

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TREASURE GARDEN, INC.,
Petitioner,

v.

ATLEISURE, LLC,
Patent Owner

Case IPR2025-01006
Patent 8,104,492

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

TABLE OF CONTENTS

I.	Introduction.....	1
II.	The ‘492 Patent Challenged Claims	2
III.	Overview of the asserted prior art	2
A.	The Wang ‘460 Patent: Chinese Patent No. ZL 200720106096.5 / CN 201001460Y	4
B.	The Ma ‘763 Patent: U.S. Patent No. 6,321,763.....	4
C.	The Tung Patent: U.S. Patent No. 6,478,037	8
D.	The Liu ‘171 Patent: U.S. Patent No. 5,284,171	8
E.	The Bertola Patent: German Patent No. DE20014895U1.....	10
F.	The Ma ‘297 Patent Application: European Patent Application No. EP1602297	11
IV.	File History	13
V.	Claim Construction.....	13
A.	Legal Standard.....	16
B.	Level of Ordinary Skill	16
VI.	PRIOR IPR PROCEEDINGS.....	22
VII.	Argument	23
A.	Claims 1, 4-7 Are Not Rendered Obvious by Wang ‘460 in view of Tung ‘037, Liu ‘171 or Bertola ‘895	24
B.	Claims 1, 4-7 Are Not Rendered Obvious by Ma ‘763 in view of Ma ‘297 and further in view of Bertola ‘895.....	27
C.	There is Significant Evidence of Secondary Considerations Never Addressed by the Petitioner	31

VIII. Conclusions.....	31
------------------------	----

TABLE OF AUTHORITIES

Cases

<i>Ancora Techs., Inc. v. Roku, Inc.</i> , Nos. 2023-1674, 2023-1701, 2025 U.S. App. LEXIS 14748 (Fed. Cir. June 16, 2025).....	33, 34
<i>Atmel Corp. v. Info. Storage Devices, Inc.</i> , 198 F.3d 1374 (Fed. Cir. 1999)	18
<i>Brown & Williamson Tobacco Corp. v. Philip Morris Inc.</i> , 229 F.3d 1120 (Fed. Cir. 2000)	32
<i>Demaco Corp. v. F. Von Langsdorff Licensing Ltd.</i> , 851 F.2d 1387 (Fed. Cir. 1988)	31, 32
<i>Graham v. John Deere Co.</i> , 383 U.S. 1, 148 USPQ 459 (1966)	27
<i>In re Kahn</i> , 441 F. 3d 977, 988 (CA Fed. 2006).....	27
<i>Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.</i> , 381 F.3d 1111 (Fed. Cir. 2004)	16
<i>JVW Enters. v. Interact Accessories, Inc.</i> , 424 F.3d 1324 (Fed. Cir. 2005)	18, 19
<i>KSR v. Teleflex</i> , 550 U.S. 398 (2007)	27
<i>LaserDynamics, Inc. v. Quanta Computer, Inc.</i> , 694 F.3d 51 (Fed. Cir. 2012)	33
<i>Leo Pharm. Products, Ltd. v. Rea</i> , 726 F.3d 1346 (Fed. Cir. 2013)	31
<i>Markman v. Westview Instruments, Inc.</i> , 52 F.3d 967 (Fed. Cir. 1995)	17
<i>Merrill v. Yeomans</i> , 94 U.S. 568 (1876).....	17
<i>Mintz v. Dietz & Watson</i> , 679 F.3d 1372 (Fed. Cir. 2012).	31

<i>Northrop Grumman Corp. v. Intel Corp.</i> , 325 F.3d 1346 (Fed. Cir. 2003)	19
<i>Odetics, Inc. v. Storage Tech. Corp.</i> , 185 F.3d 1259 (Fed. Cir. 1999)	20
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005)	16, 17
<i>Polaris Indus. v. Arctic Cat, Inc.</i> , 882 F.3d 1056 (Fed. Cir. 2018)	32
<i>Vitronics Corp. v. Conceptronic</i> , 90 F.3d 1576 (Fed. Cir. 1996)	21
<i>Voter Verified, Inc. v. Election Sys. & Software, Inc.</i> , 2011 WL 3236023, (M.D. Fla. July 28, 2011), <i>aff'd sub nom.</i> , <i>Voter Verified, Inc. v. Premier Election Sols., Inc.</i> , 681 F. App'x 977 (Fed. Cir. 2017)	18

Statutes

35 U.S.C. §314	1
35 U.S.C. §316(e)	1, 36

Rules

83 Fed. Reg. 51341 (Oct. 11, 2018)	21
MPEP 2125 I	24

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. 1007	Chinese Utility Model Patent No. CN 201001460Y (“Wang ‘460”) (Appl. No. ZL 200720106096.5) with Certified English Translation
Ex. 1009	U.S. Patent No. 6,321,763 (“Ma ‘763”)
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. 1015	European Patent Application No. EP1602297 (Ma ‘297)
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

