

G. & C. LIEB.

UMBRELLAS.

No. 178,068.

Patented May 30, 1876.

Fig. 1.

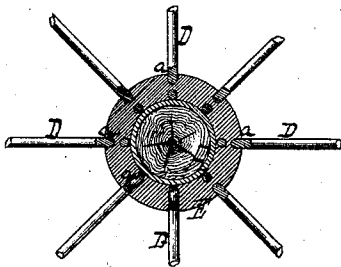


Fig. 2.

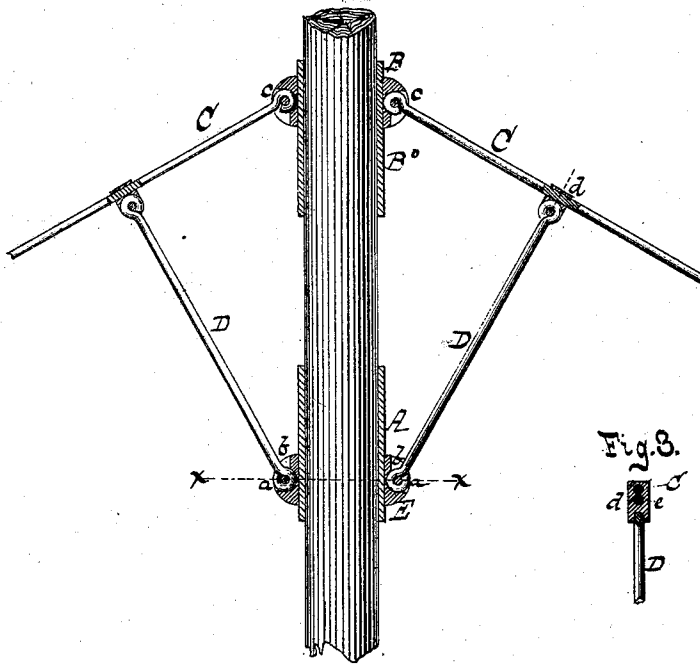
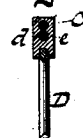


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

GEORGE LIEB AND CHARLES LIEB, OF NEW YORK, N. Y., ASSIGNORS OF
THREE-EIGHTHS THEIR RIGHT TO RICHARD G. RADWAY, OF SAME
PLACE.

IMPROVEMENT IN UMBRELLAS.

Specification forming part of Letters Patent No. 178,068, dated May 30, 1876; application filed
March 9, 1876.

To all whom it may concern:

Be it known that we, GEORGE LIEB and CHARLES LIEB, of the city, county, and State of New York, have invented a new and useful Improvement in Umbrellas and Parasols; which improvement is fully described in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a horizontal section in the plane *x x*, Fig. 2. Fig. 2 is a vertical section. Fig. 3 is a transverse section of one of the ribs, showing its connection with the stretcher.

Similar letters indicate corresponding parts.

This invention consists in combining with the stretcher or ribs of an umbrella or parasol a metal collar, which is cast in a mold into which the eyes of the stretchers or ribs are placed so that the fluid metal when poured into said mold will run through said eyes, and when the metal has set, the required hinge-joint connection between the stretcher and the runner and between the ribs and the head of the frame is produced without requiring any further labor; also, in a joint between the stretcher and rib of an umbrella or parasol, produced by casting on the rib a block of metal in a mold, into which the outer eye of the stretcher projects, so that a portion of the metal in being cast runs through the eye of the stretcher, and when the metal has set it adheres firmly to the rib, while at the same time the desired hinge-joint is produced.

In the drawing, the letter A designates the runner of an umbrella or parasol, and B is the head of the frame, which is composed of said runner and head, and of the ribs C and stretcher D. The connection between the stretchers and the runner is effected by casting on the runner a collar, E, by means of a mold, into which the eyes *a* of the stretchers are placed before the metal is poured in. The fluid metal on being poured into the mold flows through the eyes *a* and forms pivots on which, after the metal has set, the stretchers swing, the collar being provided with recesses *b* to allow the stretchers to close up against the stick.

The joints between the ribs C and the head B are made in the same manner as the joints

between the stretcher and the runner, said head being composed of a collar, which is cast so as to form pivots for the eyes *c* of the ribs. Said collar may be cast on a metallic ferrule, B^e, which is fastened to the stick, or it may be cast without such ferrule and fastened to the stick in any desirable manner.

The joints between the stretchers and the ribs are produced by casting in each of the ribs a block, *d*, of tin or other suitable metal by means of a mold, into which the eye *e* of the corresponding stretcher is placed, and as the fluid metal is poured into the mold it flows through said eye, and when the metal has set a pivot is formed, on which the stretcher swings.

By following this method of producing the various joints, we are enabled to save much labor. The ribs and stretchers can be made of round wires, the ends of which can be readily bent to form the required eyes, but said eyes may be produced in any other desirable manner, either by flattening the ends of the wires and punching holes through these flat ends, or by attaching to the ends of the stretchers and ribs separate flat pieces of sheet metal.

What we claim as new, and desire to secure by Letters Patent, is—

1. The combination of a metallic collar with the stretchers or ribs of an umbrella or parasol, said collar being cast so as to run through the eyes of the stretchers or ribs, and to form pivots, on which said stretchers and ribs swing, substantially as set forth.

2. In a joint between the stretcher and the rib of an umbrella, the combination of a stretcher, having an eye at its end, with a block which is cast on the rib and on the eye of the stretcher, so as to form a pivot extending through the said eye, substantially as described.

In testimony that we claim the foregoing we have hereunto set our hands and seals this 8th day of March, 1876.

GEORGE LIEB. [L. S.]
CHAS. LIEB. [L. S.]

Witnesses:

W. HAUFF,
CHAS. WAHLERS.