

(No Model.)

W. H. BURNETT.

UMBRELLA.

No. 364,987.

Patented June 14, 1887.

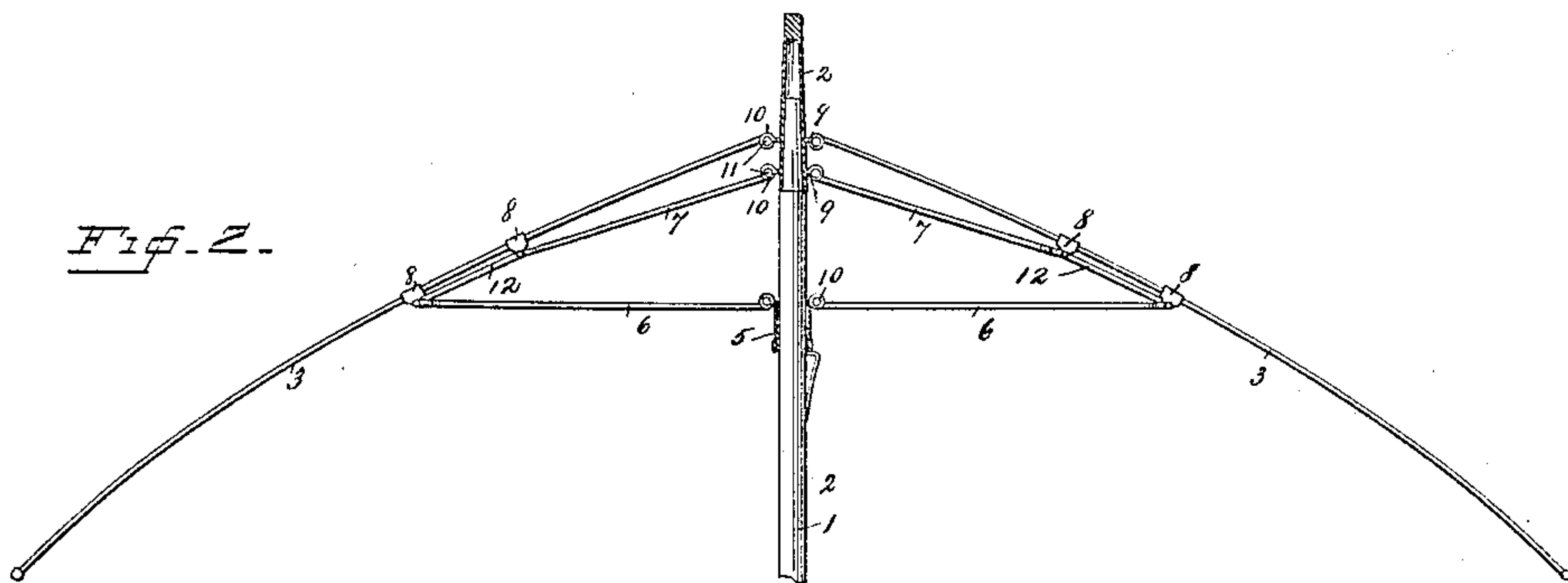
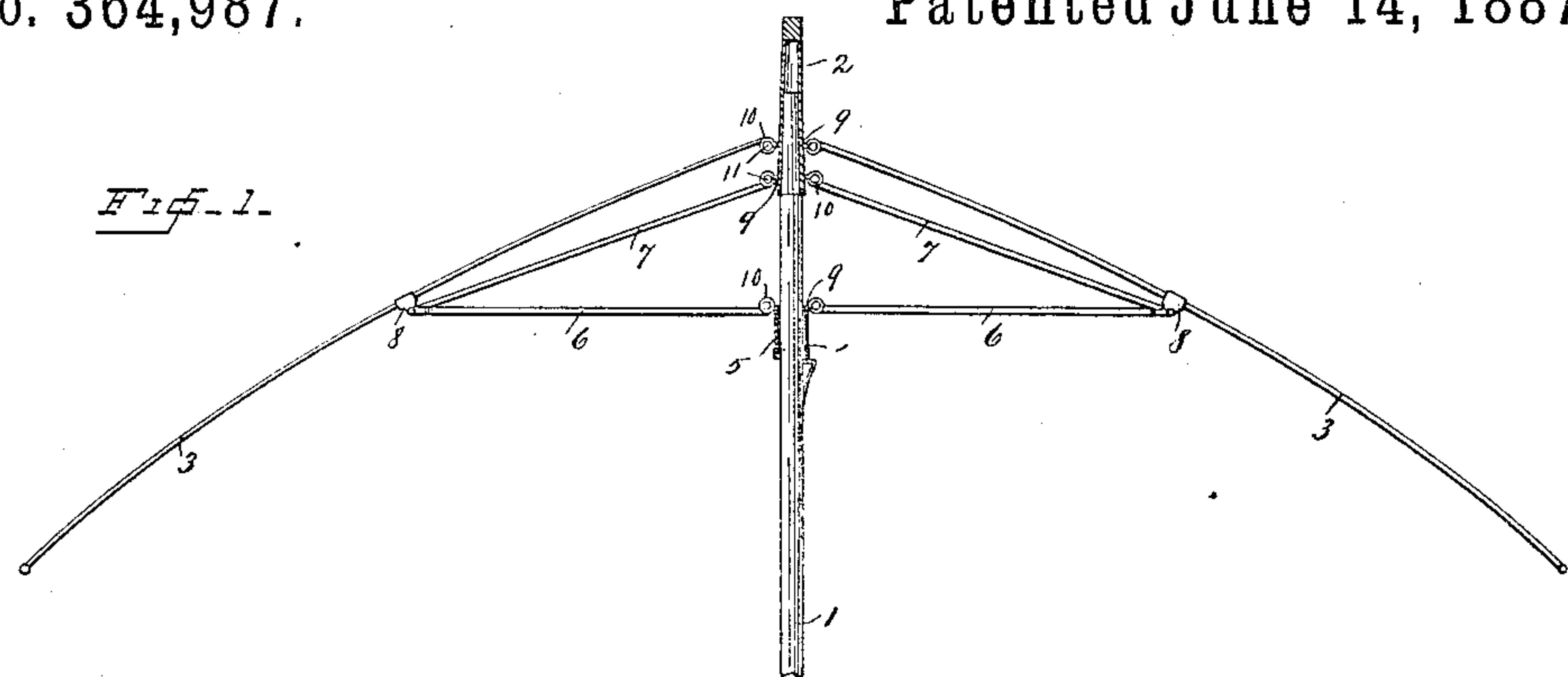


