Aug. 19, 1958 L. K. WILDBERG 2,848,182

ANTENNA MAST SUPPORTS

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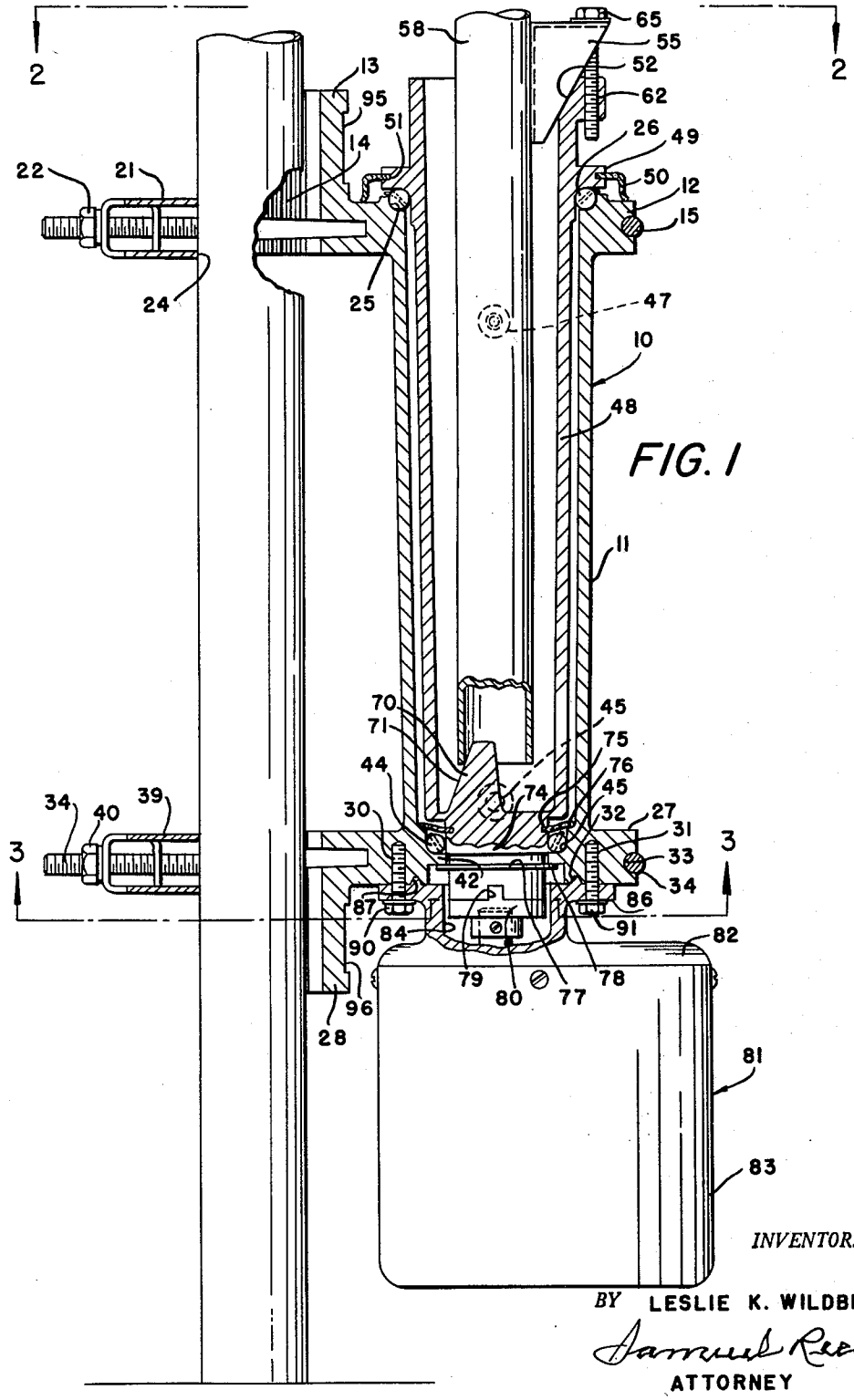


