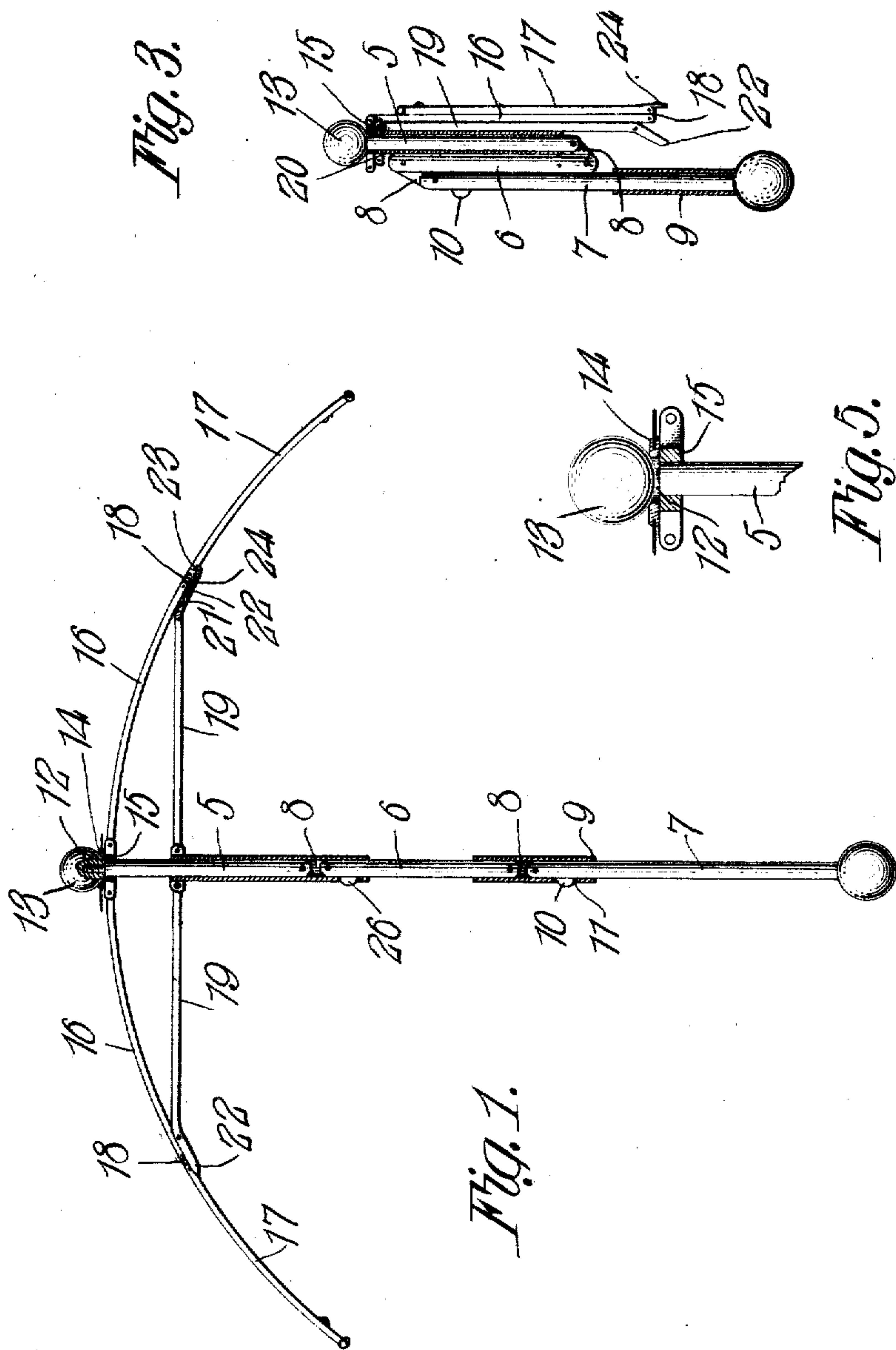


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APPLICATION FILED MAY 20, 1908.

Patented Aug. 17, 1909.
2 SHEETS—SHEET 1.



