No. 754,029. PATENTED MAR. 8, 1904.

J. L. VAUGHN.

UMBRELLA.

APPLICATION FILED JULY 22, 1902.

NO MODEL.

Fig. 1.

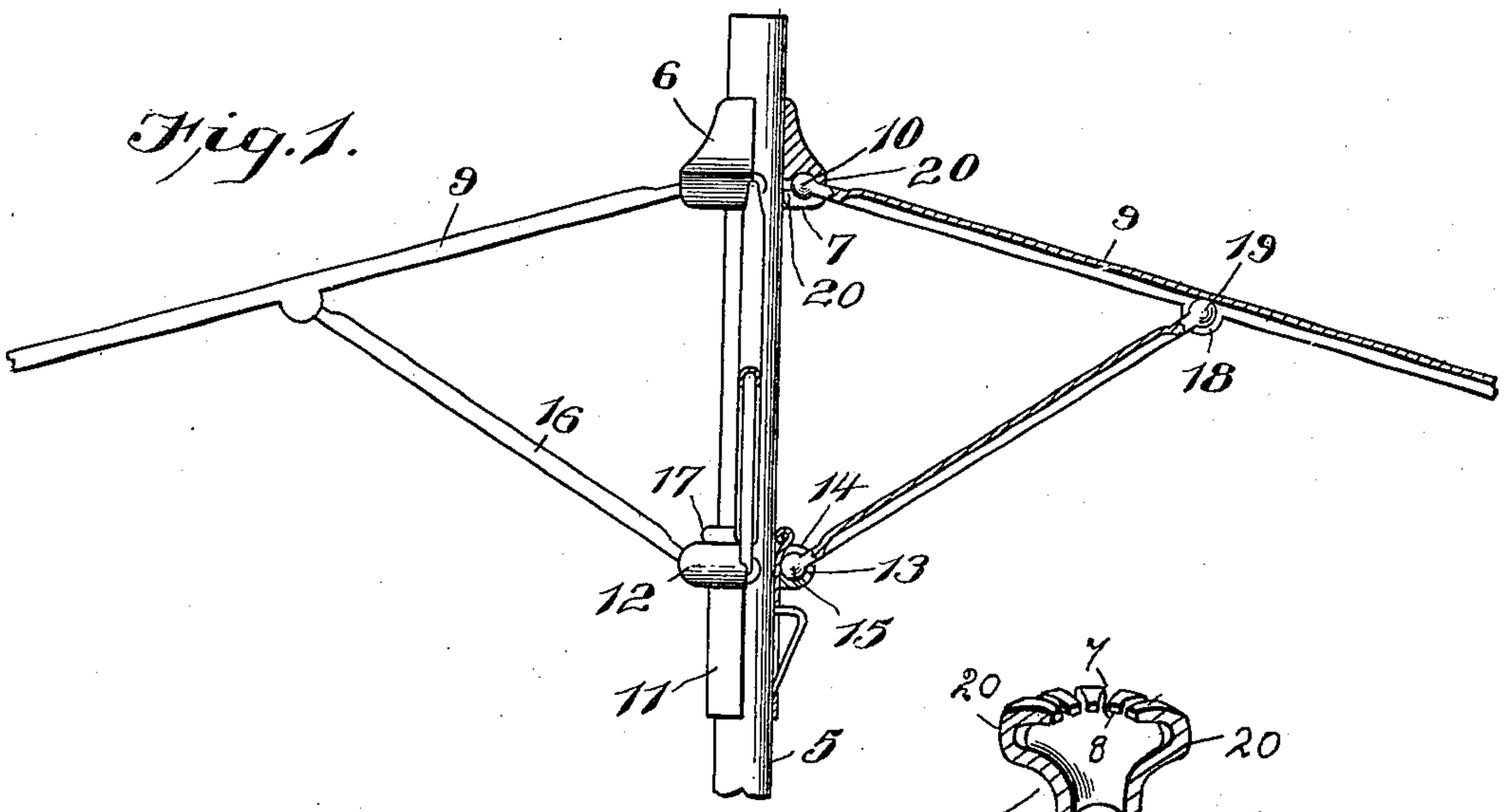


Fig. 6.

Fig 2

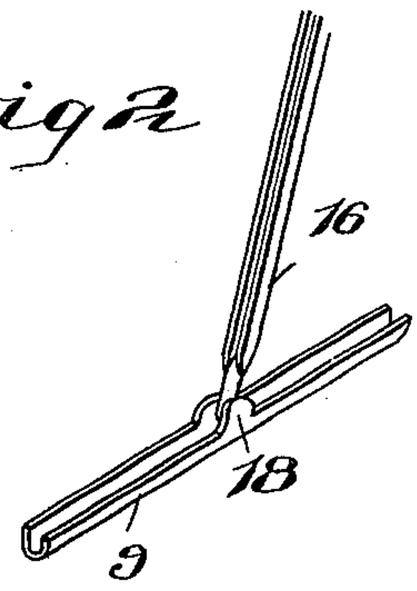


Fig. 3.