FIG. 1

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FIG. 2

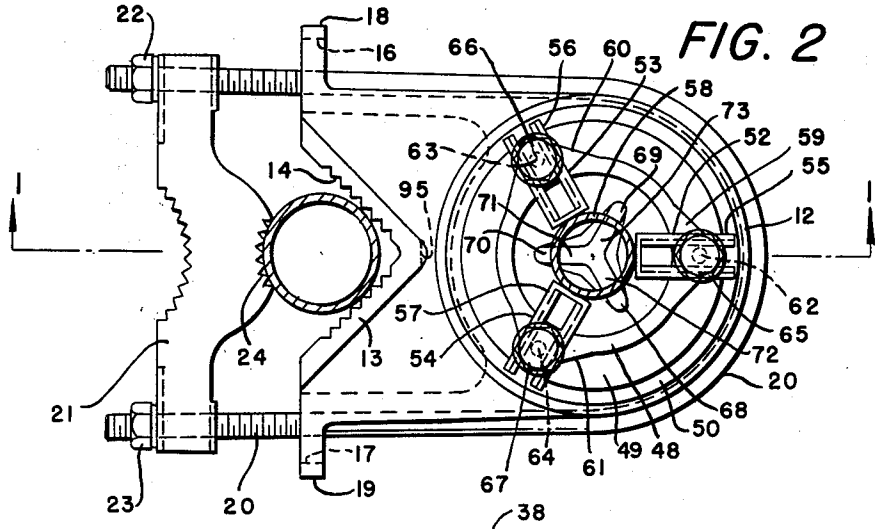


FIG. 3

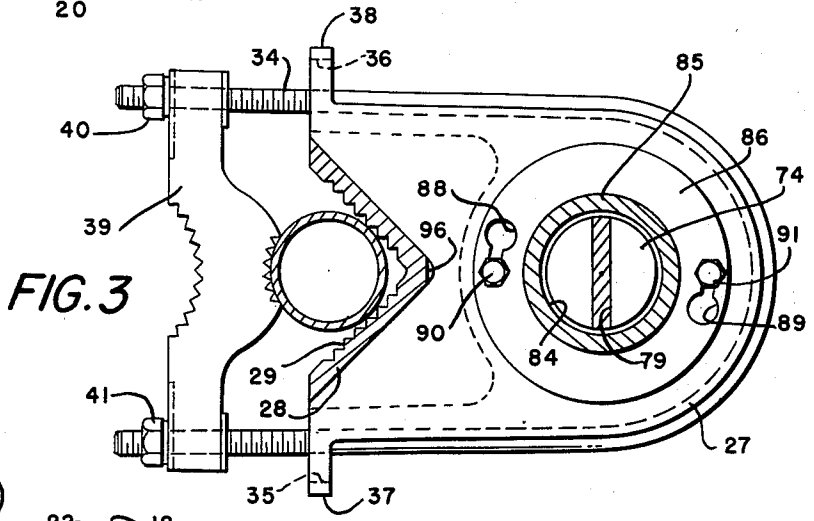
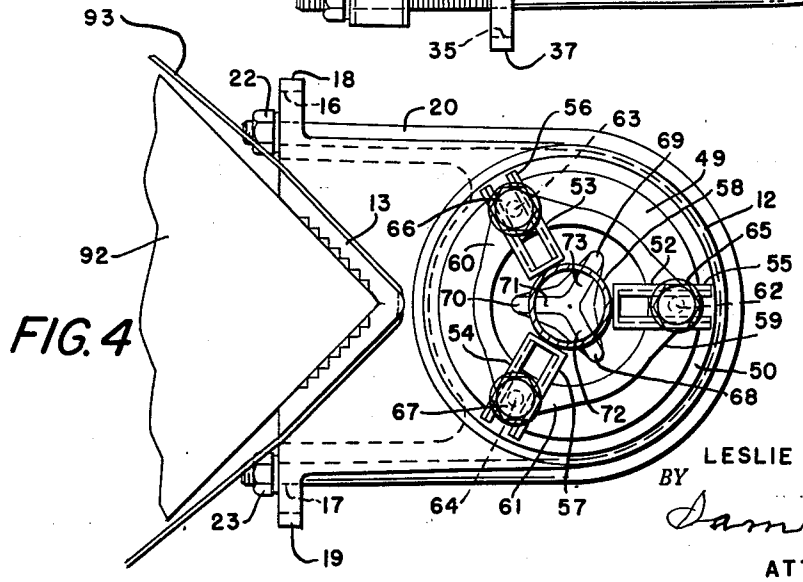


