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LAWN UMBRELLA

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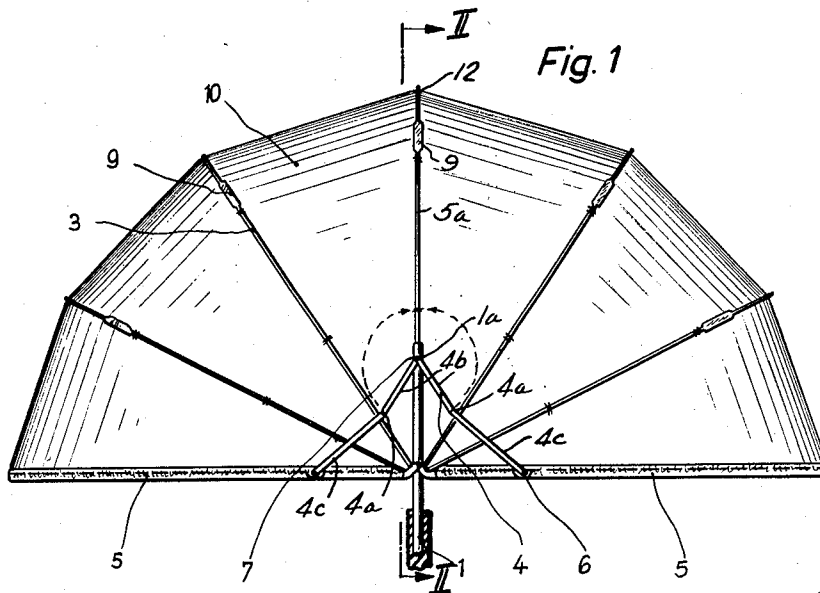


Fig. 2

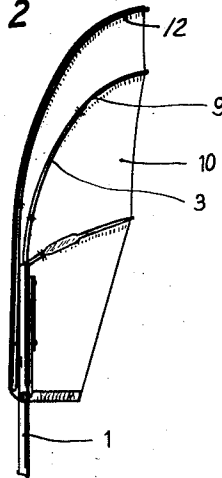
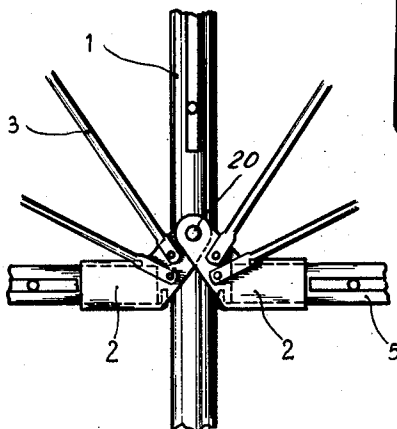


Fig. 3



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LAWN UMBRELLA

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7 Claims. (Cl. 135—27)

The present invention relates to lawn umbrellas. Lawn umbrellas of various types are known. However, with all of the heretofore known lawn umbrellas, the ribs together with the umbrella cover confine a complete polygon. Therefore, such lawn umbrellas must be spaced from the house wall by a distance at least corresponding to half the diameter of said polygon. A further drawback of this heretofore known type of umbrellas consists in that such umbrellas cannot be fastened to a wall. Inasmuch as only very seldom the sun hits directly vertically upon the umbrella cover, but rather comes in at an angle, the heretofore known lawn umbrellas have a tiltable roof so that the latter can be tilted in conformity with the direction from which the sun comes in.

It is, therefore, an object of the present invention to provide a lawn umbrella which will overcome the above mentioned drawbacks.

It is another object of this invention to provide a lawn umbrella the roof or cover of which defines a portion only of a polygon or a circle while being effective to yield the desired shading.

It is still another object of this invention to provide a lawn umbrella which can easily be fastened to a house wall or the like.

These and other objects and advantages of the invention will appear more clearly from the following specification in connection with the accompanying drawings, in which:

Fig. 1 is the inside view of a lawn umbrella according to the invention which is provided with a cover located substantially in one and the same plane with the umbrella stick and having a relatively sharply bent marginal portion.

Fig. 2 is a side view of the umbrella shown in Fig. 1.

Fig. 3 illustrates the main joint as seen from the outside, the cover being removed.

Referring now to the drawings in detail, the umbrella shown therein comprises an umbrella stick 1 having pivotally connected thereto by means of pivot 20 two sleeves or supporting members 2 which pivotally support ribs 3. The umbrella stick is preferably relatively short and designed so that it can be telescopically inserted into a stick of larger diameter which may be connected to a frame and may be provided with a ball joint, tilt joint or the like. The sleeves 2 have fixedly connected thereto ribs 5 which latter together with the ribs 3 may be called the main ribs. As particularly illustrated in Fig. 1, spreaders 4 consist of two levers 4b and 4c joined together by a toggle joint 4a. Spreaders 4 are linked on one hand at 6 to the ribs 5 representing the outermost ribs delimiting half of the circle or polygon formed by the umbrella roof, while on the other hand said spreaders 4 are linked at 7 to an inwardly extending portion 1a of the umbrella stick 1.

