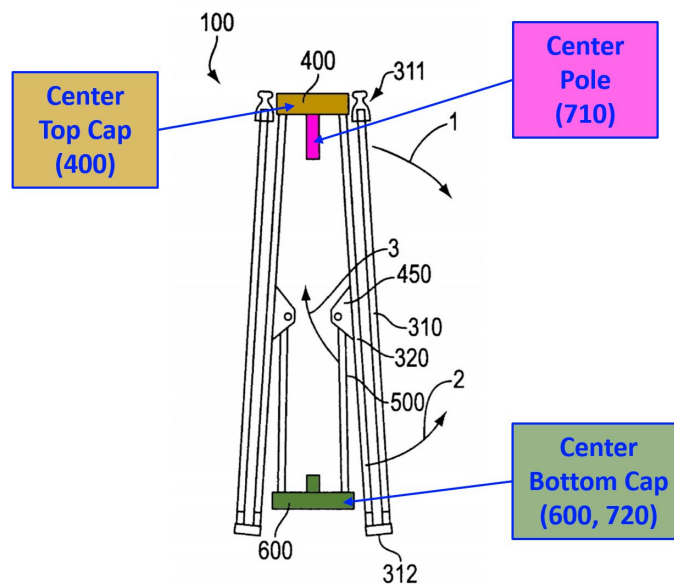
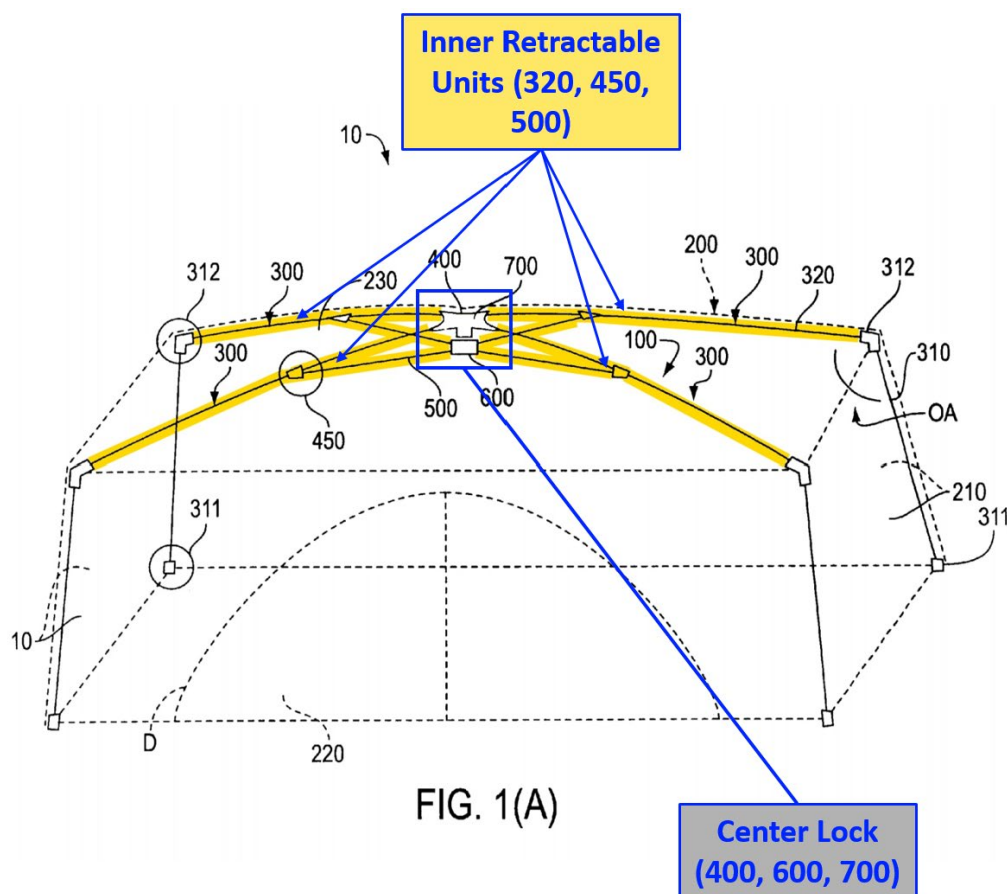


FIG. 1(D)

Id., Fig. 1(D). A POSITA would have understood that the frame could be returned to this collapsed (e.g., folded) state whenever the center lock is unlocked. Ex. 1002 ¶125. Thus, Rousselle discloses this limitation. *Id.* ¶¶122-25.

k. **Limitation [D][3][iv]: “wherein said inner ends of said inner retractable units are connected through said central lock”**

Rousselle’s inner retractable units (e.g., band bars 320, hinges 450, and center tubes 500) are connected to both upper and lower clevises (400, 600) and thus are connected to, and through, the central lock. Ex. 1003, 6:61-67, Fig. 1(A); Ex. 1002 ¶127.

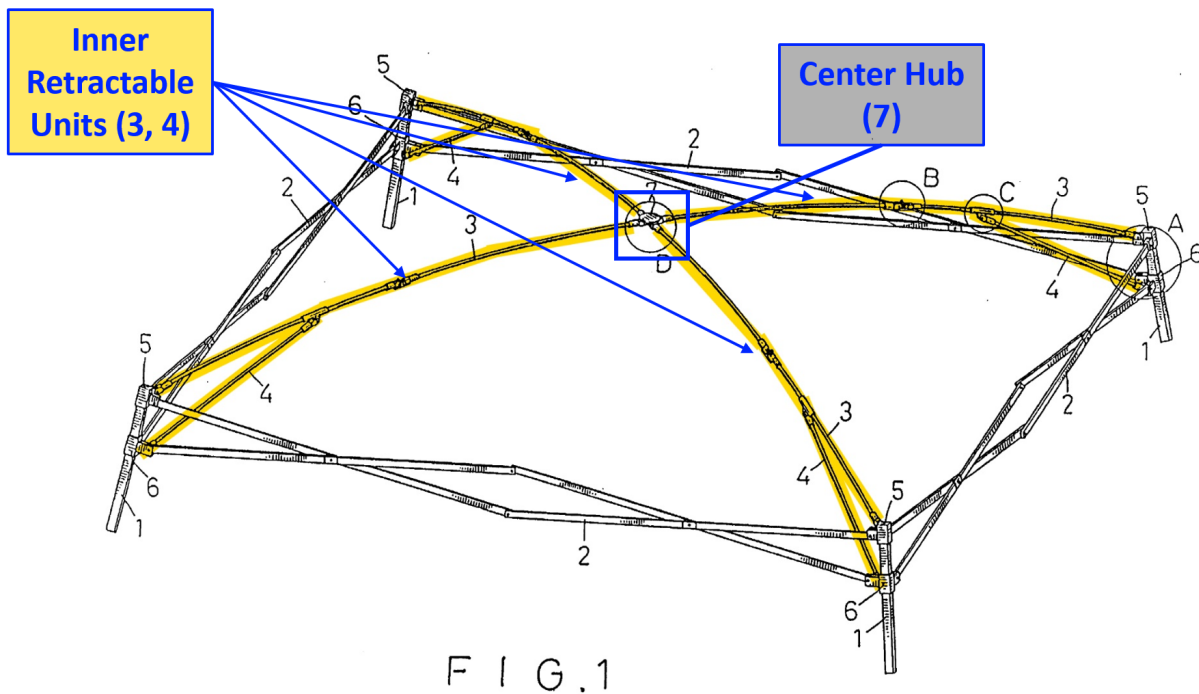


Ex. 1003, Fig. 1(A). Thus, Rousselle discloses this limitation. Ex. 1002 ¶127; *Global Shade*, Paper 36 at 44-46.

While Tsai does not disclose a center lock, its inner retractable units (e.g., canopy support rods 3 and linking rods 4) are connected to, and through, a central

hub (e.g., head 7). Ex. 1005, 9:11-13 (“one end of each canopy support rod 3 is secured to a fixed linkage 5 and the other end is secured to the head 7”); Ex. 1002

¶128. Figure 1 shows this:



Ex. 1005, Fig. 20. Thus, if Tsai’s inner retractable units are combined with Rousselle’s canopy, Tsai’s inner retractable units would connect to, and through, Rousselle’s center lock, which is in the same place as Tsai’s center hub. Ex. 1002 ¶128; *Global Shade*, Paper 36 at 45-46.

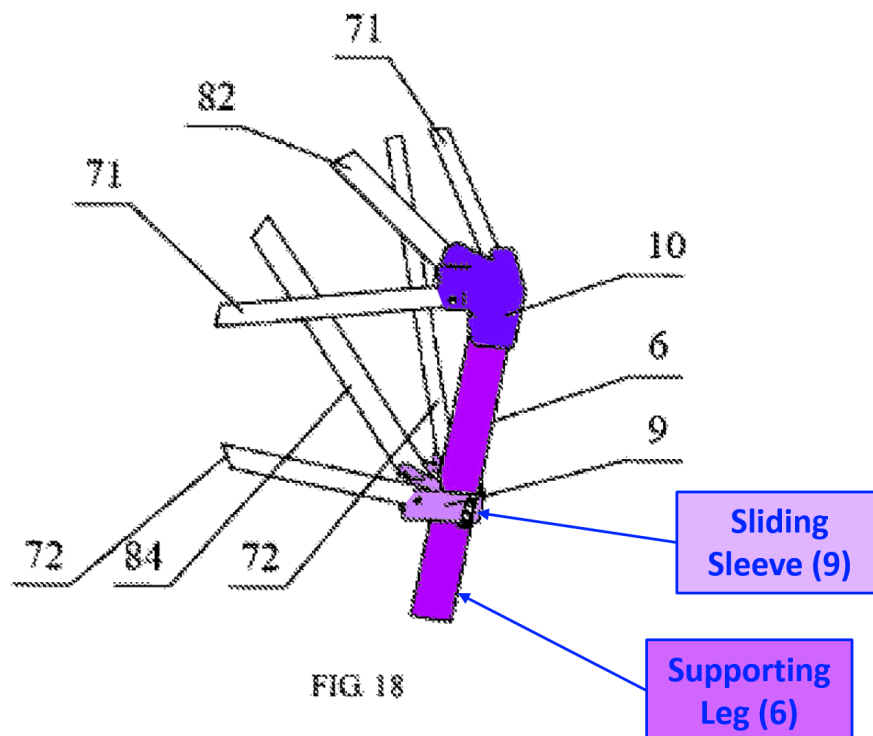
Thus, Rousselle and Tsai disclose, or at least suggest, each element of claim 1, and claim 1 would have been obvious as a whole to a POSITA in view of Rousselle and Tsai. Ex. 1002 ¶¶60-129.

4. **Claim 2**

Claim 2 depends from claim 1 and further recites:

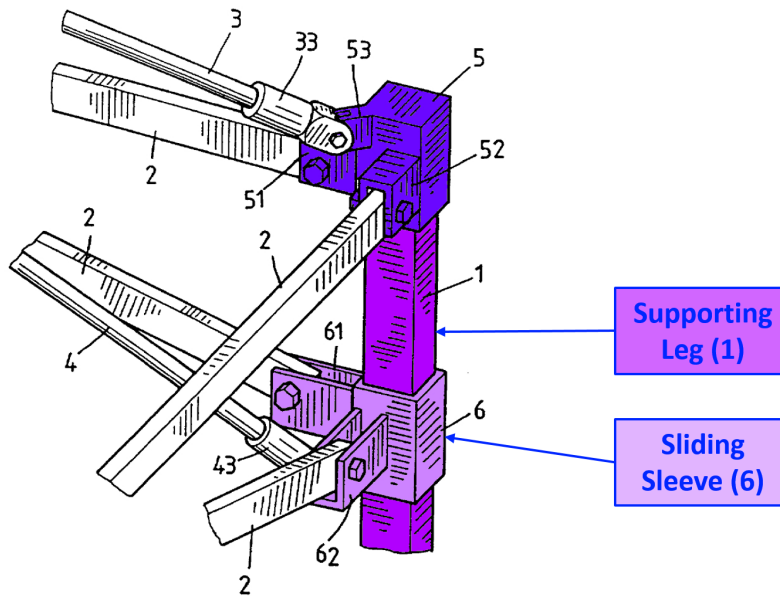
- a. **Limitation [A][1]: “each said supporting leg comprises a sliding sleeve for moving along a length direction of said respective supporting leg”**

Figure 18 of the '738 patent shows a sliding sleeve 9 for moving along a length direction of the supporting leg 6:



Ex. 1001, Fig. 18; *id.*, 5:11-14; Ex. 1002 ¶132.

Tsai discloses that its canopy includes “sliding connectors 6” (e.g., sliding sleeves) “which slide[] along the poles [1]” (e.g., supporting legs). Ex. 1005, 7:4-20. These are shown in Figure 2:

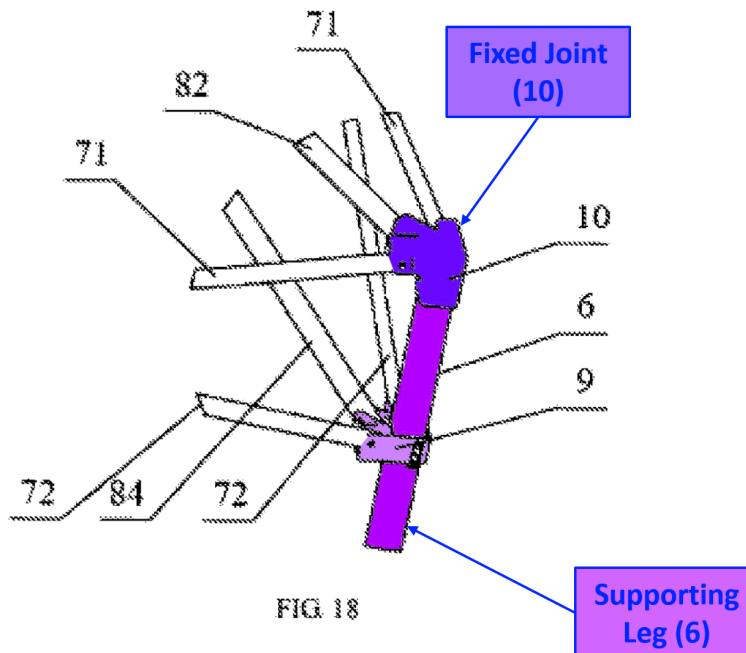


F I G . 2

Id., Fig. 2. Tsai's sliding connectors perform the same function in the same manner as the '738 patent's sliding sleeves. Ex. 1002 ¶133. Thus, Tsai discloses this limitation. *Id.* ¶¶131-33.

b. Limitation [A][2]: “an upper end of each said supporting leg is fixed with a fixed joint”

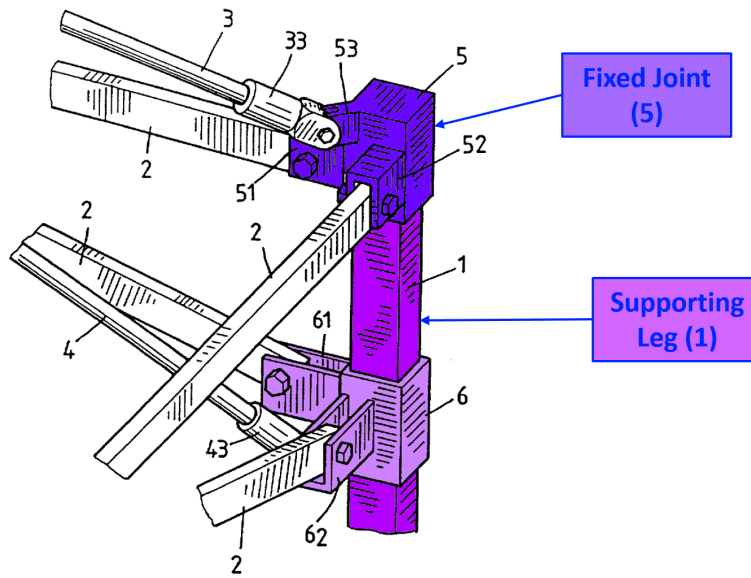
Figure 18 of the '738 patent shows a fixed joint 10 at the upper end of its supporting legs 6:



Ex. 1001, Fig. 18; *id.*, 5:11-14; Ex. 1002 ¶135.

