July 5, 1949. D. M. COHEN 2,475,446

UMBRELLA CONSTRUCTION

Filed Dec. 7, 1945

Fig. 1.

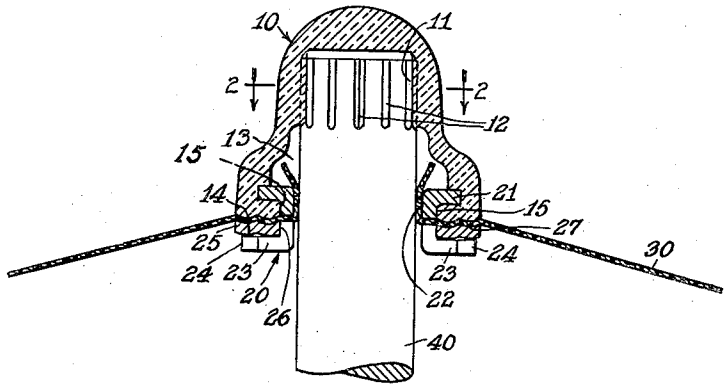


Fig. 2.

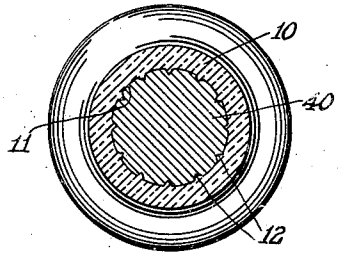


Fig. 3.

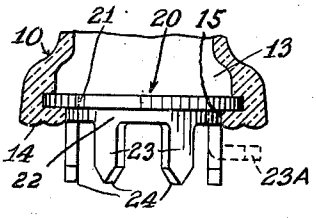


Fig. 4.

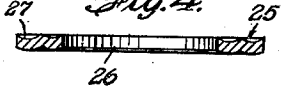


Fig. 5.

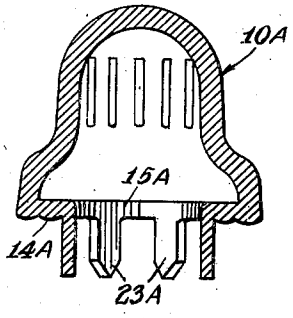


Fig. 6.

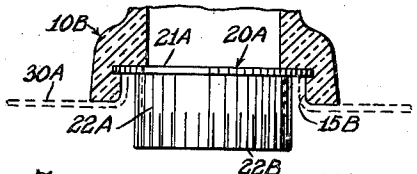
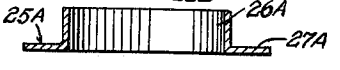


Fig. 7.



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UMBRELLA CONSTRUCTION

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6 Claims. (Cl. 135—36)

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This invention relates to an improved umbrella construction, and its object is to provide a simple and inexpensive arrangement for interconnecting the ferrule of an umbrella and the fabric of its cover.

In the construction of women's umbrellas in common use the ferrules are attached to the ends of the shanks and are easily displaced and lost. According to my invention the ferrule is permanently affixed to the fabric and the foregoing difficulty is overcome. Further objects are to simplify the operation of assembling parts of an umbrella and to provide a leak-proof connection between the ferrule and the fabric cover.

These and other objects of the invention will appear in the following specification, in which I will describe some structures in which it is embodied, and point out its novel features in claims.

Referring to the drawings,

Fig. 1 is a sectional elevation of a part of an umbrella which is made according to and embodies my invention;

Fig. 2 is a sectional plan view of some of the parts shown in Fig. 1, the section being taken on the line 2—2 of the latter figure;

Fig. 3 is a side elevation of a part of a grommet embedded in a ferrule, a portion of the latter being shown in section;

Fig. 4 is a sectional elevation of the other member of the grommet;

Fig. 5 is a sectional side elevation of a structural modification, which also embodies this invention.

Another modification is shown in Figs. 6 and 7, of which Fig. 6 is a side elevation of an upper grommet member set into a ferrule, a part of which is shown in section; and

Fig. 7 is a sectional elevation of a lower grommet member formed to fit the device shown in Fig. 6.

10 designates a ferrule, which may be made of a plastic or other suitable material. The upper part of this ferrule forms a cylindrical pocket 11, into which a plurality of ribs 12 parallel with the axis of the pocket may extend. Below the pocket the ferrule flares outwardly to form a space 13. The base of the ferrule, designated by the reference numeral 14, is transverse to the central axis of the ferrule and is preferably formed, as shown, with annular corrugations.

20 designates generally an upper grommet member which has at its upper end a flange 21, which extends outwardly and is embedded in the ferrule 10. Below the flange the grommet member is in the form of a hollow cylinder 22, which

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passes through a central opening 15 in the base of the ferrule. The lower part of the cylinder 22 may be divided into a plurality of angularly spaced parallel prongs 23, which are pointed at their ends, as shown at 24. One of the prongs is shown in dotted lines in Fig. 3, bent outwardly at 23A.

25 is the lower grommet member. This is in the form of a circular ring having a central opening 26, which fits over the lower part of the cylinder 22 or the prongs 23. This ring is transversely curved, as shown at 27, to conform to the contour of the base 14 of the ferrule.

