

Nov. 11, 1952

J. SHERMAN
UMBRELLA COVER

2,617,437

Filed July 30, 1949

2 SHEETS—SHEET 1

FIG. 1

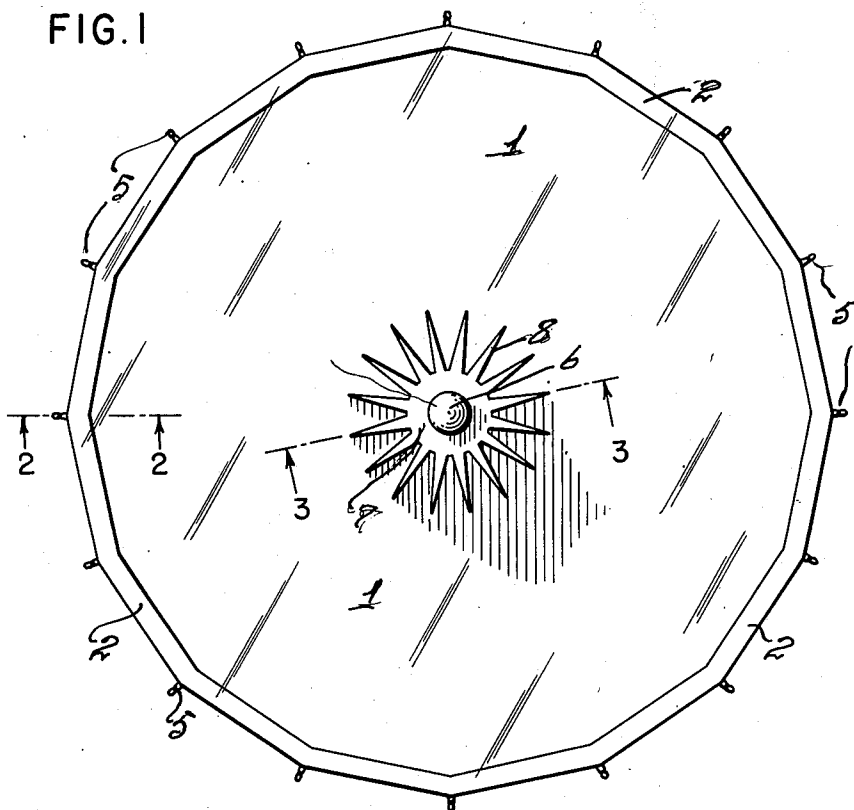


FIG. 2

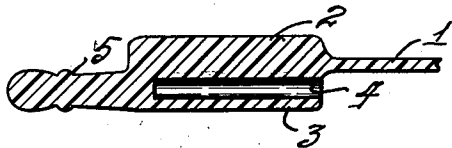


FIG. 3

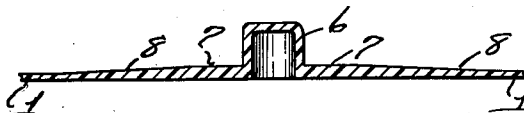
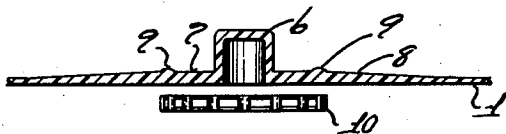


FIG. 4



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FIG. 5

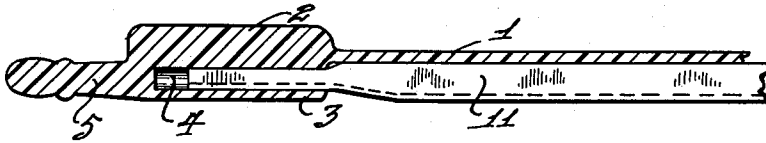


FIG. 6

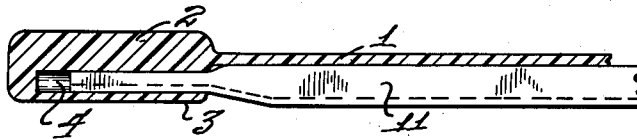


FIG. 7

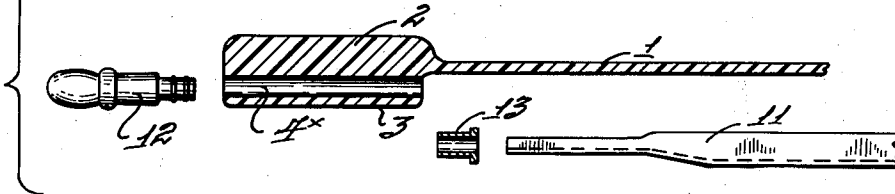


FIG. 8

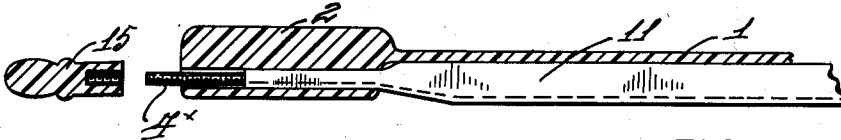


FIG. 11



FIG. 10

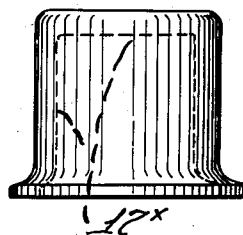


FIG. 9

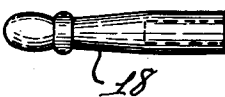


FIG. 12



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7 Claims. (Cl. 135-33)

