

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

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GLOBAL SHADE CORPORATION,
Petitioner,

v.

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

Case IPR2023-00580
Patent 10,669,738

PATENT OWNER'S SUR-REPLY

Patent Owner's Sur-Reply

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LIST OF EXHIBITS

Exhibit No.	Description
2001	Non-Final Office Action, September 26, 2019 (with accompanying Notice of References Cited, Search Notes, and EAST Search History)
2002	Non-Final Office Action, September 28, 2018
2003	U.S. Patent Publication No. 2015/0308147 (“Lee”)
2004	U.S. Patent No. 6,929,017 (“Byun”)
2005	Office Action Response, February 10, 2020
2006	Notice of Allowance, February 27, 2020
2007	Declaration of Wendy Reffeor, Ph.D. (with attached CV)
2008	U.S. Patent No. 5,230,358 (“Forell”)
2009	U.S. Patent No. 4,945,936 (“Surrendi”)
2010	U.S. Patent No. 4,202,363 (“Watts”)
2011	U.S. Patent No. 3,929,146 (“Maiken”)
2012	U.S. Patent No. 2,771,087 (“Simonson”)
2013	Originally-Filed Specification (U.S. Patent App. No. 15/925,314)
2014	Originally-Filed Drawings (U.S. Patent App. No. 15/925,314)
2015	Originally-Filed Specification (Parent Application - U.S. Patent App. No. 15/549,164)
2016	PCT Pub. No. WO2017/028659 (PCT/CN2016/091675)

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

I. INTRODUCTION

Patent Owner With-U E-Commerce (Shanghai) Co., Ltd. files this Patent Owner Sur-Reply to Petitioner's Reply to Patent Owner's Response. Like the Petition, Petitioner's Reply relies on combinations that would be inoperable and/or would not be made by one of skill in the art. Further, Petitioner now advances new arguments to try to address this inoperability. Validity of the challenged claims should be confirmed.

II. OVERVIEW OF PETITIONER'S PROPOSED GROUNDS AND NEW ARGUMENTS

Petitioner's stated grounds of rejection are based on Rousselle in view of Tsai (further in view of Ohnishi in Ground 2). Pet. 8.

The exact nature of the proposed combination of Rousselle in view of Tsai has been at issue in this proceeding. In its Petition, Petitioner proposed starting with Rousselle's umbrella tent as a primary reference and modifying Rousselle's umbrella tent with structural elements from Tsai as a secondary reference—this combination has been referred to by the Board and the Parties as Petitioner's **primary modification**. Institution Decision 32–34; Patent Owner Response 15; Petitioner's Reply, Paper No. 18, 1 (hereinafter "Pet. Reply").

In instituting this proceeding, the Board relied on an **alternative modification** (not the primary modification) wherein Tsai is used as a primary reference and is modified by secondary reference Rousselle, i.e., where Tsai's canopy structure is used and modified with the central lock of Rousselle's umbrella tent. Institution Decision 32–34; *see also* Patent Owner Response 15; Pet. Reply 11.

With respect to the **primary modification**, Petitioner now proposes further modifications to the reference to address the inoperability of the structure resulting from the primary modification—for example, proposing that a further modified version of the primary modification could be stopped midway during the folding/inverting process in order to meet the claim language and/or that a totally different type of leg could be used. These further modifications, raised for the first time in Petitioner's Reply, are new arguments and should not be considered. Moreover, they are not supported by any evidence and would not be sufficient to render the proposed device properly operable.

With respect to the **alternative modification**, Petitioner attempts to explain how the alternative modification could be made to be operable. However, Petitioner's attempted explanations still fail to account for Tsai's teaching away

and the structural nature of Tsai's inner units. Further, Petitioner has still not been able to address Tsai's leg locks in the alternative modification.

III. THE PRIMARY MODIFICATION

Petitioner's arguments do not remedy the inoperability of the primary modification and the challenged claims should be upheld.

A. THE PRIMARY MODIFICATION IS INOPERABLE

Petitioner's proposed modification of Rousselle in view of Tsai (primary modification) would be inoperable for the intended function of a collapsible canopy as recited in the challenged claims.