Similarly, Tsai discloses that its canopy includes “fixed connectors 5” (e.g., fixed joints), which are “secured to the top of each pole [1]” (e.g., supporting leg).

Ex. 1005, 7:4-20. These are shown in Figure 2:

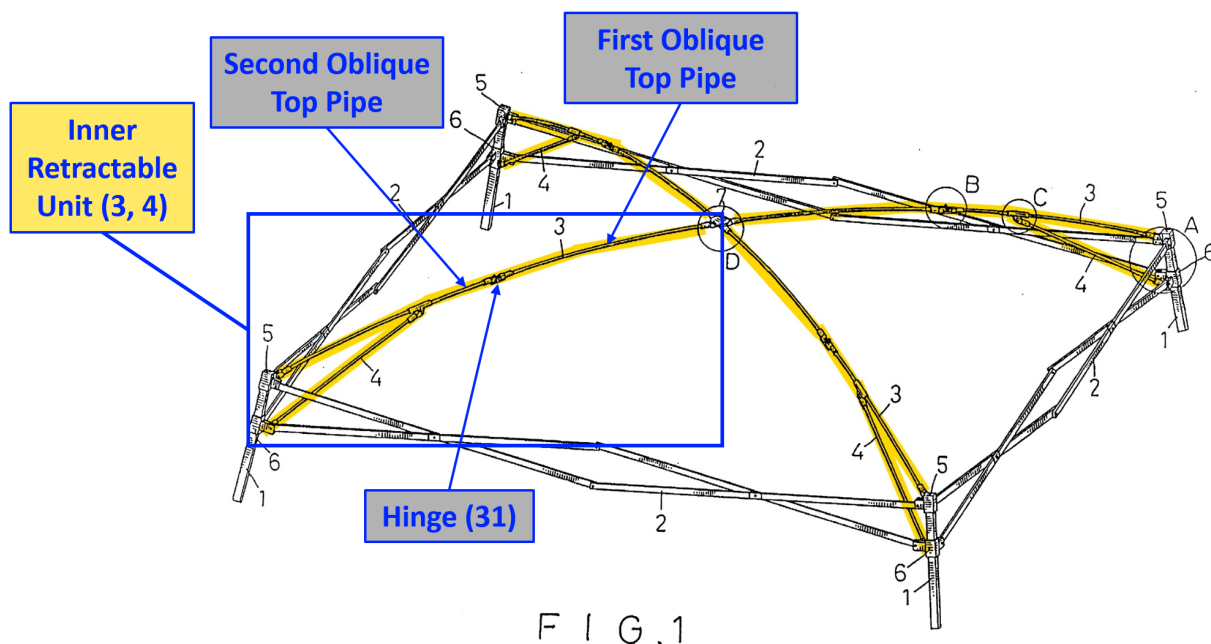


F I G . 2

Id., Fig. 2. Tsai's fixed connectors perform the same function in the same manner as the '738 patent's fixed joints. Ex. 1002 ¶136. Thus, Tsai discloses this limitation. *Id.* ¶¶134-36.

c. **Limitation [B]: “each said inner retractable unit comprises a first oblique top pipe and a second oblique top pipe hinged to one another”**

Tsai discloses that its “canopy support rod[s] 3” (e.g., part of its inner retractable units) “consist[] of two rod members pivotally connected to one another[.]” Ex. 1005, 8:34-9:10. These are shown in Figure 1:



Id., Fig. 1; Ex. 1002 ¶138. Each of Tsai’s rod members are oblique top pipes because they perform the same function in the same manner as the ’738 patent’s oblique top pipes.³ Ex. 1002 ¶138. Thus, Tsai discloses that its inner retractable units comprise first and second oblique top pipes hinged to one another. *Id.* ¶¶137-40.

³ To the extent PO argues Tsai’s canopy support rods are not “oblique top pipes,” it would have been obvious to a POSITA to use top pipes with Tsai’s canopy for the reasons discussed above, including that they were well-known, lightweight, and strong. *See supra* §V.A.3.b; Ex. 1002 ¶139.

d. **Limitation [C][1]: “said first oblique top pipe is hinged with a first connecting rod”**

As discussed above, when combining Rousselle's central lock with Tsai's canopy, it would be preferred to retain Rousselle's hinge 450 and center tube 500, so as to connect Tsai's canopy support rod to both the upper and lower clevis of Rousselle. *Supra* §V.A.3.c.i. A POSITA would have understood that Rousselle's center tube 500 is a connecting rod that would connect with Tsai's first oblique top pipe via Rousselle's hinge 450, and would have been motivated to use such an arrangement for the reasons discussed above. *Id.*; Ex. 1002 ¶142. Rousselle's center tube 500 is shown in Figure 1(A):

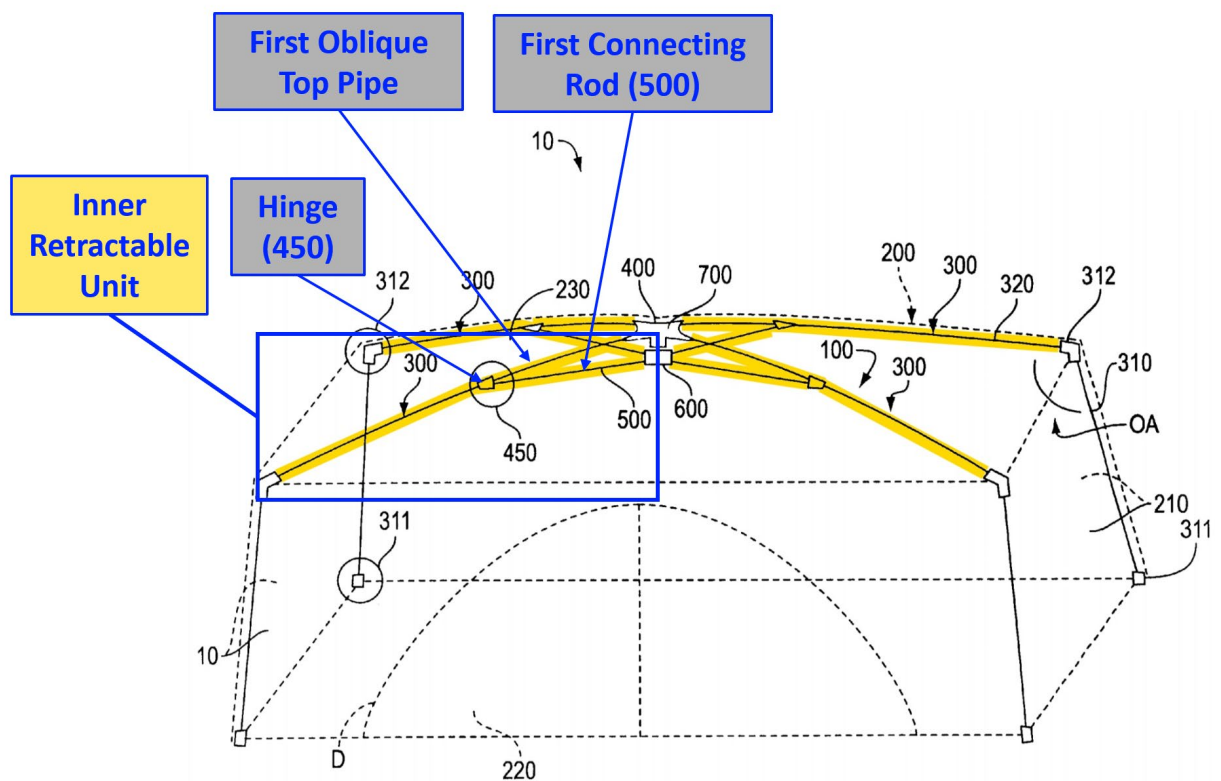
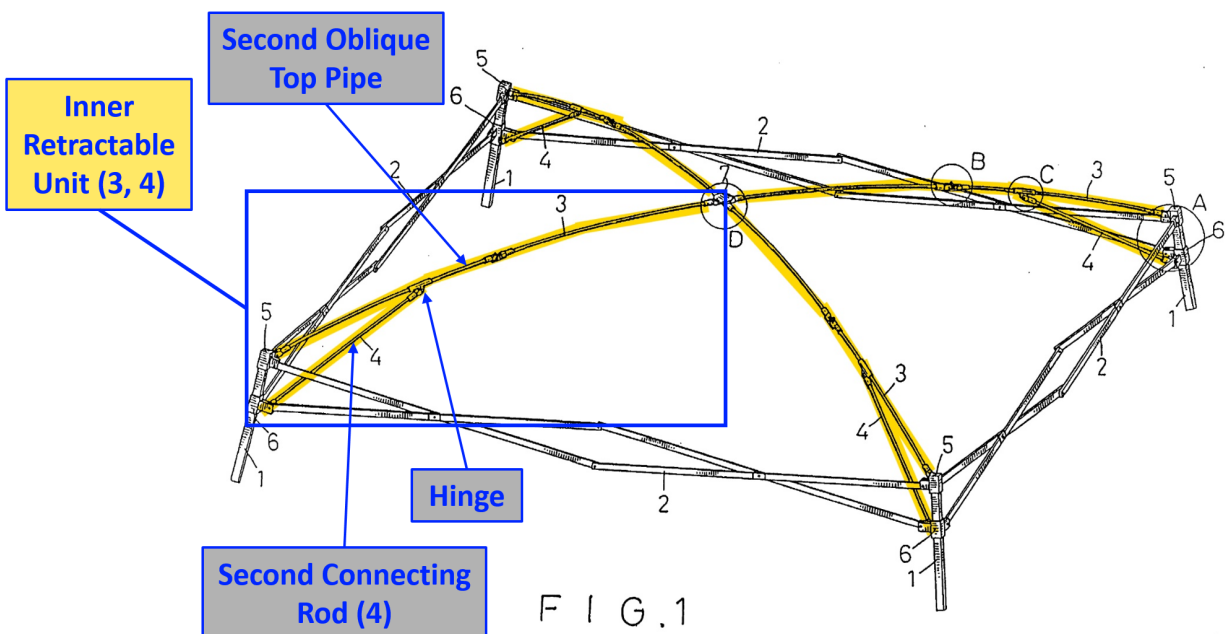


FIG. 1(A)

Ex. 1003, Fig. 1(A); Ex. 1002 ¶142. Thus, Rousselle and Tsai disclose, or at least suggest, this limitation. Ex. 1002 ¶¶141-42.

e. **Limitation [C][2]: “said second oblique top pipe is hinged with a second connecting rod”**

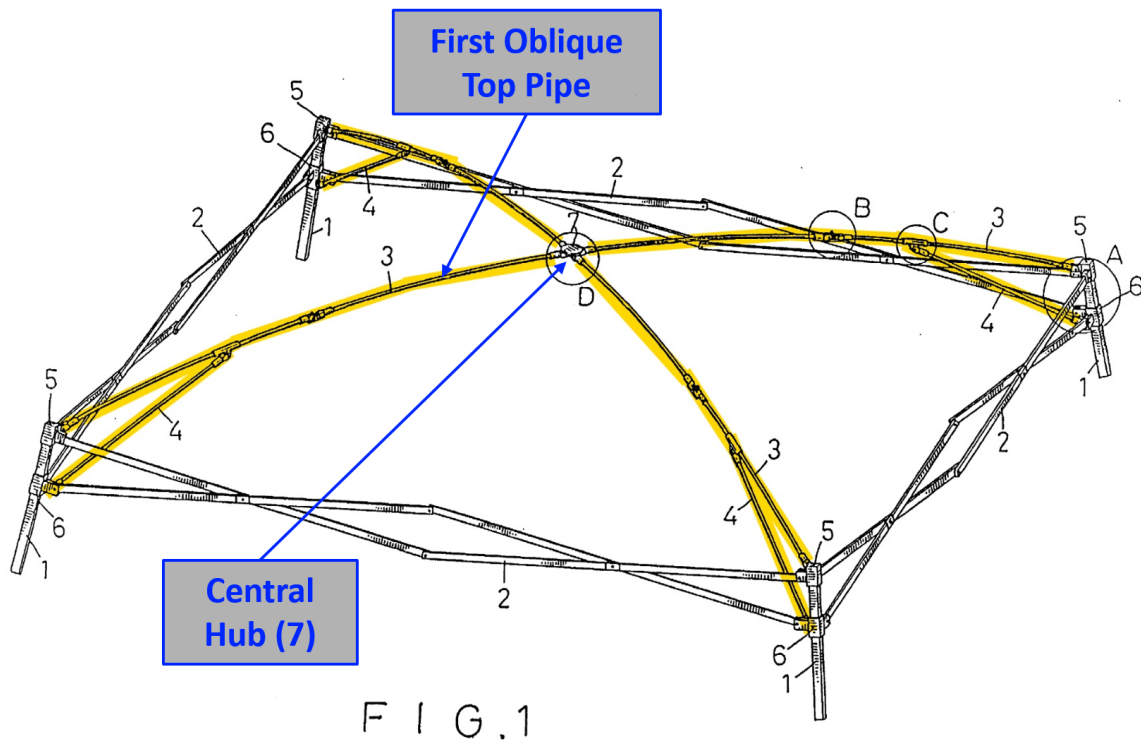
Tsai discloses that its canopy support rods 3 (e.g., including the second oblique top pipes) are “pivotally secured to respective linking rods 4” (e.g., second connecting rods). Ex. 1005, 7:4-20; Ex. 1002 ¶144. This is shown in Figure 1:



Ex. 1005, Fig. 1; Ex. 1002 ¶144. Thus, Tsai discloses this limitation. Ex. 1002 ¶¶143-44.

f. **Limitation [D][1]: “an inner end of said first oblique top pipe is hinged with a center top cap of said central lock”**

Tsai discloses that its canopy support rods 3 (e.g., including the first oblique top pipes) are “pivotally secured to a head 7,” which is a central hub, as shown in Figure 1. Ex. 1005, 7:4-20, Fig. 1; Ex. 1002 ¶146.



Ex. 1005, Fig. 1; Ex. 1002 ¶146. Accordingly, a POSITA would have understood that, when combining Tsai’s inner retractable units with Rousselle’s central lock, the inner end of Tsai’s first oblique top pipe would be hinged to Rousselle’s center top cap because Rousselle’s center top cap serves an analogous purpose to Tsai’s central hub 7. Ex. 1002 ¶146. Thus, Tsai discloses, or at least suggests, this limitation. *Id.* ¶¶145-46.

