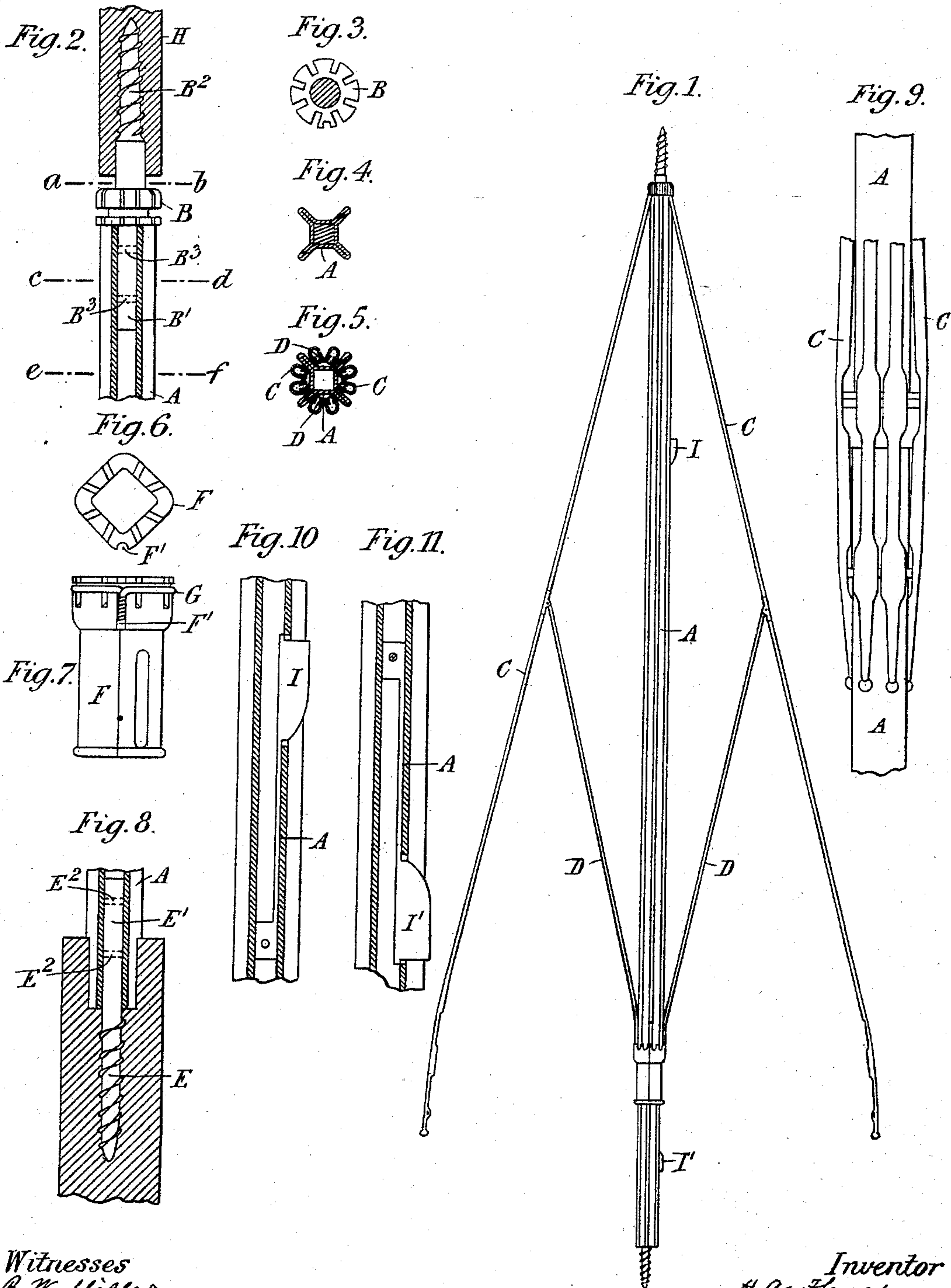


(No Model.)

