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DRAWINGS ATTACHED

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(54) IMPROVEMENTS IN OR RELATING TO UMBRELLAS

(71) We, BREMSHEY & Co., a German Kommanditgesellschaft, of 5-7 Ahrstrasse, Solingen-Ohligs, Germany, do hereby declare the invention, for which we pray that a patent may be granted us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to a frame for an umbrella having a handle provided with a carrying loop.

A common means of retaining a loop on the handle element of an umbrella consists of an eyelet having a screw-threaded stem which is screwed into a mating screw-threaded bore in a bottom end face of the handle. In this form, a screw connection of the kind referred to is inadequate because in time it becomes loosened and this generally leads to the loss of the carrying loop. Frequently, the screwed connection is loosened by the user of the umbrella who twists the eyelet, either deliberately or subconsciously, but generally omits to tighten it up again. The projecting part of the connection is unsuitable for packing in a case and parts with finished surfaces must be used. Means for attaching the handle to the umbrella stick suffer from the same disadvantages.

According to the present invention, an umbrella frame has a handle with a carrying loop the ends of which are fixed in the handle by means concealed under a cover cap forming a bottom end face of the handle, the frame being supportable by the loop when the loop ends are so fixed.

The invention is particularly applicable to so called "flat" umbrellas having a substantially rectangular cross-section transverse to the stick axis when closed. Thus, while maintaining an advantageous and simple construction, the retaining means cannot be directly seized by the user but are accessible enough for any repairs to be carried out and for the assembly of the umbrella.

Advantageously, the cover cap is a resilient snap fit onto a body of the handle.

Particularly for a shortenable flat umbrella the cover cap may be formed with two apertures through which the end portions of the carrying loop extend internally towards the stick axis, the end portions being attached to projecting pins on the handle body, for instance by means of resilient annular discs placed over the pins. In this respect, the ends of the carrying loop preferably extend through slots in the handle laterally of the places of attachment.

It is particularly convenient if the covering cap has a bottom wall and upstanding side walls and conceals both the carrying loop attachment means and means attaching the handle to the umbrella stick.

In one example the carrying loop is attached to the umbrella stick inside a space covered by the cover cap. Preferably, the umbrella stick then extends through the handle body and is connected in the zone of the, preferably flattened, lower end thereof to the ends of the carrying loop.

In another example a slot is provided in the side of the handle, superimposed ends of the carrying loop extending through the slot and being attached to a pin projecting from a core member inserted into the lower end of the umbrella stick.

Another example is characterised by a central snap retaining system between the handle body and the cover cap, the peripheral edges of the cap only abutting against the handle body. The cover cap may itself be used to attach the ends of the carrying loop.

Thus, the invention can provide a convenient, simple and compact structure for a loop retaining system for umbrellas, in which the attaching means are completely concealed. The cover cap enables the umbrella frame to be assembled without im-

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pedance and makes the retaining means accessible for any repairs which may be required. The handle body plus the covering cap gives the impression of a self-contained, one-piece type of handle. The use of the elasticity of the material from which the cover cap or handle body is made, results in an extremely simple structure. Assembly is more particularly simplified by the fact that no special attaching elements are needed for the cap or for the loop.

For example, after the handle has been attached to the umbrella stick by means of a pin or a screw, the free loop ends are merely slipped over the projecting pins of the handle member and thus secured by a suitable retaining means, such as a resilient disc or a nut. It is easy to provide the pin with any necessary mating screwthread; if a suitable plastic material is used, the screwthread can be produced by means of a self-tapping nut or screw during assembly. After the carrying loop has been threaded in, the cap is clipped on, thus covering both the handle attachment and the loop anchoring. The actual shape of the cap can readily be adapted for cooperation with the carrying loop. For instance, the loop ends can pass through separate slots at separate attachment places. In this way a loop is obtained which is always open. However, the superimposed ends of the carrying loop can alternatively be retained at one single attachment place, the portions of the carrying loop ends emerging through a slot laterally of the attachment place. Again when a covering cap which can be clipped on is used, the umbrella stick itself can form the attachment place for the retaining loop by extending suitably through the handle body. Although in this case the attaching means preferably used is a screw, the umbrella stick, which is as a rule hollow, can receive a core member carrying a corresponding pin. A central snap retaining system may be formed within the space closed off by the cap. This space can be of such dimensions that the carrying loop, which may emerge radially of the umbrella stick axis, can be attached eccentrically with respect to the stick axis by a screw. The carrying loop ends cannot fray, even if they are not enclosed. The overall construction is therefore generally cheaper than previous constructions more particularly because there is no need to finish the surfaces of the retaining means, since they are not seen and are in a protected position. The retaining system is more stable, more particularly since the carrying loop ends, being invisible, can always readily be attached doubled or reinforced by sheet metal.

