C. DILLI.

UMBRELLA TIP RETAINER.

APPLICATION FILED OCT. 30, 1908.

955,255. Patented Apr. 19, 1910.

Fig. 1.

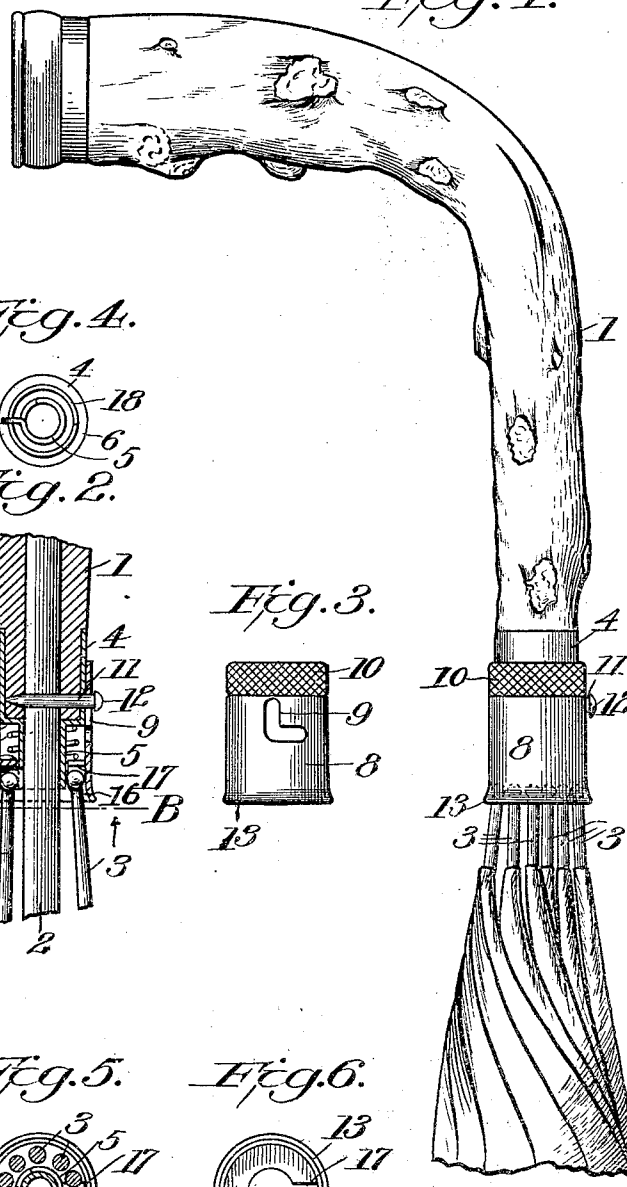


Fig. 4.

Fig. 2.

Fig. 3.

Fig. 7.

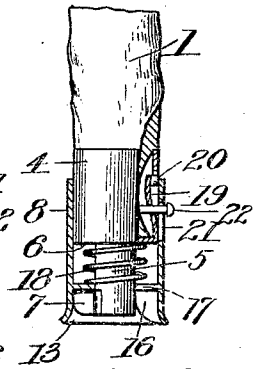


Fig. 8.

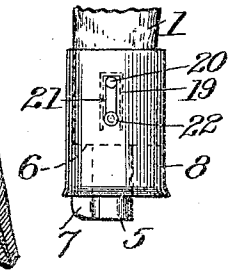


Fig. 5.

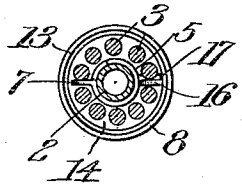
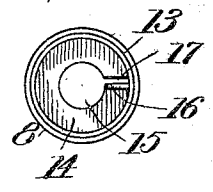


Fig. 6.



Witnesses

C. M. Walker

Nellie Finckel

Inventor

Charles Dilli.

by E. G. Bincrel.

Attorney

UNITED STATES PATENT OFFICE.

CHARLES DILLI, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR OF ONE-HALF TO THOMAS F. KELIHER, OF WASHINGTON, DISTRICT OF COLUMBIA.

