

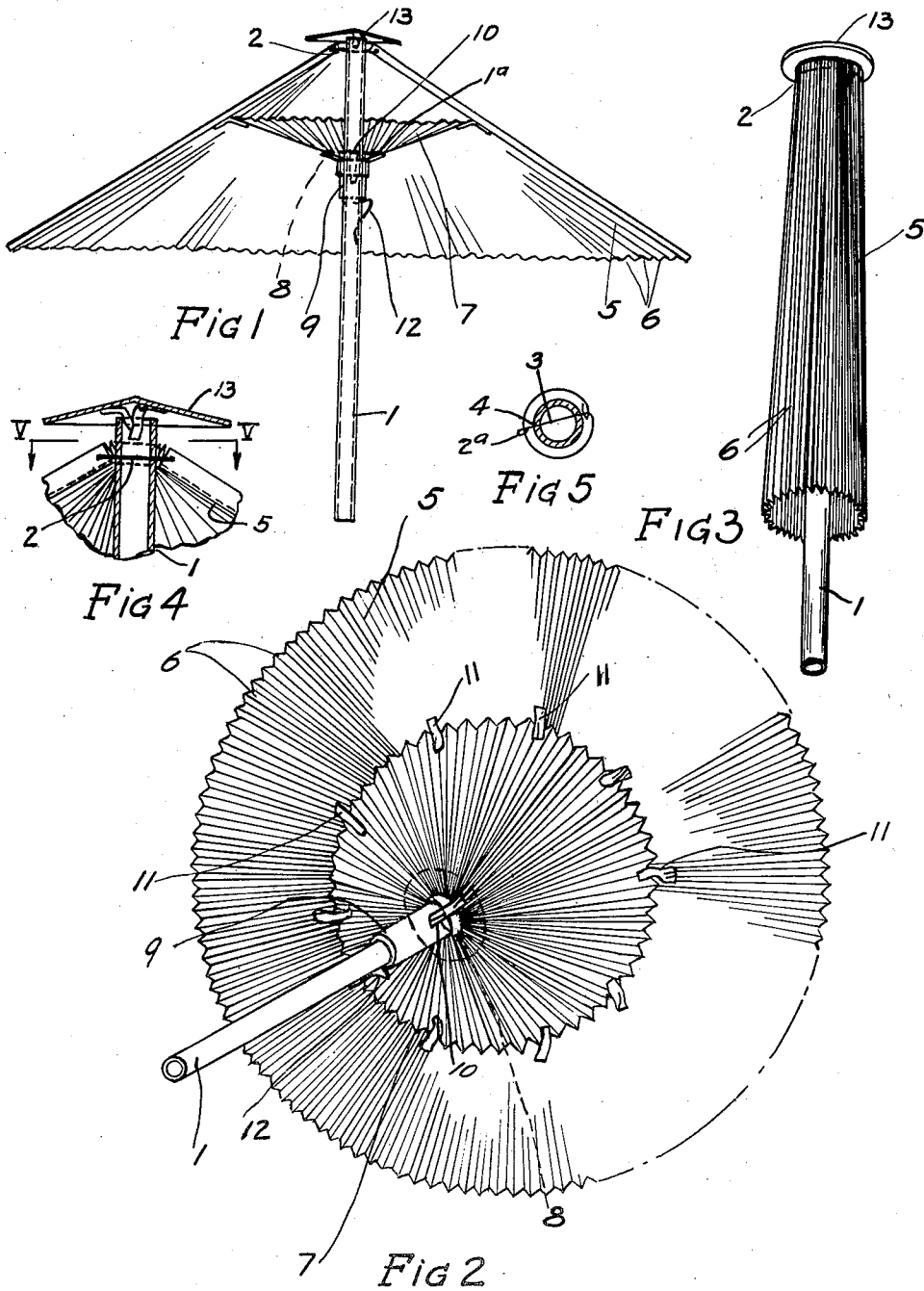
Aug. 27, 1940.

L. SWEET ET AL

2,213,058

UMBRELLA

Filed July 31, 1939



Louise Sweet INVENTORS
Lois Sweet
BY Edward W. Weiser
ATTORNEY.

UNITED STATES PATENT OFFICE

2,213,058

UMBRELLA

Louise Sweet and Lois Sweet, Chicago, Ill.

Application July 31, 1939, Serial No. 287,522

6 Claims. (Cl. 135—20)

This invention relates to an umbrella made from water proof paper or the like and concerns itself primarily with new and novel features of construction whereby a pleated cover can be readily expanded or collapsed without distorting or damaging the same.

Attempts have been made in the past to use pleated water proof paper for making emergency umbrellas, but with little or no success. For example, pleated paper sheets have been attached to handles with pleated expanding cones within. Such structures are impracticable, since it is impossible to bring or contract the pleated folds of the covers at the apex to such a small diameter as to properly engage or fit the handle or to produce a water tight joint. The same objection applies to the expanding cones which also fail to provide the necessary leeway for expanding and collapsing the cover.

The present invention overcomes the above noted defects in supporting the pleated cover at its apex upon a circle much larger than the diameter of the handle to provide for the necessary expansion when the umbrella is opened, and in the use of an expanding cone that can be expanded or collapsed without distortion or injury to the parts and that provides the necessary leeway that is required for expanding the pleated cover.

