Dec. 19, 1967 L. D. BURNS 3,358,952

GROUND MOUNTED ANTENNA SUPPORT

Filed Nov. 29, 1965

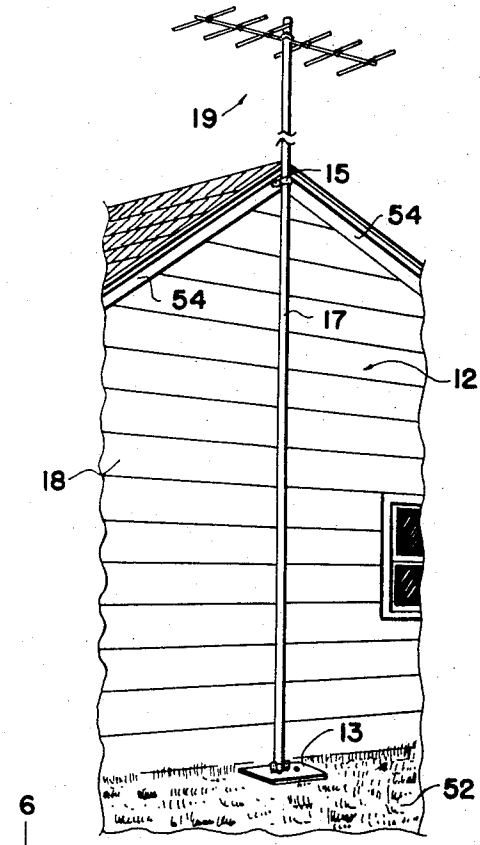


FIG. 1

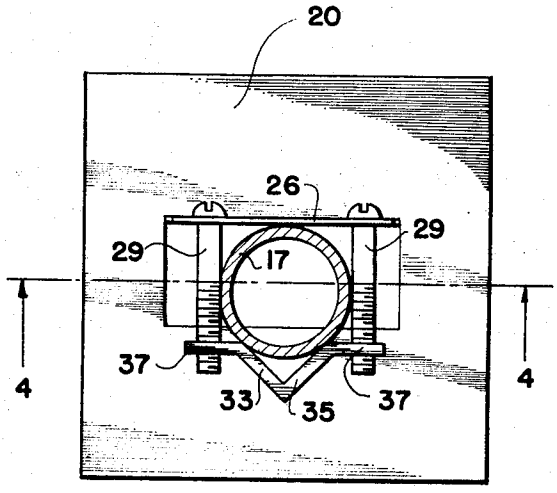


FIG. 2

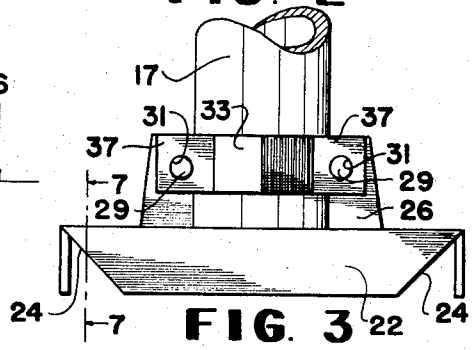


FIG. 3

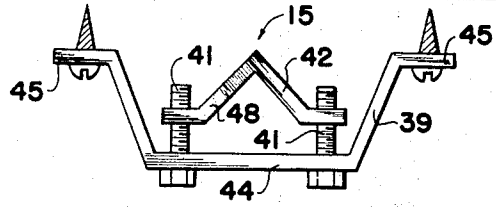


FIG. 5

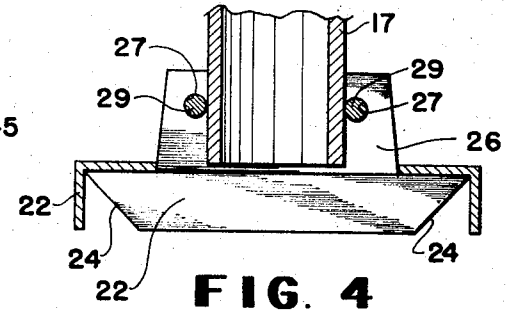


FIG. 4

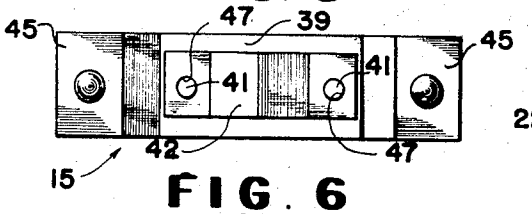


FIG. 6

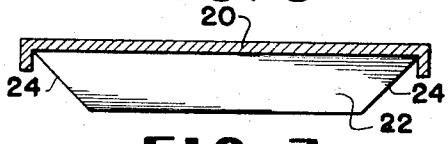


FIG. 7

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GROUND MOUNTED ANTENNA SUPPORT

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ABSTRACT OF THE DISCLOSURE

This invention relates generally to an antenna support, and more particularly to a ground engaging mounting support for anchoring television antennas, and the like. Still more specifically, this invention relates to an antenna support for connection to an antenna mast adjacent a supporting structure having (1) a base mounting means connectible to a supporting ground surface and the lower end of the upright mast, and (2) a bracket means connectible to the upright mast and the adjacent supporting structure to provide both vertical and lateral stability thereto.

