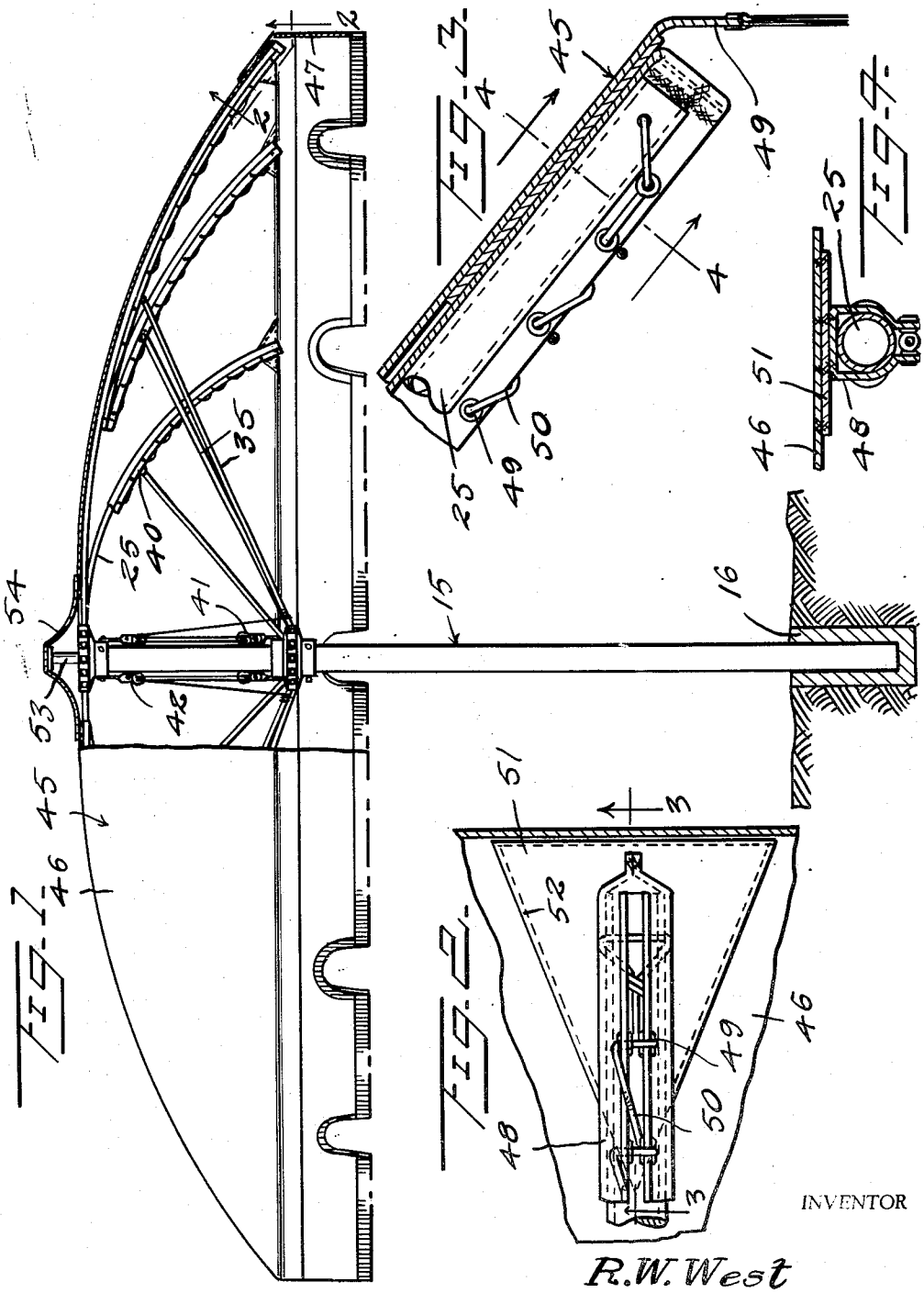
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UMBRELLA

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FIG. 5.

