June 26, 1962 R. D. RAYNOR 3,041,024

ANTENNA MOUNT

Filed Sept. 17, 1959 3 Sheets-Sheet 1

FIG. 2.

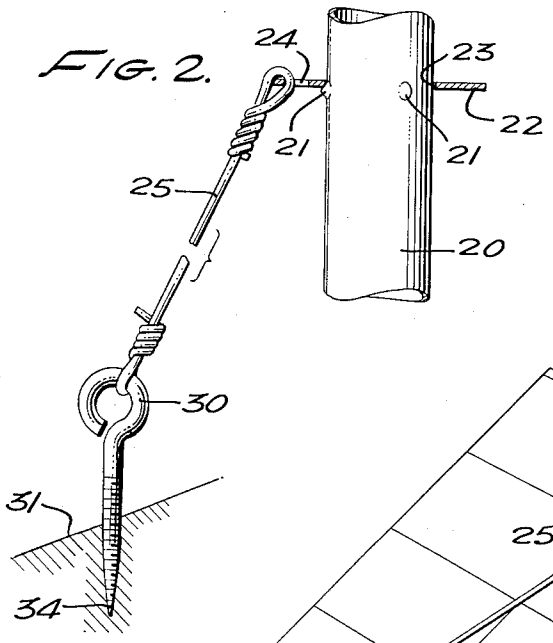
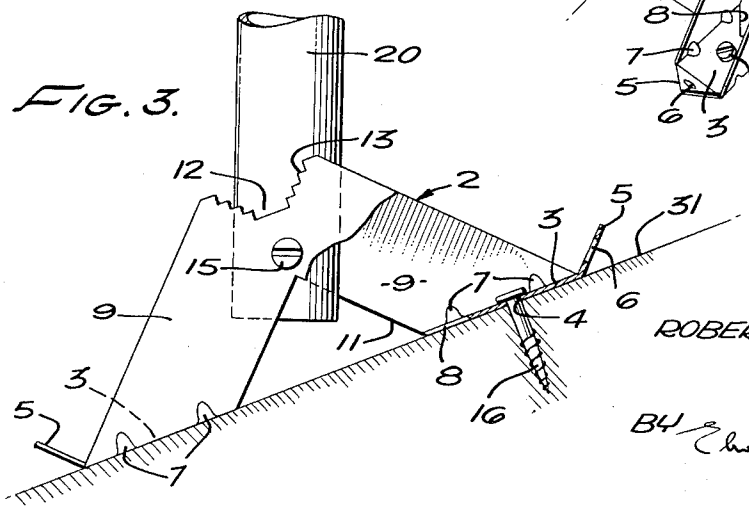


FIG. 1.

FIG. 3.



