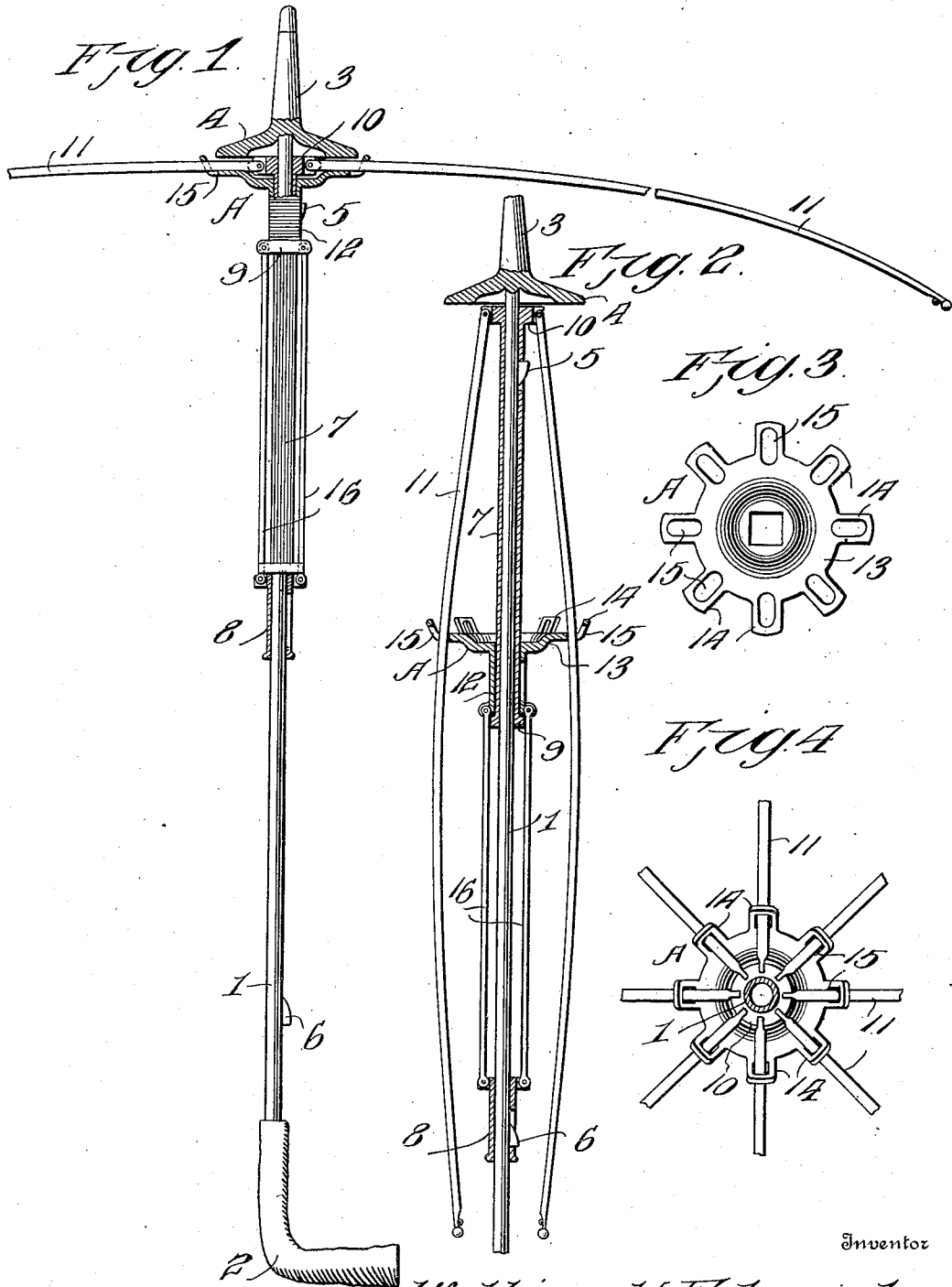


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 UMBRELLA.
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UMBRELLA.

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To all whom it may concern:

Be it known that I, WILLIAM H. EDWARDS, a citizen of the United States, residing at Gumberry, in the county of Northampton and State of North Carolina, have invented new and useful Improvements in Umbrellas, of which the following is a specification.

The purpose of the present invention is to devise novel fixtures coöperating with the rod and ribs of an umbrella, parasol or like article whereby the usual frame work of such articles is simplified and the number of parts reduced.

The invention has for its primary object to provide a construction which will obviate the use of the ordinary braces commonly employed between the runner and the ribs and to supplement the same by other devices which are as efficient but reduce the cost of manufacture and lessen the weight and minimize the amount of material generally required in the formation of the framework and coöperating parts.

The invention further consists of novel features, details of construction and combinations of parts which hereinafter will be more particularly set forth, illustrated in the accompanying drawings and finally claimed.

Referring to the drawings forming a part of the specification: Figure 1 is a view in elevation of an umbrella frame embodying the invention, parts being broken away and parts in section and showing the relation of the elements when the ribs are extended. Fig. 2 is a view similar to Fig. 1 showing the relation of the parts when the ribs are folded. Fig. 3 is a top plan view of the spreader. Fig. 4 is a top plan view of the spreader, sleeve, and inner ends of the ribs, with the rod in section, showing the ribs extended.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The umbrella is generally divested of the usual covering for the sake of simplicity of illustration, however, it is to be understood that the frame is to be provided with a cover fitted thereto in the usual way, the same being attached to the ribs and to the rod near the tip.

