K. C. HOUT.

UMBRELLA.

APPLICATION FILED JUNE 26, 1914.

1,136,806.

Patented Apr. 20, 1915.

Fig. 1.

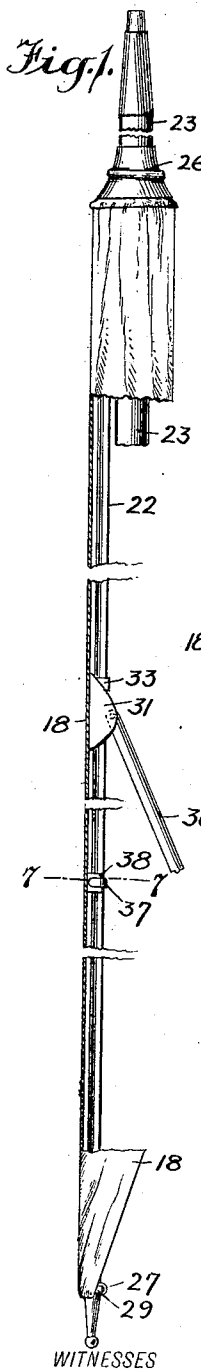


Fig. 2.

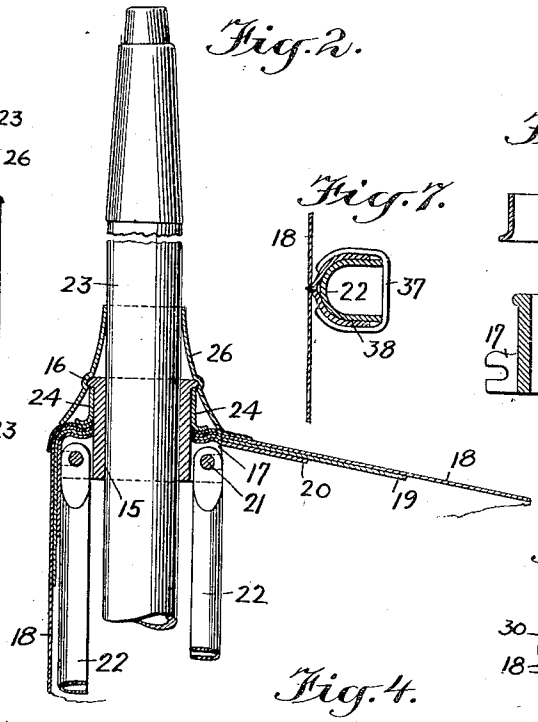


Fig. 7.

Fig. 8.

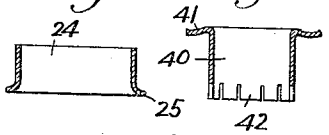


Fig. 9.

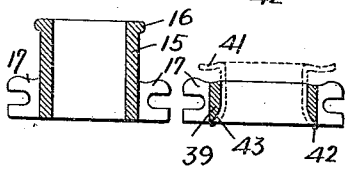


Fig. 6.

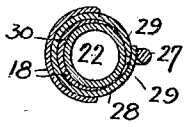


Fig. 4.

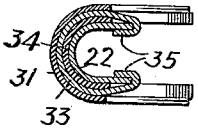
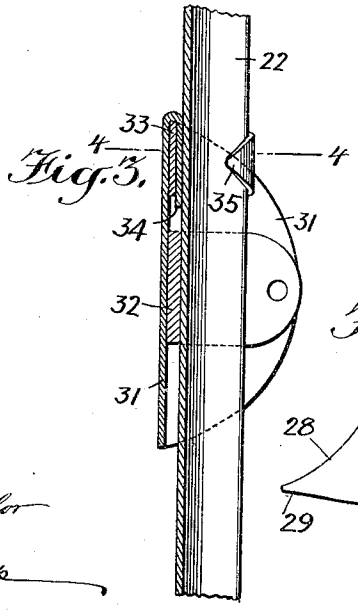


Fig. 3.



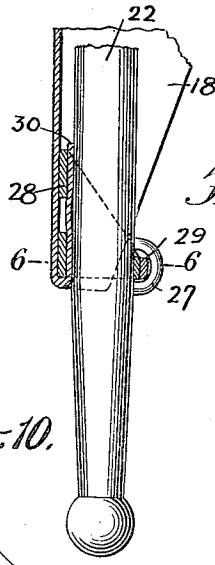
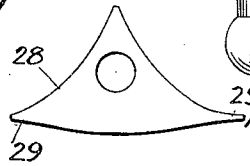


Fig. 5.