ROBERT D. RAYNOR
INVENTOR

BY Edmund M. Kirkpatrick

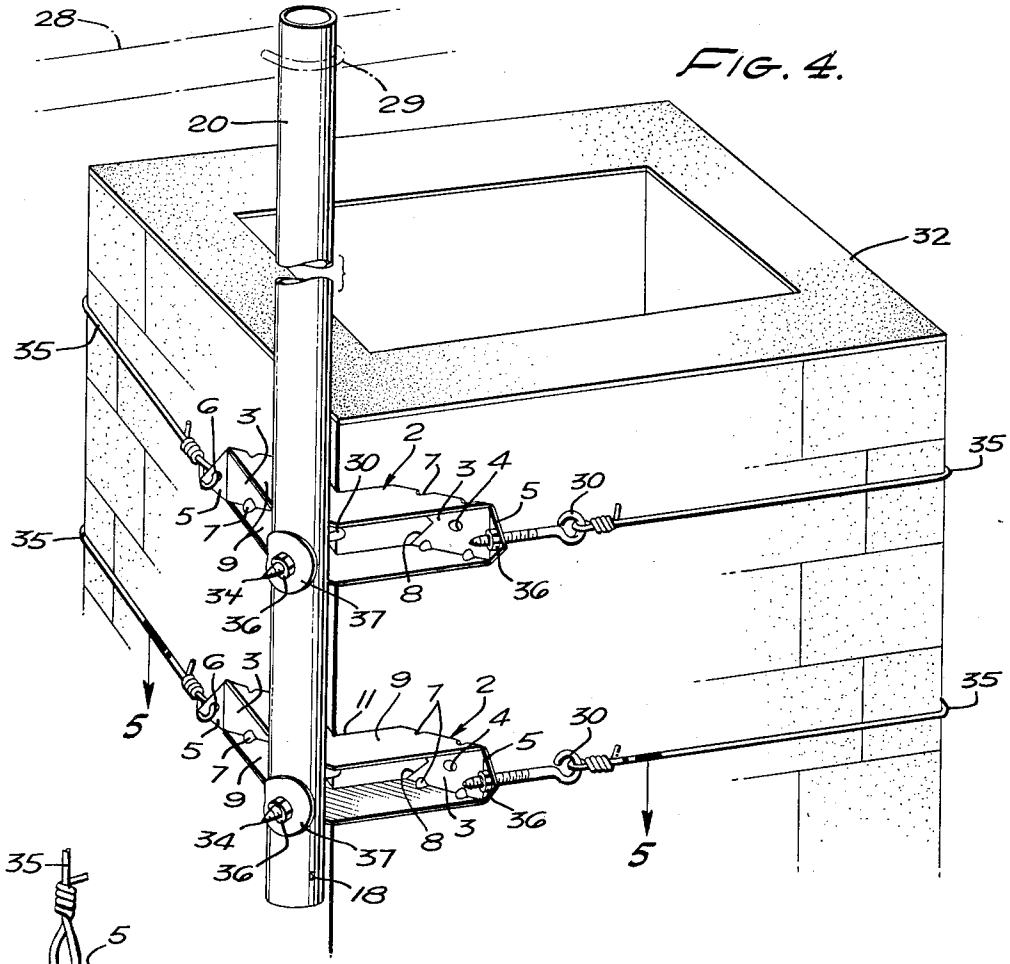
ATTORNEYS

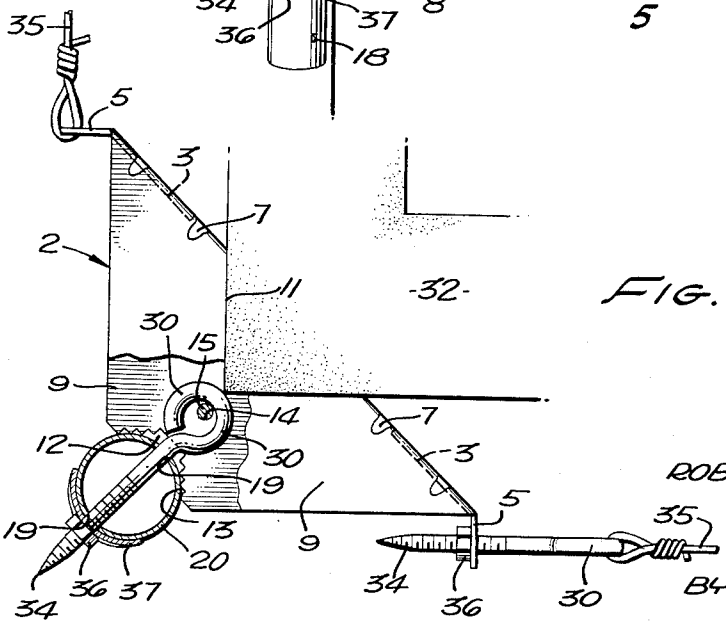
June 26, 1962 R. D. RAYNOR 3,041,024

ANTENNA MOUNT

Filed Sept. 17, 1959 3 Sheets-Sheet 2

FIG. 4.





-32-

FIG. 5.

ROBERT D. RAYNOR
INVENTOR

BY

ATTORNEYS

June 26, 1962 R. D. RAYNOR 3,041,024

ANTENNA MOUNT

Filed Sept. 17, 1959 3 Sheets-Sheet 3

FIG. 6.

