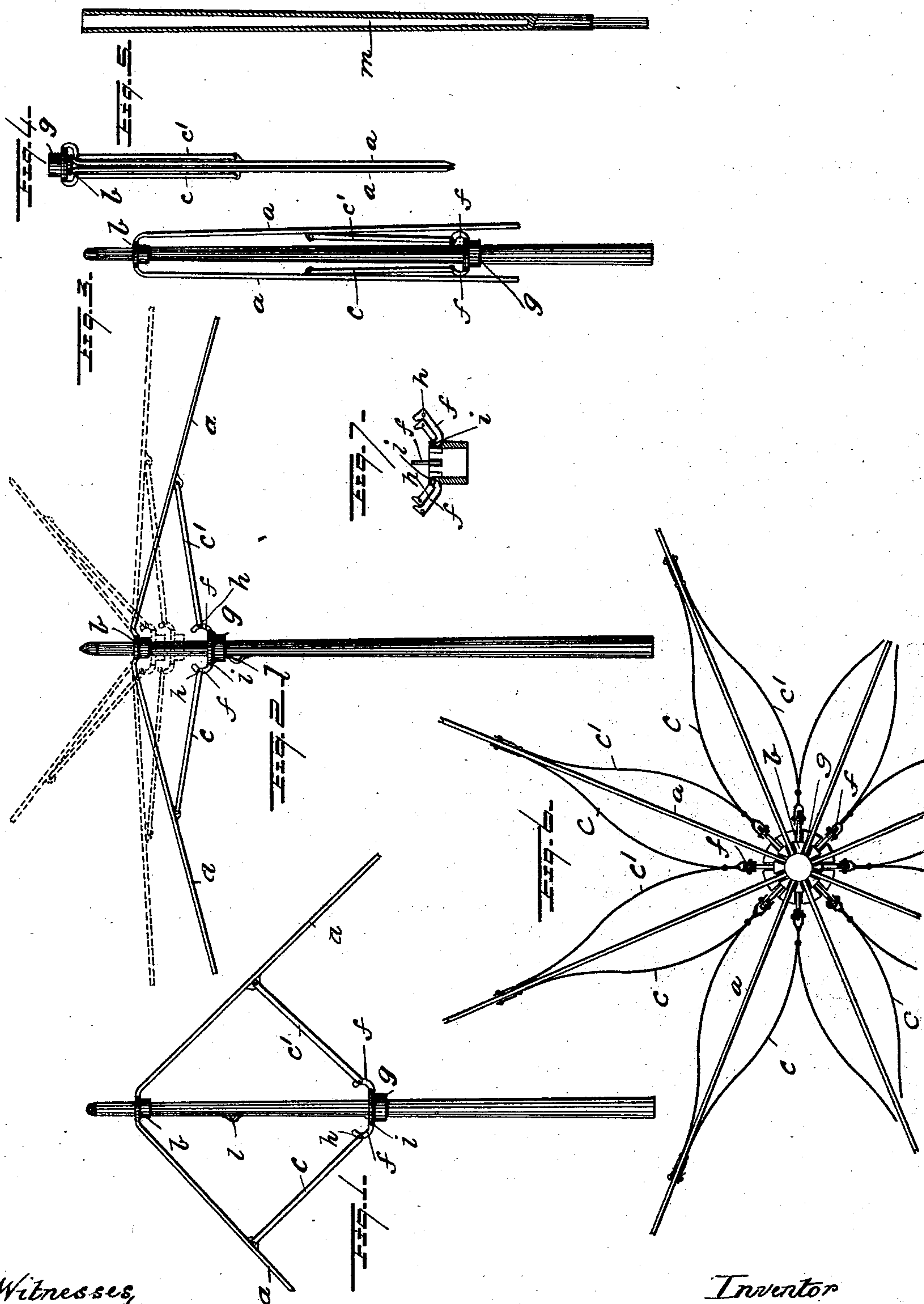


(No Model.)

E. WEBER.
COMBINED CANE AND UMBRELLA.

No. 506,289.

Patented Oct. 10, 1893.



Witnesses,

Post Office
Ag. Haddam

Inventor

Ernest Heben
by his Attorney R. H. Haddau

UNITED STATES PATENT OFFICE.

ERNST WEBER, OF RIEHEN, SWITZERLAND.

COMBINED CANE AND UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 506,289, dated October 10, 1893.

Application filed June 7, 1892. Serial No. 435,912. (No model.) Patented in Germany August 20, 1889; No. 52,637; in France August 29, 1889, No. 200,476; in Switzerland March 24, 1890, No. 2,003; in England April 18, 1890, No. 5,932, and in Belgium November 10, 1890, No. 92,662.