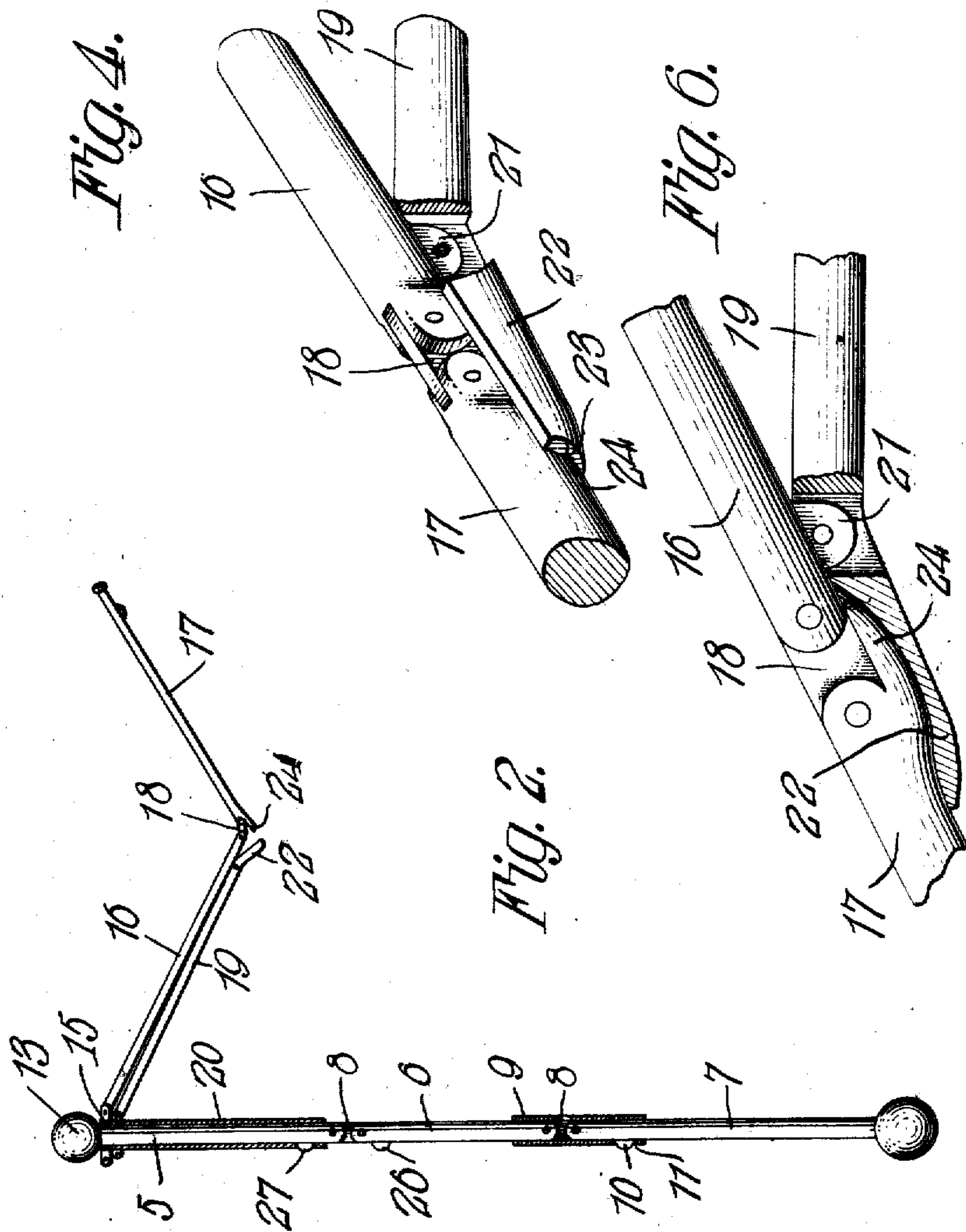
Witnesses
Charles Richardson.
J. G. Smith.

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Attorneys

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UNITED STATES PATENT OFFICE.

PLENNIE L. PAGE, OF MECOSTA, MICHIGAN.

FOLDING UMBRELLA.

No. 981,079.

Specification of Letters Patent.

Patented Aug. 17, 1909.

Application filed May 20, 1908. Serial No. 433,961.

To all whom it may concern:

Be it known that I, PLENNIE L. PAGE, a citizen of the United States, residing at Mecosta, in the county of Mecosta, State of Michigan, have invented certain new and useful Improvements in Folding Umbrellas; and I do hereby declare to following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to folding umbrellas and has as its primary object the provision of an umbrella of this class which will be extremely simple in its construction and which may be quickly folded to considerably less than its original length to permit of its being more readily carried.

One of the novel features of the invention lies in the fact that when the runner of the umbrella frame is slid to position to open or spread the umbrella cover, the lower sections of the main ribs of the frame will be firmly gripped and held in alinement with the upper sections of the said ribs, this action being entirely automatic.

In the accompanying drawings, Figure 1 is a vertical sectional view through an umbrella frame constructed in accordance with my invention, the frame being shown raised or spread, Fig. 2 is a similar view but of only one side of the frame and showing the same partly lowered and illustrating the manner in which the lower sections of the main ribs of the frame are automatically released for folding upon the upper sections, Fig. 3 is a view similar to Fig. 2 showing the frame completely folded, Fig. 4 is a detail perspective view of one of the main and stay ribs of the umbrella and showing the said ribs partly folded. Fig. 5 is a detail view of the top or ferruled end of the umbrella. Fig. 6 is a view partly in section showing the parts illustrated in Fig. 4 in interlocked position.

