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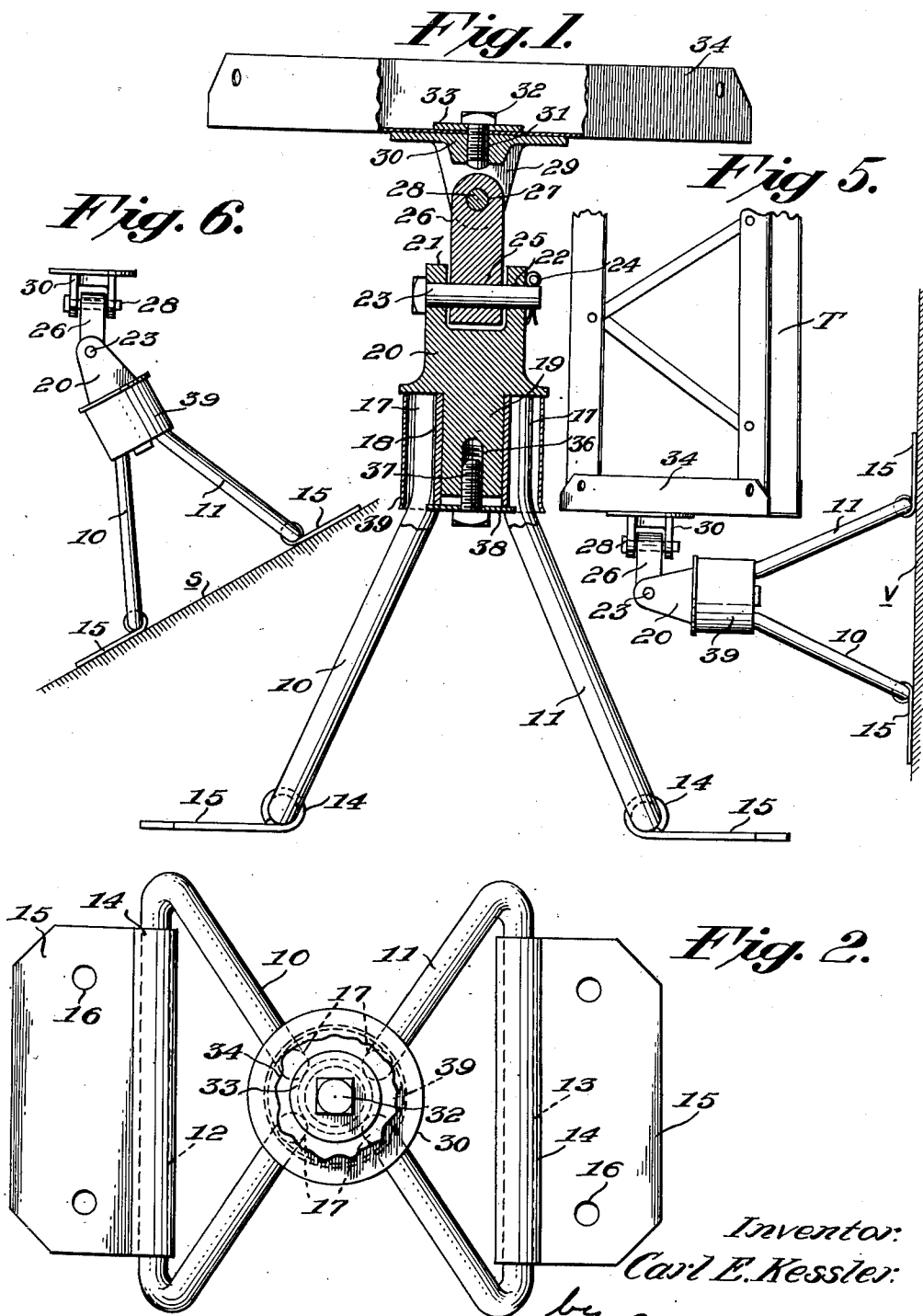
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2,637,516

ANTENNA TOWER SUPPORTING BASE

Filed Oct. 16, 1950

2 SHEETS—SHEET 1



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2 SHEETS--SHEET 2

Fig. 3.

