

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TREASURE GARDEN, INC.,
Petitioner,

v.

ATLEISURE, LLC,
Patent Owner

Case IPR2025-01005
Patent 8,104,492

**PATENT OWNER PRELIMINARY RESPONSE
PURSUANT TO 37 C.F.R. §§ 42.107 & 42.120**

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Exhibit No.	Brief Description
Ex. 1001	U.S. Patent No. 8,104,492 (“‘492 Patent”)
Ex. 1002	Prosecution History of ‘492 Patent
Ex. 1003	U.S. Prov. App. No. 61/050,353 (“‘353 Provisional”)
Ex. 1004	Declaration of Dr. Richard W. Klopp, dated May 9, 2025
Ex. 1005	Chinese Utility Model Patent No. CN 201076109Y (“Wang ’109”) (Appl. No. No. ZL 200720183886.3) with Certified English Translation
Ex. 1006	Chinese Utility Model Patent No. CN 201197439Y (“Wang ’439”) (Appl. No. ZL 200820088054.8) with Certified English Translation
Ex. 1007	Chinese Utility Model Patent No. CN 201001460Y (“Wang ’460”) (Appl. No. ZL 200720106096.5) with Certified English Translation
Ex. 1008	U.S. Patent No. 6,014,980 (“Glatz ’980”)
Ex. 1009	INTENTIONALLY OMITTED
Ex. 1010	U.S. Patent No. 6,478,037 (“Tung ’037”)
Ex. 1011	U.S. Patent No. 5,284,171 (“Liu ’171”)
Ex. 1012	U.S. Patent No. 5,937,882 (“Harbaugh ’882”)
Ex. 1013	German Patent Application Publication No. DE20014895U1 (“Bertola ’895”) with Certified English Translation
Ex. 1014	U.S. Patent Application Publication No. US 2006/0243311 (“Glatz ’311”)
Ex. 1015	INTENTIONALLY OMITTED
Ex. 1016	ATLeisure’s N.D.GA Local Rules 6.1 and 6.2 Disclosures in ATLeisure v. Treasure Garden, Inc., Case No. 1:24-cv-02270-TWT
Ex. 1017	Oxford Learner’s Dictionary

Ex. 1018	Bloomsbury English Dictionary
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Ex. 1020	The American Heritage Dictionary
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Ex-2004	Declaration of Dr. Jason A. Janét

I. INTRODUCTION

To justify institution of *inter partes* review, the Petition must show that, as a factual and legal matter for each asserted ground, Petitioner has a reasonable likelihood of proving at least one challenged claim unpatentable. *See, e.g.*, 35 U.S.C. §314. As detailed below, Petitioner has not met this burden as to any of the asserted grounds, and therefore no *inter partes* review should be instituted.

Petitioner identifies three grounds it contends establish the unpatentability of the claims of the '492 patent. First, Petitioner contends the Wang '109 patent anticipates the claims of the '492 patent. As detailed herein, the Wang '109 patent is not prior art. Second, Petitioner contends the Wang '439 patent anticipates the claims of the '492 patent, but it also is not prior art and therefore fails as well. Moreover, even if these references were prior art, neither is enabled as to the locking means, further precluding anticipation.

The third ground identified by Petitioner is based on obviousness and relies on a combination of the Glatz '980 patent with two or more additional references, but it fails because (a) all the references identified have been relied in in the original prosecution and/or a prior failed IPR in which institution was denied; and (b) Petitioner cannot establish a motivation to combine the references, and instead uses a selective combination of prior art references based on the '492 patent as a template.

Because the Petitioner failed to meet its statutory burden of demonstrating unpatentability by a preponderance of the evidence pursuant to 35 U.S.C. §316(e), patentability of the challenged claims should be confirmed and no *inter partes* review should be instituted.

II. THE '492 PATENT CHALLENGED CLAIMS

Independent Claim 1 is directed to an umbrella 10 comprising a main pole 14 having a lower end for support by a support surface and extending generally upward to an upper end. The umbrella includes a sliding member 16 associated with the main pole and selectably moveable thereon between lower and upper locations along the main pole. The umbrella of the '492 patent also includes a locking means 74 for releasably securing the sliding member to the main pole at a selected location along the main pole, and an umbrella canopy 20 having a central region.

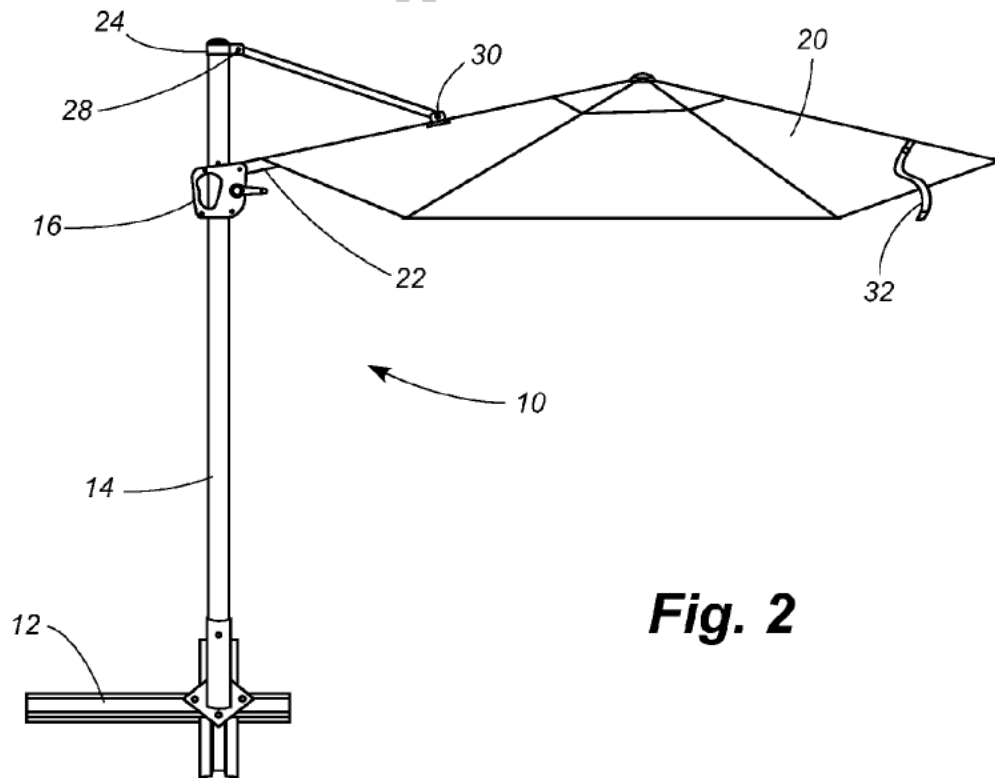


Fig. 2

Figure 2 of the '492 Patent

The umbrella includes an arm 22 associated with the central region and extending radially therefrom to an outer end operatively associated with the sliding member, and a brace 26 having a first end pivotably attached to an upper portion of the pole above the sliding member and a second end pivotably attached to the arm. Additionally, the umbrella includes a winding mechanism having a winder hub 84 mounted to the sliding member and movable therewith. The umbrella further comprises a line 60 having a first end that winds around the winder hub, an intermediate portion extending from the winder hub along the arm to the umbrella canopy, and a second end that engages the umbrella canopy.

Moreover, rotation of the winder hub tensions or relaxes the line depending upon the direction of rotation of the winder hub. The operation of the winding mechanism to apply tension to the line opens and closes the umbrella canopy in response to movement of the line. As shown by Figure 6, reproduced below, the angle of the umbrella canopy with respect to the main pole can be controlled by moving the sliding member along the main pole. In other words, the patented invention provides separate mechanisms for opening and closing the umbrella canopy and for adjusting the angle of the umbrella canopy, which provides for enhanced control, which is in contrast to the prior art.

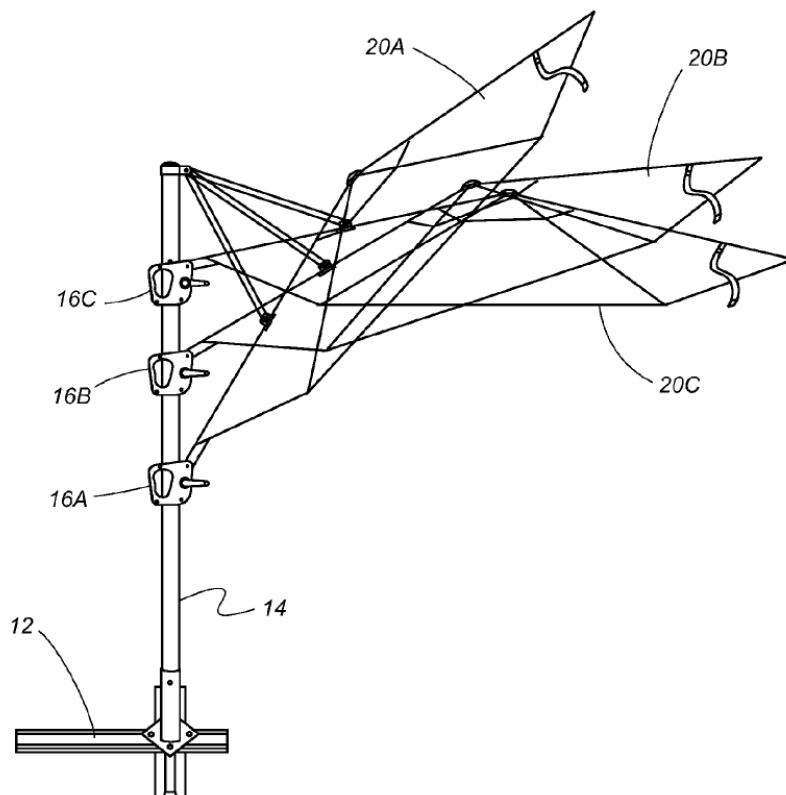


Figure 6 of the '492 Patent

III. OVERVIEW OF THE ASSERTED PRIOR ART

A. The Wang ‘109 Patent: Chinese Patent No. ZL 2007200720183886.3 / CN 201076109Y

The Wang ‘109 Patent issued on June 25, 2008, and is directed to a “Straight pole foldable hanging parasol.” As an initial matter, Patent Owner notes that the Wang ‘109 patent is not prior art to the ‘492 patent, as it was published after the priority date of the ‘492 patent. Further, Patent Owner notes that Wang ‘109 is related to Wang ‘460, in particular, having identical inventorship and ownership. The related Wang ‘460 patent was considered in the first failed petition for IPR of the ‘492 patent.

