

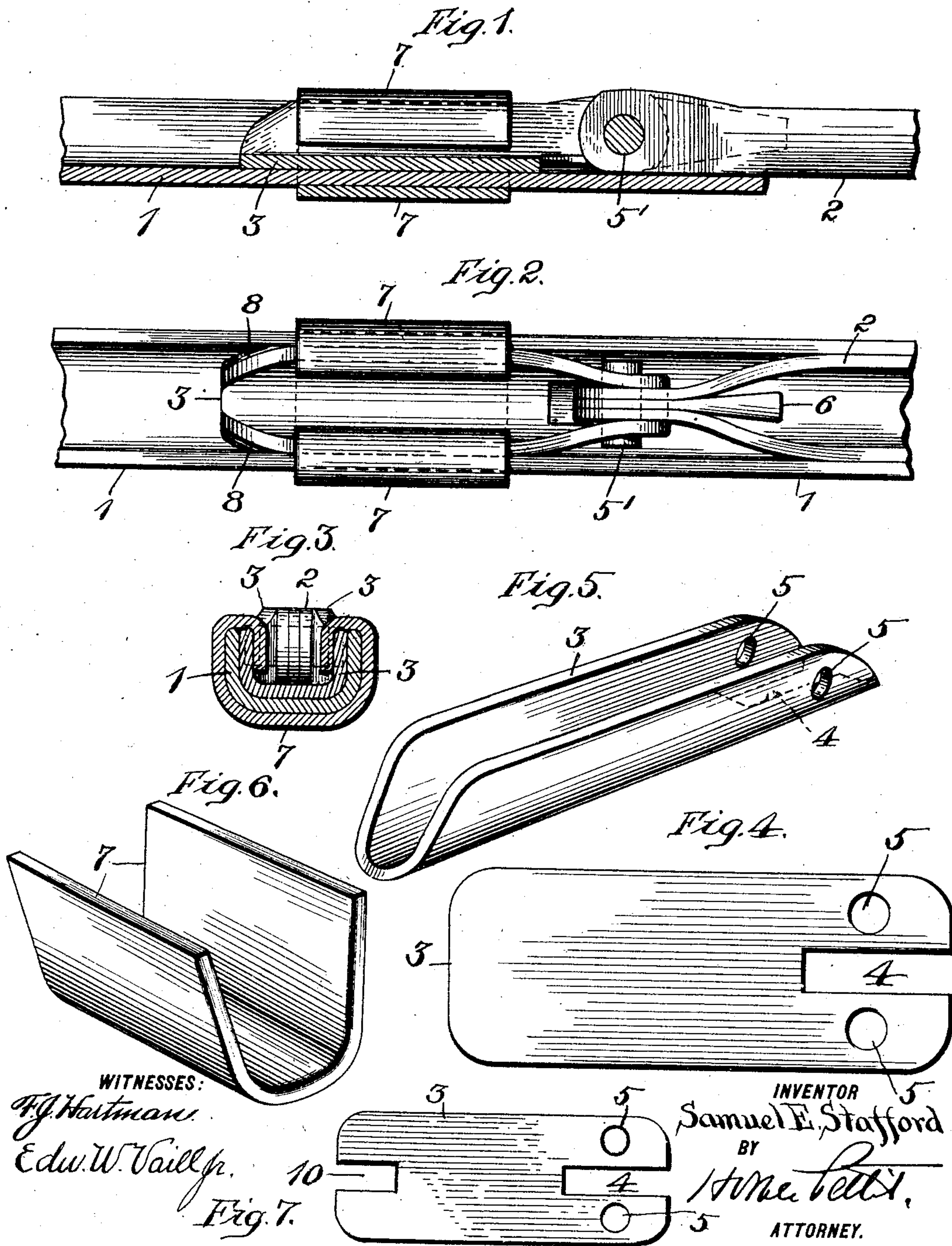
No. 777,980.

PATENTED DEC. 20, 1904.

S. E. STAFFORD.
CONNECTION FOR UMBRELLA STRETCHERS.

APPLICATION FILED APR. 26, 1904.

NO MODEL.



UNITED STATES PATENT OFFICE.

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TO NATIONAL UMBRELLA FRAME COMPANY, A CORPORATION OF
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CONNECTION FOR UMBRELLA-STRETCHERS.

SPECIFICATION forming part of Letters Patent No. 777,980, dated December 20, 1904.

Application filed April 26, 1904. Serial No. 205,055.

To all whom it may concern:

Be it known that I, SAMUEL E. STAFFORD, 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 Connections for Umbrella-Stretchers, of which the following is a full, clear, and complete disclosure.

One object of my invention is to provide such a construction that the pivoted connection between the umbrella-rib and its stretcher may be made in such a manner that the parts will be economical to manufacture, efficient in operation, and will occupy but little space, while at the same time there will be no objectionable projections or roughnesses which will tend to wear the cloth or cover of the umbrella and prevent its being rolled or folded into a small compass.

A principal object of my invention is to provide means for connecting the stretcher or stay with the rib in such a manner as to hold the same firmly in position longitudinally, so that the pivoted pin is entirely within the rib and without in any way injuring the said rib or head of the stretcher by bending, crimping, or cutting, while the parts are at the same time easily and quickly assembled by the use of suitable machines or tools.

Briefly, my invention comprises a stay, to the end of which is pivoted a head or anchor, which is attached to the rib by independent clamping means, said head or anchor being held within the rib by said clamping means.