H. A. FLEUSS.
UMBRELLA OR PARASOL.

No. 483,212.

Patented Sept. 27, 1892.



Witnesses
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UNITED STATES PATENT OFFICE.

HENRY ALBERT FLEUSS, OF LONDON, ENGLAND.

UMBRELLA OR PARASOL.

SPECIFICATION forming part of Letters Patent No. 483,212, dated September 27, 1892.

Application filed December 23, 1891. Serial No. 415,974. (No model.)

To all whom it may concern:

Be it known that I, HENRY ALBERT FLEUSS, engineer, a subject of the Queen of Great Britain, residing at Harvey Cottage, Lalcham Road, Staines, London, in the county of Middlesex, England, have invented certain new and useful Improvements in Umbrella or Parasol Frames, of which the following is a specification.

10 According to this invention I form the stick of an umbrella or parasol frame of a similar form to that described in a former patent to me, No. 423,422, dated March 18, 1890, but with the square central tubular portion of sufficient size across to allow of the
15 spring-catches used for retaining the umbrella or parasol either opened or closed being (when pressed inward to release them) pressed back into and not right through the tube, as heretofore. The stick, also, is made
20 much more capable of withstanding twisting strains. By this means, also, I am enabled to make each of the four longitudinal troughs, which extend along the exterior of the tube,
25 with a flat bottom of sufficient width for both of the two stretchers, which are to lie in each trough to rest side by side against such flat bottom, so insuring that both stretchers shall be at the same distance from the center of the
30 stick when the frame is closed, and not one at a greater distance from the center than the other, as they were previously liable to be. By employing, also, what are known as "lock-ribs" in the construction of the frame—that
35 is, ribs, which when the frame is closed lie over or within the stretchers—the frame can be made of the same or less diameter than heretofore. The top notch, to which the ribs are jointed, I cast around a wire stem or rod,
40 one end of the stem projecting from the top notch, having a screw-thread cut around it for the ferrule end of the stick to screw onto and the other end of the stem made square to fit closely within the interior of the end of the
45 stick. Into the opposite end of the stick I similarly secure a square wire stem and form a screw-thread around a portion of the stem which projects from the stick, and onto this I screw a handle of any desired form. The runner
50 I make square, as described in my former patent, and in such a way that two stretchers may be jointed to each of its sides; but in place of

the joint-pin by which each pair of stretchers is jointed to the runner being separate from the joint-pins by which the other stretchers 55 are jointed to the runner, I make them all from one continuous wire, the two ends of which are twisted together at one of the corners of the square runner, and these twisted-together ends I bend downward and make to
60 lie within a groove or recess formed down this corner of the runner, so that they are out of the way of the ribs when the frame is closed.

Figure 1 of the drawings annexed is a side elevation of an umbrella-frame constructed 65 as above described, some of the ribs and stretchers being omitted. Fig. 2 is a full-sized longitudinal section of the end of the stick to which the tip is to be secured. Fig. 3 is a cross-section through the line *a b*, Fig. 2; 70 Fig. 4, a cross-section through *c d*, and Fig. 5, a cross-section through *e f*, showing, also, the ribs and stretchers. Fig. 6 is a plan, and Fig. 7 a side elevation, of the runner. Fig. 8 is a longitudinal section of the end of the stick 75 to which the handle is to be secured. Fig. 9 is a side elevation of a portion of the stick and the tip end of the ribs. Figs. 10 and 11 are longitudinal sections of the parts of the stick containing the upper and lower spring- 80 catches.

A is the stick, made from a circular or square tube of metal drawn down through dies to the form shown, square at the center, and with a web radiating out from each corner of the 85 square.

