

Patent Owner's Demonstratives

GLOBAL SHADE CORP., V. WITH-U E-COMMERCE (SHANGHAI) CO., LTD.,

CASE NO. IPR2023-00580

U.S. PATENT NO. 10,669,738

JUNE 13, 2024

WITH-U E-COMMERCE EXHIBIT - 2022
Global Shade v. With-U E-Commerce -
IPR2023-00580

Overview

Collapsible Canopy Frame

- Legs
- Outer Retractable Units with X-shaped Rod Members
- Inner Retractable Units
- Central Lock that Permits the Frame to be Folded/Unfolded

POR, 8, 10-14; Ex. 1001

Ex. 1001, 10:6-35

What is claimed is:

1. A collapsible canopy frame, comprising:

A. at least three supporting legs,

B. a plurality of outer retractable units, each outer retractable unit connected between two adjacent supporting legs, each said outer retractable unit comprises a plurality of hinged X-shaped rod members, each X-shaped rod member comprises a first eave pipe and second eave pipe hinged to one another,

C. a plurality of inner retractable units comprising inner ends, each inner retractable unit connected to a supporting leg, wherein said outer retractable units and said inner retractable units form a roof of said collapsible canopy frame, and

D. a central lock, comprising:

1. a center top cap,

2. a center bottom cap,

3. a center pole positioned between said center top cap and said center bottom cap, wherein said central lock is locked when said center pole is connected to both said center top cap and said center bottom cap, and wherein said center lock is unlocked when there is a disconnection between said center bottom cap and said center pole, wherein said central lock locks said collapsible canopy frame in an unfolded state when said central lock is locked and permits said collapsible canopy frame to be folded into a folded state when said central lock is unlocked, wherein said inner ends of said inner retractable units are connected through said central lock.

Overview

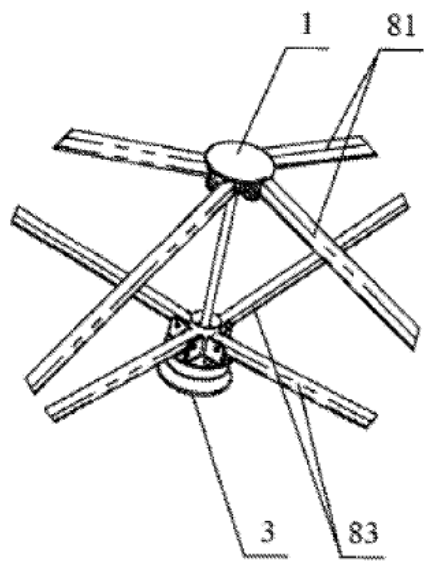


FIG. 17

Ex. 1001, FIG. 17

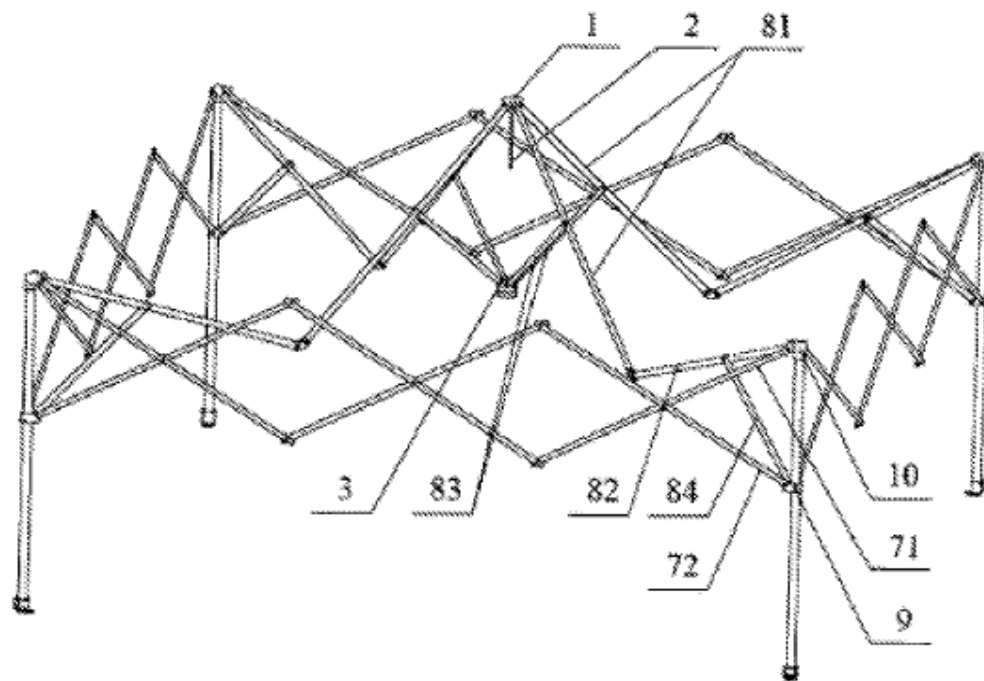


FIG. 19

Ex. 1001, FIG. 19

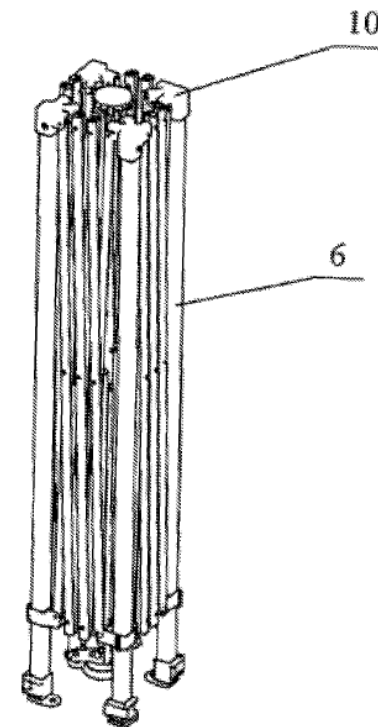


FIG. 20

Ex. 1001, FIG. 20

Overview

Challenged Claims are Patentable

- Inoperability of Proposed Grounds
- No Motivation to Combine to Arrive at Claimed Device

Substitute Claims are Patentable

- Petitioner's Ground of Rejection: Tent + Tent + Baby Carriage + Jewelry Clasp + Tent
- Relies on Non-Analogous Reference
- Relies on a Scavenger Hunt for Cherry-picked Features

POR; PO Surreply; MTA; MTA Reply;

The Primary and Secondary Modifications

Primary Modification

- Modifying Rousselle's **inverting/pivoting** umbrella tent to include the **non-inverting/non-pivoting** structural support of the outer units/X-shaped members from Tsai

Alternative Modification (Alt. Modification)

- Modifying Tsai's shelter frame (with the **non-inverting/non-pivoting** alleged legs, inner units, and outer units) and adding the central lock of Rousselle's **inverting/pivoting** umbrella tent

DI, 32-34; POR, 15

Primary Modification

Fails for at least two reasons:

1. Inoperable

2. POSITA Would NOT Combine Rousselle and Tsai

Patent Owner's Expert's
Annotated Figure
(Ex. 2007, ¶ 57)

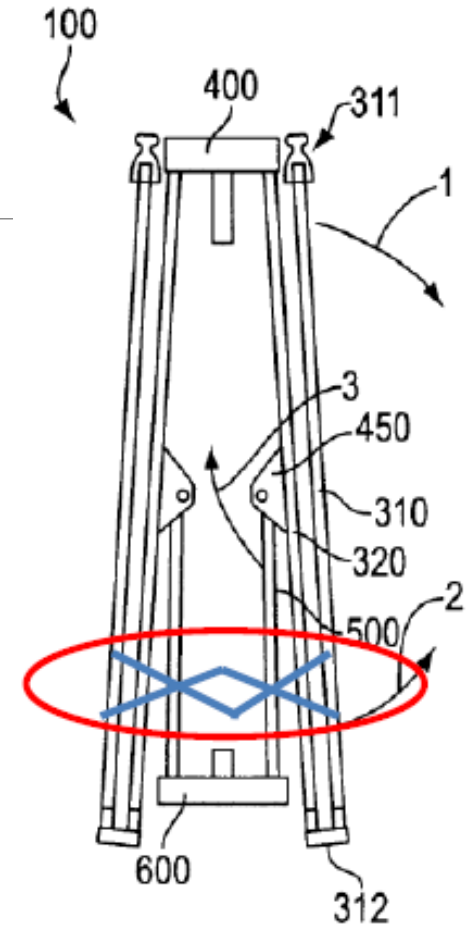


FIG. 1(D)

POR, 16-33, 48-56; PO Surreply, 3-12

Primary Modification - Inoperability

Rousselle Uses **Pivoting** or **Inverting** Legs
to Enable Unfolding

13
the bar mounts of the lower clevis 600 in a similar manner to the connection of the members 330 to the bar mounts of the upper clevis 400.

Operation

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. As the center tubes 500 approach a horizontal position, the outer ends of the center tubes 500 push against the cover 200 that is supported on the legs 300. This pressure against the cover 200 causes the legs 300 to flex and to thus store potential energy (the cover 200 can also be made to store energy if desired). Since the leg tube 310 has already been turned downward, the outward force of the center tubes 500 also creates pressure that further forces the leg tube 310 in the direction of the arrow 1 and forces the hinge 312 to its fully opened state, such as shown for example in FIG. 1.

