

L. C. BAIR.
UMBRELLA.

APPLICATION FILED JUNE 3, 1911.

Patented Oct. 24, 1911.

2 SHEETS-SHEET 1.

1,006,454.

Fig. 1.



Fig. 4.

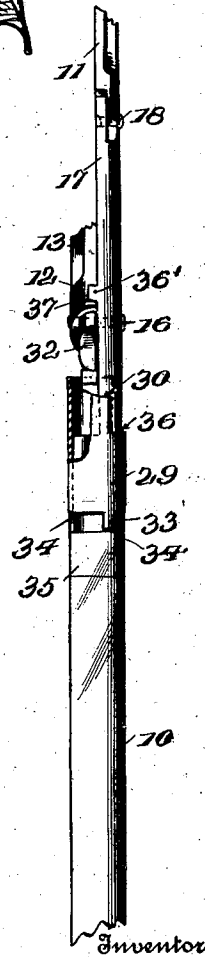
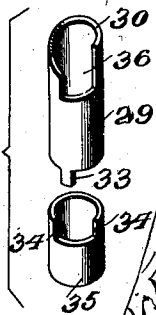


Fig. 6.



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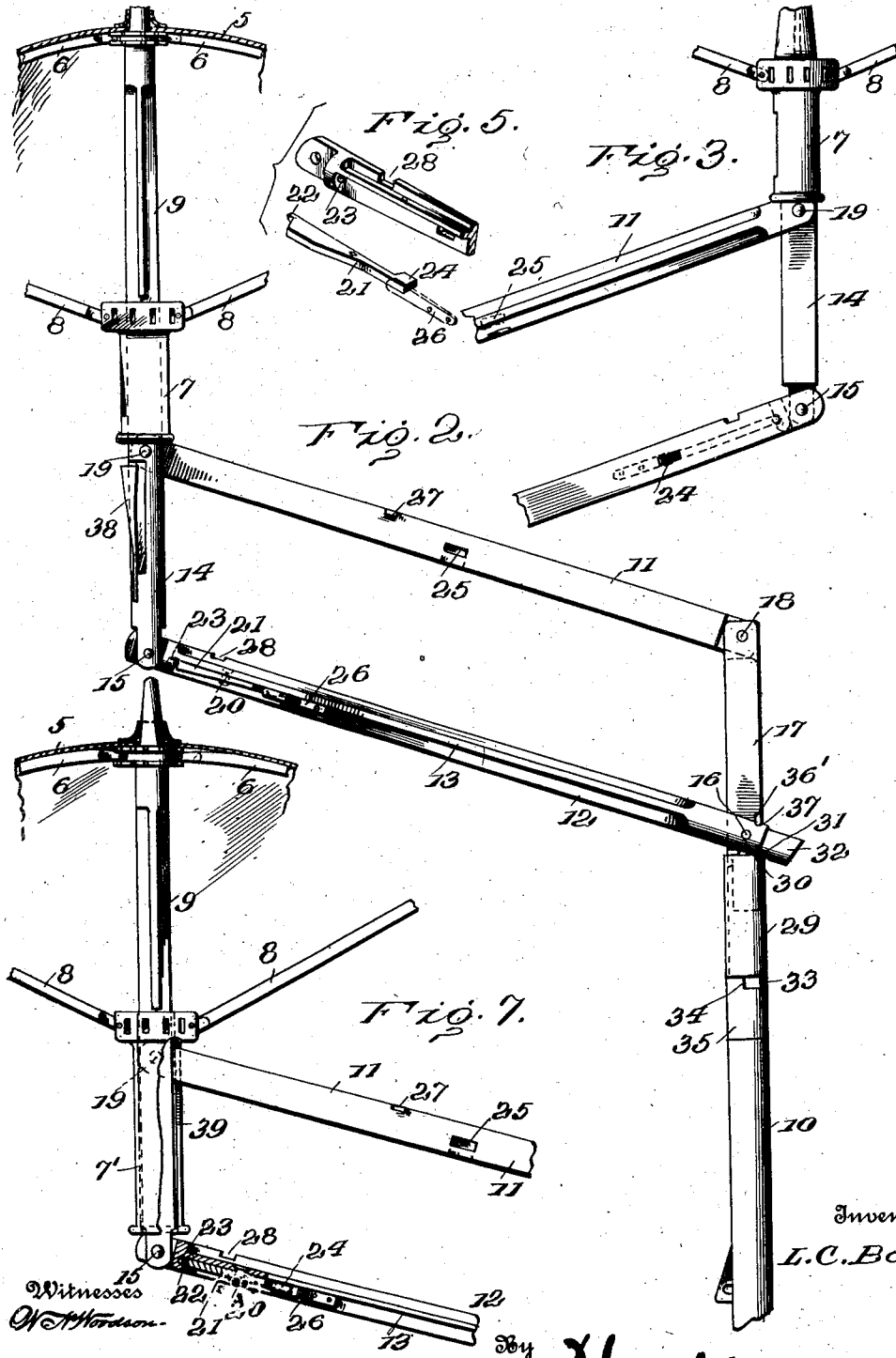
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1,006,454.