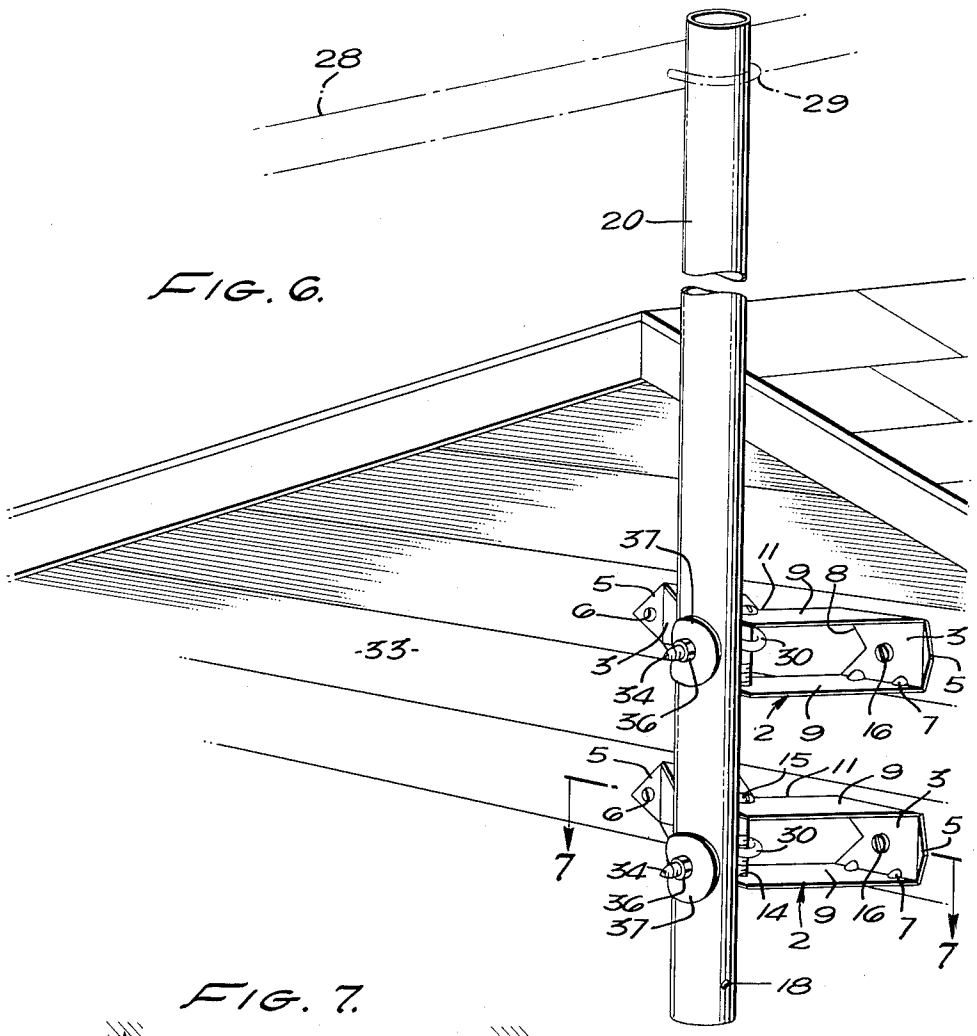
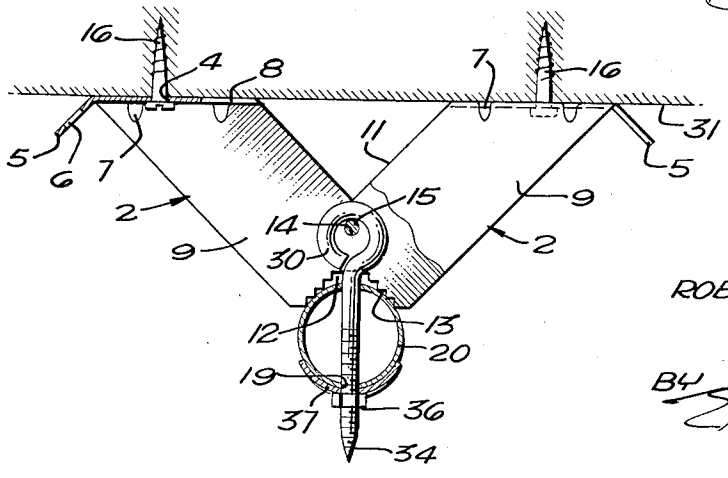


FIG. 7.



