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ANTENNA MOUNTING BASE

Filed Nov. 15, 1963

Fig. 1

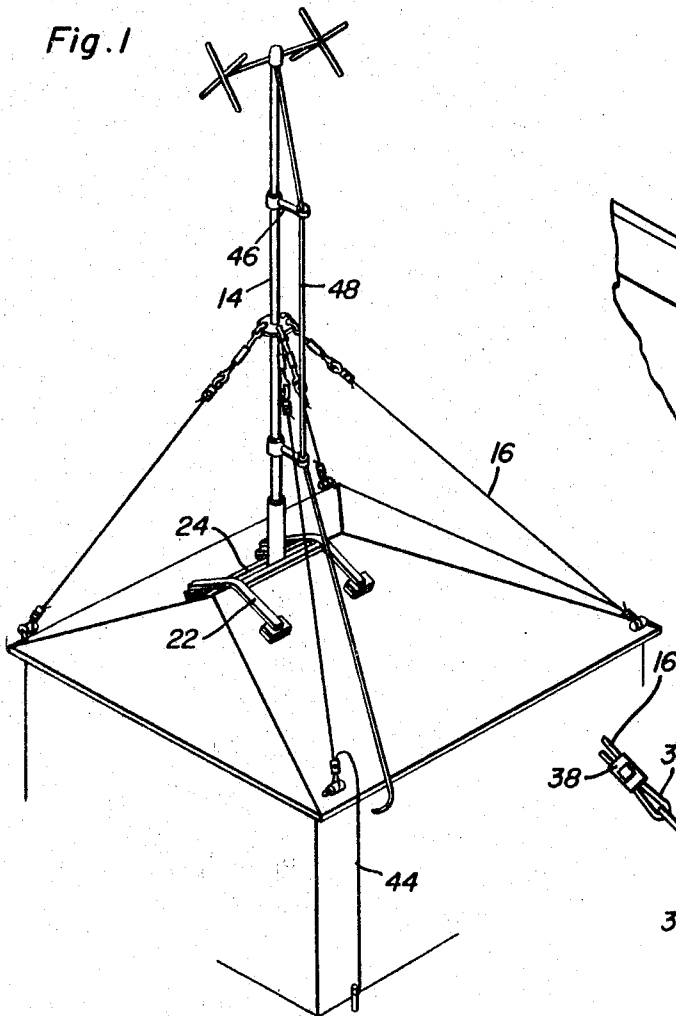


Fig. 4

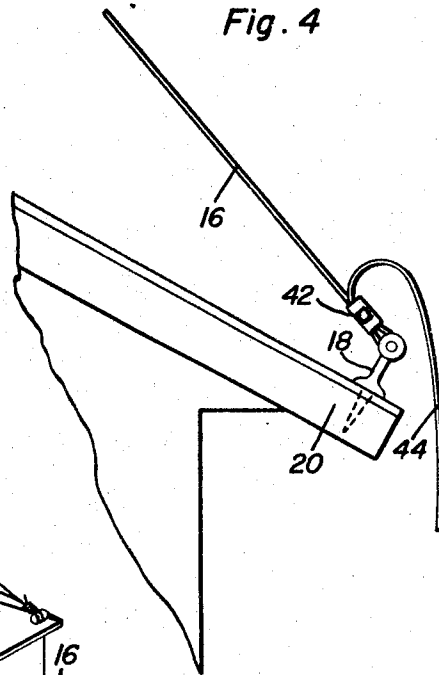


Fig. 3

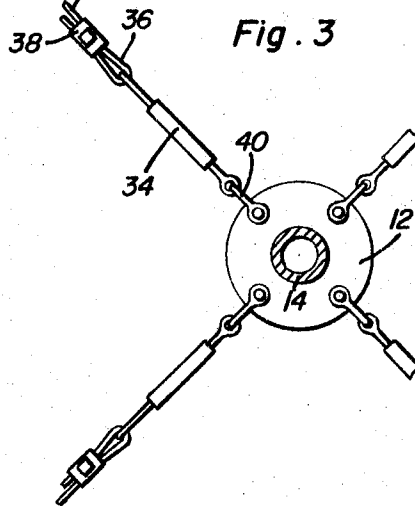
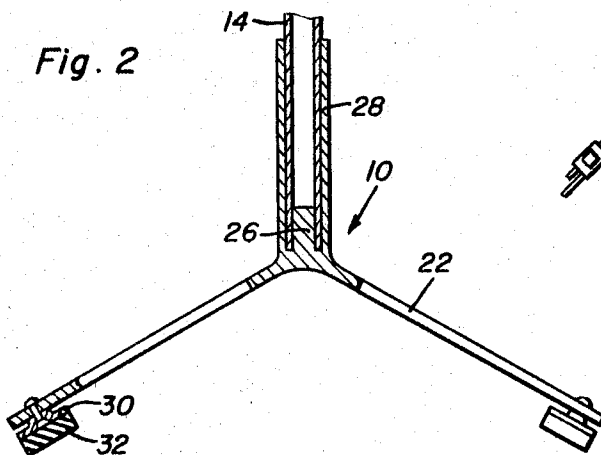


Fig. 2



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ANTENNA MOUNTING BASE
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The instant invention is generally concerned with roof mounted antennas, and is more particularly related to a novel support means for an antenna mast.

It is a primary object of the instant invention to provide a mounting means for an antenna mast which, while highly stable, is relatively simple to install, the installation of the antenna being well within the ability of the homeowner himself.

Another significant object of the instant invention is to provide an antenna support which can be adapted to any type of roof and which can accommodate itself to various minor surface irregularities as might occur at the point of actual contact with the roof surface.

Further, it is an object of the instant invention to provide means for mounting an antenna wherein both the mounting means and antenna can be quickly and easily removed as desired.

Likewise, it is an object of the instant invention to provide for the highly stable mounting of the antenna while requiring the driving of only four anchoring members into the roof, these consisting of one insulated tie-down located adjacent each corner of the roof and engaged directly into a subjacent roof joist.

In addition, it is an object of the instant invention to incorporate lightning rod means into the antenna support so as to avoid any possibility of damage arising from lightning striking the antenna.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a perspective view illustrating an antenna mounted upon the roof of the building by the support of the instant invention;