1. PATENT OWNER PROPERLY UNDERSTOOD THE INOPERABLE PRIMARY MODIFICATION

In the Reply, Petitioner contends that Patent Owner "fundamentally misunderstands the proposed combination." Pet. Reply 1. Patent Owner respectfully contends that it understands the proposed combination as presented by the Petitioner and notes that its understanding is consistent with the Board's understanding of the primary modification. See Institution Decision 32 (addressing the combination and acknowledging that Patent Owner's inoperability argument "appears to have some merit based on the current record"). If Petitioner intended some other modification, it was Petitioner's obligation to make that case in the

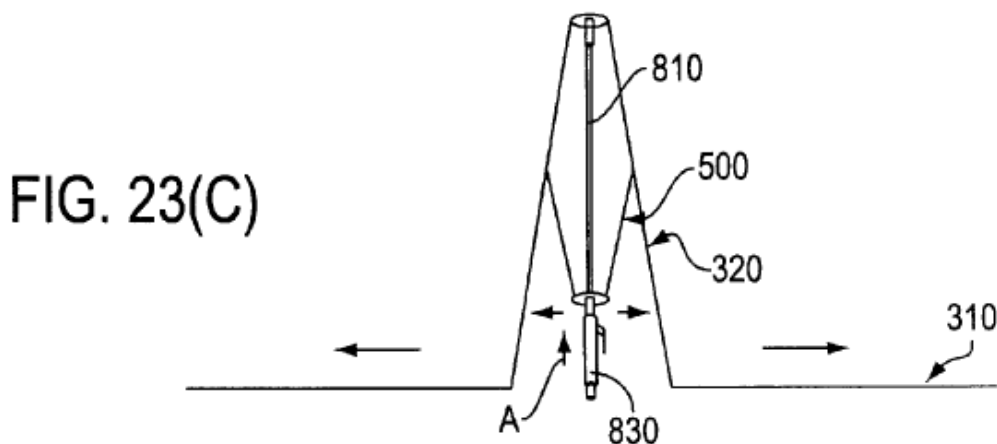
Petition. *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016) (emphasizing that “it is of the utmost importance” that the petition identify the grounds and evidence upon which the claims are challenged).

Petitioner also relies on a new assertion that Rousselle does not require inversion but merely allows it and thus some other leg could be used instead. This argument does not change the fact that Rousselle’s folding/collapsing is based on pivoting/inverting of the legs. As Patent Owner has argued, the proposed addition of Tsai’s outer units and X-shaped members to Rousselle’s umbrella tent and Rousselle’s legs would result in an umbrella tent that is **incapable of being folded**.

2. PETITIONER’S NEW THEORY REGARDING THE PRIMARY MODIFICATION

Faced with the inoperability of the primary modification, Petitioner now proposes a new interpretation of the primary modification, wherein the folding/inverting process is stopped **just before** inversion occurs. Pet. Reply 2. This is a new theory that was not present in the Petition and should be disregarded. *Wasica Fin. GmbH v. Cont’l Auto. Sys., Inc.*, 853 F.3d 1272, 1286 (Fed. Cir. 2017) (ignoring reply arguments when new interpretations were presented to address flaws in the obviousness case laid out in the petition); *see also Intelligent Bio-Sys., Inc.*, 821 F.3d at 1369–70.

Further, to the extent Petitioner's new theory can be considered, it is not supported by any evidence and the combination is still inoperable. Neither Petitioner nor Petitioner's Expert provide any figure or schematic of the arbitrary point during the folding/inverting process at which the claim limitations are alleged to be met. Patent Owner can only presume that if one were to "stop folding the canopy **just before inverting** the legs" as proposed by Petitioner, Pet. Reply 2 (emphasis added), the legs would extend horizontally outward, for example, as shown in Rousselle's Figure 23(C) reproduced below:



Ex. 1003, Fig. 23(C). Neither Petitioner nor Petitioner's Expert offer any explanation for how movement of the leg tubes 310 from a vertical position (either upward when folded or downward when unfolded) to that horizontal position would be achieved with the X-shaped member attached to Rousselle's leg tubes 310. For instance, Petitioner does not offer any explanation regarding how the X-

shaped member, having two attachment points to the leg tube, would still be connected to the leg tube in that horizontal position, or how the leg tubes could even begin to pivot/invert from the folded state or from the unfolded state.

