

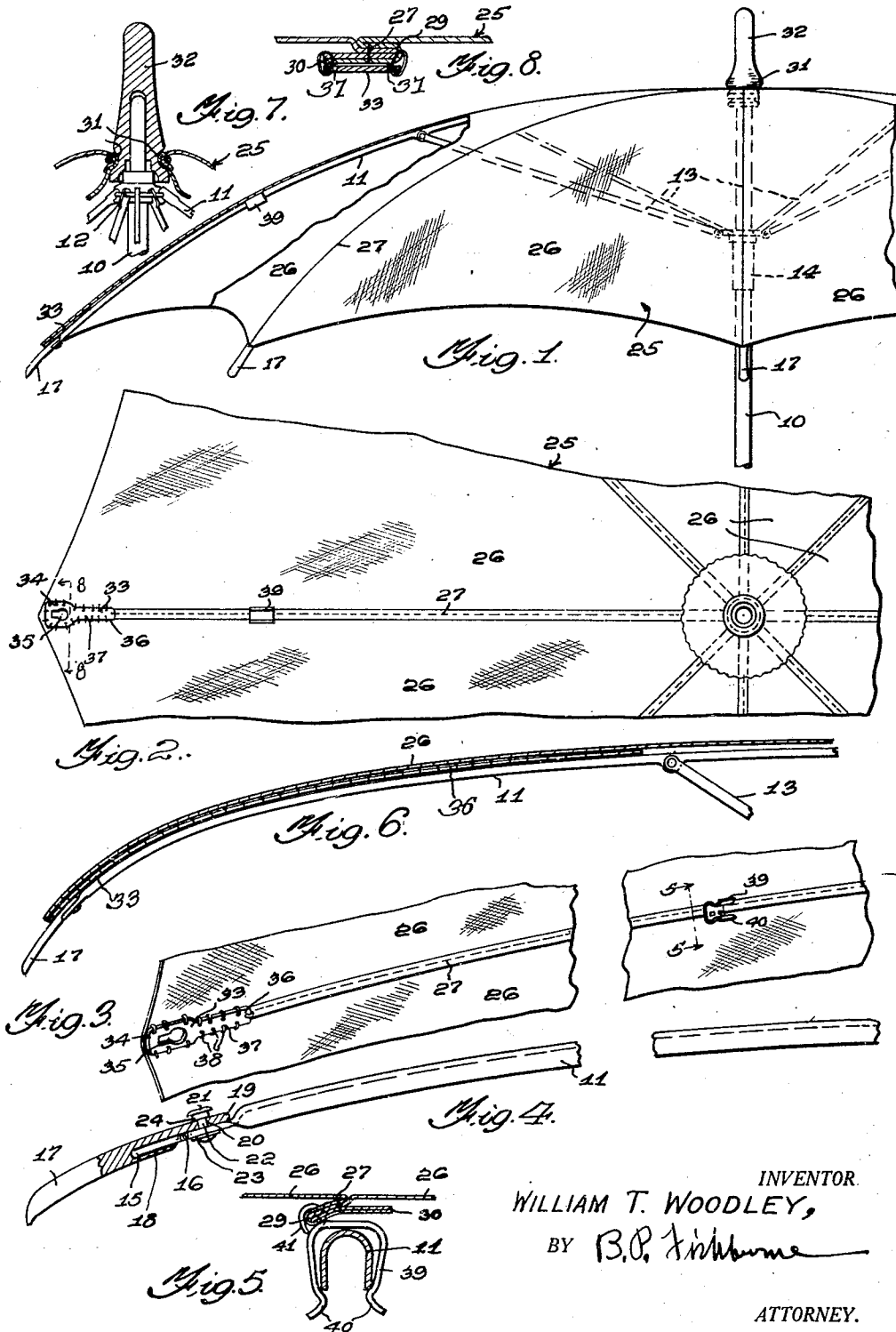
Nov. 27, 1928.

1,693,536

W. T. WOODLEY

UMBRELLA

Filed Nov. 12, 1927



INVENTOR.
WILLIAM T. WOODLEY,
BY B. O. Kirkham

ATTORNEY.

UNITED STATES PATENT OFFICE.

WILLIAM T. WOODLEY, OF RALEIGH, NORTH CAROLINA.

UMBRELLA.

Application filed November 12, 1927. Serial No. 232,825.

My invention relates to improvements in umbrellas or parasols, and has particular reference to means whereby the cover may be detachably secured to the frame of the umbrella 5 or parasol.

In accordance with my invention, I provide means for detachably securing the cover to the frame or ribs of the umbrella, in a manner to effect a proper distribution of the strain 10 upon the parts of the cover, thus preventing the cover from tearing or wearing unduly, due to the connections of the same with the ribs. I provide attaching socket plates which are secured to the covers at the edges thereof. 15 These socket plates have longitudinal extensions, which may be made in varying lengths, depending upon the area of the cover over which it is desired to distribute the strain. The extensions of the socket plates may even 20 extend to the runners, thus distributing the strains over about four-fifths of the area of the cover. Co-acting with the socket plates are studs, which are secured to the ends of the ribs. I also provide tips having sockets 25 adapted to receive the ends of the ribs of standard umbrellas, and these tips are attached to the ends of the standard ribs by means of the headed stud, which is passed through the usual openings in the ribs and then spread. The intermediate portion of the 30 cover is prevented from slipping upon the ribs by means of resilient catches attached to the cover in a novel manner.

