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### UMBRELLA HAT

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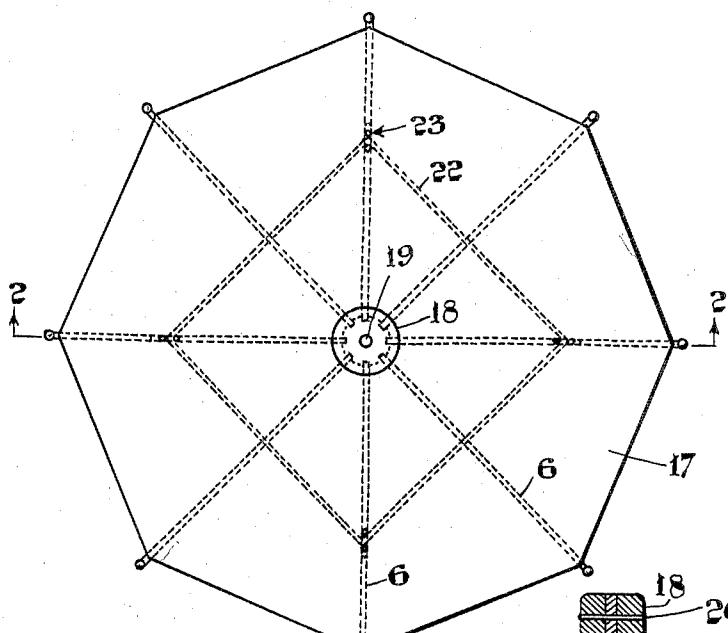


FIG.1

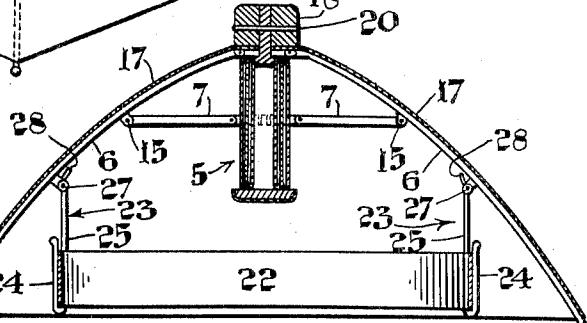


FIG.2

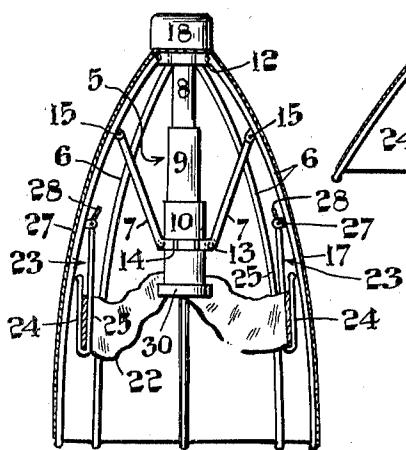
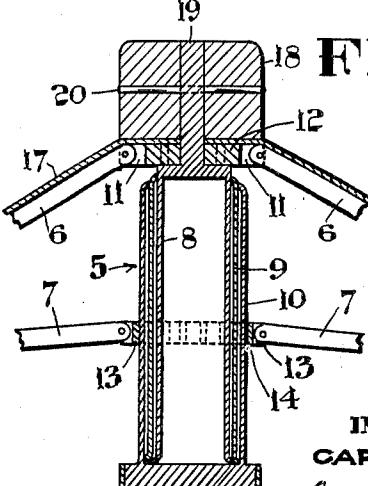


FIG.3



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FIG. 4 <sup>30</sup> BY J. D. O'Connell  
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## UNITED STATES PATENT OFFICE

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## UMBRELLA HAT

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6 Claims. (Cl. 2—177)

This invention relates to improvements in foldable or collapsible hats of the umbrella type. Such hats are worn either as rain or sun shields and usually comprise a collapsible fabric covered frame provided with a headband attachment for supporting the frame a short distance above the head of the wearer. The headband is usually attached to the lower ends of suitable frame supporting members having their upper ends pivotally secured to said frame.