Instead, as shown in the annotated Figure below previously prepared by Patent Owner's Expert, attaching an X-shaped member between Rousselle's leg tubes 310 will prevent the pivoting/inverting of the leg tubes 310, **even to the proposed horizontal position.**

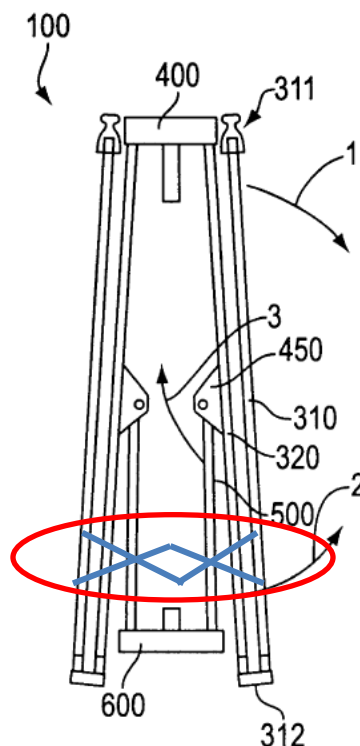


FIG. 1(D)

Ex. 2007, ¶ 57. Patent Owner notes that pivoting of the leg tube as taught by Rousselle is prohibited regardless of whether an imaginary stopping point is contemplated. Thus, Petitioner's primary modification is inoperable for a collapsible canopy frame.

Moreover, neither Petitioner nor Petitioner's Expert articulates any rationale for why the imaginary stopping point "just before inverting the legs" would be used. There is no teaching, suggestion, or motivation for why such a further change to the operation would be made nor why it would be beneficial.

Instead, the proposed new changes to the primary modification are failed post-hoc revisions to the Petition being offered now only because the primary modification has been shown to be inoperable.

3. ROUSSELLE DOES NOT TEACH OR SUPPORT NON-PIVOTING LEGS

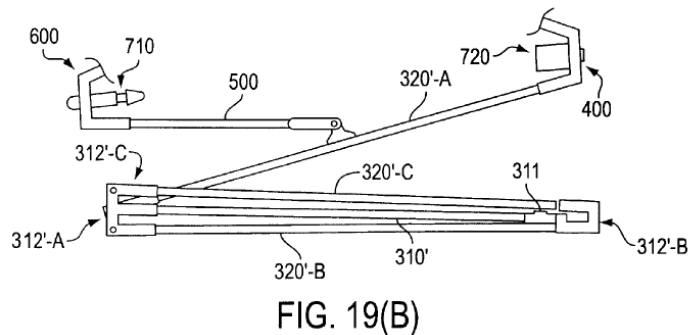
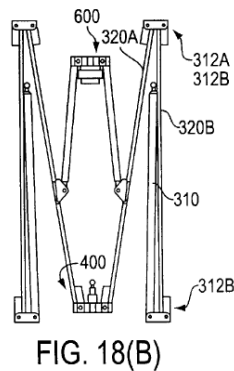
Petitioner also now alleges that Rousselle teaches other, non-inverting, non-pivoting leg tubes that could be used to cure the inoperability problem. Pet. Reply 1–2. This is not supported by the reference.

Petitioner has not cited any embodiment of Rousselle showing a leg that does not pivot/invert. Petitioner relies on Rousselle's statement that "various leg segments, shapes, etc. can be varied extensively between embodiments, and that

the illustrated and described embodiments are merely exemplary designs” for this assertion. Pet. Reply 1 (quoting Ex. 1003, 16:14-19). This quoted paragraph supports exactly what it says—that the (inverting) legs can have various segments, shapes, etc.—and does not teach or even contemplate a change to the entire structure and operation of the leg. For example, this quoted language is in a paragraph discussing that each leg has three leg segments and two folding hinges. Ex. 1003, 15:66–16:19. That paragraph is followed by a paragraph discussing another embodiment having three leg segments and two folding hinges. *Id.* at 16:20–33. The subsequent paragraph then discusses an embodiment having four leg segments. *Id.* at 16:34–43. All of these sections of Rousselle refer to embodiments having different **numbers** and **shapes** of the leg segments. Petitioner’s attempt to extend this to other, completely different legs that do not pivot/invert is not supported by the reference.

