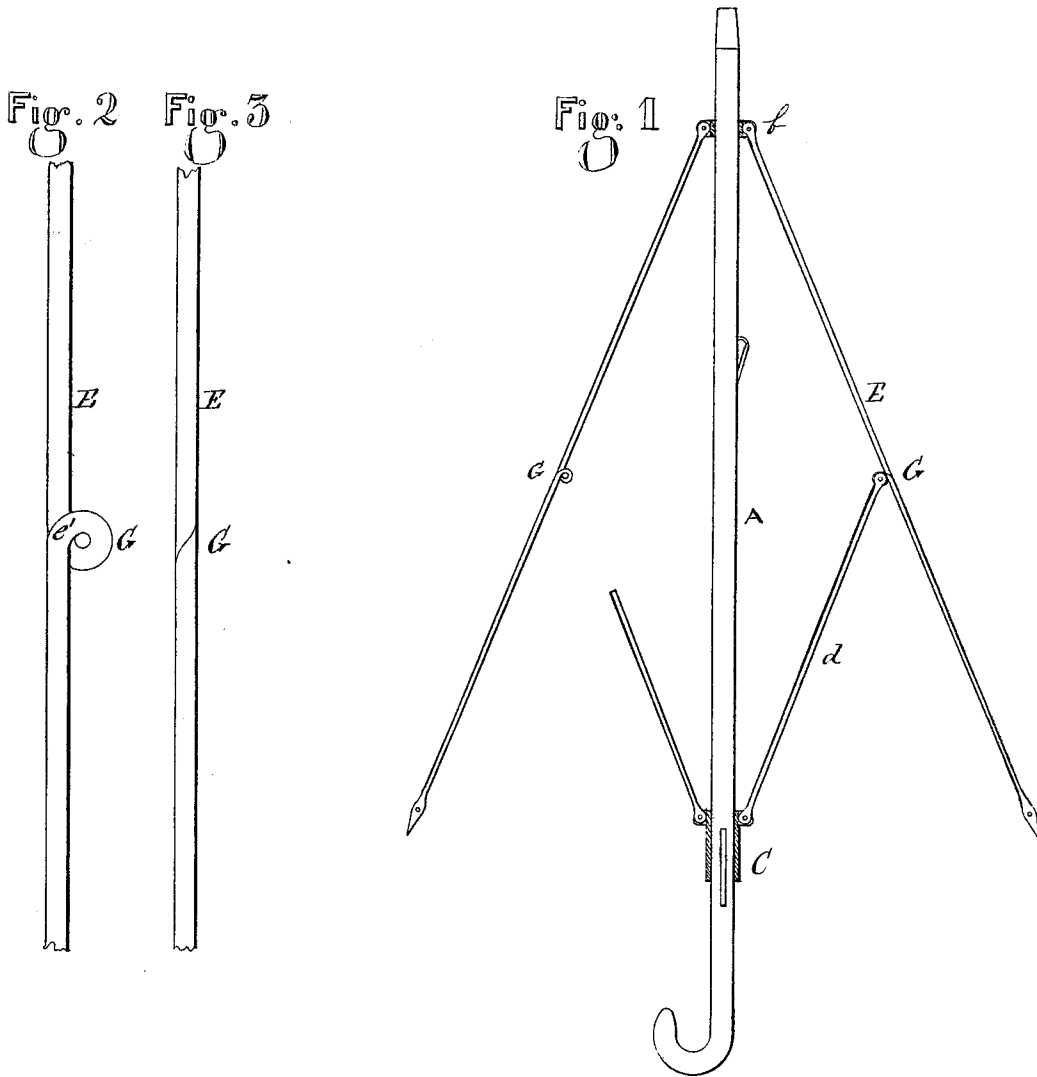


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Umbrellas.

No. 126,365.

Patented April 30, 1872.