To all whom it may concern:

Be it known that I, ERNST WEBER, a citizen of the Swiss Republic, and a resident of Riehen, near Basle, Switzerland, have invented an Improved Combined Walking-Stick and Umbrella, (for which patents have been granted in Switzerland, No. 2,003, dated March 24, 1890; in Germany, No. 52,637, dated August 20, 1889; in Great Britain, No. 5,932, dated April 18, 1890, in France, No. 200,476, dated August 29, 1889; and in Belgium, No. 92,662, dated November 10, 1890,) of which the following is a specification.

This invention relates to that class of umbrellas in which the covering is removable from the ribs and the latter with the other parts of the frame is removable from the stick to be folded together and inserted into a cavity in the latter to convert the umbrella into a walking stick.

The principal object of the improved construction hereinafter described and claimed is to enable the frame when folded to be inserted into a cavity in the stick of very small diameter especially toward the handle where formerly the construction of frames have necessitated a comparatively wide cavity and therefore a correspondingly bulky stick.

In the annexed sheet of drawings, Figure 1 is a sectional view illustrating the stick with frame thereon the latter partially opened. Fig. 2 is a similar view showing the frame fully open, and in dotted lines other positions of the frame. Fig. 3 is a similar view showing the frame closed to the stick. Fig. 4 shows the frame alone, apart from the stick, folded together with the ribs inside and the stretchers outside. In all these figures only two ribs with their corresponding parts are illustrated. Fig. 5 is a sectional view of the stick showing the cavity to receive the frame when folded inside out as shown in Fig. 4. Fig. 6 is a plan view of the frame when open. Fig. 7 is a detail view on a larger scale of the runner and stretcher connecting pieces.

The frame is made detachable from the stick and consists of the ribs *a* pivoted in the crown *b* in such a way that each rib may be moved through at least two right angles, the runner *g*, the stretchers *c c'* and the intermediate con-

necting pieces *f*, which constitute an important feature of this invention. There are two stretchers to each rib these being pivoted to the ribs at the same point and made of flexible steel. The two adjacent stretchers, one on one rib and the other on the next rib are connected as a pair to an intermediate connecting piece *f* common to both. Each of these connecting pieces *f* is pivoted at its inner end to the runner *g* at *i* and to the two stretchers at its outer end at *h*. The shape of the pieces *f* is as shown in Fig. 7 namely curved downwardly or outwardly so that when the ribs are folded together back to back as in Fig. 4 the pieces *f* will pass around the crown *b* and allow the stretchers *c c'* to lie flat to the ribs *a a*, and the latter also to be made so that they lie close together and the whole occupies but a very small diameter from almost immediately under the crown. In this position the frame may be inserted in the hollow *m* in the stick (Fig. 5) and a suitable handle secured to the latter.

When the frame is stretched as in Fig. 6 the stretchers *c c'* become curved as shown and hold the ribs firmly but with elasticity. When in use the crown *b* may be secured in a suitable manner to the stick for instance by a bayonet fastening or by screw threads. The usual spring *l* holds the frame distended as in an ordinary umbrella.

It will be understood that to obtain a frame which when turned inside out ready to be thrust in the stick will occupy the very smallest diameter right away from the points of the ribs at one end to as near as possible to the crown at the other end, it is desirable to so connect the stretchers to the ribs that when so folded the stretchers do not lie outside the ribs. This invention effects this since the thin stretchers here used lie between the ribs when closed, their thinness and consequent lateral spring however necessitating some device for strengthening them when the umbrella is open. The herein described method of pairing the stretchers allows this to be done and even takes advantage of the spring bending of the stretchers to make them more secure for it will be obvious that each pair of stretchers bending outward in a double bow

cushions against the corresponding adjacent stretchers of the next pair, which affords mutual support. In this way the resiliency of the stretcher due to its thinness, which
5 this invention requires to obtain compactness, is entirely freed from drawback which a stretcher of the ordinary straight kind would possess if made so thin as is here required.

I do not claim a removable frame or one
10 capable of being inserted in a hollow stick nor do I claim broadly the double or spring stretchers *c, c'*, but

I claim as my invention—

15 The combination of a hollow umbrella stick with an umbrella frame detachable therefrom and adapted to be inserted in the said stick the said frame comprising essentially in com-

bination a crown *b* ribs *a* pivoted or hinged thereto, a runner *g*, curved intermediate connecting pieces equal in number to the ribs 20 pivoted or hinged each at one end to the runner *g* and spring stretchers *c c'* pivoted in pairs at one end to the ribs and at the other end to the outer ends of the intermediate pieces aforesaid substantially as and for the 25 purpose set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

ERNST WEBER.

Witnesses:

GEORGE GIFFORD,

I. KÜHN.