Petitioner also relies on Rousselle’s teaching that the central lock allegedly “can be used with a variety of other frame structures[.]” Pet. Reply 7 (quoting Ex. 1003, 15:58-63). Petitioner tellingly does not include the next sentence of Rousselle, which states: “Other frame structures are illustrated, for example, in FIGS. 18–19.” Ex. 1003, 15:64–65. **The additional other frame structures of**

Figures 18 and 19 of Rousselle both still include pivoting/inverting legs, as shown in the representative figures reproduced below:



Id. at FIGS. 18(B) and 19(B). As clearly depicted, both of these additional frame structures also include pivoting/inverting legs. Further, Rousselle expressly describes the leg segments and folding hinges that allow for the pivoting/inverting of the legs. *Id.* at 15:66–16:48. Again, the reference does not support Petitioner’s attempt to extend the teachings to other, completely different legs that do not pivot/invert.

In fact, Rousselle’s method of action is clear that the pivoting/inverting of the legs is the first step in unfolding. Rousselle states:

In order to erect the shelter/tent, from an initially collapsed state shown schematically in FIG. 1(D), a user can begin by moving the leg tubes 310 downward in the direction of the arrow 1. Then, the user can raise the band bars 320 in the direction of the arrow 2. This

action of raising the band bars causes the center tubes 500 to elevate in the direction of the arrow 3.

Ex. 1003, 13:5–11 (emphasis added). Petitioner does not explain how this mechanism of action could be achieved with a leg that did not pivot/invert or was prevented from doing so.

Moreover, Rousselle's legs are not connected to one another, *id.* at FIGS. 1(A)–1(D), *see also* Patent Owner Response 21, and thus differ from Tsai's legs for additional reasons. Because Rousselle's legs are not connected to one other (as opposed to Tsai's legs that are connected to one another), each leg of Rousselle has a degree of freedom to pivot/invert 180 degrees on the hinge 312 to permit the folding and unfolding process of the canopy. *See* Ex. 1003, FIG. 1(D). This also eases the workload of Rousselle's central lock as the central lock need not drive four legs mechanically connected to one another by X-shaped members. The fact that Rousselle's legs are not connected to one another such that they have a degree of freedom to pivot/invert further confirms that Rousselle was still referring to pivoting/inverting legs when referencing "other frame structures" in the section cherry-picked by Petitioner. Pet. Reply 7.

In sum, this new argument is yet another failed post-hoc revision made in an attempt to address the inoperability of Petitioner's primary modification.

4. PETITIONER’S ANALYSIS OF TSAI’S INNER UNITS GOES TO THE ALTERNATIVE MODIFICATION

Petitioner’s other contentions regarding Tsai’s inner units, Pet. Reply 3, are relevant to the **alternative modification** and not the **primary modification**, *see* Institution Decision 32–33 (explaining the alternative modification as “combining Rousselle’s central lock with Tsai’s canopy frame that includes supporting legs, inner retractable units, and outer retractable units”). These contentions are addressed below with respect to that alternative modification.

5. PETITIONER HAS NOT ARTICULATED A WORKING VERSION OF THE PRIMARY MODIFICATION

Finally, Petitioner asserts that Patent Owner assumes a “rigid adherence” to the primary disclosure of the references. Pet. Reply 5. Patent Owner disagrees and contends the arguments merely follow the proposed combinations and modifications Petitioner itself laid out in the Petition. Again, it is Petitioner’s obligation to clearly lay out its case in the Petition. *Intelligent Bio-Sys., Inc.*, 821 F.3d at 1369. Moreover, while Petitioner asserts that one of skill in the art “would have had all the necessary knowledge and creativity to implement a working version of the primary modification,” Pet. Reply 5, the fact is that Petitioner and Petitioner’s Expert have been unable to articulate any such **working** version.

