(No Model.)

J. T. SMITH.

UMBRELLA OR PARASOL.

No. 361,899. Patented Apr. 26, 1887.

Fig. 1.

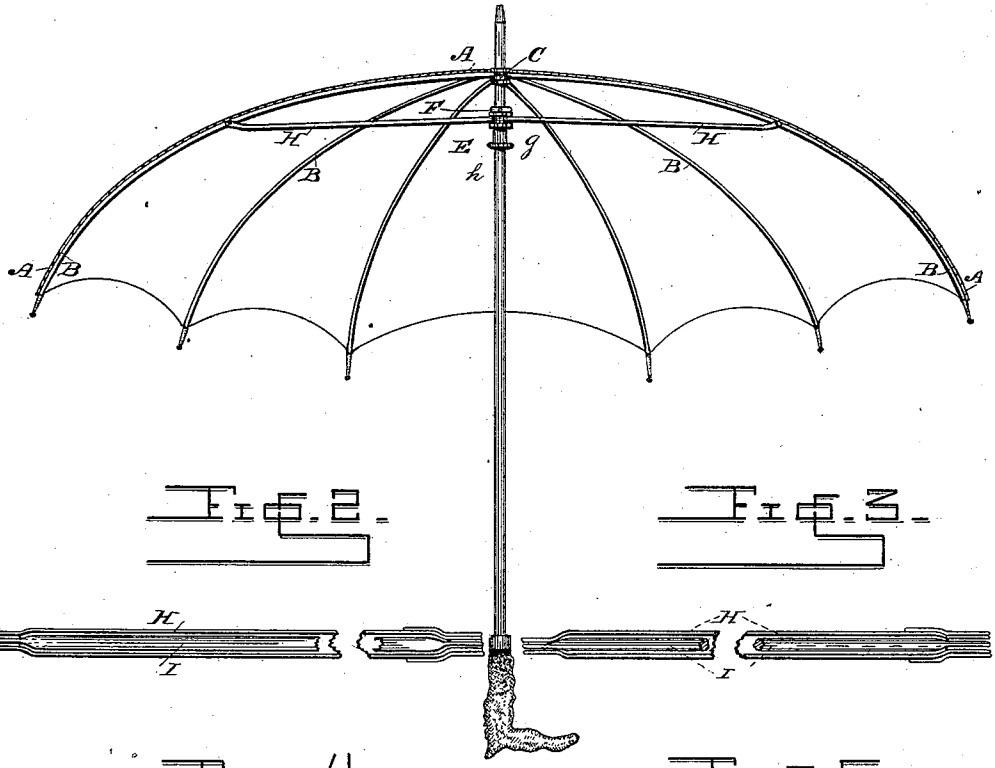


Fig. 2.

Fig. 3.

Fig. 4.

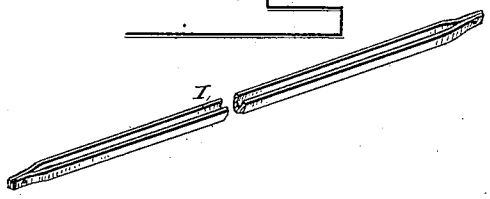


Fig. 5.

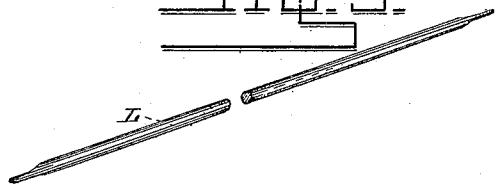


Fig. 6.



Fig. 7.



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UMBRELLA OR PARASOL.

SPECIFICATION forming part of Letters Patent No. 361,899, dated April 26, 1887.

Application filed September 16, 1886. Serial No. 213,665. (No model.)

To all whom it may concern:

Be it known that I, JAMES T. SMITH, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Umbrellas or Parasols; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has relation to an umbrella which is closed and opened and retained open without the use of springs.

In Letters Patent granted to me June 1, 1886, No. 343,079, I have described and claimed means for such operation applied to an umbrella opening and closing from the outside. I have found that when applying this principle to an umbrella opening and closing from the inside great strain is put upon the stretchers, which results in bending and rendering them the weakest part.

My improvement has for its object the strengthening of the stretchers, so as to render them inflexible, and to thereby render the principle described more practically applicable to an umbrella opening from the inside. By the means I employ for this purpose not only do I dispense with a spring for holding the umbrella open, but I construct a top which is far stronger in resisting pressure from wind or other cause, and for maintaining the cover smooth and taut when the umbrella is open.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side view, partly in section; Fig. 2, a plan view of a stretcher re-enforced by a grooved rod; Fig. 3, a similar view of a modification; Figs. 4 and 5, views in detail, respectively, of the re-enforcing parts; Figs. 6 and 7, details in cross-section thereof.

In the drawings, A is the top; B, the grooved ribs, the inner ends of which are secured to a notch, C, at the upper end of the stick.

E is a runner, provided with a notch, *g*, to which the stretchers are secured, and with a flange, *h*, which serves as a holder for the fingers in raising and lowering the runner upon the stick.

F is a metal ring on the stick between the runner and the rib-notch C, constituting a stop to limit the upper movement of the runner.

H are the stretchers, grooved as shown, and re-enforced by an additional grooved piece, I. The piece I is inserted with its open or inward side within the stretcher, with its rounded back facing the open face of the stretcher, as shown in Fig. 2. In this position the back of the piece I will enter the groove in the rib when the frame is closed. I may also pass it underneath the lap at the junction of the stretcher, with the rib thus re-enforcing the entire length of the stretcher. The re-enforce I may be secured to the stretcher by having its ends flattened and riveted with the ends of the stretcher to the rib at one end and to the notch at the other.

L is a modification of the re-enforce, and consists of a round, solid, stiff metallic rod, as shown in Figs. 3, 5, and 7; or the rod may be flat or arched. Its ends are flattened and provided with eyes for connection with the ends of the stretchers after it is placed therein.

I am aware that grooved umbrella-ribs have been partially strengthened by re-enforce parts to strengthen the lap at the point where the stretcher and the rib are joined, whereby additional stiffness to part of the rib is given to resist the action of the wind, while the outward curve of the rib is left flexible, whereas the object of my invention is not to re-enforce the ribs at all, but to permit them to remain flexible, while making the stretcher rigid at all points. It will be seen by my invention that when the umbrella is spread and the runner pushed up against the metal stop or ring the tension of the cover upon the ribs is such as to create a great inward and slightly-downward pressure upon the outer ends of the stretchers, which pressure, while holding the runner tightly to the stick, also tends to bend the stretchers at their center and to weaken them at that point. It is to prevent this bending and weakening that I have devised the stretcher re-enforce.

It is evident that my improvements are adapted to parasols as well as umbrellas.

What I claim is—

In a parasol or umbrella, a grooved stretcher provided with a re-enforce part within the groove to render the stretcher inflexible its entire length, in combination with grooved flexible ribs, whereby when the umbrella or parasol is closed the re-enforce part will be inclosed in the ribs, substantially as described.

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

JAMES T. SMITH.

Witnesses:

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