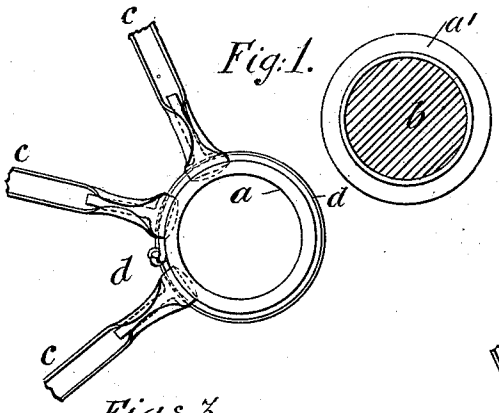
(No Model.)

L. ENGEL.

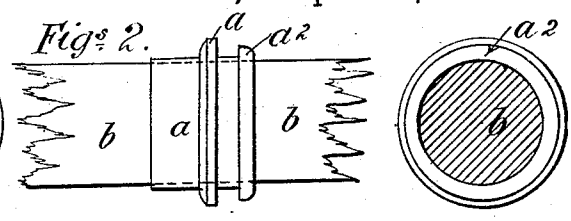
UMBRELLA OR PARASOL.

No. 285,021. Patented Sept. 18, 1883.

Fig. 1.



Figs. 2.



Figs. 3.

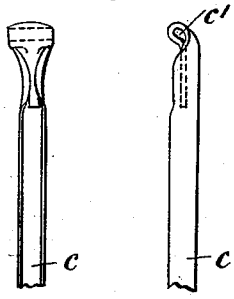
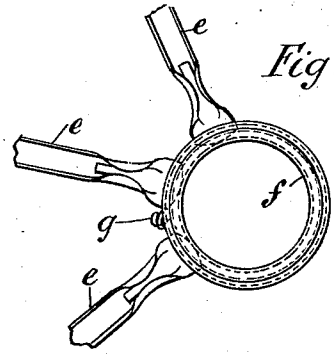


Fig. 4.



Figs. 5.

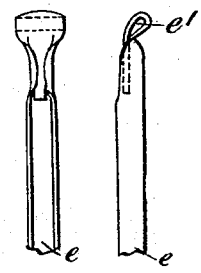


Fig. 6.

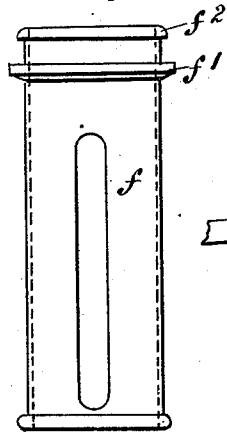


Fig. 7.

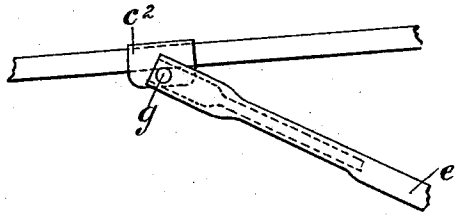
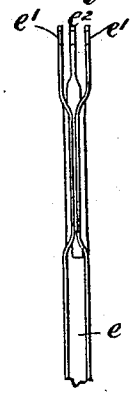
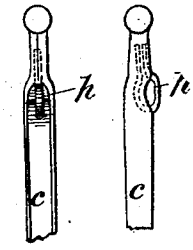


Fig. 8.



Figs. 9.



Witnesses.
Eugene V. Brown,
James Young

Inventor.
Lawrence Engel
By his attys—
Baldwin, Hopkins & Peyton.

N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

LAWRENCE ENGEL, OF LONDON, ENGLAND.

UMBRELLA OR PARASOL.

SPECIFICATION forming part of Letters Patent No. 285,021, dated September 18, 1883.

Application filed March 13, 1883. (No model.) Patented in England December 30, 1882, No. 6,239.