**B. ROUSSELLE AND TSAI WOULD NOT BE COMBINED TO
ARRIVE AT THE PRIMARY MODIFICATION**

Despite the clear inoperability of the primary modification, Petitioner's Reply asserts that the combination would be made, because (according to Petitioner) Rousselle can be used with a variety of frame structures, Rousselle's inverting is not critical, Tsai's leg locks are not relevant to the primary modification, and Tsia does not teach away from the proposed combination. Pet. Reply 5–8.

Patent Owner disagrees with these points for the reasons already presented. Moreover, none of these arguments address the inoperability of the primary modification, nor do they present any articulation of a working version that would result from the primary modification.

**C. TSAI TEACHES AWAY FROM THE PRIMARY
MODIFICATION**

Tsai teaches away from central activation and from any central structure. *See* Ex. 1005, 4:25–28, 10:25–11:11; *see also* Ex. 2007, ¶¶ 55, 63–65. Instead, Tsai is clear that activation is done at the legs and driven by the legs and outer units. *See* Ex. 1005, 4:25–28, 10:25–11:11; *see also* Ex. 2007, ¶¶ 55, 63–65.

Petitioner argues that's Tsai's activation through the legs is irrelevant and that "Tsai does not include any suggestion" that the disparaged prior art examples

included in Tsai used the center strut for activation/locking. Pet. Reply 10 n.2.

Patent Owner notes that Tsai expressly states that those prior art frames were “somewhat difficult to **unfold** in that an extra person is sometimes needed to **push the center strut upwardly**...” Ex. 1005, 2:19–22. Thus, Tsai clearly connects the center strut with the unfolding process in the **disparaged** prior art solutions and consequently used its leg activation as a contrary solution.

Accordingly, one of skill in the art would not combine Rousselle and Tsai as Petitioner proposed.

D. CONCLUSION REGARDING THE PRIMARY MODIFICATION

For at least these reasons, the primary modification is inoperable and would not be combined as proposed. Petitioner’s arguments in the Reply do not remedy these issues and improperly add new modifications and arguments. The challenged claims should be upheld.

IV. THE ALTERNATIVE MODIFICATION

Petitioner’s arguments also do not remedy the deficiencies of the alternative modification and the challenged claims should be upheld.

A. TSAI TEACHES AWAY

As discussed above, Petitioner responds to Tsai's teaching away from central activation and its disparagement of prior art references that include central activation by arguing that "Tsai does not include any suggestion" that the disparaged prior art examples used the center strut for activation/locking. Pet. Reply 10 n.2. With respect to the alternative combination, Petitioner's discussion of Tsai's teaching away largely cites back to the section containing this footnote. Pet. Reply 15.

Again, Patent Owner quotes Tsai's clear statement that the prior art frames were "somewhat difficult to **unfold** in that an extra person is sometimes needed to **push the center strut upwardly....**" Ex. 1005, 2:19–22. Thus, Tsai clearly connects the center strut with the unfolding process in the **disparaged** prior art solutions, and used its leg activation as a contrary solution to central activation.

Petitioner also contends that Tsai does not teach away from central activation because "[n]one of the disclosure PO cites from Tsai suggests Tsai's canopy could not be unfolded using a central lock, as disclosed in Rousselle." Pet. Reply 9. However, Tsai's use of canopy support rods 3 suggests that Tsai's shelter frame could not be unfolded using a central lock. See Ex. 2007, ¶ 63. The canopy support rods 3, which are clearly part of Tsai's disclosure and are relied on in

Petitioner's alternative modification, are flexible elements that would be unable to support locking Tsai's shelter frame into an unfolded position from the center. *Id.* at ¶¶ 53, 63. Thus, Tsai's disclosure does indeed teach away from its canopy being unfolded using a central lock such as that of Rousselle. *Id.* at ¶ 65.

Additionally, contrary to Petitioner's assertions, the question of whether the resulting canopy is unfolded using central activation or by pulling the legs apart is relevant to the patentability of the challenged claims. The inability to properly combine Tsai in view of Rousselle weighs in favor of determining that the challenged claims are non-obvious and patentable. Again, Tsai disparages central activation and teaches unfolding the shelter frame using the legs. One having ordinary skill in the art would be dissuaded from adding Rousselle's central lock to Tsai's structure based on Tsai's teaching away discussed above. *Id.* at ¶¶ 60–65.