FIG. 4



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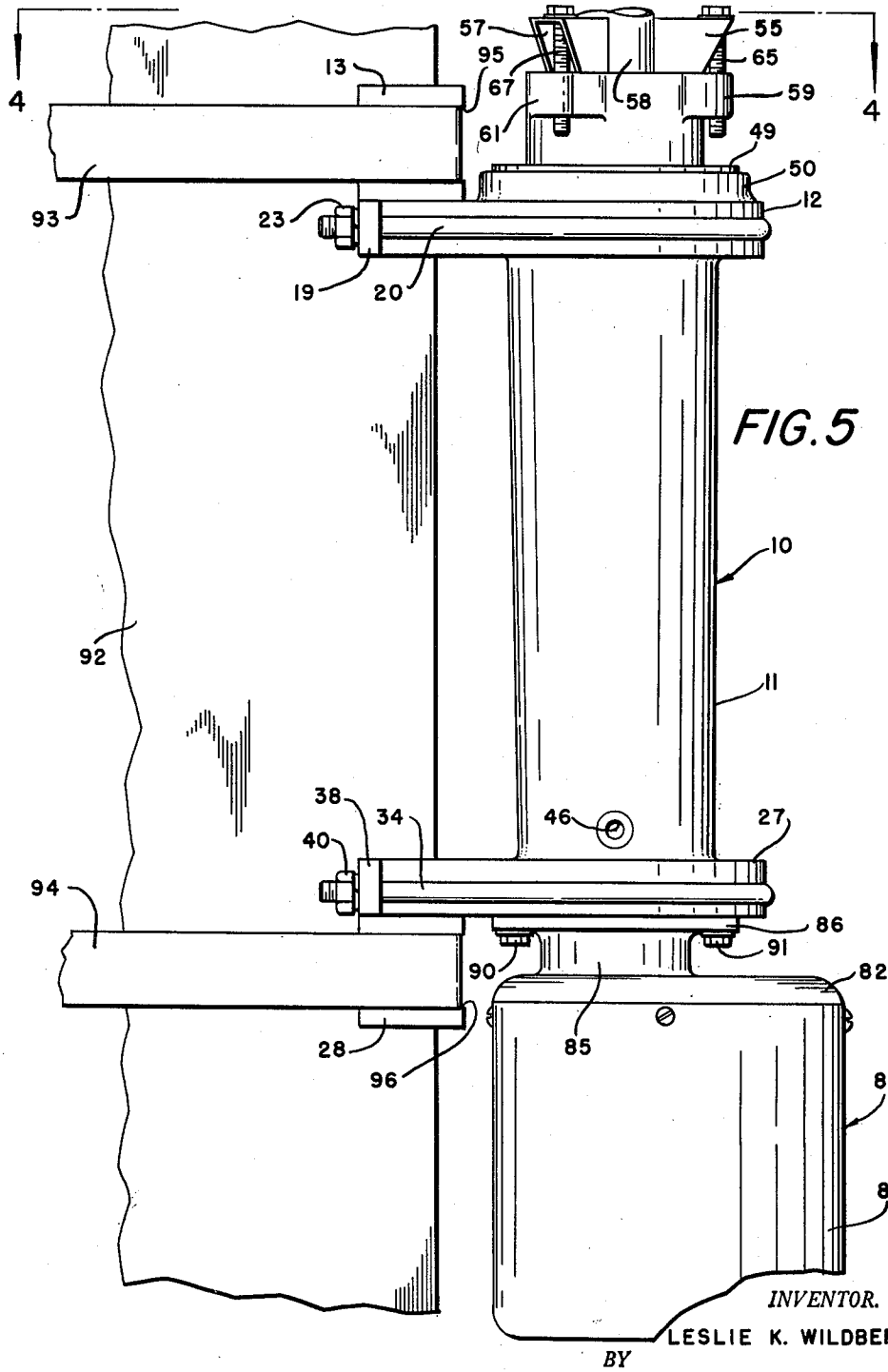