For a full, clear, and exact description of my invention reference may be had to the following specification and to the accompanying drawings, in which—

Figure 1 is a view of an umbrella rib and stay embodying my invention, the rib, clamp, and head being shown in section; Fig. 2, a plan view thereof; Fig. 3, a transverse sectional view taken through the clamp; Fig. 4, a view of the blank from which the head or anchor is formed; Fig. 5, a view showing the blank bent into shape for insertion into the rib; Fig. 6, a view showing the clamp in the shape in which it is formed before it is placed

upon the rib, and Fig. 7 is a view of the blank from which a modified form of head is made.

Referring to the drawings, the numeral 1 indicates the umbrella-rib, which is substantially U-shaped in cross-section and over which the cover or fabric is stretched. The numeral 2 indicates the stretcher or stay, the inner end of which is attached to the sliding runner on the umbrella-rod and the outer end of which is pivoted to the head or anchor 3 by means of a pin or similar device 5'.

The head 3 is preferably formed of a substantially rectangular piece of sheet metal having a slot 4 in one end thereof and two openings 5 adjacent said slot to receive the pin 5'. The head or anchor 3 is first bent into the form shown in Fig. 5 and the end of the stay 2 inserted between the two lugs formed by the slot 4. The pin 5' is then inserted through said openings 5 and through the opening in the end of the stretcher 2. A spacer or strengthener 6 may be inserted between the two sides of the stretcher 2 in the usual manner known in the art; but it is not essential to the embodiment of my invention.

In assembling the pin 5' is inserted through the openings 5 and through the end of the stretcher 2. The lugs at the end of the anchor are then forced together to contact with the end of the stretcher and the pin headed over to hold the same in position. When thus connected, the head is placed within the rib and the clamp 7 applied.

The clamp 7 for holding the head or anchor in position is first made in the shape shown in Fig. 6 by bending a substantially rectangular piece of sheet metal into the shape to fit the outside of the rib 1, as shown in Fig. 6. The clamp 7 is then placed about the said rib 1. The ends thereof bend inwardly and downwardly, so as to engage the inner parallel sides of the head 3 and clamp the same against the inner side of the rib 1, which is accomplished by any suitable tools and may also be done easily by automatic machinery, there being no projections or pins to interfere therewith.

The projecting sides of the shoe 3 are then bent toward each other, as shown at 8 in Fig. 2, so as to prevent the head 3 from being withdrawn from the clamp or from sliding longitudinally on the rib 1. This latter feature, in connection with the opposite ends of the head, which are also bent inward where pivoted to the stretcher 2, as above described, prevents said head from sliding longitudinally on the rib in either direction. It will be seen that this construction gives a simple and efficient combination of parts which is easy to assemble and which has no objectionable projections which would tend to wear the umbrella-cover and which is at the same time easy to assemble and when assembled holds all parts firmly in position entirely within the rib.

In Fig. 7 I have shown a modified form of head which is provided with an additional recess or slot 10 in the end opposite that to which the stretcher is attached. This enables the sides 8 of the head to be more easily bent inward, but is not essential to the efficient operation or construction of my device.

All parts are stamped from sheet metal and act with the highest efficiency for the amount of material used, the parts not being weakened by any transverse bendings, crimpings, or cuttings at points where great strain is likely to come.

Various changes may be made in the form and arrangement of the parts of the device comprised in this form of my invention without departing from the spirit and scope thereof; but

What I claim, and desire to protect by Letters Patent of the United States, is—

1. In connecting means between umbrella ribs and stretchers, a trough-shaped head having holes adjacent one end through which the pivot of the stretcher passes, the sides of said head being bent inwardly at the ends.

2. In connecting means between umbrella ribs and stretchers, a trough-shaped head hav-

ing ears at one end thereof, said ears having holes through which the pivot of the stretcher passes, the sides of said head being bent inwardly at their ends.

3. The combination with a grooved umbrella-rib, of a U-shaped head, a clamp for retaining said head within said rib, said clamp comprising a substantially rectangular piece of sheet metal, the entire ends of which engage said head interiorly, and a stretcher pivoted to said head outside the limits of said clamp, the unconfined portions of the sides of said head being bent inwardly.

4. The combination with a grooved umbrella-rib, of a U-shaped head, a clamp for retaining said head within the groove of said rib and adapted to hold the sides of said rib and the sides of said clamp in contact centrally, the unconfined portions of the sides of said head being bent inwardly.

5. The combination with a grooved umbrella-rib, a U-shaped head having a longitudinal recess or cut-away portion adjacent its end, a clamp passing around said rib and engaging said head interiorly and centrally, a stretcher pivoted at one end of said head, the portions of said head adjacent said cut-away portion being bent inwardly.

6. The combination with a grooved umbrella-rib, a head U-shaped in cross-section having longitudinal slots in the central portion in each end thereof, a clamp for retaining said head within said rib passing about said rib and engaging said head interiorly and centrally, the unconfined portions of said head being bent inwardly to aid in retaining the same in position longitudinally, and a stretcher pivoted to the inwardly-bent portions of one end of said head.

In witness whereof I have hereunto set my hand this 12th day of April, A. D. 1904.

SAMUEL E. STAFFORD.

Witnesses:

HORACE PETTIT,

LEWIS H. VAN DUSEN.