Fig. 10.



WITNESSES

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UMBRELLA.

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To all whom it may concern:

Be it known that I, KATHERINE C. HOUT, a citizen of the United States, and a resident of Albany, in the county of Albany and State of New York, have invented a new and Improved Umbrella, of which the following is a full, clear, and exact description.

Among the principal objects which the present invention has in view are: to provide means for securing the cover in service relation rapidly and with increased facility; to provide means for mechanically mounting the cover of an umbrella upon its frame; and to provide metallic members for holding the cover on the frame, in lieu of conventional stitched constructions.

Drawings.—Figure 1 is a view showing fragments of an umbrella stick, rib, brace and cover therefor, constructed and arranged in accordance with the present invention; Fig. 2 is a detail view on an enlarged scale and in section, showing the means for securing the center of the cover employed in the present invention; Fig. 3 is a detail view on an enlarged scale, showing a fragment of a supporting rib having a guard piece for the cover secured in operative position in accordance with the present invention; Fig. 4 is a section taken on the line 4—4 in Fig. 3; Fig. 5 is a detail view on an enlarged scale, showing a tip end fragment of a conventional umbrella rib having the umbrella cover attached thereto by means constructed and arranged in accordance with the present invention; Fig. 6 is a cross section taken on the line 6—6 in Fig. 5; Fig. 7 is a cross section of an umbrella rib, on an enlarged scale, the section being taken as on the line 7—7 in Fig. 1; Fig. 8 is a detail view on an enlarged scale, showing a hinge ring and cloth-clamping ferrule used in conjunction therewith, said ring and ferrule being shown in separated relation; Fig. 9 is a detail view in section, showing a modified form of the hinge ring and cloth-clamping ferrule constructed and arranged in accordance with a modified form of the invention; Fig. 10 is a detail view of the binding clip for the outer edge of the umbrella cover.

Description.—The principal purpose which this invention seeks is to minimize or avoid, in part or whole, the manual labor employed in assembling the parts which go to make up an umbrella, and more particularly to eliminate the manual labor required for mounting the fabric cover on the umbrella frame. One of the points of attachment of the umbrella cover to the frame is at the center of said cover, where it rests upon the hinge ring 15. When constructed in accordance with the present invention, the hinge ring 15 is provided with an annular ridge 16, disposed at the upper end of said ring, and the hinge lugs 17 thereof are slightly hollowed at their upper surface to form a clamping seat for the cover 18, the name disk 19, and a leather washer 20, as shown best in Fig. 2 of the drawings. The hinge ring is secured by a wire 21 to the various umbrella ribs 22 prior to the introduction of the stick 23 therethrough. Likewise, the cover 18, disk 19, and washer 20 are rigidly secured to the ring 15 prior to the introduction of the stick 23. To secure said cover, disk and washer on the ring 15, I provide a clamping sleeve 24. The sleeve 24, as shown best in Fig. 8 of the drawings, is constructed to pass over the ridge 16. The curled edge 25 of the sleeve is forced downward on the material interposed between the sleeve and the lugs 17 of the hinge ring 15. The sleeve is then compressed and crimped to hug the ring 15, the upper edge of said sleeve passing under the ridge 16, by which it is subsequently held rigid on the material interposed between the curled edge 25 of said sleeve and the lugs 17 of the hinge ring. After securing the sleeve 24 in the manner set forth, a tapered ferrule 26 is slipped over the stick 23, above the ring 15, to rest upon the ridge 16 thereof. While thus depressed, the ferrule 26 is compressed over the ring 15 and molded to permanently engage the ridge 16 thereof. The flared edge of the ferrule 26 rests upon the cover 18, and forms a finish for the umbrella at this point of the structure. The small end of the ferrule 26 is contracted upon the stick 23, to form a rigid connection therewith. If needed at this point, a pin or other retaining device may be driven to extend through the contracted end of the ferrule and the stick 23 held therein. When thus rigidly secured to the stick 23, the ferrule 26 serves to produce a finished appearance on the umbrella, and also to fix the position of the ring 15.

The edge of the cover 18 is held by eyelets 27, which are conventional in form and arrangement, and by metal clips 28, the ends 29 whereof extend through the openings in the eyelets 27. The outer edge of the cover 18 has a series of points produced by uniting angular segments, as in the conventional form of cover. As shown in Fig. 5 of the drawings, the extreme ends 30 of these points are turned under the clips 28, resting between said clips and the umbrella ribs 22. When the clips 28 are drawn close about the ribs so that the ends 29 of said clips pass through the openings in the eyelets 27, the cover 18 is securely held at the outer end of each of the ribs of the umbrella.