UMBRELLA-TIP RETAINER.

955,255. Specification of Letters Patent. **Patented Apr. 19, 1910.**

Application filed October 30, 1908. Serial No. 460,290.

To all whom it may concern:

Be it known that I, CHARLES DILLI, a citizen of the United States, and a resident of Washington, in the District of Columbia, have invented a certain new and useful Improvement in Umbrella-Tip Retainers, of which the following is a full, clear, and exact description.

This invention relates to retainers for the tips of umbrella ribs.

The object of the invention is to provide a tip retainer of simple and economical construction, provided with means for engaging the tips to prevent the twisting and distortion of the ribs when the cover of the umbrella is being rolled about the ribs and stick and also when the umbrella is carried in a folded or unfolded condition and used as a cane, and thereby avoid the strain upon and consequent breaking of the joints between the ribs, stretchers and runners incident to such twisting and distortion of the ribs.

The invention consists in a tip retainer for umbrellas, comprising a ferrule secured to the end of the handle and engaging the stick, a lug secured to the ferrule and projecting radially from the stick, and a sliding sleeve mounted upon said ferrule adapted to confine the tips about the stick and in engagement with said lug, and also in providing a second lug on the sleeve, projecting toward the stick and adapted to engage the tips at a point substantially diametrically opposite the first-named lug, all as I will proceed now more particularly set forth and finally claim.

In the accompanying drawings illustrating the invention, in the several figures of which like parts are similarly designated, Figure 1 is an elevation of a portion of an umbrella with the invention applied thereto. Fig. 2 is a vertical longitudinal section of the end of the handle, showing the retainer in closed engagement with the tips. Fig. 3 is an elevation of the sliding sleeve detached, showing the bayonet slot therein. Fig. 4 is an end view of the ferrule, detached, with the spring applied thereto. Fig. 5 is a cross-section, taken substantially in the plane of line A—B, Fig. 2, and looking in the direction of the arrow. Fig. 6 is an end view of the sliding sleeve. Fig. 7 is a partial section and elevation of a modified form of catch for holding the sleeve in retracted position. Fig. 8 is an elevation, showing the modified form of catch of Fig. 7 in dotted lines.

1, is the handle, 2, is the stick, and 3, are the ribs, all of usual or approved construction.

Secured to the stick end of the handle 1, in any suitable manner, is a ferrule 4, having a reduced portion 5, to fit upon stick 2, and forming a shoulder 6. The reduced portion 5 is provided with a lug 7, at its outer end, projecting at right angles therefrom. The lug 7 may be secured to the ferrule in any suitable manner, but preferably this lug is formed by slitting the end of the ferrule and bending up a portion of the metal thereof, as shown in Figs. 4, 5 and 7. Or, the lug may be a separate piece, and fastened in place in any suitable manner.

A sleeve 8, having an L-shaped or bayonet-joint slot 9 and a knurled edge 10, is fitted to slide upon the ferrule 4, and as shown in Fig. 2, the handle 1, stick 2, ferrule 4 and sleeve 8, are secured together by a transverse pin 11, passing through said parts, the headed end 12 of said pin engaging the L-shaped slot 9, in sleeve 8, and permitting a longitudinal and transverse movement of the sleeve upon the ferrule 4. The sleeve 8 is also provided with a flared end 13 for the entrance of the tips, and just beyond this flared end with an inwardly projecting flange 14, with a central opening 15 for the passage of the stick 2 and the reduced end 5 of ferrule 4. A lug 16, formed integrally with or secured to the sleeve in any suitable manner, projects inwardly from the sleeve and substantially at right angles from the flange 14 toward the flared end of the sleeve. A notch 17 is cut in flange 14 adjacent to the lug 16, or at any other suitable point, for a purpose presently appearing. A coiled spring 18 is mounted upon the reduced portion 5 of ferrule 4, between shoulder 6 of said ferrule and flange 14 of sleeve 8, and serves normally to project the sleeve forward into engagement with the tips.

