G. V. BRATZEL.

FOLDING UMBRELLA.

APPLICATION FILED JUNE 2, 1908.

957,734.

Patented May 10, 1910.

FIG. 1.

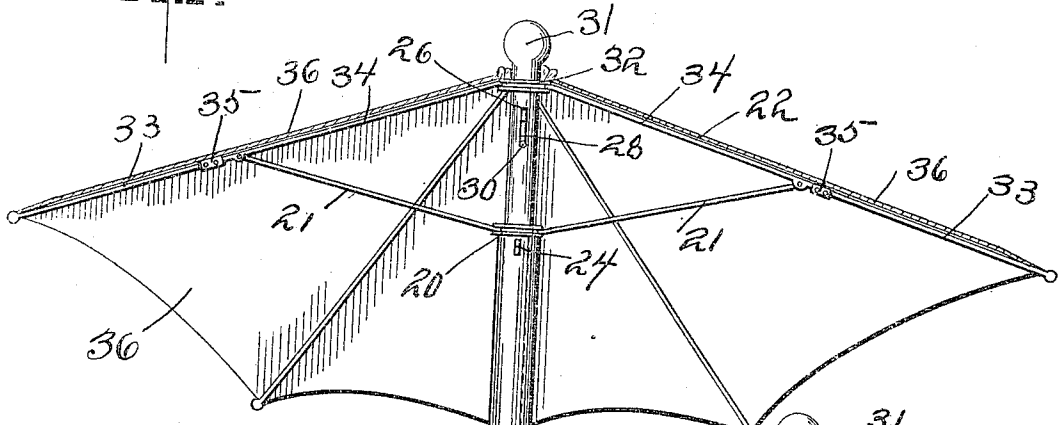
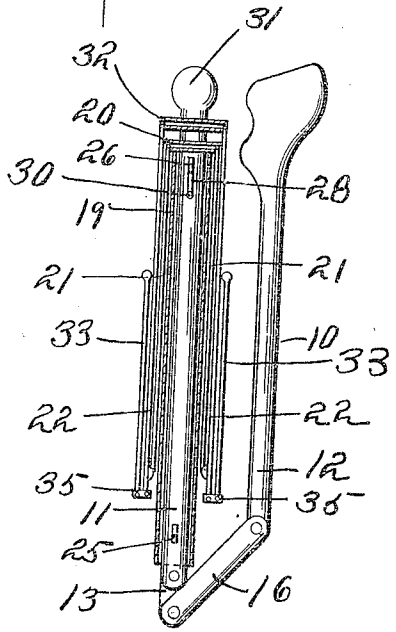
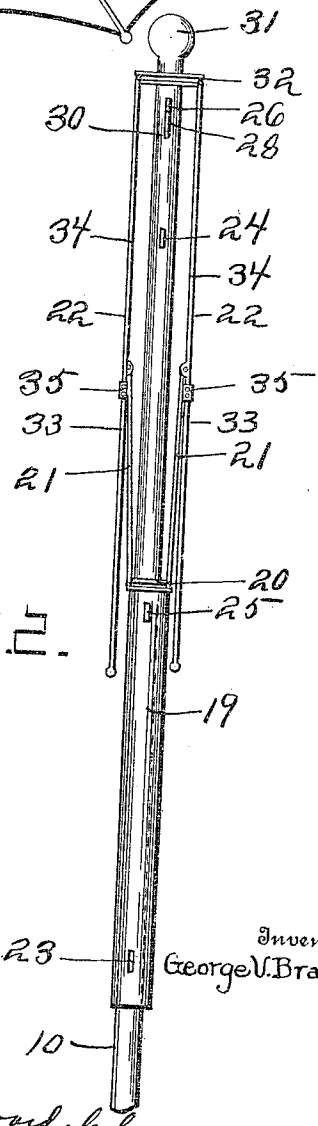


FIG. 3.





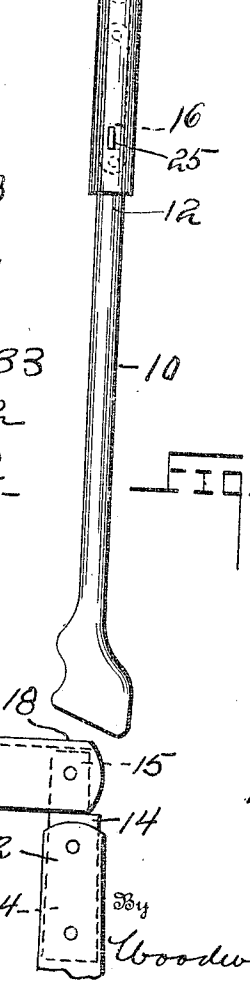
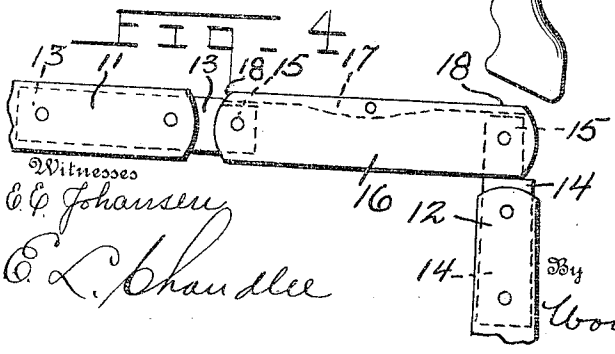


FIG. 2.

FIG. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE V. BRATZEL, OF HEBRON, NORTH DAKOTA.

FOLDING UMBRELLA.

957,734. Specification of Letters Patent. Patented May 10, 1910.