Accordingly, one of skill in the art reviewing Tsai would not be taught to modify it to include central activation through a central lock such as that of Rousselle. *Id.*

B. THE ALTERNATIVE MODIFICATION IS ALSO INOPERABLE

Petitioner argues that the alternative modification could be made operable because the inner units of Tsai could be constructed from a material that would allow for central activation. Pet. Reply 12.

Again, Tsai teaches away from central activation as discussed above. Further, as Patent Owner pointed out in its Response and discussed above, the alleged “inner units” of Tsai are canopy support rods 3 that function to support the canopy material. Ex. 1005, 4:19–22; Ex. 2007, ¶¶ 53, 63–65. These canopy supports are not intended to drive (nor are they even capable of driving) activation of the larger and heavier outer units, X-shaped members, and legs. Ex. 2007, ¶¶ 53, 63–65. In fact, Tsai is clear that the reverse is required—namely, that it is the legs, and the larger and heavier outer units and X-shaped members, that must provide the unfolding of the canopy support rods. *Id.* at 10:25–11:11; Ex. 2007, ¶¶ 53, 63–65.

Petitioner also argues that the inner retractable units of the ’738 Patent are similar to Tsai’s canopy supports, and that therefore Tsai cannot be said to be inoperable if the ’738 Patent is operable. Pet. Reply 13–14. This premise is unsupported. The alleged equivalence between the respective elements does not have basis in the respective specifications and Petitioner does not articulate any such evidence or basis. In fact, the citations offered by the Petitioner actually contradict Petitioner’s argument.

First, Petitioner points to Patent Owner’s Expert testimony that the ’738 Patent’s inner units are not intended to be flexible and attempts to extend this to

Tsai's canopy supports. Pet. Reply 14. However, this feature of Patent Owner's inner units is in direct contrast to Tsai's clear depiction of flexed/arched canopy rods. See Ex. 1005, at FIGS. 1, 20. Further, Patent Owner's Expert pointed to these facts, noting that Tsai's canopy rods are flexible and are shown in a flexed/arched configuration. Ex. 2007, ¶ 53; *see also id.* at ¶ 64. Thus, the facts contradict Petitioner's assertion that the structure of the two elements are the same.

Furthermore, Petitioner ignores the fact that the '738 Patent's inner units and Tsai's canopy support rods have different functions. As acknowledged by the Petitioner, the '738 Patent's inner units "are capable of driving the unfolding of the canopy." Pet. Reply 14 (internal citations omitted). Contrarily, Tsai's canopy support rods are not intended to do so, but are instead intended to flex into an arched configuration to support the canopy. Ex. 2007, ¶ 53; Ex. 1005, Figures 1, 20. Further, as Patent Owner has pointed out, Tsai expressly teaches that its canopy supports are not to be pushed up into the unfolded orientation. Ex. 1005, 4:27–28.

Thus, Petitioner's Reply fails to rebut Patent Owner's argument that the Petition does not point to any evidence or articulate any explanation for how the lightweight, flexible canopy support rods of Tsai would be capable of driving the unfolding of the larger and heavier outer units, X-shaped members, and legs if the

canopy of the alternative modification is to be unfolded through a central lock. Instead, as explained by Patent Owner's Expert, such a modification of Tsai would not be operable. Ex. 2007, ¶¶ 63–65.

