

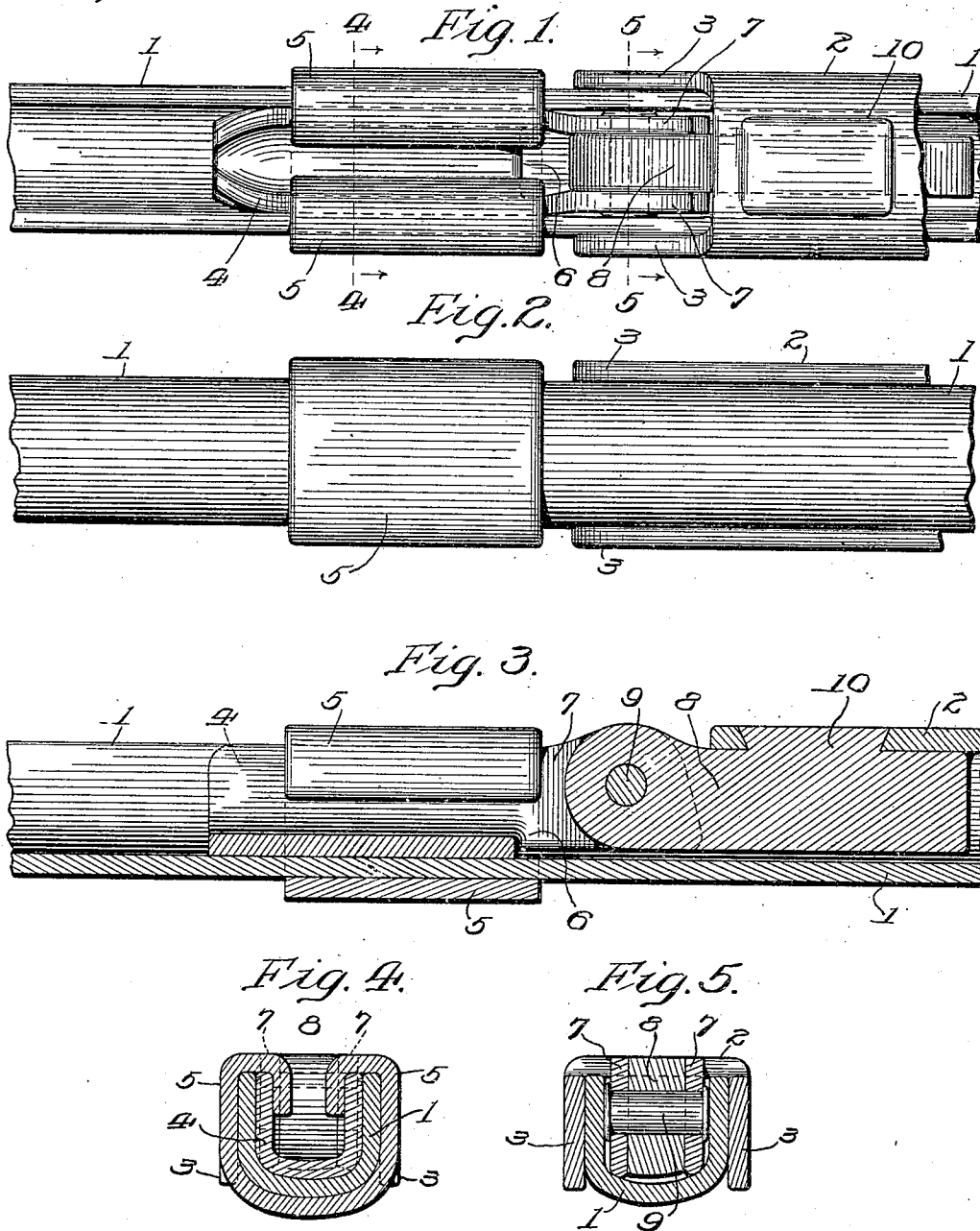
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UMBRELLA.

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946,121.

Patented Jan. 11 1910.



WITNESSES

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1 June 1910.