Ex. 1019	The New Oxford American Dictionary
Ex. 1020	The American Heritage Dictionary
Ex 1023	Dr. Klopp C.V.
Ex 1024	ATLeisure, LLC v. Ace Evert, Inc., Case No. 1:12-cv-01260, Dkt. 85 (N.D. Ga. May 20, 2013)
Ex 1025	ATLeisure, LLC v. Sunvilla Corp., Case No. 1:20-cv-04662, Dkt. 46 (N.D. Ga. July 26, 2021)
Ex 1026	ATLeisure, LLC v. Lowe’s Home Centers, LLC, Case No. 6:22-cv-682-WWB-GJK, Dkt. 39 (M.D. Fla. Dec. 16, 2022)
Ex 1027	Order Regarding Special Master, ATLeisure, LLC v. Treasure Garden, Inc., 1:24-cv-02270, Dkt. 55 (N.D. Ga. Feb. 28, 2025)
Ex 1028	Order Granting Joint Motion to Consolidate, ATLeisure, LLC v. Qingdao Activa Shade Inc., 1:24-cv-05424, Dkt. 24 (N.D. Ga. Apr. 9, 2025)
Ex 1029	Joint Submission of Proposed Schedule, ATLeisure, LLC v. Treasure Garden, Inc., 1:24-cv-02270-TRJ, Dkt. 61 (N.D. Ga. Apr. 10, 2025)
Ex 1030	Complaint, ATLeisure, LLC v. Treasure Garden, Inc., 1:24-cv-02270-TRJ, Dkt. 1 (N.D. Ga. May 23, 2024)
Ex 1031	Complaint, ATLeisure, LLC v. Activa Shade Inc., 1:24-cv-05424, Dkt. 1 (N.D. Ga. Nov. 25, 2024)
Ex-2003	Declaration of Jason Bliss
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 has set forth two grounds of argument in an attempt to establish the unpatentability of the claims of the ‘492 patent. The first obviousness-based ground relies on Wang ‘460 in view of Tung ‘037, Liu ‘171 or Bertola ‘895. As detailed herein, this ground fails because Petitioner fails to establish the motivation to combine and instead represents a selective combination of prior art references using the ‘492 patent as a roadmap, and the references themselves were all considered in the prior first IPR on the ‘492 patent, in which institution was denied.

The second obviousness-based ground relies upon Ma ‘763 in view of Ma ‘297 and Bertola ‘895. This ground also fails because it also fails to establish a motivation to combine and represents a selective combination of prior art references using the ‘492 patent as a roadmap.

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.

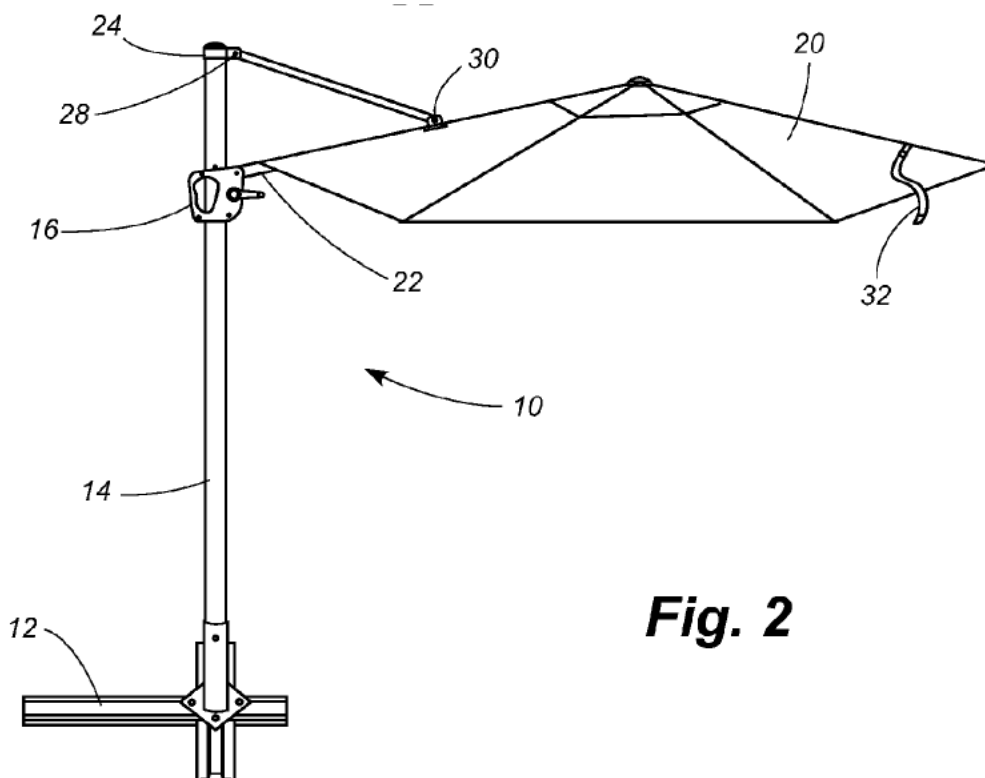


Fig. 2

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.