Moreover, the Petitioner ignores the differences between the legs of the respective references. Despite the clear teaching from Tsai that its legs and the larger and heavier outer units must provide the unfolding of the canopy support rods, Petitioner asserts that “a POSITA would have recognized that it was well known that canopy frames like Tsai's were strong and lightweight, and could be easily be unfolded using a central lock as in Rousselle.” Pet. Reply 12. This ignores the fact that Tsai's legs are connected to one another via scissor-type linkages 2, offering no degree of freedom to invert/pivot during the folding or unfolding process. As discussed above in § III(A)(3), Rousselle's legs are not connected to one another and thus enjoy a degree of freedom to pivot/invert during the folding and unfolding process. See Ex. 1003, FIGS. 1(A)–1(D); Patent Owner Response 21. Such degree of freedom between Rousselle's legs means that Rousselle's central lock does not have to drive the plurality of legs as a single, connected structure. However, because Tsai's legs are connected to one another via scissor-type linkages, Tsai's frame could not be easily unfolded using a central lock such as that of Rousselle. Unlike Rousselle's structure, the proposed

alternative modification would have the added requirement of driving the interconnected leg structure with scissor-type linkages. This prevents simply adding the central lock of Rousselle for folding and unfolding Tsai's frame, as Rousselle never contemplates or suggests using its central lock with a structure that has connections between the legs. *See* Patent Owner Response 21.

Accordingly, like the primary modification, the proposed alternative modification would be inoperable.

C. THE ALTERNATIVE MODIFICATION WOULD NOT BE MADE

Petitioner responds to the argument that Petitioner's Expert's Opinion is conclusory, not supported, and contradictory to the references by asserting that Patent Owner failed to point out the deficient testimony. Pet. Reply 14–17. Patent Owner notes that the Patent Owner Response provided extensive detail regarding those contradictions. *See* Patent Owner Response 39–43. In summary, Petitioner's Expert did not properly account for Tsai's disparagement of the prior art using central activation, ignored Tsai's express teachings regarding the intended method of operation (pulling outward on the legs to unfold the canopy), and ignored Tsai's statements about avoiding a manual upward pushing action to move the canopy upward into the unfolded orientation. *Id.* Petitioner's Expert failed to consider

these teachings and instead offered conclusory opinions based on hindsight bias to recreate Patent Owner’s challenged claims.

Petitioner attempts to discount these teachings of the reference by arguing that Tsai’s disclosure is limited to Tsai’s canopy and not to the modified canopy of Tsai with Rousselle. Pet. Reply 17. However, the appropriate test is still what the combined teachings of the references would have suggested to one of ordinary skill in the art. As Patent Owner’s Expert has explained, the combined teachings of the reference would not result in use of a central lock to drive locking of Tsai’s frame. Ex. 2007, ¶¶ 60–65.

D. PETITIONER’S FAILURE TO ADDRESS THE LEG LOCKS

As Patent Owner previously pointed out, Petitioner fails to articulate any workable solution for Tsai’s leg locks. For example, the Board characterized Petitioner’s proposed combination as including “*replacing* Tsai’s locking assemblies 10 with Rousselle’s central lock.” See Institution Decision 31 (emphasis in original). This change would be entirely contradictory to Tsai’s teachings and intent. See Patent Owner Response 5, 41–42, 44.

Petitioner now asserts that the leg locks are not Tsai’s main principle of operation. Pet. Reply 17. However, this is another example of Petitioner ignoring the actual teachings of the reference—Tsai expressly ties its improvements to its

improved assembly with leg locks, stating that its frame is “easier to fabricate and more reliable than those having the locking assemblies known heretofore.” Ex. 1005, 5:3–5.

Still further, Petitioner now asserts that it also proposed retaining Tsai’s individual leg locks. Pet. Reply 18–19. Again, no support or articulation is offered for this combination, and Petitioner does not address how the alleged benefits of Rousselle’s central lock (such as single user activation from within the tent, see Ex. 1003, 3:45–47) could be realized when Tsai’s multiple leg locks are retained. **Indeed, Petitioner’s proposed structure *retaining* the leg locks would suffer from drawbacks the ’738 Patent expressly identified and overcame.** For example, the background section of the ’738 Patent explicitly discusses devices having a locking pin on each leg. Ex. 1001, 1:21–45. That design has numerous drawbacks including that the “operation is cumbersome” and “functional defects or improper operation of forcing unlocking can occur.” *Id.* at 1:28–30. Further, that structure cannot be unfolded by one person, but instead requires “cooperation of many people.” *Id.* at 1:30–32. Additional problems include non-uniform stress being placed on the individual legs, reduced structural integrity of the legs due to the holes for the locking pins, and overall reduced service life of the collapsible canopy. *Id.* at 1:32–45.