Other and further novel features and results will become apparent as the description proceeds.

The invention comprises the novel structure and combination of parts hereinafter described and more particularly pointed out and defined in the appended claims.

In the accompanying drawing which illustrates the preferred form of this invention and in which similar reference numerals refer to similar features in the different views:

Fig. 1 is a sectional vertical view through an expanded umbrella, involving this invention.

Fig. 2 is an interior view of the umbrella in expanded position.

Fig. 3 is an elevational view of the umbrella in collapsed position.

Fig. 4 is a fragmentary sectional view at the apex of the umbrella.

Fig. 5 is a sectional view taken upon the line V—V of Fig. 4.

In referring to the drawing, which illustrates a preferred form of this invention, it will be noted that there is shown a tubular handle 1 which may be made of paper or cardboard or the like. A metal or wire ring 2 surrounds the upper end of the rod. This ring 2 is preferably formed by

bending a strip of wire into a round loop so as to provide an excess of wire at one terminal thereof and then bending this excess wire diametrically across the loop as indicated at 3 and extending it through an aperture 4 in the handle. The free end of this excess wire may then be coiled about the opposite side of the ring as shown at 2a. In other words, the ring 2 has a diametrically extending fulcrum strip that extends through an aperture in the handle for supporting the ring.

Upon the ring 2, there is threaded, the umbrella cover 5 which is preferably made of water proof paper and which is pleated as indicated at 6. Of course, the cover is made so as to normally form a truncated cone when assembled.

For the purpose of expanding or collapsing the cover, there is provided a pleated truncated paper cone 7 that surrounds the handle within the cover. A wire ring 8 is threaded through the apex portion of this cone to provide for ready contraction and expansion of the pleats. A paper sleeve 9 is slidably mounted upon the handle 1 just below the cone and this sleeve is provided with flexible tabs 10 pasted or secured to the cone in a manner not to interfere with the contraction or expansion thereof.

The expanded edge of the cone 7 is flexibly attached to the cover by flexible hinges 11 which may be in the form of strips of fabric or the like. These hinges are so designed as to length and so attached as to provide for the necessary movement of the parts without distortion. The handle is provided with the usual snap latch 12 for engaging the sleeve 9 for holding the umbrella open, and a stop pin 1a within the cone 7 to act as a stop therefor during its upward and expanding movements.

Upon the top of the handle there is secured a waterproof shield 13 which is preferably slightly conical for shedding the rain and preventing the same from entering at the apex of the cover at the ring 2.

It will be appreciated that by threading the pleated cover 5 upon the ring 2, the pleats can be readily contracted and expanded. There will be no jamming of the pleats or distortion thereof. It is essential that the pleats be freely supported at the apex of the cover in order to provide a free and easy operation of the umbrella without distorting or damaging the cover at the apex, a thing that would occur if the apex were rigidly secured to the handle.

In like manner through the ring 8, the cone 7 is orderly expanded and contracted and the flexible hinges 11 allow such movement and adjust-

ment of the pleats in the cover as is required for the proper functioning of the parts.

We are aware that many changes may be made and various details of construction may be varied without departing from the principles of this invention and we do not propose limiting the patent granted thereon otherwise than necessitated by the prior art and appended claims.

We claim as our invention:

10 1. An umbrella comprising a handle, a ring supported upon the upper end of said handle, a pleated cover threaded upon said ring for free movement thereon, a pleated cone surrounding said handle within said cover, flexible hinges
15 connecting said cone and cover, a sleeve slidable upon said handle beneath said cone, flexible means connecting said sleeve and cone and a shield upon the upper end of said handle overlying said ring.

20 2. An umbrella comprising a handle, a ring having a diametrical support threaded through the upper end of said handle, a pleated cover threaded upon said ring and freely supported thereon for expanding and contracting move-
25 ments, a waterproof shield attached to the upper end of handle and overlying the spaces defined by said ring, and a cone expander upon said handle within said cover and having flexible hinge connection with said cover.

30 3. An umbrella comprising a handle, a ring supported upon the upper end of said handle, a pleated cover of waterproof paper threaded

upon said ring and freely suspended therefrom to allow free and ready expansion and contraction of said pleats, a waterproof shield upon the upper end of said handle overlying said ring and expanding means within said cover. 5

4. An umbrella comprising a handle, a ring surrounding the upper end of said handle and secured thereto, a pleated paper covering threaded upon said ring and freely supported thereon, a waterproof shield upon the upper end of said handle overlying said ring, a conical pleated expander surrounding said handle within said cover, a ring threaded through said conical expander and means for operating said expander. 10

5. An umbrella comprising a handle, a circular support spaced from and surrounding the upper end of said handle, a pleated waterproof paper cover threaded upon said circular support for free movement thereon, a shield upon the top of said handle overlying said support and expanding means within said cover carried by said handle for expanding said cover. 15 20

6. An umbrella comprising a handle, a circular support around the upper end of said handle, a pleated cover threaded upon said circular support and freely suspended therefrom, a conical pleated expander surrounding said handle within said cover, flexible hinges connecting said expander and cover and means slidable on said handle for operating said expander. 25 30

LOUISE SWEET.
L.G.'S SWEET.