ROBERT D. RAYNOR
INVENTOR

BY

ATTORNEYS

United States Patent Office

3,041,024
Patented June 26, 1962

3,041,024
ANTENNA MOUNT

Robert D. Raynor, Reseda, Calif., assignor to Clear Beam Antenna Corporation, Canoga Park, Calif., a corporation of California

Filed Sept. 17, 1959, Ser. No. 840,681
7 Claims. (Cl. 248—43)

This invention relates to an antenna mount having a bracket which permits a pivot type mount on top of the roof, a wall mount on the side of a building, and an antenna mount for a chimney.

In the prior art, antenna mounts have generally been single purpose mounts. That is, the individual mounts were made for example, to be mounted only as a pivot mount on top of the roof, as a wall mount on a wall or as a chimney mount. This required every manufacturer and distributor to make and store, respectively, at least three types of antenna mounts. Needless to say, this requires considerably more storage space and capital investment than is required for storing an antenna kit which contains a mount adaptable to be secured to a roof, wall or a chimney. Throughout the United States the pivot type antenna mount is the most common and is used on a flat or slanted roof. However, in the Chicago area, for example, most antennas are mounted on chimneys whereas in Florida, where tile roofs tend to prevail, most antennas are mounted on the wall of the building structure.

According to the present invention, an antenna mount has been devised that can be sold in a single do-it-yourself kit and with a minimum of extra parts can be mounted on a roof, chimney or wall. In the prior art, three different types of brackets are required whereas, according to the present invention, one type of bracket is adaptable to be mounted on the top of a roof, on a wall, or on a chimney.

It is therefore an object of the present invention to provide an improved antenna mount.

It is a principal object of the present invention to provide an antenna mount bracket which can be used in place of three types of brackets, that is, for roof mounting, wall mounting, and chimney mounting.

It is a further object of the present invention to provide an antenna mount which will greatly reduce the required storage space for distributors who will have to stock only one mount instead of the three required in the prior art.

The invention also comprises novel details of construction and novel combinations and arrangements of parts, which will more fully appear in the course of the following description. However, the drawings merely show, and the following description merely describes, preferred embodiments of the present invention, which are given by way of illustration and example only.

In the drawings, like reference characters designate similar parts in the several views:

FIG. 1 is a perspective view of a pivot type roof mount embodiment of the invention;

FIG. 2 is a fragmentary view of one of the guy wires holding the mount shown in FIG. 1;

FIG. 3 is a fragmentary side elevational view of the mount shown in FIG. 1;

FIG. 4 is a perspective view of the invention used as a chimney mount;

FIG. 5 is a view taken along the lines 5—5 in FIG. 4;

FIG. 6 is a perspective view of the present invention used as a wall mount; and

FIG. 7 is a view taken along the lines 7—7 in FIG. 6.

The present invention is comprised in part of a bracket 2 as used in the various figures to support a tubular antenna mast 20. In FIGS. 1–3, the bracket 2 is used in a pivot or roof mount form, which is the most widely used type of antenna mounting means in the United States. As may be noted, the bracket 2 may be conveniently made from a square piece of metal of the proper gauge. The first step in making it is to cut out the square central portion which is used as the guy ring 22 in the pivot type mount. In the same stamping operation, the opening 23 in the guy ring may be made by the cutting of the pinion washers 37 as used in the chimney and wall mounts.

The bracket 2, as formed, may consist of two spaced base portions 3 and each of the base portions 3 have a hole 4 for the insertion of a screw or nail therein to secure the bracket to the roof or to a side wall of a building. At each of the outer ends of the base portions 3 are the bent ends 5 which may be conveniently formed in a plane at 45° to the base. The bent end portions 5 each have a hole 6 which are used in the chimney type mount.

In the right angle breaks formed between the base portions 3 and the side walls 9 of the bracket are the strengthening indentations 7. Inwardly of the two base portions 3 is the cut away portion 8 which is formed by the cutting of the square guy ring 22. The walls 9 on each side of the bracket have a cut away portion having edges which are jointed at their highest point to form a downwardly opening ninety degree V-shaped recess 11.

