June 20, 1967 A. R. BETHUNE ETAL 3,327,310

POLE TELEVISION MOUNTING WHEREIN THE UPPER AND LOWER POLE SECTIONS FORM A DIPOLE ANTENNA

Filed Feb. 28, 1964 4 Sheets-Sheet 1

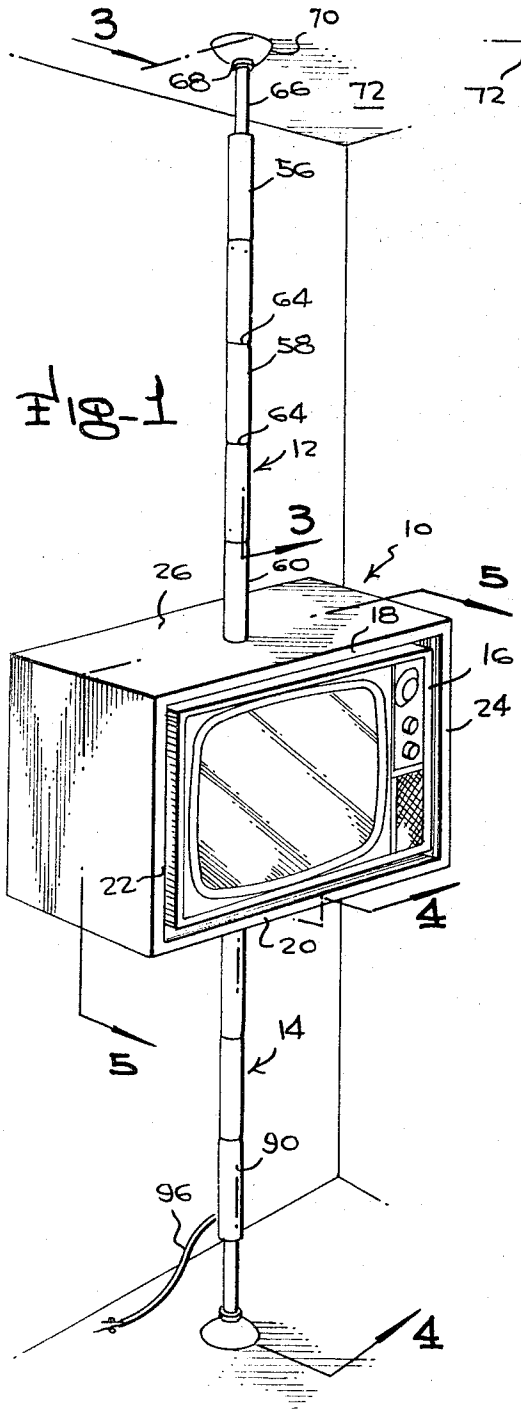

FIG 1

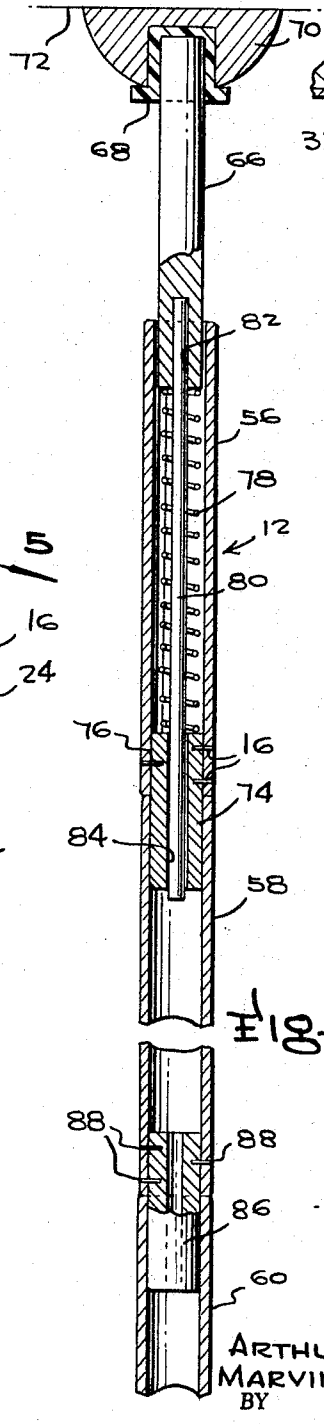

FIG 3