Some examples of frames constructed in accordance with the invention are illustrated in the accompanying drawings, in which:—

Figure 1 is a perspective view of a flat umbrella packed in a case;

Figure 2 is a side elevation of the end adjacent to the handle of the umbrella of Figure 1;

Figure 3 is a view corresponding to Figure 2, but partially in section, with the umbrella covering omitted to show the handle construction more clearly.

Figure 4 is a plan of the handle of the umbrella of Figures 1 to 3 without the cover cap viewed from below;

Figure 5 is a side elevation of the handle of the umbrella of Figures 1 to 4;

Figure 6 is a vertical section through the handle of the umbrella of Figures 1 to 5, showing the umbrella stick attachment;

Figure 7 is a plan corresponding to Figure 6;

Figure 8 is a cross-sectional view of a second example of a handle;

Figure 9 is a plan of the handle of Figure 8 from below, without the cap;

Figure 10 is a partially broken-away side elevation of the handle of Figures 8 and 9;

Figure 11 is a cross-section of a third example of handle;

Figure 12 is a plan of the handle of Figure 11 from below, with the cap removed;

Figure 13 is a side elevation corresponding to Figure 12;

Figure 14 is a partially sectional view of a fourth example of handle, in the form of a knob;

Figure 15 is a view of the Figure 14 handle but through a plane of section at 90° to the plane of section of Figure 14;

Figure 16 is a view corresponding to Figure 14 of a fifth example of handle;

Figure 17 is a side elevation of the handle of Figure 16;

Figure 18 is a view corresponding to Figure 14 of a sixth example of handle;

Figure 19 is a perspective view of a raised umbrella with a handle as shown in Figures 1 to 7; and,

Figure 20 is a cross-sectional view of a seventh example of handle.

The umbrella shown in Figures 1 to 3 and 19 has an umbrella stick 1 comprising three telescopic tubular members 2, 3, 4. The extended positions are secured by catches 5. The tubular member 2 has the largest cross section and extending in the tubular member 2 is the tubular member 3 of correspondingly smaller section. The tubular member 4, which preferably takes the form of a short retractable tube and which extends in the tubular member 3, has the smallest section.

At its top end the umbrella stick 1 bears a crown 6. In a flat umbrella which has a substantially transverse cross-sectional shape when closed, the crown 6 also has a rectangular cross-section. Umbrella ribs 9 of identical length are articulated to wings 7,

8 of the crown 6, which are diametrically opposed across the stick axis.

When the umbrella is raised, the ribs 9 are borne by struts 10 pivotably articulated to the ribs 9 at 11. Those ends of the struts 10 on the side of the umbrella stick are disposed on a slider 12 which is also shaped to conform to the flat shape of the closed umbrella. Moulded on the slider 12 is a guide sleeve 12′ which has a slider locking catch 13, in accordance with our Application No. 54305/69 accepted under No. 1199834.

The guide sleeve 12′ of the slider 12 has wings 14, 15 which are diametrically opposed across the stick axis and which extend beyond the general sleeve cross-section and form the places of articulation for the struts 10. When the umbrella is shortened, the sleeve 12′ enters a socket 16 in a handle body 17 attached to the stick 1.

The umbrella is closed and shortened from the Figure 19 configuration in the usual way, that is by releasing the main slider catch 13 and drawing the main slider 12 along the stick towards the handle. As a result the ribs 9 and struts 10 fold down parallel to the stick 1. The umbrella is then shortened by pressing the handle 17 and rib tips towards the crown 6 whereupon the stick 1 and ribs 9 shorten telescopically. The umbrella is ready for insertion into its case 54.