The Wang ‘109 patent discloses an offset style umbrella comprising a mast 3, a sliding collar A coupled to the mast, a canopy 6, a first arm 4 coupled between the sliding collar and the canopy, and a second arm 5 coupled from the mast to the first arm. The offset style umbrella comprises a winding device 35 carried by the sliding collar and coupled to a rope reel wheel 32. The Wang ‘109 patent notes that “[t]he rope reel wheel 32 is fixed with one end of the parasol rope 36, and the other end of the parasol rope 36 is inserted into the diagonal rod 4 and connected to the parasol frame 6 via the pulley 37 inside the diagonal rod 4.” (Page 19).

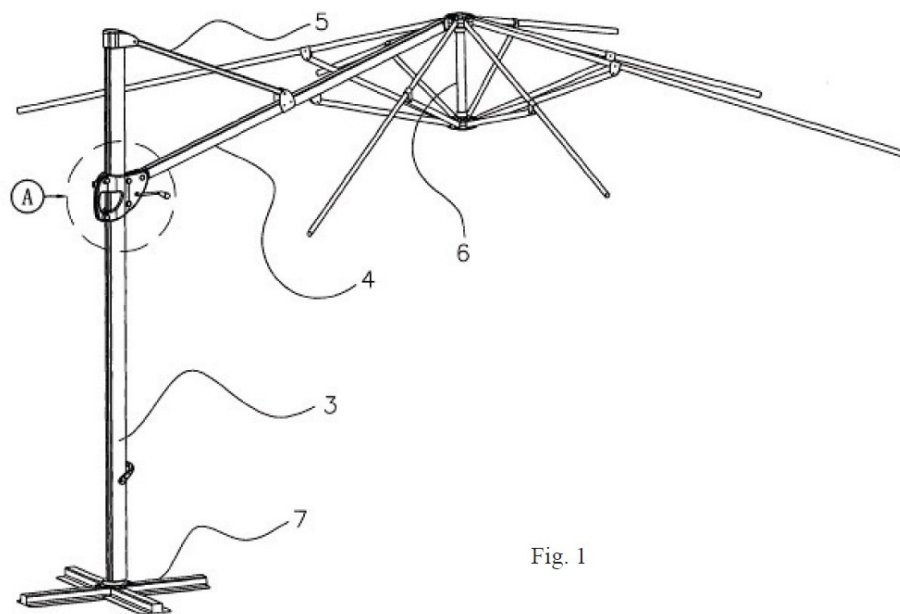


Figure 1 of Wang ‘109

B. The Wang ‘439 Patent: Chinese Patent No. ZL 200820088054.8 / CN 201197439Y

The Wang ‘439 Patent issued on February 25, 2009, and is directed to a “Sunshade parasol cranking device.” Like the Wang ‘109 patent, the Wang ‘439 Patent is not prior art to the ‘492 patent, as it was published after the priority date of the ‘492 patent. The Wang ‘439 patent discloses an offset style umbrella comprising a mast 7, a sliding collar 1 coupled to the mast, a canopy 4, a first arm 4 coupled between the sliding collar and the canopy, and a second arm 5 coupled from the mast to the first arm. The offset style umbrella comprises a winding device 6 carried by the sliding collar and with a cranking mechanism 2. The Wang ‘439 patent notes:

[t]he cranking mechanism 2 comprises a cranking shaft 206 and a rope winding wheel 209 sleeved therewith. Both ends of the cranking shaft 206 are connected in series to the left handle shell 101 and the right handle shell 102 ... The rope winding wheel 209 is provided with a parasol rope 211 for controlling the opening and closing of the parasol surface. (Page 21).

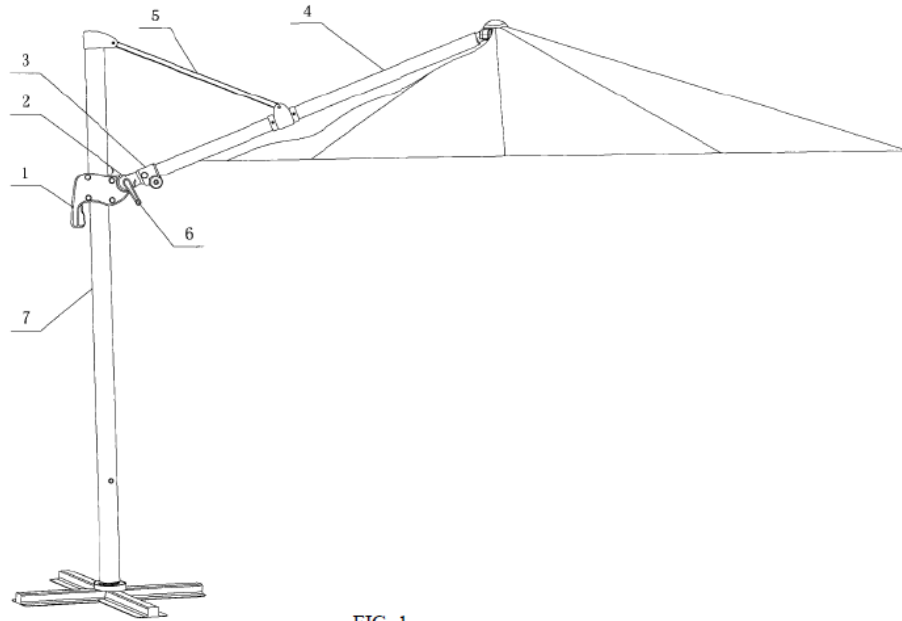


FIG. 1

Figure 1 of Wang ‘439

C. The Wang ‘460 Patent: Chinese Patent No. ZL 200720106096.5 / CN 201001460Y

The Wang ‘460 Patent issued on January 9, 2008, and is directed to a “Simple banana hanging parasol.” The Wang ‘460 patent was considered in the 2021 failed petition for IPR of the ‘492 patent. The Wang ‘460 patent discloses another umbrella that includes a supporting pole 1, a collar 11 slidably engaging the supporting pole, a canopy, a crank 27 carried by the collar, an arcuate first arm coupled between the

collar and the canopy, and a line 13 wound onto the crank and coupled to the canopy. The crank is used to retract and extend the canopy. See EX1007, Figures 1 and 2, reproduced below.

