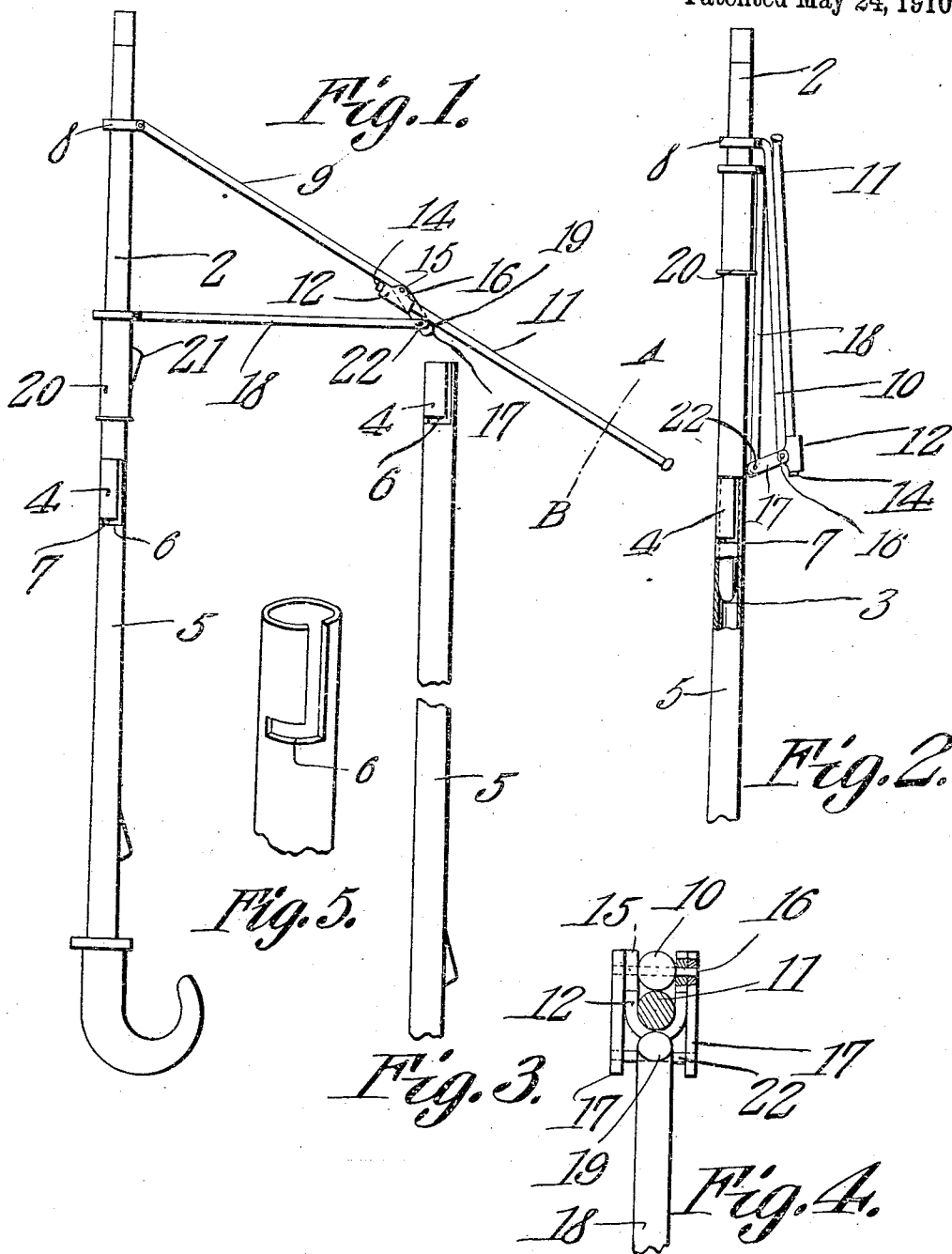


O. K. ANDREWS.
FOLDING UMBRELLA.
APPLICATION FILED OCT. 15, 1909.

958,714.

Patented May 24, 1910.



Witnesses
E. J. H. H. H.
Marion B. Lawton.

Inventor
Orwen K. Andrews.
By *C. A. Snow & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

ORWEN K. ANDREWS, OF CLARKSBURG, WEST VIRGINIA, ASSIGNOR OF ONE-THIRD TO CUMMINS E. WHITE AND ONE-THIRD TO WILLIAM S. O'BRIEN, BOTH OF BUCKHANNON, WEST VIRGINIA.

FOLDING UMBRELLA.

958,714.

Specification of Letters Patent.

Patented May 24, 1910.

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To all whom it may concern:

Be it known that I, ORWEN K. ANDREWS, a citizen of the United States, residing at Clarksburg, in the county of Harrison and State of West Virginia, have invented a new and useful Folding Umbrella, of which the following is a specification.

The objects of the invention, are, generally, the provision, in a merchantable form, of a device of the above mentioned class, which shall be inexpensive to manufacture, facile in operation, and devoid of complicated parts; specifically, the provision of an umbrella frame, the ribs of which are adapted to be folded upon themselves, in order that the frame, when not in use, may be disposed in a small compass; the invention further contemplates a novel means for connecting the component parts of the ribs with the spreader, novel means for assembling the ribs and the spreader with the staff of the umbrella, and a staff of novel and improved construction.