A carrying loop 18 is attached by its ends 18′ to the bottom end face 17′ of the handle body element; and the end face 17′ is covered by a cap 19 corresponding to the cross sectional shape of the umbrella.

The cap 19 is formed with two apertures 20 through which end portions 18′ of the carrying loop extend; the end portions 18′ are slipped on to projecting pins 21 and are secured by resilient annular discs 22, as shown in Figures 1 to 7. The resilient annular discs 22 are disposed at an angle to the pin axis and guide the end portions 18′ adjacent to the apertures 20 so that the cap 19 is relieved of any forces which might have an adverse effect on its seating on the handle element.

The pins 21 are moulded onto the handle body and are made of the same material as the latter. Each pin 21 extends from the bottom of a recess 23 to beyond the handle body end face. Face ribs 26 and, a central projection 25, which elongates the insertion aperture 24 for the stick 1, extend to the level of the pin ends. The short retractable tubular member 4 of the stick 1 is connected *via* a transverse retaining pin 27 to the handle body. The cap 19 also covers the stick coupling means from view and moreover prevents it from becoming loosened and lost.

The cap 19 is formed of a resilient material and is clipped by its inherent elasticity onto the handle body (that is, it is snap-fitted thereon). The handle body is formed with undercut portions 28 into which projections 29, moulded on the opposing inner walls of the cap 19 pass. The cap edge 19′ abuts a shoulder 30 of the handle body.

In the example shown in Figures 8 to 10, which also relates to a handle for a flat umbrella, a modified attachment of the carrying loop ends 18′ is used. Pins 31 are formed with an external screwthread over which pins the loop ends 18′, suitably perforated, are placed and secured by screwed on nuts 32. The nuts 32 are formed with slots 33 for the application of a tool. The other technical features correspond to the construction previously described, similar elements being referred to by similar reference numerals. Of couse, screws could be substituted for the members 31, 32.

The example shown in Figures 11 to 13 is a further modified handle and carrying loop for a flat umbrella. In this case there is no loading on the discs 22 when the carrying loop is tensioned. To this end, the carrying loop ends 18′ emerge through slots 34 in the handle body laterally of the attachment places. The slots 34, leaving a bridge of material, form a connection between each of the annular recesses 23 and recesses 35 which produces a channel for the emerging carrying loop ends 18′ when the cap 19 is clipped on. The slots in the cap 19 substantially register with the recesses 35. Resilient annular discs 22 can be used as attachment means on the pins 21, which are not screw-threaded.

As shown by the examples illustrated in Figures 14 to 17, in an umbrella having a so-called "knob" handle 36, the attachment means for the carrying loop 37 are disposed below a cap 38 covering the bottom end face 36′ of the handle body, i.e. the attachment means are disposed inside the space 39 partly formed, and covered by the cap 38. In this case, the point of attachment is the umbrella stick 1 itself. To this end, the stick 1 of the Figures 14 and 15 example extends through the handle body. The end of the stick extending into the space 39 is flattened, and sandwiches two carrying loop ends 37′. A hollow rivet 40 attaches the carrying loop 37 to the stick 1. The carrying loop 37 emerges axially of the stick 1, and the bottom of the cap 38 is formed with a slot 41 lying on the stick axis, so that the cap 38 is relieved of any forces which might have an adverse effect on its seating. In this example, the connection of the cap 38 to the handle 36 is achieved by a continuous or interrupted annular bead 42 co-operating with a groove 43 formed in the handle body or with recesses disposed therein at intervals.

In the example shown in Figures 16 and 17, the carrying loop 37 emerges from the handle element radially of the umbrella stick axis. To this end, a slot 45 is formed in the handle body to receive the superimposed carrying loop end portions 37'. The end portions 37' are attached by slipping them on to a screwthreaded pin 46 extending into the space 39 and securing them thereon by means of a nut 46'. Disposed between the nut 46' and the carrying loop end portion is a disc 46". The screwthreaded pin 46 forms part of a core member 47 which, with an appropriate cross-section, is inserted into the lower end of stick part 4. The handle body is attached to the umbrella stick 1 by a retaining pin 48 which also passes through the core member 47.