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UNITED STATES PATENT OFFICE.

GEORGE K. GARRETT, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO NATIONAL UMBRELLA FRAME COMPANY, A CORPORATION OF PENNSYLVANIA.

UMBRELLA.

946,121.

Specification of Letters Patent.

Patented Jan. 11, 1910.

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To all whom it may concern:

Be it known that I, GEORGE K. GARRETT, a citizen of the United States, and a resident of the city of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Umbrellas, of which the following is a full, clear, and complete disclosure.

The main objects of this invention are to provide a compact, strong and durable joint between an umbrella rib and its stretcher; to provide a relatively large and strong grooved stretcher and a close folding construction of the stretcher in combination with a rib, whereby when closed the stretcher will incase the rib; to provide a construction in which the end of the stretcher is provided with ears contacting with the sides of the rib to minimize the side motion between the rib and the stretcher when the umbrella is being opened or closed and to stiffen the stretcher; and to provide other improvements which will appear in the following specification.

In the accompanying drawings: Figure 1 is a fragmentary bottom plan view of a rib and connected stretcher constructed in accordance with this invention; Fig. 2 a top plan view; and Fig. 3 a longitudinal vertical section of the same. Figs. 4 and 5 are transverse sections on lines 4—4 and 5—5 respectively of Fig. 1.

In this improved construction, as shown in the drawings, the rib 1 and stretcher 2, are formed of rolled steel or other suitable material, and are corrugated or grooved and of substantially U-shape in cross section. The inner diameter between the sides of the stretcher is slightly greater than the outside diameter between the sides of the rib, and the two parts are arranged with their open sides toward each other, whereby when the umbrella is folded the stretcher will incase the rib. The end of the stretcher 2 is bifurcated forming ears 3, which embrace the sides of the rib and contact with the outer surfaces thereof, thus minimizing the side motion between the rib and the stretcher and stiffening the stretcher.

For flexibly connecting the rib and the stretcher, the rib is provided with a shoe 4, which is substantially U-shaped in cross section, and fits snugly within the sides of the rib. This shoe is securely held in place by means of a shoe clamp 5 which extends

around the outer surface of the rib, and has its ends folded over the edges of the rib, and inwardly over the edges of the shoe and against the inner surfaces of the sides of the shoe. One end of the shoe is provided with a longitudinal centrally arranged slot 6, forming a projecting ear 7 upon each side thereof. Between these projecting ears 7 is pivoted a tongue 8 upon a rivet 9, the rivet passing through the tongue and the said ears, and the ends of the rivet being headed within the inner surfaces of the sides of the rib, thereby avoiding any puncturing of the rib which would have a tendency to weaken it.

The tongue 8 extends longitudinally and centrally of the stretcher 2, and is provided upon its edge and integral therewith with a longitudinal rivet 10, which projects through an oblong aperture provided therefor in the central portion of the stretcher, and is securely riveted into place, thus holding the tongue 8 rigid with the stretcher.

With this construction in mind, it is evident that I have provided an extremely rigid and compact construction for a rib and stretcher and connecting parts, and although I have shown only one form in which this invention may be constructed, it is obvious that many changes might be made in the details of construction herein shown, within the scope of the appended claims, without departing from the spirit of the invention or sacrificing any of the advantages thereof.

Having thus fully described my invention, I claim and desire to protect by Letters Patent of the United States:

1. In an umbrella, the combination with a channeled rib, of a stretcher having ears embracing said rib, and a pivot entirely between the planes of the sides of said rib, and means coöperating with said pivot for connecting said rib and said stretcher.

2. The combination with a rib having a longitudinal groove, of a stretcher having ears embracing said rib and in contact with the sides thereof, a shoe secured in said rib, a tongue in said stretcher, a longitudinal rivet on said tongue engaging in an oblong aperture provided therefor in said stretcher, and a pivot extending through said shoe and said tongue for connecting said rib and said stretcher.

3. The combination with a channeled umbrella rib, of a stretcher having ears embrac-

ing said rib and in contact with the sides thereof, a pivot entirely between the planes of the inner surfaces of the sides of said rib, and means coöperating with said pivot for
5 connecting said rib and said stretcher.

