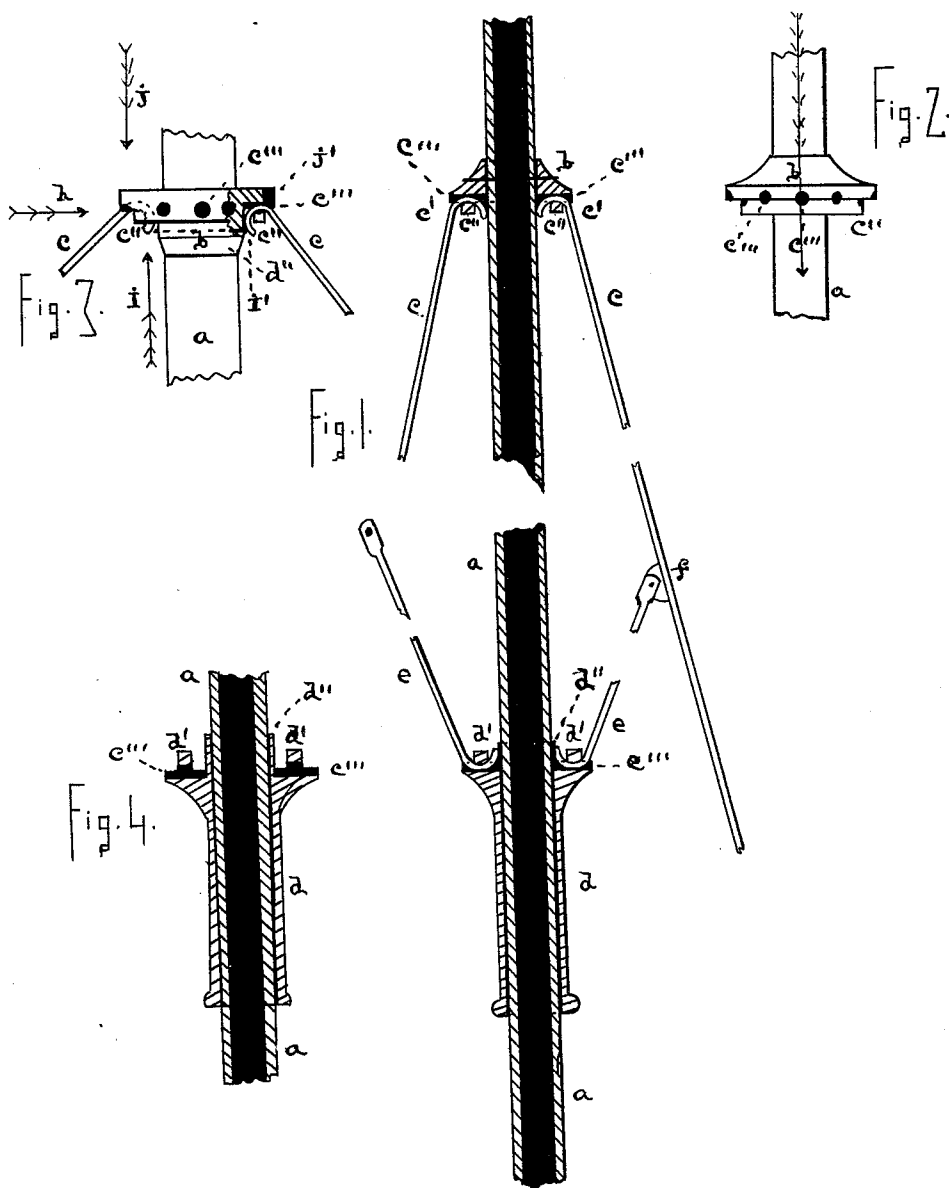


L. L. TREMAN.

UMBRELLA.

No. 175,307.

Patented March 28, 1876.



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UNITED STATES PATENT OFFICE.

LAFAYETTE L. TREMAN, OF ITHACA, NEW YORK.

IMPROVEMENT IN UMBRELLAS.

Specification forming part of Letters Patent No. 175,307, dated March 28, 1876; application filed January 17, 1876.

To all whom it may concern :

Be it known that I, LAFAYETTE L. TREMAN, of Ithaca, Tompkins county, New York, have invented a new and useful Improvement or Fixture for Umbrellas, which improvement I have set forth in the following specification, reference being had to the accompanying drawings.

My invention relates to the construction of the frames of umbrellas, and the nature of my invention will be apparent as I describe it.