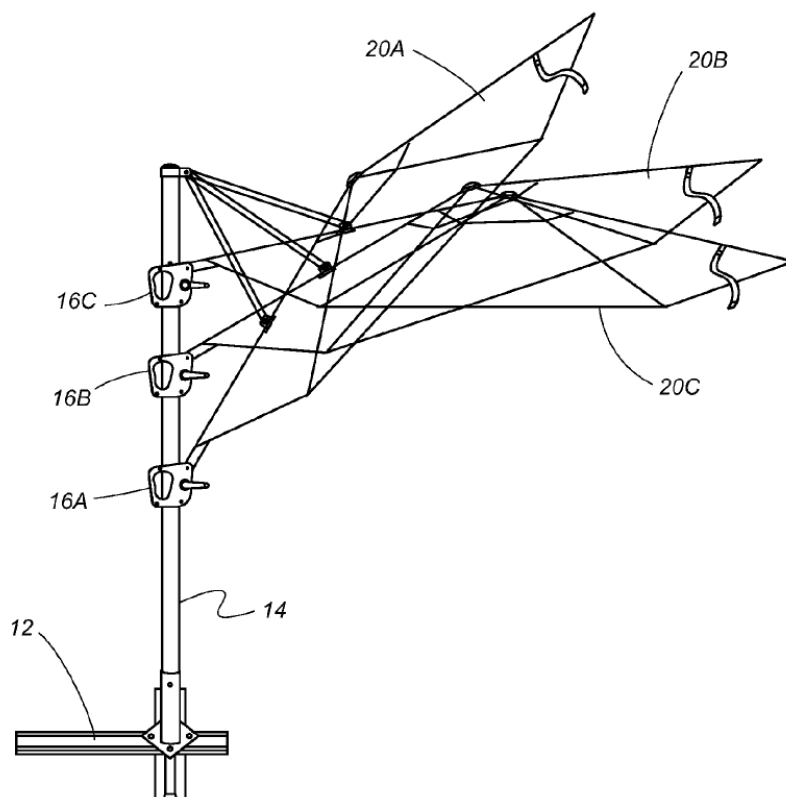


Figure 6 of the '492 Patent

III. OVERVIEW OF THE ASSERTED PRIOR ART

A. The Wang '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.

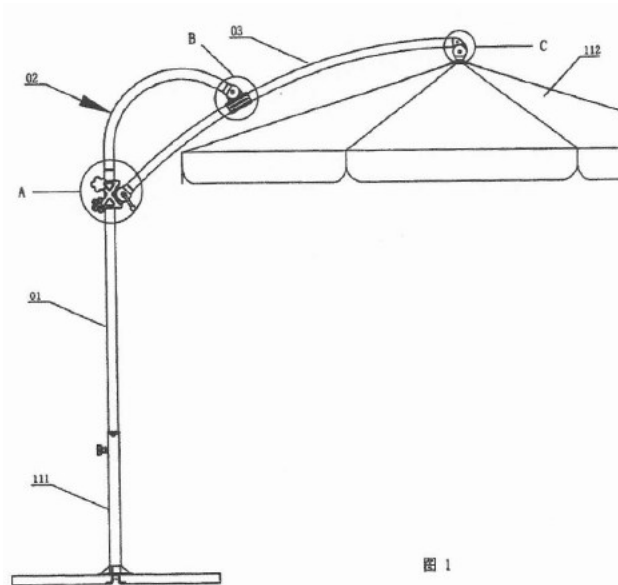


Figure 1 of the Wang '460 Patent

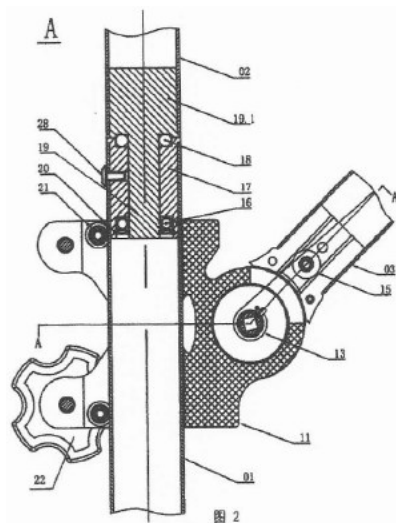


Figure 2 of the Wang '460 Patent

B. The Ma '763 Patent: U.S. Patent No. 6,321,763

The Ma '763 patent discloses an umbrella 10 comprising a mast 11, a sliding

member 14 coupled to the mast, a canopy 18, a first arm 12 coupled between the sliding member and the canopy, and a second arm 13 coupled between an upper end of the mast and the first arm. The umbrella comprises a fixed crank 16 coupled to a lower end of the mast, and controlling the position of the sliding member. In particular, this umbrella comprises a primary rope 25, and a secondary rope 26. The secondary rope is coupled between a runner 21 in the canopy and a pin 29 in the mast. The primary rope is coupled to the fixed crank and extends around a pulley 27 in the upper end of the mast, and is coupled to the sliding member. The Ma '763 also discloses a locking device 17 in the first arm for pinching the secondary rope.

The Ma '763 patent recites:

when the slide 14 is driven by the movement of the primary rope 25 to slide toward the upper end of the pole 11, the distance between the slide 14 and the pin 29 that fixes proximate end of the secondary rope 26 to the pole 11 is increased, which causes the runner 21 to move toward the crown 19 and thus open the panel 18, as shown in FIG. 1. On the other hand, when the slide 14 is moved in an opposite direction, toward the lower end of the pole 11, such releases the runner 21. By means of a Spring force provided by the stretchers 22, the panel 18 is driven to close, as shown in FIG. 2.

Ma '763, 4:41-52.