FIG. 5

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ANTENNA MAST SUPPORTS

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Application June 24, 1953, Serial No. 363,793

2 Claims. (Cl. 248—45)

This invention relates to antenna mast supports and is concerned more particularly with supports embodying means for rotatably supporting antenna masts and remote controlled motor actuated mechanism for rotating such means.

It is an object of this invention to provide antenna mast supports having rotatable mast supporting means and remote controlled motor actuated mechanism operatively and releasably connected with said means.

A further object is to provide antenna mast supports having rotatable mast supporting means and remote controlled motor actuated mechanism operatively connected with said means wherein said mechanism may be removed and replaced by similar mechanism without disturbing said means or the antenna masts.

A further object is to provide antenna mast supports having rotatable mast supporting means and remote controlled motor actuated mechanism operatively connected with said means wherein said mechanism may be removed and the masts will still be functional.

A further object is to provide antenna mast supports having rotatable mast supporting means and remote controlled, housed, weather-protected, motor actuated mechanism operatively and releasably connected with said means wherein the housings and contained mechanisms may be removed as a unit and replaced by similar units without disturbing said means or the antenna masts.

A further object is to provide antenna mast supports having rotatable mast supporting means capable of receiving and securely retaining masts of different diameters.

A further object is to provide antenna mast supports having rotatable mast supporting means wherein the mast supports are so constructed that they can with equal facility be mounted on fixed masts and chimneys.

A further object is to provide antenna mast supports having rotatable mast supporting means wherein the mast supports shall be light in weight and reinforced by means capable of serving as securing means for the supports.

A further object is to provide antenna mast supports which shall obtain a reduction in the number of parts required and in cost.

Other objects of the invention will become clear as the description thereof proceeds.

In the drawings forming part of this specification:

Fig. 1 is an elevational and sectional view showing an antenna mast support embodying the invention.

Fig. 2 is a horizontal section taken on line 2—2 of Fig. 1.

Fig. 3 is a horizontal section taken on line 3—3 of Fig. 1.

Fig. 4 is a horizontal section taken on line 4—4 of Fig. 5.

Fig. 5 is an elevation showing an antenna mast support embodying the invention mounted upon a chimney.

Referring to the drawings the reference numeral 10 designates the fixed member of my antenna mast support. As illustrated this member embodies a tapering, vertical tubular portion 11 which is preferably formed as an

aluminum casting. At its upper end this portion is formed with an outwardly extending flange 12. One part of this flange extends a greater distance from the tubular portion than the other part so as to form a base for a vertical V-shaped jaw 13 which serves to position the fixed member. The outer face of this jaw is preferably serrated as shown at 14 to afford a firm grip upon a supporting member.

The flange 12 is recessed as shown at 15. This recess communicates with openings 16 and 17 formed in oppositely extending ears 18 and 19 carried by the flange. A steel U-bolt 20 is adapted to be seated in the recess 15 and to extend through the openings 16 and 17 so as to slidably receive a clamp 21 which is retained upon the bolt by means of nuts 22 and 23. The edge of the clamp opposed to the serrated face of the V-shaped jaw 13 is curved and serrated as indicated at 24 so that when the clamp is tightened upon a supporting mast the fixed member will be securely mounted upon the mast. Tightening of the clamp also serves to tighten the bolt about the tubular portion so as to reinforce this portion.