B is the top notch, cast around a wire, one end *B'* of which is made square to fit closely within and besoldered to the end of the stick A. The other end *B²* has a screw-thread cut 90 around it, onto which a ferrule end H can be screwed. *B³* are rivets by which the end B is further secured within the stick. A space is left, as shown, between the end of H and the top notch for the fabric, by which the 95 frame is covered, to be tied into. To keep the piece H at this distance from the top notch, the screw is cemented, as well as being screwed into the hole in the piece H, so that when the cement sets the piece H is restrained 100 from turning.

C are the ribs, joined to the top notch.

D are the stretchers. Either the ribs may be made so that they can lie within the stretch-

ers or so that the stretchers may lie within the ribs, as shown.

E is the screw by which a handle is to be secured to the stick. The screw E is similarly
5 made with a square stem E' to fit closely within and be soldered to the end of the stick.

E² are rivets which hold the stem E' within the stick. A portion of the end of the stick, as well as the screw, may be made to enter
10 the handle, and the radial webs of the portion of the stick which so enter the handle may be partially cut away, as shown, after the square stem of the screw has been soldered into the end of the stick. When the handle
15 has been screwed on, it may be prevented from unscrewing by cementing filling-pieces into the spaces between the sides of the end of the stick and the hole in the handle into which the end of the stick enters. For small
20 umbrellas or parasols the end of the handle may simply be made to butt against the end of the stick.

F is the runner. It is made square in cross-section, as shown, and around its upper end
25 is a groove, within which lies the wire G, by which the stretchers are joined to it, just in the same way as when circular runners are used.

F' is a recess formed down the upper portion of the runner at one of its square corners for the twisted-together ends of the wire G to lie in, as shown.

I is the spring-catch for holding the umbrella-frame open, and I' the catch for holding it closed. As will be seen from Figs. 10
35 and 11, these catches are carried by springs, which lie within the interior of the tubular portion of the stick and when pressed inward do not project through the opposite side of the stick; but the tubular portion of the stick
40 is wide enough for the catches to pass into, as above described.

By making the parts of the frame of an umbrella or parasol in the above way a very
45 strong frame is obtained, and yet the frame when closed occupies less space than any umbrella-frame heretofore made.

What I claim is—

1. An umbrella or parasol frame comprising
50 ing a stick formed with a square central tube and webs or ribs radiating outward from its angles, a square rod fitting at one end into one end of the stick and having a top notch

formed around it close to the end of the stick
and a screw-thread formed around that portion of it which projects outward beyond the
55 top notch and upon which is fitted a ferrule, a similar square-ended rod secured to the opposite end of the stick and having a screw-thread cut upon its projecting end to receive
60 a handle, a square runner carrying two stretchers on each face and formed with a groove or recess at one end of its angles for the ends of the wire by which the stretchers are jointed to the runner, and lock-ribs and
65 stretchers jointed to the top notch and runner, respectively, substantially as described.

2. An umbrella or parasol frame comprising a stick formed with a square central tube and webs or ribs radiating outward from its
70 angles, a square runner sliding on the tube, a top notch secured to the stick and ribs, and stretchers which lie or lock one within the other, jointed to the top notch and runner, respectively, and adapted when closed to lie
75 within the ribs, substantially as described.

3. An umbrella or parasol frame comprising a stick formed of a square central tube with webs or ribs radiating from its angles, so as to form four longitudinal troughs with
80 broad flat bottoms extending down the exterior of the tube, a square runner sliding on and a top notch secured to the stick, and ribs and stretchers jointed to the top notch and runner, respectively, and arranged to lie
85 in each trough when the frame is closed, the bottom of each trough being broad enough, as described, for two stretchers to rest upon, substantially as described.

4. An umbrella or parasol frame comprising
90 ing a stick formed with a square central tube and webs or ribs radiating outward from its angles, a square rod fitting at one end into one end of the stick and having a top notch formed around it close to the end of the stick
95 and a screw-thread on that portion of it which projects outward beyond the top notch, and a ferrule secured to the screw-threaded end of the rod, substantially as described.

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