No. 698,267. Patented Apr. 22, 1902.

S. J. EVANS.

UMBRELLA RIB AND STRETCHER JOINT.

(Application filed Jan. 24, 1902.)

(No Model.)

Fig. 1.

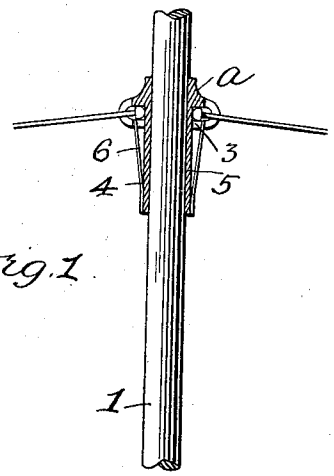
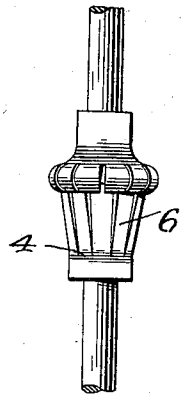


Fig. 2.



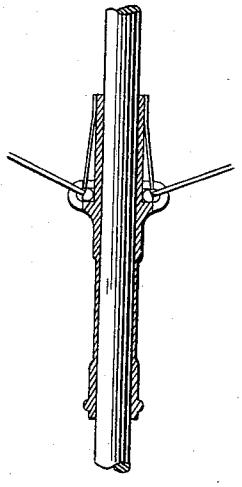
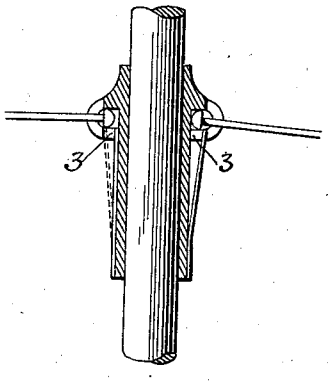


Fig. 3



Attest:

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UNITED STATES PATENT OFFICE.

SAMUEL J. EVANS, OF ROANOKE, VIRGINIA.

UMBRELLA-RIB AND STRETCHER-JOINT.

SPECIFICATION forming part of Letters Patent No. 698,267, dated April 22, 1902.

Application filed January 24, 1902. Serial No. 91,096. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL J. EVANS, a citizen of the United States, residing at Roanoke, county of Roanoke, Virginia, have invented certain new and useful Improvements in Umbrella-Notches, of which the following is a specification.

My invention relates to umbrellas, and particularly to a spring-notch adapted to permit the ready insertion or removal of the ribs or stretchers when they are properly manipulated under suitable pressure.

The invention is shown in the accompanying drawings, in which—

Figure 1 is a sectional view showing the upper notch and a runner-notch in position upon a stick. Fig. 2 is a side view of the upper notch. Fig. 3 is a detail sectional view illustrating the action of the device.

In the drawings, 1 indicates the stick, which may be of ordinary form.

My present arrangement is an improvement upon that disclosed in an application for Letters Patent of the United States, filed by me June 1, 1901, Serial No. 62,765.

The notch proper is shown at *a*. This notch has a socket to receive the headed ends of the ribs and a contracted mouth 3, through which the heads may be passed when in a certain position, as described in said application.

In my present invention I provide means for preventing the outward movement of the heads through the contracted mouths except when the device is properly manipulated to permit this removal. This means consists of a ferrule or sleeve 4, secured to the sleeve or extension 5 of the notch-ring and having spring-fingers 6 extending toward the socket of the notch, so that the extreme end edge of said fingers will provide stops or abutments for contact with the ribs or heads to prevent their disengagement. The arrangement is such that one of the spring-fingers is located opposite each one of the contracted mouths of the notch. When it is desired to remove a rib, the corresponding spring-finger must be pressed inwardly, as shown on the left of Fig. 3, so that the end edge thereof will be removed from the path of the head. It will be seen from the above that this arrangement provides a spring retaining or closing wall for the socket of the notch and that it is necessary to press this spring part inwardly toward the stick before the rib can be removed. While this arrangement provides a retaining part capable of being sprung inwardly when the rib is being placed in position or removed, it will be understood that when the head is in place within the notch the end edge of the finger will present a substantially rigid abutment or stop directly across the line or path that the rib must take in passing outwardly through the mouth. In other words, when the spring-finger is in place to retain the rib it offers a rigid resistance to any outward movement of the rib.

I do not wish to limit myself to the precise arrangement of the spring-retaining wall or part, the essential feature of my present improvement being that a rigid stop is provided, but yet one which is capable of yielding to pressure when applied to move it laterally away from the path of the rib or the head thereof.

I do not wish to limit myself either to the precise form of notch shown and described. The sleeve carrying the spring-fingers is secured to the notch extension preferably by being soldered thereto.

In the ordinary operation of the umbrella the spring-fingers yield as the ribs or stretchers press against them.

Where I refer in the claim to the "ribs" I mean this term to include also the arrangement when applied to the stretchers.

I claim as my invention—

In combination, the ribs, a notch having a series of mouths through which the ribs pass and spring parts to retain the ribs in the notch, said parts consisting of flat springs having their terminal edges extending across the said mouths from one side to the other and in the plane through which the ribs must pass when being removed, substantially as described.

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

SAMUEL J. EVANS.

Witnesses:
HENRY E. COOPER,
L. B. MIDDLETON.