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UMBRELLA COVER MOUNTING

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2 Sheets-Sheet 2

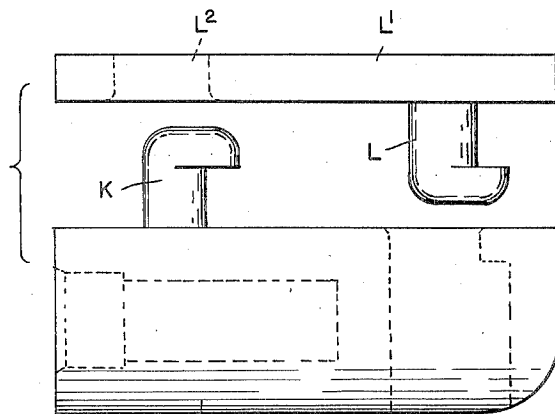


FIG. 5.

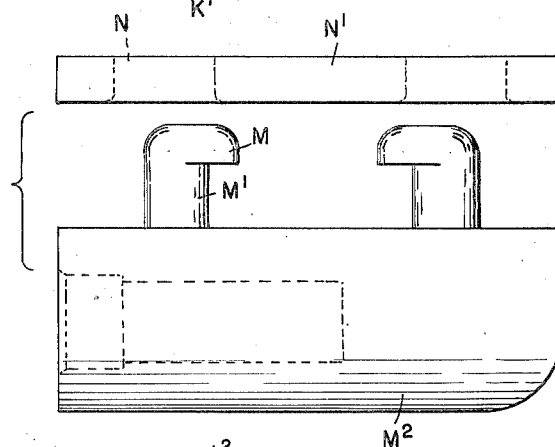


FIG. 6.

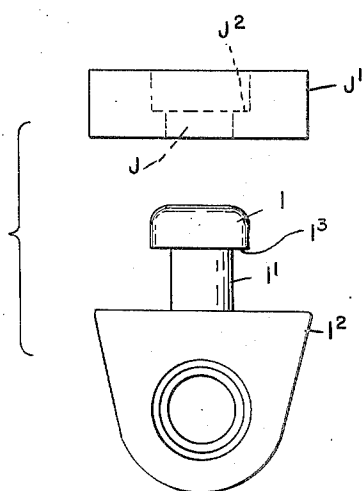


FIG. 4.

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UMBRELLA COVER MOUNTING

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1

The invention relates to mounting means for umbrella covers upon umbrella frames, and it is the object of the invention to obtain a construction which is easily applied and by which the cover is securely fastened to the frame.

It is a further object to dispense with the necessity for sewing the fabric either to the frame or the mounting.

Still further it is an object to avoid the cutting of the fabric in the application of the mounting thereto.

With these and other objects in view the invention consists first in a construction of a rib tip provided with fabric clamping members having a snap engagement with each other.

The invention further consists in the specific features of construction as more fully hereinafter set forth.

In the drawings:

Fig. 1 is a perspective view of the two cooperating members of my improved mounting shown detached from each other and drawn on a greatly enlarged scale;

Fig. 2 is a longitudinal section showing the two members partly but not fully engaged with each other;

Fig. 3 is a similar view of the fully engaged members;

Fig. 4 is an elevation of a modified construction with the clamping members detached from each other;

Fig. 5 is an elevation of another modification with the clamping members thereof unattached; and

Fig. 6 is a similar view of another modification.

Umbrella covers are attached to the ribs of the frame usually by sewing through eyelets in the tip portion of the ribs. In other constructions separate tips engageable with the ends of the ribs are attached to the fabric in various ways. My improved construction is of the latter type and as above stated it has for its object secure attaching means which can be easily applied. Generally described the mounting comprises two members having opposed clamping faces placed upon opposite sides of the fabric and having integral connecting portions capable of snap engagement with each other. With the specific construction illustrated in Figs. 1 to 3, A is a member having a substantially flat longitudinally extending clamping face B and provided in one end portion thereof with a recess C for receiving the outer end of a rib. D and D' are lugs integral with the member A and projecting laterally from the face B thereof, said

2

lugs being also provided with integral hook-shaped heads E and E' projecting in opposite directions therefrom. F is a member having a clamping face G opposite to the face B, said member also having apertures H and H' therethrough for the passage of the lugs D and D'. Each of the apertures H and H' is of dimensions permitting the passage therethrough of the head of the corresponding lug but the spacing of these apertures from each other differs from the spacing of the lugs. Consequently, to engage the members F and A with each other, the lugs D and D' must be deflected which is permitted by forming the same of resiliently yieldable material. Preferably one or both of the members A and F are formed of a molded plastic material which has the necessary degree of elasticity. The member A is on the inside of the fabric cover and the member F on the outside thereof where it will be exposed to view. As shown in Fig. 1, the member F has plain exposed faces but if desired it may be suitably ornamented. The outer portions of the apertures H and H' are enlarged to receive the hooked heads E and E', thus forming shoulders H² for engaging the inner faces E² of the hooks and thus the heads E and E' will lie within the outer surface of the member F. The dimension of the lugs D and D' between the clamping face B and the inner faces E² of the hooks is selected to allow for the thickness of the fabric between the faces B and G. However, these faces will be firmly clamped against the fabric. If desired the faces B and G may be serrated to produce a greater gripping action on the fabric.