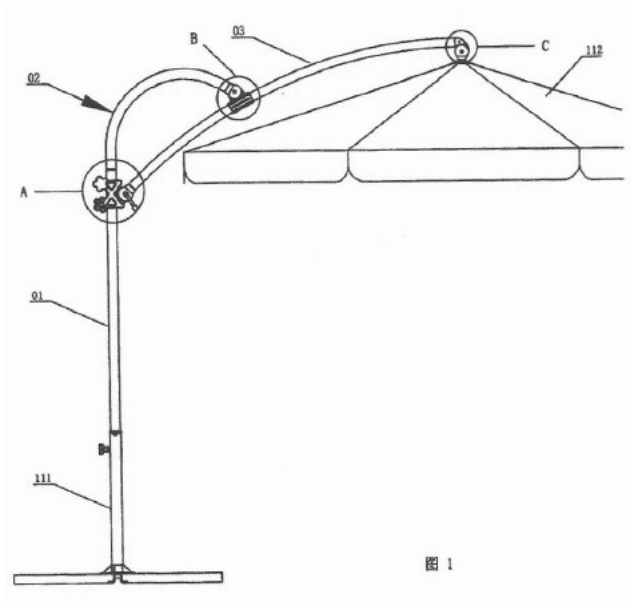


Figure 1 of the Wang '460 Patent

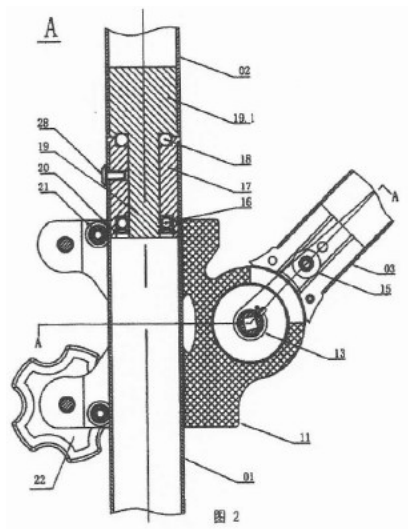


Figure 2 of the Wang '460 Patent

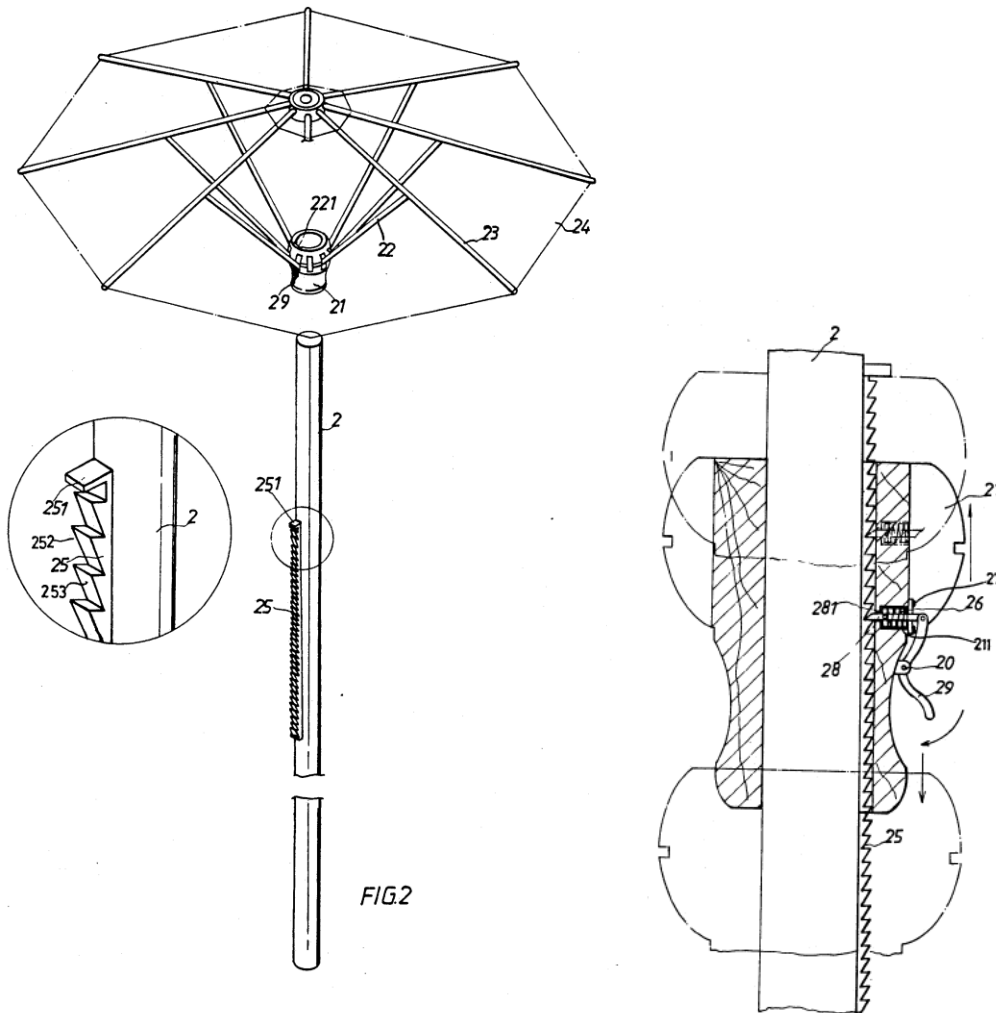
D. The Glatz ‘980 Patent: U.S. Patent No. 6,014,980

Glatz ‘980 discloses another umbrella 10 comprising a main mast 2a, a collar 92 slidably engaging the main mast, a canopy, a first arm 8a coupled between the collar and the canopy, and a second arm 16a coupled between an uppermost portion of the main mast and the first arm. Glatz ‘980 does not disclose a winding mechanism, nor rotation thereof to open and close the canopy. Instead, Glatz ‘980 recites: “An actuating device (66) is used to open and close the canopy. The control device is equipped with a pulling mechanism (68), preferably a rope. The pulling device (68) runs in a tackle-block manner through the hollow canopy pole (44) to the slider (54) at which it is returned to the jib (8) via a guide pulley (74). [] At the articulation (12) the pulling device (68) runs over a guide pulley (76) and continues through the hollow jib (8).” (Col. 5, line 26 through line 38).

E. The Liu ‘171 Patent: U.S. Patent No. 5,284,171

The Liu ‘171 patent discloses another umbrella and was cited and applied in the original prosecution of the ‘492 patent, as well as being cited in the 2021 IPR petition. This umbrella is a typical standard aligned umbrella and includes a main shaft 2 having a plurality of teeth 251-252 extending longitudinally. The umbrella includes a canopy 24 coupled to the main shaft, a runner 21 slidably engaging the main shaft, and a plurality of ribs 22 coupled between the canopy and the runner. The runner includes a pin 28 for interface locking with the plurality of teeth to lock the

position of the canopy. *See* Ex-1011, Figures 2-3, reproduced below.



Figures 2-3 of the Liu '171 patent

F. The Bertola Patent: German Patent No. DE20014895U1

The Bertola patent, which discloses another umbrella 10, was cited in the 2021 IPR petition. This umbrella includes a mast 14, a collar 28 slidably engaging the mast, a first arm 18 pivotably coupled to the collar, a brace 20 coupled between an uppermost portion of the mast and a sliding sleeve 22 on the first arm, and a canopy

16 coupled to the first arm. The collar is slid along the mast to adjust the position of the canopy. See Ex-1013, Figure 2, reproduced below.

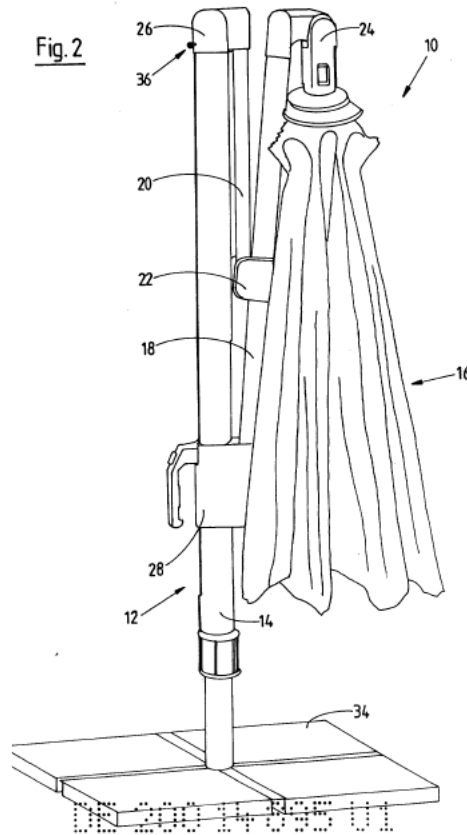


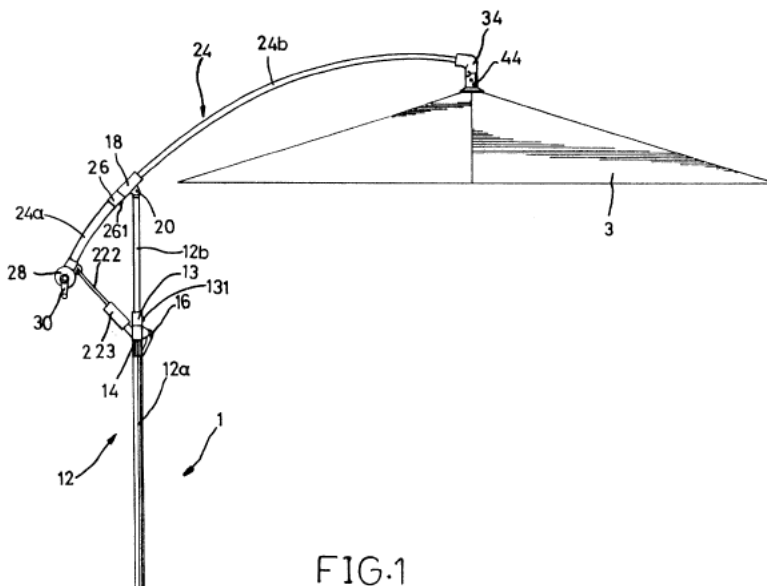
Figure 2 of the Bertola Patent

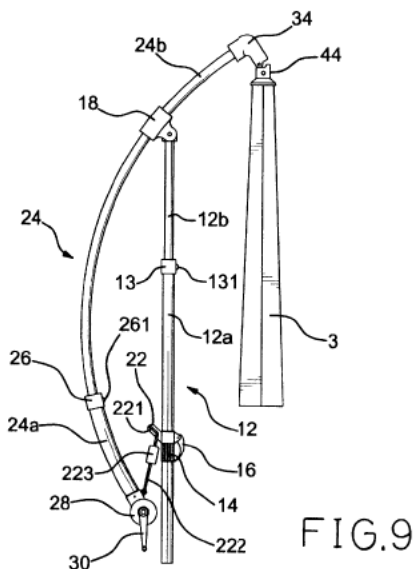
G. The Tung Patent: U.S. Patent No. 6,478,037

The Tung patent was cited and applied in the original prosecution of the '492 patent and in the 2021 IPR petition. The Tung patent discloses an umbrella comprising a support rod 12, an arcuate tube 24 coupled to the support rod, and a canopy 3 coupled to the arcuate tube. The umbrella includes a holding sleeve 18 coupled to an uppermost portion of the support rod, and the arcuate tube slides within the holding

sleeve.

The umbrella includes a reel 28, and handle 30 coupled to a first end of the arcuate tube, and a line coupled between the reel and the canopy. The winding action of the reel extends and retracts the canopy. The umbrella also includes an adjusting sleeve 14 sliding engaging the support rod, and connecting rods 222 pivotably coupled to the adjusting sleeve and the first end of the arcuate tube. The adjusting sleeve also includes a lever 16 for friction locking with the support rod. To adjust the angle of the canopy, the adjusting sleeve is unlocked and slid along the support rod, which pivots the connecting rods and slides the arcuate tube through the holding sleeve. *See* Ex-1010, Figures 1 and 9, reproduced below.





