

**P.G. DIPLOMA IN PATENT LAWS
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**Paper IV - Practical
(Abuse of Patents)**

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Kazo Saito (No. 9-374, Otorinaka, Sakai, Osaka, JA) has to his credit an issued US patent titled “**Folding umbrella**” (US 3,989,055).

The abstract of the application is as follows –

“A folding umbrella having a rib assembly wherein an end rib is connected to a main rib through a connecting link, an auxiliary link is connected between the end rib and the main rib and adapted to be foldable with its articulate structure and a strut connected at its outer end to one of the connecting link, the end rib and the auxiliary link. With this rib assembly, the umbrella is capable of being closed into two positions, namely, a collapsed storage position and an uncollapsed extended position, and is capable of being contracted easily and smoothly from said uncollapsed position to the collapsed position.”

Saito in his patent uses the following drawings and description of the drawings to further explain his invention-

“The invention will be better understood from the following description taken in connection with the accompanying drawings in which:

FIG. 1 is a diagrammatical side view of a conventional umbrella, illustrating the opened position thereof;

FIG. 2 is a diagrammatical side view of the conventional umbrella shown in FIG. 1, illustrating the uncollapsed closed position thereof;

FIG. 3 is a diagrammatical side view of the conventional umbrella shown in FIG. 1, illustrating the position thereof in the course of the movement from the uncollapsed closed position to the collapsed closed position;

FIG. 4 is a diagrammatical side view of the conventional umbrella shown in FIG. 1, illustrating the collapsed closed position thereof;

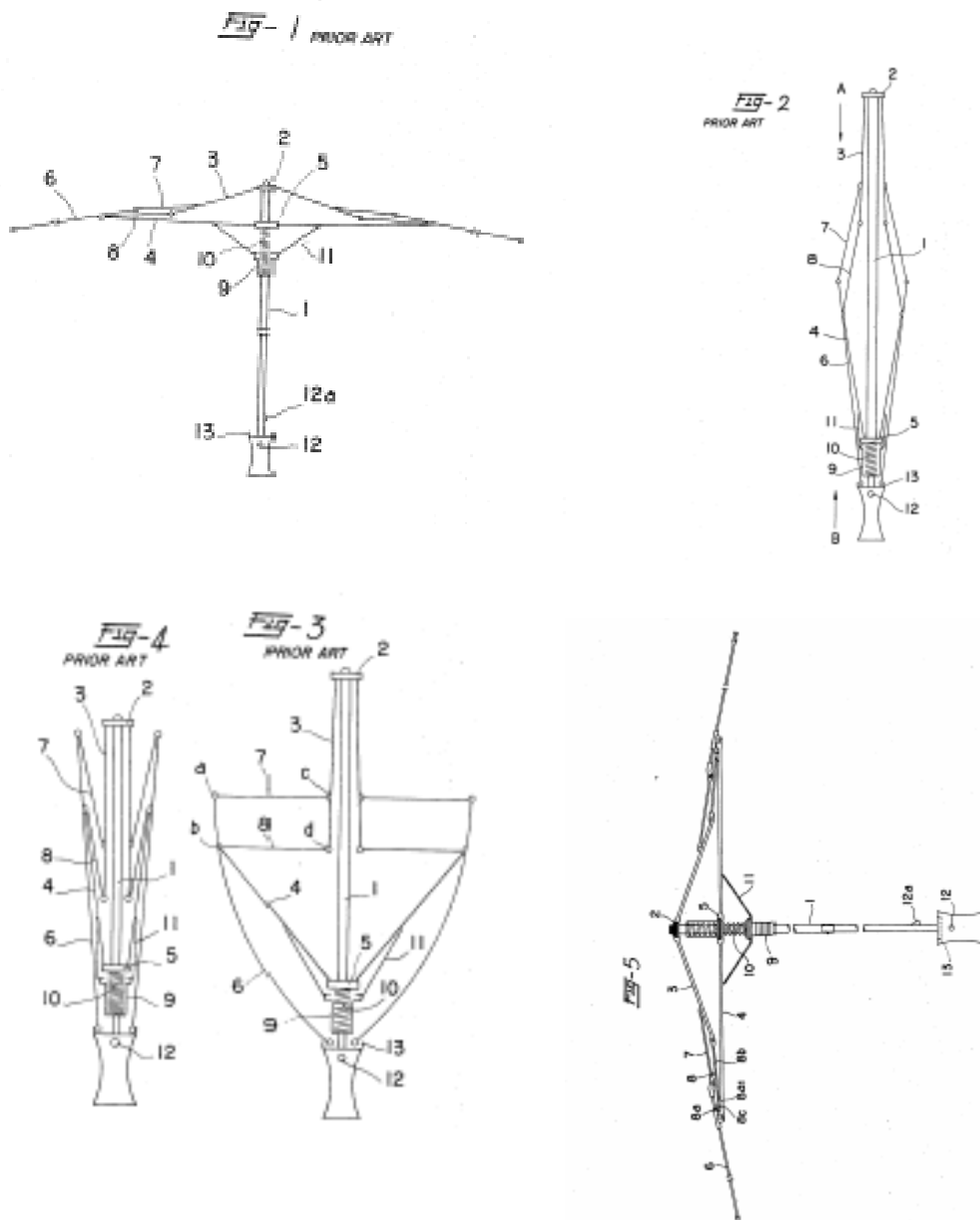
FIG. 5 is a side view of one form of the umbrella according to the present invention, illustrating the opened position thereof;

