

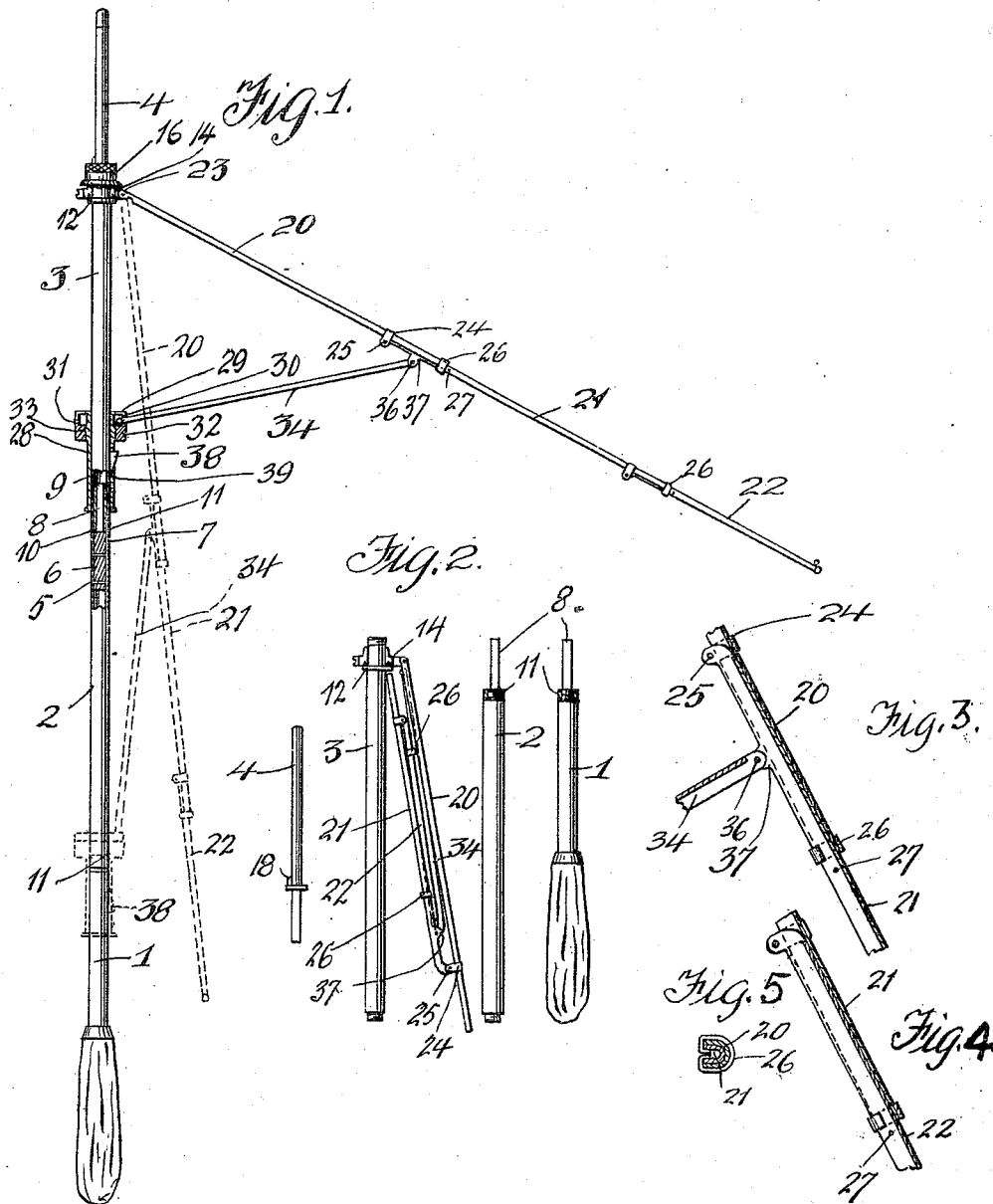
G. W. WOOLLETT.

FOLDING UMBRELLA.

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973,155.

Patented Oct. 18, 1910.



Witnesses.
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UNITED STATES PATENT OFFICE.

GEORGE W. WOOLLETT, OF PITTSBURG, PENNSYLVANIA.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE W. WOOLLETT, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Folding Umbrellas, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to umbrellas and has special reference to that class in which both stick and ribs are adapted to be reduced in length by folding, and commonly designated a folding umbrella.

The main object of the invention is to provide an umbrella rib and stretcher joint which will permit of the ribs and stretchers being so folded as to materially reduce the length thereof and thus facilitate the carrying or packing of the umbrella. I accomplish the above and other important objects by the mechanical construction illustrated in the accompanying drawing, which forms a part of this specification, and in which:—

Figure 1 is an elevation of the stick, one rib and spreader, the stick being partly broken away and partly in section, the remaining ribs and spreaders being omitted. Fig. 2 is an elevation of the parts of the stick disassembled and the rib and spreader folded, Figs. 3 and 4 are enlarged longitudinal sectional views of the rib, Fig. 5 is a cross sectional view of the same.