In the example shown in Figure 18, again in an umbrella having a so-called "knob" handle, the carrying loop ends emerge radially with respect to the stick axis, there being a central snap retaining system between the handle body and the cap 48, which in this case merely abuts the handle body at its edges. An insertion pin 49 is moulded on to the cap 48 and is provided with an annular groove 50. In the clipped-in position, an annular bead 51 of a central handle body projection 52 enters the groove 50, the free end of the pin being arcuate to facilitate the clipping on. A retaining screw 53 attaches the carrying loop end portions 37' to the handle body.

The collapsed umbrella can be inserted into a case whose cross-sectional shape is adapted to the rectangular or round cross-sectional shape of the collapsed umbrella. Only a case 54 for a flat umbrella, and in accordance with our copending Applications Nos. 9841/69 (Serial No. 1219375) and 9843/69 (Serial No. 1219377) is shown in the drawings (see Figure 1). Its end face insertion opening can be secured by a strap 55 which crosses the path of insertion. The strap 55 has a press-stud top part 56 co-operating with a matching press-stud part.

In the example shown in Figure 20, the handles shown in Figures 3 to 11 are further simplified. In contradistinction to the handles shown in Figures 3 to 11 the example shown in Figure 20 has neither discs, nuts nor screws provided to attach the loop 18. The loop 18 is secured by snap members 57 moulded immediately on to the cap 19 and co-operating with handle mounted snap member pins 58 thickened towards their ends so that the cap, which covers both the handle attachment and the loop attachment, also serves to locate the loop ends. If, in addition, a snap-element is provided on the handle around the end of the umbrella stick 1 and a co-operating snap element 60 is provided on the cap 19, corresponding to the snap elements 57, it is possible with one operation of the hand to locate the loop, and apply the cap in one operation. In this case, stick end 1*a* can engage, for instance through the intermediary of a bent flap 1*b* in a groove 59*a* in the projection 59 continuing parallel with the umbrella stick 1, a radial lug 60*a* of the snap element 60, forming the required locating stop for the flap 1*b*. The snap elements 57, 60 can be used on their own, or in conjunction with the clip-connection 28, 29.

WHAT WE CLAIM IS:—

1. An umbrella frame having a handle with a carrying loop the ends of which are fixed in the handle by means concealed under a cover cap forming a bottom end face of the handle, the frame being supportable by the loop when the loop ends are so fixed.

2. A frame according to claim 1, wherein the cover cap is a resilient snap fit onto a body of the handle.

3. A frame according to claim 1 or claim 2, wherein the cover cap, which has a bottom wall and upstanding side walls conceals both the carrying loop attachment means and means attaching the handle to the umbrella stick.

4. A frame according to claim 1 or claim 2, wherein the umbrella stick extends through a body of the handle and is connected adjacent to its lower end to the ends of the carrying loop.

5. A frame according to claim 4, wherein the lower end of the umbrella stick is flattened.

6. A frame according to claim 4 or claim 5, wherein a slot is provided in the side of the handle, superimposed ends of the carrying loop extending through the slot and being attached to a pin projecting from a core member inserted into the lower end of the umbrella stick.

7. A frame according to claim 2, wherein there is provided a central snap retaining system between the handle body and the cover cap, the peripheral edges of the cap only abutting against the handle body.

8. A frame according to any one of claims 1 to 3 wherein the cover cap is used to attach the ends of the carrying loop.

9. A frame according to any one of claims 1, 2, 3, 7 or 8, wherein the cover cap is formed with two apertures through which the ends of the carrying loop extend laterally towards the stick axis, the ends being attached to projecting pins on the handle body.

10. A frame according to claim 9, wherein resilient annular discs are placed over the pins to attach the carrying loop ends thereto.