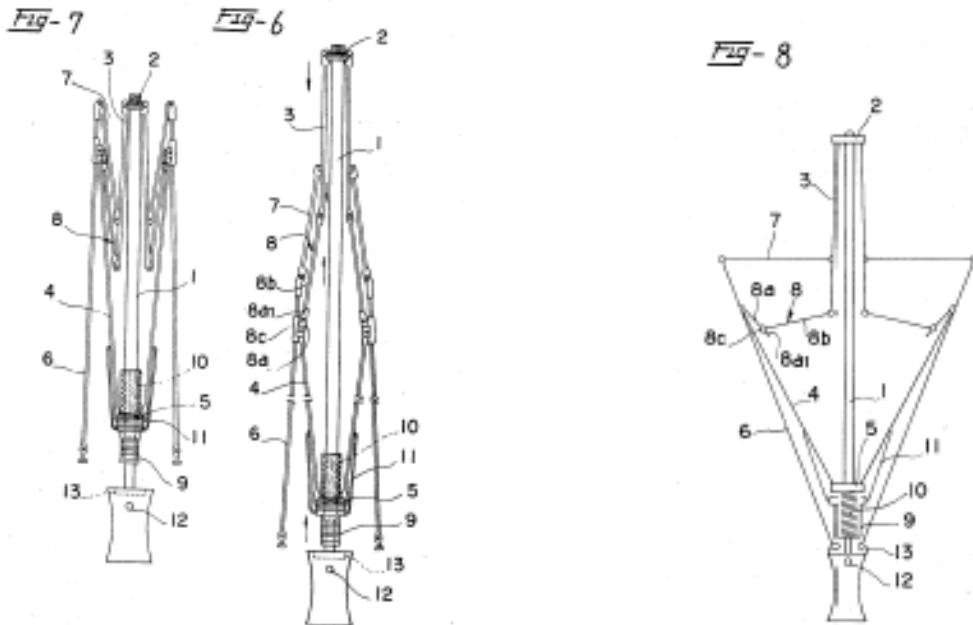
FIG. 6 is a side view of the umbrella shown in FIG. 5, illustrating the uncollapsed closed position thereof;

FIG. 7 is a side view of the umbrella shown in FIG. 1, illustrating the collapsed closed position thereof; and

FIG. 8 is a diagrammatic side view of FIG. 1, illustrating the position thereof in the course of the movement from the uncollapsed closed position to the collapsed closed position.

