

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

Case IPR2025-01006

Patent 8,104,492

DECLARATION OF JASON A. JANÉ

I, Jason Janét, declare as follows:

1. My name is Dr. Jason A. Janét. I am over the age of majority and legally competent to testify to the true facts stated herein.
2. I have been retained by ATLeisure, LLC (“ATLeisure” or “Patent Owner”) in connection with the dispute with Petitioner Treasure Garden, Inc. associated with U.S. Patent No. 8,104,492 (the “’492 Patent,” Ex-1001).
3. I have reviewed and am familiar with the specification of the ‘492 Patent filed May 5, 2009, based on the earlier Provisional Application No. 61/050,353, filed May 5, 2008. I understand that the ‘492 Patent has been provided as Ex-1001. I will cite to the specification using the following format: Ex-1001, ‘492 Patent, 1:1-10. This example citation points to the ‘492 Patent specification at column 1, lines 1-10.
4. I have reviewed and am familiar with the file history of the ‘492 Patent. I understand that the file history has been provided as Ex-1002, while the Provisional Application is located at Ex-1003.
5. I have been asked to provide my technical review, analysis, insights, and opinions regarding the ‘492 Patent and the below identified references that Petitioner used as its basis for the grounds set forth in the Petition for Inter Partes Review of the ‘492 Patent.

I. Qualifications

6. In forming my opinions, I rely on my knowledge, training, and experience as a mechanical engineer and on documents and information referenced in this Declaration.

7. My credentials are set forth in full detail in my Curriculum Vitae which is attached as Exhibit A, incorporated here by reference, and summarized as follows: I am currently CTO for Applied Research Associates (ARA). I also hold the rank of Adjunct Associate Professor at Duke University and at North Carolina State University.

8. I received a Bachelor of Science in Mechanical Engineering from the University of Virginia in 1990; a Master of Integrated Manufacturing Systems from the Integrated Manufacturing Systems Engineering Institute at North Carolina State University in 1994; and a Ph.D. in Electrical and Computer Engineering from North Carolina State University in 1998.

9. Since 1991, I have been active in the robotics, sensors, artificial intelligence, pattern analysis, and automation fields. My MS thesis, entitled Global Motion Planning and Self-Referencing for Autonomous Mobile Robots, leveraged graph theory and time-of-flight and/or Doppler sensors to optimize mobile robot movement through, and perception of, environments. My PhD dissertation, entitled Pattern Analysis, Tracking and Control for Autonomous Vehicles, leveraged

multiple UGVs, time-of-flight and/or Doppler sensors, point clouds, and neural networks to enhance simultaneous localization and mapping (SLAM), as well as the sharing of knowledge between multiple different UGVs. I have authored numerous publications and have co-authored a textbook entitled Computational Intelligence.

10. In 2018, I joined ARA as CTO. My primary responsibilities include leading the commercialization and technology transition efforts, which require technical, business and corporate development, as well as the procurement of capital and managing matrixed rosters.

11. I have served as an expert witness on approximately 100 cases including cases involving IPR, ITC, contract disputes, and civil litigation in District and Federal Courts. My resume lists these cases.

12. I am being compensated \$500 per hour for my time spent working in connection with this case. My compensation is in no way related to the outcome of this litigation. If called as a witness, I would testify as to the statements and opinions contained in this report.

II. Materials Considered

13. I offer my opinions in this matter based on my training and experience, as well as my investigation and study of the relevant material. I have reviewed the '492 Patent, its file history, and the documents listed below and cited herein:

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

Exhibit No.	Brief Description
Ex. 1018	Bloomsbury English Dictionary
Ex. 1019	The New Oxford American Dictionary
Ex. 1020	The American Heritage Dictionary
Ex. 1021	INTENTIONALLY OMITTED
Ex. 1022	U.S. Patent No. 4,619,281 (Redl '281)
Ex. 2003	Declaration of Jason Bliss

14. I have also relied on my education, experience, research, training, and knowledge in the relevant art, and my understanding of any applicable legal principles described in this declaration.

15. All of the opinions contained in this declaration are based on the documents I reviewed and my knowledge and professional judgment. My opinions have also been guided by my understanding of how a person of ordinary skill in the art would have understood the claims of the '492 Patent at the time of invention.

16. I reserve the right to supplement and amend any of my opinions in this declaration based on documents, testimony, and other information that becomes available to me after the date of this declaration.

III. Legal Understanding

17. ATLeisure's counsel has advised me that anticipation under 35 U.S.C. §102 is a basis for invalidity. I understand for a claim to be "anticipated" the prior art reference must not only disclose all elements of the claim within the four corners of the document but must also disclose those elements arranged as in the claim. I have been informed that the standard for anticipation in an inter partes review proceeding is by a preponderance of the evidence.

18. I have also been informed that a prior art reference can disclose a claim feature if that feature is expressly described by that reference, or inherent from its disclosure. I have been informed that something is inherent from a prior art reference if the missing descriptive matter must necessarily be present, and it would be so recognized by a person of ordinary skill in the art ("POSITA"). I also have been informed that inherency cannot be established by probabilities or possibilities, and that the mere fact that something may result from a given set of circumstances is not sufficient to show inherency.

19. I have further been informed that where a reference discloses multiple embodiments, the reference should not be limited to a preferred embodiment. Instead, each disclosed embodiment may anticipate. Moreover, I have been informed that, as part of an anticipation analysis, it is proper to take into account not only specific teachings of the reference, but also the inferences that one skilled in the art

would reasonably be expected to draw therefrom. A reference can anticipate a claim even if it does not expressly spell out all the limitations arranged or combined as in the claim, if a person of skill in the art, reading the reference, would at once envisage the claimed arrangement or combination.

20. I have been informed that a prior art document can disclose a claim feature, and anticipate a claimed invention, if that feature is described in another document that has been incorporated by reference. I have also been informed that, to incorporate by reference, the host document must identify with detailed particularity what specific material it incorporates, and clearly indicate where that material is found in the incorporated document. I have also been informed that, in making the determination of the extent to which that material incorporated into a host document can be used, the standard of a POSITA should be to determine whether the host document describes the material to be incorporated by reference with sufficient particularity.

21. ATLeisure's counsel has advised me that obviousness under 35 U.S.C. §103 is also a basis for invalidity. I understand that, where a prior art does not identically disclose all of the limitations of a given patent claim, that patent claim is invalid if the differences between the claimed subject matter and the prior art are such that the claimed subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art. Obviousness can

be based on prior art in the form of a single prior art or a combination of references that either expressly or inherently disclose all limitations of the claimed invention.

22. It is my understanding that the question of obviousness is to be determined based on:

- The scope and content of the prior art;
- The difference or differences between the subject matter of the claim and the prior art (whereby in assessing the possibility of obviousness one should consider the manner in which a patentee and/or a Court has construed the scope of a claim);
- The level of ordinary skill in the art at the time of the alleged invention of the subject matter of the claim; and
- Any relevant objective factors (the “secondary considerations”) indicating non-obviousness, including evidence of any of the following: commercial success of the products or methods covered by the patent claims; a long-felt need for the alleged invention; failed attempts by others to make the alleged invention; copying of the alleged invention by others in the field; unexpected results achieved by the alleged invention; praise of the alleged invention by the alleged infringer or others in the field; the taking of licenses under the patent by others and the nature of those licenses; expressions of surprise by experts and those skilled in the art at the subject matter of the claim; and whether the patentee proceeded contrary to accepted wisdom of the prior art.

23. It is further my understanding that, for purposes of an obviousness determination, it is impermissible to rely on 20/20 hindsight reconstruction.

24. And still further, it is my understanding that a patent claim composed of several elements is not proved obvious merely by demonstrating that each of its

elements was independently known in the prior art. There must be an apparent reason why it would have been obvious to modify the prior art to arrive at the claimed invention. I understand that, to avoid impermissibly applying hindsight, it is helpful to determine whether there is a teaching, suggestion, or motivation in the prior art that would lead one of ordinary skill in the art to combine the elements. When there is no suggestion, teaching, or motivation for the proposed combination, or when the prior art suggests something other than the combination, this weighs against a finding of obviousness. The patent challenger has the burden to show that a person of ordinary skill in the relevant field had a reason to combine the elements in the manner claimed when asserting obviousness in view of a combination of references.

25. It is my understanding that evidence of secondary considerations must be considered when determining obviousness and cannot be discounted, as they play a critical role in the obviousness analysis. Evidence of secondary considerations can weigh against a finding of obviousness and are often relied upon to provide guides against the forbidden use of hindsight.

IV. Level of Ordinary Skill in the Art

26. I understand that Petitioner contends that a POSITA “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, including fabricated frames and winder or pulley assemblies,

though additional work experience could substitute for a formal degree, and vice versa.” Petition, p. 19. For the purpose of this Declaration, I have applied the level of skill in the art as defined by Petitioner.

V. Summary of Opinions

27. Petitioner argues that an inconsequential change to one figure, inverting a locking mechanism that has the same components, the same function to achieve the same result, vitiates the priority to the provisional application, despite the dependent claim to each locking means embodiment carrying over unchanged from the provisional application to the issued ‘492 Patent. Such a conclusion cannot be accepted. Priority is unchanged and therefore the anticipation arguments necessarily fail because they rely on patents that do not qualify as prior art.

28. Beyond the anticipation theories, Petitioner relies on many of the same art, and the same teachings, as were considered in the original prosecution and/or a prior IPR petition that was denied institution.

29. With more than fifteen years of hindsight, Petitioner argues that the claims of the ‘492 Patent are invalid. Petitioner’s characterization and combination of the references are flawed and Petitioner’s attempt to do so is fraught with impermissible hindsight.

30. I understand that evidence of secondary considerations weighs heavily in the analysis of obviousness, but Petitioner fails to consider such evidence.

Relevant here is the significant number of licenses and significant sales of products under the ‘492 Patent. When this evidence is properly considered, Petitioner fails to establish the likelihood of success on invalidity of any of the claims of the ‘492 Patent.

VI. Overview of the asserted prior art

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

31. The Wang ‘109 Patent issued on June 25, 2008, and is directed to a “Straight pole foldable hanging parasol.” 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.

32. 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.” (Ex-1005, p. 19).

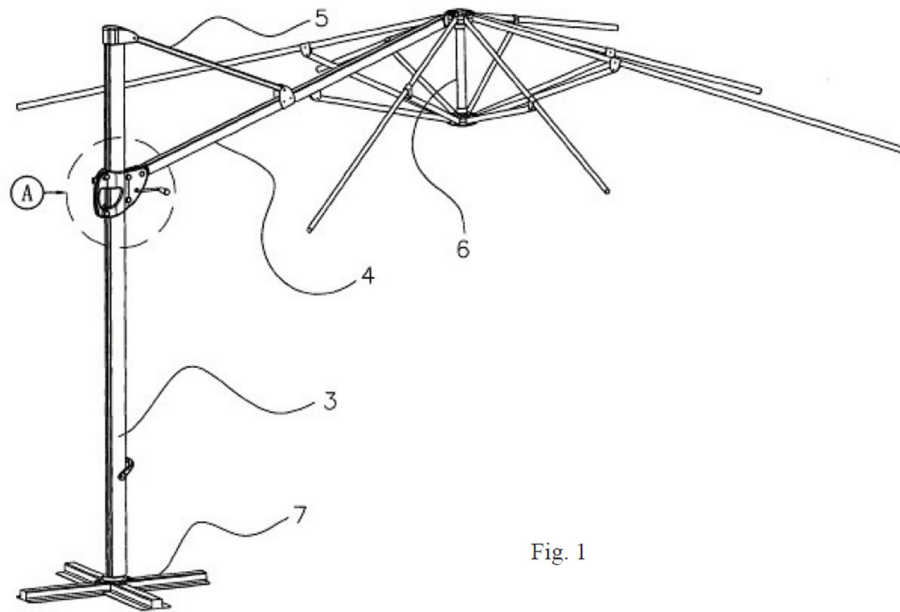


Figure 1 of Wang ‘109

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

33. The Wang ‘439 Patent issued on February 25, 2009, and is directed to a “Sunshade parasol cranking device.” 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).

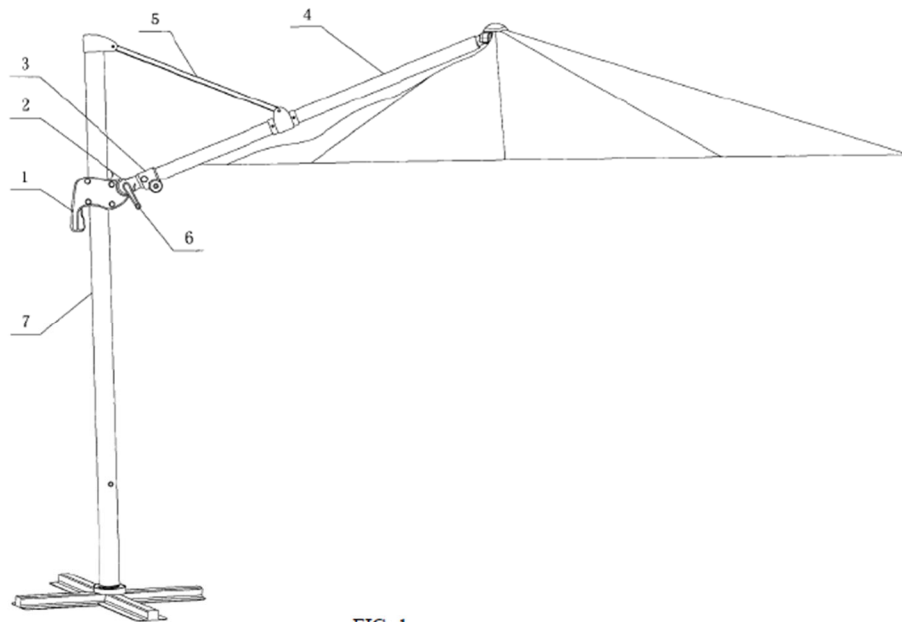


FIG. 1

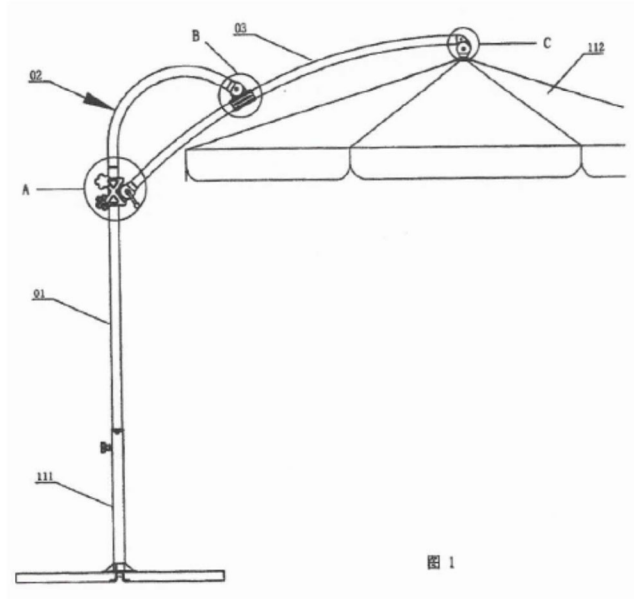
Figure 1 of Wang ‘439

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

34. The Wang ‘460 Patent issued on January 9, 2008, and is directed to a “Simple banana hanging parasol.” The Wang ‘460 patent discloses an 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 Ex-1007, Figures 1 and 2, reproduced below.