The rod 1 may be of any construction and is provided at one end with a handle 2 and at the opposite end with a tip 3, the latter

being provided at its inner end with an outer flange 4. Spring actuated catches 5 and 6 are applied to the rod near opposite ends to retain a sleeve 7 and a runner 8 in the desired position.

The sleeve 7 is slidable upon the rod 1 and is provided at its lower end with a bead or flange 9 and at its upper end with a flange 10 which is notched at intervals to receive the inner ends of the ribs 11, which are pivoted thereto in any accustomed way. The sleeve 7 is held near the upper end of the rod 1 by means of the catch 5. The cover, not shown, is adapted to be confined between the tip 3 and the flange 10 of the sleeve 7.

A spreader A is slidably mounted upon the sleeve 7 and is prevented from turning therewith. The spreader comprises a sleeve 12, flange 13, and a series of ears 14 at the outer edge of the flange 13 and of angle formation. Elongated openings or slots 15 are formed in the ears 14 to receive the ribs 11. When the spreader is moved downward upon the sleeve 7 the ribs 11 are folded about the rod 1 as indicated in Fig. 2 and when the spreader is moved upward upon the sleeve 7, the ribs 11 are extended as indicated in Figs. 1 and 4, thereby opening or raising the umbrella as when required for use. The ribs 11 pass through the openings 15 and move therein as the spreader is slid upon the sleeve 7. The central portion of the flange 13 is depressed to receive the flange 10 at the upper end of the sleeve 7 as indicated in Fig. 1. The outer bent ends of the ears 14 embrace the flange 4 of the tip 3 when the umbrella is opened, this being indicated in Fig. 1. When the spreader is moved upward upon the sleeve 7 it is held elevated by the catch 5 entering an opening formed in a side of the sleeve 12.

For convenience, of operating the spreader, links 16 connect the runner 8 with the lower end of the sleeve 12, said links being pivotally connected at their ends to the respective parts. The links 16 are of a length to admit of the spreader sliding the full length of the sleeve 7 as indicated most clearly in Figs. 1 and 2.

It will be readily understood from the foregoing taken in connection with the accompanying drawings that an umbrella constructed in accordance with this invention is free from the usual brace, and embodies

a minimum number of parts and the smallest amount of material possible, hence, may be more cheaply and readily manufactured.

It is further noted that the parts may be more quickly and economically assembled and repairs may be made at less cost and without requiring the services of a skilled mechanic, since access to the several parts may be readily had.

It is further noted that the inner ends of the ribs 11 are confined between the flanges 4 and 13 when the umbrella is raised, thereby preventing the umbrella from being turned in-side-out. By having the openings 15 in the ears 14 elongated and by having the outer ends of the ears 14 bent upwardly, the ribs are enabled to have a free running movement with reference to the spreader so as to be positively moved in both directions when opening or closing the umbrella.

Having thus described the invention, what is claimed, is:

1. In an umbrella or like appliance, the combination of a support, a series of ribs having pivotal connection with the support, and a spreader slidable upon the support and having said ribs in positive engagement therewith whereby movement of the spreader with reference to the support opens or closes the ribs.

2. In an umbrella, the combination of a support, ribs pivotally connected at their inner ends to said support, and a spreader slidable upon the support and having a bent portion formed with elongated openings through which the respective ribs pass, said ribs being extended or folded by a sliding movement of the spreader upon the support.

3. In an umbrella or like appliance, the combination of a support, ribs pivotally connected at their inner ends to said support, a spreader comprising a sleeve, a flange projected outward from said sleeve, and angle ears at the outer edge of said flange, said angle ears being provided with elongated openings through which the respective ribs

pass, said ribs being adapted to be extended or folded by a sliding movement of the spreader upon the support.

4. In an umbrella or like appliance, the combination of a support, ribs having pivotal connection at their inner ends with said support, a spreader slidable upon the support and having running connection with the ribs to effect a spreading or a folding thereof, a runner slidable upon the support, and connecting means between said runner and spreader.

5. In an umbrella or like device, the combination of a rod provided near its tip with an outer flange, a sleeve mounted upon the rod and having the end adjacent the tip of the rod formed with a flange, ribs pivotally connected to the flange of the sleeve, a spreader slidable upon the rod and having the ribs connected therewith by means of a running connection, and means for moving the spreader to effect a spreading or a folding of the ribs.

6. In an umbrella or like appliance, the combination of a rod provided near its tip with an outer flange, a sleeve mounted upon the rod and having the end adjacent the tip provided with a flange, ribs pivotally connected to the flanged end of the sleeve, a spreader comprising a flange provided at its outer edge with angle ears in which elongated openings are formed to receive the respective ribs, the bent ends of the ears being adapted to embrace the flange at the tip of the rod, and the inner ends of the ribs being confined between the flanged tip and spreader when the ribs are extended, and means for moving the spreader to effect a spreading or a folding of the ribs.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. EDWARDS.

Witnesses:

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