Figures 1 and 9 of the Tung Patent

IV. FILE HISTORY

The '492 patent claims priority back to U.S. Provisional Patent Application Serial No. 61/050,353, which was filed May 5, 2008, and included six claims. *See* Ex-1002 at 171. On May 5, 2009, the U.S. Non-provisional Patent Application Serial No. 12/435,640 was filed and included the original six claims filed in the provisional application. Ex-1002 at 169-191.

On June 24, 2010, the Examiner issued a first office action, rejecting the claims as anticipated over U.S. Patent No. 5,937,882 to Harbaugh, now owned by the present Patent Owner, and as obvious further in view of U.S. Patent No. 6,478,037 to Tung and U.S. Patent No. 5,284,171 to Liu. *See* Ex-1002 at 139-142.

Applicant filed a response on February 3, 2011. Ex-1002 at 125. The response included no claim amendments and argued against the rejections of record. Ex-1002 at 126-128. On April 12, 2011, the Examiner issued a final Office Action sustaining the rejections of record. *See* Ex-1002 at 102-103.

After an Examiner Interview on May 6, 2011, Applicant filed a response on May 16, 2011, along with a Request for Continued Examination. Ex-1002 at 92-106. In the response with RCE, Applicant amended independent Claim 1 to delete three elements as originally proposed and further recite:

a brace having a first end pivotably attached to an upper portion of the pole above the sliding member and a second end pivotably attached to the arm;

a winding mechanism having a winder hub around which a line can be wound, the winder hub being mounted to the sliding member and movable therewith;

a line having a first end that winds around the winder hub, an intermediate portion extending from the winder hub along the arm to the umbrella canopy, and a second end that engages the umbrella canopy;

wherein rotation of the winder hub tensions or relaxes the line depending upon the direction of rotation of the winder hub[.] Ex-1002 at 92-96.

Applicant also added new dependent Claim 7, which recited “a crank handle operatively associated with the winder hub, whereby rotating the crank handle causes the winder hub to rotate.” *Id.* Claims 2-6 were maintained in their original form as filed in the provisional application. *Id.*

On August 23, 2011, the Examiner issued a Notice of Allowance, withdrawing the rejections of record and making a minor Examiner’s Amendment. Ex-1002 at 67-69. In noting the patentability of the claimed invention, the Examiner stated:

the prior art made of record has failed to suggest either singly or in combination a novel umbrella having an upright main pole, with a lower end supported by a surface and an upper end, a sliding member selectably movable on the main pole between upper and lower locations and locked at the locations by a locking means for releasably securing the sliding member to the main pole, an umbrella canopy with a central region and an arm connected to the central region and radially to the sliding member at its

outer end, a brace attached to the upper end of the main pole and an intermediate position on the arm, a winding mechanism with a winder hub around which a line can be wound, the mechanism mounted to the sliding member for sliding therewith, the line being wound around the hub and extending along the arm to the canopy for engaging the canopy, wherein rotation of the hub tensions and releases the line to open or close the canopy and wherein the angle of the umbrella canopy is controlled by sliding the sliding member along the main pole.

Ex-1002 at 73.

On December 8, 2011, Applicant paid the issue fee. Ex-1002 at 58. The ‘492 patent issued on January 31, 2012. Ex-1003.

V. CLAIM CONSTRUCTION

A. Legal Standard

Under *Phillips*, patent claims should be interpreted in light of the intrinsic evidence, including the specification and file history, and “the ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Phillips v. AWH Corp.*, 415 F.3d

1303, 1313, 1317 (Fed. Cir. 2005); *see also* 83 Fed. Reg. 51341 (Oct. 11, 2018) (adopting *Phillips* standard for AIA proceedings before the Patent Trial and Appeal Board).

Therefore, “a court looks to those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean. Those sources include the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.” *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004).

The claims themselves are “of primary importance” in “ascertain[ing] precisely what it is that is patented.” *Phillips*, 415 F.3d at 1312, (*quoting Merrill v. Yeomans*, 94 U.S. 568, 570 (1876)). The claims, however, “do not stand alone...,” but rather “are part of ‘a fully integrated written instrument,’ ... consisting principally of a specification that concludes with the claims.” *Phillips*, 415 F.3d at 1315 (Internal Citation Omitted). Consequently, “claims ‘must be read in view of the specification, of which they are a part.’” *Id.* (*quoting Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995)). In addition to the language of the claims themselves and the patent specification, courts “should also consider the patent’s prosecution history, if it is in evidence.” *Phillips*, 415 F.3d at 1317 (*citing*

Markman, 52 F.3d at 980). Additionally, expert testimony “can be useful to a court for a variety of purposes, such as to provide background on the technology at issue, to explain how an invention works, to ensure that the court’s understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field.” *Phillips*, 415 F.3d at 1318.

The “locking means” in the ‘492 patent is a mean-plus-function limitation. Claim construction of a means-plus-function limitation includes two steps. Means-plus-function claim limitations “comprise not only the language of the claims, but also the structure corresponding to that means that is disclosed in the written description portion of the specification (and equivalents thereof).” *Atmel Corp. v. Info. Storage Devices, Inc.*, 198 F.3d 1374, 1381-82 (Fed. Cir. 1999). The Court first determines the claimed function and then identifies “the corresponding structure in the written description [of the patent] that performs that function.” *JVW Enters. v. Interact Accessories, Inc.*, 424 F.3d 1324, 1330 (Fed. Cir. 2005); *Voter Verified, Inc. v. Election Sys. & Software, Inc.*, 2011 WL 3236023, at *5 (M.D. Fla. July 28, 2011), *aff’d sub nom., Voter Verified, Inc. v. Premier Election Sols., Inc.*, 681 F. App’x 977 (Fed. Cir. 2017).

When construing the structure of a “means-plus-function” limitation, the specification is reviewed to identify the structures disclosed in the patent

specification that perform the claimed function. Those structures and equivalent structures are used to define the term. *JVW Enters.*, 424 F.3d at 1330. When addressing equivalent structures, a patentee's claim scope includes not only the specific structure(s) found in the specification, but also includes equivalents--structures that "perform the claimed function in substantially the same way to achieve substantially the same result as the structure in the written description." *Id.* at 1333.

Starting with the function, the claim language contains the most appropriate definition of the function in this case. "Locking means" is defined in claim 1 as "releasably securing the sliding member to the main pole at a selected location along the main pole." The next step is to specify the relevant structures in the specification for performing the claimed function. *See JVW Enters.*, 424 F.3d at 1330. The specification for the '492 patent describes multiple structures for releasably securing the sliding member to the main pole, generally described as: (a) a "cam latch" shown in Figure 4; (b) a spring-loaded "latch pin" that engages holes on the pole shown in Figure 7; and (c) a "pawl" that engages "ratchet teeth" shown in Figure 8. The structures depicted above are also described in the specification at 3:25-40, 4:12-31, and 4:36-40 as well as in more detail in claims 2-4. Thus, the term "locking means" should have its plain and ordinary meaning consistent with §112 ¶6, which includes

the embodiments for releasably securing the sliding member to the main pole at a selected location along the main pole, and the equivalents thereof.

In contrast to recognizing that “locking means” encompasses both the structures described in the specification and equivalents, Petitioner seeks to limit the definition to one particular embodiment, without regard to the language of the dependent claims that focus on specific embodiments of the locking means. “A court may not import into the claim features that are unnecessary to perform the claimed function.” *Northrop Grumman Corp. v. Intel Corp.*, 325 F.3d 1346, 1352 (Fed. Cir. 2003). Yet Petitioner suggests the Board convert unnecessary features into limitations, which contradict the express disclosure provided by the original dependent claims. For example, Petitioner argues the “cam” locking means is limited in numerous ways, including limiting the structure to one mounted in an “upper position” with a lever that “overlaps the exterior of the grasping portion...” (Petition, p. 12.) While the lengthy summary from Petitioner is similar to one embodiment of the cam locking means described in the specification, elsewhere in the ‘492 patent the cam locking means is not limited in the same manner. For example, claim 2, which was filed in the original application, also describes the cam locking means:

2. The umbrella of claim 1, wherein the locking means for releasably securing the sliding member to the main pole comprises a cam latch member having a cam surface, the cam latch member being rotatable with respect to the sliding member between a first position in which the cam surface causes the sliding member to be clamped against the main pole, and a second

position in which the cam surface permits movement of the sliding member with respect to the main pole.

The cam lock in claim 2 requires a cam latch rotatable between a first and second position, but it need not be “pivotally mounting in an upper position,” nor does it define the shape or any “overlap.” As recognized by the Federal Circuit, “[t]he individual components, if any, of an overall structure that corresponds to the claimed function are not claim limitations. Rather, the claim limitation is the overall structure corresponding to the claimed function. This is why structures with different numbers of parts may still be equivalent under § 112, P 6, thereby meeting the claim limitation.” *Odetics, Inc. v. Storage Tech. Corp.*, 185 F.3d 1259, 1268 (Fed. Cir. 1999). The proposed definitions from Petitioner contradict Federal Circuit guidance, converting components from a particular embodiment into limitations that must be applied to any accused product, even though elsewhere in the ‘492 Patent these limitations are not present. This is improper.

