

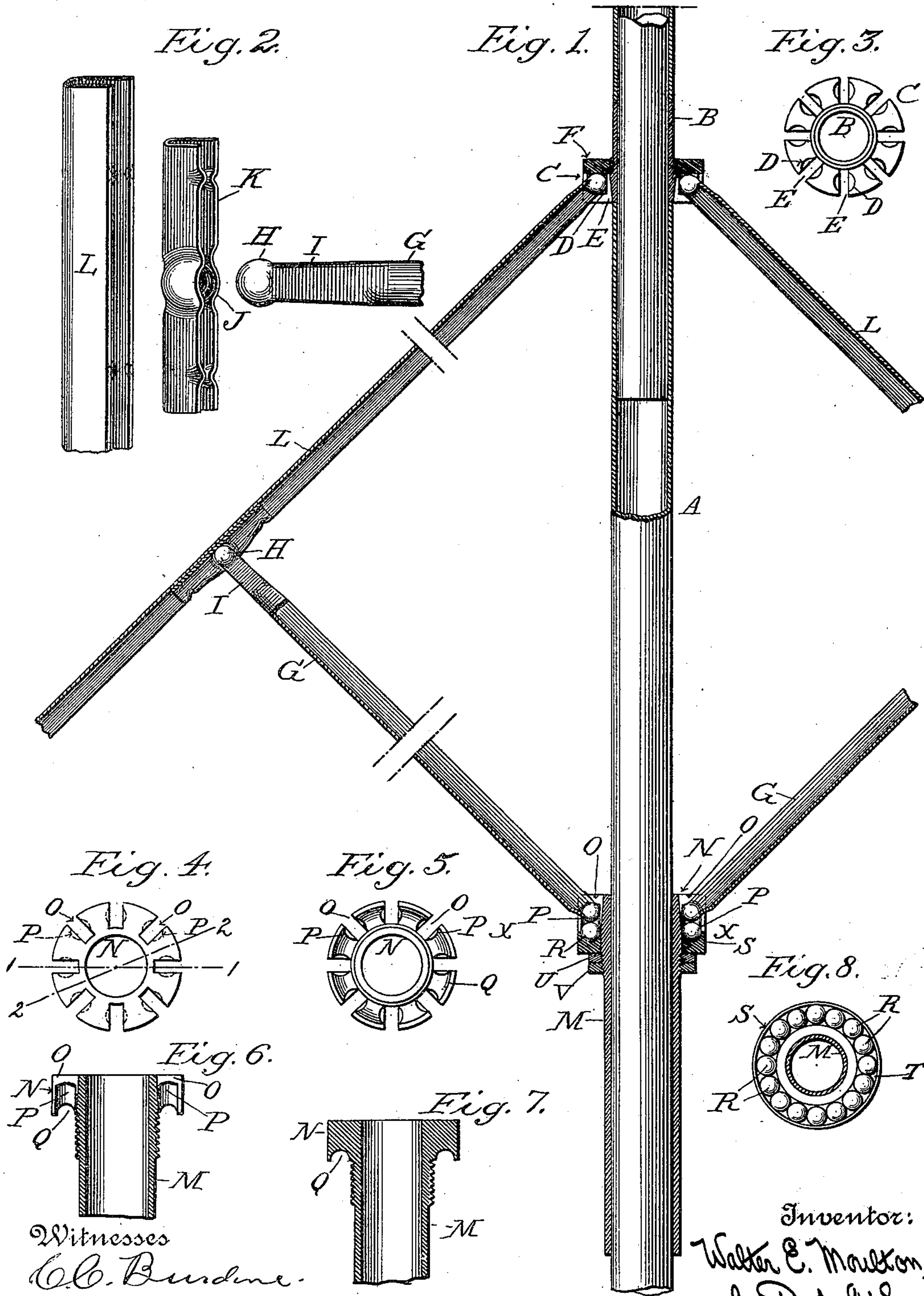
No. 667,719.

Patented Feb. 12, 1901.

W. E. MOULTON.
UMBRELLA NOTCH.

(Application filed July 17, 1899.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

WALTER E. MOULTON, OF SHELBY, OHIO, ASSIGNOR TO THE BALL-BEARING UMBRELLA COMPANY, OF SAME PLACE.

UMBRELLA-NOTCH.

SPECIFICATION forming part of Letters Patent No. 667,719, dated February 12, 1901.

Application filed July 17, 1899. Serial No. 724,134. (No model.)

To all whom it may concern:

Be it known that I, WALTER E. MOULTON, a citizen of the United States, residing at Shelby, in the county of Richland and State of Ohio, have invented certain new and useful Improvements in Umbrellas, of which the following is a specification.

My present invention relates to umbrellas, the construction and advantages of which will be hereinafter set forth, reference being had to the annexed drawings, wherein—

Figure 1 is a vertical sectional view of a portion of an umbrella disclosing my invention; Fig. 2, a perspective view of a portion of one of the ribs and stretchers and of the connecting device for the two; Fig. 3, a top plan view of the top notch; Fig. 4, a top plan view of the main body of the runner; Fig. 5, a bottom plan view of the same; Fig. 6, a vertical sectional view taken on the line 1 1 of Fig. 4; Fig. 7, a similar view taken on the line 2 2 of Fig. 4, and Fig. 8 a cross-sectional view on the line 3 3 of Fig. 1.

The object of my invention is to provide an improved runner, as will be hereinafter set forth.