As in conventional umbrellas, so in the present, a guard piece 31 formed of suitable fabric is mounted on each rib to rest between the cover 18 and a hinge clip 32. In the conventional structure the guard pieces are sewed in position. In the present construction, a metal clip 33 is employed, between the body of which clip and the body of the rib 22 is extended an end 34 with which the piece 31 is provided. The ends 35 of the clip 33 are preferably overturned and extended into the grooves with which the ribs 22 are provided, as shown best in Fig. 4 of the drawings. The major portion of each piece 31 is folded over each rib 22, where it is subsequently held by the cover 18 while in service.

In most umbrellas, it is desired to pin the cover 18 to the ribs 22, intermediate the hinge clip 32 where the braces 36 are secured, and the tips or ends of said ribs. In the present invention, this is accomplished by employing spring clips 37, as best shown in Fig. 7 of the drawings. Preliminarily attached to the cover 18 is a fragment of cloth 38, which partially enfolds the rib, as shown in Fig. 7, to be grasped by the arms of the clips 37. The clips 37 thereafter maintain the portion of the cover 18 in the desired position.

In the modified form of the invention shown in Fig. 9 of the drawings, there is substituted for the ring 15 a shorter ring 39, and for the sleeve 24 a sleeve 40. The sleeve 40 is provided at the upper end with an annular flange 41, shaped to override the hinge lugs 17 in the same manner as that performed by the curled edge 25 of the sleeve 24. The sleeve 40 is relatively reduced in diameter, and is intended to extend through the ring 39, as shown by the dotted lines in said Fig. 9. The lower edge of the sleeve 40 is serrated to form extensible members 42, which open outward under the curved surface 43 at the lower edge of the opening in the sleeve 39.

When employing the modified form of hinge ring 39 and the sleeve 40 therefor, the cover 18, disk 19 and washer 20 are preliminarily introduced in service position on the sleeve 40, the members 42 being contracted or disposed in straight cylindrical arrangement. The ring 39 is thus passed over the sleeve 40, and by means of a suitable apparatus the flange 41 of the sleeve, and said ring are pressed toward each other, clamping therebetween the interposed material. While said ring and sleeve are thus held, the members 42 are curled over on the surface 43, thereby in effect riveting the sleeve 40 and the ring 39 in service relation.

Claims:

1. An umbrella comprising, a plurality of ribs, each having adjacent the free end thereof an eyelet; a cover supported by said ribs, having angular terminals, the ends of said terminals being folded under the body of said cover in line with said eyelets; and a plurality of fastening clips, each having a body portion for encircling one of said ribs and the under-turned angular terminal of said cover, said clips each having a reduced end extending through one of said eyelets.

2. An umbrella comprising, a plurality of ribs, each having adjacent the free end thereof an eyelet; a cover supported by said ribs, having angular terminals, the ends of said terminals being folded under the body of said cover in line with said eyelets; and a plurality of fastening clips, each having a body portion for encircling one of said ribs and the under-turned angular terminal of said cover, said clips each having a plurality of reduced ends, said ends both extending through one of said eyelets and in overlapped relation.

3. An umbrella comprising, a plurality of ribs, each having adjacent the free end thereof an eyelet; a cover supported by said ribs, having angular terminals, the ends of said terminals being folded under the body of said cover in line with said eyelets; and a plurality of fastening clips, each having a body portion for encircling one of said ribs and the under-turned angular terminal of said cover, said clips each having a plurality of reduced ends, said ends both extending through one of said eyelets and in overlapped relation, the body portion of said clips having a body extension corresponding in shape with the angular terminals of said cover.

4. An umbrella comprising, a plurality of ribs, each having adjacent the free end thereof an eyelet; a cover supported by said ribs, having angular terminals, the ends of said terminals being folded under the body of said cover in line with said eyelets; and a plurality of fastening clips, each having a body portion for encircling one of said ribs and the under-turned angular terminal of said cover, said clips each having a plurality of reduced ends, said ends both extending through one of said eyelets and in over-

lapped relation, the body portion of said clips having a body extension corresponding in shape with the angular terminals of said cover, and said body portion being further provided with a central opening to holdingly engage said angular terminal.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

KATHERINE CANFIELD HOUT.

Witnesses:
AUGUSTUS KULLMAN,
WILLARD J. VAN WORMER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."