Ex. 1003, 13:4-20

POR, 16-19 and 48-56; Ex. 2007, ¶¶ 56-57; PO Surreply, 4-10

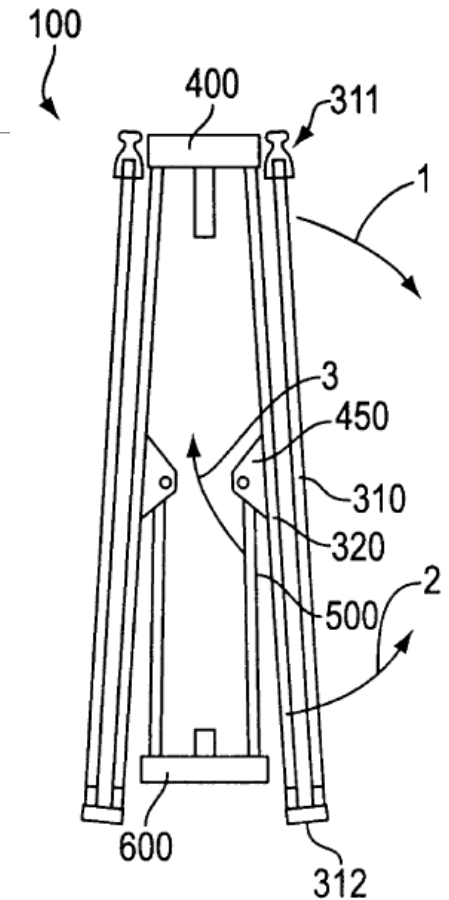


FIG. 1(D)

Primary Modification - Inoperability

The Primary Modification **Cannot Unfold or Pivot**

- Patent Owner's Expert's Annotated Figure (Ex. 2007, ¶ 57)

Patent Owner's Expert's
Annotated Figure
(Ex. 2007, ¶ 57)

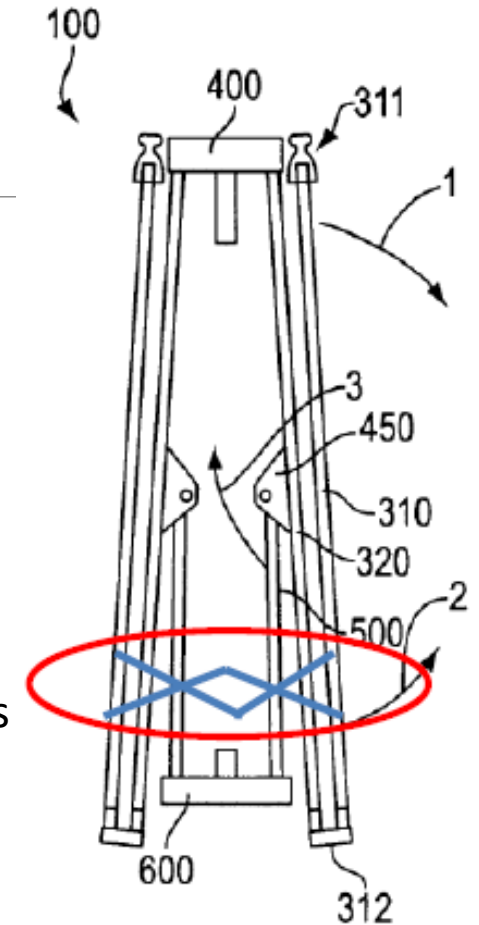


FIG. 1(D)

POR, 16-19, 48-56; PO Surreply, 4-10

Primary Modification - Inoperability

Petitioner Subsequently Proposed An Arbitrary Stopping Point – “just before inverting”

- **New Argument** Not in Petition
- Does not explain how **any pivoting** is possible given the two points of attachment on each leg
- Acknowledges that full **unfolding** is impossible
- Doesn't work for a **collapsible** canopy

Patent Owner's Expert's
Annotated Figure
(Ex. 2007, ¶ 57)

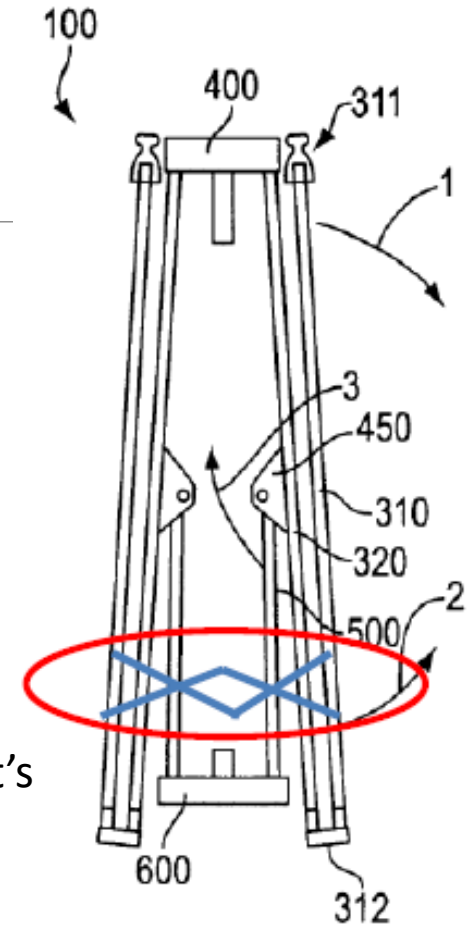


FIG. 1(D)

PO Surreply, 4-7; See Reply, 2

Primary Modification - Inoperability

The Only Support Offered is Rousselle's Teaching that the **Frame Structure** Can Vary

Additional Frame Structures

As noted herein-above, various aspects of the present invention are not limited to frame structures exactly as described. As some examples, the locking mechanisms **700** and the erection device **800** can be used with a variety of other frame structures having upper and lower devices.

Other frame structures are illustrated, for example, in FIGS. **18-19**.

FIGS. **18(A)-18(C)** show an embodiment having four modified legs (as noted, the number of legs can be selected

Ex. 1003, 15:58-16:19

PO Surreply, 7-10; See Reply, 2

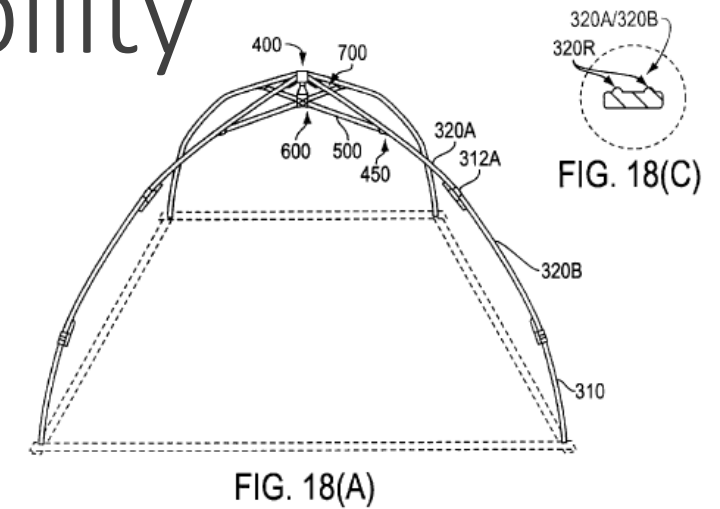
16

as desired). In the illustrated embodiment, each leg includes three leg segments **310**, **320A** and **320B**, and there are two intermediate folding hinges **312A** and **312B**. If desired a locking mechanism can be added to the hinges to securely hold the frame in the erected position once assembled. As shown, the band bars **320A** and **320B** are preferably formed with a plurality of longitudinal ribs **320 R** extending along the length of the band bars as shown in FIGS. **18(C)** and **18(E)**. Preferably, two ribs are provided. Among other things, this allows the band bars **320A** and **320B** to impart a greater flex-action and thus allows for a wider range of designs. In one exemplary embodiment, the band bars **320A** and **320B** can be extruded into this form, such as being made of extruded aluminum. It is contemplated that any of the embodiments discussed herein can include this type of band bar structure and/or such extruded materials. It again noted that the various leg segments, shapes, etc., can be varied extensively between embodiments, and that the illustrated and described embodiments are merely exemplary designs. The embodiment shown in FIG. **19(A)** is similar to that shown in FIG. **18(A)** and includes a frame having legs **300'** (only one leg shown) with three leg segments **310'**, **320'-A** and **320'-B** and with two intermediate hinges **312'-B** and **312'-A**. This embodiment enables, for example, the frame to

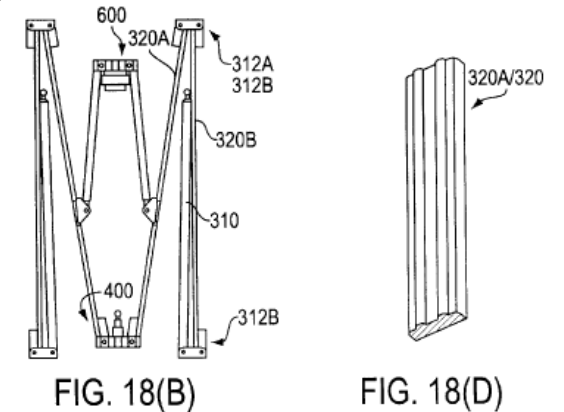
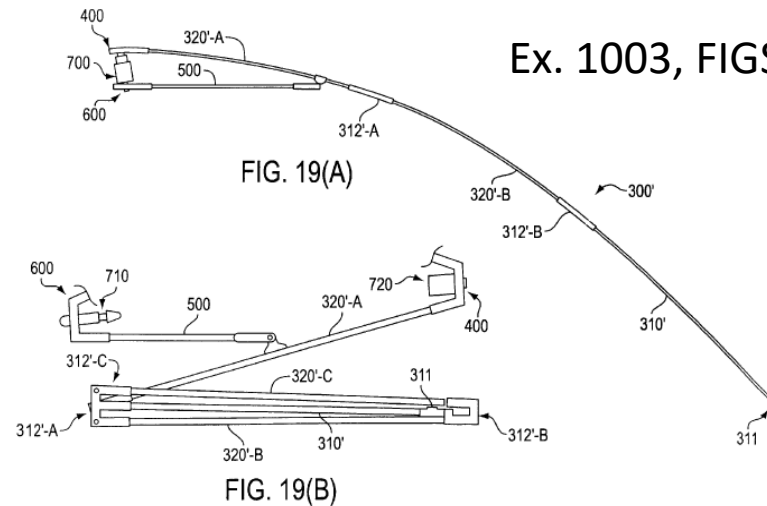
Primary Modification - Inoperability

However, Rousselle's **Alternative** Embodiments Still Use Pivoting/Inverting Legs

- Figures 18 and 19—Both use inverting or pivoting legs



Ex. 1003, FIGS. 18, 19B



PO Surreply, 7-10

Primary Modification - POSITA Would NOT Combine Rousselle and Tsai

Rousselle is an **Umbrella** Tent

- **Flexible** Legs
- No **connections** between leg

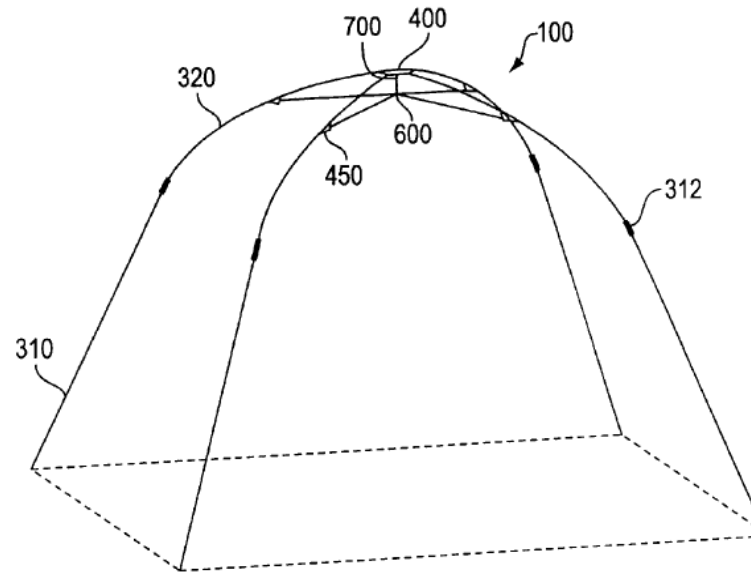


FIG. 1(C)