35.

Figure 1 of the Wang '460 Patent

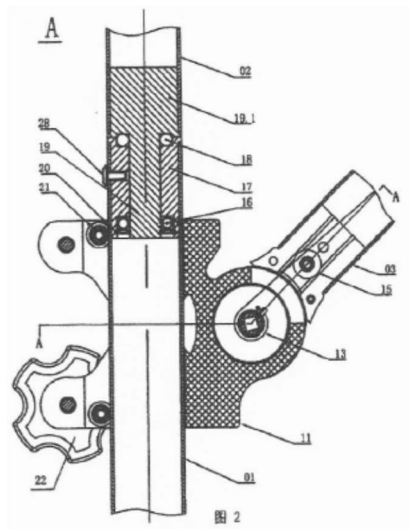


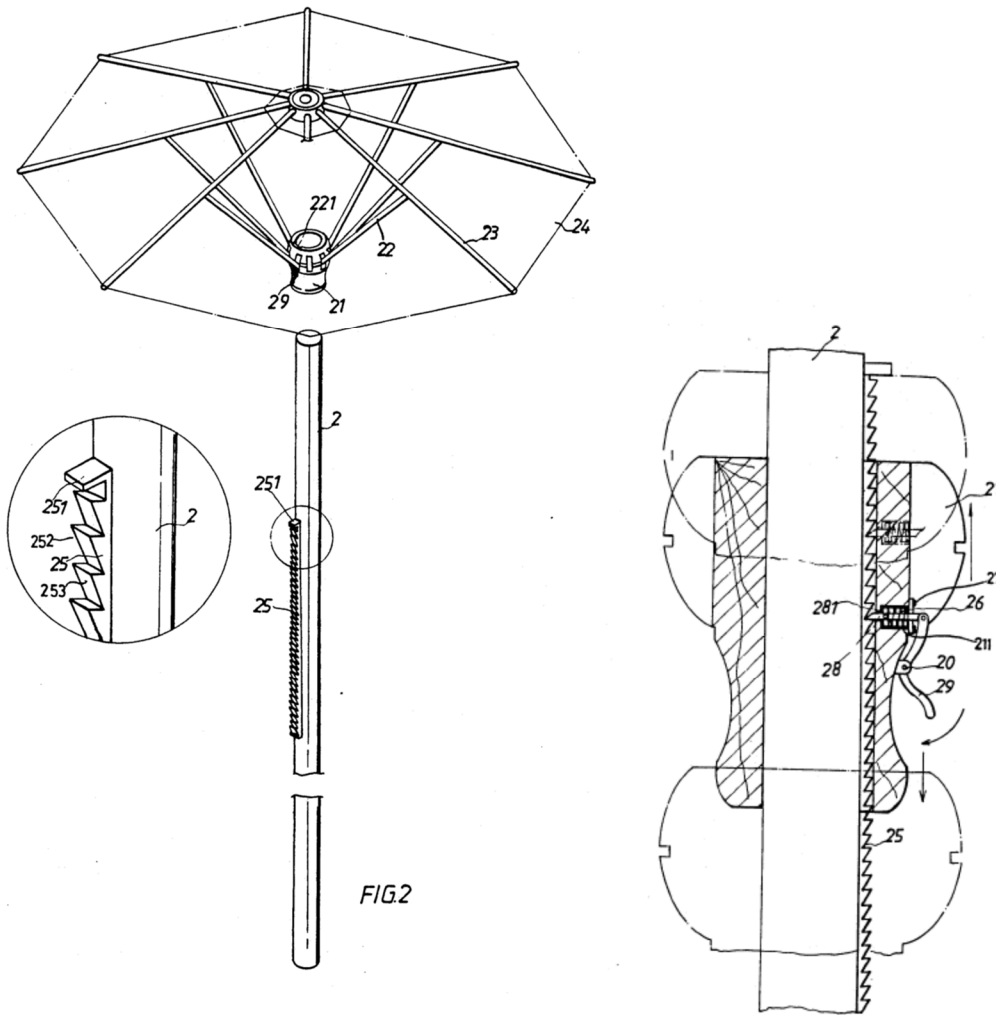
Figure 2 of the Wang '460 Patent

d. The Glatz '980 Patent: U.S. Patent No. 6,014,980

36. Glatz '980 discloses an 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)." (Ex-1008, 5:26-38).

e. The Liu '171 Patent: U.S. Patent No. 5,284,171

37. The Liu '171 patent discloses an 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*

38. The Bertola patent discloses an umbrella 10. 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.

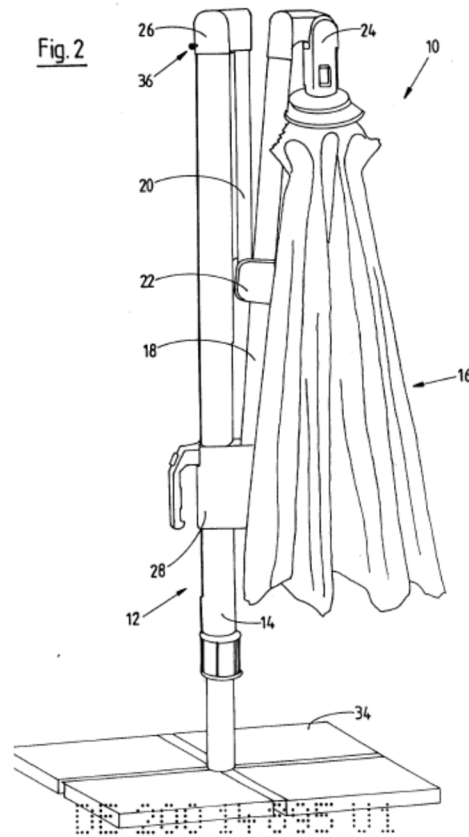
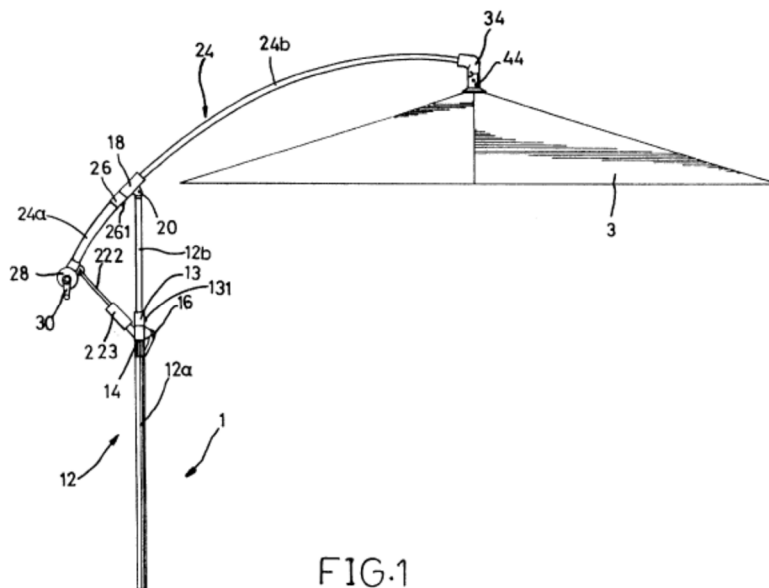


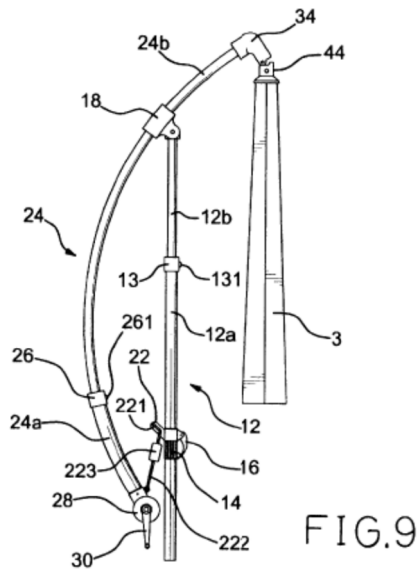
Figure 2 of the Bertola Patent

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

39. 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.

40. 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 pivotally 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.*

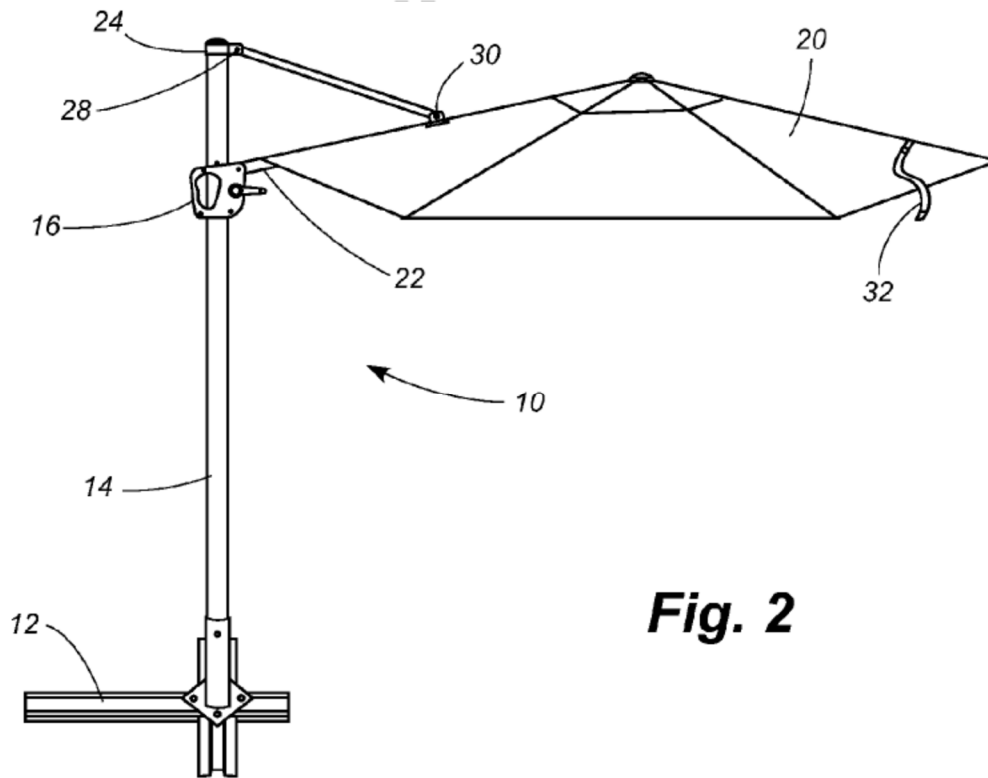




Figures 1 and 9 of the Tung Patent

VII. The '492 Patent Challenged Claims

41. The '492 Patent 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 also includes 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**

42. The umbrella also 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. The umbrella also 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. According to the

inventors, this provided a simplified path of the line from the winding mechanism to the umbrella canopy, which reduced the force needed to operate the winding mechanism and to reduce wear and binding of the line.

43. 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. According to the inventors, separating the function of raising and lowering the canopy from the function of adjusting the angle of the canopy reduced the effort required for each function.

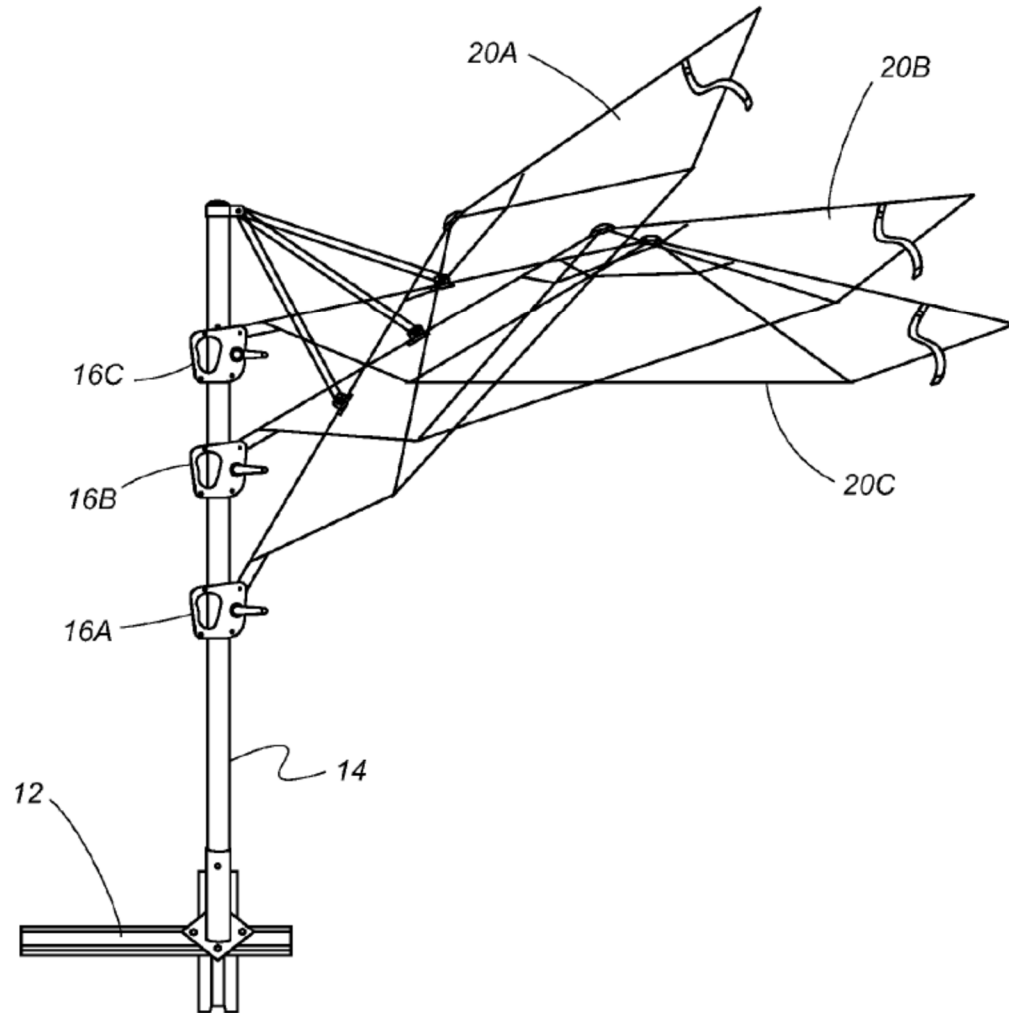


Figure 6 of the '492 Patent

VIII. Claim Construction

44. I understand that, in inter partes review, the U.S. Patent and Trademark Office applies the plain and ordinary meaning of claim terms, in view of the specification, as would have been understood by a POSITA.