The drawings show but one form of the invention, and it is to be understood that changes, properly falling within the scope of what is claimed, may be made, without departing from the spirit of the invention.

Similar numerals of reference are employed to denote corresponding parts throughout the several figures of the drawings, wherein:—

Figure 1 is a side elevation of the umbrella, the same being open and all of the component parts assembled; Fig. 2 is a side elevation, the umbrella being closed and the ribs folded up, the extension of the handle being broken away; Fig. 3 is a side elevation showing in detail, a portion of the lower member of the staff or handle; Fig. 4 is a transverse section of the outer portion of one of the ribs upon the line A—B, parts being sectioned and broken away, better to illustrate the structure; and Fig. 5 is a perspective showing one end of the lower rod of the staff.

The invention includes a staff, comprising an upper rod 2, having a reduced end 3, adapted to register in the tubular portion 4 of the lower rod 5 of the staff, the tubular portion 4 being provided with a bayonet slot 6, adapted to receive a stud 7, extending radially from the reduced end 3 of the upper rod.

Secured to the upper rod 2 in any desired

manner, is the notch 8, with which the ribs 9 are assembled. Each rib 9 comprises an inner section 10 and an outer section 11.

Adjacent its inner end, the outer section 11 of the rib is inclosed by a band 12, beyond which the outer section 11 extends, inwardly, as denoted by the numeral 14, to engage the inner section 10. The band 12 is provided with ears 15 adapted to include between them, the outer end of the inner section 10 of the rib, a pivotal union between the outer section 11 and the inner section 10 being secured by means of a pivot pin 16 extending through the ears 15 of the band, and through the outer end of the inner section 10 of the rib.

Arranged to reciprocate upon the staff and to be retained in place by means of a catch 21, is a runner 20, with which is pivotally assembled one end of the spreader 18. The outer end of the spreader 18 is disposed between a pair of plates 17, and pivotally connected therewith by a pin 22. The other extremities of the plates 17 are mounted upon the pivot pin 16, and the other extremity of the spreader 18 is adapted to engage the outer section 11 between the pivot pin 16 and the outer end of the outer section, as shown at 19.

When it is desired to dispose the umbrella in a small compass, the portions 2 and 5 of the staff are disconnected, and the runner 20 is pushed upwardly past the catch 21, and into close relation with the notch 8. The outer ends of the outer sections of the ribs, are then turned upward, as shown in Fig. 2, and by this operation, the umbrella may be packed away, occupying substantially one-half of its normal length, it being understood that the portion 14 of the outer section 11 of the rib is so proportioned that it may readily pass between the plates 17, without striking the spreader 18, when the outer sections 11 are upturned, as hereinbefore described. Moreover, the portion 19 of the spreader is so proportioned that when the umbrella is closed in the usual manner, the portion 19 will not engage the band 12.

The plates 17 form a link between the spreader 18 and the rib 9, the link thus formed, being tiltable to cause the end 19 of the spreader to engage the intermediate portion of the outer section 11 of the rib, when the umbrella is open and in use. By this

construction, when the umbrella is raised, the end 19 of the spreader will, as the runner 20 moves upwardly along the staff, engage the outer section 11 of the rib, between the 5 pivot pin 16 and the free end of said section, tilting the outer section 11 slightly, and removing any slack which may be existing at the lower edge of the umbrella frame, in the cloth body of the umbrella, it 10 being well known that although the body of the umbrella commonly remains tightly stretched adjacent the staff 1, it tends to sag between the outer ends of the ribs, owing to the great space there existing between the 15 ribs.

From the foregoing, it will be seen that I have provided an umbrella frame which is adapted to be folded into a small compass, and one which, when in use, will tend to im- 20 prove the appearance and efficiency of the umbrella.

Having thus described the invention, what is claimed is:—

1. In an umbrella frame, a foldable rib 25 comprising pivotally connected inner and outer sections; a link having at one end, a common pivotal connection with the sections; and a spreader pivoted adjacent one end to the other end of the link, the link being 30 tiltable to bring said end of the spreader into contact with the intermediate portion of the outer section.

2. In an umbrella frame, a foldable rib 35 comprising pivotally connected inner and outer sections; the outer section being inwardly prolonged beyond the pivotal con-

nection, to engage the inner section; a link having at one end, a common pivotal connection with the sections; and a spreader pivoted adjacent one end to the other end of 40 the link, the link being tiltable to bring said end of the spreader into contact with the intermediate portion of the outer section.

3. In an umbrella frame, a foldable rib 45 comprising pivotally connected inner and outer sections; spaced plates having at one end, a common pivotal connection with the sections; and a spreader pivoted adjacent one end, between the other ends of the plates, 50 the plates being tiltable to bring said end of the spreader into contact with the intermediate portion of the outer section.

4. In an umbrella frame, a foldable rib 55 comprising inner and outer sections; a band pivotally connected with the outer end of the inner section and arranged to inclose the outer section, the outer section being inwardly prolonged beyond the band to en- 60 gage the inner section; spaced plates having a common pivoted connection with the band and with the inner section; and a spreader pivoted adjacent one end between the plates, 65 the plates being tiltable to bring said end of the spreader into contact with the intermediate portion of the outer section.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ORWEN K. ANDREWS.

Witnesses:

M. W. HARRIS,
E. U. VINCENT.