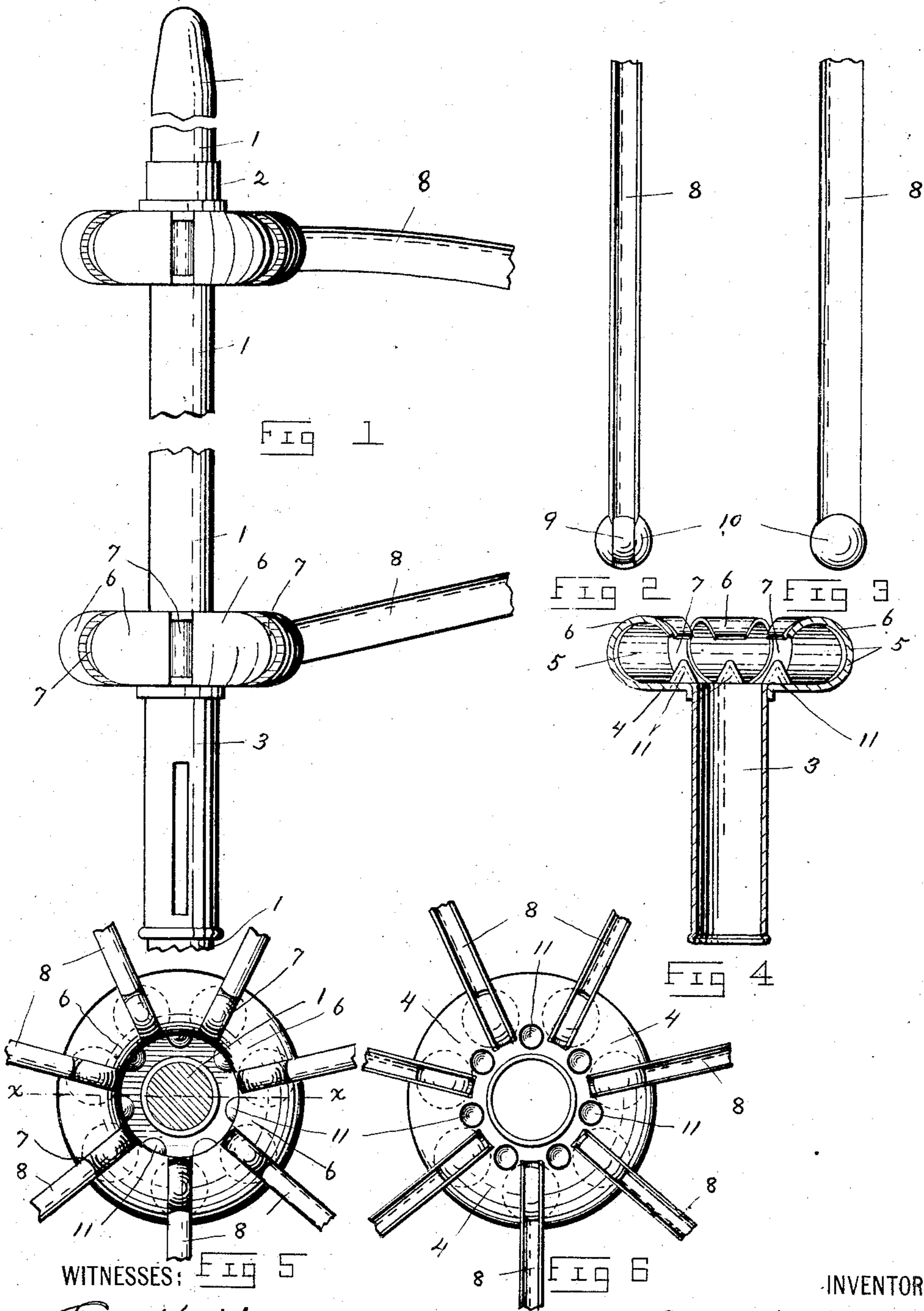


C. L. BAKER.
 BALL AND SOCKET UMBRELLA RUNNER.
 APPLICATION FILED FEB. 24, 1909.

924,627.

Patented June 15, 1909.



WITNESSES:

E. N. Meider.

Mabel L. Lefevre.

INVENTOR

Charles L. Baker,

BY

John J. Thompson
 ATTORNEY

UNITED STATES PATENT OFFICE.

CHARLES L. BAKER, OF LANCASTER, PENNSYLVANIA, ASSIGNOR OF ONE-THIRD TO CHRISTIAN J. DOCHAT AND ONE-THIRD TO JOHN E. KLOS, BOTH OF LANCASTER, PENNSYLVANIA.

