No. 681,405. Patented Aug. 27, 1901.

J. I. BEALMEAR.

UMBRELLA TIP RETAINER.

(Application filed Nov. 5, 1900.)

(No Model.)

Fig. 1.

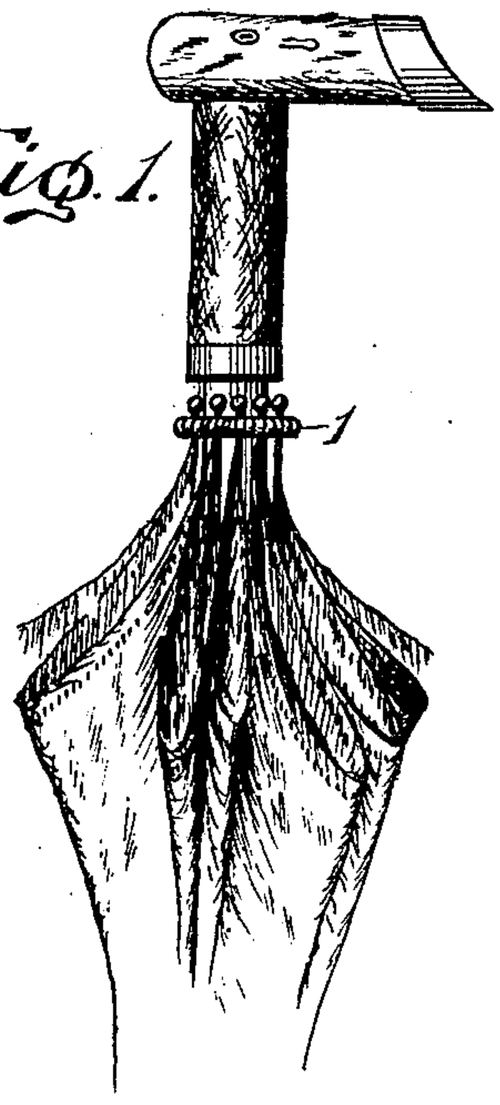


Fig. 2.

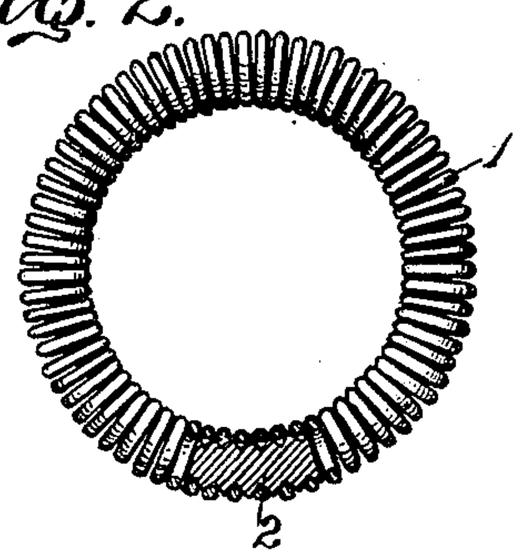
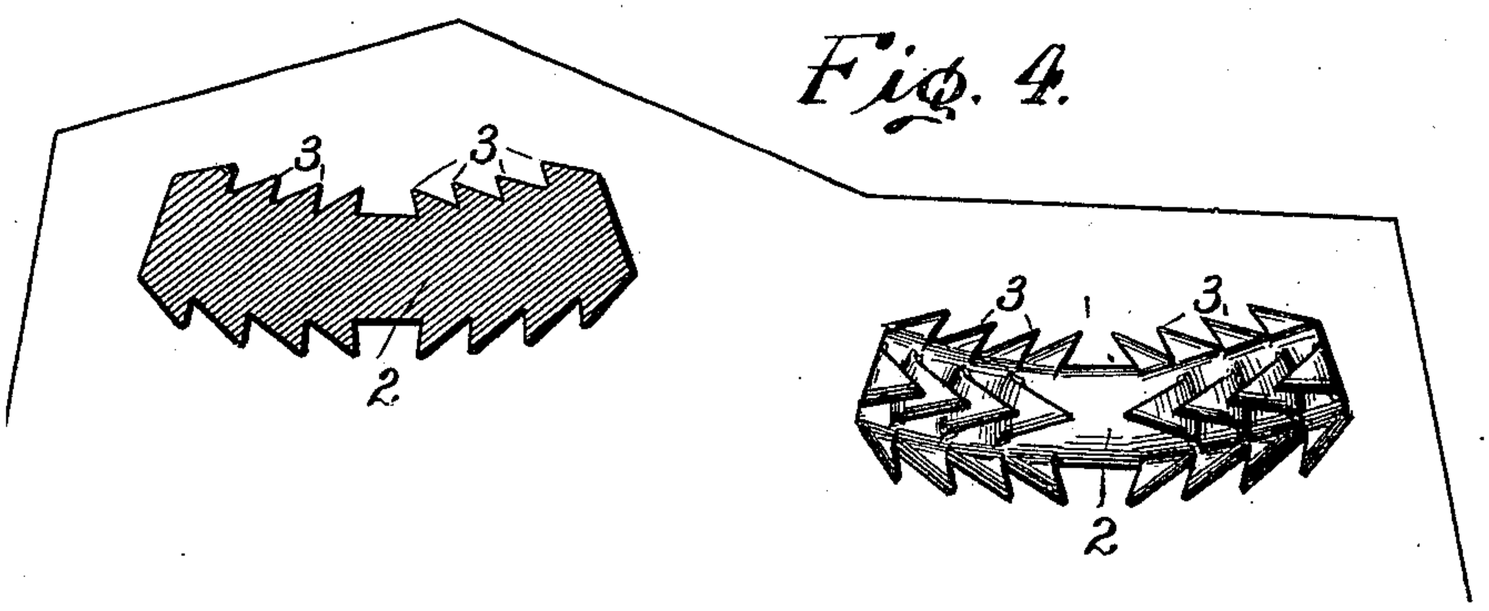