In the drawings and the following descriptions, like portions or parts are denoted by like numerals or characters and the term "collapse" is used herein to mean that the rib assembly is folded into the contracted state with its end rib folded on its main rib and that the center rod is also contracted, whereas the term "uncollapsed position" herein means a state of the rib assembly in which it is closed keeping its end rib extended with reference to its main rib and its center rod extended.





Referring now to FIG. 5, there is illustrated one form of the umbrella according to the present invention in its opened position. This umbrella is constructed substantially identically with the conventional umbrella, as shown in FIGS. 1 through 4, except the structure of an auxiliary link 8. The auxiliary link 8 is formed of two parts, namely outer link member 8a and inner link member 8b which are articulated at 8c. The outer link member 8a is formed in a U-shape and the inner link member 8b is made of wire material. The outer end of the link member 8b is pivotally connected to the link member 8a, intermediate the ends thereof, so that the auxiliary link 8 can be freely folded into a V-shape as viewed in FIG. 8 but it is kept from being folded into an inverted V-shape due to the abutment of an extension 8a.sub.1 of the outer link member 8a extending inwardly from the pivotal joint 8c against the inner link member 8b to keep the rib assembly stably in its opened position. In order to keep the rib assembly stably in its opened position, there is further provided means for holding the auxiliary link 8 to restrain its folding. In case the outer end of the strut 4 is connected to the pivotal joint of the auxiliary link 8 and the end rib 6, the end rib 6 at a position in the vicinity of and outward from said pivotal joint, or the outer link member 8a of the auxiliary link 8 where said strut 4 is capable of engaging the auxiliary link 8, especially the outer link member 8a in the opened position of the umbrella, such a holding means is provided on said strut 4 at a position engageable with said auxiliary link 4 in the opened position. For example, the strut 4 is formed in a U-shape at its position as mentioned above to snugly receive therein said auxiliary link, especially its outer link member 8a so that the strut can hold the auxiliary link 8 to restrain its further folding. In case the outer end of the strut 4 is connected to the end rib 6 at a position inward from said pivotal joint, the strut 4 may be formed in Y-shape straddling and receiving the auxiliary link 8 to hold the outer link member 8a of the auxiliary link 8 in the opened position or the strut 4 may be provided with a projection to support the outer link member 8a in the opened position.

In this connection, it is to be noted that the outer link member 8a and its extension 8a.sub.1 may be formed in an inverted U-shape. In this case, the auxiliary link 8 can be folded into an inverted V-shape as viewed from FIG. 8 and the holding means may be provided on the connecting link, holding and pressing said auxiliary link 8 to restrain the folding thereof in a V-shape. In this embodiment, the outer end of the strut 4 may be connected to any one of the end rib 6, the connecting link 7 and the auxiliary link 8 including the pivotal joints of the end rib 6 and the auxiliary link 8, and the end rib 6 and the connecting link 7.

It will thus be seen that when the rib assembly is moved from the uncollapsed closed position of FIG. 6 to the collapsed closed position of FIG. 7, the inward pressure applied by the end rib 6 is cancelled by or balanced with the folding of the auxiliary link 8 at 8c and the rib assembly can be moved easily and smoothly to the position of FIG. 7 without receiving unnecessary resistance.

Though the foregoing description is given referring to the umbrella provided with the automatic opening means, the present invention is also applicable with a great advantage to a so-called non-automatic umbrella of this type.

In a conventional non-automatic umbrella, first the end rib 6 must be released from the receiving means 13, second, the runner 5 must be raised to move the rib assembly alone into the collapsed closed position, third, the center rod 1 must be contracted and then, the tip end of the rib must be again put into the receiving means 13 to collapse the umbrella from the position of FIG. 2 to the position of FIG. 4.

Whereas, the non-automatic umbrella embodying the present invention is capable of being collapsed from the position of FIG. 2 to the position of FIG. 4 through one operation by applying a force to the rib assembly in the arrow directions in FIG. 2.