Similarly, Petitioner seeks to limit the tooth and pawl embodiment to one in which the pawl is “pivotally mounted to the sliding member,” but claim 3 describes a pawl that is “associated with the sliding member” to engage the teeth, without any requirement for a pivotal attachment:

3. The umbrella of claim 1, wherein the locking means for releasably securing the sliding member to the main pole comprises a plurality of teeth formed on the main pole and a cooperating pawl associated with the sliding member and selectively operative to engage a selected one of the teeth to

prevent movement of the sliding member with respect to the main pole.

Again, Petitioner’s proposed language of a particular embodiment ignores other descriptions in the ‘492 Patent, interjecting limitations not required by the claims. The Board must look “to the words of the claims themselves, both asserted and nonasserted, to define the scope of the patented invention.” *Vitronics Corp. v. Conceptronic*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). Petitioner ignores the different claims and asks the Board to graft limitations from the specification focused on one particular embodiment into the claim definition that must be applied to all claims. The practical effect is that Petitioner is seeking an improper construction far more limiting than the issued claims. This proposed definition should be rejected.

For the purposes of this Preliminary Response, the term “locking means” should have its plain and ordinary meaning consistent with §112 ¶6, which includes the embodiments for releasably securing the sliding member to the main pole at a selected location along the main pole, and the equivalents thereof. The Patent Owner submits that all other claim terms of the ‘492 patent are to be given their ordinary and customary meaning, and no further construction is needed. Petitioner offers a confusing request to treat the language as plain and ordinary meaning, while at the same time suggesting the Board should adopt specific constructions that change the terms “mounted to” and “pivotably attached” to different language. There is no special or different construction needed for either term—and Petitioner seemingly

acknowledges this by acknowledging these terms need no construction beyond their plain and ordinary meaning. The proposed constructions offered by Petitioner are wrong and “not necessary for institution of this proceeding” (Petition, p. 13). These definitions should be rejected.

B. Level of Ordinary Skill

Petitioner contends that a person of ordinary skill in the art: “would have had a bachelor’s degree in mechanical engineering or physics or a related discipline and at least four years of experience in the design, development, or analysis of mechanical devices, fabricated frames, cantilevered frames, and/or winder or pulley assemblies, though additional work experience could substitute for a formal degree, and vice versa.” Petition, 19.

For the purpose of this Patent Owner’s Preliminary Response, applying this level of skill is sufficient for the Board to evaluate the Petition Grounds. Should the Board institute trial, Patent Owner reserves the right to provide its own definition for persons having ordinary skill in the art (POSITA) and support for that definition in its §42.120 Response, including expert testimony regarding the appropriate definition along with that Response.

VI. PRIOR IPR PROCEEDINGS

On January 13, 2021, an IPR petition was filed against the ‘492 patent in *Zhejiang Zhengte Co. Ltd. v. ATLeisure, LLC*, IPR2021-00430. The petition

proposed two grounds of invalidity. For ground 1, Petitioner argued that claims 1 and 5-7 were anticipated by U.S. Patent No. D609,453 to Liu, and that claims 2-4 were obvious in view of Tung ‘037, Liu ‘171, U.S. Patent No. 7,341,068 to Liu, Wang ‘460, Bertola ‘895, and U.S. Patent Publication No. 2004/0177871 to Harbaugh. For ground 2, Petitioner argued that claims 1-7 were rendered obvious by Liu ‘068 in view of Liu ‘453, Liu ‘171, Wang ‘460, Bertola ‘895, and Tung ‘037.

In its decision denying institution, the Board found that Liu ‘453 failed to disclose elements 1.3, 1.7, 1.8, and 1.9, and therefore failed to anticipate the ‘492 patent. The Board likewise found no obviousness under either grounds 1 or 2, and denied institution.

VII. ARGUMENT

A. The ‘492 Patent is Entitled to its Priority Date of May 5, 2008, for All Claims

“A reference patent is only entitled to claim the benefit of the filing date of its provisional application if the disclosure of the provisional application provides support for the claims in the reference patent in compliance with § 112, ¶ 1.” *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1382 (Fed. Cir. 2015) “[P]riority is assessed on a claim-by-claim basis.” *Nat. Alts. Int’l, Inc. v. Iancu*, 904 F.3d 1375, 1383 (Fed. Cir. 2018). In conducting the priority analysis, the inquiry is whether the disclosure of the application relied upon “reasonably conveys to those

skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.” *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc).

Claims originally filed are part of the original specification. *In re Gardner*, 480 F.2d 879, 879 (CCPA 1973); *Lucent Techs., Inc. v. Gateway, Inc.*, 543 F.3d 710, 718 (Fed. Cir. 2008). “For original claims, where priority is not an issue, the notion of possession of the invention is not germane, the claim itself evidencing possession of the invention as of the filing date.” *Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956, 988 (Fed. Cir. 2002) (J. Rader, dissenting); *In re Koller*, 613 F.2d 819, 823, 204 USPQ 702, 706 (CCPA 1980) (“Original claims constitute their own description.”).

The ‘492 patent has priority to U.S. Provisional Patent Application Serial No. 61/050,353, which was filed May 5, 2008, and included six claims. *See* Ex-1003. On May 5, 2009, the U.S. Non-provisional Patent Application Serial No. 12/435,640 was filed and included the original six claims filed in the provisional application. Ex-1002. When the ‘492 patent issued, claims 2-6 remained unchanged from their form as filed in the provisional application. Ex-1002, p. 95. Claims 2-5 each specifically claim a particular locking means embodiment.

The priority issue raised by Petitioner relates to only one disclosed embodiment of the locking means claim limitation, namely the “cam” locking means. In the provisional, the inventor described the cam locking means as follows:

A cam lock member 74 is pivotally mounted in a lower portion of the housing 70. The cam lock member 74 comprises a lever portion 76 and a cam surface 78. When the cam latch member 74 is in its "up" or "stored" position, the cam surface 78 bears against a spring loaded button 80, which in turn clamps against the main pole 14 to secure the sliding member 16 against the pole. When the cam latch member 74 is in its down position, shown in the dashed line, the cam surface 78 is rotated free of the button 80. The spring then causes the button to retract, and the sliding member 16 can move freely up and down the pole 14.

(Ex-1003, ¶25.) In the issued ‘492 patent, the cam locking means is described consistent with the disclosure in the provisional application:

A cam lock member 74 is pivotally mounted in an upper portion of the housing 70. The cam lock member 74 comprises a lever portion 76 and a cam surface 78. When viewed from the end, the lever portion 76 is slightly narrower than the housing 70. When the cam lock member 74 is in its “down” or “stored” position, the cam surface 78 bears against a spring loaded button 80, which in turn clamps against the main pole 14 to secure the sliding member 16 against the pole. When the lever portion 76 of the cam lock member 74 is in its up position, shown in the dashed line, the cam surface 78 is rotated free of the button 80. The spring then causes the button 80 to retract, and the sliding member 16 can move freely up and down the main pole 14.

(Ex-1001, 3:27-40.) The alleged distinction focused on by Petitioner relates to the orientation of the cam latch. In the provisional application, the lever of the cam locking means is pivotally attached to the lower portion of the sliding member and rotates towards the sliding member to lock the sliding member in place.

Similarly, in the issued '492 patent, the lever of the cam locking means is pivotally attached to the upper portion of the sliding member and, line in the provisional, rotates towards the sliding member to lock the sliding member in place. Petitioner contends that attaching the lever of the cam locking means higher on the same sliding member, while functioning in exactly the same manner to lock/unlock the sliding member, is a distinction that should vitiate priority for all claims of the '492 patent. Petitioner's arguments are wrong for numerous reasons.

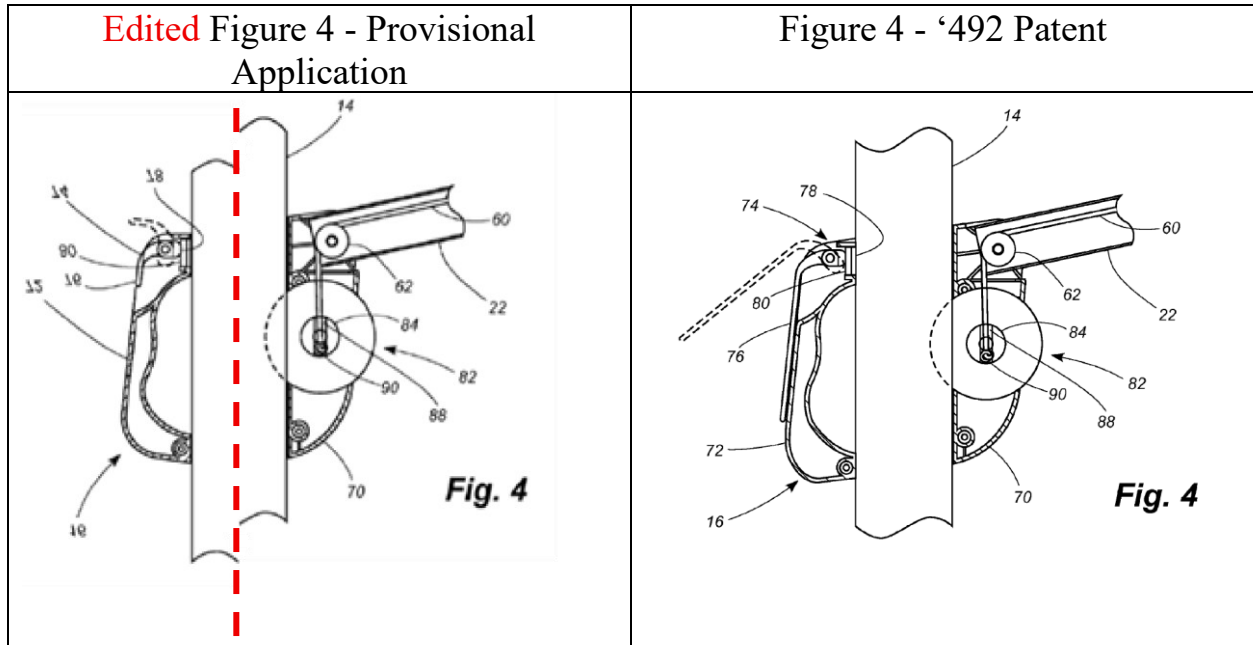
As noted above, the cam locking means is expressly disclosed in the provisional application and therefore the inventor had possession of the claimed subject matter. *See Ariad*, 598 F.3d at 1351. The written description in the provisional application described a "cam lock member 74 comprises a lever portion 76 and a cam surface 78." (Ex-1003, ¶25.) When the cam latch member 74 is in a "stored" position, "the cam surface 78 bears against a spring loaded button 80, which in turn clamps against the main pole 14 to secure the sliding member 16 against the pole." (*Id.*) When the cam latch member 74 was rotated from the stored position, "the cam surface 78 is rotated free of the button 80. The spring then causes the button to retract, and the sliding member 16 can move freely up and down the pole 14." (*Id.*) Put more simply, rotating the cam lever causes a cam surface to clamp (or unclamp) the spring loaded button against the main pole to lock (or unlock) the sliding member in place. At the time of the provisional, the inventors were entitled