One object of the present invention is to improve the construction of umbrella hats so that they may be folded and unfolded with greater ease and rapidity.

Another object is to provide an umbrella hat having a simple and inexpensive frame structure which is provided with novel means for retaining it in the unfolded condition.

The foregoing objects are attained by the provision of a collapsible fabric covered frame comprising a central telescopic post, a plurality of spaced ribs having their upper extremities hinged to the uppermost section of said post, and a plurality of struts or braces, each having one end hinged to one of said ribs and the other end hinged to the lowermost section of the post. These component parts of the frame are so arranged that the shortening of the telescopic post causes the hinged struts to swing the ribs of the frame outwardly to an unfolded position and at the same time results in the ends of the struts connected to the lowermost post section being raised to a position level with or slightly above the ends connected to the ribs whereby the frame is automatically locked against collapse. When it is desired to collapse the frame this is accomplished by pulling downwardly on the lowermost post section until the post is fully extended. During this lengthening of the post the struts serve to swing the ribs downwardly and inwardly about their pivotal connections to the uppermost post section.

In the unfolded condition of the frame the struts are under compression between the ribs and the lowermost post section due to the fact that the fabric covering of the frame is tensioned or stretched by the unfolding of the ribs. By reason of this compression and the relative location of their pivotally connected ends the struts serve to effectively hold the sections of the post against accidental relative movement in a post lengthening direction.

Another feature of the invention resides in the novel construction of the frame supports to which the headband is attached. Each of these supports

comprises a U-shaped member having arms of unequal length, the longer arm being pivoted to one of said ribs. The two arms of each member are close together and constitute the two sides of a clasp between which the headband is fitted. 5

Proceeding now to a more detailed description of this invention reference will be had to the accompanying drawing, in which—

Fig. 1 is a top plan view of my improved hat.

Fig. 2 is a sectional view taken substantially 10 along the line 2—2 of Fig. 1.

Fig. 3 is a view, partly, in vertical section, showing the manner in which the hat is collapsed.

Fig. 4 is an enlarged detail view showing the construction of the central post and parts as- 15 sociated therewith.

As shown in the drawing the frame structure of my improved hat comprises a central post 5, a plurality of framing ribs 6 and a plurality of struts 7. The post 5 is of telescopic construction 20 including an upper section 8, an intermediate section 9, and a lower section 10. The upper ends of the ribs 6 are pivotally secured in slots 11 provided in a rib anchoring ring 12 fixed to the upper end of post section 8. One end of each strut 7 25 is pivotally mounted in a slot 13 provided in a strut anchoring ring 14 fixed to an intermediate portion of the lowermost post section 10. The remaining ends of the struts 7 are pivoted to intermediate portions of the ribs 6 as indicated at 30 15. The ribs 6 carry a fabric covering 17 secured thereto in any suitable manner. The central portion of the covering is confined between the rib anchoring ring 12 and a suitable knob 18, the latter being fitted on a rod 19 projecting upwardly 35 from post section 8 and being pinned to said rod as indicated at 20.

The fabric covered frame is supported on the head of the user by means of the headband 22 and the frame supports 23. As here shown each 40 frame support comprises a U-shaped member presenting gripping arms 24 and 25 between which the fabric headband 22 is firmly gripped. The longer arm 25 of each support is pivoted, as at 21, to one of the ribs 6 and is extended beyond 45 said pivotal connection to provide a stop 28 engageable with the rib to limit swinging movement of the arm in one direction.