As mentioned above, the present invention can provide such a great advantage to either the umbrella with the automatic opening means or the so-called non-automatic umbrella since the umbrella can be collapsed smoothly and easily from the uncollapsed closed position.

It is further noted that in the rib assembly of the present invention, at least one of the pivotal joints a, b, c and d may be formed slidable, varying the or each length of the sides of the quadrilateral formed by the main rib, the end rib, the connecting link and the auxiliary link to control the contour of the umbrella in its opened position."

Saito's claims in US 3,989,055 includes:

"What is claimed is:

1. A folding umbrella, comprising:
 - a contractile center rod movable between a collapsed storage position and an extended use position;
 - a ferrule fixedly secured to the center rod directly adjacent the upper end thereof;
 - a runner slidably mounted on said center rod intermediate the ends thereof;

a collapsible rib assembly movable between a collapsed storage position and an extended position, said rib assembly including a main rib, and end rib, a connecting link, an auxiliary link and a strut;
said main rib having the upper end thereof pivotally connected to said ferrule and the lower end thereof pivotally connected to the inner end of said auxiliary link;
said end rib being carried by the outer end of said auxiliary link and spaced from said main rib;
said auxiliary link consisting of a inner and an outer link member pivotally connected with each other to make the auxiliary link foldable at the pivotal joint in the course of the movement from the extended position to the collapsed position;
said connecting link having the outer end thereof pivotally connected to the upper end of said end rib and the inner end thereof pivotally connected to said main rib at a location disposed between the upper and lower ends of said main rib;
said strut being pivotally connected at the inner end thereof to said runner and having the outer end thereof pivotally connected to one of said auxiliary link, said connecting link and said end rib including the pivotal joint thereof; and
means adapted to be brought into abutment against the auxiliary link for restraining the folding of the auxiliary link in the opened position of the umbrella thereby to keep the rib assembly stably in its opened position.

2. A folding umbrella as set forth in claim 1, which further comprises an automatic opening means having an actuator slidably mounted on the center rod under the runner, a spring resting at its upper end against said runner and at its lower end against said actuator, and an actuator strut connected between said actuator and the auxiliary link.
3. A folding umbrella as set forth in claim 1, wherein said means for restraining the folding of the auxiliary link includes means for regulating the direction of the folding of the auxiliary link and means for holding the auxiliary link in the opened position of the umbrella.
4. A folding umbrella as set forth in claim 3, wherein said outer end of the strut is pivotally connected to one of the end rib and the outer link member of the auxiliary link including the pivotal point of the end rib and the auxiliary link, at a position where said strut is brought into contact with said auxiliary link in the opened position of the umbrella; said means for regulating the direction of the folding of the auxiliary link is formed as an extension of said outer link member extending inwardly from the pivotal joint thereof with the inner link member and made of a U-shaped material to receive therein said inner link member and to prevent the auxiliary link from being folded into an inverted V-shape; and said means for supporting the auxiliary link in the opened position of the umbrella is provided on the strut at a position confronting said auxiliary link and in engagement with the outer link member of the auxiliary link in the opened position, supporting said outer link member to restrain the folding of the auxiliary link in said opened position.

5. A folding umbrella as set forth in claim 3, wherein said outer end of the strut is pivotally connected to the end rib at a position inner than the pivotal joint with the auxiliary link; said means for regulating the folding direction of the auxiliary link is formed as an extension of the outer link member of the auxiliary link extending inwardly from the pivotal joint thereof with the inner link member and made of a U-shaped material to receive therein said inner link member and to prevent the auxiliary link from being folded into an inverted V-shape; and said means for supporting the auxiliary link in the opened position of the umbrella is provided on the strut and adapted to engage with the outer link member of the auxiliary link in the opened position, holding said outer link member to restrain the folding of the auxiliary link in said opened position.
6. A folding umbrella as set forth in claim 3, wherein said means for regulating the folding direction of the auxiliary link is formed as an extension of the outer link member extending inwardly from the pivotal joint thereof with the inner link member and made of an inverted U-shaped material to receive therein said inner link member and to prevent the auxiliary link from being folded into a V-shape; and said means for supporting the auxiliary link in the opened position of the umbrella is provided on the connecting link at a position confronting said auxiliary link and in engagement therewith in the opened position, pressing said auxiliary link to restrain the folding of the auxiliary link in said opened position.”