45. 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).

46. I understand that 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 Board must first determine the claimed function, and then identify “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).

47. I understand that when construing the structure of a “means-plus-function” limitation, one looks to the specification 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.

48. In my view, the claim language here contains the most appropriate definition of the function. “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.” Next one must 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. These structures are also individually described and claimed in issued

claims 2-4. In my opinion, 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.

49. In contrast to recognizing that “locking means” encompasses both the structures described in the specification and equivalents, Petitioner proposes definitions that are limited to one particular description. However, in my opinion this is inconsistent with dependent claims 2-4. For example, claim 2 was filed in the original application, and it further describes the cam locking means without limitations proposed by Petitioner:

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.

50. 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.

51. For the purposes of this Preliminary Response, I have interpreted “locking means” for releasably securing the sliding member to the main pole at a selected location along the main pole to have its plain and ordinary meaning consistent with § 112 ¶ 6, which includes the cam latch, latch pin and ratchet and pawl embodiments identified above, and the equivalents thereof. The structures depicted above are also described in the specification at 3:25-40, 4:12-31, and 4:36-40, as well as those in more detail in dependent claims 2-4. Based on my review of these materials and my personal knowledge and experience, I have considered the remaining terms of the ‘492 Patent and have applied plain and ordinary meaning to those terms as it would have been understood by one skilled in the art as of May 5, 2008, in light of the specification.

IX. Priority to the Provisional Application

52. In preparing my opinions, I was informed that “priority is assessed on a claim-by-claim basis.” *Nat. Alts. Int’l, Inc. v. Iancu*, 904 F.3d 1375, 1383 (Fed. Cir. 2018). As I understand it, the priority 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).

53. I understand from the IPR2025-01005 Petition that Petitioner contends priority for all claims was lost by virtue of a change to Figure 4 (and corollary change to the description of Figure 4) for the “cam” locking means.

54. 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-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, while claim 7 was added during prosecution. Ex-1002, p. 95. Claims 2-5 each specifically claim a particular locking means embodiment.

55. In both the provisional application and the issued ‘492 Patent, the lever of the cam locking means is pivotally attached to the sliding member and rotates towards the sliding member to lock the sliding member in place. Specifically, 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

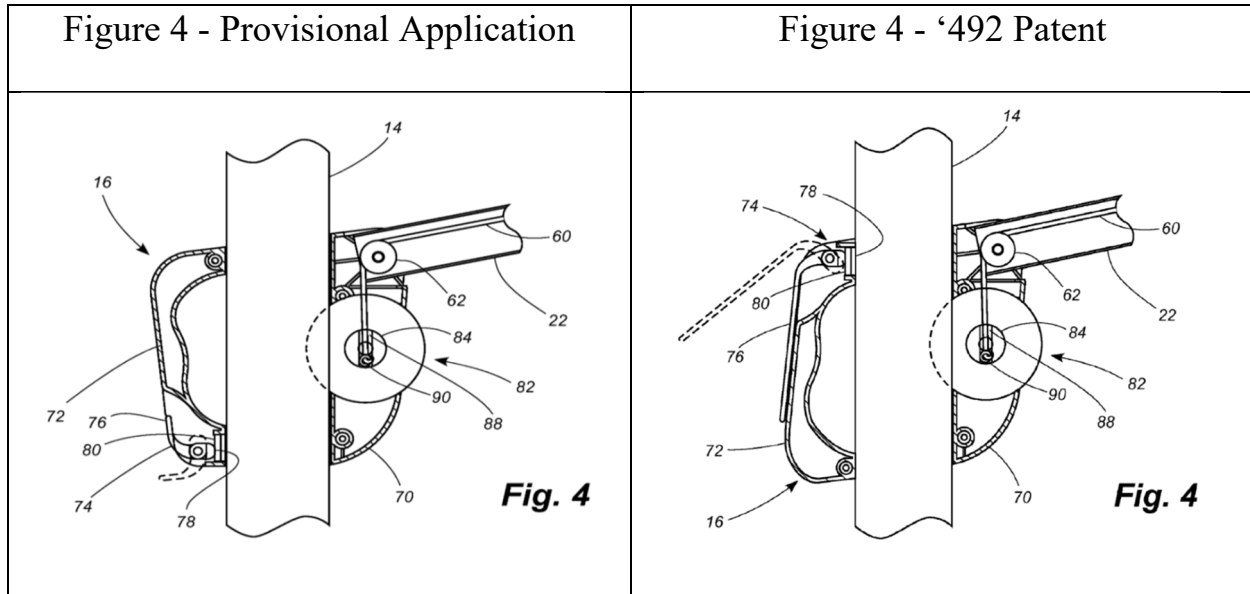
loaded button 80, which in turn clamps against the main pole 14 to secure the sliding member 16 against the pole.” (Id.) When the cam latch member 74 was rotated from the stored position, “the cam surface 78 is rotated free of the button 80. The spring then causes the button to retract, and the sliding 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. In the issued ‘492 Patent, the language differs slightly, but the structure achieves the same function in the same way with the same result.

56. Dependent claim 2, as filed in the provisional application and issued in the identical form, claims the cam locking means as described above:

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.

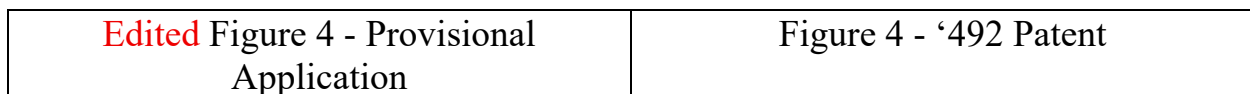
(Ex-1003, p. 16; Ex-1001, Cl. 2.)

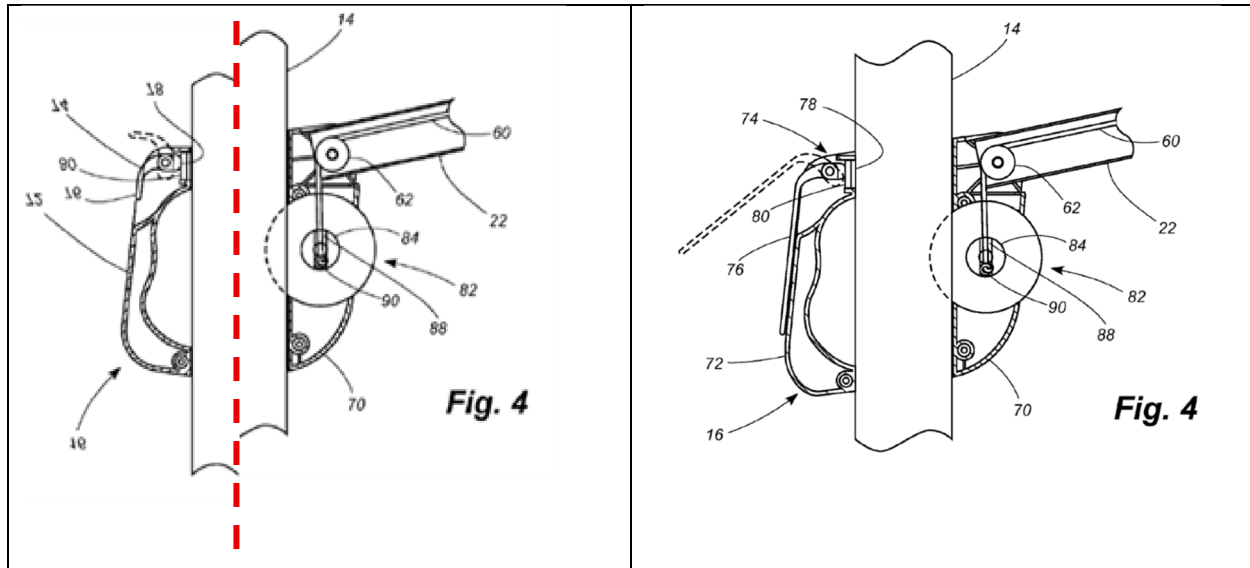
57. While the Petitioner focuses on differences in Figure 4 between the issued patent and the provisional application, both include the same mechanism (with all of the same numbered elements). Consider first Figure 4 from the Provisional next to Figure 4 from the issued ‘492 Patent:



58. Importantly, both figures depict a cam latch member 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, as claimed in claim 2 of both the provisional and issued patent.

59. To further visualize the fact that the mechanisms in the provisional and issued patent are virtually identical in appearance and identical in functionality , consider Figure 4 of the provisional bisected through the main pole 14, with the left side of the figure inverted, which show the obvious similarity between the mechanisms:





60. The only distinction depicted is the length of the lever portion 76 is “larger” or “elongated” in Figure 4 of the ‘492 Patent. However, even assuming this is the case, having a larger or smaller lever may impact the amount of mechanical leverage, but it does not alter the functionality of the mechanism itself. 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. Cam locks in consumer products (e.g., per ASME Y14.5 for mechanical assemblies) are designed to be orientation-agnostic, relying on springs and leverage for consistent performance. Industry norms for outdoor products (e.g., ASTM standards for umbrellas¹) require mechanisms to withstand tilting and loads in various positions, implying orientation agnosticism.

¹ E.g., ASTM F3512, ASTM F3681 and AST D4112

Regardless of *amount* of force required to rotate the lever between the embodiments depicted in the figures, the cam locking means performs the claimed function in substantially the same way to achieve substantially the same result.

61. A core argument for the cam lock's orientation-agnosticism is the mechanism's use of a spring-loaded button (80), which provides the biasing force for clamping and is present in both the provisional and non-provisional. The specification describes the button as "spring-loaded," meaning it uses elastic mechanical energy (from a spring) to maintain pressure against the main pole when engaged by the cam surface. ('492 4:60–65.) A POSITA would recognize that spring bias is independent of gravitational orientation—springs exert force based on compression or tension, functioning equally in vertical, horizontal, or tilted positions. Unlike gravity-dependent mechanisms, this design ensures consistent clamping regardless of the cam lock's angle. The patent's silence on gravity as a factor further supports this, as it implies the mechanism is self-sufficient mechanically.

62. The invention's core purpose is adjustability, allowing the sliding member to move and lock at various positions to tilt or offset the canopy. ('492 1:40–50; 3:15–25.) Umbrella mechanisms must hold under varying loads (e.g., wind or canopy weight) without relying on vertical alignment; wind, for example, may direct the canopy upwards. A POSITA would infer orientation-agnosticism from

this, as the patent describes secure locking in dynamic scenarios without orientation restrictions. The alternate embodiments (e.g., the spring-loaded latch pin in Fig. 7 and the ratchet-pawl in Fig. 8) also use spring-loaded components, reinforcing that the cam-based design prioritizes mechanical reliability over gravity-dependent operation. ('492 5:40–45.)

63. Dr. Klopp attempts to distinguish the provisional from the non-provisional by contending “[t]here are benefits of the applicant’s changes to the cam lock structure. Specifically, the new structure disclosed in the ’492 Patent, but not in the ’353 provisional application, **allows one-handed operation with improved leverage**. For example, four fingers can be inserted into the grasping portion and the thumb or palm of the same hand can simultaneously apply a downward force to the lever portion 76 to engage the locking means while the same hand maintains the desired elevation of the sliding member 16. As **the weight of the umbrella tends to cause the sliding member to move downward**, the index and middle finger of one hand of the operator may rest in the upper concavity of the grasping portion to hold the elevation of the sliding member 16. The thumb or palm of the same hand can squeeze the lever portion 76 downwards toward the housing 70 where it comes to rest overlapping an exterior of the grasping portion within the width of the housing, being slightly narrower.” (Ex-1004, ¶56.) Dr. Klopp makes two erroneous statements in this cited paragraph. First, Dr. Klopp ignores that a user may invert the

hand and achieve the same result for the provisional Figure 4. Second, Dr. Klopp is incorrect that the weight of the umbrella tends to cause the sliding member to move downward. If Dr. Klopp had used or constructed a free-body-diagram, he would notice that 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.

64. Based on the figures, detailed description, the claims, and the orientation agnosticism, the inventor had possession of all embodiments described and claimed in the issued '492 patent when the provisional was filed, confirming priority is properly claimed to the May 5, 2008, provisional application.

X. Opinions Related to Grounds Presented by Petitioner in the Petitions

a. IPR2025-01005 Petition

i. Ground 1 and Ground 2

65. With respect to Grounds 1 and 2 of the first petition, it is my opinion (as set forth above) that the '492 patent is entitled to priority to the provisional application, and therefore the art referenced in Grounds 1 and 2 are not prior art and therefore fail.

66. Even without reliance on the priority of the provisional application, Petitioner's anticipation arguments fail in Grounds 1 and 2.

67. 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). I have been informed that while patents issued from the USPTO are presumed to be enabled (*see, e.g., N. Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 941 (Fed. Cir. 1990)), the 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).

68. In my opinion, the purported prior art references are not enabled. A POSITA would immediately notice the 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), but also supposedly moves with the contents of the two shells (1 and 2) up and down the vertical pole (3). This routing and movement is physically impossible and lacks foundation in the specification. Petitioner contends this mechanism satisfies the locking means of the ‘492 patent, but as discussed herein, the mechanism appears to be inoperable and therefore not enabled.

