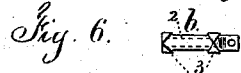
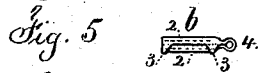
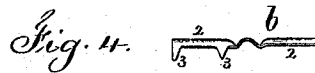
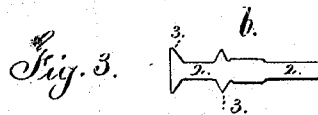
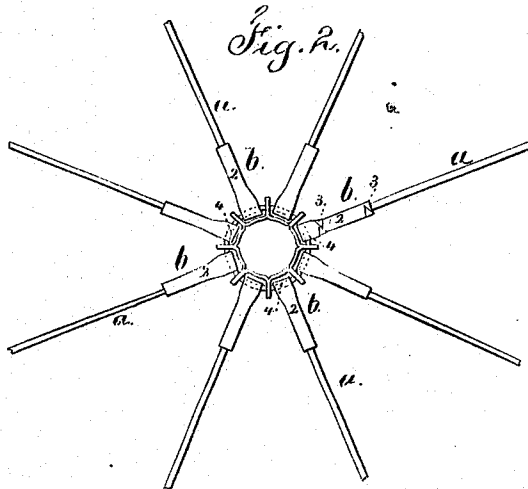
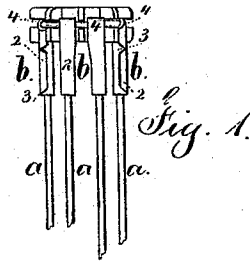


H. WINTER.
Umbrella-Ribs.

No. 159,624

Patented Feb. 9, 1875.



Witnesses

Charles Smith
Geo. V. Smith

Inventor

Henry Winter

for Lemuel W. Penell

att'y.

UNITED STATES PATENT OFFICE.

HENRY WINTER, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN UMBRELLA-RIBS.

Specification forming part of Letters Patent No. **159,624**, dated February 9, 1875; application filed November 24, 1874.

To all whom it may concern:

Be it known that I, HENRY WINTER, of Jersey City, in the county of Hudson and State of New Jersey, have invented an Improvement in Umbrella and Parasol Frames, of which the following is a specification:

Steel wires have heretofore been used for umbrella and parasol ribs, and at the end of the rib that is jointed to the crown it is usual to flatten the metal and punch a hole in the same. In doing this the metal is often injured, and the joint breaks either in the manufacture or in use, and this risk is increased by the thin flattened end becoming too highly heated in hardening process.

My improvement relates to making the joint at the end of the steel wire rib out of sheet metal, whereby greater strength is obtained and the joint can be repaired if broken, instead of the rib becoming entirely useless, as heretofore.

I make use of a strip of sheet metal that is folded in the middle to form the eye, and the end portions are bent into trough shapes to surround the end of the rib and clasp the same while being soldered to place. By this improvement it is not necessary to form the sheet-metal tip into cylindrical shape, as has heretofore sometimes been done, and the eye is in the strongest portion of the metal.

In the drawing, Figure 1 is a view of part of the umbrella-frame at the crown. Fig. 2 is a plan view of the same. Fig. 3 shows the

sheet-metal blank, as cut out, and Fig. 4 shows a side view of the same. Figs. 5 and 6, different views of the same, as bent up ready to be applied to the rib.

The rib *a* is preferably of steel wire, and the end thereof is simply in the condition in which it is cut off. The clip *b* is cut out of sheet metal, preferably in the form shown in Fig. 3, with the tongues 2 2 and clasping-points 3 3, but the clasping-points 3 may be omitted. The tongues 2 2 are each bent up into a trough shape, as seen in Fig. 4, and then the clip is bent in the middle to form the eye 4, as seen in Fig. 5, or to receive a hole, as in Fig. 6, for the crown wire, and the end of the wire rib *a* is inserted into this clip and soldered. If the points 3 3 are used, they are bent up to clasp around the portions 2 of the clip and hold the same together and to the end of the rib previous to soldering the parts of the clip to each other and to the rib.

I claim as my invention—

The clip at the end of the umbrella or parasol rib, made of a strip of sheet metal folded to form the eye, and bent to conform to the shape of the rib and soldered thereto, as set forth.

Signed by me this 20th day of November, 1874.

HENRY WINTER.

Witnesses:

WM. W. BROWNLEE,
ALEX. McLEAN.