

J. SHEPARD.

Manufacture of Umbrella-Stretchers.

No. 139,088.

Patented May 20, 1873.

fig. 1.



fig. 2.



fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

JOSIAH SHEPARD, OF NEW BRITAIN, CONNECTICUT.

IMPROVEMENT IN THE MANUFACTURE OF UMBRELLA-STRETCHERS.

Specification forming part of Letters Patent No. **139,088**, dated May 20, 1873; application filed December 27, 1872.

To all whom it may concern:

Be it known that I, JOSIAH SHEPARD, of New Britain, in the county of Hartford and State of Connecticut, have invented a new Improvement in Umbrella-Stretchers; and I do hereby declare the following, when taken in connection with the accompanying drawing and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawing constitutes part of this specification, and represents in—

Figure 1, a side view; Fig. 2, an edge view; and in Fig. 3, a transverse central section at the center, enlarged.

This invention relates to an improvement in the article of manufacture known as umbrella-stretchers. These are usually made from wire drawn to the size and form for the purpose, and drawn as hard as will enable the working or shaping of the ends, the one for attachment to the rib, and the other to the runner; but in order to make these of sufficient strength to withstand the strain a larger wire is required than would be if a still harder material were used. The object of this invention is to so construct the stretcher that a much lighter wire may be used; and the invention consists in a stretcher tempered from the center toward each end by the process of hammering or pressing after the wire has been drawn to the desired size, leaving the ends the original temper of the drawn wire.

In producing my improved stretcher, I employ the usual metal, but of several numbers smaller, and I submit this wire to a hammering or compressing process from near one end of the stretcher to the other, as from *a* to *b*, Fig. 1, leaving the ends the original temper.

This hammering or pressing refines or hardens the metal, giving it an increased degree of elasticity; the ends are then finished in the usual manner, and the whole japanned or surface-finished, and the stretcher is complete and ready for use.

Practically, it is better to submit the stretcher to this process before forming the ends; but this may be done subsequently.

This increased elasticity will return the stretcher to its original position from a strain which would bend the ordinary stretcher; hence possessing this advantage in addition to lightness.

In this process an oval shape may be given to the wire in transverse section, substantially as shown in the drawing, the stretcher being a little wider and thinner at the center than at the ends. While I prefer this form it is immaterial what the form is, as the stretcher may be wrought into a concavo-convex form in transverse section at the center, dying out at each end, or concave upon one side and flat upon the other, preserving the original width.

The form of the stretcher is no part of my invention.

I claim as my invention—

As an article of manufacture, the herein-described stretcher for umbrellas, tempered or made elastic from the center toward each end by the process of hammering or pressing, substantially in the manner described, from the center toward each end.

JOSIAH SHEPARD.

Witnesses:

JOHN E. EARLE,
A. J. TIBBITS.