Furthermore, Rousselle discloses that the inner end of an inner retractable unit (e.g., the inner end of a first oblique top pipe) may attach to its center top cap, as shown in Figure 1(A):

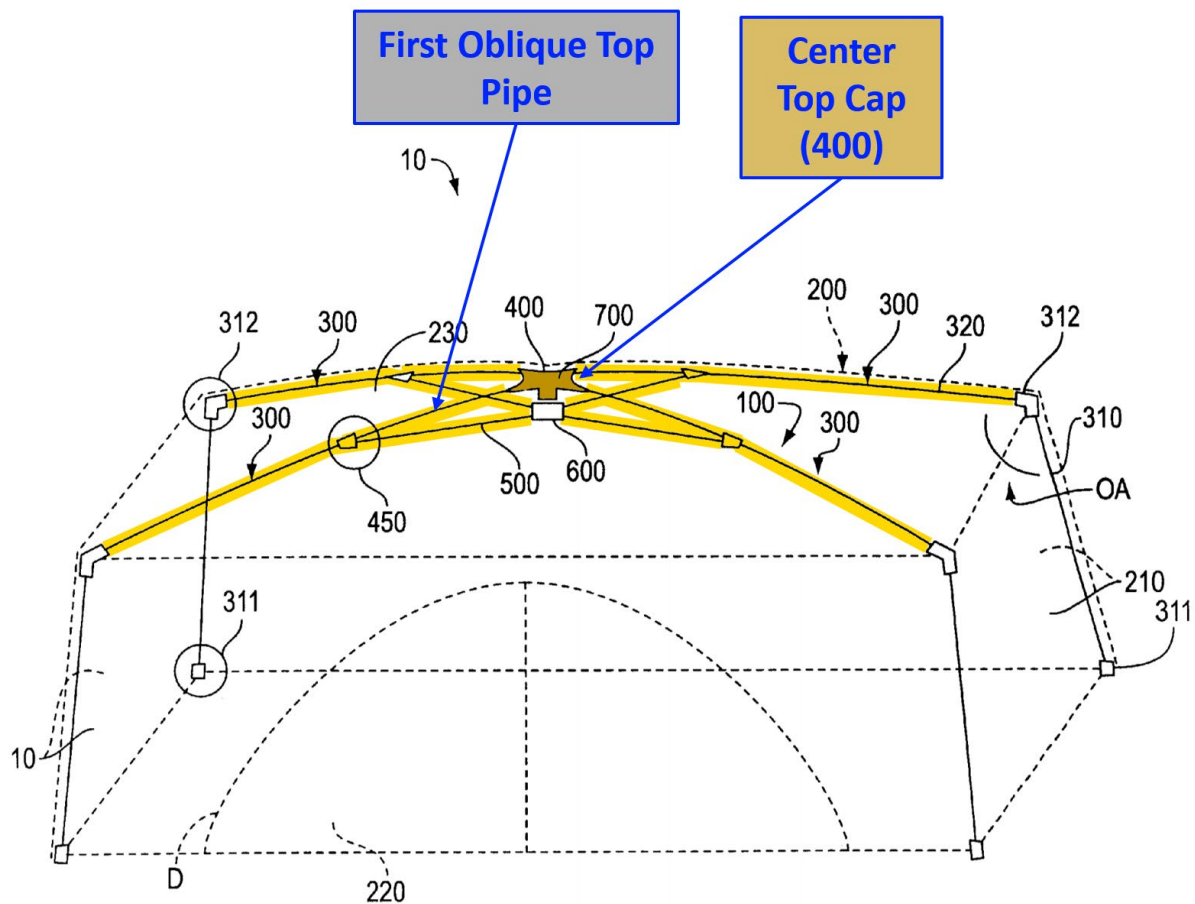


FIG. 1(A)

Ex. 1003, Fig. 1(A); Ex. 1002 ¶147. Thus, Rousselle also discloses, or at least suggests, this limitation. Ex. 1002 ¶147.

g. **Limitation [D][2]: “an inner end of said first connecting rod is hinged with a center bottom cap of said central lock”**

Rousselle discloses that “an inner end of the center tube 500” (e.g., the first connecting rod) “is pivotally connected to a lower clevis 600” (e.g., the center bottom cap). Ex. 1003, 6:61-64; Ex. 1002 ¶149. This is shown in Figure 1(A):

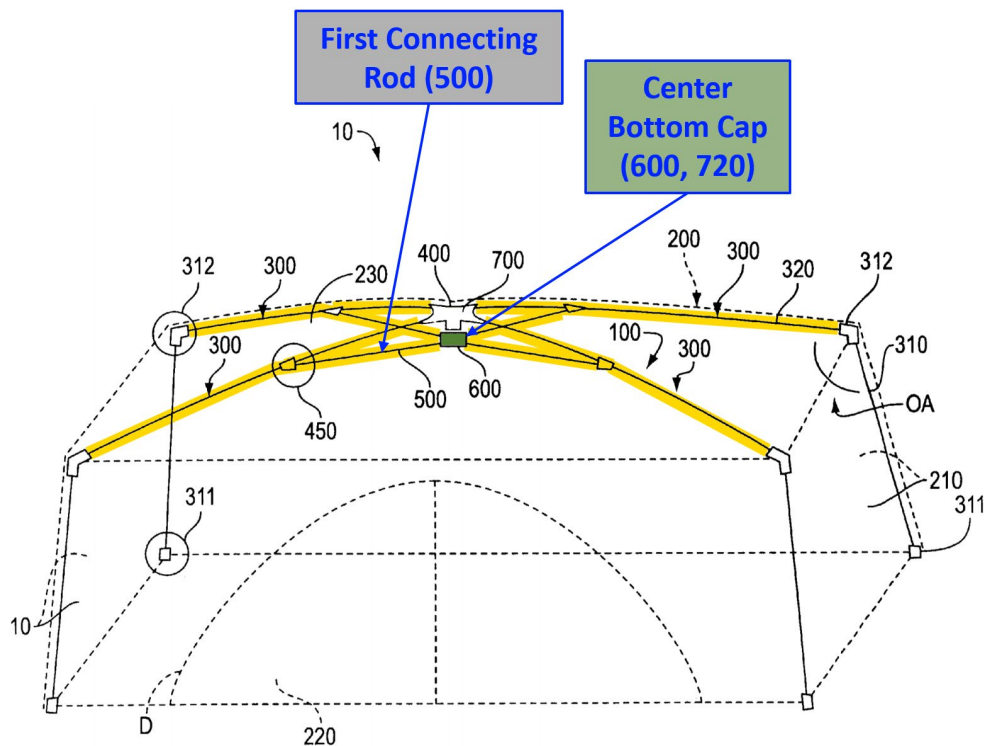


FIG. 1(A)

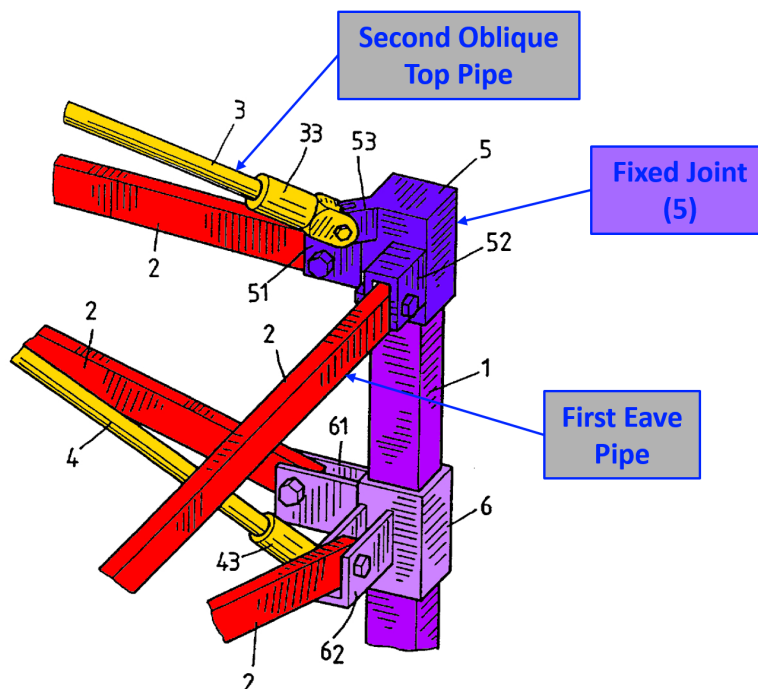
Ex. 1003, Fig. 1(A); Ex. 1002 ¶149. Thus, Rousselle discloses, or at least suggests, this limitation. Ex. 1002 ¶¶148-49.

h. **Limitation [E][1]: “an outer end of a first eave pipe and an outer end of said second oblique top pipe are hinged with said fixed joint”**

As discussed above, Tsai discloses that its “scissors-type linkages 2” (e.g., outer retractable units) are composed of a plurality of x-shaped members that are

each made of two eave pipes hinged with each other. *Supra* §V.A.3.b. Tsai discloses that each of the scissors-type linkages “is pivotally secured to ... one of the poles 1” including through a connection with “fixed connectors 5.” Ex. 1005, 7:4-20. Thus, Tsai discloses that one of the two eave pipes (e.g., a first eave pipe) is hinged to the fixed connector 5 (e.g., the fixed joint). Ex. 1002 ¶151.

Tsai further discloses that “canopy supporting rods 3” (which includes the second oblique top pipes) “are also pivotally secured to ... fixed connectors 5.” Ex. 1005, 7:4-20. Thus, Tsai also discloses that the second oblique top pipe is hinged with the fixed joint. Ex. 1002 ¶152. These connections are shown in Figure 2:



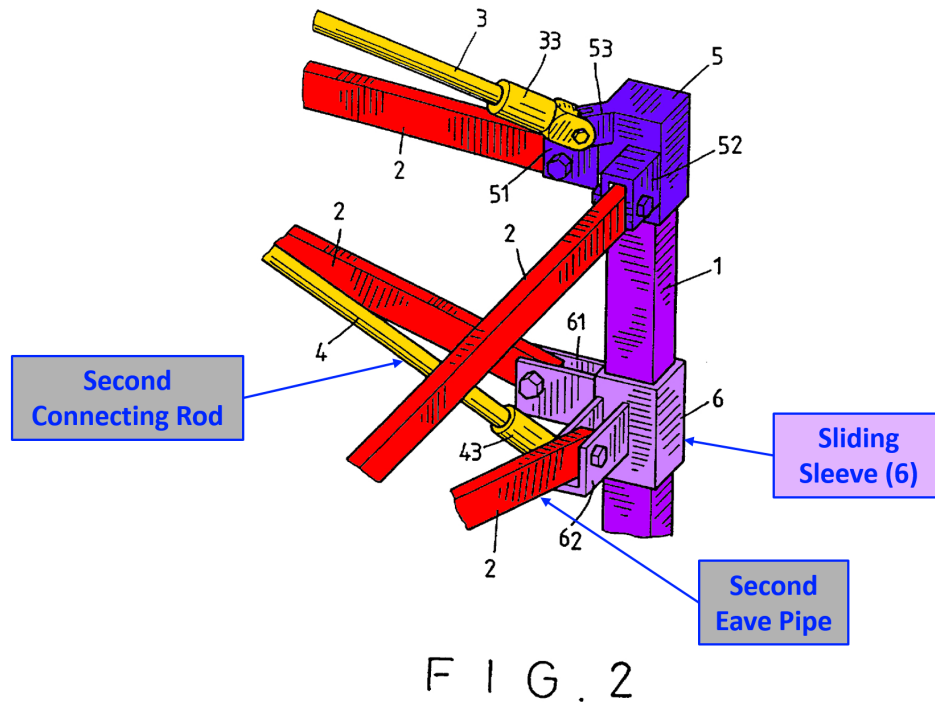
F I G . 2

Ex. 1005, Fig. 2; Ex. 1002 ¶152. Thus, Tsai discloses this limitation. Ex. 1002 ¶¶150-52.

i. **Limitation [E][2]: “an outer end of said second eave pipe and an outer end of said second connecting rod are hinged with said sliding sleeve”**

Tsai discloses that each of its scissors-type linkages “is pivotally secured to ... one of the poles 1” including through a connection with “sliding connectors 6.” Ex. 1005, 7:4-20. Thus, Tsai discloses that one of the two eave pipes (e.g., a second eave pipe) is hinged to the sliding connector 6 (e.g., the sliding sleeve). Ex. 1002 ¶154.

Tsai further discloses that “linking rods 4” (e.g., the second connecting rods) “are pivotally secured to respective sliding connectors 6.” Ex. 1005, 7:4-20. Thus, Tsai also discloses that the second connecting rod is hinged with the sliding sleeve. Ex. 1002 ¶155. These connections are shown in Figure 2:



Ex. 1005, Fig. 2; Ex. 1002 ¶155. Thus, Tsai discloses this limitation. Ex. 1002 ¶¶153-55.

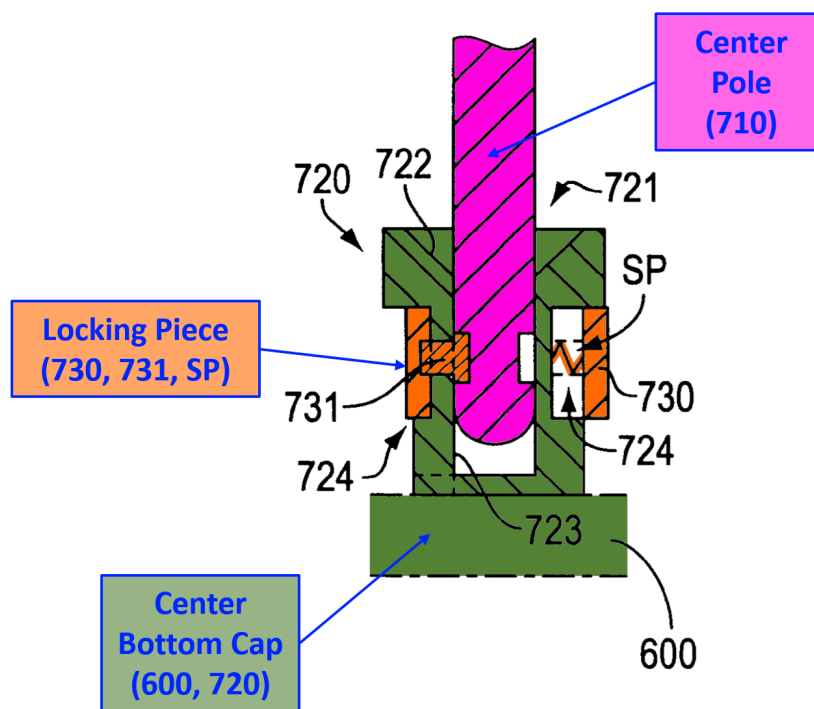
A POSITA would have been motivated to combine Tsai with Rousselle, and would have had a reasonable expectation of success in doing so, for the reasons discussed above. *Supra* §§V.A.3.b; V.A.3.c.i; V.A.d. Thus, Rousselle and Tsai disclose each of the limitations of claim 2, and claim 2 would have been obvious as a whole to a POSITA in view of those references. Ex. 1002 ¶¶130-56.

5. Claim 4

Claim 4 depends from claim 1 and further recites that the central lock comprises:

- a. **Limitation [A]: “a locking piece 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”**

Rousselle’s locking mechanism includes a “ring 730” and attached “pin 731” which are pushed rightwardly in Figure 2(A) by “spring SP.” Ex. 1003, 7:20-31, Fig. 2(A).



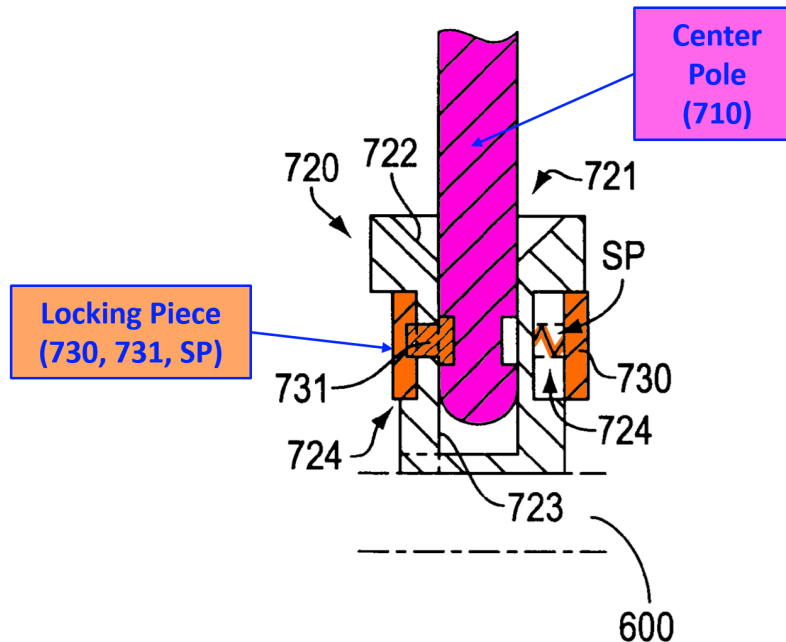
Id., Fig. 2(A). Thus, Rousselle discloses a locking piece (ring 730 and pin 731, as biased by spring SP) that moves back and forth in a radial direction of the center pole 710. Ex. 1002 ¶159. Rousselle’s locking piece is part of, and received in, socket 720 (e.g., part of the center bottom cap). Ex. 1003, 7:1-31, Fig. 2(A); Ex. 1002 ¶159. For example, the locking piece is received in the center bottom cap

because pin 731 (part of the locking piece) extends through a hole in the wall of socket 720 (part of the center bottom cap). Ex. 1003, Fig. 2(A); Ex. 1002 ¶159. Furthermore, Rousselle’s ring 730 (part of the locking piece) is received in annular recess 724 of socket 720 (part of the center bottom cap). *Id.* Accordingly, Rousselle discloses, or at least suggests, this limitation. Ex. 1002 ¶¶158-59; *Global Shade*, Paper 36 at 49-50, 90.

b. **Limitation [B]: “a first through hole through which said center pole can pass through is provided in said locking piece”**

Rousselle’s ring 730 and pin 731, when combined, comprise a first through hole: the interior space of the ring 730, as modified by the protrusion of the pin 731. Ex. 1003, Fig. 2(A); Ex. 1002 ¶161. A POSITA would have understood this to be a through hole at least because the center pole (pin 710) is inserted through that space, as shown in Figure 2(A).⁴ Ex. 1002 ¶161.