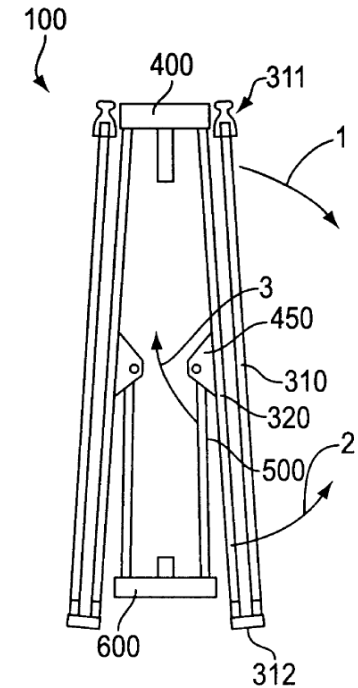
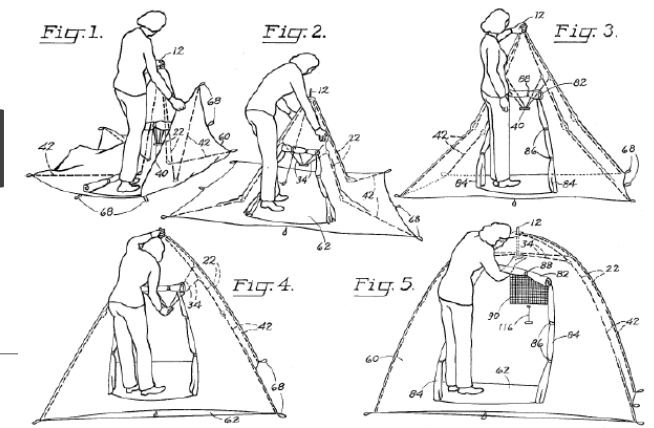


FIG. 1(D)

Ex. 1003, FIGS. 1(C), 1(D)

POR, 20-26; Ex. 2007, ¶¶ 58-59

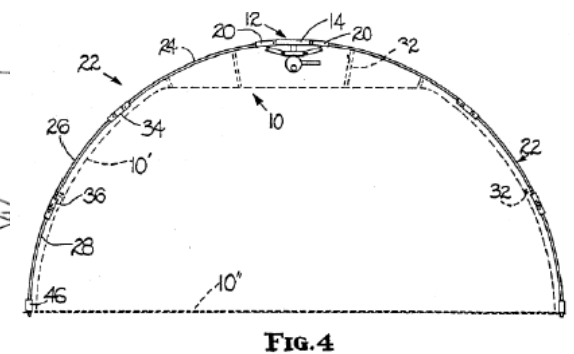
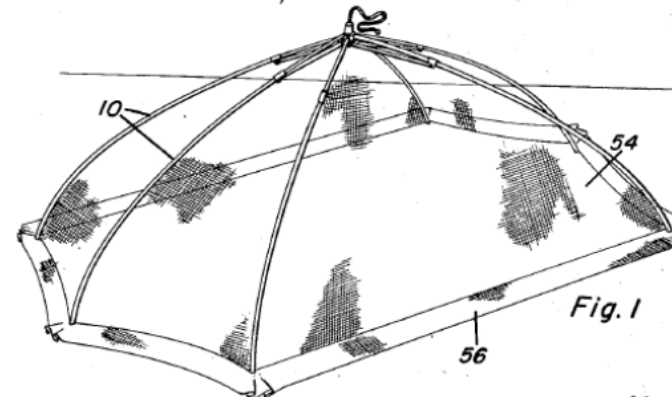
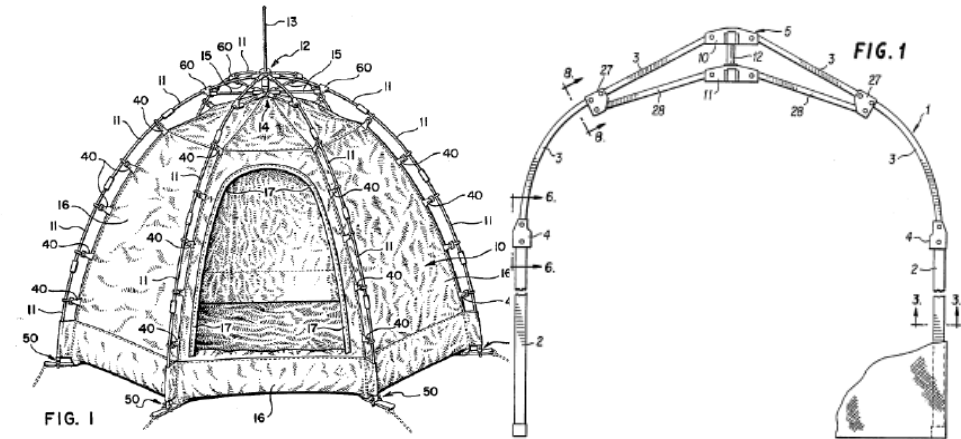
Primary Modification - POSITA Would NOT Combine Rousselle and Tsai



Other Examples of Umbrella Tents (Mentioned in Rousselle)

- None use connections between the legs

Exs. 2008-2012

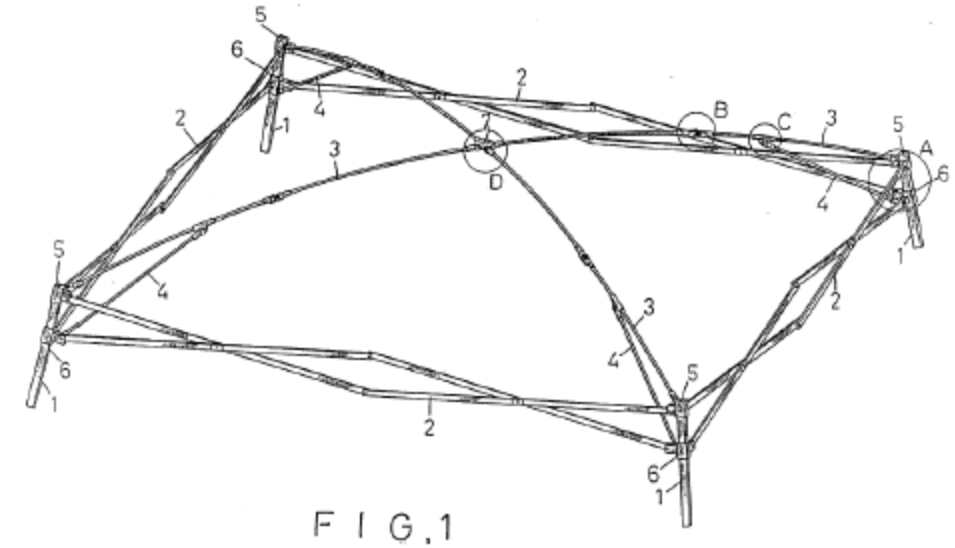


POR, 20-26; Ex. 2007, ¶ 59

Primary Modification - POSITA Would NOT Combine Rousselle and Tsai

Tsai is a Complex/Substantial Structure

- **Leg Locks** Included with **Connected Legs**
- Specifically Teaches **Activation at the Legs**
- Specifically **Disparages Center Strut Solutions**



Ex. 1005, FIG. 1

POR, 26-32; Ex. 2007, ¶ 49-55, 58, 59; Ex. 1005, 1:26-2:22, 4:25-28, 10:25-11:11

Primary Modification - POSITA Would NOT Combine Rousselle and Tsai

Inoperable

Would change Rousselle's operation (no longer **inverting**)

No rationale for combining them given Tsai's teachings and disparagement

POR, 32-33; PO Surreply, 12-13; Ex. 2007, ¶¶ 56-59

Patent Owner's Expert's
Annotated Figure
(Ex. 2007, ¶ 57)

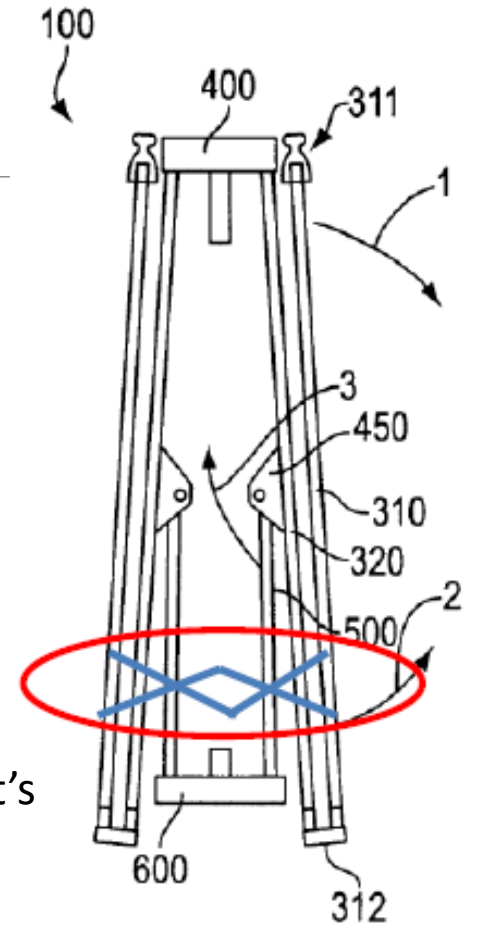


FIG. 1(D)

Alternative Modification

Fails for at least two reasons:

- 1. Inoperable and/or Non-Functional**
- 2. POSITA Would NOT Combine** Tsai and Rousselle

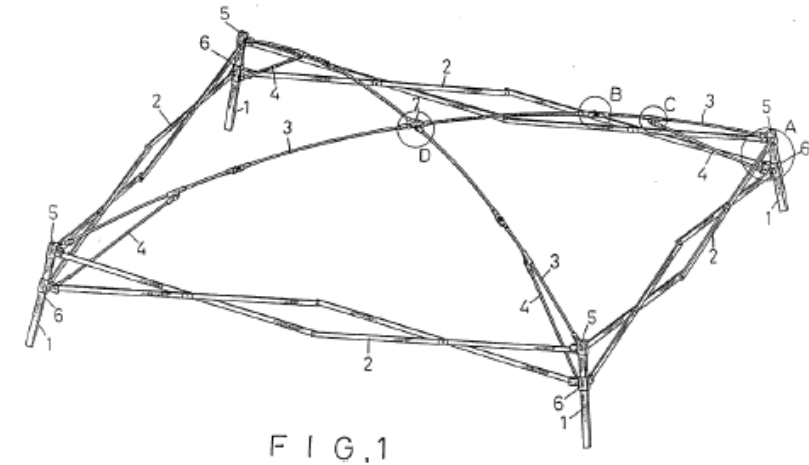
POR, 33-45; PO Surreply, 13-22

Alternative Modification – Inoperable and/or Non-functional

Tsai **Cannot be Driven** by a Center Lock

“Canopy Supporting Rods” Could NOT **Drive/Support Unfolding**

- **Flexible, arched** members to hold up **canopy material**



Ex. 1005, FIG. 1

POR, 36-38; Ex. 2007, ¶¶ 53, 60-65; PO Surreply, 15-19; Ex. 1005, 4:19-28

Alternative Modification - POSITA Would NOT Combine Tsai and Rousselle

Tsai Teaches Activation at the Legs NOT Center Activation

11

25 The present shelter frame may be readily assembled,
erected (i.e. unfolded) for use and folded for storage and
transport. Referring to FIGURE 10, which shows the frame
in a partially folded state, the present frame may be
erected by manually pulling the four poles 1 outwardly
30 such that the scissors-type linkages 2 urge the sliding
connectors 6 upwardly. As a result, the linking rods 4
will drive the associated canopy support rods 3 upwardly
as the connector 42 slides therealong. This will continue
until the pivot members 31 and head 7 reach the stable
35 orientation shown in FIGURE 1. The sliding connectors 6

will be locked in place by the locking assemblies 10. In
other words, the canopy support will be automatically
driven upwardly into its use orientation when the poles 1
are pulled outwardly. Similarly, the frame may be folded
5 by pressing the locking assembly buttons 12 and then
pushing the poles 1 inwardly, thereby causing the
scissors-type linkages 2 to urge the sliding connectors 6
downwardly. The linking rods 4 will then cause the canopy
support rods 3 to pivot about their intermediate pivot
10 members 31 until the rod members in each support rod meet
one another.