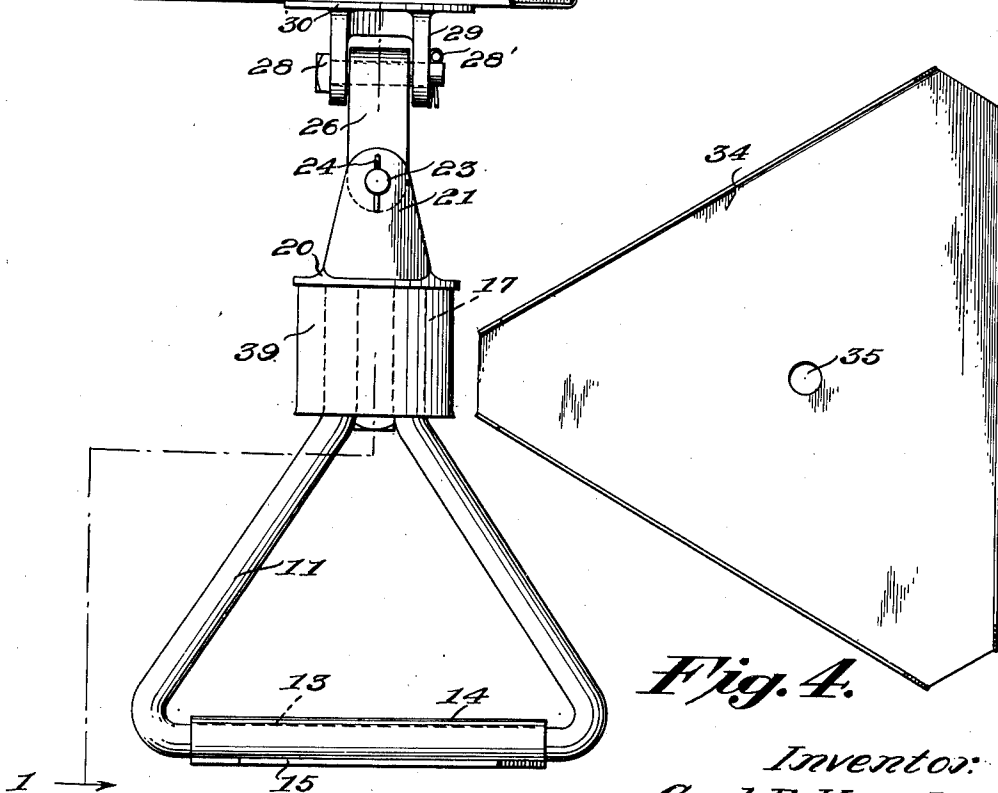
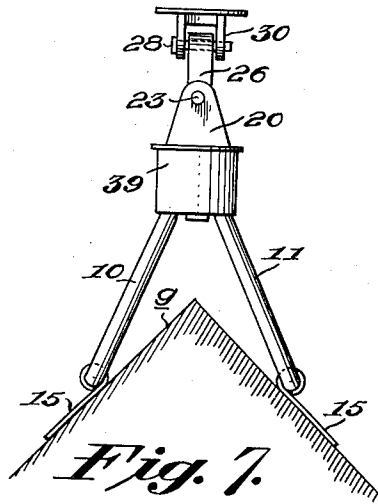
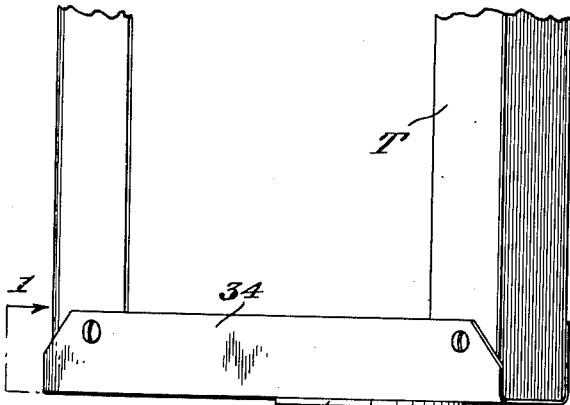


Fig. 4.

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UNITED STATES PATENT OFFICE

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ANTENNA TOWER SUPPORTING BASE

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3 Claims. (Cl. 248—183)

1

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This invention relates to an antenna tower supporting base.

In the erection of antenna supporting towers, it has been found expedient to provide a base for the tower, which base is adapted for support on and connection to some form of surface.

Since it has been found advisable for maximum antenna efficiency that the tower be mounted substantially vertically and that same be capable of rotation about a vertical axis, it is highly desirable that the base be capable of supporting the tower in a vertical position regardless of the contour of surface upon which the tower is to be erected.

The desirability of such type of base has heretofore been recognized and various forms of construction thereof have been proposed. In such prior proposed constructions, however, various interchange of parts was necessary in the erection of towers on surfaces having different contours which not only required more time and effort in the erection of a tower, but also failed to provide for free rotation of the tower on its vertical axis in all conditions of erection thereof.

It is accordingly a primary object of this invention to provide a base which is universal in its application to surfaces of various contours and for supporting a tower in vertical position from any of such surfaces with capability of free rotation about its axis.

A further object of the invention is to provide an antenna tower supporting base which is operative to support the tower in vertical position from surfaces at angles at and between the horizontal and vertical without interchange of any parts entering into the construction of the base.

A still further object of the invention is to provide a base of the above noted general character which is durable, efficient in operation, and which is capable of construction at relatively low cost.

Other objects and advantages of the invention will become apparent in the course of the following detailed description, taken in connection with the accompanying drawings, wherein:

Figure 1 is a view partly in elevation and partly in vertical section of the improved base in accordance with a preferred structural embodiment thereof, the view being observed substantially in the planes of the broken line 1—1 on Fig. 3.

Fig. 2 is a top plan view of the base.

Fig. 3 is an elevational view as observed from the right of Fig. 1.

Fig. 4 is a top plan view of the tower supporting plate.