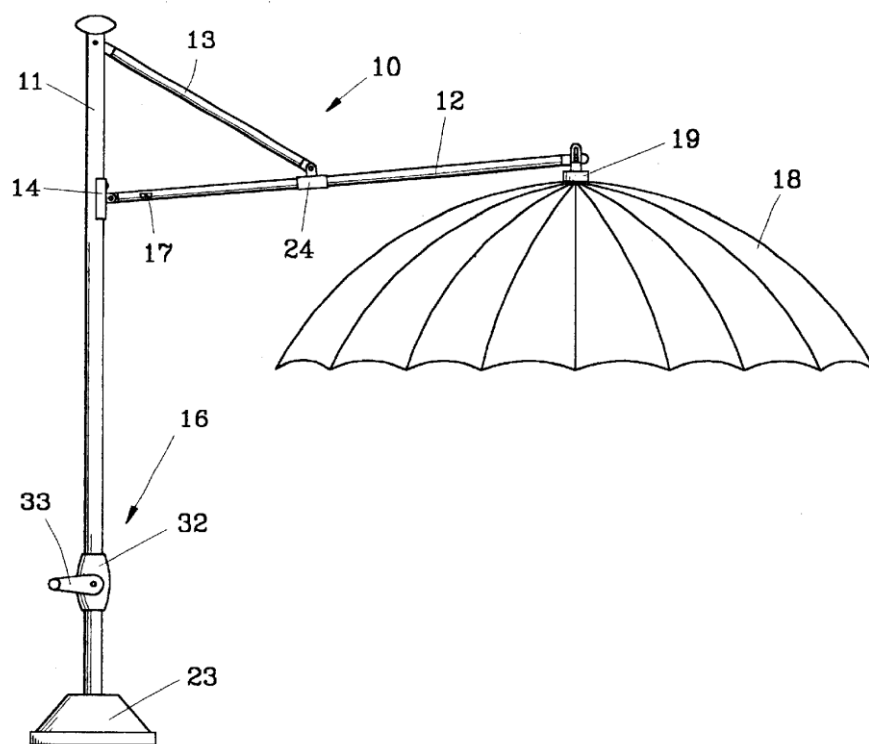


FIG.1

Figure 1 of Ma '763

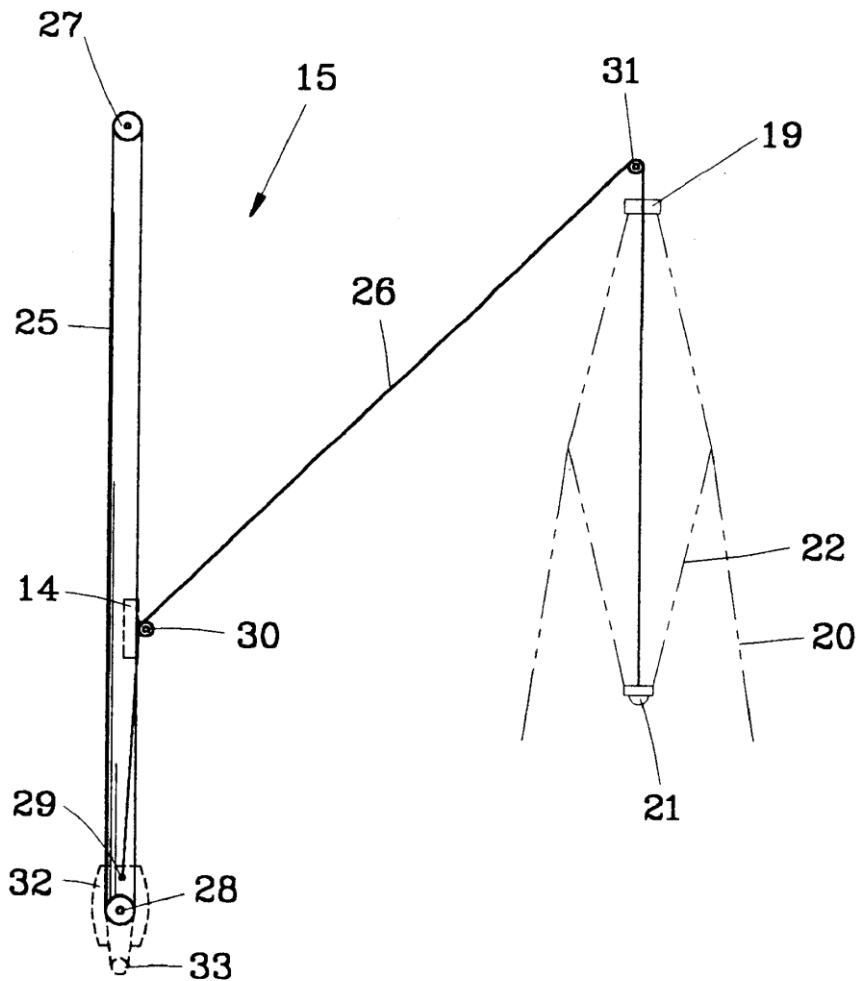


Figure 4 of Ma '763

C. 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.

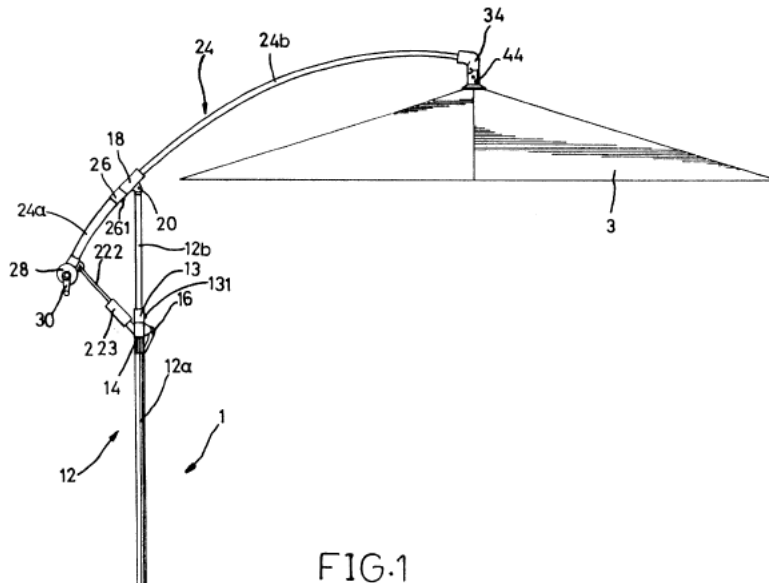
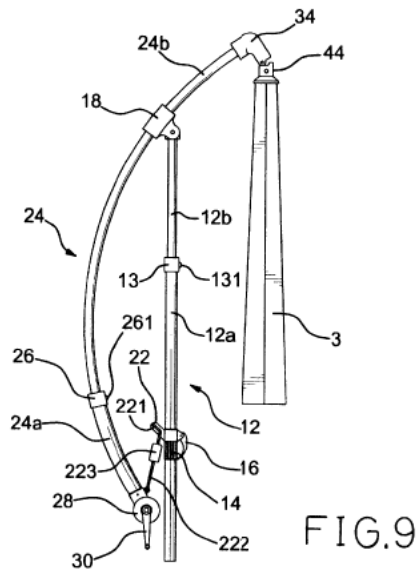


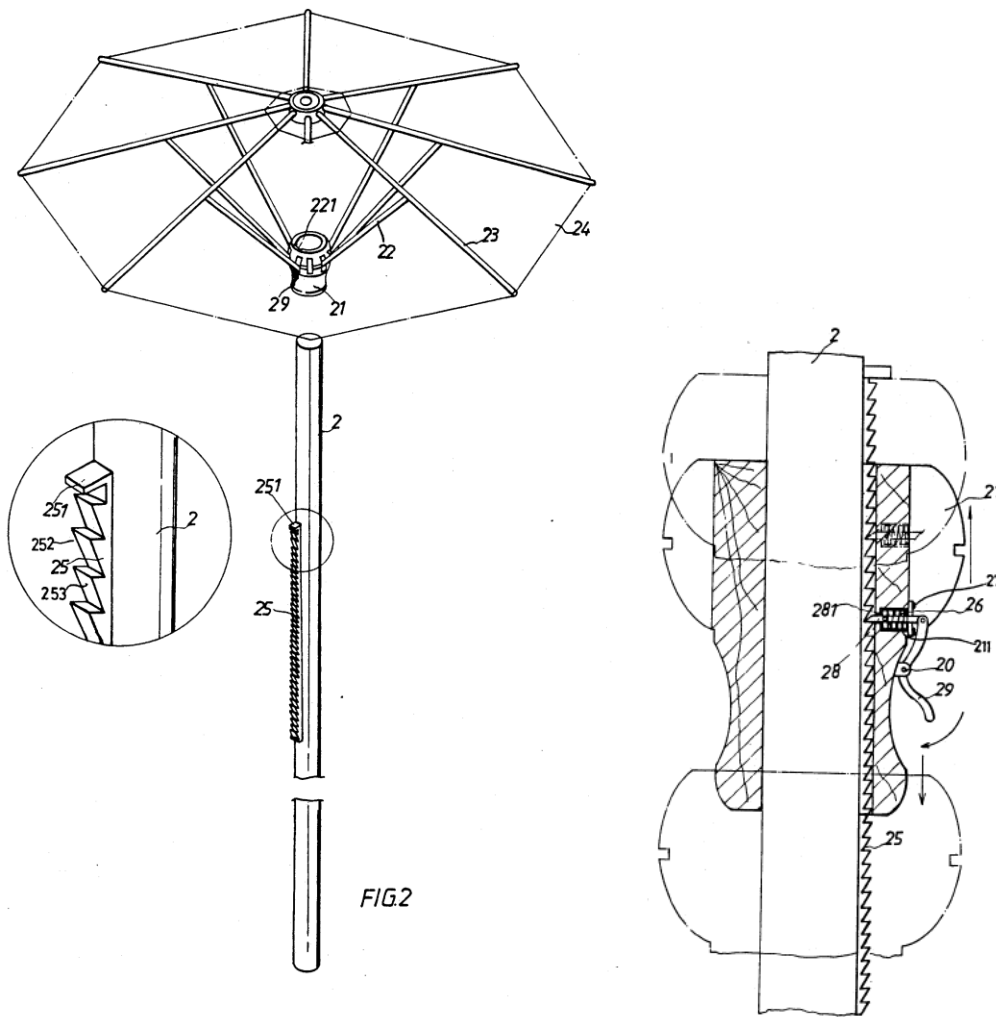
FIG.1



Figures 1 and 9 of the Tung Patent

D. 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 slidingly 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

E. 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 slidingly 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.