In the accompanying drawings, forming a part of this specification, and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a side elevation of an umbrella embodying my invention, parts in section,

40 Figure 2 is a bottom plan view of the same, parts broken away,

Figure 3, is a side elevation of a section of the cover, showing the attaching socket plate and the resilient clip,

45 Figure 4 is a side elevation of one of the ribs, showing the tip secured thereto by means of the headed stud,

Figure 5 is a detailed transverse section taken on line 5—5 of Figure 3,

50 Figure 6 is a longitudinal section through the socket plate with an elongated extension or shank,

Figure 7 is a central longitudinal section through the removable ferrule, and,

55 Figure 8 is a transverse section taken on line 8—8 of Figure 2.

In the drawings, wherein for the purpose of illustration, is shown a preferred embodiment of my invention, the numeral 10 designates a staff or rod of an umbrella of the standard 60 construction. The numeral 11 designates the ribs, which are hinged for opening movement to the ring or head 12, in the usual manner, with the staff or rod extending forwardly beyond this pivotal connection. The ribs have 65 pivotal connections with spreaders 13 which are pivotally connected with the usual sliding sleeve 14. The usual means is employed to hold the sleeve 14 in the open and closed positions. In an ordinary umbrella construction, 70 the ribs 11 are provided at their outer ends with rounded heads 15, and near and rearwardly of these heads with slightly flattened apertured portions 16.

In accordance with my invention, I provide 75 tips 17, having sockets 18 at their rear ends, for receiving the ends of the ribs. The tips have rear ends 19, which are flattened, and provided with apertures 20. Each tip is secured to the rib by means of a headed 80 stud 21, having a shank 22, passed through the aperture 20 and the aperture in the flattened portion 16 of the rib. The shank 22 preferably has a washer 23 placed upon its free end, and this free end is spread or flattened. Spreading or flattening may be effected by a single pressure operation in a 85 suitable press. The shank 22 provides a shoulder 24, with the headed portion of the stud. By this construction, the headed stud 90 with or without the tip may be secured to the ordinary or standard make of umbrella.

The numeral 25 designates the cover of the umbrella as a whole, made up of segmental sections 26 which are stitched together at 27. 95 In the stitching of the edges of the cover sections 26, such edges are first folded over, and then stitched together, as shown at 27. This provides a folded edge 29 and free edges 30, which are arranged flat upon the inner side 100 of the cover, extending upon opposite sides of the line of stitching. At the center, the cover has an opening formed therein and the edges of this opening are suitably held within a groove 31, formed in a tubular ferrule 32, 105 which is removably mounted upon the forward end of the staff or rod 10.

An important feature of the invention is the provision of attaching socket plates 33. Each socket plate has an outer body portion 110 34 provided with a keyhole opening or slot 35, the larger portion of the keyhole opening

being arranged innermost. The socket plate is provided with a reduced longitudinal extension 36, which may be about three-sixteenths of an inch in width, although this may be somewhat varied. The length of the extension 36 of the socket plate may vary greatly, depending upon the character of the fabric of the umbrella cover and the area of the cover over which it is desired to distribute the strain. In Figure 6, I have shown this extension projecting adjacent to the spreaders 13, and when the extension is made in this length, the strains will be distributed over about four-fifths of the area of the cover. The elongated extension 36, Figure 6, has the apertures 37 extending throughout its entire length. The socket plates are provided adjacent to their longitudinal edges and about their outer end with apertures 37 and the socket plates are stitched to the cover by thread passing through these apertures and the material of the cover. The thread is indicated at 38, and the stitching at the sides of the attaching plate is passed through the edges 29 and 30 of the cover sections, and also through the material of the cover about the forward end of the socket plate.

I use resilient catches 39, which embrace the ribs 11. These resilient catches are U-shaped and have inwardly bent jaws 40, as shown. Stamped from the bottom of the U-shaped catches are pointed prongs 41 and these prongs are adapted to be passed through the folded edges 29, thus attaching the catches to the cover sections adjacent to the stitching as shown in Figure 5.

When the cover is applied to the frame of the umbrella, the tubular ferrule is inserted upon the forward end of the staff or rod 10. The attaching socket plates 34 are brought adjacent to the headed studs 21 and the headed studs are passed through the inner larger end of the keyhole openings and when released, the inward pull upon the cover causes the stud to travel into the outer smaller portions of the keyhole openings, and hence the socket plates are detachably locked to the

outer ends of the ribs 11. The socket plates are arranged between the ribs and cover, as shown. The U-shaped resilient catches 39 are forced over the intermediate portions of the ribs, and prevent the cover from creeping laterally. When the extensions 36 of the socket plates are made long, as in Figure 6, so that they extend adjacent to the spreaders 13, the U-shaped catches 39 are attached to the cover nearer the center thereof so that they engage with the ribs forwardly of the spreaders 13.

It is to be understood that the forms of my invention, herewith shown and described, are to be taken as preferred examples of the same, and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of my invention, or the scope of the subjoined claims.

Having thus described my invention, I claim:—

1. In an umbrella, a frame comprising ribs, a removable cover to be arranged upon the ribs, socket plates secured to the outer portions of the removable cover and having extensions extending throughout the major portion of the length of the ribs for distributing the strains over the major portion of the area of the cover, said socket plates having keyhole openings near their outer ends and headed studs carried by the ribs and adapted for insertion within the keyhole openings.

2. In an umbrella, a frame including hinged ribs, said ribs being provided near their outer ends with apertures, tips having sockets to receive the outer ends of the ribs and provided with apertured extensions, headed studs having shanks held within the apertures of the ribs and the apertures of said extensions to secure the tips to the ribs, and socket plates secured to the outer portions of the cover and adapted for engagement with the headed studs.

In testimony whereof I have affixed my signature.

DR. WILLIAM T. WOODLEY.