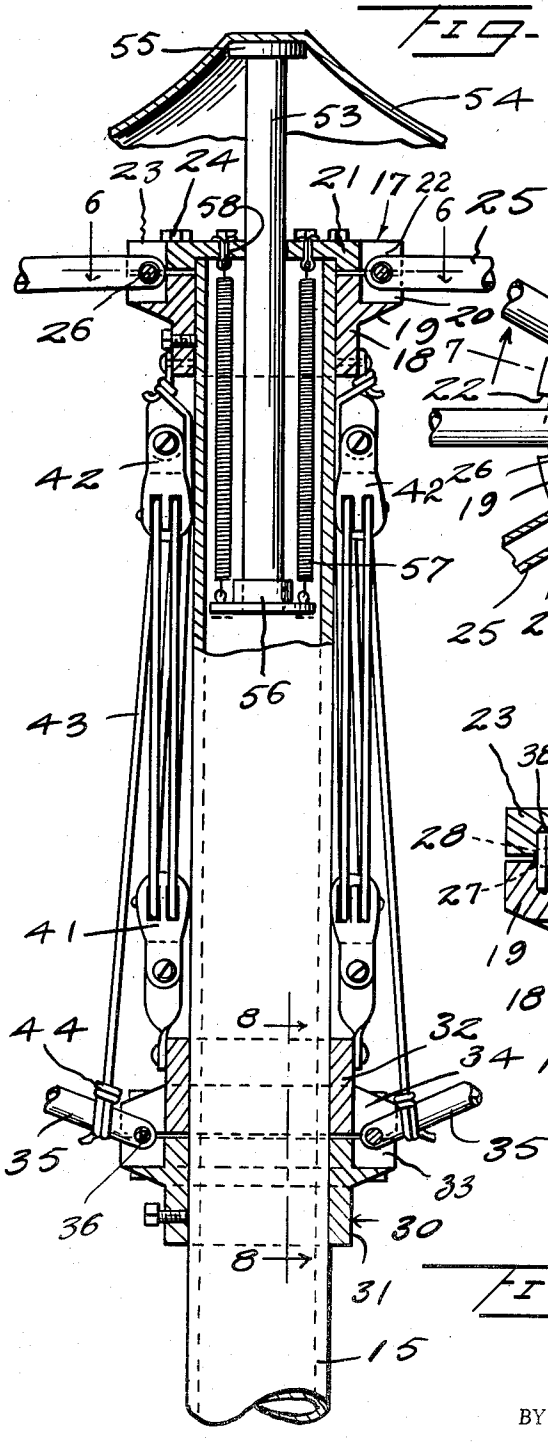


FIG. 6

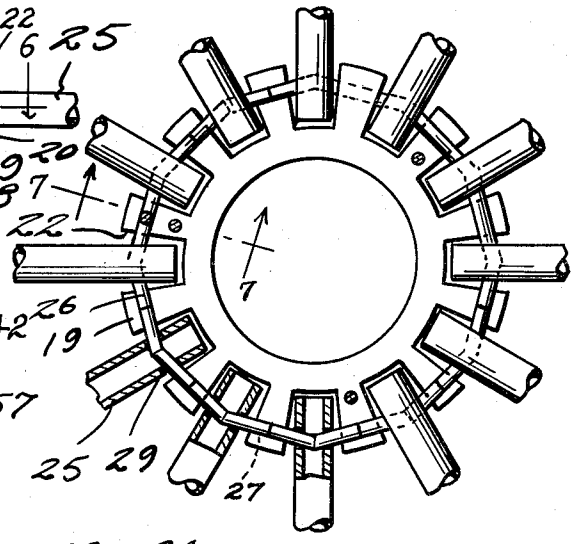
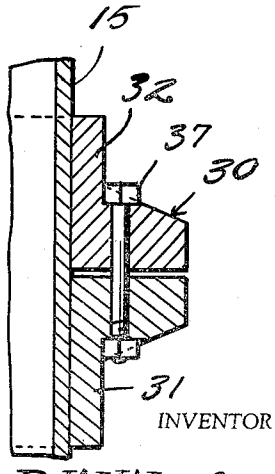


FIG. 7.

FIG. 8.