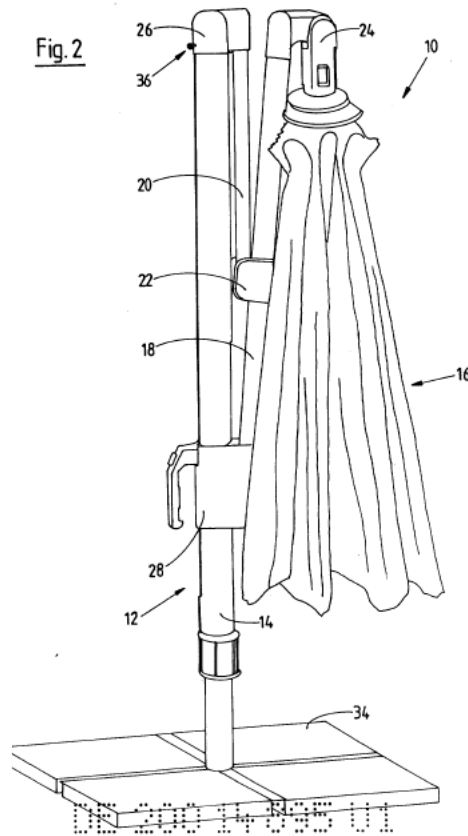


Figure 2 of the Bertola Patent

F. The Ma '297 Patent Application: European Patent Application No. EP1602297

The Ma '297 patent application discloses an umbrella comprising an arcuate mast 12 comprising sliding members, and a canopy coupled to a distal end of the arcuate mast. The umbrella comprises a crank 16 coupled to the arcuate mast, and a rope 19 coupled between the crank and the canopy.

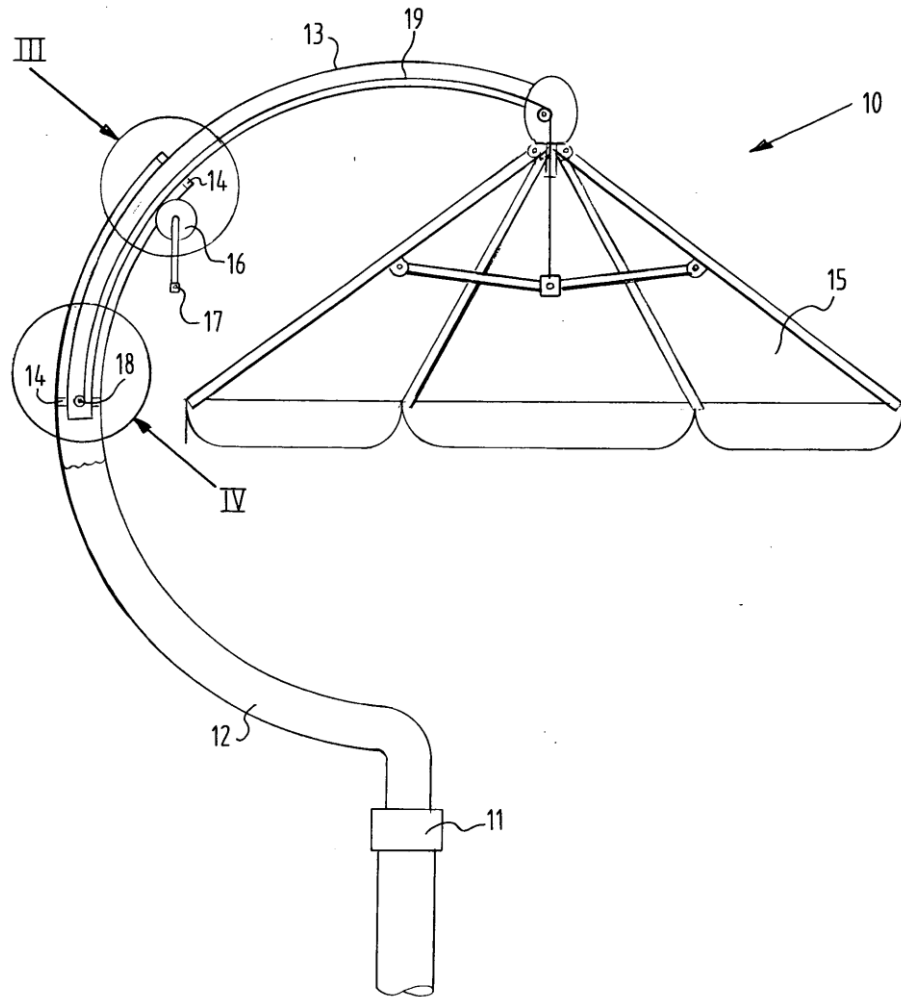


Figure 2 of Ma '297 Patent

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 JW 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. Claims 1, 4-7 Are Not Rendered Obvious by Wang '460 in view of Tung '037, Liu '171 or Bertola '895

As an initial matter, Patent Owner notes that this ground is based entirely upon prior art references included, considered, and rejected by the PTAB in the first failed IPR of the '492 patent. Moreso, "Tung '037 was also considered in the original prosecution [of the '492 patent]. In other words, the combinations are entirely cumulative of prior unsuccessful challenges to the '492 patent." Ex. 2004 at 44.