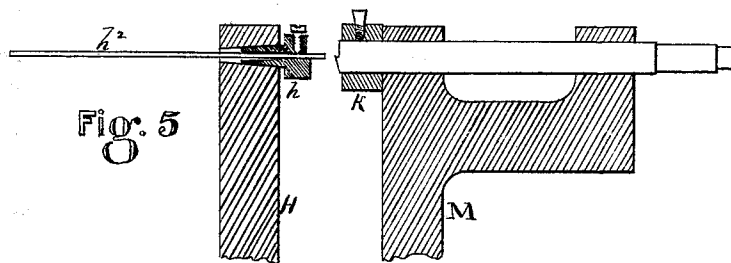
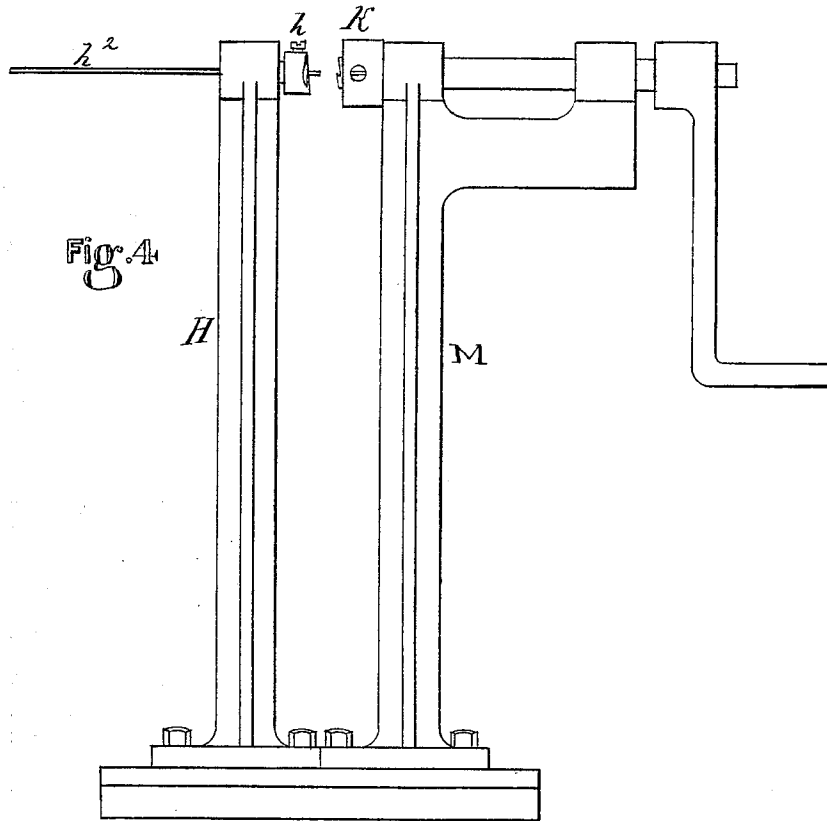
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Witnesses { *Edw. Brown*
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UNITED STATES PATENT OFFICE.

EDWIN WIGHT, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN UMBRELLAS.

Specification forming part of Letters Patent No. 126,365, dated April 30, 1872.

Specification describing certain Improvements in the Construction of Umbrellas, invented by EDWIN WIGHT, of Philadelphia, Pennsylvania.

My invention relates to the construction of the joints of umbrellas and parasols to which the stretcher is attached. It consists in forming the eye out of the steel rib by bending the steel into the form of a loop and flattening it to the thickness of the rib. The end of the stretcher is made in the form of a fork, as usual.

Referring to the drawing making part of this specification, Figure 1 is a general view of the frame of the umbrella. Fig. 2 is an enlarged side view of the eye on the rib. Fig. 3 is an enlarged view of the side of the rib upon which the cloth rests. Fig. 4 is an elevation of the machine for forming the eye. Fig. 5 is a section of the same. Fig. 6 is an end view of the face of the chuck *h*. Fig. 7 is an end view of the face of chuck *k*.

In Fig. 1, *A* is the umbrella-stick; *b*, the top ferrule fastened to it; *C*, the lower sliding ferrule. *d* is the stretcher jointed to *C*, and forked at the other end, as usual. *E* is the rib, jointed at the top to *b* in the usual manner. *G* is the eye on the rib, usually made by a brass connection, drilled and riveted upon the rib. My improved joint is shown in Fig. 2. The rib *E*, of annealed steel wire, is bent into an eye, the eye being on one side of the rib, so that the back presents an even line or surface for the cloth to rest upon. The eye is now put under a press and flattened to a uniform thickness. In this process the part of the eye at *e'*, which was at first twice the thickness of the rib, is forced to interlock, each side overlapping the other side, thus producing an eye almost as strong as if welded, and equally as strong as the straight portion of the rib. Additional strength and security are given to the eye by the riveting of the fork of the stretcher *d* upon it, thereby preventing the separating of the eye sidewise, and the conse-

quent opening or closing of the eye under stress of wind, which will take place when the eye is simply looped, without the subsequent flattening and interlocking. The rib is then tempered. Fig. 3 is a view of the back of the rib after it has been under the press. By thus forming the eye out of the rib itself I dispense with the usual brass connection, thereby saving weight and labor, and in addition produce an umbrella more elegant in appearance.

I am aware that the eye has been previously formed by bending of the rib into a loop, which makes an uneven and weak eye. My improvement is in the flattening and interlocking of the eye. Figs. 4, 5, 6, and 7 illustrate the machine for bending the rib into the loop forming the eye. Fig. 4 is an elevation of the machine. *h* is a headed center-pin or chuck driven fast into the standard *H*. It is hollow, for the insertion of a wire, *h*², the size of the hole through the eye *G*. The wire projects far enough to enter a steady-hole in the mandrel or chuck *K*. This mandrel turns in its bearings upon the standard *M*, and has also an endwise motion. A catch, *h*¹, (see Fig. 6,) is fixed upon the face of the chuck *h*. A nearly similar catch, *k*¹, is upon the face of the chuck *k*.

The rib to be bent is placed between the wire *h*² and the catch *h*¹. The chuck *k* is then brought up so that the catch *k*¹ takes hold of the rib; then, by turning the handle *N* one revolution, the eye is formed, with the exception of being flattened. It is not necessary to use this machine to form the eye. The rib can be bent by hand around the wire *h*².

What I claim is—

The eye *G*, formed upon the umbrella rib *E* by bending it into a loop, flattened and interlocked, as described, in combination with the forked stretcher *d*.

EDWIN WIGHT.

Witnesses:

EDWD. BROWN,
JOHN F. GRANT.