

W. H. RICHARDSON.

UMBRELLA.

No. 185,967.

Patented Jan. 2, 1877.

Fig. 2.

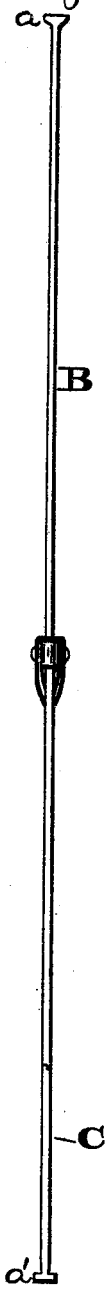


Fig. 3.

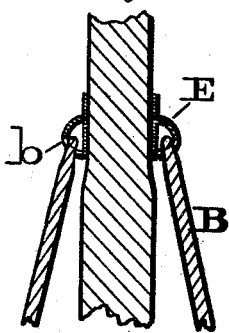


Fig. 4.

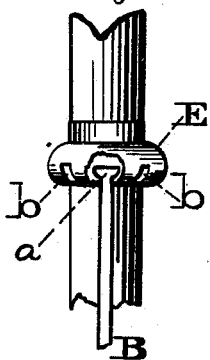


Fig. 6.

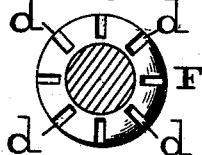


Fig. 1.

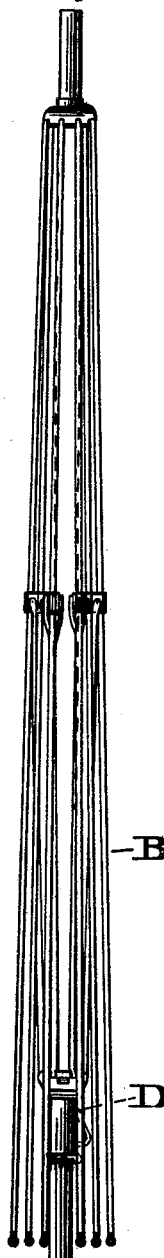


Fig. 5.

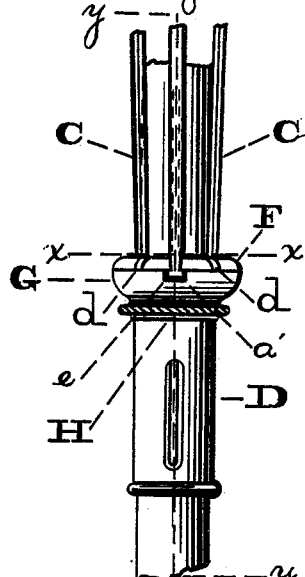


Fig. 7.

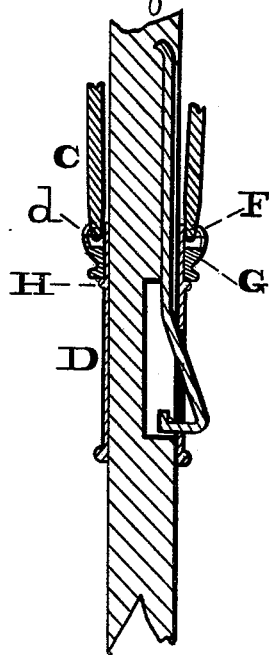
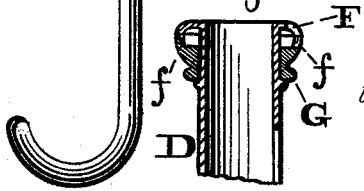


Fig. 8.



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UNITED STATES PATENT OFFICE

WILLIAM H. RICHARDSON, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN UMBRELLAS.

Specification forming part of Letters Patent No. 185,967, dated January 2, 1877; application filed March 25, 1876.