30 designates the fabric cover of the umbrella, and 40 designates its shank.

In assembling the device, the ferrule is placed over the center of the fabric 30 and the latter is pierced by the lower part of the cylinder 22 or by the prongs 23. The grommet member 25 is then placed over the lower part of the cylinder 22 or the prongs 23, and their parts are pressed together in the usual manner, thus forcing part of the upper grommet member outwardly under the lower grommet member and affixing them permanently together with the fabric.

When the lower part of the upper grommet member is in the form of prongs, a part of the fabric may extend across the space between the prongs. This part may be pierced and then the shank is forced into the ferrule. The part of the fabric between the prongs will be pushed into the space 13, and the part of the fabric immediately below this space will be firmly clamped between the inner surface of the cylindrical part 22 of the upper grommet member and the shank 40.

When the shank 40 is of wood or other deformable material, the ribs 12 will be indented into it, as shown in Fig. 2. This will prevent any possible relative rotation between the ferrule and the shank. If desired, a cementitious material may be put into the ferrule before the shank is inserted.

In the modification shown in Fig. 5, the ferrule 10A is an integral structure, preferably of metal, with prongs 23A surrounding and extending below a central opening 15A in the base 14A, which is preferably corrugated, as shown. The manner in which this ferrule is applied to the fabric and shank obviously is similar to that already described.

In Fig. 6 the upper grommet member 20A has an outwardly extending flange 21A, which is embedded in the lower part of a ferrule body 10B and has a downwardly extending hollow cylindrical part 22A, in the lower part of which are

a plurality of slits 22B. The opening 15B in the body is of larger diameter than the part 22A, so that an annular space is formed between them.

The lower grommet member 25A is in the form of a short hollow cylinder 26A, which fits over the cylinder 22A and into the space between the latter and the opening 15B. It has also a flange 27A, which cooperates with the base of the body 10B.

In assembling this device, the fabric 30A is placed in the space between the cylinder 22A and the opening 15B before the lower grommet member is applied. The latter is affixed to the upper grommet member in the usual manner.

By the use of this invention the operation of assembly is expedited. The ferrule is irremovably applied to the fabric, and a leak-proof assembly is formed.

Various modifications in construction, mode of operation, method and use of an invention may and do occur to others, especially after benefiting from knowledge of such disclosure as that herein presented of the principles involved, but the invention itself is not confined to the present showing.

I claim:

1. An umbrella structure, comprising a body in the form of a hollow circular umbrella ferrule having an enlarged transverse base with a circular opening therein, a fabric adjacent said base, an upper grommet member having a portion embedded in the body and a portion projecting through the opening in the base and through the fabric, and a lower grommet member fitting over said projecting part of the upper grommet member and lying against the fabric, said grommet members being pressed into permanent engagement with each other.

2. An umbrella structure, comprising a body in the form of a hollow circular umbrella ferrule having an enlarged transverse base with a circular opening therein, a fabric adjacent said base, an upper grommet member having a portion embedded in the body and a plurality of angularly spaced prongs projecting through the opening in the base and through the fabric, and a lower grommet member fitting over said prongs and lying against the fabric, said grommet members being pressed into permanent engagement with each other.

3. An umbrella structure, comprising a body in the form of a hollow circular umbrella ferrule having a cylindrical pocket near its upper end and an enlarged transverse base with a circular opening therein, a fabric adjacent said base, an upper grommet member having a portion embedded in the body and a plurality of angularly spaced prongs projecting through the opening in the base and through the fabric, a lower grommet member fitting over said prongs and lying against the fabric, said grommet members being pressed into permanent engagement with each other, and a shank passing through the grommet members into the cylindrical pocket.

4. An umbrella structure, comprising a body in the form of a hollow circular umbrella ferrule having a cylindrical pocket near its upper end and an enlarged transverse annularly corrugated base with a circular opening therein, a fabric adjacent said base, an upper grommet member having a portion embedded in the body and a plurality of angularly spaced prongs projecting through the opening in the base and through the fabric, a lower grommet member conforming to the contour of the base fitting over said prongs and lying against the fabric, said grommet members being pressed into permanent engagement with each other, and a shank passing through the grommet members into the cylindrical pocket.

5. An umbrella structure, comprising a hollow body in the form of an umbrella ferrule, having a transverse base with a circular opening therein, an upper grommet member permanently affixed to said body and having a cylindrical portion with an outer diameter less than that of said opening extending below the base of the body and forming an annular space adapted to receive a cover fabric, and a lower grommet member having a short cylindrical portion fitting the cylindrical portion of the upper grommet member and entering said annular space, said grommet members being pressed into permanent engagement with each other.

6. An umbrella structure, comprising a hollow body in the form of an umbrella ferrule, having a transverse base with a circular opening therein, an upper grommet member permanently affixed to said body and having a cylindrical slitted portion with an outer diameter less than that of said opening extending below the base of the body and forming an annular space adapted to receive a cover fabric, and a lower grommet member having a short cylindrical portion fitting the cylindrical portion of the upper grommet member and entering said annular space, said grommet members being pressed into permanent engagement with each other.

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