M. H. HARTZELL.

UMBRELLA STRETCHER AND RIB JOINT.

APPLICATION FILED NOV. 8, 1909.

962,215. Patented June 21, 1910.

Fig. 1.

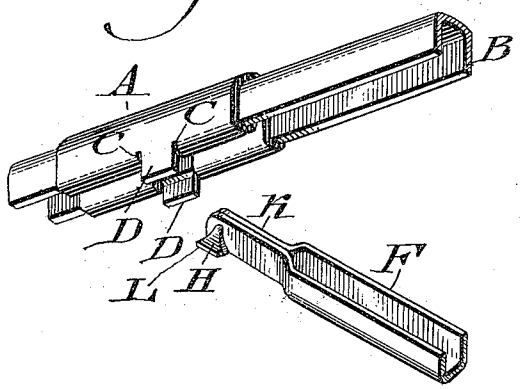
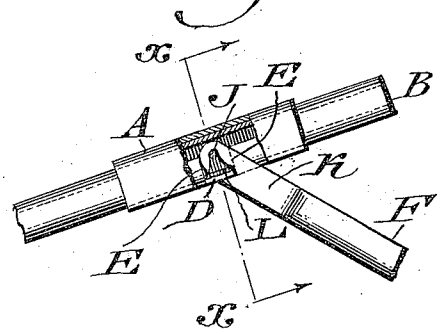


Fig. 2.



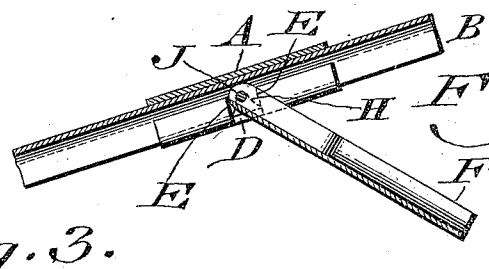
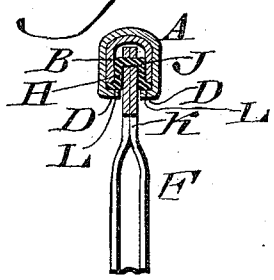


Fig. 4.

Fig. 3.



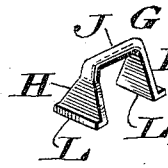


Fig. 5.

Fig. 6

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UMBRELLA STRETCHER AND RIB-JOINT.

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To all whom it may concern:

Be it known that I, MORRIS H. HARTZELL, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Umbrella Stretcher and Rib-Joint, of which the following is a specification.

My invention consists of an umbrella stretcher and rib joint, the same embodying a geat attachable to a rib, and a pivotal yoke mounted on a stretcher, said yoke having legs which are adapted to be engaged by tongues on said geat, and furthermore controlled by the latter, whereby the yoke is held firmly secured to the geat, and the joint of the stretcher with the rib is assured in a convenient, reliable and durable manner, while piercing of the rib is avoided and so the strength of the same is preserved.

For the purpose of explaining the invention, the accompanying drawing illustrates a satisfactory reduction of the same to practice, but the important instrumentalities thereof may be varied, and so it is to be understood that the invention is not limited to the specific arrangement and organization shown and described.

Figure 1 represents a perspective view of an umbrella stretcher and rib joint embodying my invention, certain members of the same being in primary condition. Fig. 2 represents a perspective view of said joint, the stretcher and rib being in engaged position and on a reduced scale. Fig. 3 represents a transverse section on line *x*—*x*, Fig. 2. Fig. 4 represents a longitudinal section thereof. Fig. 5 represents a perspective view of a detached member. Fig. 6 represents a perspective view of a modification.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings:—A designates a geat which is adapted to embrace the rib B, into the channel of which it is partly inturned, it having incisions C, which extend in the inturned members at a right angle to the longitudinal direction of the geat, thus forming the tongues D, and the shoulders E, the latter being on the inner sides of the inturned portions of the geat adjacent to the sides of said tongues.