Fig. 4.

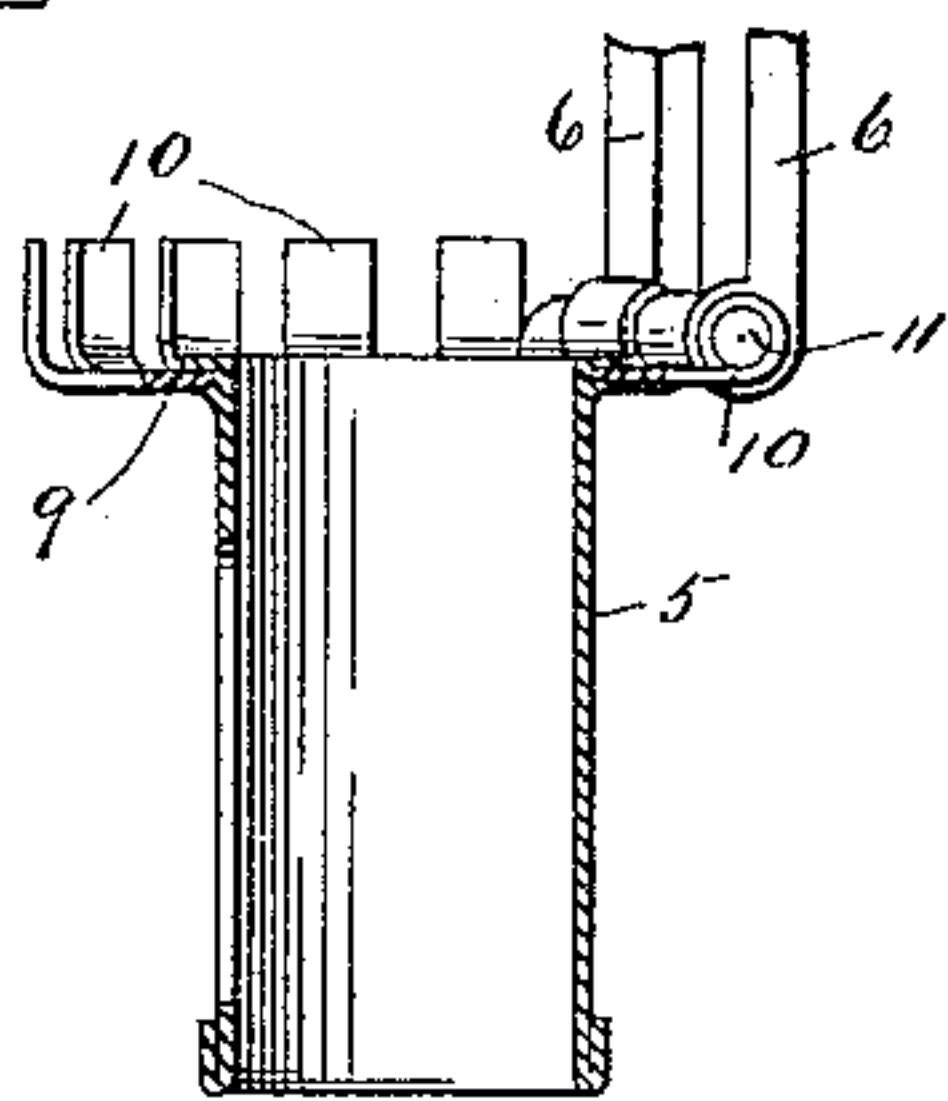


Fig. 3.

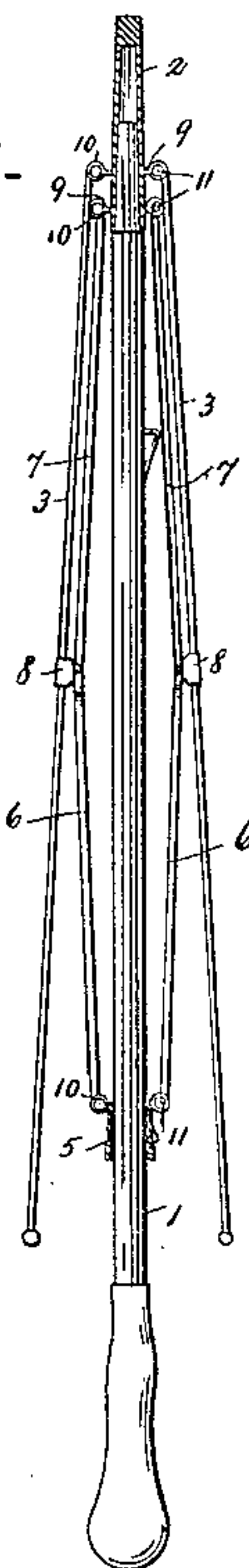


Fig. 5.

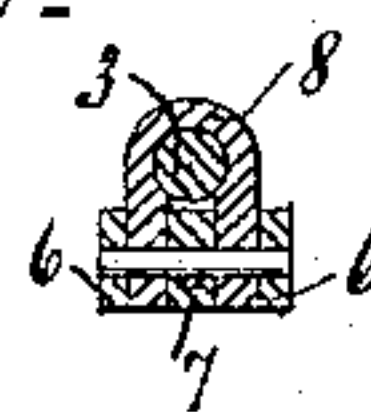
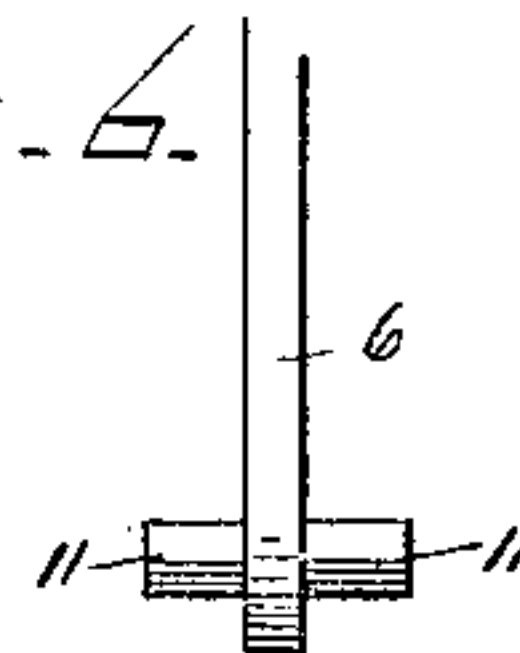


Fig. 6.



Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM H. BURNETT, OF DANBURY, CONNECTICUT, ASSIGNOR OF ONE-THIRD TO L. LE GRAND HOPKINS, OF SAME PLACE.

UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 364,987, dated June 14, 1887.

