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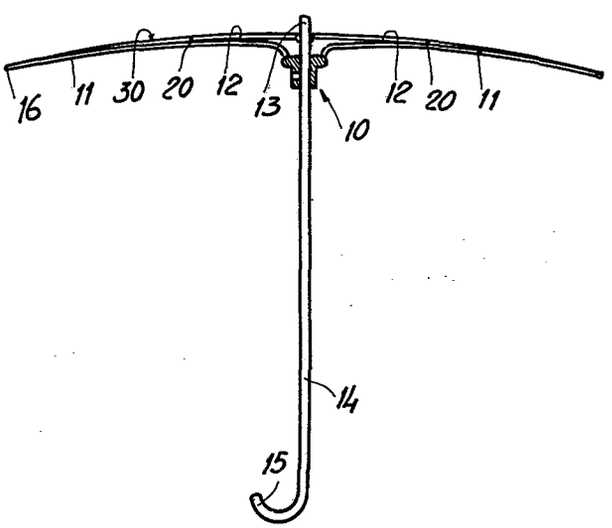
(54) **Improvements in and/or related to umbrellas and large umbrellas.**

(57) The present invention relates to an improvement both to conventional umbrellas and beach umbrellas and relates to the arrangement and coupling of the ribs or said umbrellas.

A first embodiment provides for using long ribs (11) effective to support the umbrella covering cloth (30), with one end thereof coupled to a sliding member (10, 43) effective to slide on the umbrella central rod (14), whereas the other end thereof is rigid with the covering cloth periphery, and short coupling ribs (12) having a fixed end pivoted to the central rod (14) and the other end thereof hinged to a respective supporting rib (11); the thus improved umbrella, in its opened condition resembles to a conventional umbrella, but, in the closed sondition thereof, the covering cloth is inwardly folded. A further embodiment of the present invention, particularly effective for umbrellas provided with a rigid covering cloth, further comprises auxiliary coupling means (42, 45) effective to couple one end of the sliding member (10, 43) to a respective supporting rib (11), which latter are engaged there to by an engagement means (41, 51).



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IMPROVEMENTS IN AND/OR RELATED TO UMBRELLAS AND LARGE UMBRELLAS

BACKGROUND OF THE INVENTION

The present invention relates to improvements to the conventional umbrellas as well as to the beach umbrellas.

The conventional umbrellas, so far used for protecting against rain, as they are closed have their wetted portions directed outwardly with a consequent discomfort for the umbrella bearing user. Moreover the known umbrellas are devoid of a sufficiently large resting base effective to permit the umbrella to support itself vertically, and require resting means, such as an umbrella stand.

SUMMARY OF THE INVENTION

Thus, the main object of the present invention is to provide an umbrella, both of the conventional impermeable type and of the beach type, comprising a supported covering cloth, which, in the opened condition thereof resembles to the known umbrellas, but, in the

closed condition thereof, has the wetted cloth directed inwardly.

Another object of the present invention is to provide such an umbrella effective to support itself autonomously, without the need of any umbrella stand.

According to one aspect of the present invention the aforesaid objects are achieved by an umbrella comprising a central rod ending, at one end thereof, with a handle and, at the other end thereof, with a ferrule, a covering cloth and ribs for supporting said covering cloth as well as further coupling ribs, a sliding member mounted on said central rod, characterized in that said covering cloth supporting ribs have one end thereof hinged to said sliding member and the other end thereof rigid with the cloth covering periphery and in that said coupling ribs have a fixed end pivoted to one end of said central rod and the other end thereof coupled, by means of a hinge member, to said covering cloth supporting rib.

According to another aspect of the present invention, which is particularly effective for umbrellas provided with a rigid covering cloth, the umbrella further comprises auxiliary coupling means effective to couple one end of the sliding member to the support-

ing ribs, which auxiliary coupling means engage with said supporting ribs by an engagement means. Said engagement means is effective to exercise a force at the contact point between said auxiliary coupling means and supporting ribs in such a way that said supporting ribs can assume a suitable arrangement during the umbrella opening operation.

According to another aspect of the present invention, said auxiliary coupling means consist of ribs, and the engagement means consists of a cord, rope or the like effective to be inserted, in a zig-zag arrangement, between said ribs and provided for possibly engaging, by means of a knot member, each said supporting rib with the corresponding auxiliary rib.

A preferred embodiment of the present invention provides that the covering cloth supporting ribs are slightly bent at the coupling zone thereof to said sliding member on the central rod to facilitate the sliding off of water on the umbrella cloth as the umbrella is in its open condition.