To all whom it may concern:

Be it known that I, WILLIAM H. RICHARDSON, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Umbrellas; and I do hereby declare the following to be a clear and exact description of the nature thereof, sufficient to enable others skilled in the art to which my invention appertains to fully understand, make, and use the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a view of the frame of an umbrella embodying my invention. Fig. 2 is a view of one of the ribs and stretchers detached. Fig. 3 is a transverse section of a portion of the upper end. Fig. 4 is a side view thereof. Fig. 5 is a side view of a portion of the lower end. Fig. 6 is a transverse section in line *x x*, Fig. 5, the stretchers having been removed. Fig. 7 is a transverse section in line *y y*, Fig. 5. Fig. 8 is a sectional view of a portion of the runner, and of parts connected thereto.

Similar letters of reference indicate corresponding parts in the several figures.

My invention relates to a method of fastening the ribs and stretchers of an umbrella, so as to dispense with openings in the ends thereof and the wires usually employed; and it consists of means for readily applying and removing the ribs without their interference one with another.

In order to secure the ribs in position, their ends are formed with T-heads whose narrow sides enter slots or openings in a collar fixed to the upper end of the stick, and by a partial turn of the ribs the heads engage with the walls of the collar, so as to be securely attached thereto. The stretchers also have T-heads, which enter slots or openings in a collar fixed to the runner, said openings being closed by a rotating band fitted on the runner, but rendered accessible by means of a slot in said rotating band, whereby, when the slot and one of the openings register or communicate, a stretcher may be applied or removed.

Referring to the drawings, A represents the

stick, B the ribs, C the stretchers, and D the runner.

The end of each rib and stretcher is formed with flattened T-heads *a a'*, the heads of the two parts extending in the same direction, as shown in Fig. 2. To the upper end of the stick there is secured a hollow collar, E, in the walls of the under side of which there is formed a series of openings, *b*, into which the heads *a* of the ribs are adapted to enter.

F represents a hollow collar, which is secured to the upper end of the runner D, and in the walls of the upper side of which there is formed a series of openings, *d*, into which the heads *a'* of the stretchers are adapted to enter. On the outside of the runner D, just below the collar F, there is fitted a rotating band, G, at a point of the upper edge of which there is a slot, *e*, which is adapted to register with either of the openings *d* of the collar F. On the runner D, below the band G, there is a circumferential bead or rib, H, which serves to hold the band properly in position on the runner and against the collar F, but without preventing the rotation of the band. Lugs, projections, or pins will accomplish the same result as a continuous bead or rib.

The operation is as follows: When a rib and its stretcher are to be applied to the collars E F, the rib will be presented to the collar E, so that the narrow side of the head will enter one of the openings *b* therein. Then turn the rib so that its head will come under the walls of the slot, and the rib will be attached to the collar. The band G will now be, or it has been previously, rotated, so that the slot *e*, will register or communicate with the proper opening *d* of the collar F. Then press the head from the circumference of the band to the center through the slot *e*, the neck of the head entering the opening *d*, and give the band G a partial rotation, so that the slot *e* moves from the opening with which it registered. This brings the upper walls of the band G over the head *a'* of the stretcher, so as to confine said head, whereby the stretcher will be securely locked to the runner through the medium of the band G and collar F. These operations will be repeated, in or-

der to apply the remaining ribs and stretchers.

It will be seen that the stretcher can be readily removed by rotating the band G, so that its slot *e* coincides with the opening *d* of the stretcher to be removed. The stretcher can now be readily withdrawn from the collar F. Then, by a partial rotation of the rib, its head *a* may be drawn out through the slot *b*, respectively, and thus the rib will also be displaced.

It will be seen that by these means any rib and its stretcher may be removed and applied without disturbing or interfering with the remaining ribs and stretchers.

It will also be seen that the band G is so disposed that it may be most conveniently reached and rotated from the outside of the runner.

The collar F has a downwardly-projecting flange, *f*, which is circumscribed by the upper

end of rotating band G, (see Fig. 8,) whereby the collar will be supported, and it is not liable to be drawn out under extraordinary strain.

The collar and band will have smooth surfaces, in order to prevent premature wear of the fabric of the umbrella.

I am aware that it is not new to combine with an umbrella-runner a notched crown-piece and a notched disk, and therefore do not claim the same, broadly; but

What I do claim is—

The slotted collar F, fixed to the upper end of the runner, in combination with the rotating band G, having the slot *e* therein, and the bead H, all constructed and arranged substantially as shown and described.

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