Referring to the drawings, A indicates the stick of the umbrella or parasol, which may be of any approved form. It has secured to it near its upper end a top notch of the form shown in Figs. 1 and 3. Said notch comprises a tube or sleeve B, having at its lower end an outwardly-extending collar C, in which is formed a series of sockets D, into which open radial slots E. In assembling the umbrella the spherical ends of the ribs are passed down into the sockets, the body portion of the ribs being flattened, so as to pass through the slots, as is clearly shown in Fig. 1. After the ribs are all in place a screw-threaded washer or nut F is passed down over the upper open end of the slots and sockets and serves to hold the ribs in place against end-wise movement, while permitting a free swinging motion thereof when the umbrella is opened. By reason, however, of the body portion of the rib adjacent to its spherical end being flattened there is no side or lateral play of the rib. The connection between the rib and the outer end of the stretcher is best shown in Figs. 1 and 2.

In my previous patent, No. 599,623, dated February 22, 1898, I have shown a construction wherein the socket for the spherical end of the stretcher is made integral with the rib. In the present device, however, while employing a rounded socket or seat for the outer spherical end of the stretcher I make it in a somewhat different manner. The stretcher G is, as will be noted, provided with a spherical end H and a flattened portion I adjacent thereto. The rounded seat or socket J for the spherical end is struck up or formed of a U-shaped piece of metal K, which is of such dimension as to fit within the rib. After said member K is in place the rib and bearing member are indented, as is clearly indicated in Figs. 1 and 2. Thus it will be seen that said bearing member is held positively in the rib and cannot move longitudinally thereof or be thrown out of its position within the rib without danger of breaking the parts. The flattened portion I of the stretcher permits the stretcher to be folded down into the rib when the umbrella is closed, and there is no projection of the parts beyond the inner face of the ribs. The bearing member K also serves to strengthen the rib at the bearing-point of the stretcher, while not increasing the dimensions or thickness of the rib at this point. The ball-and-socket joint between the rib and stretcher affords a connection between the two parts which is not liable to become broken and which prevents all longitudinal movement of the stretcher relatively to the rib.

The formation of the runner is shown in Figs. 1 and 4 to 8, inclusive. It comprises a tube or sleeve M, provided at its upper end with an outwardly-extending flange or collar N, in which is formed a series of radial slots O and a series of sockets or bearing-surfaces P, as best shown in Figs. 5 and 6. The under face of the collar or sleeve is provided with a groove or channel Q, as indicated in Figs. 6 and 7. The inner ends of the stretchers G are formed with spherical heads similar to those upon the outer ends, and said heads are seated in the sockets P, while the flattened portions of the stretchers adjacent thereto pass out through the slots O. A series of balls R is supported directly beneath

the spherical heads in the channel or groove Q by a cup or disk S, which likewise has a channel or groove T formed therein. To hold the cup or disk S in place, I employ a nut U, which is screwed up against the under face of said disk, and a locking-nut V. The balls R are held directly up against the spherical heads of the stretchers and form, in connection with the sockets P, a superior bearing for said heads.

By the use of the nuts U and V the cup or disk S and the balls R supported thereby may be adjusted to a nicety, so that the spherical ends of the stretchers will be held in their proper position.

No claim is made herein to the ball-and-socket connection between the rib and stretcher, as that forms the subject-matter of a divisional application filed by me, in pursuance of the requirement made by the Office, on the 25th day of October, 1899, Serial No. 734,743.

Having thus described my invention, what I claim is—

1. In an umbrella, the combination of a series of ribs; a series of stretchers connected thereto and provided with spherical heads upon their inner ends; a tube or sleeve having a collar extending outward therefrom and provided with radial slots; sockets or bearing-surfaces formed in the body adjacent to said slots; a groove or channel Q around the base of said collar; a cup or disk provided with a groove or channel in its upper face; a series of balls seated in said groove in a plane beneath and bearing against the spherical heads of the stretchers; and means for holding said cup or disk in place beneath the collar, whereby the balls are caused to bear against the spherical heads of the stretchers, substantially as described.

2. In an umbrella, the combination of a se-

ries of ribs; a series of stretchers connected thereto and provided with spherical heads upon their inner ends; a runner provided with a series of spherical bearing-surfaces adapted to receive and hold said spherical heads; and a series of balls held beneath said heads in a plane below the bearing-surfaces, said balls serving to hold the heads in the bearing-surfaces, substantially as and for the purpose described.

3. In an umbrella, the combination of a series of ribs; a series of stretchers connected thereto and provided with spherical heads upon their inner ends; a runner provided with a sleeve having a series of radial slots and spherical seats, said seats being adapted to receive and hold the heads formed upon the stretchers; a cup or disk provided with a channel in its upper face; a series of balls mounted in said channel immediately below the spherical heads of the stretchers; and means for maintaining said cup or disk in position.

4. In an umbrella, the combination of a series of ribs; a series of stretchers connected thereto and provided with spherical heads upon their inner ends; a runner provided with a sleeve at its upper end, said sleeve being provided with a series of radial slots O and sockets P adjacent thereto; a groove or channel Q formed in the under face of said sleeve; a cup or disk S provided with a groove or channel T; a series of balls R seated within said groove and the groove or channel Q; and locking-nuts for holding said cup or disk in position.

In witness whereof I hereunto set my hand in the presence of two witnesses.

WALTER E. MOULTON.

Witnesses:

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