Although the

-10-

Ex. 1005, 10:25-11:11

POR, 39-45; Ex. 2007, ¶¶ 60-65; PO Surreply, 12, 14-15, 19-22

Alternative Modification - POSITA Would NOT Combine Tsai and Rousselle

Tsai Disparages **Central Struts**

15 The shelter frame shown in FIGURES 16 and 17 is somewhat unstable because the legs A are not directly connected to one another and, instead, are only connected to one another by the structure formed by the scissors-type linkages B, the center strut C and the connectors E and F. In addition to being unstable, the scissors-type linkage/center strut/connector structure also reduces the headroom within the tent. This frame is also somewhat
20 difficult to unfold in that an extra person is sometimes needed to push the center strut C upwardly to its completely extended position. With respect to the canopy D, the center strut C is the only portion of the frame that holds the canopy above the poles and, as a result,
25 the canopy will often sag.

Ex. 1005, 2:12-25

POR, 29-32, 40-45; Ex. 2007, ¶¶ 55, 60-65; PO Surreply, 12-14

Alternative Modification - POSITA Would NOT Combine Tsai and Rousselle

Tsai Teaches Away from Manual Pushing

15 The shelter frame shown in FIGURES 16 and 17 is somewhat unstable because the legs A are not directly connected to one another and, instead, are only connected to one another by the structure formed by the scissors-type linkages B, the center strut C and the connectors E and F. In addition to being unstable, the scissors-type linkage/center strut/connector structure also reduces the headroom within the tent. This frame is also somewhat
20 difficult to unfold in that an extra person is sometimes needed to push the center strut C upwardly to its completely extended position. With respect to the canopy D, the center strut C is the only portion of the frame that holds the canopy above the poles and, as a result,
25 the canopy will often sag.

Ex. 1005, 2:12-25

POR, 29-32, 40-45; Ex. 2007, ¶¶ 55, 60-65; PO Surreply, 12-14, 17, 19

15 In accordance with another aspect of the present invention, other objectives are accomplished by providing a shelter frame with a canopy support including a head connector and at least first and second canopy support rods. Each canopy support rod includes a first rod member pivotally secured to a second rod member. The first rod members are also pivotally secured to a respective pole and the second rod members are also pivotally secured to the head connector. As a result, the canopy support
20 provides a greater support area than many prior canopy supports, which results in an aesthetically pleasing shelter canopy that is less likely to sag. The shelter frame may also include linking rods that are pivotally secured to sliding connectors on the poles and to the canopy support rods. The linking rods help drive the canopy support to its unfolded orientation as the frame poles are pulled apart. As a result, the canopy support
25 need not be manually pushed to its unfolded orientation.

Ex. 1005, 4:27-28

Alternative Modification - POSITA Would NOT Combine Tsai and Rousselle

Tsai Uses Leg Locks

- Tsai assert the **Leg Locks** are better than other locking assemblies
- Use of **Both** requires **Multiple Users** (destroying the primary benefit)

5
In accordance with still another aspect of the
30 present invention, a sliding connector locking assembly is
provided substantially within the interior of a pole. The
locking assembly includes a spring having first and second
spring members extending from a base member, a button
associated with the first spring member and adapted to
35 extend through apertures in the pole and sliding

connector, and a positioning member adapted to maintain
the spring at a predetermined location within the interior
of the pole. This assembly makes the frame easier to
fabricate and more reliable than those having the locking
5 assemblies known heretofore.

Many other features

-4-

Ex. 1005, 4:29-5:5

POR, 29-32, 40-45; Ex. 2007, ¶¶ 54-55, 60-65; PO Surreply, 20-22

Alternative Modification - POSITA Would NOT Combine Tsai and Rousselle

The Proposed Combination Would NOT Be Made

Tsai teaches POSITA:

- To Unfold at the Legs
- To Lock at the Legs
- Not to use Center Strut/Lock/Activation
- Not to Push of the Canopy/Center

65. Everything written in Tsai clearly teaches against incorporating a central locking mechanism such as that found in Rousselle. Likewise, one would not use such a central lock to control or drive locking of Tsai's frame.

Patent Owner's Expert's Declaration
Ex. 2007, ¶ 65

POR, 34-45; Ex. 2007, ¶¶ 60-65; PO Surreply, 19-22

Dependent Claim 2

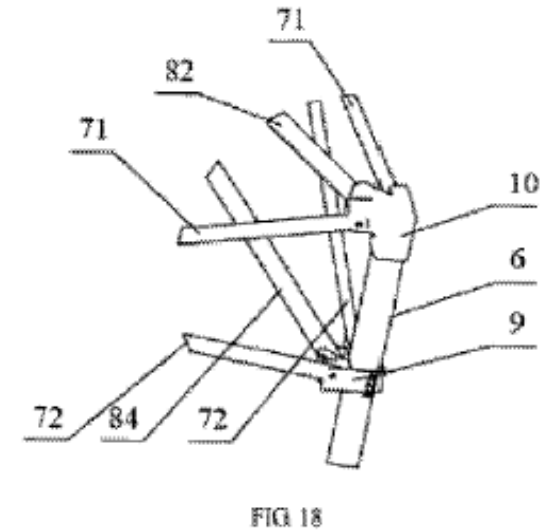
Claim 2 adds a Sliding Sleeve

Primary Modification

- Further points of **Inoperability** (prevents **inverting/pivoting**)

Alternative Modification

- No motivation to combine **Center Lock and Leg Locks**
- Now requires **Multiple Users** (destroying the primary benefit)



Ex. 1001, FIG. 18

POR, 42, 46-48

Substitute Claims

Patent Owner Has Proposed Substitute Claims 15-19

Overview of Features:

- Specific Structure of Center Bottom Cap
- Specific Location of First Connecting Rod and Connection Piece
- Specific Recitation of the Movement to the Unfolded State by Pushing the Center Bottom Cap Upwards to Drive the Unfolding

MTA

Substitute Claim 15

15. (Revised Proposed Substitute for Claim 1) A collapsible canopy frame, comprising:

- A. at least three supporting legs,
- B. a plurality of outer retractable units, each outer retractable unit connected between two adjacent supporting legs, each said outer retractable unit comprises a plurality of hinged X-shaped rod members, each X-shaped rod member comprises a first eave pipe and second eave pipe hinged to one another,
- C. a plurality of inner retractable units comprising inner ends, each inner retractable unit connected to a supporting leg, wherein said outer retractable units and said inner retractable units form a roof of said collapsible canopy frame, and
- D. a central lock, comprising:
 - 1. a center top cap,
 - 2. a center bottom cap,
 - 3. a center pole positioned between said center top cap and said center bottom cap, wherein said central lock is locked when said center pole is connected to both said center top cap and said center bottom cap, and wherein said center lock is unlocked when there is a disconnection between said center bottom cap and said center pole, wherein said central lock locks said collapsible canopy frame in an unfolded state when said central lock is locked and permits said collapsible canopy frame to be folded into a folded state when said central lock is unlocked, wherein said inner ends of said inner retractable units are connected through said central lock, and

4. a locking piece received in said center bottom cap, wherein said center bottom cap comprises a bottom cap seat and a bottom cap cover that are connected to one another, wherein said bottom cap seat is located between said bottom cap cover and said center top cap, wherein said bottom cap seat is provided with a bottom cap seat through hole through which said center pole can enter, a receiving chamber is provided in said center bottom cap at a junction between said bottom cap seat and said bottom cap cover, and wherein said locking piece is located within said receiving chamber and between said bottom cap cover and said bottom cap seat;

wherein a first connecting rod is hinged with a connection piece of said bottom cap seat;

wherein said collapsible canopy frame is moved to said unfolded state by pushing said center bottom cap upwards to drive said plurality of inner retractable units outwardly, which causes said plurality of outer retractable units and said at least three supporting legs to extend outwards, until said center bottom cap is connected with said center top cap.

MTA, 3-7, 27-28

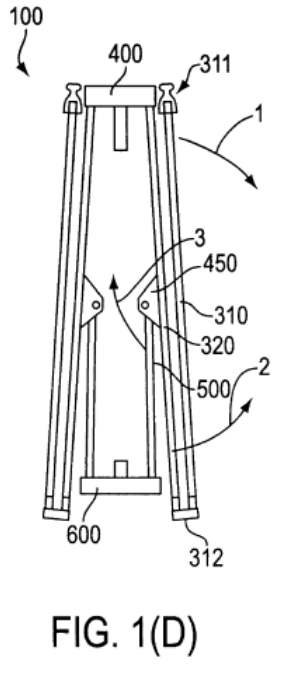
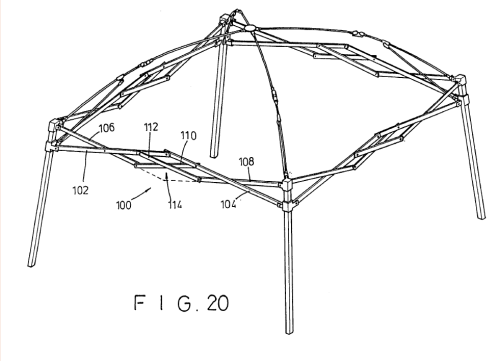
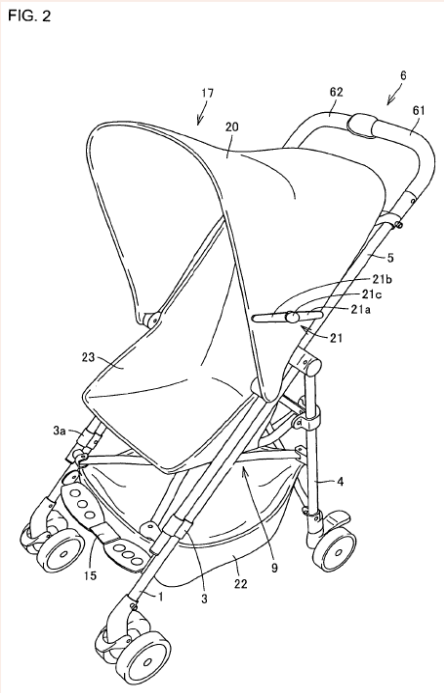
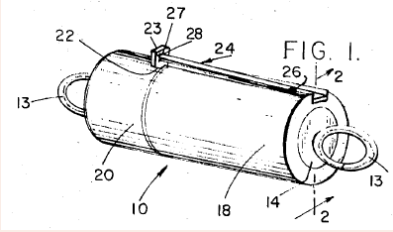
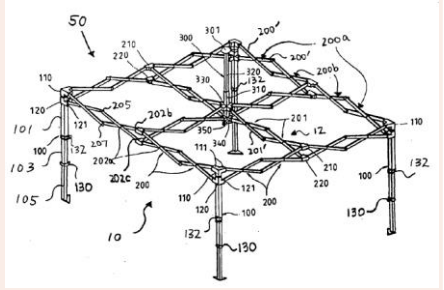
Substitute Claim 16

