

J. C. HURCOMBE.

RING BINDERS FOR UMBRELLA-CASES.

No. 177,400.

Patented May 16, 1876.

Fig. 1.

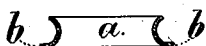


Fig. 2.

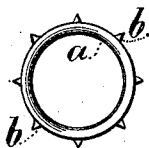


Fig. 3.

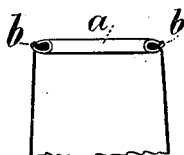
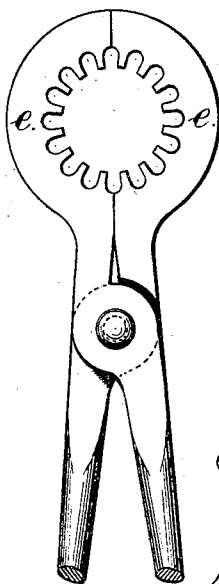


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN C. HURCOMBE, OF NEW YORK, N. Y., ASSIGNOR TO DAVID W. ODIORNE,
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IMPROVEMENT IN RING-BINDERS FOR UMBRELLA-CASES.

Specification forming part of Letters Patent No. **177,400**, dated May 16, 1876; application filed
August 9, 1875.

To all whom it may concern:

Be it known that I, JOHN C. HURCOMBE, of the city and State of New York, have invented an Improvement in Metal Ring-Binders for Umbrella-Cases, &c., of which the following is a specification:

Umbrella-cases have been made with a metal ring-binder at the lower end, and the fabric of the case has been drawn into such ring-binder by a cord, or confined to an eyelet-ring by a metal washer. My improved ring-binder is made for dispensing with the cord and the metal washer. I make use of a concave ring-binder, with numerous projecting teeth around one edge that penetrate the paper or other fabric, to hold the same, and the binder, when flattened, is hollow, and the edges clamp the fabric and hold the same firmly. I use a concentrating instrument that holds the material into the ring binder while it is being closed.

In the drawing, Figure 1 is a sectional view of the binding-ring. Fig. 2 is a plan of the same. Fig. 3 is a section of a portion of the umbrella-case with the ring attached thereto, and Fig. 4 is a plan of the concentrating instrument.

The ring *a* is made with the circumference concave, the section being a segment of a circle, as shown in Fig. 1, and around one of the edges there are teeth *b b* projecting, and these are sufficiently numerous to penetrate and hold the material to which the binder is attached. The paper, muslin, or other material of the umbrella-case is held into this ring-binder while the same is compressed edgewise, so as to close the edges toward and upon each other and clamp the material between said edges, as seen in Fig. 3. For this purpose I make use of forceps with semi-circular jaws *e*

e, as seen in Fig. 4. The opening between these jaws is of a diameter corresponding with the diameter of the smaller portion of the ring-binder, and the jaws are thin, so as to act as concentrating-blades, to press the fabric into the groove of the ring-binder and hold the same in position while the binder is compressed. It will generally be best to give a second blow or compression to each binder after the concentrating-tool has been removed, so as to hold the fabric firmly between the edges of the ring, and also by the teeth *b*, which penetrate such material and turn over to clasp the other edge of the ring.

I do not claim a concave ring-binder, and I am also aware that eyelets have been notched at the smaller end to form teeth, when spread and flattened.

I claim as my invention—

1. The ring-binder, of sheet-metal, made sectionally as an arc of a circle, with penetrating-teeth projecting from one edge, as and for the purposes set forth.

2. The method herein specified of inserting metal ring-binders into umbrella-cases, consisting essentially of first gathering and holding the fabric into the grooved ring by means of the concentrating instrument, and compressing such ring edgewise, then removing the concentrating instrument, and afterward compressing such binder firmly, substantially in the manner and for the purpose set forth.

Signed by me this 3d day of August, A. D. 1875.

JOHN C. HURCOMBE.

Witnesses:

GEO. D. WALKER,
CHAS. H. SMITH.