to the locking means disclosed and any equivalents thereof, and no credible argument can be made that the locking means disclosed in Figure 4 of the '492 Patent is not amongst those structures that “perform the claimed function in substantially the same way to achieve substantially the same result as the structure in the written description.” *JVW Enters.*, 424 F.3d at 1333. There is no legal basis to suggest that the inventors, who are entitled to the disclosed locking means and equivalents at the time of the provisional, added a “new” disclosure by claiming the same structure identically in the issued '492 patent.

In the issued patent, the inventor describes a mechanism that locks the sliding member in exactly the same way and resulting in exactly the same result. While the Petitioner focuses on differences in Figure 4 between the issued patent and the provisional application, both include the same mechanism (with all of the same numbered elements). Consider Figure 4 from the Provisional next to Figure 4 from the issued '492 Patent:

Figure 4 - Provisional Application	Figure 4 - '492 Patent
Fig. 4	Fig. 4

To further visualize the fact that the mechanisms perform the identical function in substantially the same way and achieve substantially the same result (Ex-2004, ¶55), consider Figure 4 of the provisional bisected through the main pole 14, with the left side of the figure inverted, which shows the obvious similarity between the mechanisms:



While Petitioner argues the lever portion 76 is “larger” or “elongated,” it is “well established that patent drawings do not define the precise proportions of the elements and may not be relied on to show particular sizes if the specification is completely silent on the issue.” *Hockerson-Halberstadt, Inc. v. Avia Grp. Int’l, Inc.*, 222 F.3d 951, 956 (Fed. Cir. 2000). “[A]rguments based on drawings not explicitly made to scale in issued patents are unavailing.” *Nystrom v. TREX Co.*, 424 F.3d 1136, 1149 (Fed. Cir. 2005). However, even if one assumes the lever size changed, having a larger or smaller lever does not alter the functionality of the mechanism itself to clamp against the main pole to lock and unlock the sliding member. (Ex-2004, ¶60.)

As Dr. Janét observes, a POSITA familiar with cam locks in adjustable products (e.g., bicycle seats or furniture clamps) would recognize that this leverage is orientation-agnostic, as it depends on the cam's eccentric shape and pivot point. (Ex-2004, ¶60.) Cam locks in consumer products (e.g., per ASME Y14.5 for mechanical assemblies) rely on springs and leverage and are designed to be function in any orientation. (*Id.*) Indeed, the use of a spring-loaded button (80) provides the biasing force for clamping and is present in both the provisional and non-provisional, providing elastic mechanical energy (from a spring) to maintain pressure against the main pole when engaged by the cam surface independent of gravitational orientation. (*Id.* at ¶61.) The invention provides adjustability, allowing the sliding member to move and lock at various positions to tilt or offset the canopy, meaning the mechanisms must hold under varying loads (e.g., wind or canopy weight) without relying on vertical alignment. (*Id.* at ¶62.) The invention renders orientation irrelevant with all embodiments of the locking means, which each use spring-loaded components to prioritize mechanical reliability over gravity-dependent operation. (*Id.*) While Petitioner's witness, Dr. Klopp, argues the changed Figure 4 allows "one-handed operation" and suggests this assists with locking while the sliding member is pulled down by gravity, his statements are incorrect. First, the "one-handed operation" theory ignores the fact that any user could simply invert their hand to achieve the same result. (Ex-2004, ¶63.) Moreover, while Dr. Klopp

suggests the weight of the umbrella tends to cause the sliding member to move downward, but in reality the linkages' lengths, pivot point positions and angles dictate the amount of weight of the umbrella pushing against the sliding member and the direction of the push, which can include upwards pressure depending on various factors. (*Id.*) Thus, both theories asserted by Dr. Klopp as theories suggesting the simply inversion of same cam locking mechanism is materially different are flawed.

Ultimately, a comparison of the figures and the specification reveals that the only difference in the description is that in the provisional application, the lever portion 76 rotates from the lower portion of the sliding member, while in the issued patent the lever portion 76 rotates from the upper portion of the sliding member. (Ex-1001, 3:25-38.) In both the provisional application and the issued patent, the cam lock member 74 is pivotally mounted. (Ex-1001, 3:28; Ex-1003, ¶25.) In both the provisional application and the issued patent, when the cam lock member 74 is in the “stored” or first position (as described in claim 2), “the cam surface 78 bears against a spring loaded button 80, which in turn clamps against the main pole 14 to secure the sliding member 16 against the pole.” (Ex-1001, 3:32-35; Ex-1003, ¶25.) Likewise, in both the provisional application and the issued patent, when “the cam surface 78 is rotated free of the button 80 [t]he spring then causes the button to retract, and the sliding member 16 can move freely up and down the pole 14.” (Ex-

1001, 3:38-40; Ex-1003, ¶25.) The two embodiments are functional equivalents in every sense of the phrase. (Ex-2004, ¶¶59-60.)

Not only did the text of the specification of the provisional application expressly describe the cam locking means, but the provisional disclosed the cam locking means in claim 2, which was part of the specification of the provisional application and establishes the inventor possessed the invention (and the cam locking means embodiment) claimed as of the filing date. *See, e.g., Enzo Biochem*, 323 F.3d at 988 (dissenting op.). Importantly, dependent claim 2 in the provisional application issued in the identical form in the ‘492 patent:

Dependent claim 2 as filed in the provisional (Ex-1003, p. 16)	Dependent claim 2 as issued in the ‘492 patent (Ex-1001, Cl. 2)
The umbrella of claim 1, wherein the locking means for releasably securing the sliding member to the main pole comprises a cam latch member having a cam surface, the cam latch member being rotatable with respect to the sliding member between a first position in which the cam surface causes the sliding member to be clamped against the main pole, and a second position in which the cam surface permits movement of the sliding member with respect to the main pole.	The umbrella of claim 1, wherein the locking means for releasably securing the sliding member to the main pole comprises a cam latch member having a cam surface, the cam latch member being rotatable with respect to the sliding member between a first position in which the cam surface causes the sliding member to be clamped against the main pole, and a second position in which the cam surface permits movement of the sliding member with respect to the main pole.

Not only is the same cam locking means claimed in both the provisional and issued patent, but claim 2 reads onto Figure 4 in both the provisional and issued ‘492

patent. Consider the text of claim 2 with the numbered elements from the figures (which is identical) inserted:

The umbrella of claim 1, wherein the locking means for releasably securing the sliding member 16 to the main pole 14 comprises a cam latch member 74 having a cam surface 78, the cam latch member 74 being rotatable with respect to the sliding member 16 between a first position in which the cam surface 78 causes the sliding member 16 to be clamped against the main pole 14, and a second position in which the cam surface 78 permits movement of the sliding member 16 with respect to the main pole 14.

How could the inventor not have “possession” of the cam locking means in the ‘492 Patent at the time of the provisional if the dependent claim in the provisional recited the embodiment in issued Figure 4? Claim 2 is specifically directed to the cam locking means and is claimed identically in both the provisional application and the issued ‘492 patent. Claim 2 does not require a particular location of the cam latch member as it pertains to positioning on the sliding member. Instead, regardless of the location or orientation of the cam lever on the sliding member, the functionality of the cam locking means as described and claimed in the provisional application requires only that the cam latch member is rotatable with respect to the sliding member such that the cam surface clamps or unclamps the main pole. (Ex-1003, p. 16.) The recitation of the cam locking means embodiment in claim 2 establishes, without any doubt, that the inventor possessed the invention as of the filing date of the provisional.

In contending that none of the claims of the '492 patent are entitled to priority, including the other embodiments for which there is no dispute, Petitioner relies on the Federal Circuit's decision in *Anascape, Ltd. v. Nintendo of Am., Inc.*, 601 F.3d 1333, 1337 (Fed. Cir. 2010). In *Anascape*, the Federal Circuit concluded a patent filed as a continuation-in-part was not entitled to priority because it claimed a broader invention than described in the parent patent. *Id.* at 1340. The Federal Circuit noted that the parent specification expressly referenced the narrower embodiment over 20 times, but when the CIP was filed, every reference to the narrower embodiment in the specification was modified to the broader invention claimed in the CIP. *Id.* at 1336. There are no factual parallels between *Anascape* and this case.