A further preferred embodiment of the present invention provides that the supporting ribs, and possibly the auxiliary coupling ribs, which are located outwardly as the umbrella is in its closed condition, are completely or partially closed by a further cloth layer, this

cloth being located in the inside of the umbrella as the latter is open.

A further embodiment of the present invention provides that each supporting rib and auxiliary coupling rib are engaged in pairs by means of a loop or binding member.

A particular embodiment of the present invention provides that the coupling means consists of a cord, rope or rib inserted into a hole formed at a suitable position through the supporting rib.

Another embodiment of the present invention provides that the closed umbrella is provided with a resting base consisting of the ends of the ribs projecting from the umbrella ferrule, which base is sufficient to support the umbrella in a vertical position.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will become more apparent hereinafter from the following description of two embodiments thereof, illustrated in the figures of the accompanying drawings, where:

fig.1 illustrates a cross-sectional view of the first embodiment of the umbrella, in its open condition;

fig.2 illustrates the umbrella of fig.1 in—

an intermediate step of the opening or closing operation;

figs.3a and 3b are a cross-section and plan view respectively of the first embodiment of the umbrella, in its closed condition;

fig.4 is an enlarged cross-section view illustrating an embodiment of a sliding member effective to slide along the umbrella central rod;

fig.5 illustrates an enlarged detail of a second embodiment of the umbrella according to the present invention;

fig.6 illustrates a detail of a variation to the second embodiment.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

A first embodiment of the umbrella according to the present invention will be described hereinafter with reference to figs.1, 2, 3 and 4. This embodiment is particularly effective for umbrellas having a thin cloth.

Fig.1 illustrates the umbrella in its open condition. It is formed by a sliding member 10 mounted on the umbrella central rod 14, and it is used in the conventional way.

In place of the sliding member it is possible

to use any other known device for opening or closing umbrellas, such as spring devices.

The central rod 14, at one end thereof, bears the ferrule 13 and, at the other end thereof, it is provided with the handle 15. The covering cloth supporting ribs are of two types: a first type 11 for supporting said covering cloth and a second type 12 for coupling. The supporting rib 11 is hinged at one end thereof to the sliding member 10 and, at the other end thereof, is rigid with the covering cloth periphery. The coupling rib 12 has its fixed end pivoted to one end of the central rod 14, whereas the other end thereof is coupled to the supporting rib 11 by means of the hinge 20.

Fig. 2 illustrates the umbrella during the opening operation (according to the direction of the arrows A) or closing operation (according to the direction of the arrows B). The hinge 20 is effective to permit mutual rotation of the ribs 11 and 12 with the cloth, being generally wetted, bent or folded inwardly.

The supporting ribs 11 coupled to the sliding member 10 are slightly bent as indicated at 11a in

fig.4. This arrangement has been selected in order to provide an evenly convex outside surface for the umbrella.

Fig.3a illustrates the umbrella in its closed condition, in which the covering cloth 30 is bent in the inside of the umbrella. On the outside of said covering cloth 30 may be provided the cloth 40 effective to completely or partially cover the ribs 11, which cloth 40 has not been shown in the other figures for simplicity.

As the umbrella is in its closed condition, it may be rested on the ground. Infact the ends of the ribs 11, indicated at 16, form a circle about the ferrule 13, as it is illustrated in fig.3b.

The resting area of this assembly is accordingly a large one and it is sufficient to hold the umbrella in an upright position, without the need of any umbrella stand. Thus the double object is achieved of not leaving the wetted cloth exposed which would be susceptible of wetting the user.

Fig.4 illustrates a second embodiment of the sliding member 10, represented by an enlarged sectional view, which is provided with a slot 25. This sliding member is further provided with such a large base effective

to allow for the ribs 11 to be located near the rod 14, as the umbrella is closed, as it is illustrated in fig. 3a.