Conventional antenna support means are normally attached to the top portions of the roofs of houses and require the extensive use of guy wires, cables, etc., and the drilling of holes into the roof, in order to provide a rigid structure. Additionally, installation of the conventional antenna support means is a dangerous and exacting procedure requiring the services of a skilled television technician. Also, television antennas of the prior art cannot readily be moved to the most desirable point of signal strength.

I have invented a new support for a vertically extended mast on a ground surface adjacent an upright support structure. My new support has a base which has a projecting sidewall insertable into the ground. A clamp is centrally secured to the base. The new support of my invention receives the end portion of a mast in supporting relation thereto and in contact therewith. The clamp secures the mast, and the support anchors the mast.

In a preferred specific embodiment the support of my invention is employed in combination with a bracket connectably to the upper portion of the mast, and the bracket is connectable to the upright support structure. The mast is then used to support an antenna on an upper end portion.

It is an object of this invention to provide new mounting means.

It is another object of this invention to provide new ground engaging support means for antenna masts.

An object of this invention is to provide an improved antenna mount means overcoming the above-mentioned disadvantages of conventional antenna support means, and in particular the new television support means of my invention can be located at any desirable point along the end or side of a building; can be made any desirable height, and does not interfere with the roof or reroofing the house in any way.

Another object of this invention is to provide an antenna ground mount support that can easily and quickly be assembled and secured to an adjacent supporting structure.

A further object of this invention is to provide an antenna ground mount support rigidly secured against vertical and horizontal movement.

A still further object of this invention is to provide an antenna ground mount support that is readily assembled, simple to move for adjustment, and economical to manufacture.

Still another object of this invention is to provide an antenna mount support that is readily installed, accessible, and removable by the typical home owner.

Further objects, features, and advantages of this invention will become apparent from the following description when taken in conjunction with the accompanying drawings of preferred specific embodiments of the new antenna ground mount support of my invention in which:

FIG. 1 is a fragmentary elevational view of the end of a house embodying a preferred specific embodiment of the antenna ground mount support of this invention;

FIG. 2 is an enlarged top plan view partly in cross section of a preferred specific embodiment of the base mounting plate of the antenna ground mount support of this invention connected to an antenna support;

FIG. 3 is an elevational view of the base mounting plate;

FIG. 4 is a sectional view taken along line 4—4 of FIG. 2;

FIG. 5 is an enlarged top plan view of a mounting bracket of the antenna mount support of this invention;

FIG. 6 is an elevational view of the mounting bracket; and

FIG. 7 is a sectional view taken along line 7—7 of FIG. 3.

In the following is set forth a discussion and description of preferred specific embodiments of the new antenna ground mount support of my invention, made with reference to the drawings whereas the same numerals are used to indicate the same or similar parts and/or structure.

It is to be understood by those skilled in the art that the drawings, discussions and descriptions of this disclosure are not to unduly limit the scope of my invention.

Referring to the drawings and particularly to FIG. 1, the antenna ground mount support assembly, indicated generally by numeral **12**, comprises a base mounting plate **13** and mounting bracket **15** cooperating to rigidly support an elongated tubular antenna support **17** extended adjacent and vertically of a house **15**. A standard multiple directional antenna **19** is secured as by conventional means to the upper end of the antenna support **17**.

As shown in FIGS. 2 and 3, the base mounting plate **13** consists of a substantially square central section **20** having the outer edges thereof laterally bent the same direction to form sidewalls **22**. Each sidewall **22** is of a trapezoidal shape having downwardly converging side edges **24**. An upright support plate **26** extends laterally of the central section **20** in a direction opposite of the sidewalls **22** and can be formed by a stamping process from the mid-portion of the section **20**. A pair of spaced holes **27** in the support plate **26** receive bolts **29** which are threaded into similarly spaced threaded holes **31** in a clamp plate **33**. The clamp plate **33** is formed with a right angular shaped mid-section **35** having opposite ends thereof integral with connector sections **37**. It is seen that the connector sections **37** extend in a common plane and are formed with the threaded holes **31**. As shown in FIG. 2, the bolts **29** are rotatable to selectively move the clamp plate **33** relative to the upright support plate **26** whereby the tubular antenna support **17** may be clamped in three point contact between the sides of the mid-section **35** and the inner surface of the support plate **26**.