⁴ Nothing in the claim limits the through hole from also receiving other structures, such as Rousselle’s socket 720. Ex. 1001, claim 4; Ex. 1002 ¶161.



Ex. 1003, Fig. 2(A); Ex. 1002 ¶161. Thus, Rousselle discloses this limitation. Ex. 1002 ¶¶160-61.

c. **Limitation [C]: “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”**

i. **Clamping Groove**

The '738 patent explains that “the end part of the center pole 2 is provided with a clamping groove 21.” Ex. 1001, 3:45-47. When the center lock is locked, the spring loaded locking piece “is clamped with the clamping groove 21” to lock the center pole 2 to the center bottom cap 3, holding the center lock in the locked state. *Id.*, 3:47-55. Figure 6 of the '738 patent shows one embodiment of such a center pole including a clamping groove:

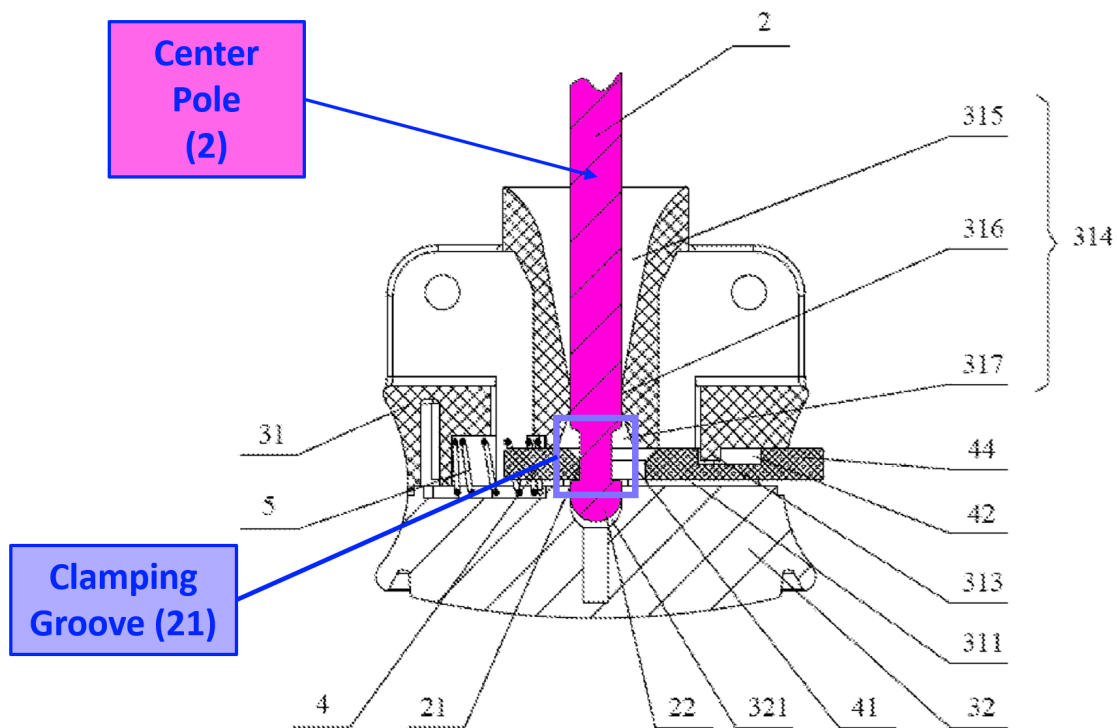


FIG. 6

Id., Fig. 6; Ex. 1002 ¶163.

Rousselle's pin 710 includes a "groove 712" that is clamped by the pin 731 to engage the locking mechanism. Ex. 1003, 7:20-35, Figs. 2(A)-2(C). Groove 712 is a clamping groove that functions in the same way as the '738 patent's clamping groove. *Id.*; Ex. 1002 ¶164.

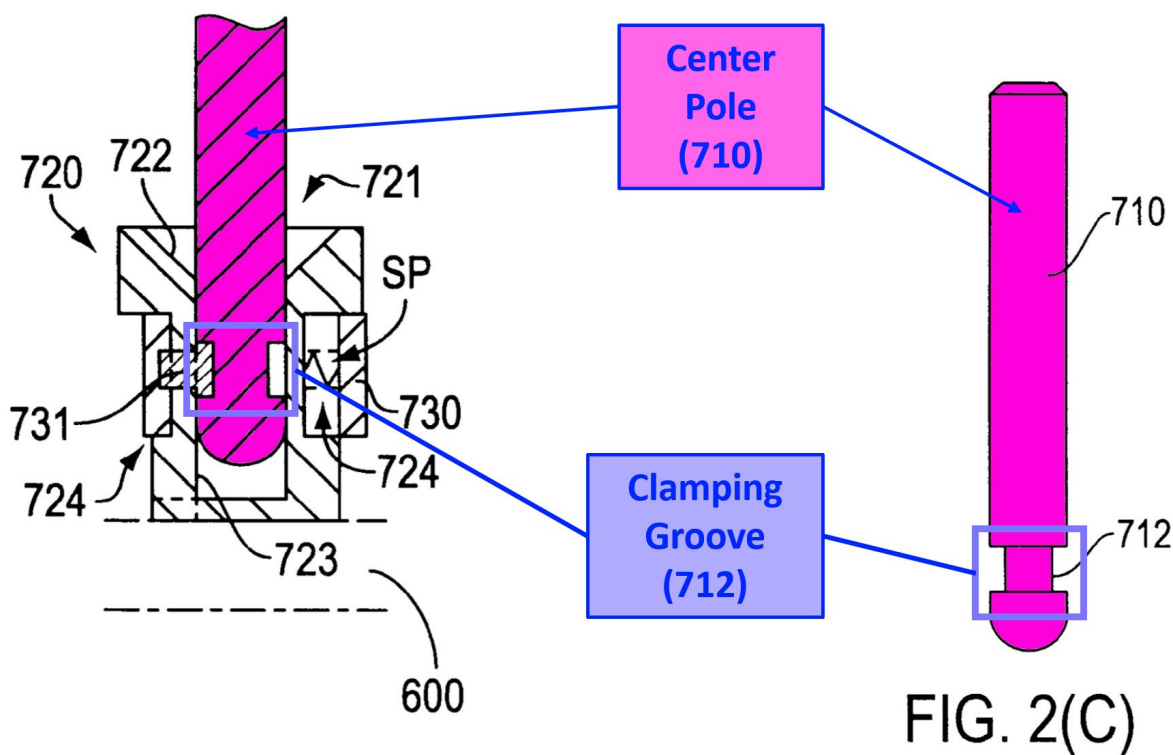


FIG. 2(A)

FIG. 2(C)

Ex. 1003, Figs. 2(A), 2(C). Accordingly, Rousselle discloses this limitation. Ex. 1002 ¶¶162-64; *Global Shade*, Paper 36 at 48.

ii. Clamp Locking Part

The '738 patent explains that when the spring loaded locking piece is engaged with the clamping groove, “an upper end surface of the clamp locking part 22 abuts against a lower end surface of the locking piece 4,” thereby preventing the center pole from being detached from the center bottom cap, and keeping the center lock in a locked state. Ex. 1001, 3:47-55; Ex. 1002 ¶166. Figure 6 of the '738 patent shows one embodiment of such a center pole including a clamp locking part:

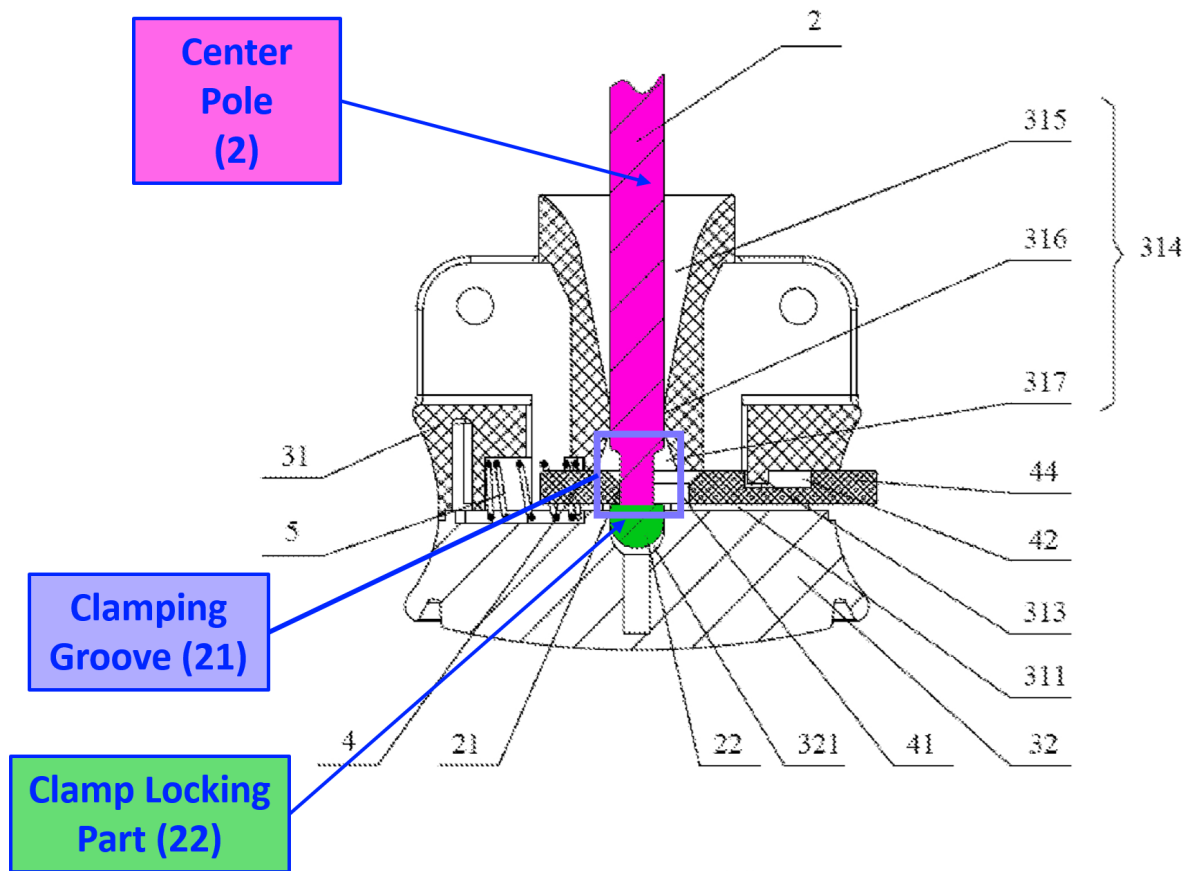


FIG. 6

Ex. 1001, Fig. 6; Ex. 1002 ¶166.

Rousselle's pin 710 includes a rounded, widened area (clamp locking part) located at the lower end of groove 712. *See* Ex. 1003, 7:20-35, Figs. 2(A)-2(C); Ex. 1002 ¶167. Rousselle's clamp locking part functions in the same way as the '738 patent's clamp locking part. *Id.*

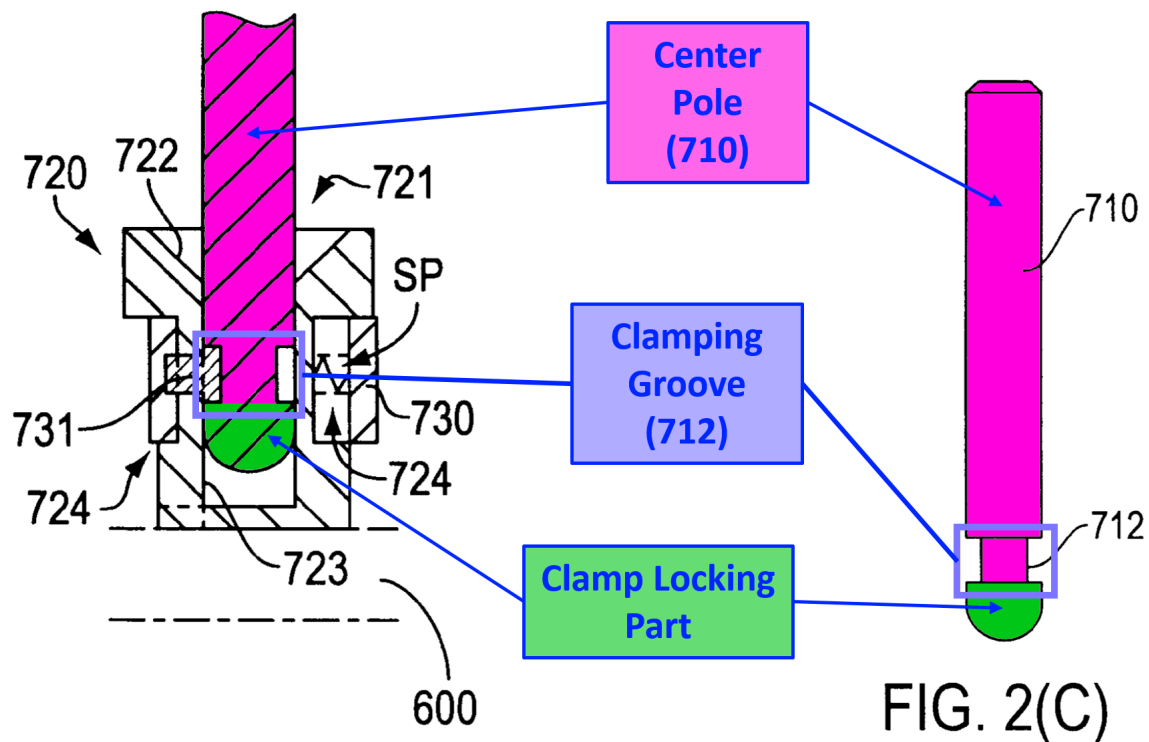


FIG. 2(A)

Ex. 1003, Figs. 2(A), 2(C). Accordingly, Rousselle discloses this limitation. Ex. 1002 ¶¶165-67; *Global Shade*, Paper 36 at 48.

- d. **Limitation [D]: “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”**

Rousselle’s Figure 2(A) shows the central lock in the locked state. *See* Ex. 1003, 4:7-8, 7:20-35, Fig. 2(A).

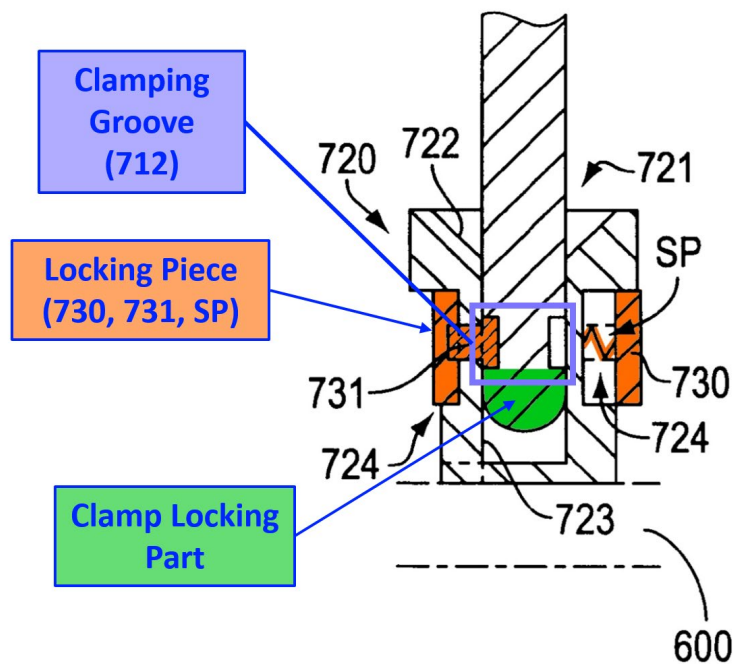


FIG. 2(A)

Id., Fig. 2(A). In the locked state, the end of pin 731 (part of the inner wall of the through hole of the locking piece) “extends ... into a groove 712 in the center pin 710” and thus is clamped with the clamping groove (groove 712). *Id.*, 7:20-31, Fig. 2(A); Ex. 1002 ¶169.