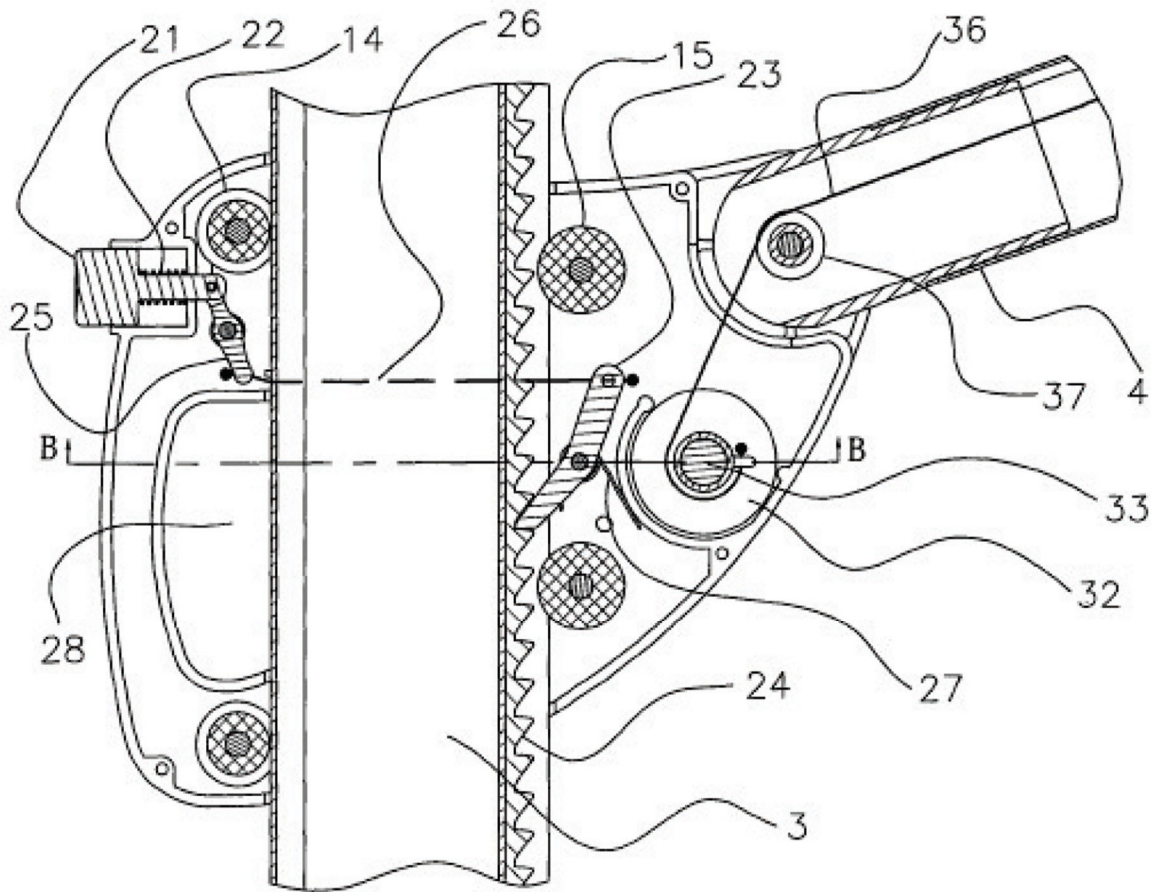


Fig. 3

69. Figure 3 is a cutaway view of the alleged locking means, a ratchet-pawl mechanism, showing the steel wire (26) as a straight line connecting the elastic locking block (23) to the crank arm (25), which is engaged by the spring-loaded push button (21). This indicates that the wire "reaches across" or penetrates solid objects like the vertical rod (3, a rigid support pole), and row of teeth (24), while allowing the movement with the alleged sliding member (housings 1 and 2, which slide along the rod).

70. A steel wire is flexible but not capable of passing through solid

materials like metal or plastic without a predefined pathway (e.g., a hole or groove).

71. Solids like the vertical rod (3) and brace (24) are typically rigid (e.g., aluminum or steel) to support the umbrella's weight and wind loads. A wire cannot "cross" or move through them without physical modification (e.g., slotting), which would weaken the structure and is not reflected anywhere in the specification or figures.

72. If the wire were to move with the sliding member while crossing solids, it would encounter friction, kinking, or breakage, as solids block the path. This violates basic physics (e.g., impenetrability of matter and conservation of energy in mechanical systems). In practice, wires in umbrellas are routed externally or through tubular components, but the figure ignores this, making the shown configuration infeasible. The '109 Patent does not provide any indication about alternative routing or placement in any other figures, including the one a POSITA would look to for clarity. The '109 Patent does not describe this anywhere in the written description or claims, either. It provides no details on how the wire avoids or passes solids like the pole (3) or row of teeth (24)—no mention of holes, channels, hollow interiors, or guides. The description states the wire "connects" components but doesn't explain routing or movement mechanics with the sliding member (1 and 2), leaving it incomplete and lacking.

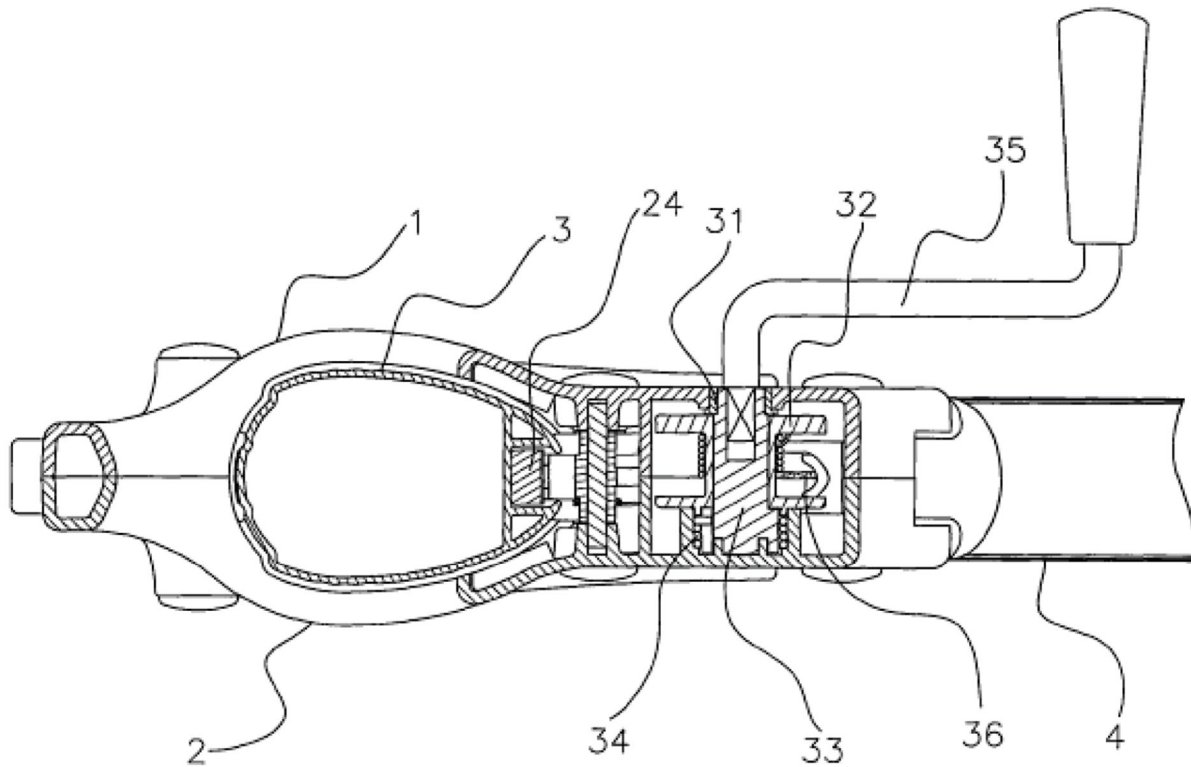


Fig. 4

73. A POSITA in umbrella or mechanical design would recognize that wire routing must avoid intersections with solids to prevent failure. Standards like ASTM standards (for umbrellas) require secure, non-interfering mechanisms. The implied movement is impossible because the wire would bind or snap under tension if forced through solids, rendering the umbrella inoperable.

74. Figure 3 and provide cutaway views of the assembly, but do not depict the wire's direct path and the implied movement lacks support in any figures or the specification, making it unsubstantiated. If the wire is intended to move with the sliding member, the specification should describe slack, pulleys, or tensioners

to accommodate motion without interference or friction, but it doesn't. This absence indicates the depiction lacks enablement in the written description. As such, it cannot anticipate the '492 patent.

75. The analogous problem is present in the Wang '439 patent. In Wang '439, the specification states "A user can press the handle switch 107, the elastic positioning pin 111 is then pulled out of the positioning hole 7b by means of the linkage of the transmission pin 106, the front and rear transmission lever members 104 and the connection rope 103, so the handle mechanism 1 can slide on the pole 7, and the elastic positioning pin 111 is inserted into another positioning hole 7b for positioning with the positioning pin spring 113." Wang '439, p. 5. Figure 2 depicts the components of what Petitioner contends satisfies the locking means limitation in the '492 patent, but the "connection rope 103" would necessarily be required to pass through the pole 7:

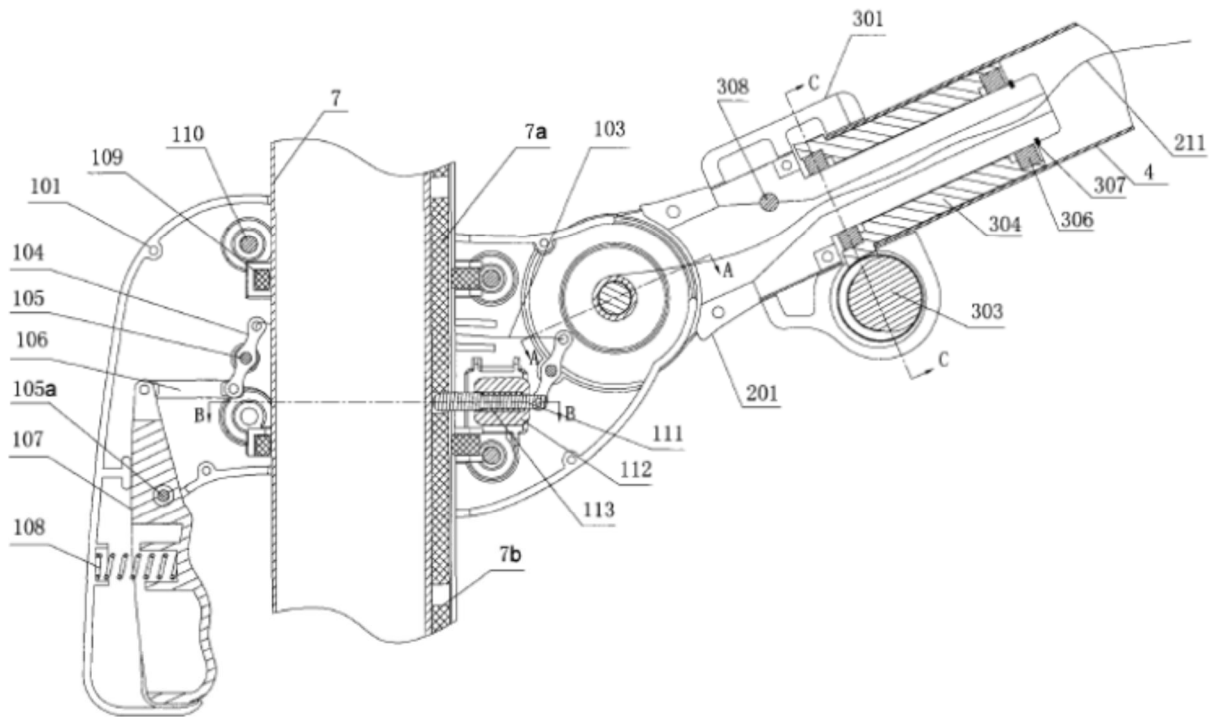


FIG. 2

76. While Wang ‘439 states the “connection rope 103 can be a steel wire rope,” this does not solve the operability problem. Like with Wang ‘109, the remaining description and figures fail to identify any structure or option to route the wire in a way that would be operable. This absence supports the conclusion that Wang ‘439 lacks enablement. As such, it cannot anticipate the ‘492 patent.

ii. Ground 3/4 (sic)²

77. Petitioner contends Glatz ’980 in view of Bertola ’895 and in further view of Wang ’460 renders claims 1, 4, 5-7 obvious.

² The third ground presented is seemingly referred to as ground 3 in some locations (e.g. p. 3) and ground 4 in other locations (e.g. p. 52).

78. Petitioner contends the addition of Tung '037 to the above combination renders claim 2 obvious, while the combination of the above with Liu '171 renders claim 3 obvious. I disagree.

79. Notably, Bertola '895, Wang'460, Tung '037 and Liu '171 were all previously submitted in IPR2021-00430. Additionally, Tung '037 was also considered in the original prosecution.

80. First, Petitioner recognizes that Glatz '980 fails to disclose “a winding mechanism having a winder hub around which a line can be wound, the winder hub being mounted to the sliding.” (Pet., p. 61.) This is because Glatz '980, 5 does not include a winding mechanism or winder hub associated with the slide 92. Glatz '980, 5:27-31.

81. I note 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. This was likely because Glatz '980 proposed a “simple solution” (as noted three times in the patent). *See, e.g.*, Glatz '980, 2:27-32. For example, 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.

82. The “simple” solution presented in Glatz relied on a simple “pulling mechanism,” as referenced in the text above. Moreover, Glatz opted for a clamping screw 102 on the sliding collar, another example of the implementation of a simplistic design. Because of the location of the clamping screw 102 implemented by Glatz ‘980, one of ordinary skill in the art 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. Because the proposed change is contrary to the express teachings of Glatz ‘980, and would require other components to be redesigned, one of skill in the art would not be motivated to make the combination proposed by Petitioner. Simplicity in design—characterized by fewer parts, minimal moving elements, and straightforward operation—often conflicts with the requirements of complexity, which typically involves additional components, precise tolerances, and multifaceted interactions. These challenges can lead to increased costs, increased weight, reduced reliability, or failure to meet original design goals.

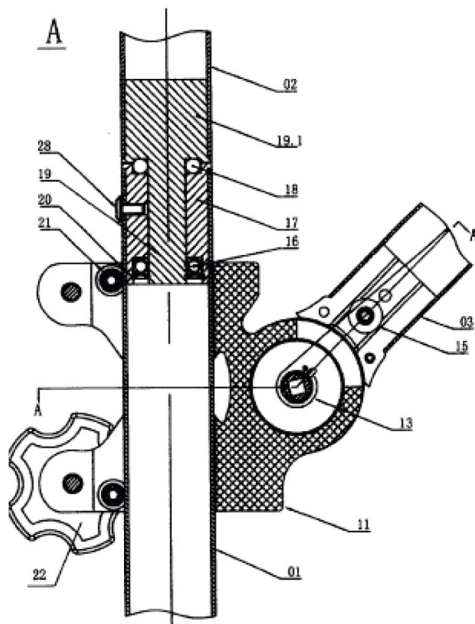


Fig. 2

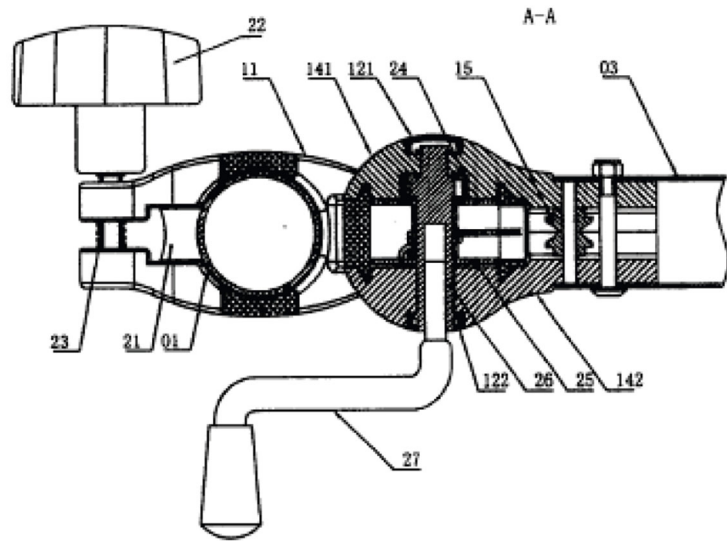


Fig. 3

83. A 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). 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. It is anticipated that this re-engineering will cause a ripple effect where the slide (92) is designed to be stronger and, thus, heavier, and include more

elaborate sliding means (e.g., low-friction surfaces, rollers, etc.), which, in turn, causes the mast (2a) to be made stronger and heavier and, then, causes components that interface to the mast (2a) to become larger and more rugged, in general. It is also likely that the slide (92) would need to move the clamping screw from the side position to a position diametrically opposed to the proposed winding mechanism from Wang '460 to stabilize the winding mechanism relative to the mast (2a).