In assembling the parts as thus constructed, the ferrule 4 is first placed upon the end of the handle 1, the spring 18 placed upon the reduced end of 5 of ferrule 4, with its last coil beyond lug 7. The sleeve 8 is then placed over the ferrule, with the notch 17 in flange 14 registering with the

lug 7 on portion 5 of the ferrule, so that flange 14 may be forced beyond the lug 7, and the sleeve is then turned to the position shown in Figs. 2 and 5, with the lugs 7 and 16 substantially at diametrically opposite points. By this construction and arrangement, it will be observed that the sleeve is locked upon the ferrule against longitudinal displacement, by the engagement of the flange 14 of sleeve 8 with lug 7 on ferrule 4, the spring 18 normally holding said parts in such engagement. The pin 11 is then passed through slot 9 in sleeve 8 and driven into the handle, the headed end 12 of the pin serving as a stop to limit the movements of the sleeve.

The operation of the device is as follows:— When the parts are in the locked position, as indicated in Figs. 1 and 2, and it is desired to open the umbrella, the knurled end 10 of sleeve 8 is grasped and the sleeve slid upon the ferrule 4, against the tension of spring 18, until the tips of the umbrella ribs are freed from the flared end of the sleeve, and if it be desired to secure the sleeve in its retracted position, it is simply necessary to give the sleeve a slight turn to cause the pin 11 to enter the transverse portion of slot 9. Of course, the sleeve may be permitted to return to its normal position by the action of the spring. When it is desired to fold the umbrella, the sleeve 8 is retracted, and locked in its retracted position and the ribs gathered around the stick with their tips closely arranged around the end of portion 5 of ferrule 4, with lug 7 between two adjacent tips, and the sleeve released and its flared end forced over the tips by the action of the spring, and by this movement of the sleeve, the lug 16 carried thereby is also forced between two adjacent tips. Thus it will be seen that when the tips are confined within the flared end of the sleeve, with the lugs 7 and 16 engaging the tips at substantially opposite points, the tips will be effectually held from turning or twisting about the stick when the umbrella cover is being folded or rolled about the stick and also when the umbrella is being carried by the user, either in a folded or unfolded condition, and particularly when used as a cane, and consequently the strain and resultant breaking or distortion of the joints between the ribs, stretchers and runners is avoided.

As shown in Figs. 7 and 8, the ferrule 4 is shown as provided with a spring tongue 19 cut out of the metal thereof, and provided with a lug 20 adapted to engage a slot 21 formed in the sleeve 8, to hold the sleeve in its retracted position. And in order to hold the sleeve 8 against turning upon the ferrule, a pin 22 is passed through slot 21 and driven into the handle. In this form of the device, the sleeve is raised until the lug 20 enters the end of slot 21 and the sleeve thus held in its retracted position. To release the sleeve, it is only necessary to depress the lug 20 out of engagement with the slot when the sleeve will be forced into engagement with the tips by the action of the spring, as before described.

I wish to be understood as not limiting the invention to the exact details of construction herein shown and described, as the same may be altered in various particulars and still be within the scope of the invention.

What I claim is:

1. In an umbrella, the combination with the stick, handle, and ribs having tips, of a tip retainer comprising a sleeve slidably mounted upon the handle and embracing the stick, and a lug projecting from the stick adapted to engage the tips of two adjacent ribs only, the said sleeve being adapted to be slid over the tips and lug to hold the tips in engagement with the lug to thereby prevent the tips and ribs from turning about the stick.

2. In an umbrella, the combination with the stick, handle, and ribs having tips, of a tip retainer, comprising a ferrule fixed to the end of the handle and engaging the stick, and a lug mounted upon and projecting from the ferrule and adapted to engage the tips of two adjacent ribs only, and a sleeve slidably mounted upon said ferrule and adapted to be slid over said lug and tips to hold the tips about the ferrule and in engagement with said lug.