The lowermost post section 10 is closed at its lower end by a padded member 30 which serves 50 as a stop engageable with the lower ends of the remaining post sections when the post is collapsed or shortened as shown in Fig. 2 to effect unfolding of the fabric covered frame. When thus unfolded, the fabric covered frame is prevented from 55

collapsing by reason of the fact that the pivotal connections between the struts and the strut anchoring ring 14 are either level with or slightly above the pivotal connections between the struts 5 and the ribs 6. As previously stated, the struts are under a certain amount of compression in the unfolded condition of the fabric frame owing to the fact that the fabric covering is stretched or tensioned by the spreading of the ribs 6 to 10 their frame unfolding positions. Owing to the relative location of the pivotally connected ends of the struts the pressure transmitted from the ribs 6 to the lowermost section of the post tends to resist relative movement of the post sections 15 in a frame collapsing direction. However, this resistance is not sufficient to prevent manual extension of the post to the frame collapsing position shown in Fig. 3. During collapse of the fabric covered frame, the frame supports 23 swing 20 about their pivotal connections 27 to a folded position against the ribs 6.

In the present instance covering 17 is shown as comprising a single thickness of fabric. It may, however, be composed of two or more superposed fabrics of any desired nature.

It may also be pointed out that, in the unfolded condition of the frame, the headband 22 is under a certain amount of tension and exerts an inward pull on the frame supports which is resisted by 30 engagement of the stops 28 with the ribs 6.

An important advantage of the hat described herein is that the location of the frame supports 23 is such that these supports do not touch the head when the hat is in place, the contact between 35 the head and band occurring only at points located between said supports.

Having thus described my invention what I claim is:

1. A collapsible umbrella hat comprising a fabric covered frame including a central post comprising an inner post section, an intermediate post section slideable on said inner section and an outer post section slideable on said intermediate section, framing ribs having their upper ends pivotally 45 connected to the upper end of said inner post section and struts connecting intermediate portions of said ribs to said outer post section, said struts serving to swing said ribs inwardly to a hat collapsing position when said post is fully 50 extended and to swing said ribs outwardly to a hat unfolding position when said post is shortened to its minimum length and means whereby the ribs are locked against inward swinging movement in the shortened condition of the post.

55 2. A collapsible umbrella hat comprising a fabric covered frame including a central telescopic

post comprising an inner post section, an intermediate post section slideable on said inner section, and an outer post section slideable on said intermediate section, framing ribs having their upper ends pivoted to the upper end of said inner post section, struts connecting intermediate portions of said ribs to said outer post section substantially midway between the ends of said section, frame supports having their upper ends pivoted to said ribs at points located below the 10 points of connections between the ribs and the struts, and a flexible headband carried by the lower ends of said supports.

3. An umbrella hat as set forth in claim 1 including a head engaging pad fixed to the lower 15 end of the lowermost section of said post.

4. A collapsible umbrella hat comprising a fabric covered frame including a central telescopic post comprising an upper section, an intermediate section, and a lower section, framing ribs having 20 their upper ends pivoted to the upper extremity of the upper section of the post and a series of struts, each having one end pivoted to the lowermost section of the post and the other end pivoted to an intermediate portion of one of said ribs, 25 the length of said post sections and the relative location of the pivotal connections between the struts and the lowermost post section on the one hand and between the struts and the ribs on the other hand being such that the pivotal connections between the struts and the lowermost post section are raised to a position level with or slightly above the pivotal connections between the struts and the ribs when the post is collapsed or shortened to its minimum length, whereby said 30 struts serve to lock the post sections in their post collapsing or post shortening position.

5. An umbrella hat as set forth in claim 2 in which each frame support comprises U-shaped members supporting the headband between the 40 arms thereof.

6. A collapsible umbrella hat comprising a fabric covered frame including a central member, framing ribs having their upper ends pivoted to said member, means connected between said member and said ribs operable to swing said ribs outwardly to a hat unfolding position or inwardly to a hat folding or collapsing position, frame supports pivoted to said ribs and provided with stops engageable with said ribs to limit inward movement of said supports and a flexible band carried by the lower ends of said supports so that said band is tensioned between the supports in the unfolded condition of the hat.

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