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To all whom it may concern:

Be it known that I, LEO C. BAIR, citizen of the United States, residing at York, in the county of York and State of Pennsylvania, have invented certain new and useful Improvements in Umbrellas, of which the following is a specification.

This invention relates to umbrellas and has for its object the provision of a comparatively simple and thoroughly efficient device of this character, the construction of which is such that the water from the cover of the umbrella is prevented from dripping on the hat and shoulders of the user.

A further object of the invention is to provide an umbrella having the staff thereof formed in sections and connected by parallel links so that by swinging said links laterally to open position, a person may stand directly beneath the center of the umbrella and thus be protected from the rays of the sun and from driving rain in inclement weather.

A further object is to provide means for locking the links in alinement with the staff sections when the umbrella is used in the ordinary manner, and means for preventing closing movement of said links when the staff sections are adjusted to center the cover over the head of the user.

A still further object of the invention is generally to improve this class of devices so as to increase their utility, durability and efficiency.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

For a full understanding of the invention and the merits thereof, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a perspective view of an umbrella embodying the present invention, showing the manner of using the same; Fig. 2 is an enlarged vertical sectional view, showing in elevation, the construction of the parallel links; Fig. 3 is a similar view, looking at the opposite side of the umbrella; Fig. 4 is an end elevation, showing the manner of locking the links in open position; Fig. 5 is a detail perspective view of a portion of one of the links and spring

catch or lock for holding the links in closed position, the spring catch or lock being detached from the adjacent link in order to more clearly illustrate the construction thereof; Fig. 6 is a detail perspective view of the locking collar detached; Fig. 7 is a vertical sectional view, partly in elevation, illustrating a modified form of the invention.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

The improved staff adjusting means forming the subject matter of the present invention may be applied to umbrellas, parasols and the like, and by way of illustration is shown in connection with an umbrella of the ordinary construction, in which 5 designates the cover, the ribs 6 of which are connected to the runner 7 by the usual braces 8.

The supporting rod or staff of the umbrella is preferably formed in two sections 9 and 10 pivotally connected by parallel links 11 and 12, said links having their inner faces smooth and unobstructed and their outer faces provided with longitudinal reinforcing ribs 13. The inner end of the upper staff section is cut-away to form a reduced extension 14, to the free end of which is pivotally connected at 15, the adjacent end of the link 12, the other end of the link 12 being pivotally mounted at 16 on a similar extension 17 formed on the inner end of the lower staff section 10. One end of the mating link 11 is pivotally connected at 18 with the terminal of the extension 17, the other end of said mating link being pivotally connected at 19 with the extension 14 on the upper staff section, as best shown in Fig. 2 of the drawings. One side of each staff section is provided with a flat face so as to permit the links 11 and 12 to be folded one upon the other to a position in alinement with the staff section when the umbrella is used in the usual manner.

Pivotally mounted at 20 on the reinforcing rib of the link 12, is a locking member, preferably in the form of a lever 21, one end of which is provided with a terminal lip 22 which enters a socket or depression 23 formed in an enlargement on the link 12, while the other end thereof is provided with a laterally extending lug 24 which projects through the inner flat face of the link 12

for engagement with a socket or depression 25 formed in the flat face of the mating link 11 when the links are folded, thus to prevent accidental opening movement of said links

5 when the umbrella is not in use.

The lug 24 is normally and yieldably supported in position to enter the socket or depression 25 by means of a spring 26, one end of which is riveted or otherwise rigidly secured to the link 12, while the other end thereof bears against the locking member at the lug 24. Projecting laterally from the flat face of the link 11, at one longitudinal edge thereof, is an ear 27 adapted to enter

10 a notch or recess 28 formed in the adjacent longitudinal edge of the mating link 12, thus to limit the closing movement of the links and assist in alining the latter with the staff sections.

20 As a means for locking the parallel links in open position, there is provided a sleeve 29, the upper end of which is formed with a cam face 30 adapted to enter a shallow recess 31 in the lower longitudinal edge of an

25 extension 32 on the link 12, when said sleeve is rotated. The lower end of the sleeve 29 is provided with a depending stop lug 33 which engages stop shoulders 34 formed on a stationary collar 35 secured to the lower

30 staff section 10 for limiting the rotary movement of said sleeve. The sleeve 29 is also provided with a vertically disposed slot 36 opening through the cam face 30, which slot, when the sleeve is rotated in one direction,

35 registers with the extension 32 and permits the links to be moved to open position. Thus it will be seen that by rotating the sleeve 29 until the slot 36 therein registers with the extension 32 and subsequently depressing the

40 locking member 21, and then moving the links laterally, said links will assume the position shown in Fig. 2 of the drawings, and in which position they will be securely locked by rotating the sleeve 29, the cam face

45 30 of said sleeve entering the recess 31 in the extension on the lower link 12, thus to prevent accidental closing movement of the links.

A lug 36' is preferably formed on the extension 17 of the lower staff section 10 and adapted to enter a recess 37 in the adjacent link 12 to assist in sustaining the weight of the umbrella cover and its associated parts when the links are moved to open position.