3. In an umbrella, the combination with the stick, handle, and ribs having tips, of a tip retainer, comprising a ferrule fixed to the end of the handle and engaging the stick, and a lug mounted upon and projecting from the ferrule adapted to engage the tips of two adjacent ribs only, and a sleeve slidably mounted upon said ferrule and adapted to be slid over said lug and tips to hold the tips about the stick and in engagement with said lug, and a lug fitted to and carried by said sleeve adapted to engage the tips of two other adjacent ribs when the sleeve is slid into engagement with the tips.

4. In an umbrella, the combination with the stick, handle, and ribs having tips, of a tip retainer, comprising a ferrule having a reduced portion fixed to the end of the handle with its reduced portion engaging the stick, a lug on the reduced portion of said ferrule adapted to engage the tips of two adjacent ribs, a sleeve slidably mounted upon said ferrule adapted to be slid over the tips and lug, and a spring interposed between said sleeve and ferrule for holding said sleeve in engagement with the tips to confine the tips about the stick and in engagement with said lug.

5. In an umbrella, the combination with the stick, handle, and ribs having tips, of a

tip retainer, comprising a ferrule having a reduced portion fixed to the end of the handle with its reduced portion engaging the stick, a lug on the reduced portion of said ferrule adapted to engage the tips of two adjacent ribs, a sleeve slidably mounted upon said ferrule adapted to be slid over the tips and lug, a spring interposed between said sleeve and ferrule for holding said sleeve in engagement with the tips to confine the tips about the stick and in engagement with said lug, and means for holding the sleeve when disengaged from the tips and lug.

6. In an umbrella, the combination with the stick, handle, and ribs having tips, of a tip retainer, comprising a ferrule having a reduced portion and a shoulder and adapted to be fixed to the handle with its reduced portion engaging the stick, a lug on said reduced portion adapted to engage the tips of two adjacent ribs, a sleeve having a flared end, and an inwardly projecting flange beyond said flared end and slidably mounted upon said ferrule, and a spiral spring mounted upon the reduced portion of said ferrule and engaging the shouldered portion thereof and the inwardly projecting flange of said sleeve, whereby the sleeve is forced into engagement with the tips to confine them about the stick and in engagement with the lug to hold said tips against turning with relation to the stick.

7. In an umbrella, the combination with the stick, handle, and ribs having tips, of a tip retainer, comprising a ferrule having a reduced portion and a shoulder and adapted to be fixed to the handle with its reduced portion engaging the stick, a lug on said reduced portion adapted to engage the tips of two adjacent ribs, a sleeve having a flared end and an inwardly projecting notched flange beyond said flared end and adapted to be slid upon said ferrule with its inwardly projecting flange beyond said lug, and a spiral spring mounted upon the reduced portion of said ferrule and engaging the shouldered portion thereof and the inwardly projecting flange of said sleeve, whereby the sleeve is forced into engagement with the tips to confine them about the stick and in engagement with the lug to hold said tips against turning with relation to the stick.

8. In an umbrella, the combination with the stick, handle, and ribs having tips, of a tip retainer, comprising a ferrule having a reduced portion and fixed to the handle with its reduced portion engaging the stick, a lug on said ferrule adapted to engage the tips of two adjacent ribs, a sleeve mounted to slide upon said ferrule and adapted to engage the tips, a spring interposed between said ferrule and sleeve to hold said sleeve in engagement with the tips, and a lug on said sleeve adapted to engage the tips of two adjacent ribs when the sleeve is forced into engagement with the tips, said lugs holding said tips against turning with relation to the stick.

9. The combination with the stick, handle, and ribs of an umbrella, of a rib retainer, comprising a ferrule attached to the handle and engaging the stick, a sleeve slidably mounted upon said ferrule and adapted to confine the rib tips about the ferrule and lugs projecting from the ferrule and sleeve adapted to engage the tips of two adjacent ribs at substantially diametrically opposite points to hold the ribs and tips against turning or twisting.

In testimony whereof, I have hereunto set my hand this 29th day of October A. D. 1908.

CHARLES DILLI.

Witnesses:
E. A. FINCKEL,
JESSE B. K. LEE.