16. (Revised Proposed Substitute for Claim 2) The collapsible canopy frame according as in claim [[1]] 15, wherein: each said outer retractable unit comprises three hinged X-shaped rod members, each said supporting leg comprises a sliding sleeve that is moved for moving along a length direction of said respective supporting leg by said pushing of said center bottom cap, an upper end of each said supporting leg is fixed with a fixed joint, each said inner retractable unit comprises a first oblique top pipe and a second oblique top pipe hinged to one another, said first oblique top pipe is hinged with [[a]] said first connecting rod, said second oblique top pipe is hinged with a second connecting rod, an inner end of said first oblique top pipe is hinged with [[a]] said center top cap of said central lock, an inner end of said first connecting rod is disposed within a receiving groove formed by at least two connection pieces of said bottom cap seat ~~hinged with a center bottom cap of said central lock, and, in said unfolded state, said first connecting rod extends from said bottom cap seat to said first oblique top pipe to form a Y-shaped member~~, an outer end of a first eave pipe and an outer end of said second oblique top pipe are hinged with said fixed joint, an outer end of said second eave pipe and an outer end of said second connecting rod are hinged with said sliding sleeve.

Substitute Claim 17

17. (Revised Proposed Substitute for Claim 4) The collapsible canopy frame as in claim [[1]] 15, where said central lock further comprises: [[a]] said locking piece, wherein said locking piece is capable of moving back and forth along a radial direction of said center pole, wherein said locking piece is received in said center bottom cap, a first through hole through which said center pole can pass through is provided in said locking piece, and an end portion of said center pole is provided with a clamping groove and a clamp locking part located at the lower end of said clamping groove; when said central lock is in a locked state, part of an inner wall of said first through hole of said locking piece is clamped with said clamping groove of said center pole, [[and]] an upper end surface of said clamp locking part abuts against a lower end surface of said locking piece, and said first connecting rod is hinged with said connection piece at a location above said clamp locking part of said center pole; and when said central lock is in said unlocked state, said inner wall of said first through hole of said locking piece is separated from said clamping groove and said clamp locking part can pass through said first through hole.

Petitioner's Grounds of Rejection for Substitute Claims

Rousselle	+ Tsai	+ Ohnishi	+ Hooper	+ Seo
"Shelter/Tent"	"Shelter Frame"	"Baby Carriage"	"Jewelry Clasp"	"Collapsible Canopy"
 FIG. 1(D)	 FIG. 20	 FIG. 2	 FIG. 1	 FIG. 1
Ex. 1003, FIG. 1(D)	Ex. 1005, FIG. 20	Ex. 1006, FIG. 2	Ex. 1203, FIG. 1	Ex. 1204, FIG. 1

MTA Reply, 1-12

Petitioner's Scavenger Hunt

Rousselle and Tsai Do Not Teach the Substitute Claims

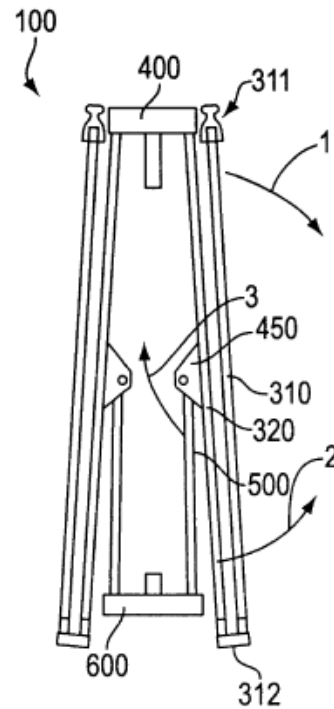


FIG. 1(D)

Ex. 1003, FIG. 1(D)

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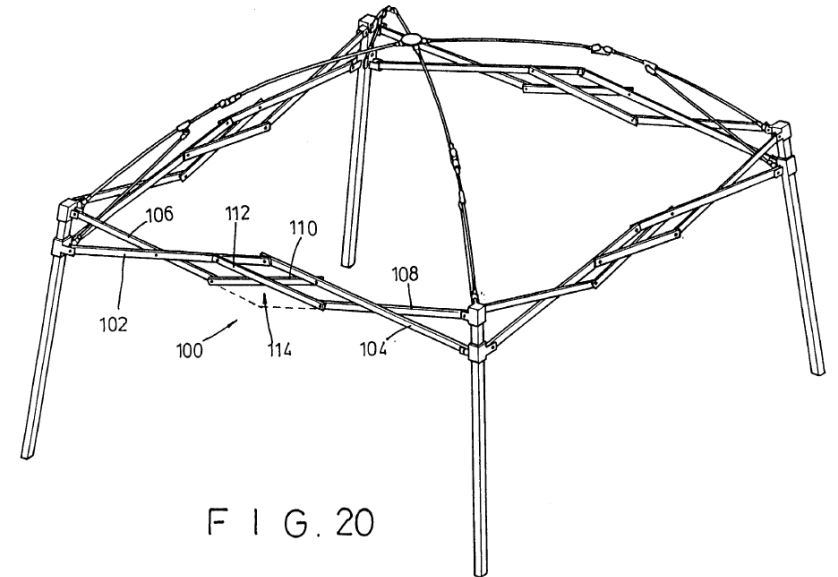


FIG. 20

Ex. 1005, FIG. 20

MTA Reply, 1, 2, 5-6

Petitioner's Scavenger Hunt

Rousselle and Tsai
and Ohnishi's **Baby Carriage**
Do Not Teach the Substitute Claims

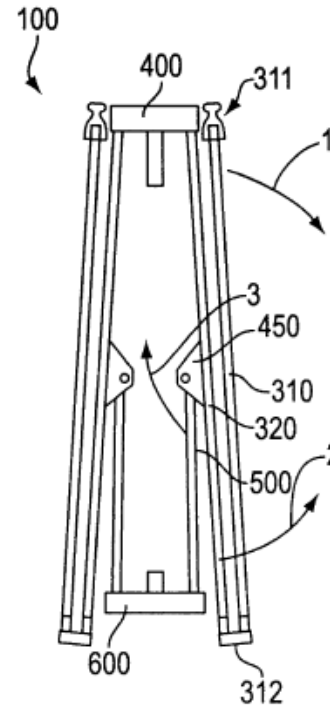


FIG. 1(D)

Ex. 1003, FIG. 1(D)

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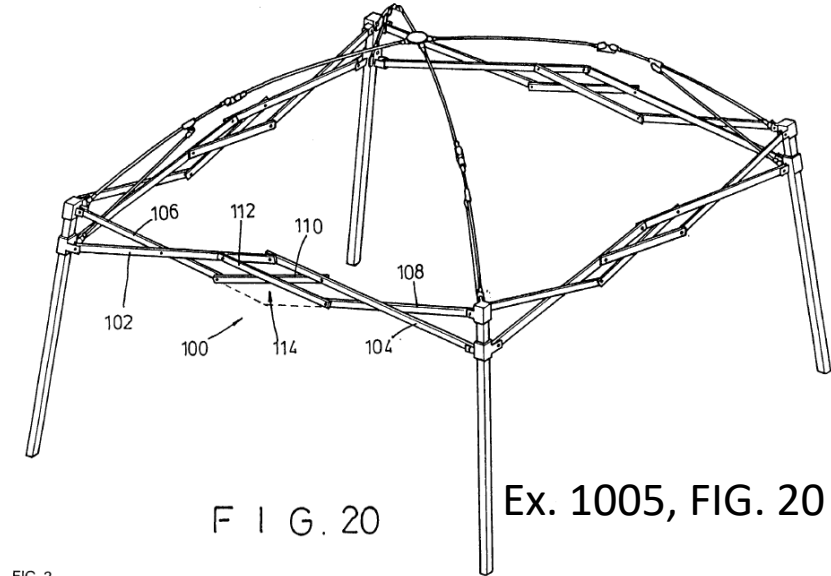
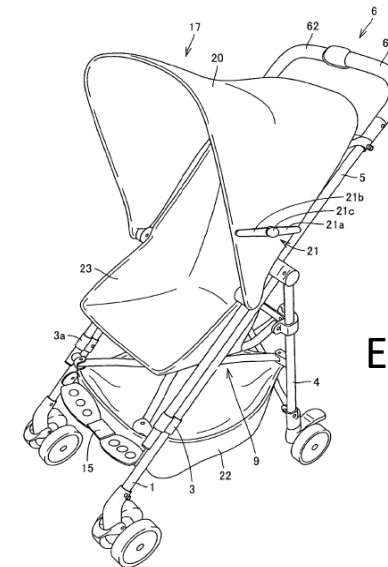


FIG. 20

Ex. 1005, FIG. 20

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Ex. 1006, FIG. 2

MTA Reply, 1, 2, 5-6

Petitioner's Scavenger Hunt

Rousselle and Tsai

and Ohnishi's **Baby Carriage**

and Hooper's **Jewelry Clasp**

Do Not Teach the Substitute Claims

MTA Reply, 1, 2, 5-6

Ex. 1003, FIG. 1(D)