Fig. 3.

Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES IRVING BEALMEAR, OF BALTIMORE, MARYLAND.

UMBRELLA-TIP RETAINER.

SPECIFICATION forming part of Letters Patent No. 681,405, dated August 27, 1901.

Application filed November 5, 1900. Serial No. 35,502. (No model.)

To all whom it may concern:

Be it known that I, JAMES IRVING BEALMEAR, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Umbrella-Tip Holders, of which the following is a specification.

I have produced an improved coiled-spring ring retainer for the tips of umbrella-ribs to prevent the ribs from catching in the clothing and to save the fastened ends of the cover to the tips of the ribs from wear and tearing out, and the particular matter of my improvement will be set out in the claims appended hereto, in connection with the accompanying drawings, in which—

Figure 1 shows a portion of the umbrella with my improved coiled-spring ring retainer applied to hold the tips of the ribs close to the handle. Fig. 2 shows the coiled-spring ring retainer, the coils partly broken away to expose the manner in which the meeting ends of the ring are fastened by my improved coupling-link, the teeth of which are seen as projecting between and engaging and locking the coils of the meeting ends of the spring-ring. Fig. 3 shows the improved coupling-link enlarged and the way in which the coils of the meeting ends of the spring ring retainer are engaged with and locked by the screw-threads of the fastening-link. Fig. 4 shows two forms of coupling-links with surface teeth of different constructions.

The spring ring retainer 1 is made from a coil of wire, and its ends are fastened together by a link 2, the novelty of which resides in being of equal diameter from end to end, the segment of a curve corresponding to the circle of the retainer and provided with a plurality of surface teeth 3, having a form whereby they are caused to enter between and engage and lock the coils in applying the ends of the spring-ring to the link. The link has a diameter to fit closely within the hollow of the spring-ring, and being the segment of a circle corresponding to that of the ring serves to hold the coils close together and allows it to be of a length to engage a plurality of teeth with a plurality of the coils at the meeting ends of the spring-ring. The teeth of the link may be of different forms, as shown, but of whatever form they must have a uniform projection from a link of uniform diameter and adapted to have a locking function with the ring-coils. In Figs. 2 and 3 such form is a screw, the threads of which project between and interlock with a number of the coils of the spring-ring to fasten their ends together. In Fig. 4 the link at the left hand has teeth formed by concentric ridges in cross-section shaped like saw-teeth, their shoulders standing from each end toward the middle of the length of the link, so that a plurality of the coils of the ring will engage and be locked to a multiple of the link-teeth on their shoulder sides. In the same figure the link at the right has teeth formed by staggered barbs, the shoulders of which stand from each end toward the middle of the link and engage between and lock with a plurality of the coils at each end of the link. Whether in the form of the screw or of transverse shoulders, the teeth permit the link to be pushed into the coiled-spring ring at each end thereof a distance of half the length of the link, and in doing so the teeth pass between and are locked with a series of the spring-coils. Solder is then applied as a reinforcing on the ring around its coils, which are interlocked with the teeth of the link and the fastening thus reinforced and made secure, the solder filling the interstices between the teeth and the ring-coils.

In applying the link the ends of the coiled spring can be twisted or rotated on or over the teeth so that the ends of the coil will meet.

I claim—

1. A retainer for the tips of umbrella-ribs consisting of a ring formed from coiled wire and a link curved to conform to the circle of the ring, of uniform diameter and provided with a plurality of teeth having a uniform projection from the walls of the link forming shoulders facing toward the center from both ends of said link, whereby they are adapted to project between and be interlocked with a plurality of the coils of the ring.

2. A retainer for the tips of umbrella-ribs consisting of a ring formed from coiled wire

and a link having the form of a segment of the circle of the ring, of uniform diameter, its walls formed with teeth from end to end of uniform projection forming shoulders facing toward the center from both ends of said link, whereby they are adapted to project between the coils of the ring in positive engagement therewith, the coils and the teeth supplemented by solder to reinforce the engagement of the coils with the teeth.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES IRVING BEALMEAR.

Witnesses:

VIRGINIA MCCARTHY,

JAS. A. BEALMEAR.