Referring to the mounting bracket **15** as shown in FIG. 5, the bracket **15** comprises a base plate **39** interconnected by bolts **41** to a clamp member **42**. The base plate **39** is of an irregular shape having a mid-portion **44** extended parallel and laterally spaced from attachment sections **45** integral with opposite ends thereof. The bolts **41** are extended through holes in the mid-portion **44** of the base plate **39** and threaded into holes **47** in the clamp member **42**. The clamp member **42** has a V-shaped central portion **48** similar in shape and function to the mid-section **35** of the clamp plate **33** previously described. It is seen, therefore, that the bolts **41** are rotatable to move the clamp member **42** relative to the base plate **39** to secure the tubular antenna support **17** therebetween (FIG. 1).

Furthermore, it is seen that the central portion **48** and attachment sections **45** are sufficiently spaced to receive the antenna support **17** and the clamp member **42** between the inner surface of the mid-portion **44** and outer surface of the attachment sections **45**.

In the use and construction of the antenna ground mount support assembly **12**, the base mounting plate **13** is secured to the lower end of the tubular antenna support **17** by insertion thereof between the support plate **26** and the clamp plate **33** and actuation of the bolts **29** to secure by clamp the base mounting plate **13** to the antenna support **17**. As shown in FIG. 1, the vertically extended antenna support **17** is moved to a desired position adjacent the house **18** which produces the maximum signal reception. The base mounting support **13** is then forced as by foot pressure or hammer action into a supporting ground surface **52**. It is seen that the wedge-shaped sidewalls **22** are forced into the surface **52** to provide lateral stability to the lower portion of the tubular antenna support **17**.

In order to provide additional and desirable support to the elongated antenna support **17**, the mounting bracket **15** is placed about the tubular antenna support **17** and moved vertically to a position wherein the attachment sections **45** are positionable flush against a side wall of the house **18** or the roof overhang **54**. The bracket **15** is rigidly secured thereto by screws **54** inserted through holes in the attachment section **45** and threaded into the roof overhang **54** of the house. The bolts **41** can then be rotated to rigidly clamp the antenna support **17** between the base plate **39** and the clamp member **42**. It is seen, therefore, that the antenna ground mount assembly **12** provides a rigid structure that can be rapidly constructed, adjusted, and disassembled with a minimum of time and tools by one not skilled in the art.

It is obvious that the antenna ground mount assembly **12** can be erected adjacent any side or end of the house **18** or any vertical structure that would provide an upward section for attachment of the mounting bracket **15**, or the like. Similarly, it is obvious that the base mounting plate **13** could rest upon a solid supporting surface, such as concrete, with a plurality of spaced mounting brackets **15** secured to the side of the house **18** providing for the antenna ground mount support assembly **12**.

The antenna ground mount support assembly can be installed without interfering in any way with the roof of the house such as putting holes therein or hindering re-roofing. It is simple to assemble the antenna support assembly, and also to disassemble and transport the same to a new location thereby resulting in considerable savings in time and money to the owner.

Although a preferred embodiment of the invention has been disclosed herein, various alternate constructions and modifications can be made within the scope of the invention defined in the appended claims.

I claim:

1. A mounting means for use in supporting a vertically extended mast on a ground surface adjacent an upright support structure, comprising:

(a) a base means connectible to the lower end of the mast extending transversely thereof, said base means connectible to said ground surface for lateral stability,

(b) said base means includes a plate member having downwardly extending anchor walls about the outer periphery thereof, and an upwardly extended clamp member,

(c) said clamp member including a wall member integral with said plate member and a movable wedge plate,

(d) means connecting said wedge plate to said wall member whereby said wedge plate is movable to clamp the must between said wall member and said wedge plate,

(e) bracket means connectible to an upper portion of a mast to prevent vertical movement of the mast, and

(f) means for securing said bracket means to the support structure whereby the mast is rigidly anchored against vertical and lateral movement by said mounting means.

2. A mounting means for use in supporting a vertically extended mast on a ground surface, comprising:

(a) a base means for support of the mast having a clamp member secured thereto,

(b) said base means having a base plate centrally apertured and an integral, laterally extended portion of said base plate forming a first upright part of said clamp member,

(c) said clamp member having a second part releasably mounted on said first part whereby the lower end of the mast is extendable between said first part and said second part and supportable on the upper surface of said base plate, and

(d) said base plate having four downwardly extending sidewalls of trapezoidal shape with outwardly converging edges whereby said sidewalls are readily insertable within the ground surface for lateral stability.

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