The stick of the umbrella is composed of four tubular sections, a handle section 1, intermediate sections 2 and 3 and a tip section 4 which are detachably connected together by means hereinafter described. The material for these sections may be any suitable metal. I prefer, however, to employ steel and I use this metal generally throughout the entire framework. The objectionable feature inherent in steel, namely, the tendency to oxidation is obviated by subjecting the parts to the well known bluing process, which has the double advantage of producing the desired temper and at the same time rendering the metal rust-proof.

The upper end of the section 2 has fixed therein by rivets or other fastening means a plug 6, said plug projecting from the section 2 and having a portion thereof threaded, as at 7 and the remaining portion thereof reduced to form a rectangular shank 8. The shank 8 is adapted to fit in a socket 9 shrunk or otherwise mounted in the lower

end of the section 3. The lower end of the socket 9 protrudes from the lower end of the section 3 and is threaded, as at 10 to receive a coupling piece 11 adapted to connect the threaded end of the plug 6 to the threaded end of the socket 9. The threaded portion of the plug 6 is of a sufficient length to receive the coupling piece 11 and release the section 3. The same connection is used for joining the confronting ends of the sections 1 and 2, and a somewhat similar connection is used for joining the tip section 4 to the upper end of the section 3, with these exceptions. The upper end of the section 3 is provided with a collar 12 having upwardly extending ribs 13 adapted to engage in the under face of a two-part notch 14 and prevent said notch from rotating and becoming accidentally displaced relatively to the collar 12. The upper end of the section 3 is threaded to receive a cap 16 adapted to fit over the upper end of the notch 14 and retain the central part of the umbrella cover (not shown) between the notch 14 and the bottom of the cap. By unscrewing the cap sufficiently, the two-part notch 14 can be raised and the parts thereof separated, whenever it is desired to disjoin and repair any of the pivoted ends of the rib sections 20.

The ribs which serve to support the fabric covering of the umbrella are each composed of three sections 20, 21 and 22. These rib sections are U-shaped in cross section, the form usually met with in umbrella construction, and are adapted to fold. The upper end of the section 20 is pivotally connected to the notch 14, as at 23 in the ordinary and well known manner, and adjacent to the lower end of the rib section 20 there is a strap 24 and pivotally mounted by a pin 25 between the ends of said strap is the upper end of the section 21, the upper end of said section fitting in the lower end of the section 20. To retain the upper end of the section 21 within the section 20, a retaining member 26 is loosely mounted upon the section 21 and is of sufficient size to fit over the lower end of the rib section 20. The retaining member 26 is limited in its movement upon the rib section 21 by a transverse pin 27. The confronting ends of the rib sections 21 and 22 are connected in a similar manner.

As in all umbrellas, I provide a runner which consists of a sleeve 28 adapted to slide

upon the stick. This sleeve has the upper end thereof provided with radially disposed L-shaped arms 29 and the depending portions 30 of said arms are adapted to be engaged by lugs 31 carried by the peripheral edges of a nut 32 screwed upon the sleeve 28, as at 33. Detachably mounted upon the arms 29 and retained in position by the nut 32 are the lower ends of spreaders 34, each spreader having the lower end thereof T-shaped to engage under the arms 29, while the upper or outer end of the spreader is pivotally connected by a pin 36 to oppositely disposed lugs 37 carried by the upper end of the rib section 21.

The stick sections 1 and 3 are provided with the usual detents or catches 38 adapted to engage in a slot 39 provided therefor in the runner, whereby the runner can be held in an elevated position with the umbrella open or in a lowered position with the umbrella closed.

To fold the umbrella when open the cover is removed, the nut 32 loosened to release the T-shaped ends of the spreaders 34. The outer rib sections 22 are folded inwardly to engage the sections 21, the spreaders 34 swung upwardly to engage the sections 20, and then the folded sections 21 and 22 swung upwardly into parallelism with the sections 20 and the spreaders 34. By unscrewing the coupling piece 11, the sections 1, 2 and 3 can be disjointed and as the tip section 4 has been removed to remove the cover from

the umbrella, the various parts of the umbrella are now in condition to be placed in a small parcel or a suitable receptacle.

Having now described my invention what I claim as new, is:—

An umbrella comprising a stick, a spreader having one end pivotally connected therewith, a rib comprising an inner and an outer section, means for pivotally connecting the inner end of the inner section of the rib with the stick, a strap surrounding the inner rib section at a point removed from its outer end and having its ends projecting inwardly from said inner section and apertured, said outer rib section having an angularly disposed inner end pivotally connected to the apertured ends of said strap, said rib section further provided with an inwardly-extending pair of apertured lugs in proximity to the inner end of said outer section, means for pivotally connecting the spreader to said apertured lugs, and a retaining member carried by the outer rib section and adapted to be shifted upon the outer end of the inner rib section for coupling the outer end of the inner rib section to the outer rib section at a point removed from the inner end of the latter.

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

GEORGE W. WOOLLETT.

Witnesses:

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