11. A frame according to any one of claims 1, 2, 3, 7, 8, 9, or 10, which has a substantially rectangular cross-sectional shape transvere to the stick axis when

In the example shown in Figures 16 and 17, the carrying loop 37 emerges from the handle element radially of the umbrella stick axis. To this end, a slot 45 is formed in the handle body to receive the superimposed carrying loop end portions 37'. The end portions 37' are attached by slipping them on to a screwthreaded pin 46 extending into the space 39 and securing them thereon by means of a nut 46'. Disposed between the nut 46' and the carrying loop end portion is a disc 46". The screwthreaded pin 46 forms part of a core member 47 which, with an appropriate cross-section, is inserted into the lower end of stick part 4. The handle body is attached to the umbrella stick 1 by a retaining pin 48 which also passes through the core member 47.

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The collapsed umbrella can be inserted into a case whose cross-sectional shape is adapted to the rectangular or round cross-sectional shape of the collapsed umbrella. Only a case 54 for a flat umbrella, and in accordance with our copending Applications Nos. 9841/69 (Serial No. 1219375) and 9843/69 (Serial No. 1219377) is shown in the drawings (see Figure 1). Its end face insertion opening can be secured by a strap 55 which crosses the path of insertion. The strap 55 has a press-stud top part 56 co-operating with a matching press-stud part.

In the example shown in Figure 20, the handles shown in Figures 3 to 11 are further simplified. In contradistinction to the handles shown in Figures 3 to 11 the example shown in Figure 20 has neither discs, nuts nor screws provided to attach the loop 18. The loop 18 is secured by snap members 57 moulded immediately on to the cap 19 and co-operating with handle mounted snap member pins 58 thickened towards their ends so that the cap, which covers both the handle attachment and the loop attachment, also serves to locate the loop ends. If, in addition, a snap-element is provided on the handle around the end of the umbrella stick 1 and a co-operating snap element 60 is provided on the cap 19, corresponding to the snap elements 57, it is possible with one operation of the hand to locate the loop, and apply the cap in one operation. In this case, stick end 1*a* can engage, for instance through the intermediary of a bent flap 1*b* in a groove 59*a* in the projection 59 continuing parallel with the umbrella stick 1, a radial lug 60*a* of the snap element 60, forming the required locating stop for the flap 1*b*. The snap elements 57, 60 can be used on their own, or in conjunction with the clip-connection 28, 29.

WHAT WE CLAIM IS:—

1. An umbrella frame having a handle with a carrying loop the ends of which are fixed in the handle by means concealed under a cover cap forming a bottom end face of the handle, the frame being supportable by the loop when the loop ends are so fixed.

2. A frame according to claim 1, wherein the cover cap is a resilient snap fit onto a body of the handle.

3. A frame according to claim 1 or claim 2, wherein the cover cap, which has a bottom wall and upstanding side walls conceals both the carrying loop attachment means and means attaching the handle to the umbrella stick.

4. A frame according to claim 1 or claim 2, wherein the umbrella stick extends through a body of the handle and is connected adjacent to its lower end to the ends of the carrying loop.

5. A frame according to claim 4, wherein the lower end of the umbrella stick is flattened.

6. A frame according to claim 4 or claim 5, wherein a slot is provided in the side of the handle, superimposed ends of the carrying loop extending through the slot and being attached to a pin projecting from a core member inserted into the lower end of the umbrella stick.

7. A frame according to claim 2, wherein there is provided a central snap retaining system between the handle body and the cover cap, the peripheral edges of the cap only abutting against the handle body.

8. A frame according to any one of claims 1 to 3 wherein the cover cap is used to attach the ends of the carrying loop.

9. A frame according to any one of claims 1, 2, 3, 7 or 8, wherein the cover cap is formed with two apertures through which the ends of the carrying loop extend laterally towards the stick axis, the ends being attached to projecting pins on the handle body.

10. A frame according to claim 9, wherein resilient annular discs are placed over the pins to attach the carrying loop ends thereto.

11. A frame according to any one of claims 1, 2, 3, 7, 8, 9, or 10, which has a substantially rectangular cross-sectional shape transvere to the stick axis when

closed.

12. A frame according to claim 1, described with reference to Figures 1 to 7 and 19, or to Figures 8 to 10, or to Figures 11 to 13, or to Figures 14 and 15, or to Figures 16 and 17, or to Figure 18, or to Figure 20, of the accompanying drawings.

13. An umbrella incorporating a frame according to any one of the preceding claims.

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