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The object of the present invention is to provide an umbrella cover, which may be formed of a single sheet of plastic material, as for example, a vinyl compound, preferably transparent, and which may be readily attached to the umbrella frame without stitching.

For many years umbrella covers have been formed with central apertures through which the tip of the rod is passed, the cover resting upon a rib-receiving ring to which the ribs are pivoted. The outer ends of the rib have been customarily received in nipple-tips stitched to the material of the cover, and the cover also has been secured to the ribs by stitched loops of thread at one or more areas intermediate the ends of the ribs. The specific object of the invention is to provide a cover which in its entirety may be molded of sheet plastic, and which will be free from any central aperture as heretofore, which will entirely eliminate the problem of securing water-seal at the rod tip, and which will be a greatly improved form as to assembly on the ribs and removal therefrom for replacement.

The invention will be described with reference to the accompanying drawings, in which

Fig. 1 is a top plan view of an umbrella cover constructed in accordance with the invention, the view being reduced.

Fig. 2 is a vertical section and enlarged, taken on the line 2-2, Fig. 1.

Fig. 3 is a vertical section taken on the line 3-3, Fig. 1.

Fig. 4 is a view similar to Fig. 3, but showing a modified form above a usual type of rib-securing ring.

Fig. 5 is an enlarged vertical section of the structure shown in Fig. 2 showing the end of an umbrella rib mounted in position.

Fig. 6 is a view similar to Fig. 5 and constituting a modification omitting the projected tip.

Fig. 7 is a view of a modification wherein the margin of the cover at its thickened area is formed with transverse apertures to receive at the outer area an ornamental nipple and to receive at its inner area the end of an umbrella rib, in each case; the shoulder of the rib abutting a metallic or other hard washer element, the appurtenant units being shown in the figure.

Fig. 8 shows the use of the cover with rib tips which are threaded each to receive a threaded ornamental nipple.

Figs. 9 and 10 show mold insert elements, Fig. 9 being a side view of a suitable pre-formed rib-receiving nipple and Fig. 10 showing, in elevation, a rod-receiving ferrule.

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Fig. 11 is a fragmentary marginal vertical section of a cover taken intermediate rib-receiving areas and showing a suitable marginal reinforcement.

Fig. 12 is a view similar to Fig. 11 showing a modification.

Referring to the drawings, I have shown in Fig. 1 a plastic cover which may be made in a single pressure-molding operation and which is ready for application to the frame of an umbrella. The thinner and major area of the cover is indicated at 1. It is formed with a thickened and hence reinforced margin at 2, which margin at the tip-receiving areas is thickened below the primary wall 1, and each of said depending thickened areas, indicated at 3, Fig. 2, is apertured, as at 4, to receive the reduced end of the normal umbrella rib. For ornamentation and to give the standard marginal appearance of an umbrella at the outer rib margin thereof, each thickened area 3 is formed with an integral projection 5 having the appearance of the usual rib-receiving nipple.

Integrally formed with the relatively thin major area of the cover is an outwardly projected ferrule 6, the wall thereof being thick and strong. At the base of the ferrule there is formed a disk-like reinforcing area indicated 7, Fig. 1.

In the form of the cover shown in Fig. 1 the reinforcing disk-like area for the ferrule merges into a plurality of spur-like outwardly directed sections which preferably are gradually reduced in thickness toward the margin of the cover. These spur reinforcements not only secure even distribution of stresses between the ferrule and the periphery of the cover, but they insure equal radial folds of the cover, because the cover material is so controlled when the umbrella is closed as to effect said folding in radial lines directed from the ferrule to spaced points each intermediate two of the nipples 5. The spur areas are indicated 8, Fig. 1.

In the modification of Fig. 4 an annular rib 9 is formed on the upper surface of the reinforcing disk surface 7 which will be in register with the usual peripherally grooved rib-receiving ring of the umbrella, such a ring being shown at 10.

