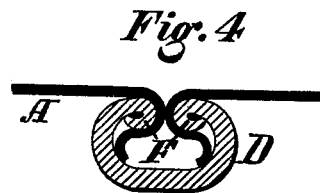
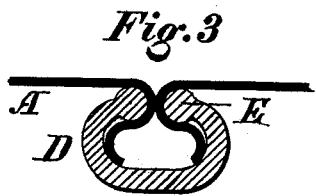
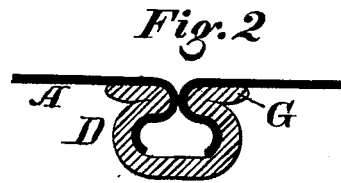
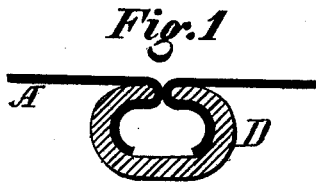


J. P. ONDERDONK.

UMBRELLA.

No. 185,695.

Patented Dec. 26, 1876.



John P. Onderdonk.

Witnesses

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Attorney

UNITED STATES PATENT OFFICE.

JOHN P. ONDERDONK, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN UMBRELLAS.

Specification forming part of Letters Patent No. **185,695**, dated December 26, 1876; application filed May 29, 1876.

To all whom it may concern:

Be it known that I, JOHN P. ONDERDONK, of the city and county of Philadelphia, in the State of Pennsylvania, have invented a new and useful improvement in the method of making up the coverings of umbrellas and parasols, and attaching the same to the frames, for which Letters Patent of the United States were granted to me upon the 7th day of March, A. D. 1876, and numbered 174,430, to which Letters Patent reference is to be made for the better understanding of the following specification, which I hereby declare to be a full, clear, and precise description of my improvement.

In my former patent, referring to the fourth figure of the drawing thereto annexed, I state that "a long gutter-shaped clamp, D, alone forms the rib, and, being squeezed up, secures the covering within itself without auxiliary device;" claiming the same in the third clause as "the clamp-rib D, (shown in Fig. 4 of the drawing,) as and for the purpose specified."

In practice, I have found that the clamp-rib specified cannot be squeezed up with such regularity as to render it invariably reliable in retention of the covering.

The object of my present invention is to remedy the above defect in my former clamp-rib, to which end it consists in a tempered metal or otherwise elastic spring clamp-rib, constructed and operating in the manner hereinafter set forth.

The accompanying drawings represent in cross-section four forms of my improved rib, the principle of elastic compression being identical in all, but the mechanical structure slightly different.

In all the figures similar parts are denoted by the same letters of reference.

A is the covering; D, the spring clamp-rib, the same being gutter or channel shaped, as before, but so tempered or otherwise formed as ordinarily to remain closed up upon itself, requiring to be forced open by any convenient means for the admission of the covering,

upon which, when once entered, it clamps itself tightly up again with a forcible, even, and continuing spring-pressure, retaining the same rigidly in place without possibility of loosening or escape.

In Figure 1 of the drawing, the simplest form of the above-described spring clamp-rib is shown.

To remedy any chance cutting or fraying of the covering, I round off or otherwise finish the edges of the rib, or form upon them or attach to them by any method, flanges, edges, or the like, G.

In Fig. 2, flanges G, properly so called, are worked upon the rib, having the additional advantages of so supporting the covering along their extent as to protect it from injury and cause it to assume a perfectly even appearance. In Fig. 3 the edges of the rib are thickened or worked up into the form of beads E, while in Fig. 4 the edges are edged, F, in the common manner of the metal-worker. Any thickening or blunting, however, will answer the purpose, and it is sometimes in addition best to roughen, corrugate, or even serrate the clamping-edges where uncommon strain is to be expected.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The spring clamp-rib D for umbrellas or parasols, constructed as specified, and adapted to secure the covering when entered within it by its own elastic compressive force, substantially as described.

2. In combination with the spring clamp-rib D, flanges, or their equivalent, substantially as described.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JNO. P. ONDERDONK.

Witnesses:

J. BONSALL TAYLOR,
C. B. TAYLOR.