To all whom it may concern:

Be it known that I, LAWRENCE ENGEL, a subject of the Queen of Great Britain, residing at Mumford Court, Milk street, in the city of London, England, have invented certain new and useful Improvements in Umbrellas and Parasols, (for which I have received Letters Patent in Great Britain, No. 6,239, dated December 30, 1882,) of which the following is a specification.

This invention has for its object improvements in umbrellas and parasols.

My improvements are designed to reduce the size of umbrellas, admitting of their being made slimmer and of a more elegant appearance without sacrifice of strength or increase of cost.

My improvements tend also to render umbrellas more durable.

Figure 1 represents the joint at the upper part of an umbrella by which the ribs are connected. The figure shows the joint as it is seen from the inside of the umbrella. Three ribs only are indicated. Fig. 2 shows the top notch, or the flanged ring which serves as the top notch, and also a part of the stick. Fig. 3 shows the joint end of one of the ribs. Fig. 4 represents the joint between the stretcher and the runner as seen when the umbrella is open. Three stretchers only are indicated. Fig. 5 shows the joint end of one of the stretchers. Fig. 6 is an elevation of the runner. Fig. 7 shows the inner side of the stretcher end which is jointed to the rib. Fig. 8 shows in side elevation the end of the stretcher for making the joint between the rib and the stretcher. Fig. 9 shows the tip end of the rib.

a is a flanged ring, serving as the top notch. It has two flanges upon it. a' is the outer flange, and a^2 the inner flange, over which the ribs fold. *b* is a portion of the stick. *c c* are the ribs. They are formed with transverse passages c' through their ends.

d is the joint-wire threaded through the passages c' in the ribs and binding them into the space between the flanges a' and a^2. The top-notch part *a* is not notched or cut away, as is usual, to receive the ends of the ribs, and the absence of these notches is advantageous, as they chafe and wear the silk covering, besides which the notches are troublesome to cut. Sometimes I dispense altogether with the part *a*, and then I secure the ring of joint-wire *d* to the stick by staples driven into the stick and embracing the wire.

e e are the stretchers. They have transverse passages e' at their heads or ends next the runner, similar to the passages c' at the lugged or head ends of the ribs. *f* is the runner, which, like the part *a*, has flanges f' and f^2 upon it, and these are not notched, and consequently will not cut the silk. *g* is the ring of joint-wire binding the stretchers to the runner and forming the joint. The stretcher, it will be observed, is so formed as to admit of its folding close to the stick, its head being lugged or cranked to enter between the flanges f' and f^2.

The joints between the stretchers and the ribs I form by splitting the trough end of the Paragon stretcher *e*, and so forming two ends, e' e', and inserting a middle piece, e^2. The stem of the middle piece is placed in the trough end of the stretcher and secured by pressure with tools. Thus a double fork is made, which embraces a corresponding bit, c^2, provided upon the rib, and a joint pin or rivet, *g*, is inserted through the whole.

The eye upon the rib for the attachment of the silk or covering I form on the outer or convex side of the rib. The rib *c* is perforated, a double wire, *h*, to form the eye, is passed through, and the ends of the wire are secured in the trough of the rib by pressure with tools. By placing the eye on the convex side or exterior of the rib, I avoid liability to chafe the stick and I allow the ends of the ribs to lie closer against the stick than they otherwise would.

What I claim is—

1. The combination of the flanged ring *a*, stick *b*, ribs *c*, and ring of joint-wire *d*, substantially as described.

2. The combination of the stick *b*, the ribs *c*, having the lugged ends with passages, and the wire *d*, substantially as described.

3. The combination of the stretchers *e e'*, the runner *f*, and the ring of joint-wire *g*, substantially as described.

4. The trough-rib having the eye upon the outer or convex side thereof for the attachment of the silk, formed by perforating the rib and inserting and securing the loop of wire, substantially as and for the purpose set forth.

LAWRENCE ENGEL.

Witnesses:
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PERCY R. GOLDRING,
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