In the upper portions of the side walls 9 the generally V-shaped recesses 12 are cut and each of said upwardly opening recesses have serrated edges 13. A bolt hole 14, best seen in FIG. 5, is also punched into the two side walls between the top and bottom of the said V-shaped recesses 11 and 12, respectively, and in FIGS. 1 and 3, a bolt 15 is shown extending through holes 14 of the walls 9 and the holes 18, shown in FIG. 4, in the tubular mast 20 so as to secure the mast to the bracket. The nut threadedly engaged on the bolt 15 adjacent the second wall is not shown. The tubular mast 20 is thus pivotally mounted in the bracket and is held in a vertical position by means of the guy wires 25 which are secured at one end in holes 24 of the guy ring 22 and at the other end in a pinion screw eye 30 which is made to serve, according to the invention, as a turnbuckle, wood screw and pinion. In FIG. 2, the pinion screw eye 30 is used as a wood screw with the pointed threaded end 34 threadedly engaged in the shingle covered roof 31 on which the pivot type antenna mount is typically mounted. The guy ring 22 is supported upwardly on the mast 20 by means of projections 21 extending outwardly of the surface thereof. Also shown in FIG. 1 are the holes 19 extending through the mast 20, the thread holes being used for insertion of the pinion screw eyes to secure the mast to the bracket. The generally horizontal antenna 28 is shown fragmentarily in phantom outline as typically mounted to the mast 20 by a U-clamp 29.

In FIGS. 4 and 5, a second embodiment of the invention is shown where the two brackets 2 are held in place on the corner of a chimney 32 with the edges forming a ninety degree recess 11 in contact with the ninety degree corner of the chimney. Here, the wires supplied in the

kit are used as straps 35, one end of which is secured to a bent end 5 through the opening 6 therein and the other end of the wire is secured to pinion screw eye 30 which is used here as a turnbuckle. The pointed end of the screw 30 is secured to the other bent end 5 by a nut 36 which is used to tighten and hold the strap around the chimney. As shown in FIG. 5, the bent ends 5 have been bent so as to be substantially ninety degrees with the straps 35 and at substantially ninety degrees with the surface of the chimney 32.

To support the antenna mast 20 on the chimney, four of the pinion screw eyes 30 are required, two being required to hold the two straps 35 and the other two are used as pinions extending outwardly of the bracket 2 so as to hold the mast tube 20 against the serrations 13 of the bracket. The latter is accomplished by having the hole 15 extend through the eye of the pinion 30 and through the openings 14 in the bracket walls 9. Here, again, bolts 15 are held in place by a nut (not shown) adjacent one of the walls 9. The pinions 30 extend through the openings 19 in the tube 20 and are secured in place by means of a nut 36 with a washer 37 on the pinion 30 between the nut 36 and the tube 20. The washers 37, as aforestated, are cut from the center of the guy ring 22.

By having two of the brackets 2 secured tightly to the chimney and, in turn, supporting mast 20, an excellent antenna mount is provided to support the antenna 28 by means of the U-clamp 29. The mast is held very close to the wall of the chimney in the two V-shaped recesses 12 on the serrations 13 so as to provide a very strong supporting means with a minimum of metal in the brackets and straps.

In FIGS. 6 and 7, the third embodiment of the invention is shown. Here the mast 20 is secured to the brackets 2 in the same manner as in the chimney mount. The difference in the installation is that in this embodiment, the base portions 3 of the brackets are secured to the vertical wall of a building 33 by means of screws 16 instead of the straps 35. If there is excessive overhang on the roof of the building, the brackets will have to be mounted on blocks or other means outwardly of the wall so that the mast 20 will be outwardly of the roof overhang. Another means of making this installation on the wall is to have the mast extend through a drilled opening in the overhang portion of the roof.

It should be clear that by means of the present invention, three different types of antenna mounts may be inserted into one mount kit with a minimum number of parts. That is, bracket 2 replaces three other brackets and the excessive parts in the kit for any installation are very small in number and inexpensive as compared with the prior art which required three different types of kits and brackets.

By having only one kit for the three different installations, the supplier can much more easily meet the demand of his customers with less storage space and without fear of not having the right type of mount available for the individual demands.

The previous brackets for wall and chimney installations were required to be of heavier material because they had a much longer lever arm effect and, therefore, were more expensive in addition to being adaptable for only on type of installation.