4. In an umbrella, the combination with a rib U-shaped in cross section, of a stretcher U-shaped in cross section, the inner diameter of the stretcher being greater than the
10 outer diameter of the rib, whereby the stretcher is adapted to incase the rib when the umbrella is closed, said stretcher having a bifurcated end forming ears embracing said rib and in contact with the outer sur-
15 faces of the sides thereof, a pivot entirely between the inner surfaces of said ears, and means coöperating with said pivot for connecting said rib and said stretcher.

5. In an umbrella, the combination with
20 a rib, of a stretcher having a bifurcated end forming ears embracing said rib and in contact with the outer surfaces of the sides thereof, said rib and said stretcher being substantially U-shaped in cross section, and
25 the inside diameter of said stretcher being greater than the outside diameter of said rib whereby said stretcher is adapted to incase said rib, a shoe secured in said rib, a tongue secured in said stretcher, and a pivot
30 between said shoe and said tongue, said pivot terminating between the inner surfaces of said rib.

6. In an umbrella, the combination with a rib, of a stretcher substantially U-shaped
35 in cross section, having two sides connected by a curved portion and having a bifurcated end forming ears embracing said rib, a tongue secured in said stretcher spaced from the inner surfaces of the sides thereof, a shoe
40 attached to said rib, a pivot connecting said tongue and said shoe and terminating between the inner surfaces of the sides of said stretcher for connecting said stretcher to said rib.

7. In an umbrella, the combination with a rib having a groove therein, of a stretcher having ears embracing said rib, and a pivot
45 headed at each end and wholly between the inner surfaces of the sides of said groove, and means coöperating with said pivot for
50 connecting said rib and said stretcher.

8. The combination with a rib substantially U-shaped in cross section, of a stretcher substantially U-shaped in cross section
55 having a bifurcated end forming ears embracing said rib, a shoe secured to said rib between the sides thereof, a tongue secured

to said stretcher between the sides thereof, and a pivot entirely between the inner surface of said ears connecting said shoe and
60 said tongue.

9. The combination with a rib, of a stretcher having ears embracing said rib and in contact with the sides thereof, a pivot entirely between the inner surfaces of said
65 ears, and means coöperating with said pivot for connecting said rib and said stretcher.

10. The combination with a rib, of a stretcher having a bifurcated end forming ears embracing said rib and in contact with
70 the outer surfaces of the sides thereof, said rib and said stretcher being channel shaped in cross section, the inside diameter of said stretcher being slightly greater than the outside diameter of said rib, and said stretcher
75 being arranged with its open side facing toward the open side of said rib, whereby said stretcher is adapted to incase said rib, a shoe in said rib, a shoe clamp around said rib and holding said shoe in place, said
80 shoe having a bifurcated end, a tongue extending longitudinally in said stretcher, a longitudinal rivet projecting laterally from said tongue and engaging in an oblong aper-
85 ture provided therefor in said stretcher, one end of said tongue engaging in the bifurcated end of said shoe, and a pivot extending through said shoe and said tongue, said pivot terminating between the inner sur-
90 faces of said rib.

11. In an umbrella, the combination with a grooved rib, of a grooved stretcher, a shoe secured in said rib, a tongue secured in said
stretcher, and a pivot connecting said shoe and said tongue, said pivot being entirely
95 included between the inner surface of the sides of said rib, and said stretcher embracing said rib when the umbrella is closed.

12. The combination with a grooved rib, of a grooved stretcher having ears embrac-
100 ing said rib and in contact with the sides thereof, a shoe secured in said rib, a tongue secured in said stretcher, and a pivot extending through said shoe and said tongue and wholly included between the inner sur-
105 faces of said ears for connecting said rib and said stretcher.

In witness whereof, I hereunto set my hand this 29th day of June, A. D. 1908.

GEORGE K. GARRETT.

Witnesses:

ADDISON I. GARDNER,
ALEXANDER PARK.