Figs. 5 illustrates a second embodiment of the present invention. This embodiment is particularly useful as the umbrella covering cloth 30 is of a rigid type susceptible to hinder the umbrella opening, and more specifically, to prevent the umbrella outside surface to assume its convex shape as the umbrella is open. In this embodiment the umbrella is provided with auxiliary ribs 42 rigid, at one end thereof, with one end of the sliding member 43 therefrom the supporting ribs 11 extend. Said sliding member 43 is provided, above the base 28, with a second portion 46 either coupled or not to said base 28, from the end 27 whereof said auciliary ribs 42 extend. These latter are provided with a looped end 44 which is inserted into the supporting rib 11 and locked by the hinge 20. Each auxiliary rib 42 is coupled to the corresponding supporting rib 11 by an engagement means, consisting of a cord or rope 41 which is inserted, in a zig-zag arrangement, between the ribs 42 and 11 and which is also effective to couple, by a knot, two corresponding ribs of the auxiliary type

42 and the supporting type 11. This rope 41 is loose as the umbrella is closed but, as it is opened, said rope is stretched in such a way as to exercise a force at the contact point 50 between the rope 41 and the auxiliary rib 42 and related supporting rib 11. This force aids the opening of the umbrella.

Furthermore, the outside surface of the umbrella is evenly convex.

A variation of this embodiment provides that the supporting ribs 11 and auxiliary ribs 42 are coupled in pairs through suitable size ring or loop members.

The auxiliary rib 42 may also be inserted into a hole 51 formed through the rib and suitably reinforced. Alternatively, in place of the rib 42 it is possible to use a cord or wire made of any suitable not deformable material, and indicated at 45. This variation is illustrated in fig. 6. Said cord 45, through said hole 51 provides a force which is useful for opening the umbrella.

As it has been thereinabove mentioned, this second embodiment provides for the use, in addition to the means of the first embodiment, of auxiliary coupling means and engagement means for the supporting ribs 11, in order to facilitate the opening of the umbrella as this latter

is made of a rigid material. The first embodiment, on the other hand, is particularly effective for umbrellas provided with a rather thin covering cloth and it provided a particular light umbrella.

C L A I M S

1- An umbrella comprising a central rod (14) ending, at one end thereof, with a handle (15) and, at the other end thereof, with a ferrule (13), a covering cloth (30) and ribs (11) for supporting said covering cloth as well as further coupling ribs (12), a sliding member (10) mounted on said central rod (14), characterized in that said covering cloth supporting ribs (11) have one end thereof hinged to said sliding member (10) and the other end thereof rigid with the covering cloth periphery (30) and in that said coupling ribs (12) have a fixed end pivoted to one end of said central rod (14) and the other end thereof coupled, by means of a hinge member (20), to said covering cloth supporting rib (11).

2- An umbrella according to claim 1, characterized in that it comprises auxiliary coupling means (42,45), for coupling one end of said sliding member (10,43) and said covering cloth supporting ribs (11), said auxiliary coupling means (42,45) engaging with said supporting ribs (11) by an engagement means (41,45).

3- An umbrella according to claim 2, characterized in that said auxiliary coupling means consist of ribs (42).

4- An umbrella according to claim 3, characterized in that said engagement means consists of a rope of the like (41) effective to be inserted, in a zig-zag arrangement, between said supporting ribs (11) and auxiliary ribs (42).

5- An umbrella according to claim 4, characterized in that said rope or the like (41) engages, through a knot or loop member, each said supporting rib (11) and the corresponding auxiliary rib (42).

6- An umbrella according to claim 1, characterized in that said supporting ribs (11) are bent at the end thereof being coupled to said sliding member (10).

7- An umbrella according to claim 1, characterized in that a further covering cloth (40) covers, completely or partially, the outside of said covering cloth supporting ribs (11).

8- An umbrella according to claim 1, characterized in that each said supporting rib (11) is engaged with the corresponding auxiliary rib (42) by means of a loop or binding member.

9- An umbrella according to claims 2 or 3, characterized in that said coupling means (42,45) are inserted into a hole (51) as formed through said supporting rib (11).

10- An umbrella according to claim 1, characterized in that, in the closed condition thereof, it presents a beraing area formed by the ends (16) of said ribs and sufficient to support said umbrella in a vertical position.

