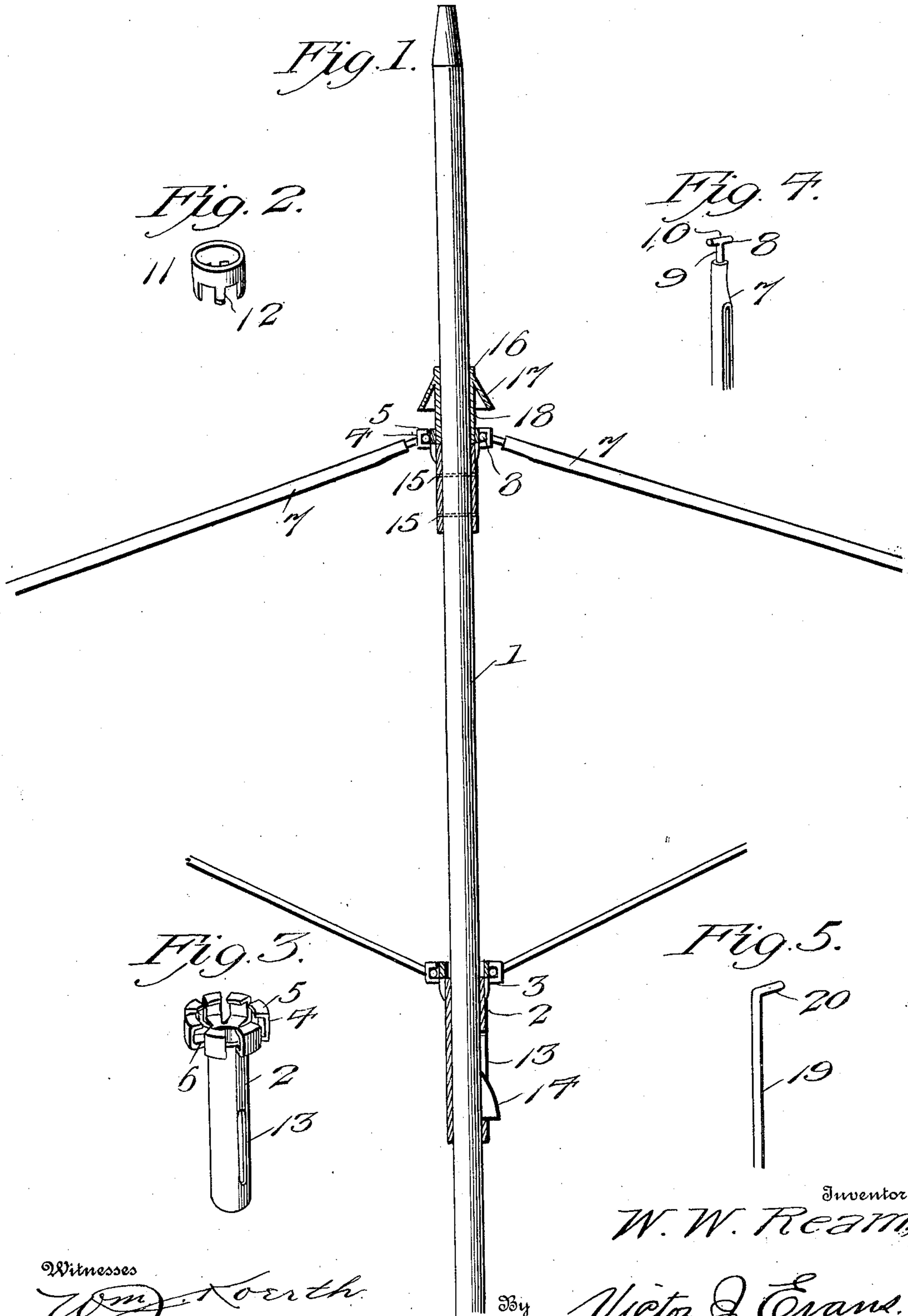


No. 828,777.