Application filed December 13, 1886. Serial No. 221,361. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. BURNETT, a citizen of the United States, residing at Danbury, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Umbrellas; 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 relates to the manufacture of umbrellas and parasols, and has for its object to simplify and cheapen and at the same time to greatly improve the construction of the frames, wires being entirely dispensed with, and the parts being so made and put together that the danger of breaking ribs and braces in use is reduced to the minimum, and, if broken, a rib or brace may be at any time replaced by a new one at slight expense and with very little inconvenience.

With these ends in view I have devised the simple and novel construction of which the following description, in connection with the accompanying drawings, is a specification, numbers being used to indicate the several parts of the device.

Figures 1 and 2 are sections of an umbrella-frame in the open position, illustrating two forms in which I have carried my invention into effect; Fig. 3, a similar view of one of the forms in the closed position; Fig. 4, an enlarged longitudinal section of the runner, illustrating the manner in which the ribs are fastened; Fig. 5, an enlarged cross-section through one of the sliding brackets; and Fig. 6 is an enlarged detail view of the end of either a rib or brace, showing the lugs by which they are secured to the runner or stretcher-disk.

1 denotes the staff; 2, the cap or ferrule at the upper end; 3, the ribs; 5, the runner; 6, the braces; 7, the supplemental braces, and 8 sliding brackets upon the ribs, to which the braces are attached.

The staff and cap are of ordinary construction; but instead of the ordinary casting with notches, which is fastened near the upper end of the staff, and to which the ribs are secured, I provide stretcher-disks 9, of sheet metal, having fingers 10, which are secured to the cap or the staff by solder or in any suitable man-

ner. A similar disk with fingers is also secured at the upper end of the runner. These disks and fingers are necessarily made of tough pliable metal. At the upper ends of the ribs, and at the inner ends of the braces, I provide lugs 11. These lugs are ordinarily formed by driving a pin through a hole at the end of the rib or brace. In assembling the parts the end of each rib or brace is placed between two of the fingers, which are then curved about the lugs, as clearly shown in Fig. 4. It will be seen that as these lugs are firmly clasped by the fingers the side swing or "wabbling" motion of the ribs and braces, which is a serious objection to umbrellas as ordinarily constructed, is wholly avoided. Moreover, the threading of the ends of the ribs and braces upon wires is wholly avoided. In practice these wires are very liable to break. When broken, the operation of repairing is difficult and vexatious, and when repaired it is almost impossible to fasten the ends of the wire so as to avoid danger of tearing the cover. Instead of securing the outer ends of the braces rigidly to the ribs, I pivot them to brackets 8, which slide upon the ribs. The outer ends of the braces are preferably bifurcated in the ordinary manner, and embrace the lower portion of the sliding bracket in the same manner that they ordinarily embrace the ribs.

A peculiarity of my improved construction is that in addition to the ordinary braces (indicated by 6) I provide supplemental braces. (Indicated by 7.) The outer ends of these braces are also pivoted to the sliding brackets, as clearly shown in Fig. 5, and their inner ends are attached to a disk, 9, upon the cap a slight distance below the disk, to which the upper ends of the ribs are attached. The object of these braces is to support and strengthen the frame in all positions in which it can be placed, and to prevent the possibility of the umbrella being turned by the wind. It will be seen that as the points at which the ribs and the supplemental braces are attached to the staff are quite a perceptible distance apart the sliding brackets must have considerable movement upon the ribs, this sliding movement in practice being from three-fourths of an inch to an inch or more. By the use of the sliding brackets I am enabled to avoid the strong pressure at a single

point, and also the weakening of the rib by punching a hole through it at the pivotal point, which, acting together, cause the breakage of so many ribs in the various constructions of umbrellas now upon the market. In the construction shown in Fig. 2 two sliding brackets are provided on each rib a slight distance apart. These brackets are connected by a link, 12, so that the strain in opening is slight at any special point, and the supplemental brace is pivoted to the upper bracket, as clearly shown.

It will of course be understood that the details of construction may be varied within reasonable limits without departing from the spirit of my invention.

I claim—

1. The staff, runner, and cap, in combination with ribs, braces, and supplemental braces having lugs 11, disks secured to the runner and

cap, having radial fingers adapted to curve about the lugs, and sliding brackets which embrace the ribs, and to which the outer ends of the braces and supplemental braces are pivoted.

2. The combination, with the staff and runner of an umbrella and ribs and braces 6 and 7, of a sliding bracket on the ribs, to which the outer ends of braces 6 are attached, another sliding bracket to which the outer ends of braces 7 are attached, and a pivoted link connecting said brackets.

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

WILLIAM H. BURNETT.

Witnesses:

ANNIE D. JONES,
DAVID B. BOOTH.