FIGURE 2 is an enlarged partial cross-sectional view, with portions broken away, of the base portion of the support, illustrating the manner in which the lower end of the tubular antenna mast is engaged;

FIGURE 3 is an enlarged partial horizontal sectional view illustrating the collar portion of the support which is to be fixedly secured to the mast; and

FIGURE 4 is a detailed view illustrating one of the insulating tie-downs for the guide wire, the particular guide wire illustrated in this figure containing beyond the insulator so as to additionally function as a lightning rod.

Referring now more specifically to the drawings, it will be noted that the support of the instant invention consists basically of a base member 10 to be engaged with the roof, a circular collar 12 fixedly secured to an intermediate portion of the antenna mast 14, four guide wires 16 extending from the collar 12 to approximately the four corners of the building roof, and four tie-downs for the ends of the guide wires 16 engaged directly through the roof and into subjacent roofing joists 20.

Turning first to the base 10, it will be noted that the base consists of two elongated parallel flat base bars 22 rigidly interconnected at their midpoints by a transversely extending crossbar 24. This crossbar 24 is provided, at its midpoint, with a vertically extending stud 26 of a size so as to be snugly received within the lower end of the tubular antenna mast 14. In addition to the stud 26, a vertically extending hollow cylindrical or tubular mem-

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ber 28 is also rigid with the crossbar and surrounds the stud 26 in spaced relation thereto, this tubular portion 28 snugly receiving the lower end of the antenna mast 14 so as to in effect confine the antenna mast between the tubular portion 28 and the stud 26. It will also be noted that the tubular portion 28 extends a substantial distance vertically above the upper end of the stud 26. If so desired, the base bars 22, crossbar 24, stud or stud 26 and tubular portion 28 can be formed integrally.