55 Mounted on the extension 14 of the upper staff section 9, is a spring catch 38 adapted to engage the runner 7 and support the cover 5 in open position.

Under normal conditions, the parallel

60 links 11 and 12 are disposed in alinement with the upper and lower by means of the sleeve 29, the solid portion of which covers the extension 32 on the lower link 12. In order to open the umbrella, it is merely

65 necessary to slide the runner 7 longitudinally

of the staff until the runner engages the catch 38 and in which position, it will be held from closing movement, the locking member 21 yielding to the pressure of the runner when the umbrella is opened so as not to form any obstruction to the passage of said runner. With the parts in this position, the umbrella may be used in the ordinary manner, that is to say, with the usual rigid rod or staff.

When it is desired to move the handle of the staff out of alinement with the upper staff section so as to permit a person to stand directly beneath the center of the umbrella, the sleeve 29 is rotated in order to present the slot 36 to the extension 32 of the link 12, after which the catch 21 is depressed, which disengages the lug 24 from the socket 25 so that by exerting a slight pressure on the parallel links, said links may be moved to open position, as best shown in Fig. 2 of the drawings, and in which position, they will be securely held by rotating the sleeve 29, as before stated.

It will here be noted that as the links 11 and 12 are moved to open position, the inner pivoted end of the upper link 11 will bear against the lower edge of the runner 7 and move the latter out of engagement with the catch 38, and when the links 11 and 12 are moved to folded or closed position in alinement with the staff sections 9 and 10, the runner 7 will bear against the catch 38 and partially embrace the link 11, thus to assist in holding said links in alinement with said staff sections.

If desired, the upper catch 38 may be dispensed with, in which event, the runner 7 will be provided with a longitudinal slot 39 to accommodate the link 11, as best shown in Fig. 7 of the drawings, the construction and operation of the parts being otherwise similar to that shown in Figs. 1 and 2 of the drawings.

Having thus described the invention, what is claimed as new is:

1. An umbrella including a sectional staff, parallel links forming a pivotal connection between the sections of the staff, means carried by one of the links and adapted to automatically engage the other link and lock the links in alinement with said staff sections when said links are folded, and means for supporting said links at an angle to the staff sections.

2. An umbrella including a sectional staff, links forming a pivotal connection between the sections of the staff and movable to open position at an angle to said staff sections, means carried by one of the links and adapted to automatically engage the other link for holding said links in alinement with the staff sections when the links are folded, and means for locking the links in open position.

3. An umbrella including a sectional staff, parallel links forming a pivotal connection between the sections of the staff and movable laterally to open position, a sleeve mounted for rotation on one of the staff sections and adapted to engage the adjacent link for preventing folding movement of the links, and means carried by one of the links and adapted to automatically engage the mating link and lock the links in alinement with the staff sections when said links are folded.

4. An umbrella including a sectional staff, parallel links forming a pivotal connection between the staff sections and movable laterally to open position at an angle to said staff sections, a collar secured to one of the staff sections and provided with spaced stop shoulders, and a sleeve mounted for rotation above said collar and provided at its lower end with a lug adapted to engage the stop shoulders, and at its upper end with a cam face adapted to engage the adjacent link, thereby to hold said links in open position.

5. An umbrella including a sectional staff, parallel links forming a pivotal connection between the staff sections and movable laterally to open position, one of said links being provided with an extension having a recess formed in the lower edge thereof, and a locking sleeve mounted for rotation on one of the staff sections and having its upper end provided with a cam adapted to enter the recess in the extension of the adjacent link for locking the links in open position, said sleeve being provided with a slot adapted to register with the extension to permit the links to be folded to closed position in alinement with the staff sections.

6. An umbrella including a staff formed of upper and lower sections, each provided with an extension having a flat face, parallel links forming a pivotal connection between the flat faces of the extensions, means for holding the links in open position, and means carried by one of the links and adapted to automatically engage the other link for locking the links in alinement with the

adjacent staff sections when said links are folded.

7. An umbrella including a sectional staff, parallel links forming a pivotal connection between the staff sections, means for holding the links in open position, and a spring locking member carried by one of the links and provided with a lug extending through the inner face of said link for engagement with a socket formed in the inner face of the mating link, thereby to lock the links in engagement with the staff sections when said links are folded.

8. An umbrella including a sectional staff, parallel links forming a pivotal connection between the staff sections, one of said links being provided with a laterally extending ear and the other with a recess adapted to receive said ear, and means carried by one of the links and adapted to engage the mating link for holding the links in vertical alinement with the staff sections when said links are moved to closed position.

9. An umbrella including a staff having upper and lower sections, the inner end of each of which is reduced to form an extension having a flat face, parallel links forming a pivotal connection between the flat faces of said staff sections, and a locking member carried by one of the links and adapted to automatically engage the mating link and lock said links in alinement with the staff sections when the links are folded.

10. An umbrella including a sectional staff, parallel links forming a pivotal connection between the staff sections and movable laterally to open position at an angle to said staff sections, and a locking member carried by one of the links and adapted to automatically engage the mating link and lock said links in alinement with the staff sections when the links are folded.

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

LEO C. BAIR. [L. S.]

Witnesses:

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