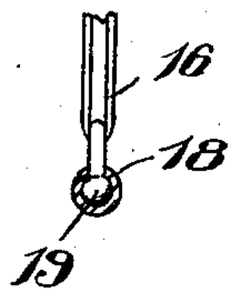


Fig. 4.

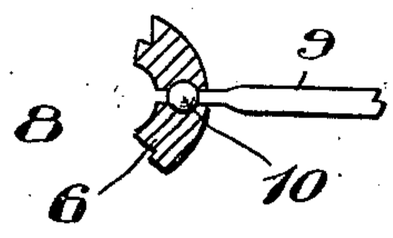
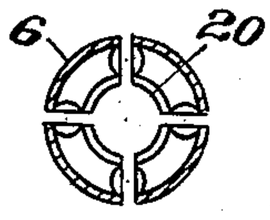


Fig. 5.



Witnesses

T. P. Brett

Harry Allen Chandlee

Inventor

J. L. Vaughn,

by Thomas Allen Chandlee and Harry Allen Chandlee

Attorneys

No. 754,029. Patented March 8, 1904.

UNITED STATES PATENT OFFICE.

JAMES L. VAUGHN, OF PIKEVILLE, TENNESSEE.

UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 754,029, dated March 8, 1904.

Application filed July 22, 1902. Serial No. 116,568. (No model.)

To all whom it may concern:

Be it known that I, JAMES L. VAUGHN, a citizen of the United States, residing at Pikeville, in the county of Bledsoe, State of Tennessee, 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.

This invention relates to umbrellas; and it has for its object to provide a construction wherein the ribs will be attached to the notch by means of ball-and-socket joints or connections, so constructed as to remove any possibility of disengagement of the balls from the sockets by the strain occasioned by raising and lowering the umbrella and in which the braces will be connected to the ribs and runner by means of ball-and-socket connections or joints.

A further object of the invention is to provide a simple and efficient construction of ball-and-socket connection between each brace and its corresponding rib and between each brace and the runner.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a view showing a portion of an umbrella-frame, one half in section and one half in elevation. Fig. 2 is a detail perspective view of a portion of a rib and the attached end of the brace. Fig. 3 is a transverse section through the socket of a rib and a ball engaged therein. Fig. 4 is a transverse section through a portion of the notch and showing the sockets therein. Fig. 5 is a section through the notch and showing the concavities in the inner edges of the fingers thereof. Fig. 6 is a perspective view of the notch, partly in section.

Referring now to the drawings, there is shown a portion of an umbrella-frame, including a stick 5, on which is fixed a notch 6, said notch comprising a body portion having fingers 7 and intervening slots 8, the fingers having sockets in their inner faces adjacent to their edges and the extremities of the fingers being bent inwardly to touch the stick. There is thus formed a notch having a number of sockets and slots leading outwardly therefrom, and through these slots are passed ribs 9, having balls 10 at their ends, which are engaged in the sockets, so that the ribs may be moved into and out of position to lie against the stick to close and open the umbrella-frame. The notch being formed of a single piece, as described, the possibility of disengagement of the balls from the sockets by the strain incident to raising and lowering the umbrella is eliminated. Upon the stick is mounted the runner 11, comprising a sleeve on which is disposed and secured a ring 12, having sockets 13 in its inner side, from which lead the slots 14 through the upper side of the ring, and passed through these slots with their heads 15 in the sockets are the braces 16. The heads of the braces are in the form of balls and the ring is soldered or otherwise secured to the sleeve, it being understood that the ring may rest against a flange 17 on the sleeve and be held in such position by flaring the end of the sleeve upon the upper face of the ring. This latter construction will permit of easy removal of the ring when it is desired to put in a new brace. The ribs are preferably of paragon construction—that is, they are hollow and slotted on their inner faces, and the metal of each rib at the point of connection of the brace is extended to form ears 18, which are bent to jointly form a socket in which the ball 19 at the outer end of the brace is engaged.

With this construction the action of the working parts is easy and there is little danger of breaking them, as when pivots are employed. Furthermore, the form of the pivotal connections between the braces and ribs permits of manufacture at a low cost.

It will be understood that in practice modifications of the specific construction shown may be made and that any suitable materials and proportions may be used for the various parts without departing from the spirit of the invention.

It will be noted that the fingers of the notch have their ends bent under the inner end portions thereof to form inwardly-directed depending members 20, so that the ends of the ribs are held out of contact with the stick. A notch of this construction may be formed in-

tegral by casting, the ball ends of the ribs being disposed against the under side of the fingers in the concavities thereof and the fingers being then bent inwardly beneath and around the balls and between the latter and the stick of the umbrella, so that the balls are held out of contact with the stick.

What is claimed is—

In an umbrella, a notch consisting of a body portion having radiating fingers and intervening slots, said fingers being bent upon themselves to form each inwardly-directed depending members, the side edges only of the inner faces of the fingers being recessed, to receive the spherical heads of ribs passed through the slots between the fingers.

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

JAMES L. VAUGHN.

Witnesses:

JOHN B. VAUGHN,

A. L. WHEELER.