PATENTED AUG. 14, 1906.

W. W. REAM.
UMBRELLA.

APPLICATION FILED MAY 13, 1905.



Witnesses

Wm. Koerth
Datharine Allen

By

Victor J. Evans

Attorney

UNITED STATES PATENT OFFICE.

WILLIAM W. REAM, OF VOGANSVILLE, PENNSYLVANIA.

UMBRELLA.

No. 828,777.

Specification of Letters Patent.

Patented Aug. 14, 1906.

Application filed May 13, 1905. Serial No. 260,313.

To all whom it may concern:

Be it known that I, WILLIAM W. REAM, a citizen of the United States, residing at Vogansville, in the county of Lancaster and State of Pennsylvania, have invented new and useful Improvements in Umbrellas, of which the following is a specification.

The invention relates generally to an improvement in umbrellas, and particularly to a specific construction of runner therefor, whereby the ribs and stretchers may be readily secured in position without liability of accidental disengagement.

The main object of the present invention is the production of a runner constructed and arranged to removably receive the ribs or stretchers and a keeper to be connected with the runner to prevent accidental disengagement of said ribs or stretchers.

The preferred details of structure and arrangement of parts will be described in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a view in elevation of an umbrella-rod, my improved runner being shown applied thereto and illustrated in section. Fig. 2 is a detail perspective of the keeper. Fig. 3 is a perspective view of the runner. Fig. 4 is a perspective view illustrating the end formation of the rib or stretcher. Fig. 5 is a perspective of a modified form of rib.

Referring to the drawings, wherein like numerals of reference designate like parts throughout the several views, 1 represents an umbrella-rod, which may be of any desired detail structure.

In the following detailed description it is to be understood that the notch of the umbrella as well as the runner proper are identical in construction, and therefore the description of the runner will suffice for that of the notch.

The runner comprises the usual barrel 2, provided at the upper end with a series of radially-projecting arms 3. The arms are upwardly turned at their outer ends to provide vertical portions 4 and terminally bent inward, as at 5, at the upper end of said vertical portions, said portions 5 being extended parallel with the body of the arms 3, but spaced therefrom a sufficient distance to receive the heads of the ribs or stretchers, as hereinafter described. The respective arms are spaced apart circumferentially of the bar-

rel to provide openings 6, through which the heads of the ribs may be inserted.

The ribs 7 are provided at one end with a T-shaped head 8, the shank 9 of which extends in alinement with the rib, while the cross-arm 10 is projected at right angles thereto. By preference the head is secured by a suitable bending operation of the flanges of the rib to snugly embrace the shank of the head, though it is to be understood that the rib body and head may be connected in any desired manner.

11 represents what I term the "keeper," comprising a ring-shaped body having depending lugs 12. The body is of a size to fit between the inner edges of the portions 5 of the arms, so that in use said body fits snugly within the plane of said portions 5, abutting snugly against the free ends thereof. The lugs 12 project forwardly from the body and are so spaced and arranged as to project through the openings 6 immediately adjacent the barrel when the keeper is in place. By this arrangement when the keeper is in place the wall of the body 11 closes the space between the portions 5 and the arms 3, thereby providing an annular space surrounding said keeper-wall and inclosed except coincidentally with the openings 6. The projections 12 of the keeper, which extend downward into contact with the outer surface of the barrel 2, as clearly shown in Fig. 1, serve to maintain the keeper in fixed relation with the runner, whereby its accidental disengagement is prevented.

In assembling the ribs or stretchers the head thereof is inserted within the openings 6, the walls of which are spaced to snugly receive the shank 9. The rib is turned upon itself to cause the projecting ends of the cross-arms 10 to rest upon the respective arms 3 immediately contiguous the particular opening 6, as clearly shown in Fig. 1. The keeper is now inserted to cause its projections 12 to pass downward through the openings 6, when its body-surface will be arranged in rear of the heads of the ribs, closing the space between the free end of the portions 5 and the arms 3, thereby preventing accidental disengagement of the ribs or stretchers upon the runner.