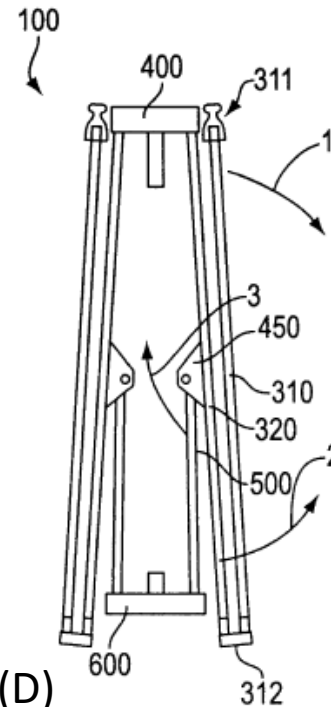
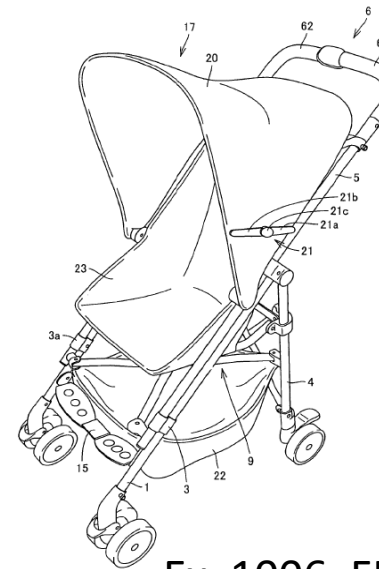


FIG. 1(D)

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FIG. 2

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Ex. 1006, FIG. 2

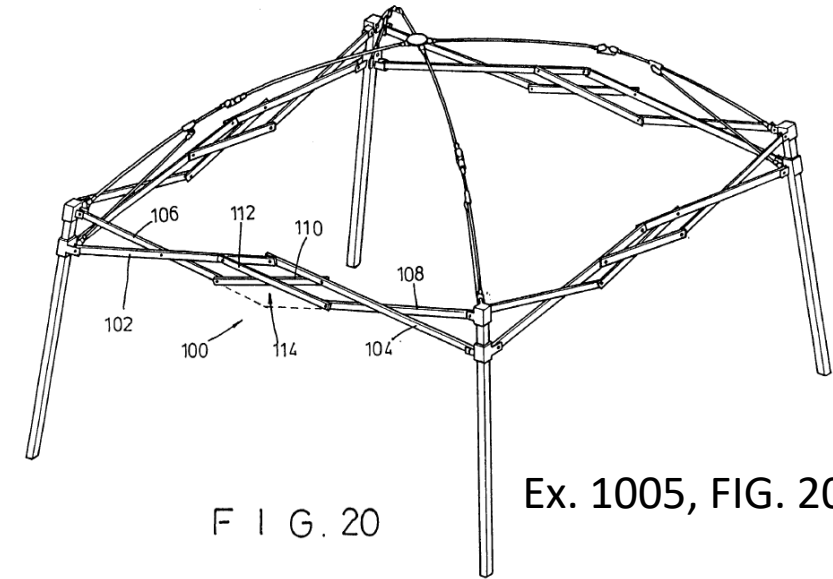


FIG. 20

Ex. 1005, FIG. 20

Ex. 1203, FIG. 1

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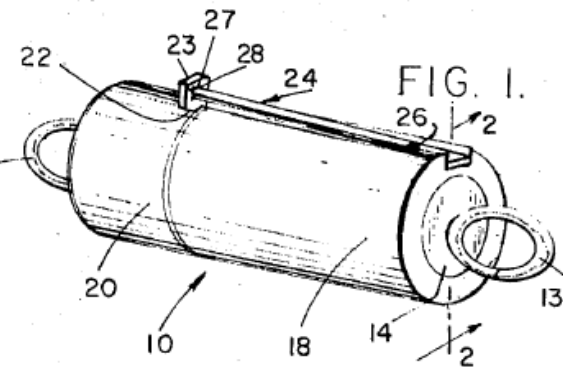


FIG. 1

Petitioner's Scavenger Hunt

Rousselle and Tsai

and Ohnishi's **Baby Carriage**

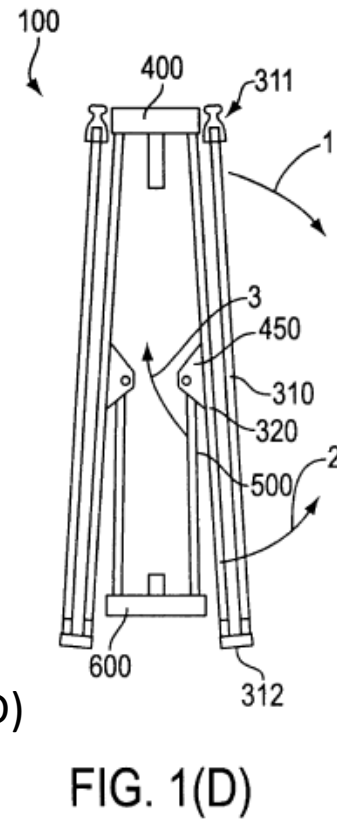
and Hooper's **Jewelry Clasp**

and another Collapsible Canopy from
Seo

ALL are Required For Petitioner to
Even Present a Proposed Ground of
Rejection

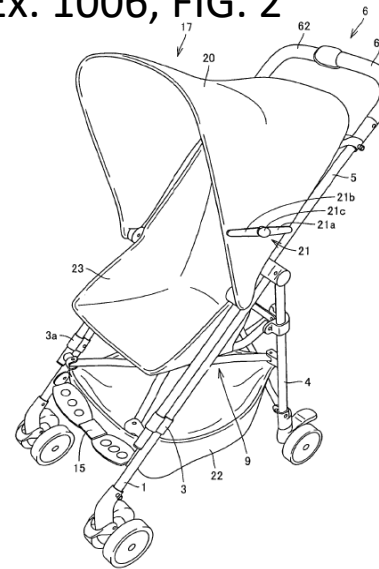
MTA Reply, 1-12

Ex. 1003, FIG. 1(D)

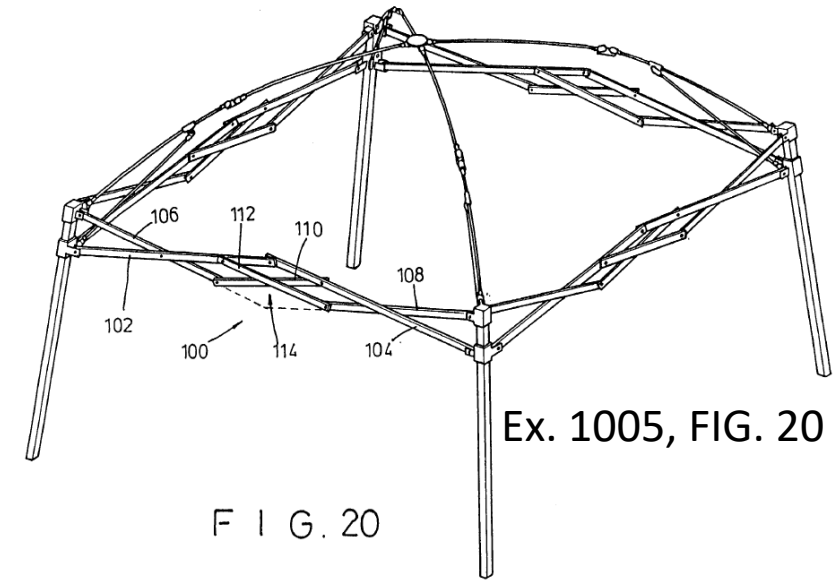


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FIG. 2
Ex. 1006, FIG. 2



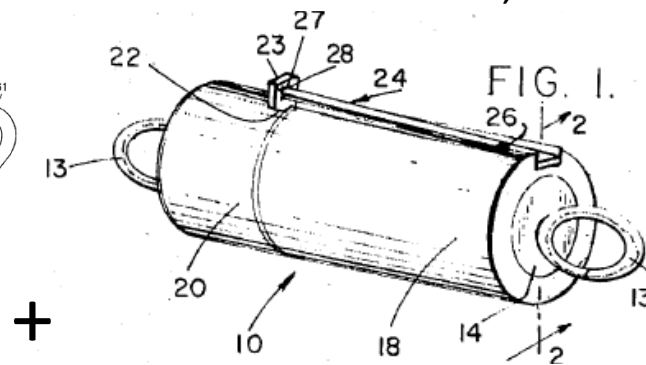
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Ex. 1005, FIG. 20

FIG. 20

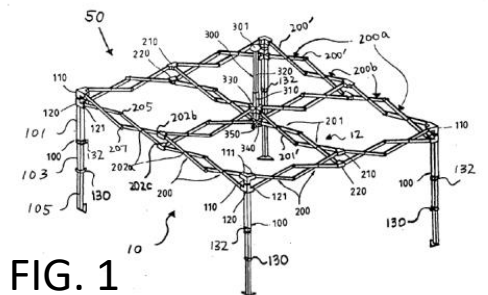
Ex. 1203, FIG. 1



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Ex. 1204, FIG. 1



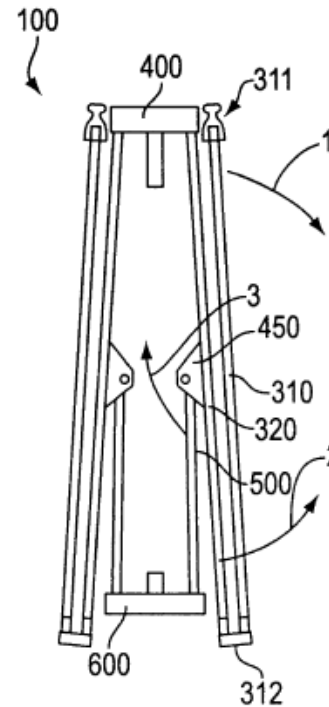
Petitioner's Scavenger Hunt

Hindsight Bias

Cherry-picked Features

Non-Analogous Reference

MTA Reply, 1-12

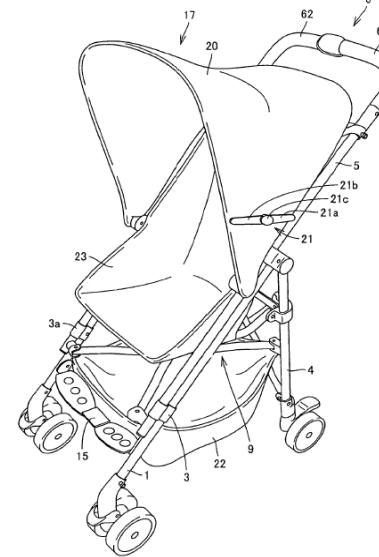


Ex. 1003, FIG. 1(D)

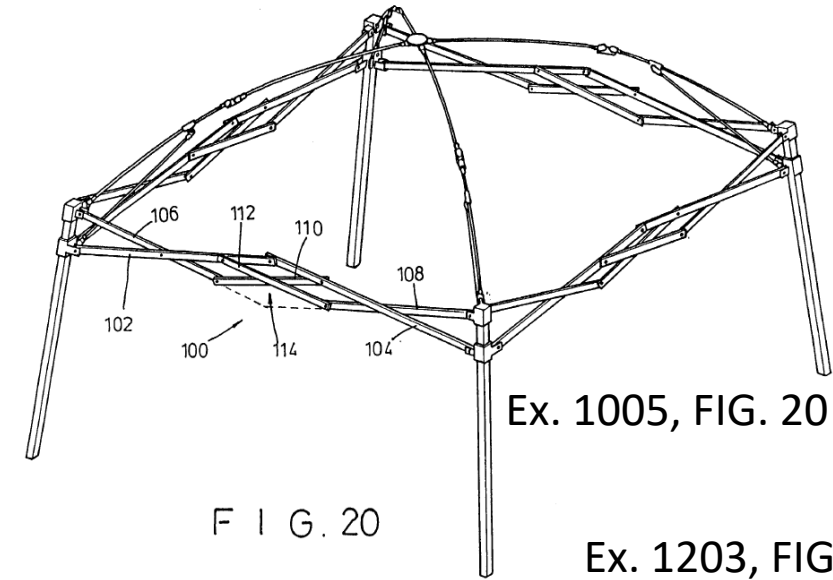
FIG. 1(D)

