No. 703,910. Patented July 1, 1902.

S. S. FRETZ.

UMBRELLA FRAME.

(Application filed Oct. 24, 1901.)

(No Model.)

Fig. 1.

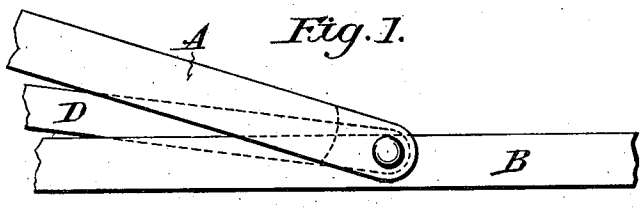


Fig. 2.

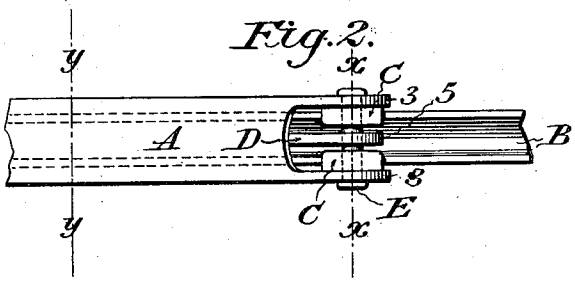


Fig. 3.

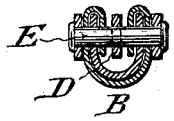
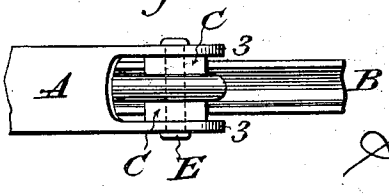


Fig. 4.



Fig. 5.



Witnesses:
Brow Reed
Thos S Reed

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

SAMUEL S. FRETZ, OF PHILADELPHIA, PENNSYLVANIA.

UMBRELLA-FRAME.

SPECIFICATION forming part of Letters Patent No. 703,910, dated July 1, 1902.

Application filed October 24, 1901. Serial No. 79,834. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL S. FRETZ, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented new and useful Improvements in Umbrella-Frames, of which the following is a specification.

My invention has for its object making a locking umbrella-frame of the double-stretcher or, as it is sometimes called, the "storm-king" type. This type of umbrella-frame has had a good deal of vogue in places where high winds prevail, but on account of its clumsy appearance was avoided by particular persons. By making the ribs and the double set of stretchers (one set of "stretchers," though so named, really performing the office of links) interlock at the hinge the size of the umbrella-frame when closed can be very greatly diminished and the umbrella made upon it rendered nearly as small in closed diameter as those made upon frames of the usual construction. To accomplish this purpose, the paragon stretcher is made large enough to fit over the rib and is provided with a forked end, the forks of which lie on either side of the rib at the point where the hinge of the rib and stretcher are joined together and through which the pivot-pin that passes through the rib and the lap surrounding the same passes.

Describing now the best construction of which I am at present aware in which to embody my said invention, Figure 1 is a side elevation of my invented device. Fig. 2 is a plan view of the same. Figs. 3 and 4 are cross-sections on lines x x and y y in Fig. 2, and Fig. 5 is a view of a modification.

The rib B is a paragon rib of the ordinary construction, and the stretcher A is of a similar paragon construction, the stretcher being sufficiently larger than the rib to fit over it. Around the rib is the lap C, the ends of which are folded inside the side walls of the rib. The end of the stretcher is provided with the fork 3, preferably formed by removing a part of the oval belly portion which fits outside the lap and through which and the lap passes the pivot-pin E. The link stretcher D has an end 5, which lies between the ends of the lap and through which passes the pivot-pin E. This link stretcher can be a flat piece of metal, as shown in the drawings, and lies when the umbrella is closed in the tube formed by the paragon-shaped rib B and the paragon-shaped stretcher A. It will be noted that by this construction the umbrella will fold into a compass very little if any larger than the umbrella made upon a frame of the ordinary construction.

In Fig. 5 is a cross-section showing the construction where the link stretcher is circular in cross-section.

I can in some cases omit entirely the link stretcher and use only a single stretcher constructed as above described, by means of which a strong durable frame of small bulk is secured.

Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination with a paragon rib, of a paragon stretcher the bellies of the rib and stretcher lying away from each other when the umbrella is closed, a forked end of said stretcher, the forks of which lie at either side of said rib at the place of the hinge-joint between the rib and stretcher and a lap surrounding the rib and having its ends folded inside the said rib at said hinge, a link stretcher having a perforated end lying between the infolded ends of the lap, and a pivot-pin extending through the said rib lap, end of link stretcher, and the forked ends of the stretcher, said stretcher being sufficiently wide to receive the side walls of the rib within its trough, and forming a tube when the umbrella is closed within which the link stretcher will lie, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL S. FRETZ.

Witnesses:

GEO. W. REED,

PATRICK EVANS.