F designates a stretcher which is adapted to be pivotally connected with the rib without piercing or perforating the latter. To this end, there is connected with the pivotal end of said stretcher, the yoke G, which is composed of the legs H and the connecting cross bar J therefor, said bar forming a pivot which is mounted in an opening in the stretcher, while the legs H are on the opposite sides of the latter. The stretcher has a reduced neck K, which with the legs H occupy the space between the inturned members of the geat, and the tongues D are turned laterally under the bottoms of said legs, so as to bear against said bottoms and retain the yoke against outward displacement from the geat and consequently from the rib. The legs are, furthermore, confined between the shoulders E of the geat, and thus the yoke is prevented from longitudinal shifting or disengagement from the geat, by which provision the stretcher and rib are reliably connected, and a pivot provided therefor, the same being simple and inexpensive in construction and easily applied and firmly retained in position, while perforating of the rib is avoided, as hereinbefore referred to. In order to increase the holding action of the shoulders E on the legs, the latter flare from the cross bar J to the outer terminals, thus providing broad bases L for said legs, the same being engaged throughout their lengths by the shoulders E, the effect of which is evident.

Attention is also directed to the lower ends of the legs H of the yoke G, where they are deflected laterally forming the outturned flanges L, which when the yoke is in position, bears or abuts against the under edges of the rib and are held in contact therewith by the tongues D, thus assisting in retaining the yoke reliably and tightly in place.

In Fig. 6, the flanges L of the other figures are dispensed with, but in all cases the yoke stands at a right angle to the longitudinal direction of the rib, so that it may be engaged from below by the tongues D and so retained in position by said angle against outward displacement, while the fronts and rears of said legs are controlled by the shoulders E against longitudinal displacement.

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

1. In an umbrella stretcher and rib joint, a geat embracing the rib and having a tongue on the side thereof, a stretcher and

a yoke pivotally mounted on said stretcher and received within said geat, said yoke being provided on its side with a leg engageable with said tongue to prevent outward movement of the leg from the geat.

2. In an umbrella stretcher, a stretcher and rib joint, a geat embracing a rib and provided with a tongue and shoulder on a side thereof, and a yoke pivotally mounted on a stretcher and inserted in said geat, said yoke having on its side a leg which is engaged by said tongue and shoulder, preventing outward and endwise movement of the same in the leg.

3. In an umbrella stretcher and rib joint, a geat embracing a rib and provided with a shoulder, and a yoke pivotally mounted on a stretcher and inserted in said geat, said yoke having on its side a leg engaged by said tongue, preventing endwise movement of the leg.

4. In an umbrella stretcher and rib joint, a geat embracing a rib and provided with a shoulder, and a yoke pivotally mounted on a stretcher and inserted in said geat, said yoke having on its side a leg engaged by said tongue, the base of said leg having an outward flange which abuts the adjacent portion of the rib and held tightly in contact therewith.

5. A channeled rib, a geat embracing the same and having a portion inturned within the channel, a yoke having lateral portions confined between the rib and inturned portions of the geat, and a stretcher to which said yoke is pivotally connected.

6. A rib having a channel, a geat embracing the rib and provided with incisions and tongues forming shoulders, the latter being on the inner sides of the inturned portion of the geat adjacent the sides of the tongues, a stretcher, and a yoke pivotally mounted on said stretcher and having legs disposed between the inturned members of the geat, said tongues being turned laterally under the bottoms of said legs.

7. A rib having a channel, a geat embracing the rib and provided with incisions and tongues forming shoulders, the latter being on the inner sides of the inturned portion of the geat adjacent the sides of the tongues, a stretcher, and a yoke pivotally mounted on said stretcher and having legs disposed between the inturned members of the geat, said tongues being turned laterally under the bottoms of said legs, the legs of said yoke having outturned flanges abutting against the under edges of the ribs.

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