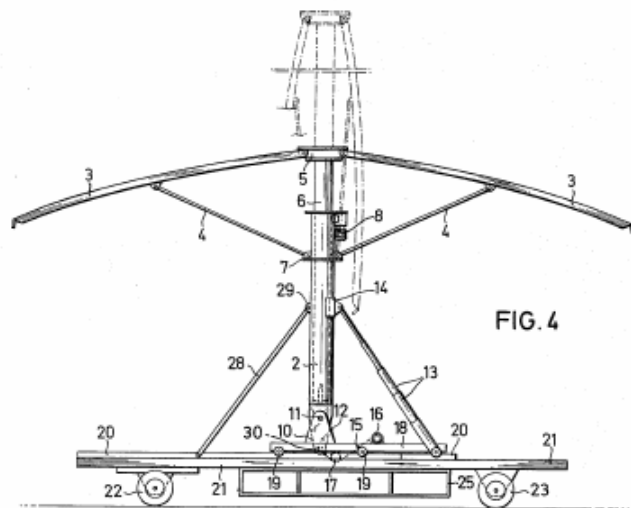
Klaus Becher; an entrepreneur is selling an umbrella through a chain of dealers in US and calls his product “**Large shelter umbrella**”. His product monograph contains the following write-up:

“A large shelter umbrella comprising a base, an umbrella including a supporting post having first and second opposite terminal end portions, first pivot means mounting said supporting post adjacent a terminal end of said first terminal end portion for pivotal movement about a generally horizontal axis for pivotal movement of said supporting post between generally horizontal and vertical positions, cable means connected to said first terminal end portion, means for forcefully drawing said cable means to pivot said support post about said horizontal axis from said horizontal position to said vertical position, lifting element means connected between said base and said supporting post for imparting a force to said supporting post to pivot the latter about said horizontal axis from said horizontal position to said vertical position, said lifting element means being a telescopic mechanism having at least a pair of relatively telescopic elements, second pivot means for pivotally connecting a first of said telescopic elements to said base about a generally horizontal axis, third pivot means directly pivotally connecting a second of said telescopic elements to said supporting post, and said third pivot means is connected to said supporting post remote from said first pivot means and generally centered between said first and second terminal end portions, said base is a platform mounted for sliding movement upon a carriage, said first pivot means is carried by said platform, said drawing means is

carried by said platform, and means carried by said carriage about which said cable means is at least partially entrained.”

Becher's advertisement pamphlets contain the following figure and text:

A large shelter umbrella including a base having a supporting post the top of which is an umbrella, means mounting the supporting post at an end portion thereof for pivotal movement about a generally horizontal axis, the end portion having a free terminal end, means connected to the free terminal end for imparting a force thereto to pivot the supporting post about a horizontal axis, and lifting element means at a side of the horizontal axis opposite the terminal end connected between the base and the supporting post for imparting a force to the supporting post to pivot the latter about the horizontal axis.



Saito accuses Becher for infringement based on his issued patent US 3,989,055 and mentions that his product in the market is merely and larger version of the invention as claimed in US 3,989,055 and the slight modification is obvious to a person skilled in the art.

- 1) ***List down the probable reasons for Saito to believe that the product sold in the market infringes US 3,989,055.***
- 2) ***Draft a response on behalf of Becher that his product, which he wishes to continue selling clearly indicating that his “large shelter umbrella” does not stand anticipated from US 3,989,055.***
- 3) ***Give your opinion on the infringement status in this context whether or not “large shelter umbrella” is anticipated from US 3,989,055; with proper reasoning.***