Furthermore, as shown in Figure 2(A), an upper end surface of the clamp locking part is adjacent to a lower end surface of the locking piece (e.g., the lower surface of the pin 731). Ex. 1003, 7:20-31, Fig. 2(A); Ex. 1002 ¶170. A POSITA would have understood Rousselle to disclose that the parts touch, and therefore abut. Ex. 1002 ¶170. A POSITA would have understood that, just as in the '738 patent, Rousselle's clamp locking part and locking piece would be in contact when

the lock was in a locked state because Rousselle's lock experiences the same forces the '738 patent's lock does. *Id.* Thus, Rousselle discloses this limitation. *Id.*

¶¶168-70; *Global Shade*, Paper 36 at 51-52.

- e. **Limitation [E]: “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”**

Rousselle discloses that to unlock the central lock, “the ring 730 can be moved laterally ... to disengage the pin 731 from the groove 712 in the center pin 710.” Ex. 1003, 7:32-35; Ex. 1002 ¶172. Thus, Rousselle discloses that when the central lock is in the unlocked state, the end of the pin 731 (e.g., part of the inner wall of the first through hole of the locking piece) is separated from the clamping groove 712. *Id.* Furthermore, this allows the user to “unlock the vertical pin 710 from the socket 720 mounted on the lower clevis 600.” Ex. 1003, 14:44-50. A POSITA would have understood that once the pin 710 is unlocked from the socket 720, the pin 731 is no longer engaging or retaining the pin 710, and thus the pin 710 (center pole, including the clamp locking part) can pass through the through hole of the locking piece. Ex. 1002 ¶172. Thus, Rousselle discloses this limitation. *Id.* ¶¶171-72.

Accordingly, Rousselle and Tsai disclose, or at least suggest, each of the limitations of claim 4, and claim 4 would have been obvious as a whole to a POSITA in view of those references. *Id.* ¶¶157-73.

6. Claim 14

Claim 14 depends from claim 4 and further recites:

a. Limitation [A]: “said clamping groove is an annular groove”

Rousselle discloses (or, at least, a POSITA would have understood from Rousselle’s disclosure) that groove 712 (e.g., the clamping groove) is an annular groove because it extends around the circumference of the pin 710 and is thus ring-shaped. Ex. 1003, Figs. 2(A)-2(C); Ex. 1002 ¶176.

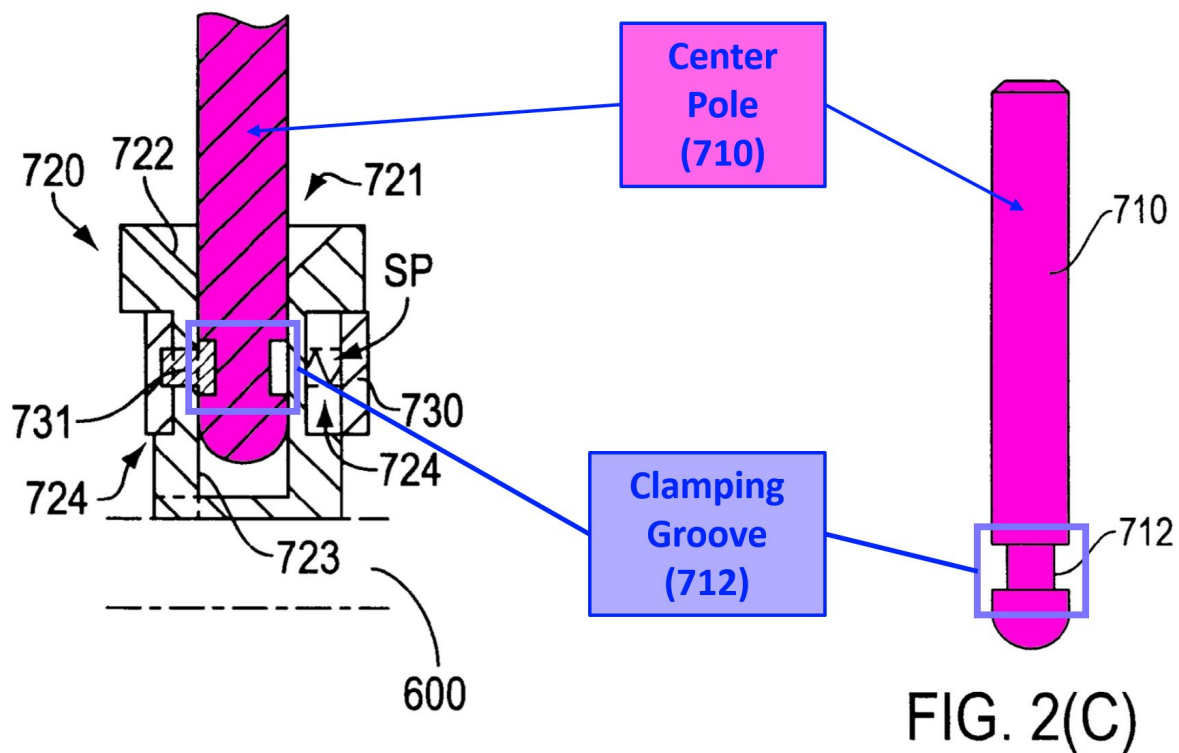


FIG. 2(A)

FIG. 2(C)

Id. Thus, Rousselle discloses, or at least suggests, this limitation. Ex. 1002 ¶¶175-76.

- b. **Limitation [B]: “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”**

Rousselle discloses that the end of its clamp locking part is a guide part that has a semispherical shape. Ex. 1003, Figs. 2(A)-2(C); Ex. 1002 ¶178.

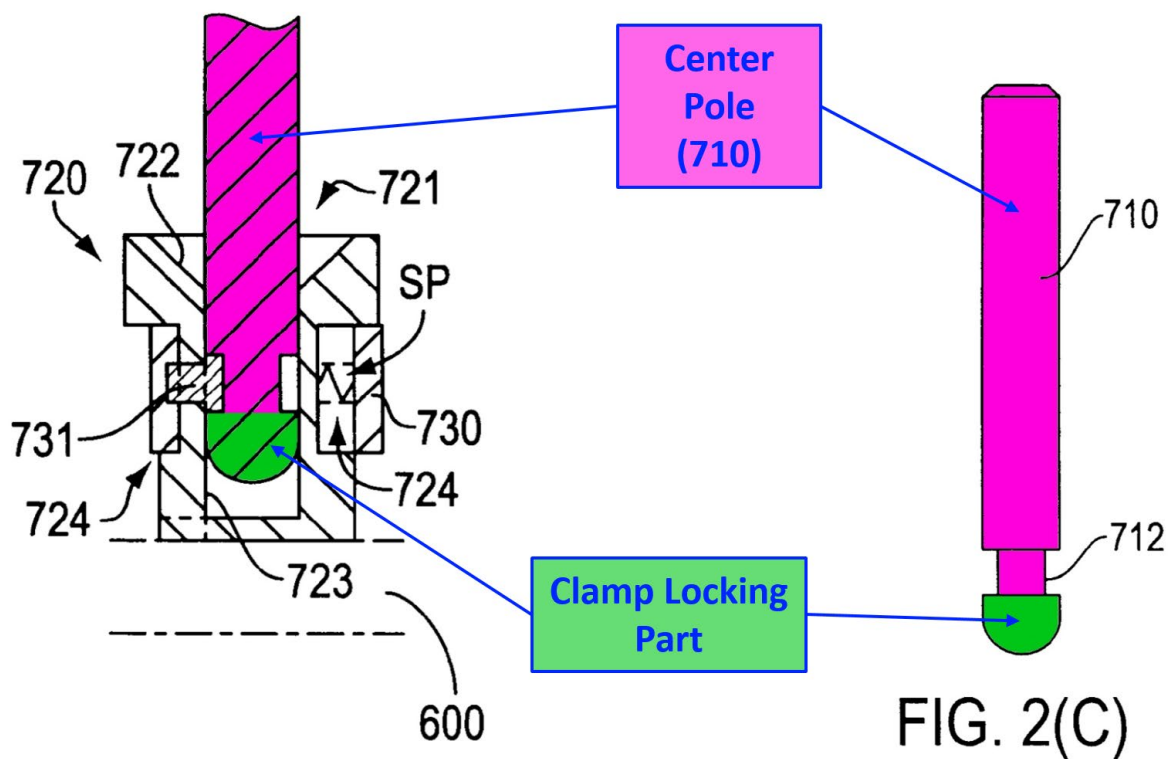


FIG. 2(A)

FIG. 2(C)

Id. Thus, Rousselle discloses, or at least suggests, this limitation. Ex. 1002 ¶¶177-78.

Accordingly, Rousselle and Tsai disclose, or at least suggest, each of the limitations of claim 14, and claim 14 would have been obvious as a whole to a POSITA in view of those references. *Id.* ¶¶174-79.

B. Ground 2: Claims 4, 13, and 14 are Unpatentable Under 35 U.S.C. §103 as Obvious over Rousselle, Tsai, and Ohnishi.

1. Overview of Ohnishi

Ohnishi discloses a central lock for a collapsible cart or carriage. Ex. 1006, 7:18-8:19, Figs. 9-11. Ohnishi's central lock comprises a center pole 63 with a groove 63b that is clamped by a locking piece (65 and 67). *Id.* Ohnishi's locking piece includes a shaped through-hole 66 designed to allow the grooved pole to pass through in an unlocked state (through the larger area 66a) but be securely clamped in a locked state (by the smaller area 66b). *Id.* Ohnishi's central lock is shown in Figures 9-11:

FIG. 9

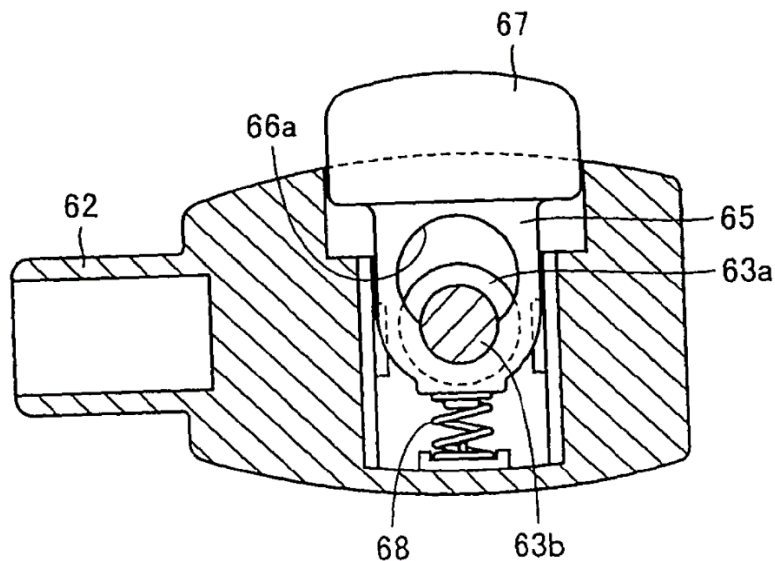


FIG. 10

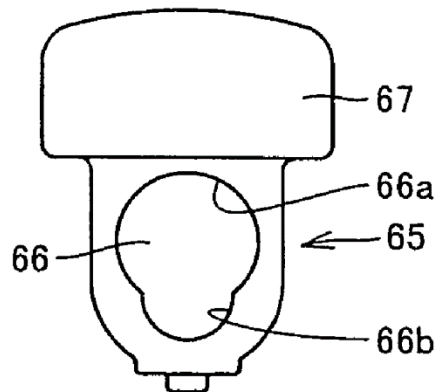
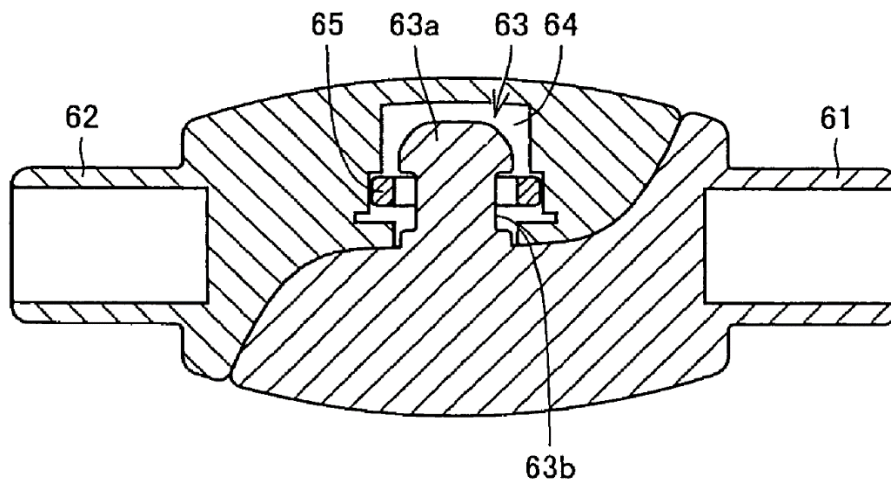


FIG. 11



Id., Figs. 9-11; Ex. 1002 ¶56.

2. Claim 4

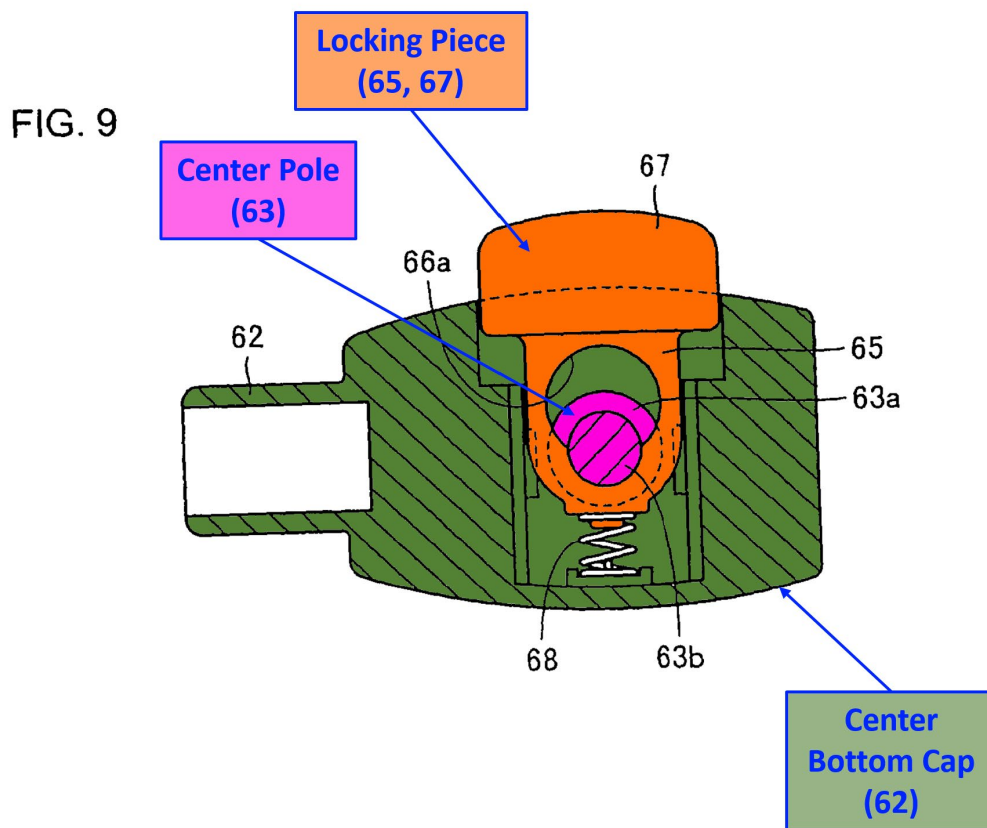
As discussed above, Rousselle and Tsai render claim 4 obvious. *Supra* §V.A.5. Petitioner incorporates its discussion of Rousselle and Tsai here.

However, this Ground replaces Rousselle’s locking piece with Ohnishi’s.⁵ Accordingly, to avoid repetition, Petitioner only addresses below the limitations for which Ohnishi is relevant.

a. Limitation [A]: Locking Piece

Ohnishi’s central lock includes “lock member 65.” Ex. 1006, 7:51-60. “[O]peration member 67 is fixed to an upper end of the lock member 65” and allows the user to press against and move lock member 65. *Id.* When the user presses operation member 67, both operation member 67 and lock member 65 move along a radial direction of Ohnishi’s center pole (fixed shaft 63):

⁵ The Board previously found a claim including each of the limitations discussed below obvious over the same set of references. *Global Shade*, Paper 36 at 89-92 (finding substitute claim 14 unpatentable as obvious).