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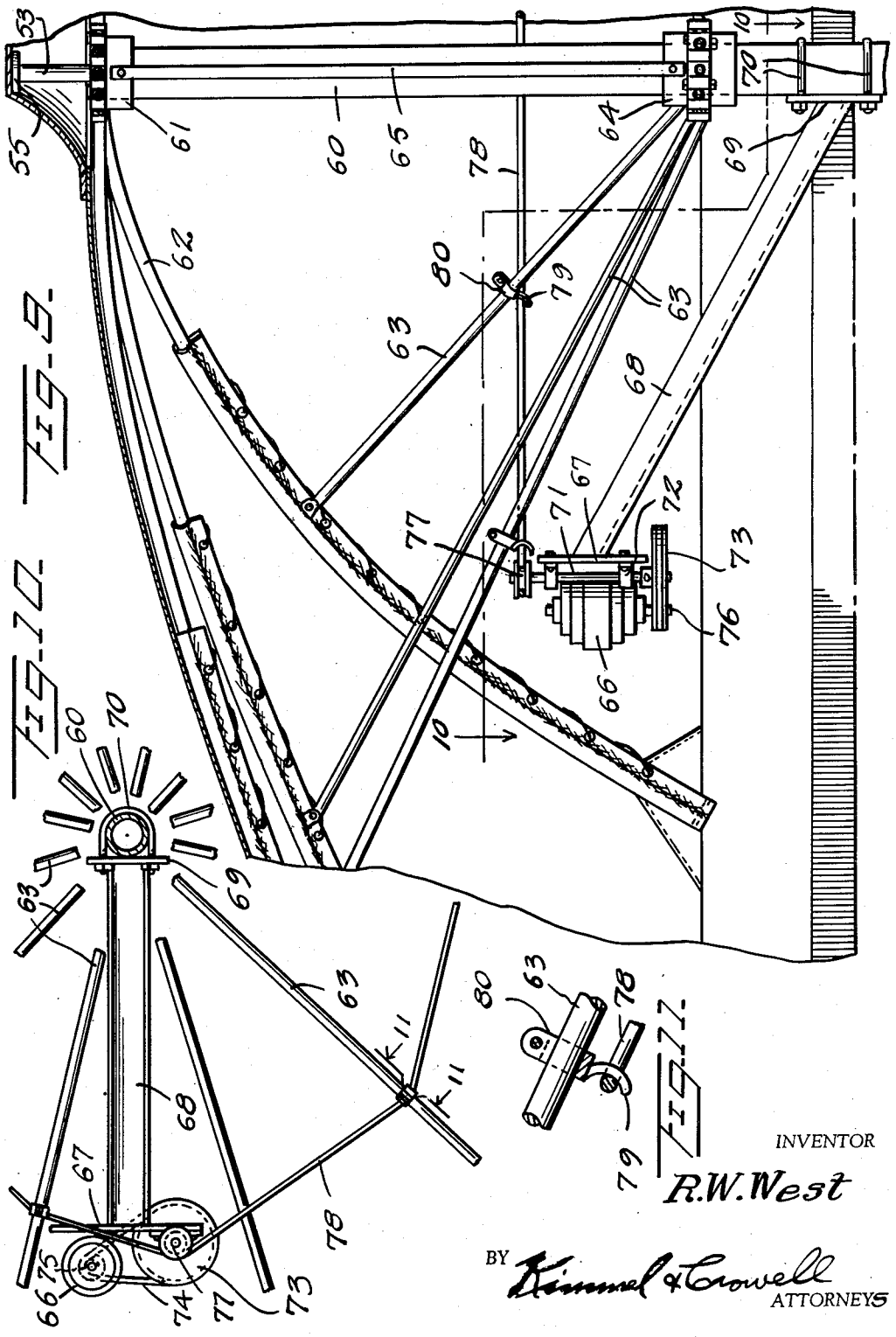


FIG. 9.

FIG. 10.

FIG. 11.

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UMBRELLA

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Application November 24, 1950, Serial No. 197,479

2 Claims. (Cl. 135—20)

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This invention relates to umbrellas of the large type.

An object of this invention is to provide a large umbrella wihch may be readily collapsed or extended and which has the staff thereof fixed in upright position in the ground.

Another object of this invention is to provide in a giant umbrella structure, an improved means for securing the covering to the ribs.