The outer ends of each base bar 22 are provided with pivotally mounted feet including a backing plate 30 and a resilient roof-engaging cushion 32 of any suitable material such as rubber. As will be noted from the drawings, each of the base bars 22 is angularly bent so as to conform to the peak portion of the roof. The particular construction of the base 10 is deemed especially significant in that by varying the particular angle of the base bars 22, the base 10 can be adapted to any slope, or for that matter a flat roof. Furthermore, the pivotal mounting of the feet enables them to accommodate themselves to any minor surface irregularities with the resilient pads 32 both insulating the base from the roof structure and preventing any damage to the roof. In addition, the widespread location of the feet from each other provides a high degree of stability tending to inhibit a turning over of the antenna.

The final securing of the antenna mast 14 is accomplished through the guy wires 16 which are secured directly between the collar 12 and the corners of the roof. The upper end of each guy wire 16 is engaged through one eye of a turnbuckle 34, a thimble 36 being used with a wire clamp 38 securing the wire 16. The opposite end of each turnbuckle 34 is pivotally engaged with the collar 12 by means of a shackle 40, it of course being appreciated that the turnbuckle 34 is to be utilized for achieving the final tensioning of the guide wire 16, as well as any additional tightening as might be needed after extended period of use.

The opposite or lower end of each guide wire 16 is engaged about an insulating tie-down member 18 and subsequently secured by a suitable wire clamp 42. One of these guy wires 16, attention being directed to FIGS. 1 and 4, is continued beyond the clamp 42, as indicated by reference numeral 44, and extended beyond the roof and anchored directly into the earth so as to act as a lightning rod thus protecting the structure during electrical storms. The insulated tie-downs or anchors 18 are deemed particularly important in that any tendency for leakage to occur is eliminated thus substantially improving the reception.

While the collar 12 has been specifically defined as being rigidly secured to the antenna mast 14, in those instances where a relatively short mast is contemplated, the collar 12 can be secured directly to the upper end of the tubular base portion 28, however, in relatively long masts, it is essential that the collar 12 be located at an intermediate point there along. With reference to FIG. 1, it will be noted that a variable number of laterally projecting spacing rods 46 are provided for the lead-in wire 48, the number of rods 46 provided varying with the length of the mast 14, it however being essential that sufficient number of such rods 46 be provided so as to maintain the lead-in wire 48 out of contact with the guide wires 16.

From the foregoing, it should be readily appreciated that a highly novel antenna mast support has been defined, this support incorporating simplicity, rigidity, ease of installation, and adaptability.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those

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skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. An antenna mast support for a building roof comprising a base, said base including a pair of elongated spaced parallel base bars, a crossbar, said crossbar extending between base bars and having the opposite ends thereof secured to the base bars at an intermediate point along the length thereof, a stub shaft rigid with and extending vertically from the crossbar for telescopic reception within the lower end of a hollow antenna mast, and a hollow cylinder rigidly secured to the crossbar in surrounding spaced relation to the stub for telescopic reception of the mast which is received over the stub, said hollow cylinder extending vertically beyond the stub.

2. The structure of claim 1 including four enlarged support feet, one foot pivotally secured to each end of

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the base bars so as to form four widely spaced support points for the base, each foot being automatically adjustable upon engagement with the roof surface so as to accommodate any irregularities appearing therein.

3. The structure of claim 2 including a collar adapted to be rigidly secured to the antenna mast, a plurality of anchor means fixedly engageable with the building at spaced points about the outer edge of the roof, and a plurality of guide wires tensioned between the collar and anchor means.

4. The structure of claim 2 wherein each foot is provided with a resilient pad directly engageable with the roof surface.

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