In summary, *replacing* of Tsai's leg locks is entirely contradictory to Tsai's teachings, but *retaining* Tsai's leg locks *together with* a central lock obviates the benefits of the center lock while also retaining all of the deficiencies of the leg locks. Thus, Petitioner has still failed to articulate any workable solution for Tsai's leg locks.

V. COLLATERAL ESTOPPEL DOES NOT APPLY

Collateral estoppel is only properly applied when the issues are “indeed identical.” *See B&B Hardware, Inc. v. Hargis Indus., Inc.*, 575 U.S. 138, 153–54 (2015) (quotations omitted). Identical issues are not presented when the claims at issue include additional claim limitations that were not previously addressed. *See Rimfrost AS v. Aker Biomarine Antarctic AS*, IPR2020-01534 (Paper 25 at 14–19) (PTAB May 18, 2022). Thus, collateral estoppel is not appropriate in the instant case where claim elements at issue were “not present in any of the claims for which unpatentability was determined in the prior *inter partes* review[.]” *See id.* at 18.

Further, as Patent Owner previously argued, the cases cited in the Petition and discussed again in the Reply are distinguishable from the instant proceeding.

For example, in *Ohio Willow Wood*, no new limitations were presented, and the court was addressing the same limitations using “slightly different language.” *Ohio Willow Wood Co. v Alps S., LLC*, 735 F.3d 1333, 1342–43 (Fed. Cir. 2013). This is not the case here.

Likewise, in *Soverain*, the court was addressing a dependent claim and not a different independent claim. *Soverain Software LLC v. Victoria’s Secret Direct Brand Mgmt., LLC*, 778 F.3d 1311, 1319 (Fed. Cir. 2015). Again, this is not the case here.

Finally, case law is clear, and the Parties agree that the pertinent question is whether the additional limitation alters the analysis. *Bourns, Inc. v. United States*, 537 F.2d 486, 493 (Fed. Cir. 1976); *see also Ohio Willow Wood*, 735 F.2d at 1343 (applying collateral estoppel based on the patent owner’s failure to show how the language choice “changes the invalidity analysis”); *Rimfrost*, Paper 25 at 16 (holding that the presence of the completely new claim elements “materially alters the question of invalidity”).

In the instant proceeding, the additional limitations were, and still are, relevant to the obviousness/invalidity analysis. These different limitations were **never** at issue in the earlier *inter partes* review. The specific outer retractable units and the details of the central lock’s operation with respect to the folded and

unfolded state have been raised for the first time in this proceeding. Further, **the invalidity analysis is different, as evidenced by the Board’s initial positions regarding inoperability of the primary modification and reliance on the alternative modification.**

The Petitioner argues that the Final Written Decision in the previous IPR relied on the “alternative modification;” however, the cited portions of the Final Written Decision do not support that assertion. Cited page 66 merely states that the analysis of Grounds 1 and 2 addresses Ground 3. Ex. 1016, 66. Likewise, cited page 95 merely shows the summary table of the grounds. *Id.* at 95. It appears that Petitioner is now referring to the inclusion of Ground 3 (Tsai and Rousselle or Chang). *See id.* However, the Final Written Decision makes clear that Ground 3 was not interpreted as a separate or alternative modification—the Final Written Decision states “Ground 3 merely duplicates Grounds 1 and 2, but reverses the order of the references.” *Id.* at 56. The next sentence expressly states that the order was deemed to be irrelevant. *Id.* Thus, the alternative modification was not in view and was not relied on.

Based on these facts, a different analysis is required, and collateral estoppel does not and cannot apply.

VI. CONCLUSION

For at least the foregoing reasons, Patent Owner respectfully requests that the Board deny both proposed grounds of rejection and confirm the patentability of the challenged claims.

Respectfully submitted,

Date: March 18, 2024

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CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24, the undersigned certifies that the Patent Owner's Sur-Reply, exclusive of parts exempted, contains 4,762 words and complies with the type-volume limitations of 37 C.F.R. § 42.24.

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CERTIFICATE OF SERVICE

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

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