The tubular portion 11 is formed with a raceway 25 adapted to receive a thrust bearing 26 for supporting the rotatable antenna mast supporting member hereinafter described.

At its lower end the tubular portion 11 is formed with an outwardly extending flange 27 similar to the flange 12. A vertical V-shaped jaw 28 similar to and alined with the jaw 13 extends from the flange 27. Jaw 28 is serrated as indicated at 29 similar to the serrations 14 of the V-shaped jaw 13. Tapped holes 30 and 31 and a circular groove 32 of substantially inverted V-shape in cross section are provided in flange 27 for purposes which will later appear.

The flange 27 is recessed as shown at 33 to receive a U-bolt 34 similar to the U-bolt 20. The ends of the U-bolt 34 extend through openings 35 and 36 formed in the ears 37 and 38 provided on the flange 27 and through a clamp 39 similar to the clamp 21. Nuts 40 and 41 serve to fasten the clamp in place and to stress the U-bolt so that it reinforces the tubular portion 11. A circular flange 42 is provided in the lower end of the tubular portion 11 to form part of a raceway 43 adapted to receive a ball bearing 44.

Drainage openings 45 and 46 are formed in the lower part of the tubular portion 11 while the upper part thereof is provided with a tapped boss 47 communicating with the inside of tubular portion for the reason hereinafter stated.

My antenna mast support also embodies a tapering, vertical, tubular member 48 which is preferably formed of cast aluminum and provided with an outwardly extending circumferential flange 49 adapted to be seated upon bearing 26 for rotatably supporting the tubular member 48. Radial movement of the lower end of the tubular member 48 is prevented by the bearing 44. A sealing strip 50 is seated within a groove 51 formed in the flange 49 so as to protect the bearing 26.

At spaced points around its upper margin the tubular member 48 is sloped inwardly and downwardly as indicated at 52, 53 and 54 to provide guides for collets 55, 56 and 57 which are adapted to grip an antenna mast 58. Adjacent to these guides and extending outwardly from the tubular member 48 are lobes 59, 60 and 61 which are provided with tapped vertical holes 62, 63 and 64. The collets, which are substantially triangular in shape, are seated in the guides so that the sloping sides thereof engage the sloping portions of the guides. Screws 65, 66 and 67 extend through openings formed in the collets and are threaded into the tapped holes 62, 63 and 64 to retain the collets on the tubular member 48 and in conjunction with the guides obtain

movement of the collets toward each other. In this manner antenna masts of different diameters can be secured to the upper margin of the tubular member.

Retention of the lower ends of tubular antenna masts of different diameters is obtained by means of angularly related projections **68**, **69** and **70** which extend upwardly from the lower end of the tubular member **48**. The outer edges of these projections slope downwardly and outwardly as indicated at **71**, **72** and **73** and thereby provide supports for the lower ends of the antenna masts.

A cylindrical member **74** projects downwardly from the tubular member **48** and is adapted to have circumferential engagement with bearing **44**. A circumferential groove **75** is formed in the member **74** for the reception of a sealing strip **76** which protects the bearing **44**. A second circumferential groove **77** receives a snap ring **78** which is adapted to engage the underside of the flange **42** to retain the tubular members **11** and **48** in assembled relationship. Below the groove **77** the cylindrical member **74** is provided with a diametrical groove **79** extending inwardly from the lower face of the member by means of which the tubular member is engaged with a coupling member **80** forming part of a remote controlled motor actuated driving unit (not shown) of any desired form.

This unit including its motor is completely housed within a casing **81** which embodies releasably secured cap and cover members **82** and **83** preferably formed of aluminum. Coupling member **80** extends through an opening **84** formed in the cap member **82** for engagement with the groove **79**. A circular flange **85** concentric with the coupling member and eccentric with the cap member extends upwardly from the cap member. At its upper end the flange **85** is formed with an outwardly extending circumferential flange **86** provided with a circular upwardly extending substantially inverted V-shaped projection **87**. In the assembly of the driving mechanism with the fixed member **11** of the antenna mast support the projection **87** is disposed within the circular groove **32** thereby insuring axial alinement between the rotatable member **48** and the coupling member **80**.