Fig. 5 is a view on reduced scale showing the application of the base to a vertical surface.

Fig. 6 is a view showing the application of the base to an inclined or sloped surface.

Fig. 7 is a view showing the application of the base to gable surfaces.

Referring now in detail to the drawings, 10 and 11 designate a pair of legs which include horizontal portions 12 and 13. The portions 12 and 13 are pivotally disposed within cylindrical portions 14 of feet 15 which, by the above noted construction, have a hinged connection with the legs 10 and 11, and feet 15 are provided with fastener receiving apertures 16.

The legs 10 and 11 jointly comprise upwardly converging portions which merge into vertical portions 17, and the legs are preferably constructed from round steel stock. The vertical portions 17 of the legs are welded to the outer surface of a cylindrical bearing member 18 which may suitably be a short length of pipe.

Rotatably supported within the member 18 is a cylindrical extension 19 of a member 20 bearing on the upper end of member 18 and having a pair of upwardly extending, laterally spaced ears 21 which are co-axially apertured as at 22 for receiving a pivot pin 23 provided with a cotter 24.

The pivot pin 23 extends through an aperture 25 in the adjacent rounded end of a member 26 whose opposite rounded end is provided with an aperture 27 at right angles to aperture 25 and through which extends a pivot pin 28 provided with a cotter 28'.

Laterally spaced ears 29 depending from a member 30 are axially apertured and through which the bolt 28 extends. The member 30 is tapped at 31 for the reception of a bolt 32 which extends through a washer 33 and an aperture 35 in the tower supporting plate 34.

While the member 26 is rotatable in the member 18, means is provided to prevent such rotation when desired as, for example, upon raising of the tower. Such means preferably comprises a tapped aperture 36 in the lower end of extension 19 for receiving a bolt 37 which extends through a washer 38 bearing against the lower end of member 18. With this construction, tightening of the bolt 37 will frictionally bind the member 20 against the upper end of member 18 as well as the washer 38 against the lower end of member 18, whereby rotation will be prevented.

A suitable cover 39 is preferably applied over the leg portions 17 and secured in position by any suitable means.

3

From the above it will be seen that the members 20, 26 and 30 with their pivotal connections 23 and 28 provide a universal joint whereby the upper plate supporting surface of member 30 may readily be positioned at various angles relative to the plane of the surface of member 20 bearing on the member 18, whereby the tower supporting plate 34 may be positioned horizontally with the axis of member 18 at various angles.

The plate 34 is adapted to support an antenna tower T and by the mounting 30 to 33 the plate is rotatably supported on the member 30 for rotation of the tower about its vertical axis regardless of the angular position of member 18.

In Fig. 5, the base is shown as being supported on a vertical surface *v* by means of fasteners extending through apertures 16 in feet 15 and into the surface *v*. In this position, member 26 is disposed at right angles to the axis of member 18 whereby the plate 34 is disposed horizontally for supporting the tower T in a vertical position.

In Fig. 6 the base is shown as being supported on an inclined or sloping surface *s* and in which position the member 26 is disposed obliquely to the axis of member 18 and with member 30 disposed for rotatably supporting plate 34 in a horizontal position.

In Fig. 7 the base is shown as being applied to a gable or roof-like surface which is accomplished simply by pivoting the feet 15 on the legs 10 and 11 and securing same to the opposite slopes of the surface.

Should it be desired to position the feet 15 in positions at right angles to that shown in Fig. 5, the member 20 may readily be rotated through an angle of 90° whereby member 26 may then be pivoted to its vertical position.

From the above description it will be seen that the base structure according to the present invention is readily adapted for connection to surfaces of various inclinations without any exchange of parts and that the tower T may be vertically supported regardless of the angularity of the surface or surfaces to which the feet 15 are connected.

While I have disclosed my invention in accordance with a single specific structural embodiment thereof, such is to be considered as illustrative only, and not restrictive, the scope of the invention being defined in the following claims.

What I claim and desire to secure by U. S. Letters Patent is:

1. A tower-supporting base comprising an elongated cylindrical bearing member, a plurality of leg members having upper end portions parallel with the axis of said bearing member and secured to the outer wall thereof, a member supported by said cylindrical bearing member for rotation about the axis thereof, a second member having a pivotal connection with said first member about an axis normal to the first named axis, a third member having a pivotal connection with said second member about an axis normal to the second named axis, a tower-supporting plate removably supported upon said third member, and adjustable means operatively associated with said bearing member and said first member for selectively locking said first member against rotation in the bearing member.

2. The structure according to claim 1, wherein said first member includes a portion overhanging said cylindrical bearing member and said upper end portions of the leg members, and a cylindrical cover member co-axial with said bearing member surrounding said upper end portions of the leg members and disposed beneath said overhanging portion.

3. The structure according to claim 1, wherein said plurality of leg members comprises a generally triangular member at each side of a plane including the said first and third axes and diverging laterally thereof, and a generally rectangular anchoring plate having one edge thereof pivotally connected to the base of each of said triangular members.

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