Fig.1

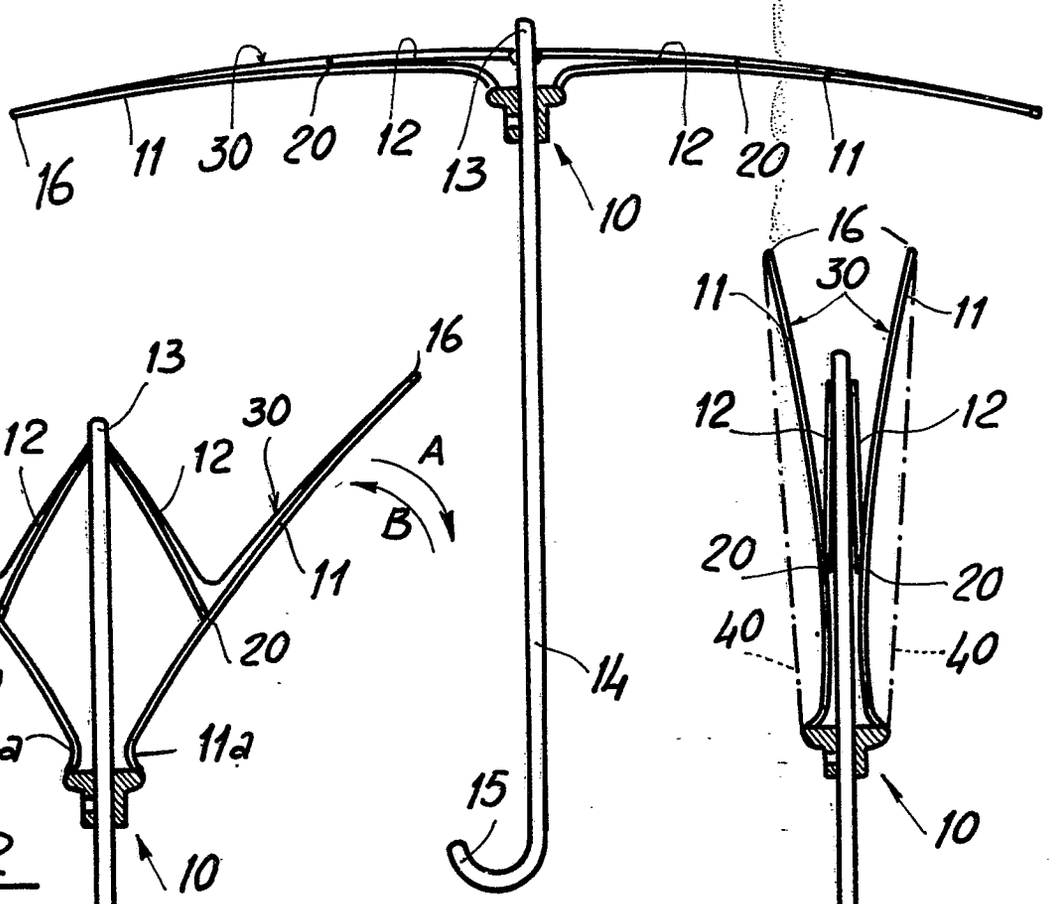
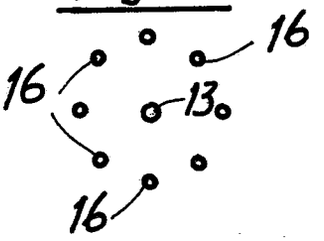


Fig.2

Fig.3a

Fig.3b



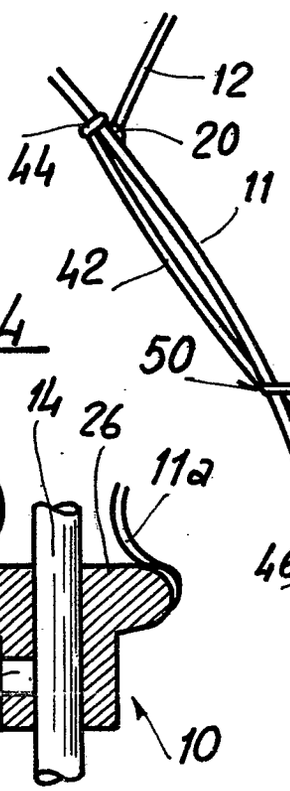


Fig.4

Fig.5

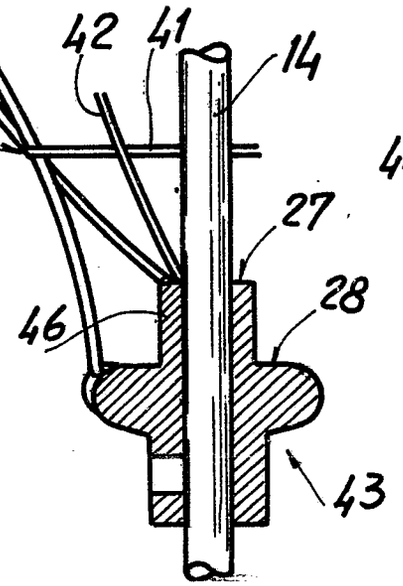


Fig.6