84. Simple designs prioritize compactness. Accommodating complex elements often demands more space for additional parts (e.g., levers or cams), which may not fit without enlarging the mechanism. This could make the redesigned product bulkier, heavier, or less portable, defeating the simplicity's original advantages. Redesigns must meet standards (e.g., ASTM standards for umbrellas), and adding complexity also introduce safety risks (e.g., pinch points from cams, fragile masts, jibs, etc.), necessitating certifications that delay market entry. Products based on simplicity (e.g., Glatz) appeal to cost-sensitive markets. Adding complexity raises prices, potentially alienating customers without proportional benefits. Redesigning also involves multiple prototypes and simulations (e.g., FEA for stress), which can cost significantly for even small mechanisms, with high failure rates if the simple base is not compatible. All of these considerations would be recognized by a POSITA, who would not have any motivation to combine these references.

85. Without the winding mechanism and winder hub, Petitioner fails to satisfy all elements of independent claim 1, and therefore the challenges to the dependent claims also fail.

b. IPR2025-01006 Petition

i. Ground 1

86. In the second petition, Petitioner asserts that the claims of the ‘492 patent are obvious based on a combination of Wang ‘460 in view of Tung ‘037, Liu ‘171 or Bertola ‘895. As noted above, notably, Wang ‘460, Tung ‘037 and Liu ‘171 and Bertola ‘895 were all previously submitted in IPR2021-00430, while Tung ‘037 was also considered in the original prosecution. In other words, the combinations are entirely cumulative of prior unsuccessful challenges to the ‘492 patent.

87. The Petitioner concedes that Wang ‘460 does not meet all elements of claim 1, in particular the final element is not found in Wang ‘460. Petitioner proposes selectively combining the adjustment mechanism from Tung ‘037 for adjusting the canopy angle. However, even Tung ‘037 noted that designs for adjusting the tilting angle of the canopy were known before Wang ‘460. (Tung ‘037, 1:24-28.)

88. Although an express objective of Wang ‘460 was to provide a parasol “with adjustable inclination angle,” Petitioner correctly notes that Wang ‘460 approached this goal differently from the claims of the ‘492 patent:

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.

89. In other words, Petitioner acknowledges that POSITA was aware of design options such as disclosed in Tung ‘037 for years, but Wang ‘460 nonetheless implemented a design that requires the rope to be loosened to “disengage the top tube from the joint.” *Id.* POSITA did not in fact make the combination around the time of the ‘492 patent—only with fifteen years of hindsight is such a combination proposed.

90. Petitioner contends 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.” Petition, 36. However, other than attempting to form the claimed combination, Petitioner fails to offer any rationale for such a combination. The 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.

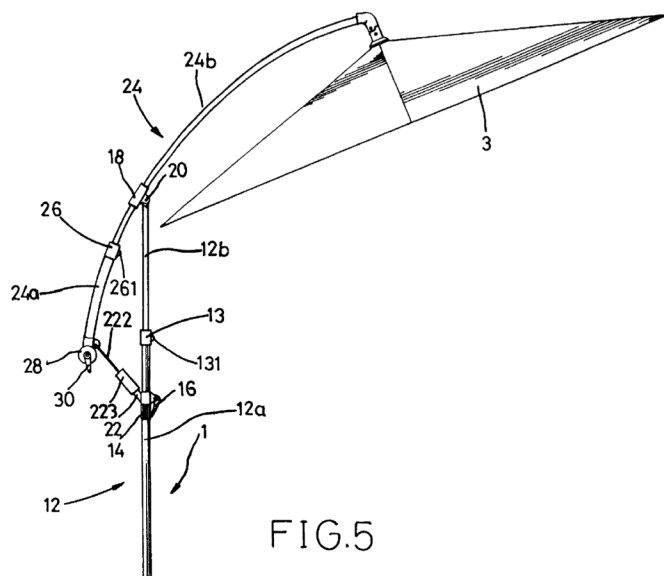


FIG. 5

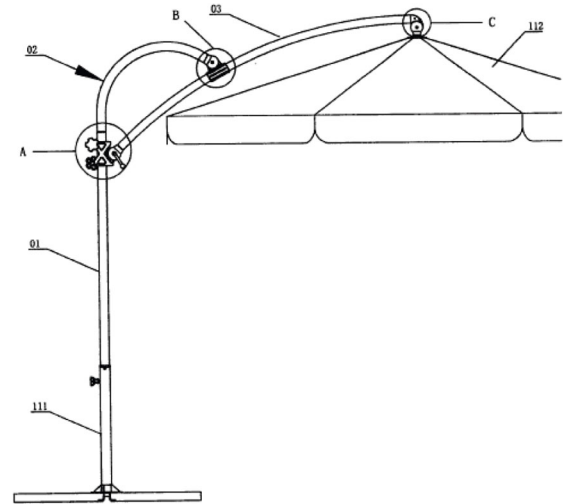


Fig. 1

91. Moreover, a POSITA would immediately notice that Tung's mechanism for adjusting the pitch angle of the umbrella ("Figure 5" on the left in figure above) is completely different from Wang '460's mechanism ("Figure 1" on right in figure above). To start, Wang '460's design entails co-located prismatic and rotary joints at A and B. In contrast, Tung's design entails one co-located prismatic and rotary joint pair at 18, and distal prismatic and rotary joint pair at the end of link 222 (rotary) and at 18 (prismatic). This is because the Tung design drives arcuate tube (24) from a side of the main frame (1) opposite the side of the canopy, whereas Wang '460 drives its suspension rod (03) from the same side of the pole (01) as the parasol cover (112). Additionally, Tung's reel (28) is not co-located with the

adjusting sleeve (14), whereas Wang '460's reel (26 at A) is co-located with the sliding sleeve (11 at A). A POSITA would notice several other significant differences between Tung and Wang '460 that reinforce the non-trivial, if even possible, re-engineering required to integrate Tung's mechanism for adjusting the pitch angle of the umbrella into Wang '460 is substantial.

92. As recognized above, redesigns must meet standards (e.g., ASTM standards for umbrellas), and radical changes as proposed by the Petitioner also introduce safety risks (e.g., joint failure, load bearing member collapse, etc.), necessitating certifications that delay market entry. Redesigning also involves multiple prototypes and simulations (e.g., FEA for stress), which can cost significantly for even small mechanisms. POSITA would not be motivated to combine Wang '460 and Tung '037, both of which were considered in a prior IPR, given the complexity and challenges of such a combination. Because the combination fails to render claim 1 obvious, there is no reason to address the dependent claims herein.

ii. Ground 2

93. The second theory of obviousness offered by Petitioner in the second petition relies upon Ma '763 in view of Ma '297 and Bertola '895. Notably, while Ma '763 has not previously been considered, it is cumulative because 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.

94. Petitioner admits that Ma '763 does not disclose the claimed winding mechanism, and in particular does not disclose the winder hub. Petition, p. 56. Recognizing the flaw, Petitioner argues a winder hub was well-known and is included in other art such as Ma '297. *Id.* This argument seems to cut against the suggested combination. Ma '763, with winder hubs known to POSITA at the time, rejected such a design in favor of a two-rope solution. Moreover, the umbrella design disclosed in Ma '297 is different from the cantilevered design of Ma '763, and Petitioner's proposed modification would likely require two winder devices in place of the dual rope approach in Ma '763, with one winder used for the sliding member and a separate winder for the canopy. This would require a significant redesign. 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.

95. Petitioner also 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 '895 would yield predictable results and would improve the Ma '763 umbrella." Request at 50. This is incorrect for multiple reasons. First, the POSITA would recognize that the secondary rope is

tensioned between the canopy 18 and the pin 29 in the mast, meaning moving the sliding member 14 requires substantial force to both raise the sliding member and cause the canopy to open. To graft the Bertola '895 structure into Ma '763 also requires removing the primary rope feature of Ma '763 and substantially redesigning the structure and functionality of Ma 763, the primary reference. In particular, this would require reengineering the structure so the user could lift the sliding member manually against the weight of the canopy via the secondary rope, likely requiring significantly more force to be applied and making the design more difficult and inconvenient for use. The POSITA would not make such a selective modification of Ma '763.

96. Again, redesigns must meet standards (e.g., ASTM standards for umbrellas), and radical changes as proposed by the Petitioner also introduce safety risks (e.g., joint failure, load bearing member collapse, etc.), necessitating certifications that delay market entry. Redesigning also involves multiple prototypes and simulations (e.g., FEA for stress), which can cost significantly for even small mechanisms.

97. Because the proposed combinations with Ma '763 would require significant redesign and reengineering, the only rationale for such a combination is an attempt to use the '492 patent as a template with hindsight. With no motivation to combine the identified references and the failure to disclose all elements of claim

1, Ground 2 fails as to claim 1, and there is no reason to address the dependent claims because Petitioner cannot establish they are invalid.

XI. Information Relevant to Secondary Considerations

98. As set forth in the declaration of Jason Bliss, ATLeisure sells a traditional “market” style umbrella supported by a center pole, as well as offset umbrellas like those at issue in the dispute between ATLeisure and Petitioner.

99. Claim 1 of the ‘492 patent requires the following elements:

1. An umbrella comprising:

a main pole having a lower end for support by a support surface and extending generally upward to an upper end;

a sliding member associated with the main pole and selectably moveable thereon between lower and upper locations along the main pole;

locking means for releasably securing the sliding member to the main pole at a selected location along the main pole;

an umbrella canopy having a central region;

an arm associated with the central region and extending radially therefrom to an outer end operatively associated with the sliding member;

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, 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; and

wherein the angle of the umbrella canopy with respect to the main pole can be controlled by moving the sliding member along the main pole.

100. With regard to the “market” style umbrella offered by ATLeisure, this does not fall within the claims of the ‘492 patent. An example of ATLeisure’s market umbrella is below³:



³<https://www.menards.com/main/outdoors/patio-furniture/patio-umbrellas-bases/backyard-creations-reg-9-steel-market-umbrella-assorted-colors/umb-933030stl/p-1642874268146570-c-13026.htm>

101. Of the elements required in Claim 1 of the '492 Patent, the market umbrella above is missing at least the following elements with a strikethrough:

1. An umbrella comprising:

a main pole having a lower end for support by a support surface and extending generally upward to an upper end;

~~*a sliding member associated with the main pole and selectably moveable thereon between lower and upper locations along the main pole;*~~

~~*locking means for releasably securing the sliding member to the main pole at a selected location along the main pole;*~~

an umbrella canopy having a central region;

~~*an arm associated with the central region and extending radially therefrom to an outer end operatively associated with the sliding member;*~~

~~*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;⁴*~~

~~*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*~~

⁴ While the market umbrella has a crank that opens and closes the umbrella, because the claimed winder hub must be mounted to the sliding member, the claimed opening/closing mechanism is not found in the market umbrella.

~~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; and~~

~~wherein the angle of the umbrella canopy with respect to the main pole can be controlled by moving the sliding member along the main pole.~~

102. Alternatively, I have reviewed the ATLeisure Season Sentry 10' Square 2-Tier LED Offset Umbrella #UMB-241023,⁵ which in my opinion falls within the claims of the '492 patent. I have prepared a claim chart to identify each element of claim 1 in ATLeisure's product, as set forth in Exhibit B, attached hereto.

103. I understand that to confirm whether a product is coextensive with the claims, "the patentee [must] demonstrate that the product is essentially the claimed invention." *Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1374 (Fed. Cir. 2019). Alternatively, a product is not coextensive with the claims "if 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). Here, the claims are to an adjustable offset umbrella, and all elements of the claim are found in the ATLeisure Season Sentry 10' Square 2-Tier LED Offset Umbrella. As such, ATLeisure's offset umbrella is coextensive with claim 1 of the '492 patent.

⁵ <https://www.costco.com/seasons-sentry-10'-square-2-tier-solar-led-aluminum-cantilever-umbrella-with-base.product.4000294640.html>

XII. Reservation of Rights

104. The opinions and analyses in this report are based on currently available documents and information. Accordingly, I reserve my right to supplement and amend my opinions if additional information becomes available.

105. I also reserve the right to adjust or supplement my analyses in light of any critique of my report or alternative opinion advanced by the Petitioner.

XIII. Conclusion

106. In my opinion, claims 1-7 of the '492 Patent are not invalid in light of the prior art grounds asserted by Petitioner.

107. I hereby declare that statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true. Should further information become available to me as this matter proceeds, I may revise my opinions accordingly as necessary. I declare under penalty of perjury that the foregoing Declaration is true and correct and understand that willful false statements and the like are punishable by fine or imprisonment, or both, pursuant to 18 U.S.C. § 1001.

Executed this September 15, 2025.

A handwritten signature in black ink, appearing to read 'J. Janét', is written over a horizontal line.

Dr. Jason A. Janét

EXHIBIT A

Jason A. Janét, Ph.D.

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Education

- Ph.D. Electrical & Computer Engineering, North Carolina State University, 1998
- M.S. Integrated Manufacturing Systems Engineering, North Carolina State University, 1994
- B.S. Mechanical Engineering, University of Virginia, 1990

Employment History

Applied Research Associates (ARA): 2018 - present

- **Corporate Director of IP and Product Commercialization (IP to Product—IP2P) | CTO-SSM:** Corporate/Business development, Intellectual Property Portfolio Build-out/Protection, and IP Transition to Product. Evaluate, quantify, present and recommend portfolios of IP, product lines and ventures on the basis of competitive landscapes, addressable markets, sales strategy, resource availability and technology readiness. Design, propose and mentor organizational structure(s), including cross-department and cross-sector relationships. Relevant technologies include medical technologies, augmented reality, non-GPS, synthetic environments, computer vision, machine intelligence, IoT sensors, robotics, automation, security, photogrammetry, weapons systems, unmanned systems, SaaS, BioTech, and precision agriculture for multiple market domains. Clearance Level: TOP SECRET & SCI.

DeltaFive: 2014 - 2018

- **CEO & Co-Founder:** Lead corporate, business, IP and technical development for spinout focused on IoT sensors, computer vision, machine intelligence, mobile robots, SaaS, and Lure Formulation for hospitality, pest, IT, and security markets. Strategic and tactical direction for sales, marketing and client services teams.
- **Inventor:** Three awarded patents (USPTO) and patents pending.
- **Board of Directors:** Serve on and report to Board of Directors, and chair the Technical Advisory Board.
- See www.deltafive.com, <https://jgc.outgrow.us/deltafive> or www.youtube.com/watch?v=LoQe6_Lxprs.