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FIG. 2 Ex. 1006, FIG. 2



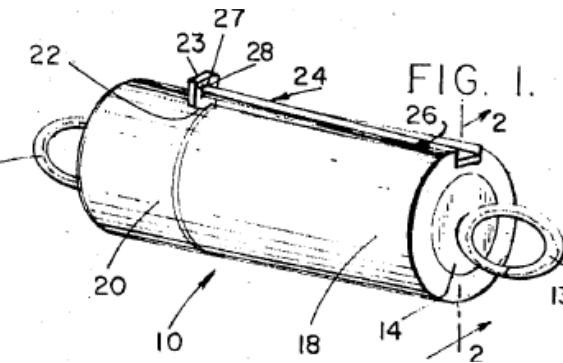
Ex. 1204, FIG. 1



Ex. 1005, FIG. 20

FIG. 20

Ex. 1203, FIG. 1



Hooper Is Not Analogous Art

Hooper **Fails** Both Tests for Analogousness

- (1) the reference is from the same field of endeavor as the claimed invention (even if it addresses a different problem); or
- (2) the reference is reasonably pertinent to the problem faced by the inventor (even if it is not in the same field of endeavor as the claimed invention).

MTA Reply, 2-5; Ex. 2021, ¶¶ 20-28

Hooper is Not From the Same Field of Endeavor

Hooper is Directed to a **Jewelry Clasp**

Petitioner **Moves the Goalposts**

- Petitioner's Original Field: "collapsible tents or canopies," or "locking mechanisms for collapsible structures"
- Hooper is not directed to these fields, so Petitioner's Expert **recharacterized** the field as merely "locking mechanisms"
- **Removes Structural Components** (Tent, Canopy, Collapsible Structure)

Pet, 8-9; MTA Reply, 3-4; Ex. 1202, ¶ 12, Ex. 1002, ¶ 58

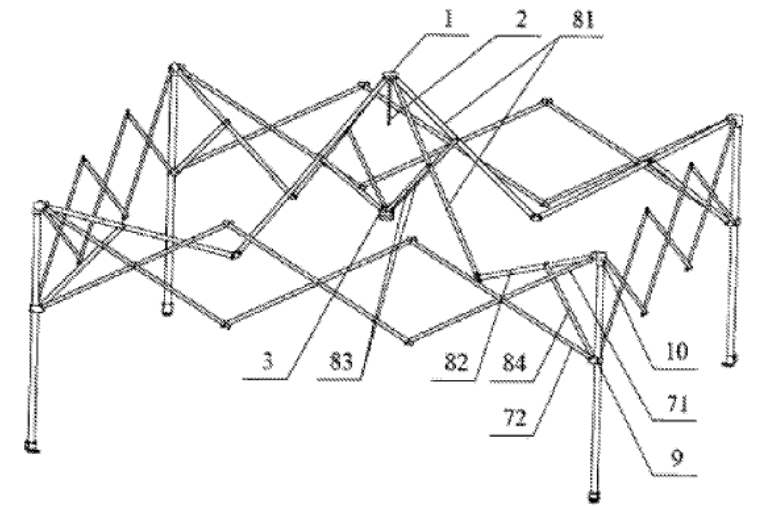
Hoover is Not Pertinent to the Problem Faced by the Inventor

'738 Patent: "What is needed is **collapsible canopy frame** with a better locking mechanism."

Technical Problem (Parent Application): "to provide a central lock **enabling to support an entire canopy** and enabling the canopy to be uniformly stressed."

MTA Reply 4-5;

Ex. 1001, 1:46–47; Ex. 2021, ¶ 23; Ex. 2015, 2:4-6



Ex. 1001, FIG. 19

FIG. 19

Hooper is Not Pertinent to the Problem

Hooper Solves the Problem of providing “locking jewelry clasps for use in securing necklaces, bracelets, watchbands and the like”

Petitioner **Moves the Goalposts**

- Petitioner’s Original Problem: “constructing sturdy, resilient, easy-to-use collapsible canopies,” or as “the need for easy-to-use, reliable locking mechanisms for collapsible structures”
- Hooper is not directed to these problems, so Petitioner **recharacterized** the problem statement as “the need for easy-to-use, reliable locking mechanisms”
- **Removes Structural Components** (Tent, Canopy, Collapsible Structure)

MTA Reply, 4-5; Ex. 1203, 1:19-21; Pet, 8-9; Ex. 1202, ¶ 12, Ex. 1002, ¶ 58

Hoover Is Not Analogous Art

26. Hoover describes a jewelry clasp. In lines 19 - 21 of the Background of the Invention, Hoover states, “This invention relates to jewelry clasps, and more particularly to locking jewelry clasps for use in securing necklaces, bracelets, watchbands and the like.”

27. Jewelry clasps are not analogous to locking mechanisms for collapsible structures as jewelry is neither collapsible nor a structure. Jewelry does not need to support a grounded load (support structure) nor does it fold/unfold between a collapsed state and a deployed state (collapsible). None of the exemplary items listed by Hoover have these features. Further, Hoover expressly notes the “small size and fragile construction” of jewelry clasps generally, as well as their limited durability, in lines 23 - 26 of the Background of the Invention.

28. Based on these facts, Hoover is not an analogous reference to the claimed invention of a collapsible canopy frame having a central lock and a POSITA would not use the reference in combination with canopy references like Rousselle, Tsai, and Seo.

**Patent Owner’s Expert’s Declaration
Ex. 2021, ¶¶ 26-28**

POSITA Would Not Add Hooper Into the Combination of Rousselle, Tsai, and Ohnishi

Non-Analogous

No Expected Benefit for a Collapsible Canopy

Different Locking Action

(External Spring v. Internal Spring of Rousselle and Ohnishi)

Ex. 2021, ¶¶ 30-32; MTA Reply, 2-5

30. For several reasons, a POSITA would not start with Rousselle's umbrella tent, add features from Ohnishi, and add features from Hooper to create the structure of Substitute Claim 15. This analysis applies equally whether Rousselle is modified by Tsai or Tsai by Rousselle.

31. First, as discussed above, Hooper is a jewelry clasp and is not analogous art.

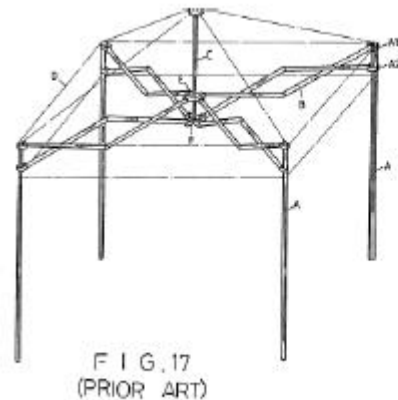
32. Second, a POSITA would not have any reason to divide the structure of Rousselle (or Rousselle with Ohnishi) into different bottom cap cover and bottom cap seat portions. Given that Hooper is directed to a jewelry clasp and not a collapsible canopy structure, a POSITA would not have any reason to expect this structure would be beneficial for a canopy.

Patent Owner's Expert's Declaration

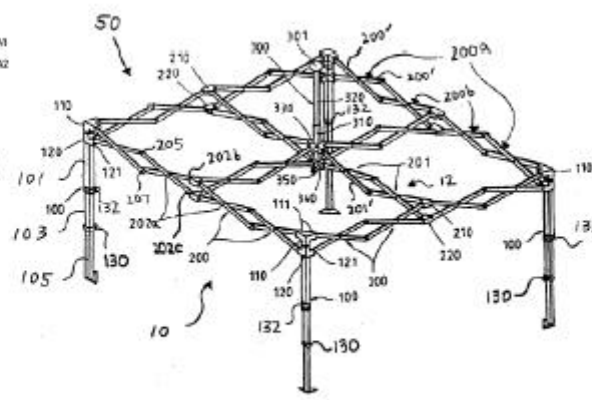
Ex. 2021, ¶¶ 30-32

POSITA Would Not Add Seo Into the Combination of Rousselle, Tsai, Ohnishi, and Hooper

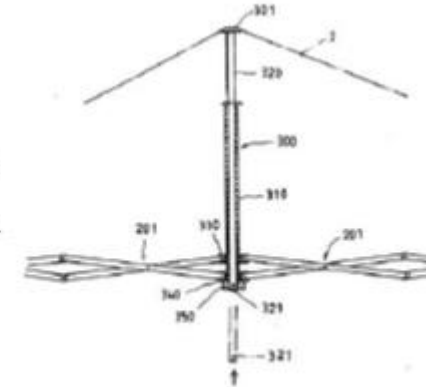
Seo is Exactly the Type of Canopy Tsai Disparages



Ex. 1005, FIG. 17



Ex. 1204, FIG. 1 and FIG. 6



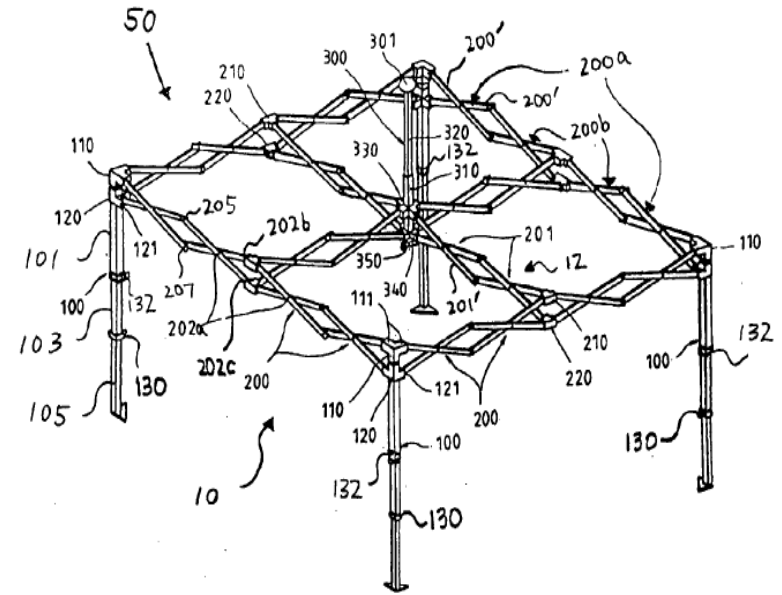
MTA Reply, 7-8; Ex. 1005, FIG. 17; Ex. 1204, FIGS. 1, 6

POSITA Would Not Add Seo Into the Combination of Rousselle, Tsai, Ohnishi, and Hooper

Tsai Disparages Such Center Struts

- **Extra** Person needed for Pushing
- Reduced headroom

Seo Has the **Same Defects**



Ex. 1204, FIG 1

FIG. 1

MTA Reply, 7-8; Ex. 1005, 2:19-22; Ex. 1204, FIG. 1.; Ex. 2021,
¶¶ 35-39

POSITA Would Not Add Seo Into the Combination of Rousselle, Tsai, Ohnishi, and Hooper

35. First, as explained in my prior declaration, Tsai disparages canopies using a center strut because: 1. It often requires a second person to push upward at the center of the structure; and 2. It reduces head space within the structure. Seo is a center strut canopy and suffers from these same deficiencies.