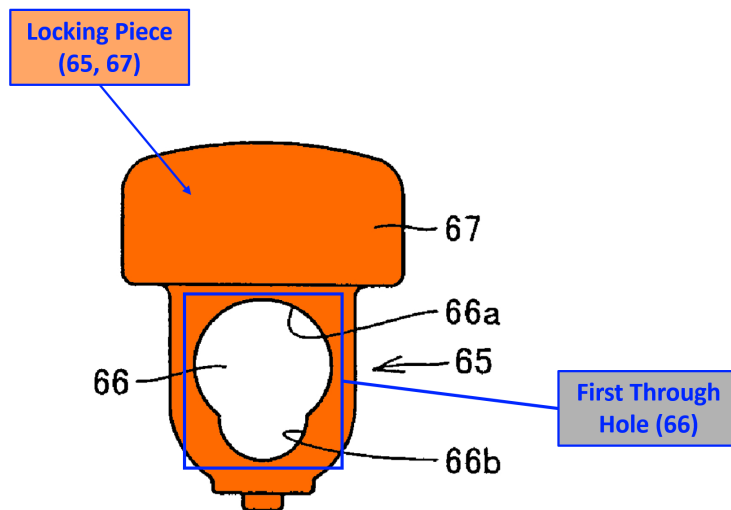
Id., Fig. 9; *id.*, 7:40-8:19; Ex. 1002 ¶182. Together, lock member 65 and operation member 67 form a locking piece capable of moving back and forth along a radial direction of the center pole (fixed shaft 63) when pressed by a user or acted on by spring 68. Ex. 1002 ¶182. Furthermore, Ohnishi’s lock member 65 is “located within the shaft receiving space 64 of the second handle arm 62” and is thus received in Ohnishi’s second handle arm 62 (Ohnishi’s center bottom cap). Ex. 1006, 7:51-60. Accordingly, Ohnishi discloses and/or renders obvious this limitation. Ex. 1002 ¶¶181-83; *see Global Shade*, Paper 36 at 89-92.

b. Limitation [B]: Through Hole

Ohnishi's locking piece (which includes lock member 65) comprises "through hole 66" which includes "large-diameter hole 66a" and "small-diameter hole 66b formed so as to overlap" with large-diameter hole 66a, forming a contiguous through hole. Ex. 1006, 7:40-50; *id.* 7:61-8:29, Figs. 9-12. Ohnishi discloses that "the head portion 63a of the fixed shaft 63" (e.g., part of the center pole) "passes through the large-diameter hole 66a of the lock member 65" (e.g., part of the first through hole). *Id.*, 7:61-8:19.

Ohnishi's through hole is shown in Figure 10:

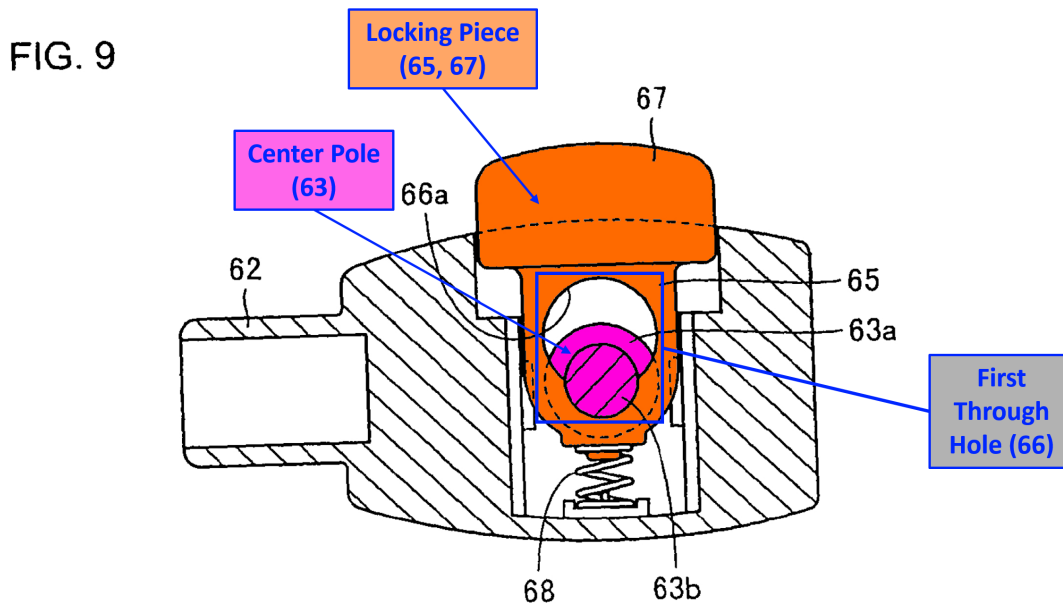
FIG. 10



Id., Fig. 10, Fig. 9; Ex. 1002 ¶185. Accordingly, Ohnishi discloses and/or renders obvious this limitation. Ex. 1002 ¶¶184-86; *see Global Shade*, Paper 36 at 89-92.

c. Limitation [D]: Locked State

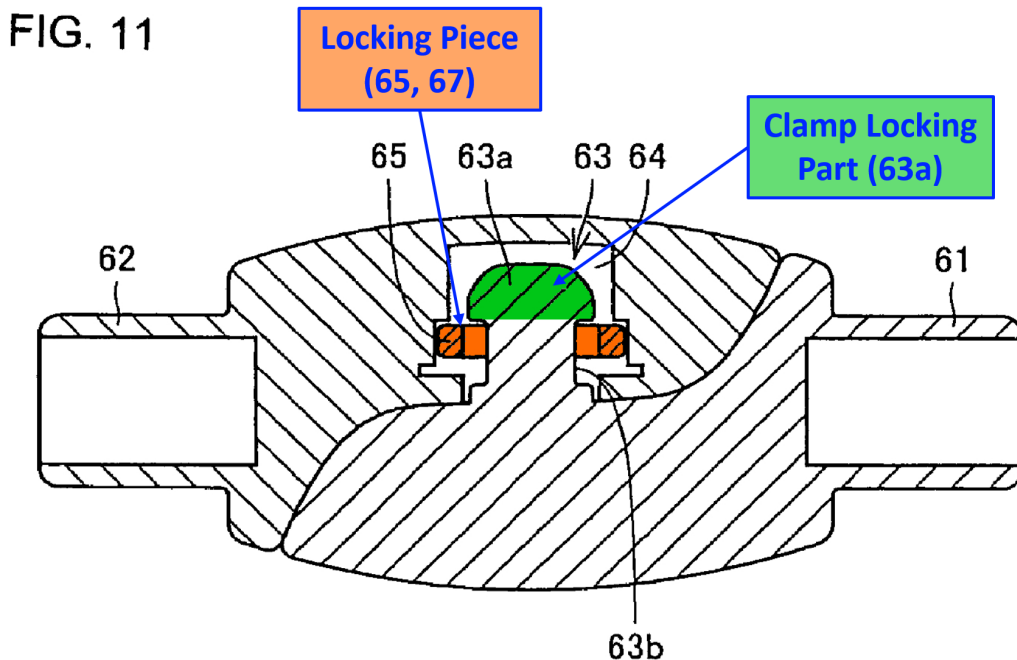
When Ohnishi's central lock (connection mechanism) is "in a fixedly connected state" (e.g., locked), "the neck portion 63b of the fixed shaft 63 ... fits in the small-diameter hole 66b of the lock member 65[.]" Ex. 1006, 7:61-8:3. Thus, in the locked state, part of Ohnishi's first through hole (small-diameter hole 66b) is clamped with the clamping groove (neck portion 63b) of the center pole. Ex. 1002 ¶188. This is shown in Figure 9:



Ex. 1006, Fig. 9; Ex. 1002 ¶188.

Furthermore, in the locked state, Ohnishi's "lock member 65 is interposed between the head portion 63a of the fixed shaft 63 and the first handle arm 61." Ex. 1006, 7:61-8:3. Thus, in the locked state, an upper end surface of Ohnishi's

clamp locking part (head portion 63a) abuts a lower end surface of the locking piece (which includes lock member 65). Ex. 1002 ¶189. Figure 11 shows this:



Ex. 1008, Fig. 11; Ex. 1002 ¶189. A POSITA would have understood Ohnishi to disclose that the two parts touch, and therefore abut. Ex. 1002 ¶189. Even if Ohnishi did not disclose that the two parts abut, a POSITA would have understood that the two parts abut when combined with Rousselle's lock and canopy, as discussed below. *Id.* ¶189; *see infra* §V.B.2.e. Accordingly, Ohnishi discloses and/or renders obvious this limitation. Ex. 1002 ¶¶187-89; *see Global Shade*, Paper 36 at 89-92.

d. Limitation [E]: Unlocked State

To unlock Ohnishi's central lock, "the operation member 67 is pressed down to move the lock member 65 In this position, the large-diameter hole 66a of the lock member 65 is aligned with the head portion 63a of the fixed shaft 63. Accordingly ... the head portion 63a of the fixed shaft 63 passes through the large-diameter hole 66a of the lock member 65[.]" Ex. 1006, 8:4-14. Thus, in an unlocked state, Ohnishi's lock member 65 is moved from its locked position and is instead aligned with the head portion 63a of the fixed shaft 63, which a POSITA would have understood to mean that the inner wall of the first through hole (through hole 66) is separated from the clamping groove (neck portion 63b). Ex. 1002 ¶191. Furthermore, Ohnishi's clamp locking part (head portion 63a) passes through the first through hole (through hole 66). *Id.* Accordingly, Ohnishi discloses and/or renders obvious this limitation. *Id.* ¶¶190-92; *see Global Shade*, Paper 36 at 89-92.

e. Motivation to Combine

A POSITA would have been motivated to combine Ohnishi's locking piece with Rousselle's lock (thereby replacing Rousselle's locking piece) for several reasons. Ex. 1002 ¶¶193-98. First, Ohnishi's locking piece was known in the art, and interacts with a center pole essentially identical to Rousselle's, leading a POSITA to reasonably expect success in the combination. *Id.* ¶194; *see* Ex. 1006.

Second, the combination represents nothing more than the simple addition of one known element (Ohnishi's locking piece) to another known element (Rousselle's lock) to obtain predictable results (a lock as in Rousselle with a locking piece as in Ohnishi). Ex. 1002 ¶195; *see KSR*, 550 U.S. at 417.

Third, the combination represents the use of a known technique (using a locking piece as in Ohnishi) to improve a similar device and method (Rousselle's lock) in the same way. Ex. 1002 ¶196; *KSR*, 550 U.S. at 417.

Fourth, the combination applies a known technique (including a locking piece as in Ohnishi) to a known device and method (Rousselle's lock) that is ready for improvement and yields predictable results (a lock that utilizes a locking piece as in Ohnishi). Ex. 1002 ¶197; *KSR*, 550 U.S. at 417.

A POSITA would have understood that when combining Rousselle's lock with Ohnishi's locking piece, Ohnishi's locking piece would, or could easily be modified to, engage the clamping groove of Rousselle's center pole because Ohnishi's center pole is of the same design and essentially identical. Ex. 1002 ¶198. Ohnishi's locking piece would engage Rousselle's clamping groove in exactly the same way; it would have been received in Rousselle's center bottom cap in exactly the same way; it would have moved along a radial direction of Rousselle's center pole in the same way; and it would allow Rousselle's center pole to pass through its through hole in exactly the same way. *Id.* Furthermore,

Rousselle's lock would continue to work exactly the same way as before; for example, an upper end surface of Rousselle's clamp locking part and a lower end surface of Ohnishi's locking piece would be in contact (e.g., abut) when the lock is in a locked state because the combined lock experiences the same forces Rousselle's original lock (and the '738 patent's lock) does. *Id.*

Accordingly, Rousselle, Tsai, and Ohnishi disclose, or at least suggest, each of the limitations of claim 4, and claim 4 would have been obvious as a whole to a POSITA in view of those references. *Id.* ¶¶180-99; see *Global Shade*, Paper 36 at 89-92.

3. Claim 13

Claim 13 depends from claim 4 and further recites that “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, and said through hole part has a diameter greater than that of said clamp locking part.”

a. Clamping Hole Part

Ohnishi's first through hole (through hole 66) includes “a small-diameter hole 66b” which has a diameter “slightly larger than that of the neck portion 63b” (the clamping groove). Ex. 1006, 7:40-50; *id.*, 7:61-8:29, Figs. 9-10. Thus, Ohnishi's first through hole (through hole 66) comprises a clamping hole part

(small-diameter hole 66b) which has a diameter not smaller than (e.g., slightly larger than) the clamping groove (neck portion 63b). *Id.*; Ex. 1002 ¶202.

Figures 9 and 10 show Ohnishi's clamping hole part:

FIG. 10

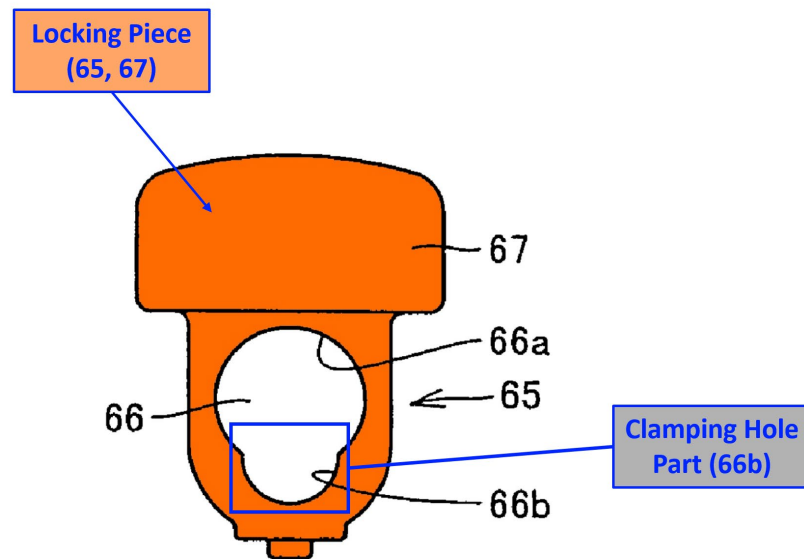
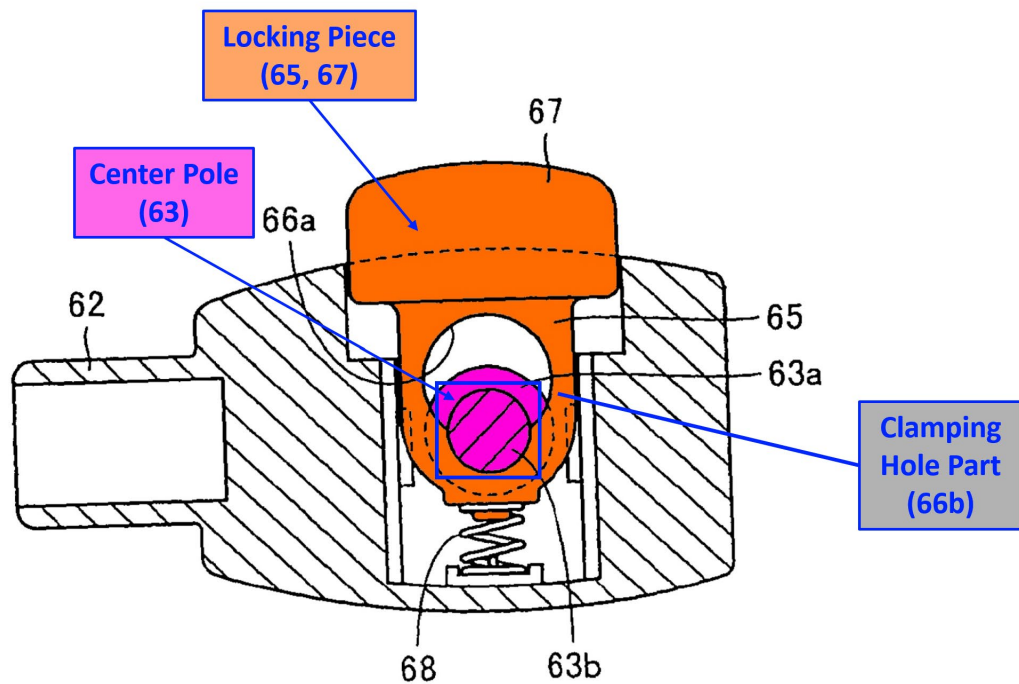


FIG. 9



Ex. 1006, Figs. 9-10; Ex. 1002 ¶202. A POSITA would have understood that, when combined with Rousselle’s lock, Ohnishi’s locking piece would function the same way (e.g., would comprise a clamping hole part with a diameter slightly larger than Rousselle’s clamping groove). Ex. 1002 ¶203.