Transdigm [TDG] (Avionic Instruments | Acme Aerospace | Aerospace Cooling Solutions): 2002 – 2004, 2013 - 2014

- **VP/Director of Development (2002-2004), VP/Director of Sales, Program Management (2013-2014).** See www.transdigm.com, www.avionicinstruments.com, www.acme-aero.com, or www.aerospacecoolingsolutions.com.
 - Manage multiple product lines and cross-functional teams including product line managers (PLMs), account managers, inside sales, international sales, marketing, repair, engineers, technicians, distributors, legal, IP and rep organizations. (270 employees)
 - P&L, strategy, reporting, and forecasting for ~\$105M/yr, 50% EBITDA, and 10% YOY growth.
 - Product lines comprised ~600 SKUs for advanced aerospace systems.
 - Epicor ERP for standard resource planning, including inventory optimization and workflow.
 - Change-Agent: Sikorsky S97/JMR programs and supply chain for Aerospace Cooling Solutions.
 - Incubation, launch, growth and exits for **ShelfWorks**, **VortexHC** and **RxMedic** (below).
- **Programs:**
 - **S97 Raider Light Tactical Helicopter** – Autonomy, power distribution and electrical system (PDES) for the Sikorsky S97 LTH, including FAA-compliant software development per DO-178B. (2013 – 2014) See <http://www.youtube.com/watch?v=qy-Xb3X-bC0>.
 - **Joint Multi-Role (JMR) Helicopter** – Leveraging S97, JMR employs a scaled-up level of autonomy/PDES for Sikorsky-Boeing team, under U.S. Army funding. (2014)
 - **Blue Fans** – Aerospace Cooling Solutions supply chain optimization. (2013 – 2014)
 - **DARPA Distributed Micro-Robotics** – PI/PM for “Mobile Robots that Climb Vertical and Inverted Surfaces.” sponsored by DARPA – MTO. Develop mobile robots that climb walls and ceilings for surveillance, reconnaissance and breaching. Collaborated with Lockheed-Martin for automatic target recognition and Picatinny Arsenal for *Lamprey* SLAM holder. (2002 – 2004)

Teledyne Technologies [TDY]: 2011 - 2013

- **Senior Manager**

- Lead cross-functional teams of scientists and engineers in CONUS
- M&A due-diligence, identification and recommendation (SeaBotix & BlueView)
- Lead contingents of cross-division teams to secure ~\$352M in funding over 24 months.
- Plan and execute CRAD, business development and coordinate with strategic business units
- **ONR/USMC Cargo UGV** – PM for ONR/USMC-sponsored Cargo Unmanned Ground Vehicle (CUGV) Program subcontract (2011-2012). Manage team of engineers and scientists, in coordination with contract prime (Oshkosh) for unmanned combat vehicle control, perception and navigation. Multi-sensor suite included EO/IR Vision, LIDAR, IMU, and GPS.
- **Army LTL** – PM for Army-sponsored Lighten-the-Load (LTL) Program subcontract (2012-2013). Manage team to develop perception system comprised of stereo EO and stereo LWIR cameras to find and track leader(s), perform optical odometry, detect and map obstacles, and enhance SIGINT. Interface with sensors (LIDAR, IMU, GPS), autonomy for ATV-sized unmanned ground vehicles.
- **NASA ESP** – PM for RTP-based tasks for NASA Engineering Services and Prototyping demonstration (2012-2013). Provide Teledyne Engineering Services (lead), SAIC, Oceaneering, and Schafer with robot prototype and vision-based perception to detect, classify and track targets.
- **DARPA EXACTO** – PM for NC-based tasks for DARPA TTO Extreme Accuracy Tasked Ordnance (EXACTO) Program (2012-2013). Program developed first ever guided, small-caliber bullet with MEMS-based actuation, optical bullet tracking, optical target tracking, and bullet guidance to greatly improve accuracy and extend the day and nighttime range over current state-of-the-art sniper systems.
- **DARPA AngelFish/EagleRay** – PI/PM and inventor of the AngelFish Cross-Domain Submersible UAV, a man-portable, floodable airframe with tilt-thrusters capable of operating in and deliberately transitioning between the air, surface and underwater. Designed for optimal balance between hydro-/fluid-dynamics, materials, guidance/navigation/control, power conversion/storage, and perception for wing-in-ground flight.
- **Army PIRST** – Propose and capture the Pursuant In-stride Reconnaissance, Surveillance & Targeting (PIRST) program. By Army Night Vision & Electronics Sensors Directorate (NVESD) in 2013.

RxMedic Systems: 2003 – 2011 (*spinout from Avionic Instruments*)

- **Co-Founder/General Manager/Board Member** (2004-2007), **CTO** (2007-2010), and **Director of Robotic/Automated Systems** post-acquisition by JM Smith (2010-2011).
 - Manage launch from **Avionic Instruments** (2004)
 - Build and lead nationwide growth of cross-functional teams to 75+ employees
 - Direct product development, manufacturing, field support, sales and marketing
 - Manage IP Portfolio & Legal: Patents include USPTO# 7,726,514 and 8,091,733
 - Oversee P&L, accounting, raising of capital, and accounts receivable
- **RxMedic ADS:** Invent, develop, market and support automated pharmacy dispensation and packaging systems for retail, hospital, mail order and industrial fulfillment organizations.
- **RxMedic ACS:** Integrate, refine, market and support automated pharmacy-counting systems for retail and hospital fulfillment organizations.
- Co-negotiated the acquisition of RxMedic Systems by JM Smith, Inc. in May of 2010, established RxMedic as a division, and coordinated 12-month transition. Supported evaluation and integration of automated systems for JM Smith business units including Smith Drug.

Vortex HC: 2002 - 2009 (*spinout from Avionic Instruments*)

- **Vice President** (2004-2006), and **Facilities Security Officer (FSO)** (2005-2006)
 - Manage spin-out from **Avionic Instruments** (2004)
 - Lead cross-functional teams for product development, manufacturing, support, sales and marketing
 - Manage business and corporate strategy, execution, licensing, and ITAR/EAR-compliance
 - Support domestic and international legal and IP portfolio management, P&L, AP/AR
- **DARPA ARTEMIS** – PI and PM for “Vortex-Based AUVs for Counter-Mine and Counter-Obstacle Operations” sponsored by DARPA – ATO. Managed development of holonomic AUVs for landing on mines and performing soft-kill neutralization. Integrated CFD, rugged materials, MEMS-sensors for guidance, navigation and control. Collaborated with UT-ARL for development of circular synthetic aperture sonar and Teledyne RD Instruments for DVL. Developed high-precision acoustic underwater tracking system.
- **Products:** Managed development, manufacturing, world-wide marketing, and support of the following to military, law-enforcement, security, rescue, nuclear and entertainment customers:
 - VMRP Wall-Climbing Robot – Man-portable mobile robots that climb walls and ceilings.
 - Submersible Attractor – Rad-hardened attractor for nuclear energy market, BWR inspection
 - Submersible VMRP Robot – Man-portable underwater robots for bulkheads and tank interiors.

- Lamprey SLAM Holder – Surface-agnostic instant placement mechanism for Picatinny Arsenal’s Selectable Land- and Anti-personnel Mine (SLAM) breaching charge.
- **Licensing:** As part of exit strategy, instituted licensing and transition of VRAM technologies:
 - SeaBotix LBC – Little Benthic Crawler Remotely Operated Vehicle (ROV).
 - SeaRobotics HullBUG – Autonomous hull-grooming robot.
 - BDT – Attractors for high-speed, high-efficiency, low-overhead paper & fabric handling.
 - TMI – Attractors for inspection of nuclear boiler water reactor (BWR) facilities
- **ONR & NAVSEA HullBUG VRAM** – PI/Consultant for “Attractor Design for the Hull Biomimetic Underwater Grooming (HullBUG) Technology” and “HullBUG VRAM Design Optimization”. (2006–2009).

ShelfWorks Technologies: 2002 – 2006 (*spinout from Avionic Instruments*)

- **Charter Officer** (2004-2006).
 - Supported launch from **Avionic Instruments** (2002-2004)
 - Direct military product development, support commercial product development, sales & marketing
 - Bed, Bath & Beyond
 - Home Depot
 - Support IP Portfolio & Legal

Nekton Research (iRobot [IRBT]): 1998 - 2002

- **Vice President of R&D** (1998-2000) and **Director of Business Development** (2000-2002).
 - **Lead:** Cross-functional teams in marine-focused product/business development, production, deployment.
 - **IP Portfolio:** Co-inventor on USPTO# 6,378,801 (2002)
 - **Spinout:** Support incubation/launch of Parata Systems, a pharmacy automation company (1999-2002)
 - **M&A:** Provided early-stage due-diligence and introductions for acquisition by iRobot (2006)
- **Principal Investigator and Program Manager:**
 - **DARPA LSALS-SP3** – PI/PM for “3D Plume Tracing using Ranger™ MicroAUVs,” sponsored by DARPA – MTO. Joint effort with Sandia National Labs, and Woods Hole Oceanographic Institute. Developed multiple collaborative MicroAUVs that search for and localize plume sources and aircraft blackbox, to rescue and/or recover humans and assets.
 - **DARPA Distributed Micro-Robotics** – PI/PM for “Swimming Arrays for Anti-Submarine Warfare”, sponsored by DARPA – ATO. Joint effort with Draper Labs, Johns Hopkins University Applied Physics Lab, and Solers. Mobile acoustic array formations of multiple MicroAUVs. In contrast to towed arrays (e.g., TB-29), *Swimming Arrays* decouple tactical maneuvers from sensing maneuvers; enable protracted sensing, strong source direction discrimination, forward end-fire view, and dynamic array beamforming.
 - **DARPA Distributed Micro-AUVs** – PI/PM for “Aquatic Microbots”, sponsored by DARPA – MTO. Under *Distributed Robotics* program, design, build and demonstrate ultra-small AUVs, called “MicroHunters™”, which maneuver in 3D using only one moving part. Resulting navigation, called “Helical Klinotaxis” was validated on three different platforms and demonstrated to DARPA. Co-inventor on patent “3D Orientation for Aquatic Robots Using Helical Klinotaxis”, USPTO in April 2002.
 - **Forensics ROV** – PM and inventor of porthole-size ROV to perform forensic analyses of sunken assets. Based on a diametrically-opposed, large-diameter, low-velocity, vector thrusters, provide underwater telepresence to search for remains, assets and root-cause indicators. Unique design minimized silt disturbance, and maximized options for ingress and egress. (Private customer)
 - **Deepwater Towfish** – 6500m depth-rated towfish to carry sensor suite for applications in energy sector, telecommunications sector, sub-bottom profiling, and terrain mapping. (Private customer – EdgeTech)
 - **DARPA APLA/MGM** – PI/PM for “MicroHunter Guidance and Control of 60mm Mortars”, sponsored by DARPA – ATO. Under *Anti-Personnel Landmine Alternative/Minimally Guided Munitions* (APLA/MGM) program, collaborate with Battelle Memorial Institute to demonstrate feasibility, integrate microelectronic GNC sensors and actuators, and validate performance of single-actuator control force producer and guidance algorithm for indirect-fire munitions. Performance exceeded specifications.

Parata Systems: 1999 – 2002 (*spinout from Nekton Research serving as VP of Eng and Dir of BD*)

- Supported incubation and launch from **Nekton Research** (1999-2002)
 - Robotic System for Retail & Mass-Fulfillment Pharmacy
 - Technical & Business Development of Alpha- and Beta-level Products
 - Supported initial IP Portfolio

Duke University, Pratt School of Engineering: 1999 - 2021

- **Adjunct Associate Professor** (2005-2021) and **Adjunct Assistant Professor** (1999-2005).
 - Courses Taught Include:
 - Entrepreneurship & Tech Transition (Special Topics)
 - Robotics & Automation (MAE 442, ECE 383, ECE 142/442)
 - Control Theory (ECE 141/441)
- **MS Committee Member:** Serve on graduate student committees and advise research.
- **Advisor** and sponsor for Duke's Wall-Climbing Robot Team, which earned 1st place in the 2004 and 2005 International Climbing and Walking Robot (CLAWAR) Competitions in Madrid, Spain and London, England. Sponsored by the LORD Corporation and VortexHC.
- **Advisor** for Duke's DARPA Grand Challenge Team, in support of the Carnegie Mellon Red Team(s), which earned 2nd and 3rd places. Perception included RADAR, LIDAR, IMUs and GPS.
- **Advisor** and sponsor for Duke's Autonomous Underwater Vehicle (AUV) team, which earned finalist standings five times in the AUVSI/ONR International Autonomous Underwater Vehicle Competition. Participated in multiple annual competitions since 2001, with the following rankings: 2nd in 2006, 4th in 2005, 5th in 2004, 3rd in 2003, 4th in 2002, and 7th in 2001. Sponsored by LORD, VortexHC, and SeaBotix.

North Carolina State University, School of Engineering: 1992 - 2021

- **Adjunct Assoc Professor** (2009-2020), **Board Integrated Manufacturing Systems Engineering Institute** (1998 – 2020), **Adjunct Asst Professor** (2000-2009), **Instructor** (1996-1999), **Researcher** (1992-1996).
 - Teaching Experience:
 - Robotics & Automation (ECE 444, ECE 591)
 - Control Theory (ECE 435)
 - Distributed (Non-Deterministic, Network- & Statistics-based) Controls (ECE 492Z)
- **MS Committee Member:** Serve on graduate student committees, sponsor, and advise research.
- **Advisor & Corporate Sponsor** for NCSU's Autonomous Underwater Vehicle (AUV) team, which began participating in the AUVSI/ONR International AUV Competition. Participated in 2005 and 2006.
- **NASA-HELIOS** – PM for development and demonstration of semi-autonomous robotic system for lunar habitation and transport. Under NASA's Exploration Office, and funding from United Technologies, Caterpillar, and North Carolina Space Grant Consortium. Managed team of 40+ people to build and competitively demonstrate lunar exploration and habitation mission including deployment of lunar lander, UGV, and personnel habitat modules. Mission was demonstrated in full and earned first place and NASA's *1998 Extra Terrestrial Award*. January 1996 to April 1998.
- **DARPA/ONR Outdoor Landmark Recognition** – Researcher for "Outdoor Landmark Recognition Using Hybrid Fractal Vision System and Neural Networks", by DARPA and ONR. Validate new approach to detecting and recognizing outdoor landmarks using the Region-Feature Neural Network. (1993–1996)
- **Other Systems:** Bipedal robot (*Jenner*), a hexapod colony, an autonomous mobile robot (*Lazarus*), home automation & security based on decentralized control networks.