A further object of this invention is to provide a giant umbrella structure including an improved means for rotating the ribs and covering.

A further object of this invention is to provide an improved means for securing the ribs and braces to the cap and slider.

A further object of this invention is to provide an improved means for maintaining the cover tight.

With the above and other objects in view, my invention consists in the arrangement, combination and details of construction disclosed in the drawings and specification, and then more particularly pointed out in the appended claims.

In the drawings:

Figure 1 is a detailed side elevation partly in section of an umbrella constructed according to an embodiment of this invention.

Figure 2 is a fragmentary sectional view taken on the line 2—2 of Figure 1.

Figure 3 is a fragmentary sectional view taken on the line 3—3 of Figure 2.

Figure 4 is a fragmentary sectional view taken on the line 4—4 of Figure 3.

Figure 5 is a fragmentary vertical section of the umbrella.

Figure 6 is a fragmentary sectional view taken on the line 6—6 of Figure 5.

Figure 7 is a fragmentary sectional view taken on the line 7—7 of Figure 6.

Figure 8 is a fragmentary sectional view taken on the line 8—8 of Figure 5.

Figure 9 is a fragmentary vertical section of a modified form of this invention.

Figure 10 is a fragmentary sectional view taken substantially on the line 10—10 of Figure 9.

Figure 11 is a fragmentary sectional view taken on the line 11—11 of Figure 10.

Referring to the drawings and, first, to Figures 1 to 8, inclusive, the numeral 15 designates generally a vertically disposed tubular staff which is fixedly secured in the ground by means of concrete 16 or the like. The staff 15 has mounted on the upper end thereof a cap generally designated as 17. The cap 17 includes a lower cylindrical member 18 formed with a flange 19 having a plu-

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rality of radially disposed slots 20. The cap 17 also includes an upper head member 21 formed with radial slots 22 in an annular flange 23.

The head member 21 is secured over the cylindrical member 18 by means of bolts or other fastening members 24. A plurality of longitudinally bowed umbrella ribs 25 of tubular construction are pivotally mounted at their upper inner ends on pivot pins 26. The upper inner ends of the ribs 25 engage between the slots 22 and the flanges 19 and 23 are formed with complementary recesses 27 and 28, respectively, within which the pins 26 are adapted to engage. Each pin 26 is bent obtusely at a point midway between the ends thereof as shown in Figure 6, and the pins 26 are tightly held against rotation when the bolts 24 are tightened to secure the head member 21 onto the cylindrical member 18.

The inner end of each rib 25 is formed with relatively large openings 29 so that the ribs 25 may freely rock when the umbrella is extended or collapsed. A slider generally designated as 30 slidably engages the staff 15 below the cap 17 and is formed of complementary flanged cylindrical members 31 and 32 having radially disposed slots 33 and 34 within which the inner ends of bracing members 35 pivotally engage. The bracing members 35 are mounted on pivot pins 36 identical with pivot pins 26, and the complementary slider members 31 and 32 are tightly clamped together by means of bolts 37.

In order to provide a means whereby the head member 21 may be accurately located with respect to the cylindrical member 18 and the flange 19, I have provided a locating pin 38 which is engageable in complementary openings formed in flanges 19 and 23. Braces 35 are pivotally secured at their outer ends as indicated at 40 to the ribs 25 at a point between the inner and outer ends of the ribs 25. The ribs 25 are extended or retracted by vertical movement of slider 30, and vertical movement of the slider 30 is accomplished by means of a lower pair of sheaves 41 which are secured to the slider 30 and an upper pair of sheaves 42 which are secured to the cap 17. Cords 43 are extended through the sheaves 41 and 42, and the free end of each cord 43 may be tied as indicated at 44 to a bracing member 35 when the umbrella is in its extended operative position.

A flexible or fabric cover generally designated as 45 is secured over the ribs 25 and comprises a circular body 46 having a drop or valance 47 depending from the outer edge thereof. The body 46 is removably secured to the ribs 25 by

means of a longitudinally split sleeve **48** which is fixed to the under side of the body **46**, and the sleeve **48** engages about rib **25**. The sleeve **48** is provided with a plurality of pairs of grommets **49** through which a lacing **50** is threaded. At the outer end of each rib **25** the cover or body **46** is reinforced by means of a triangular reinforcing member **51** stitched by stitching **52** to the under side of the body **46**.