Patent Owner submits that Claims 1, 4-7 are patentable over Wang '460 in view of Tung '037, Liu '171 or Bertola '895. Firstly, Patent Owner submits that the combination of prior art references fails to disclose or fairly suggest the angle of the umbrella canopy with respect to the main pole can be controlled *by moving the sliding member along the main pole*, as recited in independent Claim 1. Rather, Wang '460 recites:

when it is necessary to change the shielding position of the parasol, the sliding sleeve 11 is slightly loosened, the parasol cover 112 is pushed to drive the suspension rod 03 and the pull rod 02 to rotate horizontally around the parasol pole 01, and then the rotating handle 22 is tightened. When it is necessary to change the pitch angle of the parasol, the parasol rope 13 can be slightly loosened to disengage the upper plug 58 from the joint 51, then the parasol cover is moved to adjust the pitch angle to reach a suitable angle where the normal line of the parasol cover points to the sun, and then the parasol rope 13 is tightened so that the upper

plug 58 rises and re-engages the joint 51 for positioning, so that the parasol cover is stable.
Wang '460 at 18.

It appears Wang '460 discloses rotation about a vertical axis aligned with the mast, but the pitch angle discussion is unclear at best for the POSITA. Tung '037 differently discloses changing the pitch angle via sliding the arcuate tube 24 through the holding sleeve 18.

Secondly, Patent Owner submits that the proposed rationale to change the sliding collar configuration of Wang '460 with the sliding collar of Tung '037 is insufficient to sustain a proper conclusion of obviousness. The Petitioner contended that the "POSITA would have been motivated to modify the Wang '460 umbrella to have the sliding sleeve and locking means disclosed in Tung for adjusting the angle of the canopy to improve the umbrella." Request at 37. However, the POSITA would recognize that the proposed redesign of Wang '460 is substantial and changes the principle of operation of Wang '460. As correctly noted by the Petitioner, Wang '460 states that:

to change the pitch angle of the parasol, the parasol rope 13 can be slightly loosened to disengage the upper plug 58 from the joint 51, then the parasol covered is moved to adjust the pitch angle to reach a suitable angle where the normal line of the parasol cover points to the sun, and then the parasol rope 13 is tightened so that the upper plug 58 rises and re-engages the joint 51 for positioning, so that the parasol cover is stable. Wang '460 at 18.

In particular, the proposed change of Wang ‘460 would replace the horizontal rotating connection structure of the mast, which allows the canopy to “rotate 360° horizontally relative to the parasol pole 01.” Wang ‘460 at 17. Since this feature is critical to the functionality of the umbrella of Wang ‘460, the POSITA would not make such a modification. Instead, the POSITA would recognize that:

[t]he proposed change of Wang ‘460 is not inconsequential. Instead, the proposed alteration requires the replacement of the horizontal rotating connection structure of the mast, which allows the canopy to “rotate 360° horizontally relative to the parasol pole 01” (Wang ‘460 at 17). This structure is critical to the functionality of the umbrella disclosed in Wang ‘460. POSITA would not make such a modification unless motivated, and Petitioner offers no such motivation other than a purported improvement of the umbrella. Only hindsight reveals such a rationale.

Ex. 2004 at 45-46. The POSITA would also recognize that Wang ‘460 and Tung ‘037 disclose disparate technical approaches. For example, each prior art reference operates differently with respect to adjusting the pitch angle of the umbrella, and comprises differing joint structures. *See id. at 46*. The POSITA would appreciate that radical design changes in the umbrella field carry latent complexities, such as “meet[ing] standards (e.g., ASTM standards for umbrellas)” and considering “safety risks (e.g., joint failure, load bearing member collapse, etc.), [which] necessitate[e] certifications that delay market entry.” *Id. at 47*. The POSITA would

note that: “[r]edesigning also involves multiple prototypes and simulations (e.g., FEA for stress), which can cost significantly for even small mechanisms.” *Id.*

In fact, the stated rationale to combine of to “improv[ing] the umbrella” appears tantamount to the cursory and generic rationale proscribed by the Supreme Court, Request at 37, 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. C, below.

Accordingly, Patent Owner submits that Claims 1, 4-7 are patentable over Wang ‘460 in view of Tung ‘037, Liu ‘171 or Bertola ‘895.

B. Claims 1, 4-7 Are Not Rendered Obvious by Ma ‘763 in view of Ma ‘297 and further in view of Bertola ‘895

Patent Owner submits that Claims 1, 4-7 are patentable over Ma ‘763 in view of Ma ‘297 and Bertola ‘895. Firstly, Patent Owner submits that the proposed

selective combination of prior art references is also cumulative to the prior art references cited in the original prosecution of the '492 patent. In particular, Ma '763 discloses an umbrella similar to the disclosure of Harbaugh '882, which was cited and applied in the initial rejection of the '492 patent. Ex. 2004 at 47-48.