Unlike in *Anascape*, the limitation at issue is a means-plus-function claim, where the embodiment presented in both the provisional and the '492 patent has the same structure and the same function, and where the inventor is entitled to the disclosed embodiments and any equivalent structures. This is particularly relevant here because claim 2, to the cam locking means at issue, is identical in both the provisional and the issued patent. There can be no dispute that claim 2 encompasses the cam locking means at issue as depicted in Figure 4 of both the provisional and issued patent. In contrast, in the *Anascape* decision, none of the claims could carry over from the parent patent to the subsequent related patents, therefore the patent owner could not have relied on the same claim to establish priority. With the same

claim directed to the same embodiment in question in both the provisional and issued patent, one cannot conclude the inventor did not have possession of it at the time of the original filing. *See, e.g., Enzo Biochem*, 323 F.3d at 988.

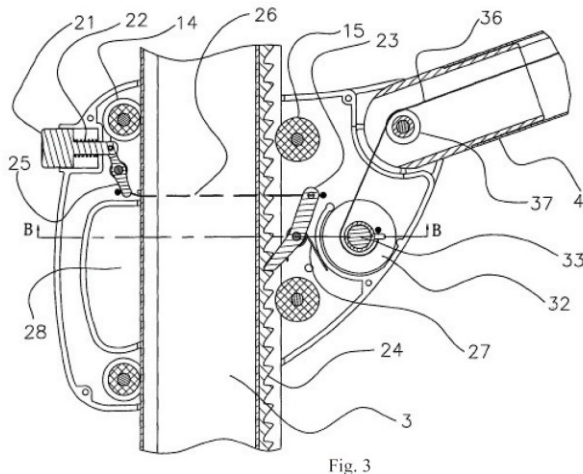
Petitioner also relies on *Auto. Techs. Int'l, Inc. v. Delphi Corp.*, 776 F. Supp. 2d 469, 490 (E.D. Mich. 2011) for the premise that an (immaterial) alteration of Figure 4 destroys priority to not only claim 1, but for all claims. Such an outcome is illogical and inconsistent with Federal Circuit law. First, priority is considered on a claim-by-claim basis (*Nat. Alts. Int'l*, 904 F.3d at 1383), but while Petitioner contests the disclosure of a single embodiment, it asks the Board to reach a conclusion of priority of all claims, including claims directed to different embodiments for which there is no argument that they were not disclosed. Importantly, the original claims of the provisional are part of the original specification (*In re Gardner*, 480 F.2d at 879) and “constitute their own description” (*In re Koller*, 613 F.2d at 823). How could claims 2-5—three specific embodiments of the locking means—which were filed in the provisional and issued in verbatim form, not properly establish priority to the provisional filing date? Ultimately, while the provisional clearly demonstrates the inventor had possession of all embodiments described and claimed in the issued ‘492 patent, there can be no dispute that the embodiments originally filed provide their own disclosure and establish possession. The only conclusion is that all such claims properly established priority.

B. The Wang ‘109 and Wang ‘439 are Not Prior Art and Therefore Cannot Anticipate the ‘492 patent

Grounds 1 and 2 of the petition assert that Wang ‘109 and Wang ‘439 anticipate claims 1 and 5-7. Paper 3, p. 1. Wang ‘109 issued on June 25, 2008, while Wang ‘439 issued on February 25, 2009. Ex-1005, Ex-1006. Petitioner’s Notice (Paper 3) argues it filed two petitions because the Wang ‘109 and Wang ‘439 are not prior art if the claims of the ‘492 patent have priority to the provisional filing. (*Id.*, p. 1.) Because the provisional application establishes the inventor had possession of all claims, neither reference is prior art and therefore cannot anticipate the claims of the ‘492 patent. As such, the Board should deny the Petition as to Grounds 1 and 2.

Moreover, from a legal perspective neither Wang ‘109 nor Wang ‘439 are capable of anticipation. A patent claim “cannot be anticipated by a prior art reference if the allegedly anticipatory disclosures cited as prior art are not enabled.” *Elan Pharm., Inc. v. Mayo Found.*, 346 F.3d 1051, 1054 (Fed. Cir. 2003). Although patents issued from the USPTO enjoy a presumption of validity, including the presumption of enablement (*see, e.g., N. Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 941 (Fed. Cir. 1990)), the Wang ‘109 and Wang ‘439 references Petitioner contends are anticipatory are foreign references and therefore do not enjoy the presumption. *Siemens's Adm'r v. Sellers*, 123 U.S. 276, 282, 8 S. Ct. 117, 119 (1887).

The purported locking means in Wang ‘109 use a steel wire (26) while Wang ‘439 uses a connection rope (103), but the only disclosure of either of these structures suggests an impossibility—that they somehow pass through the main pole of the umbrella. (Ex-2004, ¶¶69-72, 75-76.) As explained by Dr. Janét, the routing and movement of the wire/rope is physically impossible and lacks foundation in the specification. (*Id.*) Specifically, a POSITA would immediately recognize physically impossible depiction of the steel wire (26) in Figure 3 of the ‘109 Patent that not only passes through both the vertical pole (3) and “row of teeth (24) [that] is fixedly provided in the recess” of the vertical pole (3), rendering it impossible to move through them without physical modification that is not reflected anywhere in the specification or figures:



(Ex-2004, ¶¶68-71.) Similarly, Wang ‘439 states the “connection rope 103 can be a steel wire rope,” but the remaining description and figures fail to identify any structure or option to route the wire in a way that would be operable:

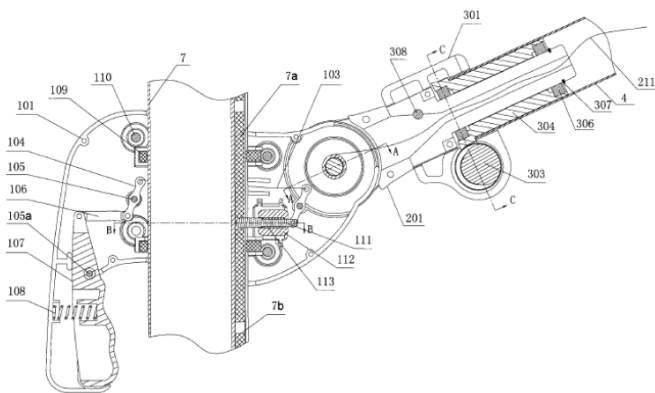


FIG. 2

(Ex-2004, ¶¶75-76.) As such, neither reference is enabled, and cannot provide a basis for anticipation.

C. Claims 1, 4-7 Are Not Rendered Obvious by Glatz ‘980 in view of Bertola ‘895 and Wang ‘460

As an initial matter, Patent Owner notes that the Petition labeled this ground as “Ground 4”. There are only three grounds of invalidity in the Petitioner’s Request, and the first two are entirely based upon patent references that are not prior art. This third ground, improperly labeled fourth ground in the Request, is entirely based upon prior art included in the first failed IPR of the ‘492 patent.

Petitioner concedes Glatz ‘980 does not disclose Limitation 1[G] (as identified in the Petition), because the reference at least fails to disclose a winding mechanism or a winder hub. (Pet., p. 61.) Instead, Glatz ‘980 opted for a cheap and simplistic approach to opening the canopy—manually pulling the line 68 (which itself is referred to as a pulling mechanism). Glatz ‘980, 5:27-31. As shown in the figures, the small

and simplistic slide 92 is not configured to include a winding mechanism or a winder hub.

Recognizing this failure in Glatz ‘980, Petitioner turns to Wang ‘460 for a winder hub. POSITA would not be motivated to reengineer the slide 92 of Glatz ‘980 to support a winding mechanism and winder hub, as this would eliminate the simplicity of the design expressly sought by the inventor of Glatz ‘980. Indeed, Glatz ‘980 champions itself a “simple solution” on three occasions. See, e.g., Glatz ‘980, 2:27-32. Further, Glatz ‘980 recites:

[a] particularly simple solution of the free-arm canopy is described in claim 17, in which the detent device comprises preferably a flexible connecting device, for example, a chain or a rope which can be fastened at various lengths between the connecting struts and the mast. For example, clamping elements can be used for clamping a rope, or simple hooks can be used for suspending a chain from various chain links. Glatz ‘980, 2:27-32.