Application filed June 2, 1908. Serial No. 436,238.

To all whom it may concern:

Be it known that I, GEORGE V. BRATZEL, a citizen of the United States, residing at Hebron, in the county of Morton and State of North Dakota, have invented certain new and useful Improvements in Folding Umbrellas, of which the following is a specification.

This invention relates to umbrellas and refers more particularly to that class which are adapted to be folded.

Another object of this invention is to produce a device of this character which may be folded easily and quickly with but few operations on the part of the user.

Other objects and advantages will be apparent from the following description and it will be understood that changes in the specific structure shown and described may be made within the scope of the claim and that any suitable materials may be used without departing from the spirit of the invention.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a side elevation in section of the umbrella in an extended position, Fig. 2 is a view of the same showing the umbrella closed in an ordinary manner, Fig. 3 is a cross section in elevation of the device in a practically closed position, Fig. 4 is a side elevation of the joint of the staff showing a portion thereof.

Referring to the drawings, 10 designates the staff of the umbrella which comprises two sections 11 and 12 and which are joined at their inner ends. The inner ends of the staff sections 11 and 12 are recessed and carry in said recesses metal plates 13 and 14 provided with reduced shoulder forming ends which protrude beyond the ends of the sections 11 and 12 and which are formed with straight abutting edges 15 at their outer ends. The ends 15 of the metal plates 13 and 14 are pivoted in a hinged stub member 16 which carries at one edge a spring 17 which is centrally pivoted in the hinged member 16 and having its outer ends 18 free to swing outwardly against the shoulders of the plates 13 and 14. Slidably mounted on the staff sections is a sleeve 19 which is flanged as at 20, the flange 20 being recessed to receive the inner ends of the brace rods 21 which support and operate the ribs 22. The sleeve 19 is provided at its upper end with a slot 23 through which projects a spring 24 for the purpose of supporting the sleeve 19 upon the upper end of the staff section 11. A similar spring 25 is secured near the lower end of the staff 10 which is adapted to engage in the recess 23 to hold said sleeve to the lower extremity of the staff section 11 when the umbrella is in a closed position as shown in Fig. 3. The sleeve 19 is adapted to slide over the hinged member 16 to hold the sections 11 and 12 of the staff 10 in an extended position while the umbrella is used in an ordinary manner. When the umbrella is to be folded, the sleeve 19 is disengaged from the spring 24 and is carried to the extreme upper end of the staff section 11 where it engages a stud 26 projecting laterally from the staff section 11 into an aperture 27 formed in the sleeve 19. The stud 26 is carried upon the upper end of a lever 28 which is embedded in the staff section 11 and is forced outwardly by a leaf spring 29. A suitable screw 30 engages the lower ends of the arm 28 and spring 29 and secures the same to the staff section 11. The upper extremity of the staff section 11 carries a ferrule 31 which carries at its lower edge a flange 32 in which is secured the upper ends of the ribs 22. The ribs 22 comprise the sections 33 and 34 which are hinged at their inner ends in a U shaped member 35 which engages the under edges of the sections 33 and 34. It will readily be seen by this construction that the lower section 34 may be folded outwardly and upwardly upon section 33. The section 34 is held in extended position by the tension of the umbrella cover 36.

In operation, the sleeve 19 is engaged in the spring 24 when the brace rods 21 are horizontally extended and support the ribs 22 in an open position when the umbrella is to be used. When it is desired to close the umbrella, the sleeve 19 is disengaged from the spring 24 and drawn downwardly upon the staff 10 until engaged by the spring 25. This position of the sleeve 19 holds the ribs 22 in a closed position in parallel and against the staff 10. When it is adapted to be closed the sleeve 19 is carried to the upper extremity of the staff 10 past the spring 24 and into engagement with the stud 26. This action draws the brace rods 21 into parallel with the staff 10 and causes an inward swinging motion of the ribs 22. As the cover 36 is now loosened the lower sections 34 of the

ribs 22 are swung outwardly and upwardly upon the upper sections 33 to reduce the lengths of said ribs 22 to one half. When the sleeve 19 is engaged by the stud 26 the hinged member 16 of the staff 10 is freed from engagement with the sleeve 19 and allows the lower section 12 to be swung upwardly upon the section 11 outside of said ribs 22 and the cover 36. The umbrella is now in a position to be inserted in a bag provided for the same or packed away in a traveling case, occupying but little room.

It will be noted that the sleeve 19 performs the double function of holding the shank in extended position and support the brace rods 21, being operable to allow folding of the staff at the same time that it permits the folding of the ribs.

What is claimed is:

The hereindescribed umbrella, having in combination, a lower staff section the upper end being recessed, a plate within said recess having a projecting portion provided with a shoulder, a stub staff section pivotally secured to said projecting plate portion, an upper staff section having its lower end recessed, a plate within said recess having a projecting portion provided with a shoulder, said stub section being secured to said last mentioned plate, a spring carried by said stub member to engage at times said shoulder, a tubular sleeve sliding over said upper staff section, said stub section and the upper end of said lower staff section, said sleeve having a slot near its upper and lower ends, a spring stud secured near the upper end of said staff section for engagement with said upper sleeve section, a spring below said stub carried by said upper staff section, a spring near the lower end of said upper staff section for engagement with said lower slot, ribs extending from the upper end of said upper staff section, and brace rods extending from said ribs to said sleeve, said sleeve sliding upon the upper staff section to entirely uncover said stud section, as and for the purpose set forth.

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

GEORGE V. BRATZEL.

Witnesses:
CHAS. KRAUTH,
GEO. H. URBAN.