The body **46** of the cover is maintained substantially taut under spring tension when the cover is extended by means of a spring pressed shaft **53** which is slidable through the cap **17**. The central portion of the body **46** is provided with a reinforcing member **54** which engages over a cushioned head **55** mounted on the upper end of the shaft **53**. The shaft **53** extends downwardly and slidably through the head **21** and has a cup-shaped member **56** mounted on the lower end thereof.

A pair of springs **57** are secured at their lower ends to the cup-shaped member **56** and extend upwardly within the upper portions of the staff **15** and are secured to the lower side of the head **21** by the securing members **58**.

Referring now to Figures 9, 10, and 11 there is disclosed a modified form of this invention wherein the umbrella in its extended form may be rotated about the staff. The staff **60** which is similar to staff **15** is anchored at its lower end in the ground, and the upper end of staff **60** has rotatably mounted thereon a cap **61** which is similar to cap **17**. Longitudinally bowed tubular ribs **62** are pivotally connected at their upper inner ends to the cap **61**, and the ribs **62** are held in extended position by bracing members **63**. The bracing members **63** are pivotally secured at their inner ends to a slider **64** similar to a slider **30**, and the slider **64** is held in vertically adjusted position by means of one or more connecting straps **65** which are connected between the slider **64** and the cap **61**.

A motor **66** secured to a vertically disposed base plate **67** is supported in laterally disposed position with respect to the staff **60** by means of an upwardly and outwardly inclined supporting bar **68**. The supporting bar **68** is provided at its inner lower end with a plate **69**, and plate **69** is clamped to the staff **60** by means of a pair of U-shaped clamping bolts **70**. A vertically disposed drive shaft **71** is journalled in bearings **72** carried by the base **67**, and the lower end of shaft **71** has mounted thereon a pulley **73**. A belt **74** engages about pulley **73** and also about a smaller diameter pulley **75** which is mounted on the motor shaft **76**.

The upper end of the shaft **71** has secured thereto a pulley **77** and an endless belt **78** engages over the pulley **77**. The belt **78** is supported from the ribs of the umbrella by means of hook-shaped supporting clips **79** which are clamped as at **80** to alternate ones of the bracing members **63**. The belt supporting clips **79** are arranged such that they will swing inwardly of the pulley **77**, and the belt **78** is tightened to such a degree that the belt will be outwardly distorted as shown in Figure 10 where the belt engages over the pulley **77**.

In the use and operation of this device the umbrella which is shown in Figures 1 to 8, inclusive, is an umbrella of the collapsible type and when in extended position is raised as shown in Figure 1 by pulling on the cords **43**. The umbrella shown in Figures 9 to 11 may be collapsed by removing the holding straps **65** and lowering the motor supporting member **68**. Normally, however, the umbrella shown in Figures 9, 10, and 11 will be disposed in extended position. The umbrella shown in Figures 9, 10, and 11 is rotated by means of the motor **66**. Operating of the motor **66** will cause the belt **78** to travel over the pulley **77** and as the belt **78** is held substantially taut by the clips or holding members **79**, the umbrella will be rotated about the stationary staff **60**.

What is claimed is:

1. A rotatable giant umbrella comprising a stationary upright staff, a mounting member rotatably mounted on the staff, a plurality of ribs pivotally carried by the mounting member, means for retaining the ribs in raised positions radiating rotatably from the staff, a motor, means supporting said motor on the staff, a drive transmission means powered by the motor and means drivingly connecting said transmission means with the rib retaining means.

2. A rotatable giant umbrella comprising a stationary upright staff, a first mounting member rotatably mounted on the staff, a plurality of ribs radially extending from and carried by the mounting member, a second mounting member rotatably mounted on the staff and spaced vertically below the first mounting member, braces carried by the second mounting member and extending upwardly therefrom and connected to the ribs, a motor, means supporting the motor in laterally disposed position relative to said staff, a driving pulley connected with said motor, a belt engaging over the pulley and means supporting said belt from the braces whereby operation of the motor will effect rotation of said ribs and braces about the staff.

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