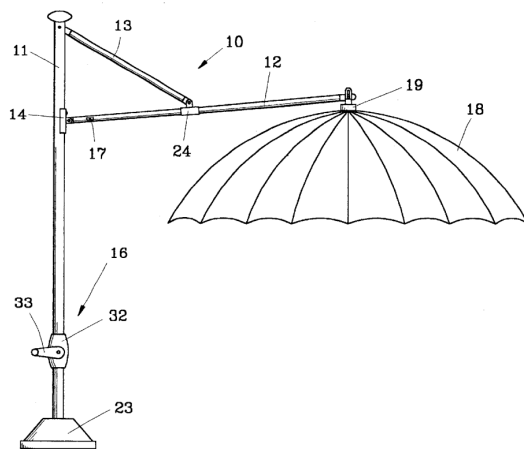


FIG. 1

Figure 1 of Ma '763

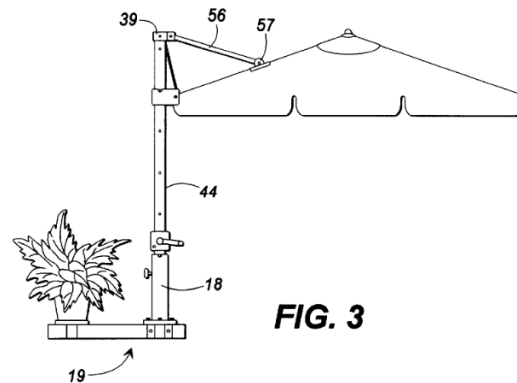


FIG. 3

Figure 3 of Harbaugh '882

Secondly, the proposed rationale to change the primary and secondary rope configuration of Ma '763 with the locking device of Bertola '895 is insufficient to sustain a proper conclusion of obviousness. The Petitioner contends that: “[a] POSITA would have understood that a simple substitution of the primary rope used to lock the sliding member in Ma '763 with the known pin and hole mechanism of Bertola would yield predictable results and would improve the Ma '763 umbrella.” Request at 50. Rather, the POSITA would recognize that the secondary rope is

tensioned between the canopy 18 and the pin 29 in the mast. Because of this, moving the sliding member 14 requires substantial force to both raise the sliding member and cause the canopy to open. The POSITA would appreciate that removing the primary rope feature of Ma '763 would require substantial redesign of the primary reference. Ex. 2004, ¶48.

In particular, the proposed modification would require the user to lift the sliding member manually against the weight of the canopy via the secondary rope. *Id. at 49*. This proposed modification would be undesirable as it would necessitate substantial strength from the user of a typical patio umbrella. See *Id.* Because the proposed modification changes the principle of operation of Ma '763 and renders it unsatisfactory for its intended purpose, the POSITA would not make such a selective modification of Ma '763.

Thirdly, Patent Owner submits that the proposed rationale to change the primary and secondary rope configuration of Ma '763 with the winding device of Ma '297 is insufficient to sustain a proper conclusion of obviousness. In an attempt to provide the claimed features of:

- 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, and

wherein operation of the winding mechanism to apply tension to the line opens and closes the umbrella canopy in response to movement of the line[.]

Claim 1 of '492 patent.

The Petitioner contended that: “[a] POSITA would have understood the benefits of combining Ma ‘297’s winder hub (reel 18) with Ma ‘763’s locking device 17. Ex. 1004, ¶ 149. Ma ‘763’s locking device 17 has a locking member that pivots to pinch the line.” Request at 57.

For much the same reasons noted above, the proposed modification of Ma ‘763 requires a substantial redesign of the primary and secondary ropes. Ex. 2004, ¶48. Further, the umbrella design Ma ‘297 is different from the cantilevered design of Ma ‘763, and the proposed modification would result in two winder devices in Ma ‘763, one added to the sliding member from Ma ‘297 and the original winding device 16 for moving the sliding member. *Id.* Because of these design issues and the additional cost of the proposed modification, the POSITA would not make such a selective combination of the disparate umbrella designs. Additionally, the evidence of secondary considerations weighs heavily in favor of patentability, and is presented in detail in Section VII. C, below. Accordingly, Patent Owner submits that Claims 1, 4-7 are patentable over Ma ‘763 in view of Ma ‘297 and Bertola ‘895.

C. 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

/Jack Abid/
JACK GEORGE ABID
Reg. No. 58,237
Allen, Dyer, Doppelt
+ Gilchrist P.A.
255 S. Orange Avenue, Suite
1401
Post Office Box 3791
Orlando, Florida 32802
407-841-2330
407-841-2343 fax
jabid@allendyer.com

*Back-up Counsel for Patent
Owner*

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 6,836 words, as determined using the standard word counting feature of the Microsoft Word program.

Dated: September 16, 2025

/Jack Abid/
JACK GEORGE ABID
Reg. No. 58,237
Allen, Dyer, Doppelt
+ Gilchrist P.A.
255 S. Orange Avenue, Suite
1401
Post Office Box 3791
Orlando, Florida 32802
407-841-2330
407-841-2343 fax
jabid@allendyer.com

*Back-up Counsel for Patent
Owner*

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:

Lauren Keller Katzenellenbogen, Esq.
Knobbe, Martens, Olson & Bear, LLP
2040 Main Street, 14th Floor
Irvine, CA 92614
lauren.katzenellenbogen@knobbe.com
BoxTGINCL.330LP@knobbe.com

Andrew M. Douglas, Esq.
Matthew Petersen, Esq.
Knobbe, Martens, Olson & Bear, LLP
2040 Main Street, 14th Floor
Irvine, CA 92614
andrew.douglas@knobbe.com
matthew.petersen@knobbe.com

Dated: September 16, 2025

/Jack Abid/
JACK GEORGE ABID
Reg. No. 58,237
Allen, Dyer, Doppelt
+ Gilchrist P.A.
255 S. Orange Avenue, Suite
1401
Post Office Box 3791
Orlando, Florida 32802
407-841-2330
407-841-2343 fax
jabid@allendyer.com

*Back-up Counsel for Patent
Owner*