Another salient feature of the invention is that in its use a serviceman is permitted to pick the easiest spot on a roof to install an antenna. That is, rather than having to climb on special ladders or work at precarious angles on a given roof, the serviceman may simply select the easiest place on the house to install the antenna and then put it up using the bracket provided in the present invention. Thus, the present invention not only makes the antenna installation easier but also makes it a safer one. Needless to say, installation of the mount in the safer and easier places makes it possible to save a considerable amount of time with a resulting benefit to both the serviceman and the consumer.

Although the invention has been described and illustrated in detail, it is to be clearly understood that the same is by way of illustration and example only and is not to be taken by way of illustration, the spirit and scope of the invention being limited only by the terms of the appended claims.

What is claimed is:

1. An antenna mount comprising: a bracket; a mast member, said bracket being secureable to a building structure; said bracket having a base, a side wall extending upwardly from one side of said base, a side wall extending upwardly from the opposite side of said base, said two side walls being substantially parallel, each of said side walls being generally of a V shape with the highest portion of said V being adjacent the top of said walls, each of said walls having upwardly opening approximately V-shaped recesses in the upper ends thereof, said upwardly opening V-shaped recesses having serrated surfaces; and means securing said mast member adjacent the upper ends of said side walls on said serrations including a bolt extending through both of said side walls parallel to the direction of said mast, a pinion screw eye having said bolt extending through the eye thereof and the screw portion of said screw eye extending through said mast member and having its screw end protruding therefrom, and a nut threaded on said screw end so as to hold said mast member in tight engagement against said serrations on said bracket side wall.

2. The invention according to claim 1 in which said mast is mounted on at least two of said brackets; said brackets being parallel and in vertical alignment.

3. The invention according to claim 2 in which outer ends of said base of said brackets are bent upwardly on the same side of said base as said side walls; each of said outer ends having an opening therethrough; said base having a portion cut away centrally thereof; said side walls extending upwardly from said cut away portion of said base having inverted V-shaped recesses continuing from said cut away portion upwardly into said side walls to form an approximate ninety degree angle centrally in said walls at the highest point of said inverted V-shaped recesses.

4. An antenna mount comprising: a pair of V-shaped plates; a base member fixed to each pair of mutually adjacent ends of said plates in positions holding said plates in substantially parallel positions, said plates having legs meeting at an angle of approximately 90° to fit around the corner of a building; a mast, the apexes of said plates being notched to receive said mast; means fixed with said plates holding said mast in a position in said plate notches extending in a longitudinal direction approximately perpendicular to the planes of said plates; and means for holding the legs of said plates against the perpendicular sides of the building at a corner thereof.

5. The invention as defined in claim 4, wherein said plate notches are serrated.

6. An antenna mount comprising: a pair of V-shaped plates; a base member fixed to each pair of mutually adjacent ends of said plates in positions holding said plates in substantially parallel positions, said plates having legs meeting at an angle of approximately 90° to fit around the corner of a chimney; a mast, the apexes of said plates being notched to receive said mast; means fixed with said plates holding said mast in a position in said plate notches extending in a longitudinal direction approximately perpendicular to the planes of said plates, said base members having upwardly bent ends; and cable means fixed to said upwardly bent ends of said base members for extending around the said chimney and holding the legs of

said plate against perpendicular sides of said chimney meeting at a corner thereof.

7. An antenna mount comprising: a pair of V-shaped plates; a base member fixed to each pair of mutually adjacent ends of said plates in positions holding said plates in substantially parallel positions; a mast, the apexes of said plates being notched to receive said mast; a screw eye extending through said mast and having means threaded onto the end thereof on the side of said mast opposite the eye of said screw eye; and a bolt extending perpendicularly through said plates below said plate notches and through the eye of said screw eye holding said mast in a position in said plate notches extending in a longitudinal direction approximately perpendicular to the planes of said plates.

References Cited in the file of this patent

UNITED STATES PATENTS

364,042	Richardson	May 31, 1887
2,530,740	Taylor	Nov. 21, 1950
2,628,796	Krizman	Feb. 17, 1953
2,667,318	Sesler	Jan. 26, 1954
2,718,941	Robinson	Sept. 27, 1955