Outwardly of the projection **87** the flange **86** is formed with opposed key-hole slots **88** and **89** by means of which the casing **81** and contained driving mechanism can be releasably secured to the bottom of the fixed member **11**. This is accomplished by threading bolts **90** and **91** upwardly into the tapped openings **29** and **30** formed in the flange **27** so that the heads of the bolts are spaced from this flange, moving the casing upwardly so that the bolt heads project through the wider parts of the key-hole slots, rotating the casing to move the narrower parts of the slots above the bolt heads, and then tightening the bolts. The securement of the casing is made after the coupling member **80** is seated in the groove **79** so that when the casing has been fastened to the fixed member **11** the driving mechanism is operatively engaged with the rotatable antenna mast support.

Electrical connections are made between the motor of the driving mechanism and a switch at a remote point from the motor as is well known in the art.

In the event that the motor or other part of the driving mechanism requires repair the casing and driving mechanism can readily be removed from the fixed member **11** as a unit and disconnected from the rotatable member **48** without dismantling the antenna mast. If the casing must be removed the rotatable member and therefore the antenna mast can be secured in the fixed member against rotation by the wind by threading a bolt through the boss **47** into contact with the rotatable member **48**. However, if a replacement casing and driving mechanism unit is provided it can immediately be fastened to the member **11** as hereinbefore explained so that the full efficiency of the antenna is preserved.

The construction of my antenna mast support adapts it for direct securement to chimneys as well as to fixed masts, as shown in Figs. 4 and 5. For such securement the clamps **21** and **39** are omitted and the U-bolts **20** and **34** secured to the fixed member **10** by means of the nuts **22** and **23** and **40** and **41** which bear against the ears **18** and **19** and **37** and **38** so as to preserve the reinforcing function of the U-bolts. The V-shaped jaws **13** and **28** of the fixed member **10** engage a corner of a chimney, shown diagrammatically at **92**, and are securely fastened to the chimney by means of banding irons **93** and **94** embracing the chimney and seated in recesses **95** and **96** formed in the jaws. This firmly secures the fixed member **10** to the chimney.

It will be apparent that numerous changes and modifications in the details of the invention will be clear to those skilled in the art. It is intended, therefore, that all such modifications and changes be comprehended within this invention, which is to be limited only by the scope of the claims appended hereto.

I claim:

1. A fixed support adapted to support a rotatable antenna mast supporting member, said fixed support comprising a tubular barrel, flanges surrounding said tubular barrel adjacent to the top and bottom thereof, a laterally extending portion connected to each flange, each portion having a V-shaped notch therein, perforated ears extending outwardly from said notched portions, U-shaped steel reinforcing bolts embracing said flanges, the ends of said bolts being threaded and extending through said ears, a clamping member coacting with said notched portions and being carried on the bolts to grip a supporting standard therebetween, and nuts threaded on the ends of said bolts and adapted to bear against said clamping members to tension said bolts.

2. An antenna supporting member adapted to be rotatably mounted in a fixed support, said mast supporting member comprising a tubular barrel, tapering elements at the bottom of said tubular barrel arranged to be received snugly within the base of a tubular antenna mast adapting said tubular member to receive masts of different diameters, a plurality of outwardly projecting ears along the upper margin of said tubular barrel, said tubular barrel having downwardly sloping portions aligned with said ears and being within the confines thereof, triangularly shaped gripping members, one side of each gripping member engaging a sloping portion and another side adapted to engage a mast extending within said barrel, and means coacting with said ears for adjustably securing each gripping member along its respective sloping portion, whereby the gripping members are radially and axially movable toward each other for gripping the intermediate portion of a mast therebetween.

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