Figure 1 is an elevation of my umbrella, showing, in part, the handle or staff, the stretchers or braces, the spreaders or bows, the notch or top piece, and the runner or hand-slide, which have my improved hinge affixed to them. Fig. 2 is a side elevation of my top piece, showing the manner of making the holes for the circular hooks of the bows and braces. Fig. 3 is designed to show a modification of my top piece, and Fig. 4 shows the runner without the braces.

In Fig. 1, *a* is the handle or staff, and *b* is the top notch, and *c c* are two of the spreaders or bows, bent to a semicircular hook at their top *c'*, where they pass through apertures in the projection, partition, or septum *c''*; and *d* is the runner or hand-slide, with a like arrangement about the septum on its top *d'*, through which the hook of the brace or stretcher *e* passes. At *f* is a curved piece of metal, joined by solder to the light steel spreader or bow *c*, to which the brace is fastened by a pivot.

My peculiar hinge will be particularly described. The apertures *c'''*, Fig. 2, are seen to be circular and cut away in part to their middle, and are made preferably as follows: A blank is cast, or otherwise made, and holes *c'''* are drilled equally apart in the circumference of the blank, through to the hollow just within the septum. (See Fig. 1.) Next, the base of the blank is cut, preferably, (see Fig. 4,) so as to leave the septum *d'* of that figure and the tube *d''*, care being had to cut to the center of the holes *c'''* of the various figures. This leaves the top piece or runner as seen in the figures. And it is apparent that, when the umbrella is expanded, the straight part of the bows and of the braces, next to the curve of the hooks of the tops of

the bows and bottom of the braces lie in the cavity thus left of that part of the holes outside of the septums *c''* and *d'*, and that thus the bows or spreaders and the braces or stretchers are stiffly held when the umbrella is expanded.

The object of that part of the runner called the tube *d''* is to afford the hooks a bearing on this tubular part and not on the handle, for the purpose of preventing the defacing of the handle by these ends of the hooks, and to afford a firmer joint when the same tubular part is made to the top piece *b*.

Numerous equivalents to my device suggest themselves. It will be seen that, in Figs. 1 and 2, the septum *c''* is a ring suspended from the piece *b*, above which is another ring—also part of the piece *b*—which has the bracing *c'''*, which I have described. And the bracing may be made by cutting slots through the ring, above the septum, of a width equal to the bows or stretchers, in the direction indicated by the arrow in Fig. 3. This gives a less support to the bows or stretchers, yet does not destroy the stiffening of the frame in the manner I have described. And, that I may show how very flexible is the arrangement of these parts—viz., the septum-ring and the brace-ring, as well as the tubular part *d''* of Figs 1 and 4—I have, in Fig. 3, changed considerably the situation and proportions of these various parts. The tube *d''* is made longer and thicker than in Fig. 1, and, by a pin through it, holds the top piece to the staff *a*, and the holes *c'''* are drilled as shown by the arrow *h*, but the septum is not cut out by turning, but has simple drill-holes made, as seen by the arrow *i*, and in section at *i'*; and to complete the change a saw-cut is made, as indicated by the arrow *j*, and seen in section at *j'*. Yet it is evident that these changes leave the component parts of my invention—viz: the septum-ring—adapted to hold a stretcher or bow, with a semicircular hook on its end in it, and with a bracing against a part of the top piece on the sides of the straight part of the bow or stretcher, just outside of the hook. So of other modifications I might describe.

It is not necessary to describe methods of stamping, spinning, or by dies making my

improved top piece and runner, or the joints of these, either wholly or in part, as these methods are well understood. Be the process of construction what it may, it is the special construction and combination of hooked bows or spreaders and stretchers, and the apertures through the septum or projection, as shown, which apertures, arches, spaces, or similar portions act as bracing spaces or mortises, that constitutes my invention. The further uses and advantages of my invention are apparent to those skilled in the art to which it appertains.

I claim—

1. The rings, septums, or projecting circles c'' and d' , made as part of the top piece and slide piece, parallel to the handle of the um-

brella, and parallel to the tubular part d'' , and perforated for the hooked stretchers e and spreaders c , substantially as set forth.

2. The septum or projecting ring, made as described, in combination with the bracing apertures or slots for the hooked spreaders and stretchers, for holding or bracing said spreaders and the stretchers, substantially as shown and described.

3. The septum or ring-projection described, and the bracing parts, apertures, or slots, in combination with the tubular post d'' of the top piece and slide, as shown and described.

LAFAYETTE L. TREMAN.

Witnesses:

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