The inner ends of the ribs 5 are tubular whereas their outer ends may be designed in the manner of ordinary umbrella ribs as commonly used. The inwardly directed end of portion 1a of the umbrella stick 1 has connected thereto an additional rib 5a the free end portion 12 of

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which forms an intermediate corner of the polygon portion formed by the spread or taut umbrella cover 10.

In order to give the umbrella a relatively sharply bent marginal portion, the additional rib 5a and the ribs 3 are shortly before their outer ends provided with flat sections 9 and at said sections are bent inwardly. For purposes of folding up the umbrella it is merely necessary to push the spreaders 4 away from each other so that the outer ends of the ribs 5 move toward the free end portion 12 of the additional or intermediate rib 5a. The opening of the umbrella is effected in a corresponding reverse manner.

As will be evident from the above, the structure according to the present invention yields a particularly simple and inexpensive lawn umbrella which nevertheless will serve its purpose of providing the desired shading. By employing an umbrella roof confining a portion only of a circle or polygon, considerable cover material and also a number of ribs are saved which fact materially reduces the cost of such umbrella over heretofore known lawn umbrellas. Furthermore, the construction of the umbrella roof in conformity with the present invention also considerably reduces the weight of such umbrella thereby simplifying and facilitating the transport and installation of the umbrella. The new construction of the umbrella roof also makes it possible to connect the umbrella without difficulties to the house wall or any other wall by means of sleeve connections or tubular clamps, in which instance also the heretofore necessary support can be saved.

It is, of course, understood that the present invention is, by no means, limited to the particular construction shown in the drawings but also comprises any modifications within the scope of the appended claims.

What I claim is:

1. In combination in a lawn umbrella: an umbrella cover defining, when in taut condition, the contour of a portion only of a polygon; said polygon portion having an uneven number of corners; first ribs delimiting a part of said polygon portion; two supporting members respectively supporting one end of said first ribs; second ribs respectively having one end thereof linked to said supporting members, the other ends of said first ribs and said second ribs being respectively connected to said cover at the corners of said polygon portion with the exception of the intermediate corner of said polygon portion; an umbrella stick located in the plane of symmetry of said polygon portion and having an inwardly extending portion; an additional rib having one end thereof connected to said intermediate corner and having its other end connected to said inwardly extending umbrella stick portion; a pivot supported by said inwardly extending umbrella stick portion, each of said supporting members being linked to and tiltable about said pivot; and spreader means respectively linked to said first ribs and also linked to said umbrella stick for selectively spreading and holding said cover in taut condition.

2. A lawn umbrella according to claim 1, in which the supporting members are in the form of levers, each of said levers having one arm forming a sleeve receiving the adjacent first rib and having another arm pivotally connected to said pivot.

3. In combination in a lawn umbrella: an umbrella cover defining, when in taut condition, a portion only of a polygon; a first supporting member; a second supporting member; an uneven number of ribs supporting said cover and having one end thereof connected thereto; the intermediate one of said ribs being located in the plane of symmetry of said polygon portion; the two outermost ones of said ribs having their inner ends supported by said first and second supporting members; the ribs

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located between one of said outermost ribs and said intermediate rib being linked to said first supporting member and the ribs intermediate said intermediate rib and the other outermost rib being linked to said second supporting member; an umbrella stick having one end thereof fixedly connected to that end of said intermediate rib which is remote from the adjacent corner of said polygon portion; said supporting members being pivotally connected to said stick for tilting about one and the same axis; and a pair of spreader link systems, each link system having two arms with the inner ends thereof linked to each other by a toggle joint and with the outer ends thereof respectively linked to said umbrella stick and the respective adjacent outermost rib.

4. A lawn umbrella according to claim 3, in which said ribs are provided with a flat section near the periphery of said cover and are relatively sharply bent at said flat section.

5. In combination in a lawn umbrella: an umbrella cover defining, when in taut condition, the contour of half a polygon; a plurality of ribs respectively having one end thereof connected to the corners of said half polygon; an additional rib arranged in substantially the plane of symmetry of said half polygon so as to divide the first mentioned ribs into two equal groups of ribs;

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a pair of supporting members supporting the inner ends of all of said first mentioned ribs so that the axes of all of said ribs intersect substantially in one and the same point; an umbrella stick extending substantially in alignment with the adjacent end of said additional rib and supporting the same; those ribs which are located between said additional rib and the two outermost ribs being linked to said supporting members; a pivot supported by said umbrella stick; each of said supporting members being pivotally connected to said pivot; the two outermost ribs being substantially in alignment with each other when said cover is in taut condition; and spreader means respectively linked to said two outermost ribs and also linked to said umbrella stick.

6. A lawn umbrella according to claim 3, in which said stick extends substantially in alignment with the adjacent ends of said ribs.

7. A lawn umbrella according to claim 3, in which the outer end of the umbrella stick protrudes outwardly beyond the two outermost ribs.

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