Accordingly, Ohnishi discloses and/or renders obvious this limitation. *Id.* ¶¶201-03.

b. Through Hole Part

Ohnishi’s first through hole (through hole 66) includes “a large-diameter hole 66a” which has a diameter “larger than that of the head portion 63a of the fixed shaft 63” (the clamp locking part). Ex. 1006, 7:40-50; *id.*, 7:61-8:29, Figs. 9-10; Ex. 1002 ¶205.

Figures 9 and 10 show Ohnishi’s through hole part:

FIG. 9

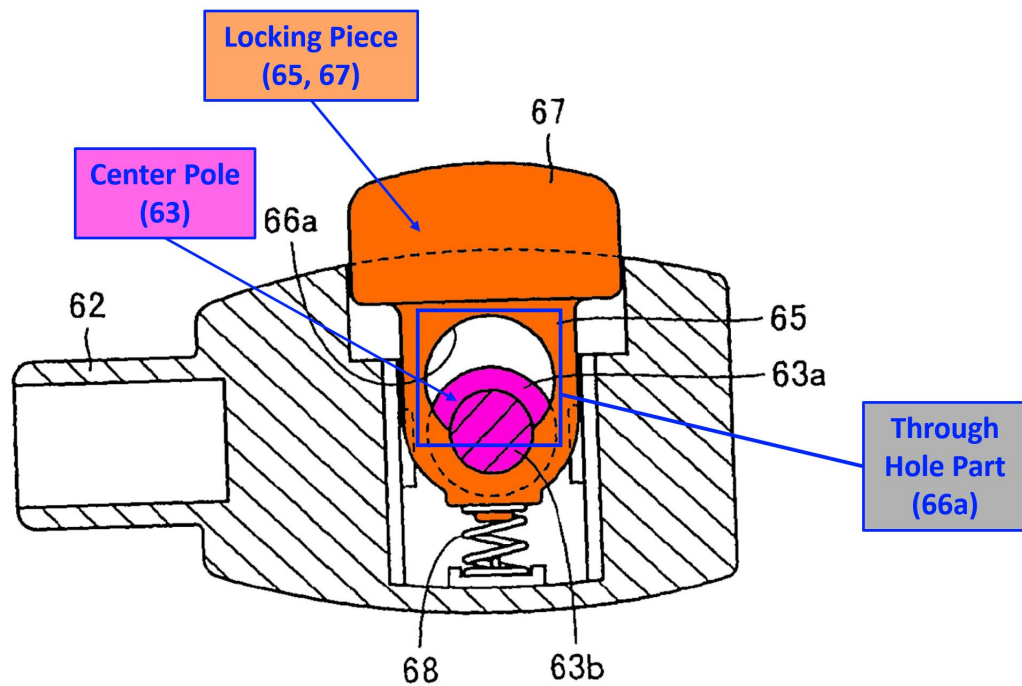
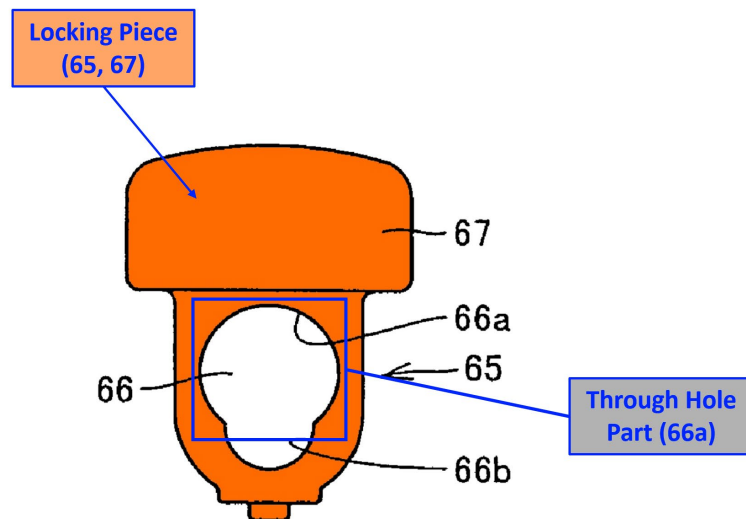


FIG. 10



Ex. 1006, Figs. 9-10; Ex. 1002 ¶205.

The clamping hole part (small-diameter hole 66b) and the through hole part (large-diameter hole 66a) are arranged side by side. Ex. 1006, 7:40-50 (“small-diameter hole 66b” is “formed so as to overlap a ... part of the large-diameter hole

66a”), Figs. 9-10; Ex. 1002 ¶206. A POSITA would have understood that, when combined with Rousselle’s lock, Ohnishi’s locking piece would function the same way (e.g., would comprise a through hole part with a diameter larger than Rousselle’s clamp locking part). Ex. 1002 ¶207.

Accordingly, Ohnishi discloses and/or renders obvious this limitation. *Id.* ¶¶204-07.

Thus, Rousselle, Tsai, and Ohnishi disclose, or at least suggest, each of the limitations of claim 13, and claim 13 would have been obvious as a whole to a POSITA in view of those references. *Id.* ¶¶200-08.

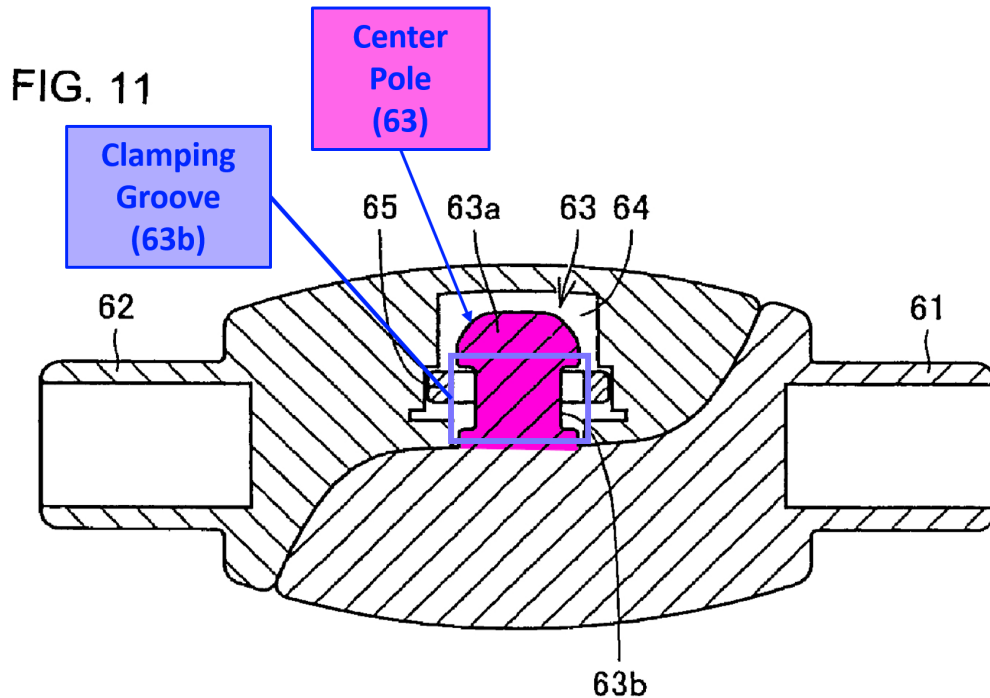
4. Claim 14

Claim 14 depends from claim 4 and is obvious for the reasons discussed above in Ground 1. *Supra* §V.A.6. Additionally, claim 14 is obvious in further view of Ohnishi.

a. Limitation [A]: Annular Groove

Ohnishi discloses a center pole with an annular clamping groove. Ex. 1002 ¶211. Ohnishi discloses (or a person of ordinary skill in the art would have understood from Ohnishi’s disclosure) that its “fixed shaft 63,” which is a center pole, includes a “neck portion 63b having a smaller diameter” (e.g., a clamping groove). Ex. 1006, 7:33-39; *id.*, 7:40-50, 7:61-8:29, Figs. 9, 11-12. Ohnishi shows

that the neck portion 63b is an annular groove because it extends around the circumference of the shaft 63 and is thus ring-shaped. *Id.*; Ex. 1002 ¶211.

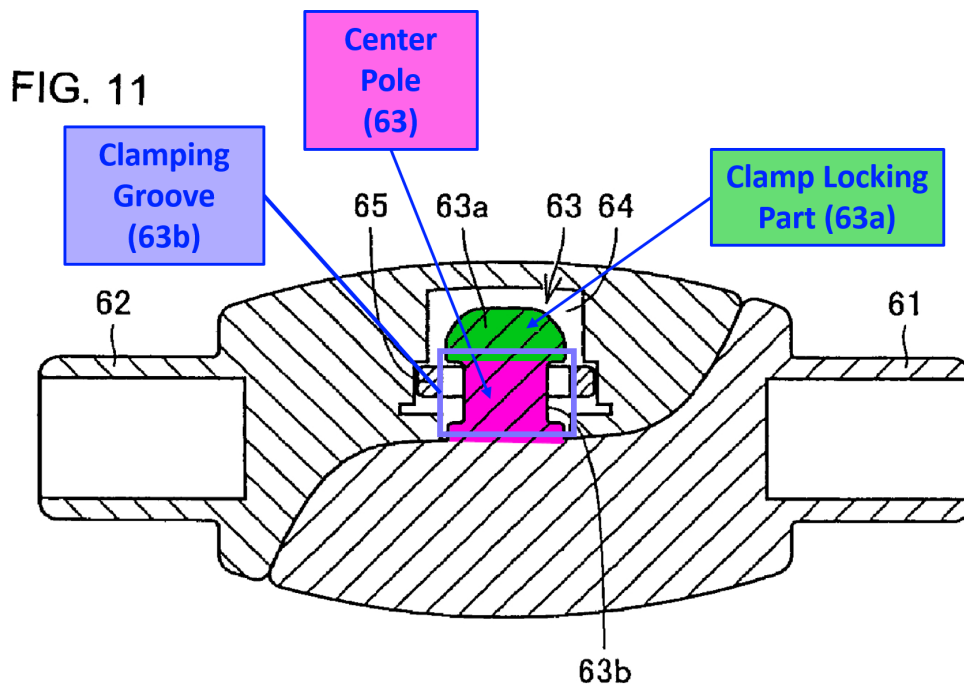


Ex. 1006, Fig. 11; Ex. 1002 ¶211. To the extent Rousselle's center pole did not have an annular groove, a POSITA would have been motivated to replace Rousselle's center pole with Ohnishi's, or to include an annular groove in Rousselle's center pole, because such a design was intended to work with Ohnishi's locking piece. Ex. 1002 ¶211. Thus, Ohnishi discloses, or at least suggests, this limitation. *Id.* ¶¶210-11.

b. Limitation [B]: Guide Part

Ohnishi discloses that the end of its center pole is a guide part that includes a clamp locking part with a semispherical shape. Ex. 1002 ¶213. Ohnishi discloses

that its center pole (fixed shaft 63) includes a “head portion 63a having a larger diameter” (e.g., a clamp locking part). Ex. 1006, 7:33-39; *id.*, 7:40-50, 7:61-8:29, Figs. 9, 11-12. As shown in Figure 11, the head portion 63a includes a guide part with a semispherical shape:



Id., Fig. 11; Ex. 1002 ¶213. To the extent Rousselle’s clamp locking part did not have a guide part with a semispherical shape, a POSITA would have been motivated to replace Rousselle’s center pole (including its clamp locking part) with Ohnishi’s, or to include a guide part with a semispherical shape in Rousselle’s clamp locking part, because such a design was intended to work with Ohnishi’s locking piece. Ex. 1002 ¶213. Thus, Ohnishi discloses, or at least suggests, this limitation. *Id.* ¶¶212-13.

Accordingly, Rousselle, Tsai, and/or Ohnishi disclose, or at least suggest, each of the limitations of claim 14, and claim 14 would have been obvious as a whole to a POSITA in view of those references. *Id.* ¶¶209-14.

VI. COLLATERAL ESTOPPEL

The doctrine of collateral estoppel applies in IPR proceedings. *Papst Licensing GMBH & Co. KG v. Samsung Elecs. Am., Inc.*, 924 F.3d 1243, 1251 (Fed. Cir. 2019). In this case, the doctrine compels a finding that at least claims 1 and 4 of the '738 patent are invalid as obvious based on the Board's prior decision in *Global Shade Corp. v. With-U E-Commerce (Shanghai) Co., Ltd.*, IPR2021-00365, Paper 36 (P.T.A.B. July 25, 2022).

For collateral estoppel to apply, the following conditions must be true:

- (1) the issue is identical to one decided in the first action;
- (2) the issue was actually litigated in the first action; (3) resolution of the issue was essential to a final judgment in the first action; and (4) [the party against whom collateral estoppel is being asserted] had a full and fair opportunity to litigate the issue in the first action.

In re Freeman, 30 F.3d 1459, 1465 (Fed. Cir. 1994). Each is true here.

A. The Issues Are Identical

For the issues to be identical, it is not required that the claims themselves be identical. *Soverain Software LLC v. Victoria's Secret Direct Brand Mgmt., LLC*, 778 F.3d 1311, 1319 (Fed. Cir. 2015). Rather, the issues of patentability must be identical. *Ohio Willow Wood Co. v. Alps S., LLC*, 735 F.3d 1333, 1342 (Fed. Cir.

2013). Collateral estoppel applies so long as any differences between the claims “do not materially alter the question of invalidity.” *Id.* Here, there are several differences between the claims, none of which are substantive.⁶ The table below compares claims 1 and 4 of the ’738 patent with the analogous claims from *Global Shade*:

’738 patent claim 1	<i>Global Shade</i>
A collapsible canopy frame, comprising:	[’710 patent claim 8] A collapsible canopy with a center lock, said collapsible canopy comprising:
A. at least three supporting legs,	[’710 patent claim 8] 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,	[’710 patent claim 8] B. a plurality of outer retractable units connected between every two adjacent supporting legs, and
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	[’710 patent claim 8] C. a plurality of inner retractable units connected to each supporting leg, wherein said outer retractable units and said inner retractable units form a roof frame for said collapsible canopy, and
D. a central lock, comprising:	[’710 patent claim 8] D. a center lock,

⁶ The Patent Office rejected the ’738 patent’s claims due to double patenting over the ’710 patent, and With-U filed a terminal disclaimer, further confirming that there is no material difference between the claims. Ex. 1014, 152, 182.

	... said center lock comprising:
1. a center top cap,	[’710 patent claim 8] i. a center top cap,
2. a center bottom cap,	[’710 patent claim 8] iii. a center bottom cap ...
3. a center pole positioned between said center top cap and said center bottom cap,	[’710 patent claim 8] ii. a center pole, comprising: 1. a center pole top end rigidly connected to said center top 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,	[’710 patent claim 8] wherein when said center lock is in a locked state, said spring loaded locking piece is engaged with said clamping groove and said clamp locking part is inserted into said clamp locking part receiving section, wherein when said center lock is in an unlocked state said center pole is detached from said center bottom cap. [’710 patent claim 11] wherein said collapsible canopy is locked by pressing upwards on said center bottom cap until said center bottom cap is locked onto said clamping groove of said center pole and wherein said collapsible canopy is unlocked by disengaging said locking piece from said clamping groove of said center pole and by lowering said center bottom cap away from said center pole.
wherein said inner ends of said inner retractable units are connected through said central lock.	[’710 patent claim 8] wherein said plurality of inner retractable units are connected through said center lock
’738 patent claim 4	Global Shade
The collapsible canopy frame as in claim 1, where said central lock further comprises:	[Proposed substitute claim 14] The collapsible canopy as in claim 8,
a locking piece capable of moving back and forth along a radial direction of said center pole,	[’710 patent claim 8] 1. a spring loaded locking piece for engaging said clamping groove

	[Proposed substitute claim 14] said locking piece being capable of moving back and forth along a radial direction of the center pole,
wherein said locking piece is received in said center bottom cap,	[Proposed substitute claim 14] a locking piece that is received in the center bottom cap
a first through hole through which said center pole can pass through is provided in said locking piece, and	[Proposed substitute claim 14] said locking piece being provided with a first through hole through which the center pole can pass through
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;	[’710 patent claim 8] ii. a center pole, comprising: ... 3. a clamping groove, and 4. a clamp locking part located at the lower end of said clamping groove, and
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	[Proposed substitute claim 14] the locking piece is, when in the locked state, located such that part of an inner wall of the first through hole of the locking piece is clamped with the clamping groove of the center pole and an upper surface of the clamp locking part abuts against a surface of the locking piece
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.	[Proposed substitute claim 14] the clamp locking part at the lower end of the clamping groove is, when in the unlocked state, located so that the inner wall of the first through hole of the locking piece is separated from the clamping groove and the clamp locking part can pass through the first through hole

Each red-highlighted difference above is addressed below.