BALL-AND-SOCKET UMBRELLA-RUNNER.

No. 924,627.

Specification of Letters Patent.

Patented June 15, 1909.

Application filed February 24, 1909. Serial No. 479,837.

To all whom it may concern:

Be it known that I, CHARLES L. BAKER, a citizen of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Ball-and-Socket Umbrella-Runners, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to the construction of umbrella and parasol frames, and more particularly to that part of the frame known as the "runner", "notch-pin" or "spider"; and the objects of the invention being to construct a device of this class for hinging the ends of the "ribs" and "stretchers" to the "spider" and "runner", in such a way that they may be cheaply produced, quickly assembled or repaired, and in this connection it may be here stated that in the usual devices now employed for this purpose the ends of the ribs or stretchers are retained within a groove formed in the runner, by means of a wire upon which they are strung, and that when it is desired to replace a broken rib, they must all be detached from the runner; while by the use of my novel construction each rib or stretcher is hingeably joined to the runner in an independent manner from the others, and each may be removed without disturbing any of the others.

Another object of my invention is that by the form of my ball and socket joint, the ribs may swing in both directions, and in this manner when the umbrella becomes accidentally blown inside out the ribs will freely swing in the sockets on the runner without breaking said sockets, as is now the case with all of the present ball and socket hinged joints now in use for this purpose.

With these and other objects in view my invention consists in certain construction and combination of parts as will hereinafter be fully described and claimed and which is illustrated in the accompanying drawings which form a part of this application, and in which like figures of reference refer to corresponding parts in all of the views, but it is fully understood that while I have herewith described and claimed my invention as here illustrated, I do not confine myself to the exact design as shown, as slight changes may be made in the construction and com-

bination of parts without departing from the spirit of the invention.

Referring to the drawings forming a part of this application. Figure 1, is an elevation of a partial view of an umbrella stick, showing the runner and the spider with a single rib and stretcher attached thereto. Fig. 2, is a bottom view of a rib or stretcher, showing my novel construction of ball end. Fig. 3, is a side view of the same. Fig. 4, is a vertical sectional view of my improved runner, taken on the line X—X of Fig. 5, with the ribs removed. Fig. 5, is a top plan view of the runner. Fig. 6, is a bottom plan view of the same.

In the drawings the umbrella stick is indicated by 1, the fixed or end spider by 2, and it may here be stated that the construction of said fixed spider 2, is the same as that of the runner, which is hereafter described in detail, and which comprises a tubular body portion 3, adapted to slide upon the stick 1, and be retained in the desired position thereon by the usual means employed for this purpose. Upon the upper end of said tubular body 3, is secured in a suitable manner the socket head which comprises the ring 4, which is provided with radial sockets 5, formed by the curved arms 6, between the edges of which are formed the slots 7, in which swing the ribs or stretchers 8.

The ribs or stretchers 8, are preferably in the form of a channel body, having their ends cupped and formed around a ball 9, thus forming an outer ball or spherical end 10. This ball end 10, is retained within the two adjacent sockets 5, with the body 8, of the rib or stretcher having a vertical swing in the slot 7, and it may here be noted that unlike other devices of this class the slots 7, extend near enough to the center of the stretcher to allow the ribs to swing freely (in case the umbrella is turned inside out), to keep the socket or ribs from breaking. To further guide and retain the ball ends 10, from any side motion in the socket 5, I have provided in the ring 4, midway between the slots 7, the raised bosses 11, which are here shown as embossed from the bottom of said ring. In this manner it will be seen that the ball ends of the ribs or stretchers and the runner or spider form a perfect ball and socket joint and that when it is desired to replace a rib the adjacent sockets may be

opened by curling back the lips and the rib removed or inserted therefrom.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:—

1. In an umbrella of the class described, the combination of the end of the ribs formed about a ball, of a runner provided with curved radial arms, slots formed between
10 said arms, sockets formed within said arms, and the lower surfaces of said arms provided with an embossed portion to extend within said socket for the purpose set forth.

2. In a ball and socket umbrella runner, in combination with ribs formed with spherical ends, of a head secured upon said runner and formed with radial sockets spaced from each other and provided with a raised portion within said socket to limit the action of said spherical ended ribs. 15

In testimony whereof I affix my signature in presence of two witnesses. 20

CHARLES L. BAKER.

Witnesses:

WM. J. COULTER,
MABEL L. LEFEVRE.