With the construction as thus far described to attach the cover to the umbrella frame the members A are first engaged with the ends of the ribs, after which the fabric cover is stretched over the same. The lugs D, D' and hooked heads E and E' must pass through the fabric but the dimensions of these parts are so small that it is not necessary to cut the fabric but merely to enlarge the space between adjacent strands thereof. This may be accomplished by a suitable pointed tool, after which the lugs may be passed through the enlarged space without severing any strand. The member F is then engaged with the member A, as illustrated in Fig. 2, by first engaging one of the lugs such as D when the member F is in inclined position and then forcing the other end of said member downward to engage the same with the lug D'. The hooked heads E and E' have rounded corners so that the head E' will act as a cam forcing its way

3

into the aperture H' and springing both of the lugs a sufficient distance to permit of this. When the member F' is forced completely in, the under face E² of the lug D' will snap over the shoulder H² thereby holding the members A and F in clamped position.

With the modified construction shown in Figure 4, the head I of the lug I' on the member I² is of a lateral dimension greater than that of the aperture J in the clamping plate J' and both of these members I² and J' are formed of a resiliently yieldable plastic material. The head of the lug can be forced through the aperture and upon expanding will engage its under face I³ with the shoulder J². With such modification it is not necessary that the lugs and apertures should be differentially spaced with respect to corresponding members.

With the construction shown in Figure 5 only one lug K is integral with the rib-engaging member K' and a second lug L is integral with the clamping plate L'. The lug K engages an aperture L² in the clamping plate L' and the lug L an aperture L³ in the member K'. The spacing between the lug and aperture of each member is so proportioned to the spacing in the cooperating member as to require the springing of the lugs when the two members are engaged with each other.

The modification shown in Figure 6 is the same in construction as Figure 1 with the exception that the hooks M on the lugs M' of the rib-engaging member M² extend towards each other, whereas in Figure 1 they extend outward away from each other. The apertures N in the cooperating clamping member N' are correspondingly positioned for snap engagement with the lugs.

With all of the modifications above referred to, as well as with others that might be made, the general feature of construction is the same viz., that the lug on one member may be sprung into locking engagement with the cooperating member to clamp the fabric between said members.

Where the mounting means is formed of relatively hard plastic material, it may facilitate the application of the same to moderately heat the members as, for instance, to 120° F. This will temporarily render the material more flexible. Umbrella covers are usually strengthened in the portions engaging the ribs by forming the same of a plurality of plies or folds of the fabric. Also the peripheral edge portion of the cover is folded to form a still greater number of plies. I therefore form the clamping face B of the tip member with the recess portion B' at its outer end to accommodate these extra plies. However, the clamping pressure on this portion is as great or preferably slightly greater than that on the inner portion so as to avoid over stressing the latter. I also preferably form the inner end of the tip member with a slightly chamfered portion B² in the clamping face thereof which, as shown in Figure 2, provides greater clearance for the member F when it is being engaged with

4

the member A. Another feature of my mounting means is that the tip does not project beyond the peripheral edge of the cover thereby eliminating a danger element.

What I claim as my invention is:

1. A cover mounting means for umbrella frames comprising a tip member engageable with the end of a rib of the frame and having an upturned clamping face for bearing against the underside of the cover fabric, a member having a downturned clamping face for bearing against the upper side of the cover, at least one of said members being formed of resiliently yieldable material, and a pair of spaced headed projections each integral with and extending from the clamping face of an aforesaid resiliently yieldable member to pass through the cover fabric and a locking shoulder on the member which is on the opposite side of the cover into engagement with which each of said projections is adapted to be sprung.

2. A cover mounting means for umbrella frames comprising a tip member engageable with the end of a rib of the frame and having an upturned clamping face for bearing against the underside of the cover fabric, a member having a downturned clamping face for bearing against the upper side of the cover, at least one of said members being formed of resiliently yieldable material, a pair of spaced headed projections each integral with and extending from the clamping surface of an adjacent resiliently yieldable member to pass through the cover fabric, the member on the opposite side of the fabric from each projection being apertured slightly out of registration therewith, whereby said projections will be sprung laterally when the headed projection is forced through said aperture and a locking shoulder with which said head will engage after passing through said aperture.

3. A cover mounting means for umbrella frames comprising a tip member engageable with the outer end of a rib of the frame and having an upturned clamping face for bearing against the underside of the cover fabric, a pair of spaced headed projections integral with and extending upward from the clamping face of said tip to pass through the cover fabric, a member for bearing against the upper side of the cover apertured for the passage of said headed projections but slightly out of registration therewith, whereby each of said headed projections will be sprung laterally when forced through its corresponding aperture and the head thereof will interlock by the recoil of the sprung member.

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The following references are of record in the file of this patent:

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