The Petitioner contends that adding the crank from Wang ‘460 into Glatz ‘980 would be a “simple substitution”. Request at 23. Rather, the POSITA would recognize that this hindsight-based reworking of Glatz ‘980 would require substantial changes to the design of Glatz ‘980 and eviscerate the championed simplicity of Glatz ‘980 design. (Ex-2004, ¶82.) For example, the POSITA would appreciate that Glatz ‘980 discloses a clamping screw 102 carried on the sliding collar, and that the rope exits the first arm 8a at a base thereof. (*Id.*, ¶¶82-83.) The POSITA would recognize that

the proposed selective combination of the prior art would require redesign of the first arm to be integral with the sliding collar and permit the rope to be smoothly transmitted therethrough. (*Id.*) Further, this modification must be done without impacting the efficacy of the clamping screw. For example, the POSITA would notice that Wang '460's winding mechanism, shown in Figures 2 and 3 from the '460 Patent, is significantly more complex than the pull-cord-like "pulling mechanism" (68) and tie-down spur-like "securing device" (80a). (Ex-2004, ¶84.) Among other factors that dictate significant redesign and engineering, if possible at all, a POSITA would understand that Wang '460's winding device would add significant static loads to slide (92) and clamping screw (102), as well as dynamic loads from manually turning the crank (27); these loads are significantly more than a simple design would endure, requiring significant re-engineering to ensure the safety of users. (*Id.*) This re-engineering could require the slide (92) to be stronger and heavier, and require more elaborate sliding means (e.g., low-friction surfaces, rollers, etc.), which, in turn, would cause the mast (2a) and components that interface to the mast (2a) to become larger and more rugged. (*Id.*) Additionally, a POSITA would also likely move the clamping screw on the slide (92). (*Id.*)

Furthermore, the POSITA would appreciate "that other references considered by the original examiner, such as U.S. Patent No. 5,937,882A to Harbaugh, confirm that umbrellas at the time included a crank and winding mechanism, but Glatz '980

elected not to do so.” (*Id.*, ¶¶81.) The POSITA would appreciate that “[t]his was likely because Glatz ‘980 proposed a ‘simple solution’ (as noted three times in the patent).” (*Id.*) Because of the simplicity of Glatz ‘980 and the proposed approach for opening and closing the canopy, the POSITA “would not simply substitute the winding mechanism of Wang ‘460 because the entire sliding collar configuration would require a redesign, and it would be contrary to the ‘simple’ approach pursued by Glatz ‘980.” (*Id.*, ¶¶82.)

The POSITA would also appreciate that the proposed modification to Glatz ‘980 may change its principle of operation as Glatz ‘980 discloses a simple and less costly umbrella. In particular, the POSITA would appreciate that “[s]imple designs prioritize compactness” and that “[a]ccommodating complex elements often demands more space for additional parts (e.g., levers or cams), which may not fit without enlarging the mechanism.” (*Id.*, ¶¶84.) The POSITA would appreciate that the proposed modification of Galtz ‘980 would “make the redesigned product bulkier, heavier, or less portable, defeating the simplicity's original advantages.” (*Id.*) Further, in this field, the POSITA would appreciate that the proposed modification may entail latent complexities, such as “meet[ing] standards (e.g., ASTM standards for umbrellas), and adding complexity also introduce safety risks (e.g., pinch points from cams, fragile masts, jibs, etc.), [which] necessitate[e] certifications that delay market entry.” (*Id.*) In short, because the proposed modification of Glatz ‘980 changes the

disclosed umbrella from a simple, less expensive umbrella to a complex, costly umbrella with redesigned elements, the POSITA would not be modify Glatz '980 as proposed by the Petitioner.

Because the combination of this art is far from simple or viable, Petitioner's stated rationale to combine appears tantamount to the cursory and generic rationale proscribed by the Supreme Court, which has stated that "rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR v. Teleflex*, 550 U.S. 398 (2007) citing *In re Kahn*, 441 F. 3d 977, 988 (CA Fed. 2006).

Additionally, if the Board considers questions of obviousness, it must also consider the evidence of secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1 at 17-18, 148 USPQ 459 at 467 (1966). Here, the evidence of secondary considerations weighs heavily in favor of patentability, and is presented in detail in Section VII.D, below.

D. There is Significant Evidence of Secondary Considerations Never Addressed by the Petitioner

Evidence of secondary considerations cannot be discounted: it plays a critical role in the obviousness analysis and, indeed, weighs in Patent Owner's favor in this regard. See *Leo Pharm. Products, Ltd. v. Rea*, 726 F.3d 1346, 1358, (Fed. Cir. 2013).

That is, this evidence is not just a cumulative or confirmatory part of the obviousness analysis, but rather is independent evidence of non-obviousness that is the most probative evidence in that regard “in avoiding the trap of hindsight when reviewing what otherwise seems like, a combination of known elements.” *Leo Pharm. Products* at 1358 . Courts have cautioned against falling into the forbidden use of hindsight, and rely on evidence of secondary considerations to provide guides on this forbidden use. *Mintz v. Dietz & Watson*, 679 F.3d 1372, 1379 (Fed. Cir. 2012).

“The need for Graham findings can be important to ward against falling into the forbidden use of hindsight. Simply because the technology can be easily understood does not mean that it will satisfy the legal standard of obviousness. In fact, objective consideration of simple technology is often the most difficult because, once the problem and solution appear together in the patent disclosure, the advance seems self-evident. Instead, the proper analysis requires a form of amnesia that ‘forgets’ the invention and analyzes the prior art and understanding of the problem at the date of invention.” *Mintz v. Dietz & Watson*, at 1379.

Turning first to evidence of commercial success. The ‘492 Patent is not an example where “the patented invention is only a component of a commercially successful machine or process.” *Demaco Corp. v. F. Von Langsdorff Licensing, Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988)). To the contrary, independent claim 1 recites a unitary cantilevered umbrella reflected by the products of ATLeisure—these products are not solely components of a machine. As analyzed by Dr. Janét, ATLeisure’s most popular offset umbrella meets every element of claim 1. (Ex-2004, ¶¶102, 103.) “We presume that such a nexus applies for objective indicia when

the patentee shows that the asserted objective evidence is tied to a specific product and that product ‘embodies the claimed features, and is coextensive with them.’” *Polaris Indus. v. Arctic Cat, Inc.*, 882 F.3d 1056, 1072 (Fed. Cir. 2018), quoting *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1130 (Fed. Cir. 2000)).

Umbrellas covered by the ‘492 patent have been sold by ATLeisure since approximately 2012. In contrast to offset umbrella designs that locate the crank on the slide, a significant benefit to umbrellas under the ‘492 patent is that adjusting the angle of the canopy with the sliding member is more convenient than other designs, an important factor for purchasers. Ex-2003, ¶5. Since 2012, ATLeisure sold approximately ninety different models of umbrellas falling within the claims of the ‘492 patent, for a total of approximately 400,000 umbrellas. Ex-2003, ¶3. Also reflective of the high importance of the ‘492 patent technology is that more than 50% of all offset umbrellas sold in the market are covered by the ‘492 Patent, including those sold by ATLeisure and its licensees. *Id.*, ¶9

ATLeisure’s sales of umbrellas under the ‘492 patent need not be considered in a vacuum. In addition to selling umbrellas under the ‘492 patent, ATLeisure also sells “market” style umbrellas, which do not fall within the claims of the ‘492 patent. Ex-2003, ¶6; Ex-2004, ¶100. In the relevant market, the cost of market style umbrellas is far less and they are priced lower than offset umbrellas, ATLeisure

estimates the market share for umbrellas covered by the ‘492 patent has risen to approximately 27-30% of all types of patio umbrellas, even with a significantly higher price than market style umbrellas. Ex-2003, ¶¶7, 9. Not only does the price disparity reflect the value, but umbrellas covered by the ‘492 patent are much higher than market style umbrellas, which results in a much higher per-product revenue for ATLeisure. *Id.*, ¶7. Put another way, customers value the benefits of the ‘492 patent enough to pay significantly more for patio umbrellas offered with the technology.

“Unlike products, which may incorporate numerous features beyond those claimed or described in a patent and therefore may require careful parsing to establish a nexus, actual licenses to the subject patent do not demand the same, as they are, by their nature, directly tied to the patented technology.” *Ancora Techs., Inc. v. Roku, Inc.*, Nos. 2023-1674, 2023-1701, 2025 U.S. App. LEXIS 14748, at *21 (Fed. Cir. June 16, 2025); *LaserDynamics, Inc. v. Quanta Computer, Inc.*, 694 F.3d 51, 79 (Fed. Cir. 2012). ATLeisure has regularly licensed the ‘492 patent, and currently has 29 licenses, reflecting the importance of this technology in the market. Ex-2003, ¶8. Not only have numerous licenses been entered for the ‘492 patent, but these licenses have generated about \$12MM in payments from licensees. *Id.* While the Federal Circuit recently recognized that even licenses involving other patents provide evidence of nonobviousness, here all but one of ATLeisure’s licenses were specific to the ‘492 patent. *See Ancora Techs., Inc. v. Roku, Inc.*, Nos. 2023-1674,

2023-1701, 2025 U.S. App. LEXIS 14748, at *22 (Fed. Cir. June 16, 2025) (“Licenses to the challenged patent then, unlike products or other forms of objective evidence of nonobviousness, do not require a nexus with respect to the specific claims at issue, nor does our nexus law require that a particular patent be the only patent being licensed or the sole motivation for entering into a license.”) Given the higher margins, significant market share, and numerous licenses, evidence of secondary considerations weighs heavily against a finding of obviousness.

VIII. CONCLUSIONS

Even based on the preliminary record currently before the Board, the Petition is deficient in multiple respects, and that the Petitioner has failed to meet its statutory burden of demonstrating unpatentability by a preponderance of the evidence pursuant to 35 U.S.C. §316(e).

Patent Owner does not point out every deficiency of the Petition and instead reserves the right to make additional arguments and provide additional evidentiary support in its §42.120 Response should the Board institute *inter partes* review.

Therefore, Patent Owner respectfully submits that no *inter partes* review should be instituted, and that patentability of the challenged claims should accordingly be confirmed.

Dated: September 16, 2025

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37 C.F.R. §42.24(d) CERTIFICATION

The undersigned hereby certifies that this submission, excluding the tables of contents, certificate of word count, exhibit list, and certificate of service, contains 5,639 words, as determined using the standard word counting feature of the Microsoft Word program.

Dated: September 16, 2025

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CERTIFICATE OF SERVICE

Petitioner has consented to e-mail service in this proceeding. Pursuant to 37 C.F.R. §42.6, the undersigned certifies that on September 16, 2025, a copy of the foregoing document was served by email upon the following counsel at the below email addresses:

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