1. **“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”**

This limitation does not represent a substantive difference from the claims previously litigated, nor is it material to the invalidity determination, because it is disclosed by the same prior art already relied on by the Board in the *Global Shade* decision. The Board held that Tsai disclosed the “outer retractable unit” limitation in claim 8 of the ’710 patent. *Global Shade*, Paper 36, 42. That same reference discloses this limitation, as discussed above. *Supra* §V.A.3.b.ii. Furthermore, the Board recognized this in the *Global Shade* decision. *Global Shade*, Paper 36, 37-38 (Tsai discloses “four pairs of scissors-type (or x-type) linkages 2” and “structural members 102-108 form two scissors-type linkages”). Thus, this limitation would have been obvious over the already-applied prior art and does not materially alter the invalidity determination. *See Soverain*, 778 F.3d at 1319-20; *Ohio Willow Wood*, 735 F.3d at 1343 (each finding no material difference in invalidity determination where claims merely specified a particular type of structure claimed in a previously litigated claim, where the particular type of structure would have been obvious).

2. **“[a center pole] positioned between said center top cap and said center bottom cap” and “[said central lock is locked] when said center pole is connected to both said center top cap and said center bottom cap”**

These limitations do not represent a substantive difference from previously-litigated claims, nor are they material to invalidity, because they are inherent in the previously-litigated claims. Claim 8 of the '710 patent recited that its center pole comprised “a center pole top end rigidly connected to said center top cap;” thus, the '710 patent's center pole is at all times positioned to one side of, and connected to, its center top cap. Furthermore, claim 8 recites that when the lock is locked, the “spring loaded locking piece [part of the center bottom cap] is engaged with said clamping groove [part of the center pole].” Thus, the '710 patent's center pole is also positioned to one side of its center bottom cap, and is therefore between the center top cap and center bottom cap. It is also connected to the center bottom cap when the central lock is locked. Thus, this limitation does not represent a material difference in the invalidity determination.

3. **“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”**

This limitation does not represent a substantive difference from the claims previously litigated, nor is it material to invalidity, because it is disclosed by the same prior art already relied on by the Board in *Global Shade*. The Board held that

Rousselle and Tsai disclosed the canopy frame limitations in claim 8 of the '710 patent. *Global Shade*, Paper 36, 42. Those same references discloses this limitation, as discussed above. *Supra* §§V.A.3.a-c, i-k. Furthermore, the Board recognized this in the *Global Shade* decision. *Global Shade*, Paper 36, 34-39 (discussing how Rousselle and Tsai's canopies collapse). Thus, this limitation would have been obvious over the already-applied prior art and does not materially alter the invalidity determination. *Google LLC v. Hammond Development Int'l, Inc.*, 54 F.4th 1377, 1381-82 (Fed. Cir. 2022) (limitation does not materially alter the invalidity determination where it "would have been obvious").

Accordingly, because any differences between the claims are not substantive and do not materially affect the invalidity determination, the issues are identical.

B. The Issues Were Actually Litigated

The Board determined in *Global Shade* that claims 8 and 11 of the '710 patent were unpatentable based on a combination of Rousselle and Tsai, and proposed substitute claim 14 was unpatentable based on a combination of Rousselle, Tsai, and Ohnishi. Paper 36, 94. In doing so, the Board considered and decided the parties' disputes regarding whether each limitation of the claims was disclosed by the prior art, finding that each limitation was disclosed and/or rendered obvious. *See generally id.* Thus, the issues were actually litigated.

C. Resolution Was Essential to the Judgment

The Board’s findings regarding the claim limitations of the ’710 patent were essential to the final written decision in *Global Shade* because the very nature of that proceeding was to determine whether those claims were unpatentable. *See* 35 U.S.C. §318(a). The Board’s analysis of those claims is essential to the unpatentability determination.

D. With-U Had a Full and Fair Opportunity to Litigate

With-U had a full and fair opportunity to, and did, litigate the issues. With-U submitted a patent owner response, a motion to amend, a sur-reply, and a reply regarding the motion to amend. *Global Shade*, Papers 14, 15, 23, 24. With-U also participated in oral argument. With-U had the opportunity to appeal the final written decision, but chose not to do so.

Thus, each of the four elements is met. The Board’s prior decision in *Global Shade* compels a finding of unpatentability of at least claims 1 and 4 of the ’738 patent, which are substantially similar to claims involved in the *Global Shade* proceeding and are challenged here using the same prior art.

VII. SECONDARY CONSIDERATIONS

Secondary considerations should be evaluated but do not control an obviousness conclusion, particularly where, as here, a strong *prima facie* showing of obviousness exists. *Leapfrog Enters. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162

(Fed. Cir. 2007); *Newell Cos. v. Kenney Mfg. Co.*, 864 F.2d 757, 768 (Fed. Cir. 1988). Petitioner is unaware of relevant evidence of secondary considerations, and any such evidence that PO may provide cannot possibly outweigh the strong *prima facie* case of obviousness. Petitioner reserves the right to respond to evidence of secondary considerations in due course.

VIII. DISCRETIONARY FACTORS FAVORING INSTITUTION

A. §314 (Co-Pending Litigation)

PO and Petitioner are currently engaged in co-pending litigation in the Central District of California (“CDCA”) involving the ’738 patent. The Board should decline to exercise its discretion under 35 U.S.C. §314(a) to deny this Petition in view of the co-pending litigation because efficiency, fairness, and the merits support institution. *Apple v. Fintiv*, IPR2020-00019, Paper 11 (P.T.A.B. Mar. 20, 2020) (“*Fintiv*”). Each *Fintiv* factor is addressed below.

1. Factor 1: Potential Stay

Petitioner will shortly move to stay the co-pending litigation pending resolution of this IPR. Petitioner understands PO is considering stipulating to a stay of the co-pending litigation. Petitioner and PO similarly stipulated to a stay in a related litigation when Petitioner filed an IPR challenging the patent asserted there.

The CDCA grants motions to stay pending IPR where, as here, “there is more work ahead of the parties and the Court than behind”; the stay “will simplify the issues in question and the trial of the case”; and there is no undue prejudice. *Polaris PowerLED Techs., LLC v. LG Elecs., Inc.*, No. SACV-20-00125-JVS(DFMx), 2020 WL 6064964, at *2-*3 (C.D. Cal. Aug. 26, 2020). The Court routinely grants such a stay even before an IPR is instituted. *See, e.g., Mediatek, Inc. v. NXP Semiconductors N.V.*, No. CV-21-04969-GW(AFMx), 2022 WL 17185976 (C.D. Cal. June 21, 2022); *MicroPairing Techs. LLC v. Am. Honda Motor Co., Inc.*, No. CV-21-04034-JVS(KESx), 2022 WL 17219084 (C.D. Cal. June 24, 2022); *Hyper Ice, Inc. v. MerchSource, LLC*, No. 8:21-CV-01133-JVS(ADSx), 2022 WL 18542423 (C.D. Cal. March 7, 2022). Accordingly, the likelihood of a stay is high, and this factor weighs against discretionary denial.

2. Factor 2: Proximity of Trial to FWD

The CDCA has set a trial date of April 30, 2024. As this Petition is being filed in February, 2023, a final written decision would be expected in August, 2024 – within four months of trial. Furthermore, at this early stage of the co-pending litigation, the trial date may well be extended – and that is assuming the case is not stayed. Because, at its earliest, the trial date is around the same time as the date for a final written decision in this proceeding, this factor is neutral. *See Fintiv*, Paper

11 at 9; *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 at 15 (P.T.A.B. Dec. 1, 2020).

3. Factor 3: Investment in Parallel Proceeding

PO filed its complaint in the co-pending litigation on July 12, 2022, and served its infringement contentions on January 9, 2023. Aside from those contentions, the parties have invested very little in the co-pending litigation. Fact discovery remains in its infancy; PO only recently served its first set of formal discovery requests on February 7, 2023 no depositions have been taken, and few documents have been exchanged. The parties have not briefed claim construction. No expert reports have been served. The “remaining investment and Petitioner’s diligence in filing” this Petition outweigh any investments made in the co-pending litigation. *Samsung Elecs. Am. Inc. v. Snik LLC*, IPR2020-01428, Paper 10, at 11 (P.T.A.B. Mar. 9, 2021). Thus, this factor weighs against discretionary denial.

4. Factor 4: Overlapping Issues

If this IPR is instituted and the co-pending litigation is stayed, Petitioner could not pursue in the co-pending litigation any invalidity ground raised or that could have been reasonably raised in this IPR. *California Inst. of Tech. v. Broadcom Ltd.*, 25 F.4th 976 (Fed. Cir. 2022). Thus, little concern of duplicative efforts or conflicting decisions exists.

However, Petitioner hereby stipulates that, if this IPR is instituted and the co-pending litigation is not stayed, Petitioner will not argue in the co-pending litigation invalidity of the '738 patent based on the grounds advanced in this Petition or on any ground that relies on the references cited herein. This weighs against discretionary denial. *Sand Revolution II, LLC v. Cont'l Intermodal Grp.-Trucking LLC*, IPR-2019-01393, Paper 24 at 11-12 (P.T.A.B. June 16, 2020) (informative); *Google LLC v. Jawbone Innovations, LLC*, IPR2022-00630, Paper 10 at 16-17 (P.T.A.B. Sept. 13, 2022).

5. Factor 5: The Parties

The parties are the same, but due to the likelihood of a stay, it is unlikely that the co-pending litigation will go to trial before a final written decision is entered in this IPR. Thus, this factor is neutral. *See Google*, IPR2022-00630, Paper 10 at 14.

6. Factor 6: Other Circumstances

The combinations of prior art here have never been considered by the PTO, any court, or any jury. The Petition's merits are particularly strong, which favors institution. *Fintiv*, IPR2020-00019, Paper 11 at 18. Moreover, denying institution would negate Congress's intent in providing a 1-year period to file petitions and would encourage forum shopping as patent owners look to shield their patents from PTAB scrutiny by seeking judges with aggressive trial schedules.

Thus, the *Fintiv* analysis favors institution.

B. §325 (Previous Consideration)

The Office has not previously considered “the same or substantially the same prior art or arguments.” 35 U.S.C. §325(d). In prosecution, PO argued that the references the Examiner applied did not teach limitations regarding x-shaped outer retractable units. In response to those arguments, the Examiner allowed the claims. However, Tsai, which was not before the Examiner, clearly discloses those limitations.⁷ Accordingly, the art and arguments in this IPR are not—and could not be—cumulative of previously considered art or arguments. Thus, the Board should not deny institution under §325(d).

IX. MANDATORY NOTICES PURSUANT TO 37 C.F.R. §42.8(A)(1)

Pursuant to 37 C.F.R. §42.8(a)(1), the mandatory notices identified in 37 C.F.R. §42.8(b) are provided below as part of this Petition.

⁷ To the extent PO argues Tsai is cumulative of another reference before the Examiner, then the Examiner erred in not applying that reference against the claims. As discussed above, Tsai (and therefore any reference cumulative of Tsai) discloses the x-shaped outer retractable unit limitation, and a POSITA would have been motivated to combine it with other references such as Rousselle to arrive at the claimed subject matter. *See supra* §V.A.3.b.

A. Real Party-In-Interest (37 C.F.R. §42.8(b)(1))

Global Shade Corporation is the real party-in-interest for Petitioner.

B. Related Matters (37 C.F.R. §42.8(b)(2))

On July 12, 2022, PO asserted the '738 patent against Petitioner in *With-U E-Commerce (Shanghai) Co., Ltd. v. Global Shade Corp.*, No. 8:22-cv-01295-JVS-JDE (C.D. Cal.).

C. Lead and Backup Counsel (37 C.F.R. §42.8(b)(3))

Petitioner provides the following designation of counsel, all of whom are included in Customer No. 20,995 identified in Petitioner's Power of Attorney.

Lead Counsel	Back-up Counsel
Marko R. Zoretic (Reg. No. 65,994) 2MRZ@knobbe.com	Nathan D. Reeves (Reg. No. 77,806) 2NDR@knobbe.com
Knobbe, Martens, Olson, & Bear, LLP <u>Postal and Hand-Delivery Address:</u> 2040 Main St., 14th Floor Irvine, CA 92614 Telephone: 949-760-0404 Facsimile: 949-760-9502	Knobbe, Martens, Olson, & Bear, LLP <u>Postal and Hand-Delivery Address:</u> 925 4th Ave., Suite 2500 Seattle, WA 98104 Telephone: 206-405-2000 Facsimile: 206-405-2001

D. Service Information (37 C.F.R. §42.8(b)(4))

Please direct all correspondence to lead counsel and back-up counsel at the addresses shown above. Petitioner also consents to electronic service by email to BoxGlobalShade@knobbe.com.

X. PAYMENT OF FEES PURSUANT TO 37 C.F.R. §42.103

The undersigned authorize the Office to charge the fee set forth in 37 C.F.R. §42.15(a) for this Petition to Deposit Account No. 11-1410. Review of five claims is requested. The undersigned further authorize payment for any additional fees that may be due to be charged to the above-referenced Deposit Account.

XI. REQUIREMENTS FOR REVIEW UNDER 37 C.F.R. §42.104

Petitioner certifies that the '738 patent is available for IPR and that Petitioner is not barred or estopped from requesting IPR challenging the patent claims on the grounds identified herein. This Petition is being filed within one year of service of the first complaint alleging infringement of the '738 patent in the co-pending litigation.

XII. CONCLUSION

Petitioner has established a reasonable likelihood of prevailing in showing that at least one challenged claim is unpatentable, and therefore requests that the Board order an *inter partes* review trial and cancel all challenged claims.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: February 9, 2023

By: /Marko R. Zoretic/
Marko R. Zoretic (Reg. No. 65,994)
Nathan D. Reeves (Reg. No. 77,806)

Global Shade v. With-U E-Commerce
IPR Petition – Patent 10,669,738

Customer No. 20,995
Attorneys for Petitioner
Global Shade Corp.

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. §42.24(d), the undersigned certifies that the foregoing
PETITION FOR INTER PARTES REVIEW OF U.S. PATENT 10,669,738,
exclusive of the parts exempted as provided in 37 C.F.R. §42.24(a), contains
13,980 words and therefore complies with the type-volume limitations of 37 C.F.R.
§42.24(a).

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: February 9, 2023

By: /Marko R. Zoretic/
Marko R. Zoretic (Reg. No. 65,994)
Nathan D. Reeves (Reg. No. 77,806)

Customer No. 20,995

Attorneys for Petitioner
Global Shade Corp.

CERTIFICATE OF SERVICE

I hereby certify that, pursuant to 37 C.F.R. §42.105, a true and correct copy of the foregoing **PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT 10,669,738** and **EXHIBITS 1001-1016** are being served on February 9, 2023, via U.S. Postal Service Priority Mail Express to the correspondence address of record for the subject patent 10,669,738 found on the USPTO's Patent Center webpage:

ROSS PATENT LAW OFFICE
P.O. BOX 2138
DEL MAR, CA 92014

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: February 9, 2023

By: /Marko R. Zoretic/
Marko R. Zoretic (Reg. No. 65,994)
Nathan D. Reeves (Reg. No. 77,806)
Customer No. 20,995

Attorneys for Petitioner
Global Shade Corp.