Patent Owner's Expert's Declaration
Ex. 2021, ¶¶ 35

MTA Reply, 7-8; Ex. 1005, 2:19-22; Ex. 1204, FIG. 1.; Ex. 2021, ¶ 35-39

POSITA Would Not Add Seo Into the Combination of Rousselle, Tsai, Ohnishi, and Hoobler

Seo Uses **Leg Activation** and **Leg Locks**

Folding/Unfolding Occurs

- **Even if the Locking Pin Is Engaged**

41. In fact, Seo expressly teaches that the scissor assemblies 200/201 and the side poles 100 can be collapsed even while the locking pin 352 is still engaged (paragraph 51). The paragraph further goes on to clearly define the locking pin as being separate from the motion of the legs, “In other embodiments, the locking pin may be disengaged either before, during or after bringing all the side poles to the center.”

14

MTA Reply, 8-9; Ex. 1204, ¶¶ 46-51; Ex. 2021, ¶¶ 40-42

Patent Owner’s Expert’s Declaration
Ex. 2021, ¶ 41

POSITA Would Not Add Seo Into the Combination of Rousselle, Tsai, Ohnishi, and Hooper

[0046] To open the canopy frame 50 from its closed (i.e., collapsed) state, first the telescoping side poles are extended to a desired length. The side poles 100 are then pulled in diagonal directions away from each other, and the distance between the side poles 100 are increased, as is the distance between the center support pole 300 and the side poles 100.

[0047] During the opening, the scissor assemblies open up to be oriented in a generally horizontal direction, and the sliding mounting brackets 120 and the lower central hub 340 also move upward. Therefore, the center support pole 300 which is fixed to the lower central hub 340 is also moved upward.

[0048] In the exemplary embodiment, the inner pole 320 of the center support pole 300 is moved upward with respect to the outer pole 310 before expanding the canopy frame by

moving the side poles away from each other. Because of the locking opening 321 on the inner pole 320 and the biasing member 353 that biases the locking pin 352 toward the inner pole 320, when the inner pole is moved upward by a predetermined distance, the tip of the locking pin 352 enters the inner opening 354 and the locking opening 321, thereby engaging the locking pin to the inner opening 354 and the locking opening 321, and the inner pole 320 is fixed to the fixing bracket 350 in an extended state. In other embodiments, the inner pole 320 may be moved upward with respect to the outer pole 310 either before, during or after expanding the canopy frame by moving the side poles away from each other.

[0049] After extending the inner pole 320, as the support poles are moved away from each other to a furthest distance possible and the scissor assemblies 200, 201 fully open up, the lower central hub 340 moves upward, and the outer pole 310 mounted on the lower central hub moves through the upper central hub 330. Therefore, the inner pole 320 is also moved upward together with the outer pole 310.

[0050] While the rising of the outer pole by itself may not be sufficient, since the inner pole 320 has already been extended, sufficient height is provided to the center support pole 300 such that the head member 301 is positioned to support the center top of the canopy cover 2. The height can be predetermined to correspond to the maximum height of the center support pole in conventional canopy frames. Hence, the canopy frame of the exemplary embodiment can be used as a frame for conventional canopy covers.

[0051] To collapse the canopy in its open state, opposing steps may be taken in a reverse order. First, the side poles 100 are gathered at the center together with the center support pole 300. The scissor assemblies 200 and 201 are closed such that the ribs that form the scissor assemblies are oriented in a generally vertical direction. Prior to completing gathering of the side poles 100 at the center, by pulling the locking pin 352, the tip of the locking pin is disengaged from the locking opening 321, and the inner pole may be moved downward. In other embodiments, the locking pin may be disengaged either before, during or after bringing all the side poles to the center.

Ex. 1204, ¶¶ 46-51

POSITA Would Arrive at a Single Piece Design

Seo Teaches a Single **Component Design** for Lower Central Hub

Thus, **ALL** the **Cited Canopy References** Teach a Single Component for the alleged Center Bottom Cap structures

Only Hooper (non-analogous jewelry clasp) suggests otherwise

[0042] The fixing bracket 350 is mounted below the stationary lower central hub 340. The fixing bracket 350 is fixed to the outer pole 310 and/or the lower central hub 340, and may be formed as a single integrated piece with the lower central hub 340. As can be seen in FIG. 3, in the collapsed state, the inner pole 320 slides down from the outer pole 310. The inner pole 320 has near its lower end a locking opening 321 that can be used to fix the inner pole to the fixing bracket 350.

Ex. 1204, ¶ 42

MTA Reply, 9-11; Ex. 1204, ¶ 42; Ex. 2021, ¶¶ 43-47

POSITA Would Not Position the Connection Piece on the Bottom Cap Seat

Seo Teaches a Single **Component Design** for Lower Central Hub

Rousselle Specifically **Locates** the Connection on the Alleged Bottom Cap Cover

- NOT the Bottom Cap Seat

MTA Reply, 9-11; Ex. 1003, FIGS. 1(D), 2(A); Ex. 2021, ¶ 43-47

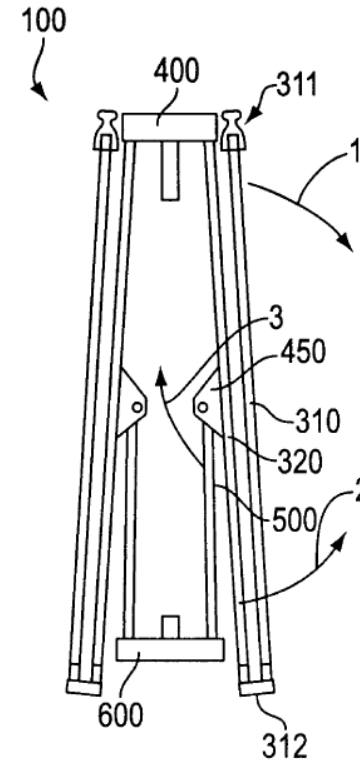


FIG. 1(D)

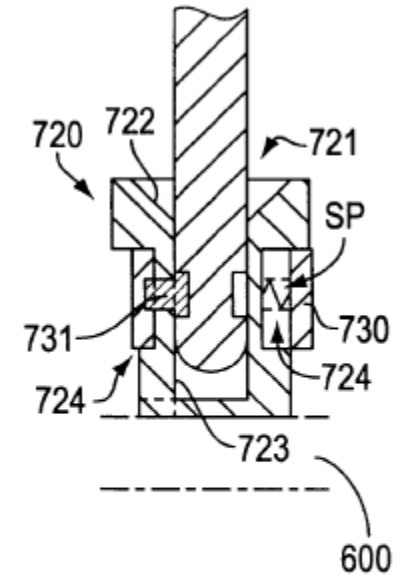


FIG. 2(A)

Ex. 1003, FIGS. 1(D), 2(A)

POSITA Would Not Position the Connection Piece on the Bottom Cap Seat

46. Thus, if POSITA did incorporate Seo, he or she would either replace Rousselle's bottom cap with Seo's lower central hub, retaining the single piece design, or would attach Seo's connecting members on Rousselle's bottom cap, again retaining the single piece design.

47. Further, since Rousselle and Seo both use a lower portion of a central lock and have locking pieces there is no reason why a POSITA would be motivated to modify these using the jewelry clasp of Hooper (even if Hooper is assumed to be analogous).

Patent Owner's Expert's Declaration
Ex. 2021, ¶¶ 46-47

Ex. 2021, ¶¶ 46-47; MTA Reply, 9-11

The New Combination Does Not Teach Unfolding Driven By a Central Lock

- Rousselle and Tsai Fail to Teach This Feature (Primary and Alternative Modification Discussed Above)
- Ohnishi's **Baby Stroller** Does not Teach This Feature

MTA, 19-21; MTA Reply, 11; Ex. 2021, ¶ 48

Substitute Claim 15

wherein said collapsible canopy frame is moved to said unfolded state by pushing said center bottom cap upwards to drive said plurality of inner retractable units outwardly, which causes said plurality of outer retractable units and said at least three supporting legs to extend outwards, until said center bottom cap is connected with said center top cap.

Patent Owner's Expert's Declaration

Ex. 2021, ¶ 48

48.As discussed in my prior declaration, Tsai clearly teaches against incorporating a central locking mechanism such as that found in Rousselle. Likewise, a POSITA would not use such a central lock to control or drive locking of Tsai's frame.

Hoover and Seo Do Not Teach Unfolding Driven By a Central Lock

-
- Hoover – **Jewelry Clasp, No Folding/Unfolding, No Retractable Units**
 - Seo Teaches Leg Activation **Independent** from Center

MTA, 19-21; MTA Reply, 11; Ex. 2021, ¶¶ 49-51

49. Hoover is a jewelry clasp, does not perform any folding/unfolding, and would not be capable of driving any retractable units during an unfolding process.

50. Likewise, Seo teaches activation at the legs and not any unfolding driven through the center.

51. Accordingly, POSITA would not use these references to arrive at the structure of Substitute Claim 15 having the limitations wherein said collapsible canopy frame is moved to said unfolded state by pushing said center bottom cap upwards to drive said plurality of inner retractable units outwardly, which causes said plurality of outer retractable units and said at least three supporting legs to extend outwards, until said center bottom cap is connected with said center top cap.

Patent Owner's Expert's Declaration

Ex. 2021, ¶¶ 49-51

Dependent Claims 16 and 17

- Claim 16 includes the limitations wherein an inner end of said first connecting rod is disposed within a receiving groove formed by at least two connection pieces of said bottom cap seat.
 - Detailed Structure Is Not Taught
- Claim 17 includes the limitations wherein the first connecting rod is hinged with said connection piece at a location above the clamp locking part of said center pole.
 - **Detailed Structure** Is Not Taught
 - Seo's Lock Is **Independent** from Folding/Unfolding and **Does not Lock** the Canopy
 - **No Relationship** between the Clamp Locking Part and the Location of a Connection Piece of a Bottom Cap Seat

MTA, 21-25; MTA Reply, 11-12; Ex. 2021, ¶¶ 52-57