In Fig. 5 a usual type of umbrella rib 11 is shown in the structure of Fig. 2. In the application of each rib, it may be flexed so as to shorten the distance between its inner-holding ring 10 and its tip. When thus it is moved into the receiving aperture 4 and released, it will straighten out and impose a stretching pressure upon the

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cover, as will be understood without further explanation.

In Fig. 6 the ornamental tip 5 has been eliminated. However, by an additional slight modification, in that the aperture 4^x extends entirely through the margin of the cover at each depending thickened area 3, this enables insert of pre-formed ornamental nipple 12. Also in the construction of either Fig. 7 or Fig. 6 a washer shown at 13, Fig. 7 may be positioned in the marginal aperture, in each case, to directly receive the pressure of umbrella rib 11. As hereinafter more fully described members 12 and 13 may be employed as mold inserts during the molding of the cover so as to be integrally bonded in the cover structure by the molding operation.

In Fig. 8 the cover is formed as in the preceding two figures. The modification lies in the provision of the reduced end of each rib with an exterior thread to receive the internally threaded nipple 15.

Fig. 11 shows the ordinary and usual form of the cover margin intermediate two of the rib-receiving areas, the marginal reinforcement being disposed wholly at the top of the cover. However, reinforcement may be distributed at both of the cover faces as is indicated at 16, Fig. 12.

It has been described, with reference to Fig. 7 that pre-formed elements, such as tips and washers, or as previously designated "nipples" and washers, may be used as mold inserts, so that in the molding of the cover these elements are intimately bonded as integral parts of the cover. In some cases this may apply also to the ferrule, such a pre-formed ferrule being shown in Fig. 10, as a hollow member with its interior wall indicated at 17^x. With or without a pre-formed tip or nipple, for example that shown in Fig. 9, at 18, such a ferrule may be placed in an axial cavity of the mold at one face thereof, with the opposite face carrying a post of such size as to be spaced from the whole or a lower area of the interior wall of the ferrule, as a preferable arrangement. In this manner the plastic will be controlled to flow upwardly into the ferrule for bonding it to the cover structure as a whole. However, in the molding operation, the interior of the ferrule can be completely closed by a mold post and the bonding effected by inter-adhesion between the plastic and the horizontal rim-area of the ferrule, or by such action plus flow of the plastic over the rim at its upper face. Thus, the ferrule may be of the same plastic, a vinyl plastic compound, for example, and incompletely cured at the time the pre-formed ferrule is inserted into the mold, so that it and the plastic of the cover, per se, will jointly have progressed polymerization under the heat and pressure of the mold so as to become virtually a single body. The same conditions may apply also to the nipple, pre-formed as shown in Fig. 9, and the ornamental form may be varied as desired, with respect to both elements.

By means of the invention, the cost and time of the assembly of umbrella covers is substantially reduced, with increased durability and without sacrifice of appearance, since appearance can be enhanced.

Having described my invention, what I claim

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and desire to secure by Letters Patent, is as follows:

1. A plastic umbrella cover consisting of a relatively thin flexible plastic sheet having a thickened area at its center integrally formed with an axial outwardly-projected relatively rigid plastic ferrule, the sheet being formed with a thickened peripheral margin and a plurality of rib-receiving elements integral with the thus reinforced margin, said elements having rib-receiving apertures.

2. A plastic umbrella cover constructed in accordance with claim 1 in which said thickened area at the center of the sheet is formed with the plurality of radially extending relatively thick rigid spurs formed integral with the relatively flexible sheet.

3. A plastic umbrella cover constructed in accordance with claim 1 in which said thickened area at the center of the sheet is formed with an annular projecting rib.

4. A plastic umbrella cover constructed in accordance with claim 1 in which the rib-receiving elements are preformed and are integrally bonded to the peripheral margin of the sheet by flow-ports of the plastic of which the sheet is composed.

5. A plastic umbrella cover constructed in accordance with claim 1 in which the rib-receiving elements at the peripheral margin of the sheet are formed with open-end apertures there-through.

6. A plastic umbrella cover consisting of a unitary relatively thin flexible plastic sheet having a thickened area at its center integrally formed with an axial outwardly-projected relatively rigid plastic ferrule, and formed at its peripheral margin with a plurality of thickened and apertured rib-receiving portions.

7. A plastic umbrella cover consisting of a unitary relatively thin flexible plastic sheet having a thickened area at its center integrally formed with an axial outwardly-projected relatively rigid plastic ferrule and formed at its peripheral margin with a plurality of thickened and apertured rib-receiving portions, in combination with an umbrella frame having a plurality of ribs, each formed with threaded reduced ends each adapted to enter an aperture of the thickened peripheral margin of the cover and providing a shoulder for abutment with the said thickened area, and a threaded nipple adapted to be received by the threaded end of said rib, whereby the rib shoulder and the nipple co-act with said thickened area to provide positive holding means at each side of said cover thickened margin.

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