The runner-barrel is provided with the usual longitudinally-arranged slot 13 to receive the spring-catch 14 common to um-

brellas, while the collar, which is identical in construction with the runner, except that its barrel is reduced in length, is secured by transverse pins 15 in fixed relation to the umbrella-rod.

16 represents the housing ordinarily secured upon the umbrella-rod beyond the cover to overlie the reinforcing-strip ordinarily secured at this point. The housing comprises the usual cone-shaped flange 17 and the depending sleeve 18, which latter, in accordance with the construction of my invention, extends to and is seated within the body 11 of the keeper arranged for cooperation with the collar. By this construction the housing is secured in place and the keeper is braced against inward movement.

In Fig. 5 is illustrated a modified form of rib, wherein the rib-body 19 is provided with a laterally-projecting end 20, which is arranged to seat within the housing formed by the arms of the runner and the keeper, being introduced prior to the insertion of the keeper in an obvious manner.

The runner is preferably constructed of a single piece of material bent to form the barrel 2 and longitudinally slitted to provide the opening 6, the material intermediate these slots being suitably bent to provide arms 3 and projected portions 4 and 5.

In practice it will be noted that the ribs and stretchers are freely movable in right lines as is necessary to a proper manipulation of the umbrella, in which the shank 9 is effectively guided between the edge portions of the adjacent arms, while the cross-arm 10 is so supported within the housing described as to provide a practically pivotal support for the rib or stretcher. It will be noted that the ribs and stretchers are independently mounted and may be removed for renewal without interfering with or disturbing any of the other ribs or stretchers and that when assembled the ribs or stretchers are prevented from accidental disengagement from the runner or collar, thereby materially adding to the life of this feature of umbrella construction without materially increasing the cost thereof.

The keeper is effective in preventing accidental disengagement of the ribs, being so arranged as to provide an annular space between it and the vertical projections 4 of the arms of such width as to loosely receive the cross-arms 10 of the head 8, whereby any undesirable looseness of the connection at this point is avoided.

Though the preferred details of structure of my invention are essentially as herein de-

scribed and shown, it is to be understood that I do not limit myself thereto, considering various changes and modifications thereof as within the spirit and scope of the present invention.

It is to be understood that I contemplate the invention for use with umbrella, sunshade, and parasol structures, and that the rib and T-shaped head 20, above described as independent elements, may, if preferred, be formed of a single piece of material.

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

1. The combination with a rib having a laterally-extending head, of a runner comprising a sleeve formed with arms to receive the rib-head, and a keeper designed to fit over the sleeve of the runner and lock the ribs in the arms, said keeper being of greater diameter than the runner provided with means to interlock it against revoluble movement independent of the runner.

2. The combination of a rib having a laterally-projecting head, of a runner comprising a sleeve provided at the upper end with arms bent into approximately U shape and opening toward the plane of the sleeve, and a keeper comprising a cylinder-body to fit over the sleeve of the runner and close the open ends of the arms.

3. The combination with a rib having a laterally-projecting head, of a runner comprising a sleeve provided at the upper end with arms bent into approximately U shape and opening toward the plane of the sleeve, and a keeper comprising a cylindrical body to fit over the sleeve of the runner and close the open ends of the arms, said keeper being formed with depending lugs to straddle the arms at their junction with the runner-sleeve.

4. The combination of a rib having a laterally-projecting head, of a runner comprising a sleeve provided at the upper end with arms bent into approximately U shape and opening toward the plane of the sleeve, and a keeper comprising a cylinder-body to fit over the sleeve of the runner and close the open ends of the arms, and means carried by the keeper to engage the arms and prevent independent revoluble movement of the keeper.

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

WILLIAM W. REAM.

Witnesses:

HOWARD M. HOFFMAN,
AARON W. SNADER.