As shown in the drawings, the umbrella frame comprises, as usual, a staff, main ribs, and stay ribs and the staff of the umbrella is illustrated as being formed of three sections, the upper section being indicated by the numeral 5, the intermediate section by the numeral 6, and the lower or handle section by the numeral 7. The three sections are connected together by means of hinge joints 8 as is clearly shown in the vertical

sectional views of the drawings and fitted over the hinge joint between the sections 6 and 7 is a sleeve 9, the said sleeve being slidably fitted upon the staff and being held in position, normally to surround the said hinge joint, by means of a spring catch 10 carried by the said staff section 7 and seating in an opening 11 formed in the sleeve.

The upper end of the upper section 5 of the umbrella staff is reduced and threaded as indicated by the numeral 12 and fitted upon the said end of the said section is a knob 13 which is to be screwed down upon a collar 14 which is fixed upon the section 5 of the staff and constitutes the head of the umbrella, the center ring 15 of the cover for the umbrella frame being engaged between the said collar and the knob. It will of course be understood that by the construction just described, the cover of the umbrella frame may be readily removed and a new one substituted therefor when so desired.

Each of the main ribs of the umbrella frame is comprised of a pair of sections the upper one of which is indicated by the numeral 16 and the lower one by the numeral 17. Each of the upper sections 16 is pivoted at its upper end to the collar or head 15 and is hinged at its lower end as at 18 to the upper end of the corresponding lower section 17. Each of the stay ribs of the frame is indicated by the numeral 19 and is pivoted at its inner end to the runner of the umbrella which is indicated by the numeral 20 and is slidably mounted upon the staff of the frame thereof. The outer end of each of the stay ribs is formed with a bifurcation in which is pivoted an ear 21 formed upon the upper section 16 of the corresponding main rib of the frame and beyond this bifurcation with an extension 22 which is presented downwardly at an angle from the said stay rib and has its outer side concaved transversely as indicated by the numeral 23 forming a cymbiform projection. The lower section of each main rib is formed at its upper end with an extension 24 which is similar to the extension 25 but is of such dimensions as to be receivable in the concavity of the projection 22 upon the corresponding stay rib under conditions which will now be made apparent.

It will be understood from the foregoing description that the lower sections of the

main ribs of the umbrella frame may be folded back upon the upper sections thereof by swinging the said lower sections upwardly and outwardly and it will also be understood that when the two sections of each main rib are in alinement or in other words in unfolded position, the projection 24 at the upper end of the lower section will rest against the lower end portion of the upper section and when the runner 20 is slid downwardly upon the staff in the direction of the handle end thereof, the projection 22 upon the corresponding stay rib will be brought into position to confine the said projection 24 in the position described, the sections of the main rib being in this manner held rigid in an alinement with each other.

It will further be understood from the foregoing description that when it is desired to raise or in other words spread the frame of the umbrella, the runner is to be pulled downwardly in the direction of the handle end of the staff, a spring catch 26 being provided upon the said staff for holding the runner lowered and a similar catch 27 being also provided for holding it raised or at the limit of its movement toward the ferrule end of the staff.

What is claimed is:

1. In a folding umbrella, a main rib comprising an upper and a lower section, a link connecting said sections, a finger on the upper end of the lower section adapted to engage said link and limit the motion thereof, said finger and upper end being convexly cymbiform, a stay rib pivoted to the lower end of said upper section, and a concaved cymbiform projection on the stay rib adapt-

ed to engage the convexly cymbiform portion of the lower section.

2. A folding umbrella comprising a staff formed of foldable sections, main ribs each comprising an upper and a lower section, a link pivotally connected to each of said sections, a finger on the upper end of the lower section adapted to engage said link and limit the motion thereof, said finger and upper end being convexly cymbiform, a stay rib pivoted to the lower end of each of said upper sections, and a concaved cymbiform projection on each of the stay ribs adapted to engage the convexly cymbiform portions of the respective lower sections.

3. A folding umbrella comprising a staff formed of foldable sections, main ribs each comprising an upper and a lower section, a link pivotally connecting each pair of said sections, a finger on the upper end of each of the lower sections adapted to engage said link and upper section to limit the motion of the lower section, said finger and the upper end of each of the lower sections being convexly cymbiform, stay ribs pivoted to each of the lower ends of said upper sections, a runner upon the staff to which the inner ends of the stay ribs are pivoted, and concaved cymbiform projections on the stay ribs adapted to engage the convexly cymbiform portions of the respective lower sections.

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

PLENNIE L. PAGE.

Witnesses:

BENJ. PAGE,
E. F. KETCHUM.