

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No.: 15/925,314  
Filed: 03/19/2018  
Applicant: Yang  
For: COLLAPSIBLE CANOPY FRAME HAVING A CENTRAL LOCK  
Examiner: Canfield, Robert  
Art Unit: 3636  
Conf. No: 6809

Amendment

Commissioner of Patents and Trademarks  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir,

This letter is in response to Examiner's Office Action. Please amend the above-identified patent application as follows:

**Amendments to the Claims** are reflected in the listing of claims which begins on page 2 of this paper.

**Remarks/Arguments** begin on page 7 of this paper.

### **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

1. (currently amended) 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, ~~and wherein said central lock is unlocked when there is a disconnection between said center top cap, said center bottom cap and said center pole,~~ wherein said central lock ~~locks is for locking~~ said collapsible canopy frame in an unfolded state when said central lock is locked and permits for permitting 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.
2. (currently amended) The collapsible canopy frame according as in Claim 1, wherein: each said supporting leg comprises a sliding sleeve for moving along a length direction of said respective supporting leg, an upper end of each said supporting leg is fixed with a fixed joint, ~~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~~; 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 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 center top cap of said central lock, an inner end of said first connecting rod is hinged with a center bottom cap of said central lock, 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.

3. (currently amended) The collapsible canopy frame as in Claim 1, wherein: each said supporting leg comprises a sliding sleeve for moving along a length direction of said respective supporting leg, an upper end of each said supporting leg is fixed with a fixed joint, ~~each said outer retractable unit comprises a plurality of hinged X-shaped rod members, each said X-shaped rod member comprises a first eave pipe and a second eave pipe hinged to one another~~; each said inner retractable unit comprises a plurality of X-shaped members hinged one by one, each X-shaped member comprises a third oblique top pipe and a fourth oblique top pipe hinged to one another, an inner end of said third oblique top pipe is hinged with a center top cap of said central lock, and an inner end of said fourth oblique top pipe is hinged with said center bottom cap of said central lock, an outer end of said first eave pipe and an outer end of said fourth oblique top pipe are hinged with said fixed joint, an outer end of said second eave pipe and an outer end of said third oblique top pipe are hinged with said sliding sleeve.
4. (previously presented) The collapsible canopy frame as in Claim 1, where said central lock further comprises: a locking piece 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 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.

5. (original) The collapsible canopy frame as in Claim 4, wherein: said center bottom cap comprises a bottom cap seat and a bottom cap cover that are fixedly connected to one another, a receiving chamber is provided in said center bottom cap at a junction between said bottom cap seat and said bottom cap cover, an opening communicated with said receiving chamber is provided in an outer wall of said center bottom cap, said locking piece is provided threading said receiving chamber and said opening and supported by said bottom cap cover.
6. (original) The collapsible canopy frame as in Claim 5, wherein: said locking piece is an integral structure, said receiving chamber is provided with a compressible elastic element along a radial direction of said center pole, said elastic element abuts against said locking piece and an inner wall of said receiving chamber at two ends respectively, said bottom cap seat is provided with a protruding detachment preventing part, said locking piece is provided with a groove for receiving said detachment preventing part; when said central lock is in said locked state, said elastic element enables part of said inner wall of said first through hole to be clamped with said clamping groove, and said detachment preventing part abuts against an inner wall of said groove.
7. (original) The collapsible canopy frame as in Claim 6, wherein: said elastic element is a spring, said locking piece is provided with a protruding guide supporting part at an end away from said opening, and said spring sleeves said guide supporting part.
8. (original) The collapsible canopy frame as in Claim 5, wherein: said locking piece is in a detachable form and comprises an elastic wire and an unlocking push piece, said elastic wire is U-shaped and comprises an elastic wire body part and two elastic deforming parts respectively provided at two ends of said elastic wire body part, a narrow opening for forming said first through hole is provided between said two elastic deforming parts, end

portions of said elastic deforming parts form a socket and an inner end of said unlocking push piece is located in said socket; when said central lock is in an unlocked state, said unlocking push piece widens said socket and said narrow opening of said elastic wire.

9. (original) The collapsible canopy frame as in Claim 8, wherein: said bottom cap seat is provided with a protruding detachment preventing part, said unlocking push piece is provided with a groove for receiving said detachment preventing part; when said central lock is in a locked state, said detachment preventing part abuts against an inner wall of said groove.
10. (original) The collapsible canopy frame as in Claim 8, wherein: said unlocking push piece is provided with two guide surfaces in contact with said end portions of said elastic deforming parts respectively and said guide surfaces are spread and inclining away from said elastic wire.
11. (original) The collapsible canopy frame as in Claim 5, wherein: said bottom cap seat is provided with a second through hole through which said center pole can pass, said bottom cap cover is provided with a receiving hole for receiving said clamp locking part and being adaptive to an outer wall of said clamp locking part, said second through hole, said first through hole and said receiving hole are in a communication manner.
12. (original) The collapsible canopy frame as in Claim 11, wherein: said second through hole sequentially comprises a first conical part with a gradually decreased diameter, a cylindrical part and a second conical part with a gradually increased diameter along the direction that said center pole threads said center bottom cap, said upper end of said first through hole is provided with a chamfered part with a gradually decreased diameter.
13. (original) The collapsible canopy frame as in Claim 4, wherein: said first through hole comprises a clamping hole part and a through hole part arranged side by side, said clamping hole part has a diameter not smaller than that of said clamping groove, said through hole part has a diameter greater than that of said clamp locking part.
14. (original) The collapsible canopy frame as in Claim 4, wherein: said clamping groove is an

annular groove, an end portion of said clamp locking part is provided with a guide part of a semispherical shape or a conical shape with a gradually decreased diameter.

## **REMARKS/ARGUMENTS**

### 35 USC 112(b)

Examiner has rejected Claims 1 – 14 under 35 USC 112(b). Specifically, Examiner has stated that:

Claim 1 has been amended to recite that there is a disconnection between said center top cap, said center bottom cap and said center pole. As best understood, this limitation appears broader than that supported by the original disclosure. No support is found in the original disclosure for disconnecting the center pole from the center top cap which as best understood appears to be covered by the amended claim language. All embodiments are directed towards disconnecting the center pole from only the bottom center cap in the unlocked state.

In response, Applicant has amended Claim 1 in accordance with Examiner's suggestion to remove the basis for the rejection. Claim 1 now includes the limitation "...wherein said center lock is unlocked when there is not a connection between said center pole and said center bottom cap..."

### Double Patenting – Terminal Disclaimer

Examiner has provisionally rejected Claims 1 -14 on the ground of nonstatutory double patenting as being unpatentable over claims 1-14 of U.S. Patent No. 10,273,710. In response, Applicant has submitted a terminal disclaimer to remove the basis for the rejection.

### 35 USC 102(a)(1)

Examiner has rejected Claim 1 under 35 USC 102(a)(1) as being anticipated by Gilsenan. Also, Examiner has rejected Claim 1 as being anticipated by Wu. In response, Applicant has amended Claim 1 to remove the basis for the rejections. Specifically, Claim 1 now includes the limitation:

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,

Neither Gilsenan nor Wu show this limitation. Therefore, Claim 1 should now be allowable.

Therefore, Applicant respectfully submits that because the references cited by Examiner do not show Applicant's invention as presently claimed, Claim 1 should now be allowable.

## CONCLUSION

Applicant submits that this application, as the claims are presently limited, defines a novel, patentable, and truly valuable invention. Hence, allowance of this application is respectfully submitted to be proper and is respectfully solicited.

Respectfully Submitted,

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