TMI Robotics: 1998 - 2013

- **President**
 - **Robotic & Automation Systems:** Submersible Robotic Hull Crawlers & Attractors for *General Electric*, *Hitachi*, *Framatome/Areva*, *SeaRobotics*, *SeaBotix*, etc. (2009-2018); wall-climbing robots for *SignalScape* (2009-2013); Pioneer mobile robot end-effector and bipedal robot for *Adept MobileRobots* (1998-2004); decentralized fuel pump control systems for *Gilbarco* (1998); Autonomous Following Golf Caddy for *Caddy Master* (1998-1999); Universal rotary actuator system for *Real World Interface (RWI)* and *iRobot (IS Robotics)* (1998-2000), etc.
 - **Artificial Intelligence Software and Textbook:** "Computational Intelligence: Supervised and Unsupervised Learning with Neural Networks", J.A. Janét and J.C. Sutton III. Copyright © 1998-2013. ISBN #0-9678493-0-6. Textbook included a time-limited single-user license for neural network software by TMI Robotics, Inc. Software included data, the Region-Feature Neural Network and the Hyper-Ellipsoid Clustering Neural Network for pattern analysis and machine intelligence. End-users/clients include *NCSU*, *National Technological University (NTU)* and *Video Based Engineering Education (VBEE)*, *IBM*, etc.

Other Professional Highlights:

- **Intellectual Property Litigation Expert Witness:** Provided reports, descriptive imagery and testimony for litigation regarding intellectual property, contracts and trade secrets. Cases are listed below, clients in **bold**:
 - **Tesla** v Bulletproof (2025-pres) [USPTO PTAB IPR US Patents 11,932,230; 12,221,104; 12,227,184; 12,233,871; 12,240,456; 12,240,457; and 12,240,458]
 - Perceptive Automata v. **Tesla** (2025-pres) [NO. 2:25-cv-00742, Eastern District of TX]
 - **Tesla** v Perceptive Automata (2025-pres) [USPTO PTAB IPR US Patents 10,614,344; 11,126,889; 11,467,579; 11,520,346; and 11,753,046]
 - **Hargrave** v. Locus Robotics (2025-pres) [NO. 3:23:CV-01521, Middle District of PA]
 - Spacemaker v. **Frazier** (2025-pres) [Civ. Action No. 3:24-CV-9279, Superior Court of NJ]
 - **USA** v. **Levchuk** (2025-pres) [8:23-cr-00184, MD District Court]
 - **FORTNA** v. Plus One Robotics (2025-pres) [CIVIL ACTION NO. 5:24-CV-1274 OLG, W. Dist of TX]
 - Apple v. **Haptic** (2024-pres) [USPTO PTAB IPR2024-01475]
 - Apple v. **Haptic** (2024-pres) [USPTO PTAB IPR2024-01476]
 - **Tyson** v Primus (2025) [Civil Action #22-A-04543-10, Superior Ct of Gwinnett County, GA]
 - **Airspace Systems** v. Dedrone (2024-pres) [1-24-cv-01625–7413 [Eastern Dist of VA Alexandria Div]
 - **Tesla** v Autonomous Devices (2023-2024) [USPTO PTAB EX PARTE REEXAM] 11,055,583
 - **Tesla** v Autonomous Devices (2023-2024) [USPTO PTAB EX PARTE REEXAM] 10,452,974
 - **Tesla** v Autonomous Devices (2023-2024) [USPTO PTAB EX PARTE REEXAM] 10,607,134
 - NxtGen v. **ZipString** (2024-pres) [Case IPR2024-01213]
 - **Boston Dynamics** v Ghost Robotics (2024-2025) [1:22-cv-01484, District Court of DE]
 - **ATLeisure** v Treasure Garden (2024-pres) [1:24-cv-02270, Northern District of Georgia]
 - **Stryker** v Ferno-Washington (2024-pres) C.A. No. 1:22-cv-00588-MRB
 - **Squaregles** v Laltitude (2024-pres) Case No. 2:23-cv-09751 (C.D. Cal.)
 - **Demand Vape** v. RAI (2024) [337-TA-1410, U.S. International Trade Commission]
 - Hesai v. **Ouster** (2024) [USPTO PTAB IPR2023-01421]
 - Hesai v. **Ouster** (2024) [USPTO PTAB IPR2023-01456]
 - Hesai v. **Ouster** (2024) [USPTO PTAB IPR2023-01457]
 - Hesai v. **Ouster** (2024) [USPTO PTAB IPR2023-01422]
 - A360 v **Toyota/Bastian** (2024) [No. 1:23-cv-00198-JRS-TAB, Southern District of Indiana]
 - **Motive** v Samsara (2024) [337-TA-1393, U.S. International Trade Commission]
 - **Good Sportsman** v Hangzhou ZH Tech (2024) [USPTO PTAB PGR]
 - **Tesla** v Autonomous Devices (2024-2024) [USPTO PTAB (IPR)] ‘474 Patent
 - **Becton Dickenson** v **JFCRx** (2023-2024) [Contract, trade secret compliance/audit]
 - Juul v **NJOY** – (2023-2024) [337-TA-1368, U.S. International Trade Commission]
 - Juul v **NJOY** – (2023-2024) [1:2023cv00917, District Court of DE]
 - **NJOY** v Juul– (2023-2024) [IPR2024-00267 USPTO PTAB]
 - **NJOY** v Juul– (2023-2024) [IPR2024-00268 USPTO PTAB]
 - Textron v **DJI** – (2023-2024) [Case No. 2:22-cv-351-RWS-RSP (E.D. Tex)]
 - Solmetex v. **Dental Recycling** (2023-2024) [Pre-IPR: USPTO]
 - **Daifuku** v. ControlLogix [IPR2024-00475 USPTO PTAB]
 - Autonomous Devices v **Tesla** (2023-pres) [C.A. No. 22-1466 (MN), District Court of DE]
 - **Tesla** v Autonomous Devices (2023-2024) [USPTO PTAB IPR2023-01172] ‘583 Patent
 - **Tesla** v Autonomous Devices (2023-2024) [USPTO PTAB IPR2023-01055] ‘344 Patent
 - **Tesla** v Autonomous Devices (2023-2024) [USPTO PTAB IPR2023-01054] ‘974 Patent
 - **Tesla** v Autonomous Devices (2023-2024) [USPTO PTAB IPR2023-01169] ‘134 Patent
 - **Tesla** v Autonomous Devices (2023-2024) [USPTO PTAB IPR2023-01170] ‘449 Patent
 - **Tesla** v Autonomous Devices (2023-2024) [USPTO PTAB IPR2023-01171] ‘585 Patent
 - **Ouster** v. Hesai et al, Lidar Systems (2023-2024) [337-TA-1363, U.S. International Trade Commission]
 - **Ouster** v. Hesai et al, (2023-pres) [No. 1:23-cv-00406, District Court of DE]
 - **Boston Dynamics** v Ghost Robotics (2023-2025) [1:22-cv-01483-MN, District Court of DE]
 - Vivint v **SkyBell** Technologies (2022-pres) [2:21-cv-09472, Central Dist of DC]
 - Moog v **SkyRyse** (2022-2024) [1:22-cv-00187, Western Dist of NY]
 - Velodyne v **Ouster** (2022-2023) [337-TA-1322, U.S. International Trade Commission]
 - **IQRIS** v Point Blank (2022-2023) [21-CV-61976-BB, Southern District of FL]
 - **Opex** v HC Robotics/Invata (2022) [337-TA-1293, U.S. International Trade Commission]

- **iAqua** v Cayago (2022) [Reexam-EPR814 of 90/014,995 USPTO]
- Cayago v **iAqua** (2022) [21-CV-61035, Southern District of FL]
- Cayago v **iAqua** (2022) [Civil No. 21-1212, Puerto Rico]
- Bacon Sons v **Perception Robotics** (2021-2022) [Case No: 30-2018-01000372, Orange Co, CA]
- **AutoStore** v Ocado (2021-2023) [IPR2022-00443 USPTO]
- **AutoStore** v Ocado (2021-2022) [IPR2022-00673 USPTO] (pre-institution)
- **AutoStore** v Ocado (2021-2022) [IPR2021-00274 USPTO]
- **AutoStore** v Ocado (2021-2022) [IPR2021-00311 USPTO]
- **AutoStore** v Ocado (2021-2022) [IPR2021-00398 USPTO] (pre-lit)
- **AutoStore** v Ocado (2021-2022) [IPR2021-00412 USPTO] (pre-lit)
- **AutoStore** v Ocado (2021-2022) [PGR2021-00038 USPTO] (pre-lit)
- **AutoStore** v Ocado (2021-2022) [HP-2020-000035, United Kingdom]
- **AutoStore** v Ocado (2021-2022) [Spain – Pre-lit]
- **AutoStore** v Ocado (2021-2022) [Case No. 2:20-cv-494, Eastern District of VA]
- Ocado v **AutoStore** (2021-2022) [1-21-cv-00041, USDC - DNH]
- Ocado v **AutoStore** (2021-2022) [1-21-cv-00806, USDC - DNH]
- **iRobot** v SharkNinja (2021-2022) [337-TA-1252, U.S. International Trade Commission]
- **Airborne Systems** v Wamore – Steerable parachute systems (2019-pres) [Arbitration – NJ]
- **AutoStore** v Ocado (2020-2021) [337-TA-1228, U.S. International Trade Commission]
- Interactive Play Devices v **Spin Master** (2020-2021) [Civil Action File No. 6:20-cv-00066, W.D. TX]
- **DJI** v Autel – (2017-2021) RC UAV Systems [C.A. No. 16-706-LPS-CJB, District Court of DE]
- Velodyne v **RoboSense** (2019-2020) [337-TA-1173, U.S. International Trade Commission]
- Odyssey Marketing v **Spin Master** (2018) Unmanned Air Vehicles [IPR, USPTO]
- Mattel v **Spin Master** (2018) Transformable Devices [IPR2018-01672, USPTO]
- Mattel v **Spin Master** (2018) Transformable Devices [IPR2018-01673, USPTO]
- Mattel v **Spin Master** (2018) Transformable Devices [IPR2018-01674, USPTO]
- MPV v **DJI** – (2018) [Case No. 2:18-cv-02210-RGK-AGR, Central District Court of CA]
- **Samsung** v Cywee – (2017) IMU Pose & AR [Case No. 2:2017cv00140, Eastern District of TX]
- **DJI** v Autel – (2017-2018) [2:17-cv-00776-RAJ, Western District of WA]
- Synergy Drone v **DJI** – (2017-2018) [Case No. 1:17-cv-00242, TX Western District Court]
- **iRobot** v Bissell – (2017-2018) [337-TA-1057, U.S. International Trade Commission]
- **Hayward Industries** – (2015-2016) Evaluate IP and Enabling Technologies for Submersible Systems
- Chirock v **Spin Master** (2016-2018) Transformable Devices [Case No. IPR2017-00030, USPTO]
- **Spin Master** v Sphero, Inc. (2016-2017) [Case No. IPR2017-01272, USPTO]
- Sphero, Inc. v **Spin Master Ltd.** (2017) [New York Southern District Court, Case No. 1:17-cv-05428]
- Razor/Chen/Inventist v **Jetson Electric Bikes** (2016-2017) [337-TA-1000, U.S. Int. Trade Commission]
- Razor/Chen/Inventist v **Powerboard** (2016-2017) [337-TA-1000, U.S. International Trade Commission]
- Segway/DEKA/Ninebot v **Jetson** (2016-2017) [337-TA-1007, U.S. Int. Trade Commission]
- Segway/DEKA/Ninebot v **Powerboard** (2016-2017) [337-TA-1007, U.S. Int. Trade Commission]
- Segway/DEKA/Ninebot v **Jetson** (2016-2017) [337-TA-1021, U.S. Int. Trade Commission]
- Segway/DEKA/Ninebot v **Powerboard** (2016-2017) [337-TA-1021, U.S. Int. Trade Commission]
- **DJI** v Yuneec [No. 5:16-cv-595, U.S. District Court, Central District of CA]
- Rehco LLC v **Spin Master Ltd.** (2015-2020) [No. 1:2013cv02245, Northern District of IL]
- Segway/DEKA v **Ninebot** [Inv. No. 337-TA-935, U.S. International Trade Commission]
- Segway v **Shenzhen Inmotion** – [Inv. No. 337-TA-935, U.S. International Trade Commission]
- ScriptPro v **Innovation** – Pharmacy Automation (2015) [2:06-cv-2468-CM-JPO U.S. Dist Court, KS]
- ScriptPro v **Innovation** – Pharmacy Automation (2011-2015) [06-2468-CM U.S. District Court, KS]
- Spinmaster v **YourStoreOnline** – Wall-Climbers (2009-2010) [CV 09-5803 CAS]
- SpinMaster v **YourStoreOnline** – RC Helicopters (2009-2010) [CV 09-2121 CAS]
- **Patent Inventorship:** Other patents pending
 - 6,378,801: Devices and methods for orienting and steering in three-dimensional space.
 - 7,726,514: Automated article dispensation mechanism.
 - 8,091,733: Automated article dispensation mechanism.
 - 8,751,035: Automated laundry drop-off and retrieval system.
 - 9,664,813: Automated Insect Monitoring

- 9,999,211: Automated Insect Monitoring (Removable Chambers with Transparent Sides for Inspection)
- 9,999,212: Automated Insect Monitoring (Signal Processing to Detect and Recognize Invasive Pest)
- 11,382,324: Insect Traps and Monitoring System (IoT Monitoring System with Detect/Classify Ability)
- **Board of Directors/Advisors Experience:** Provide strategic technology, business and corporate expertise.
 - **Delta Five** – Distributed unattended sensors, automation, SaaS and IoT.
 - **Panacea BioMatx Inc** - Automated customized medications and nutraceuticals. (www.panacea.me)
 - **Lealear** – Automated storage and retrieval systems.
 - **RxMedic** – Automation for preparing prescription orders in retail, government, and hospital pharmacies.
 - **VortexHC** – Non-dexterous gripping, robot climbers (air and underwater), and 6DOF holonomic AUVs.
 - **NCSU Integrated Manufacturing Systems Engineering Institute** – Multi-disciplinary graduate school

Selected Publications (of ~40)

- IoT Solutions Enabling Hotelier's to Monitor for Bed Bugs, www.deltafive.com/wp-content/uploads/2018/06/DeltaFive_BedBugAwarenessWeek2018_PressRelease.pdf, June 2018.
- New York City Challenged by Bed Bugs, www.newswire.com/news/new-york-city-challenged-by-bed-bugs-delta-five-offers-green-solution-20043137, November 2017.
- On the Heels of the Largest Bed Bug Lawsuit Judgement, Delta-Five Has a Proven Green Solution for Hotels, www.newswire.com/news/on-the-heels-of-the-largest-bed-bug-lawsuit-judgement-delta-five-has-a-19990567, October 2017.
- Hoteliers Find Delta Five's Innovative Bed Bug Solution Catches Bugs Faster and More Consistently, www.newswire.com/news/hoteliers-find-delta-fives-innovative-bed-bug-solution-catches-bugs-19940513, September 2017.
- As Hoteliers Look to Combat Bed Bug Rise Delta Five Offers Researched Solution, www.newswire.com/news/as-hoteliers-look-to-combat-bed-bug-rise-delta-five-offers-researched-19846348, August 2017.
- Green Approach to Prevention and Early Detection, www.eprnews.com/delta-five-highlights-green-approach-to-prevention-and-early-detection-during-bed-bug-awareness-week-138925/, June 2017
- Delta Five Raises the Bar in Battle Against Bed Bugs, www.newswire.com/news/delta-five-raises-the-bar-in-battle-against-bed-bugs-19547330, May 2017.
- Automated Bed Bug and Insect Monitoring System, www.newswire.com/news/delta-five-launches-automated-bed-bug-and-insect-19224593, April 2017.
- “Think It, Build It, Win It: Vision-Based Robot Design Secures Teledyne a \$350M NASA Engineering Contract” H. Neale. *NASA Tech Briefs* 2013/2014.
- “Automation is Changing Pharmacy: How Reducing Repetition Behind the Counter Improves Over the Counter Care” J. Janét. October 2010. *Insight Magazine*.
- “Automate Your Profits” J. Janét. October 2009. *Insight Magazine*.
- DTIC #ABV 299170 (NATICK/TR-04/013L): “Vortex Regenerative Air Movement: Attraction and Attachment on Vertical and Inverted Surfaces— A Simple Method for Static and Mobile Robots for Climbing Walls and Ceilings” J. Janét, D. Reinfeld, B. Wiedeman. October 2003. (Contract No. DAAD16-00-C-9259; US Army Soldier Systems Command, Natick, MA)
- DTIC #AD B267 288 (NATICK/TR-01/009L): “MicroHunter Control Applications for Elimination of Anti-Personnel Landmines: Low-Cost, Minimally Guided Munitions – A Simple Method for Controlling the Trajectory of Spinning Projectiles” M. Kemp, J. Janét, and C. Pell. May 2001. (Contract No. DAAN02-98-C-4030; US Army Soldier Systems Command, Natick, MA)
- “Development of a Micro Autonomous Underwater Vehicle for Complex 3-D Sensing”, *IEEE/MTS Oceans 2001 Conference*; Honolulu, HI; Nov 2001; B. Hobson, B. Schulz, J. Janet, R. Moody, C. Pell, and H. Pinnix.
- “MicroAUVs I: Platform Design and Multi-Agent System Deployment”, *Unmanned Untethered Submersible Technology (UUST)*; August 2001; Durham, NH; B. Schulz, B. Hobson, J. Janét, M. Kemp, R. Moody, C. Pell, H. Pinnix, J. Pollard, and H. Crenshaw.
- “Assessing the Performance of Oscillating Fin Thruster Vehicles”, *Unmanned Untethered Submersible Technology (UUST)*; August 2001; Durham, NH; M. Kemp, B. Hobson, J. Janét, C. Pell, and E. Tytell.
- “Using Control Networks to Control Multiple Autonomous Mobile Robots: Biped, a Hexapod Colony, and a Complex Autonomous Mobile Robot”, *IEEE Int'l Conf. on Robotics & Automation*; Detroit, MI; May 1998; J. Janet, B. Wiseman, R. Michelli, S. Scoggins, and A. Walker.

- “Autonomous Mobile Robot Global Self-Localization Using Kohonen and Region-Feature Neural Networks”, *Jnl of Robotic Systems*; Vol. 14, No.4, 1997; J. Janet, R. Gutierrez, T. Chase, M. White, J. Sutton.
- “Combining Self-Organizing Geometric Certainty Maps with the Unscented Kalman Filter”, *Proc. of IEEE Int’l Conf. on Robotics & Automation*; Leuven, Belgium; May 1998; J. Janét, J. Brickley, M. Kay, M. White, and J. Sutton.
- “Modeling of Sonar Sensors for Localization of Autonomous Mobile Robots”, *IEEE Transactions on Industrial Electronics*; October 1998; R. Gutierrez, J. Janet, and R. Luo.
- “Autonomous Mobile Robot Global Motion Planning and Geometric Beacon Collection Using Traversability Vectors”, *IEEE Trans on Robotics & Automation*; Vol.13, No.1, 1997, Pages:132–140; J. Janét, M. Kay, and R. Luo.

Skills Brief

- **Executive Leadership.** Provided fiscal, strategic, IP and operational leadership in application and development of heavily engineered systems for software, robotics and automation, medical, pharmacy, maritime, aviation, government, military, law enforcement, security, entertainment, hospitality, analytics, pattern analysis, and energy markets. Demonstrated ability to develop and implement business plans, integrate emerging technologies, raise capital, be an effective change agent, and transition product and client service concepts to commercial viability. Effective collaborator with companies, academic institutions, military, government and foreign entities. Experienced with legal aspects of launch, operations, equity, M&A, intellectual property & litigation. Successful manager of sales, marketing and finance including, ROI tool development, market research, prospecting, sales presentations, competitive analysis, brand development, multi-media advertising, contract negotiation, deal closure, A/P and A/R.
- **Board Member.** Effective strategic contributor and communicator on behalf of corporations (Delta Five, RxMedic, Panacea Biomatix, Lealear, and VortexHC) and an academic institution (NCSU IMSEI).
- **Engineering and Product Development.** Demonstrated ability to develop and deploy hardware and software products, including automated retrieval systems, fixed-base robots, medical systems, mobile robots, autonomous and remote-control unmanned ground robots, wall-climbing robots, hull inspection & cleaning robots, nuclear vessel inspection robots, autonomous underwater vehicles, non-destructive inspection robots, retail automation, and mine neutralization robots.

Additional

- **Security Clearance.** Personal clearance level – TOP SECRET & SCI. Facilities Security Officer (FSO) for Vortex HC. Coordinated processing of SECRET level Facility Clearances (FCL) and Personnel Clearances (PCL).
- **Institute of Electrical & Electronic Engineers (IEEE):** Robotics, Controls & Pattern Analysis.
- **Autonomous Unmanned Vehicle Systems International (AUVSI)**
- **American Society for Engineering Education (ASEE)**
- **American Society of Mechanical Engineers (ASME)**
- **PADI SCUBA:** Professional diver for underwater mobile robots, hull inspection, underwater video, counter-mine, ASW, etc.
- **Commercial Driver’s License:** Class-A CDL, base registrations in North Carolina (and Virginia).
- **USPA Skydiving:** (1991 – 1997) USPA Jumpmaster certification in 1996. D-license with 400 jumps including instruction, tandem master training support, demonstrations, accuracy, and freefall relative work (RW). National collegiate RW championship team in 1994 (Richmond, IN). Carolina Sky Sports Accuracy Champion in 1993 (Louisburg, NC).
- **Pyrotechnician:** Class-A/B levels.
- **Master Mason:** Foundation of ~20 years of construction experience, primarily with ornamental stone, brick, and concrete. Experience initially gained as a youth within family-owned and operated business (Dogwood Quarries) in DC-metropolitan area; summers and school breaks from 1981 until 1997. Since 1998, all work has been *pro bono* including for Habitat for Humanity.

Computer Tools

Proficient: SalesForce, PowerPoint, Excel, Word, Project, MATLAB

Prior experience: Epicor ERP, QuickBooks, AutoCAD, SolidWorks, OrCAD, LabView, C/C++, Assembly

EXHIBIT B

U.S. PATENT 8,104,492	
'492 PATENT CLAIMS	ATLEISURE SEASON SENTRY 10' SQUARE 2-TIER LED OFFSET UMBRELLA
1. An umbrella comprising:	The Accused Product is an umbrella.
a main pole having a lower end for support by a support surface and extending generally upward to an upper end;	The Accused Umbrella includes a “main pole” with a “lower end for support by a support surface” that extends “generally upward to an upper end.” Upper End Main Pole Lower End 

a sliding member associated with the main pole and selectably moveable thereon between lower and upper locations along the main pole;

The Accused Umbrella features a “Sliding member” associated with the main pole and selectably moveable thereon between lower and upper sections along the main pole.”

Sliding
member



a locking means for releasably securing the sliding member to the main pole at a selected location along the main pole;

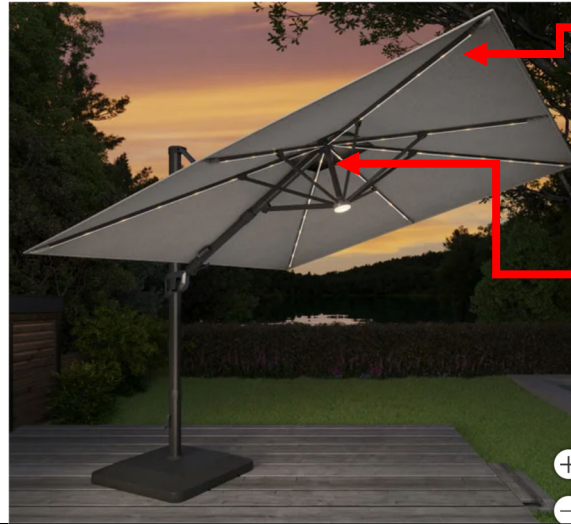
The Accused Umbrella features a “locking means” to releasably secure the sliding member to the main pole at a selected location using a spring-loaded button.

Locking means
for releasably
securing the
sliding member



an umbrella canopy having a central region;

The Accused Umbrella features a “canopy having a central region.”

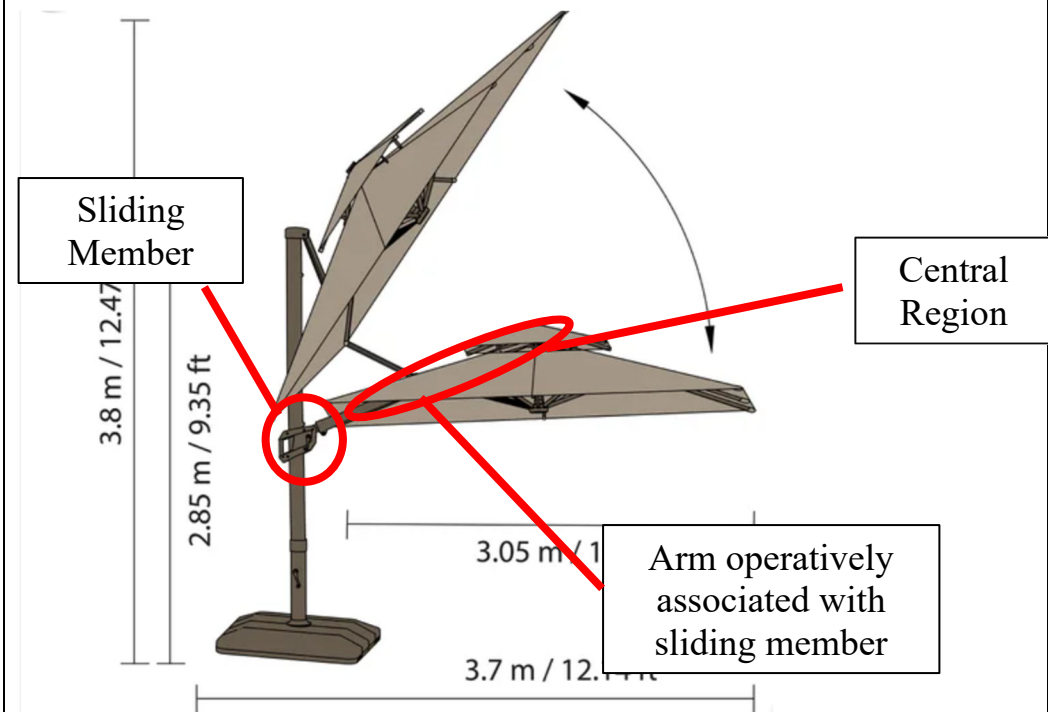


Canopy

Central
region

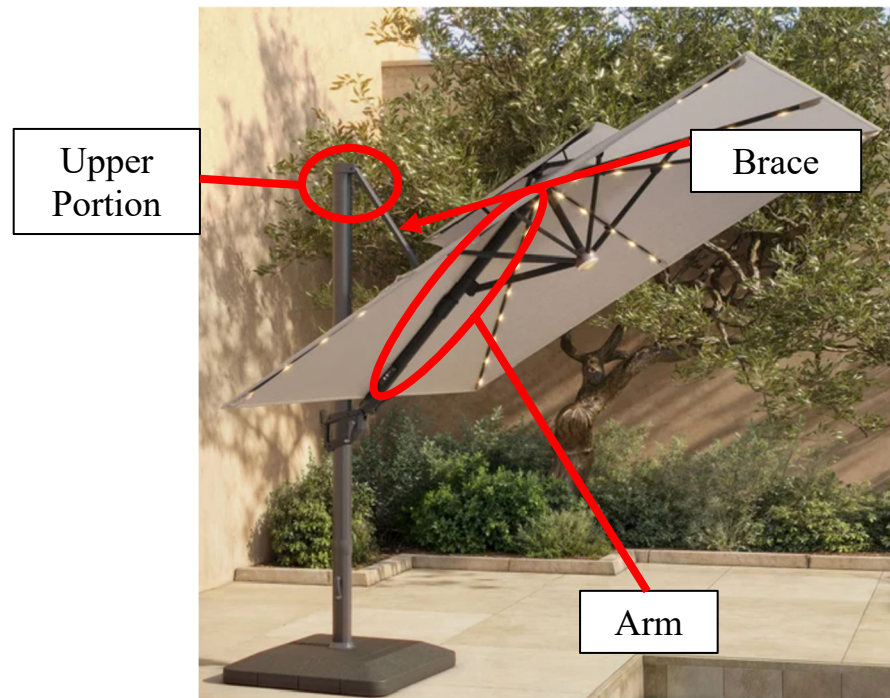
an arm associated with the central region and extending radially therefrom to an outer end operatively associated with the sliding member;

The Accused Umbrella features “an arm associated with the central region and extending radially therefrom to an outer end operatively associated with the sliding member.”



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;

The Accused Umbrella features a brace having two ends “pivotably attached to an upper portion of the pole above the sliding member and . . . the arm,” respectively.



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

The Accused Umbrella features a “winding mechanism” with a “winder hub around which a line can be wound . . . mounted to the sliding member and moveable therewith.”

Winding mechanism
with winder hub
mounted to the sliding
member and moveable
therewith and line
inside



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

The accused umbrella features a “line” with a first end that winds around the winder hub and a second end that engages the umbrella canopy,” with an “intermediate portion extending from the winder hub along the arm to the umbrella canopy.”

1st end
(internal)



2nd end



wherein the rotation of the winder hub tensions or relaxes the line depending upon the direction of rotation of the winder hub, and

The Accused Umbrella's winder hub rotates to "tension[] or relax[]" the line depending upon the direction of rotation."

Rotation of the
winder hub
tensions or
relaxes the line



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; and

The Accused Umbrella features a winding mechanism, the operation of which applies tension to the line and “opens and closes the umbrella canopy in response to movement of the line.”



Line associated with opening/closing canopy

wherein the angle of the umbrella canopy with respect to the main pole can be controlled by moving the sliding member along the main pole.

The Accused Umbrella's canopy angle "with respect to the main pole can be controlled by moving the sliding member along the main pole."