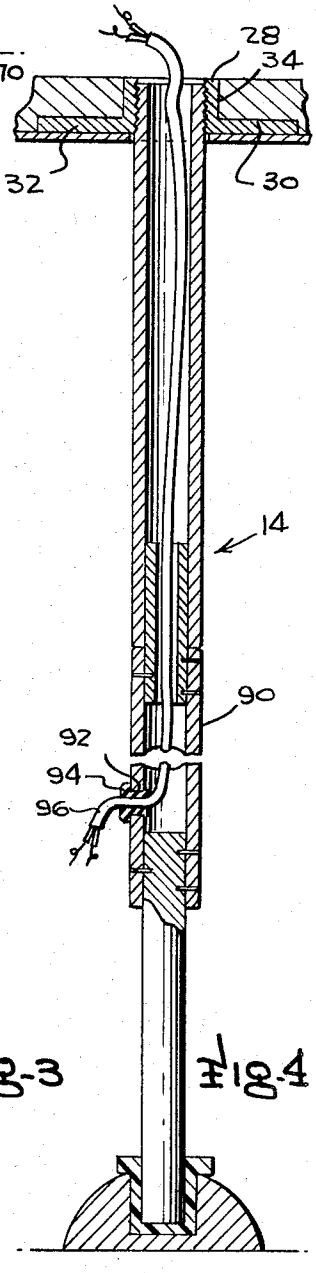

FIG 4

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FIG-2

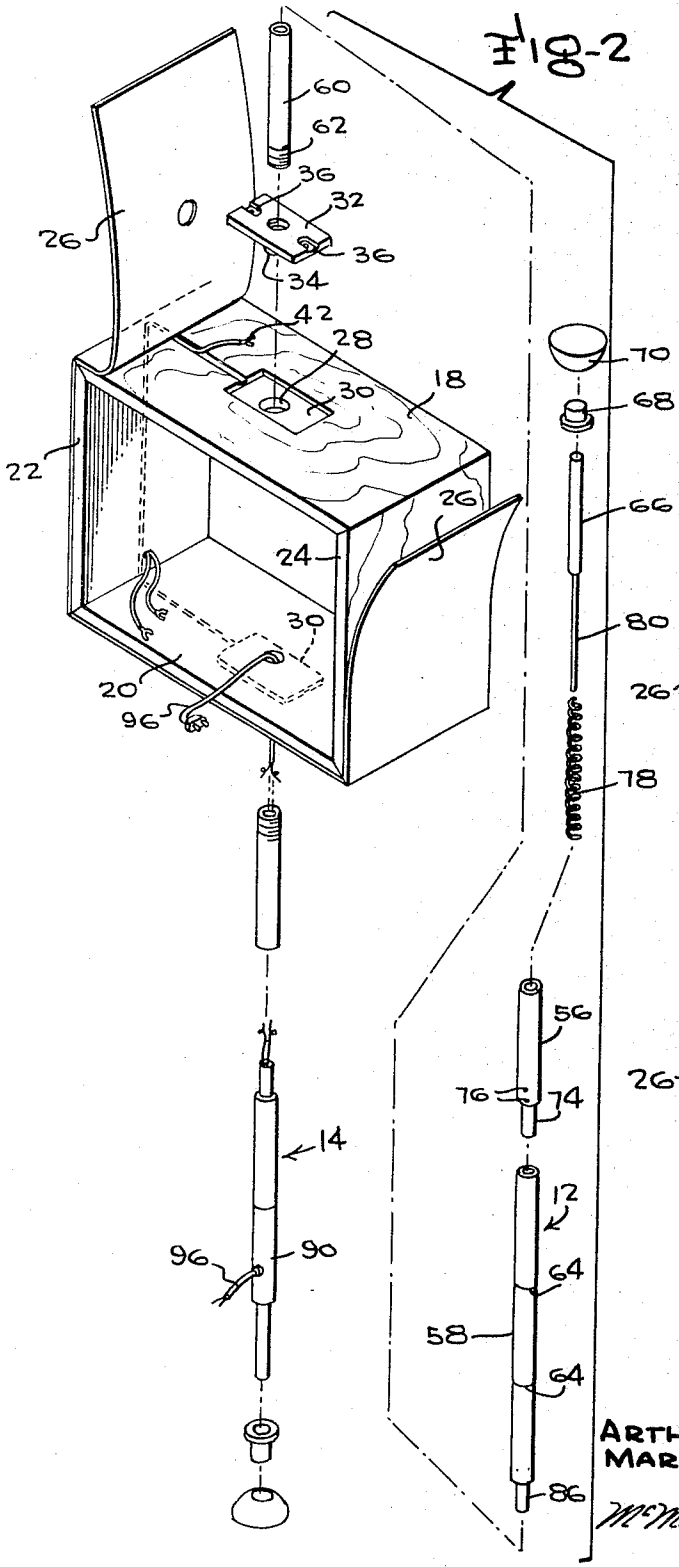
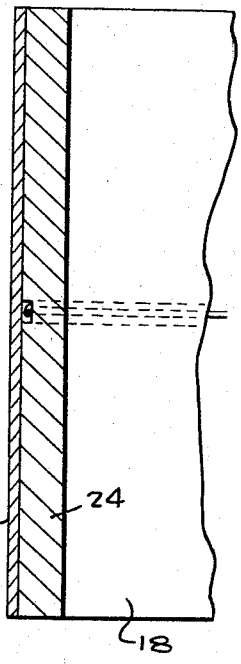


FIG-7



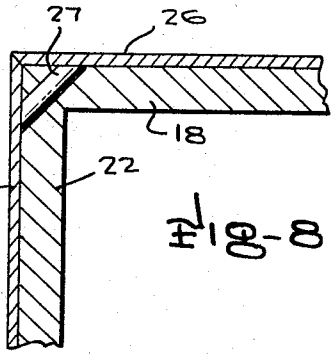


FIG-8

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FIG-5

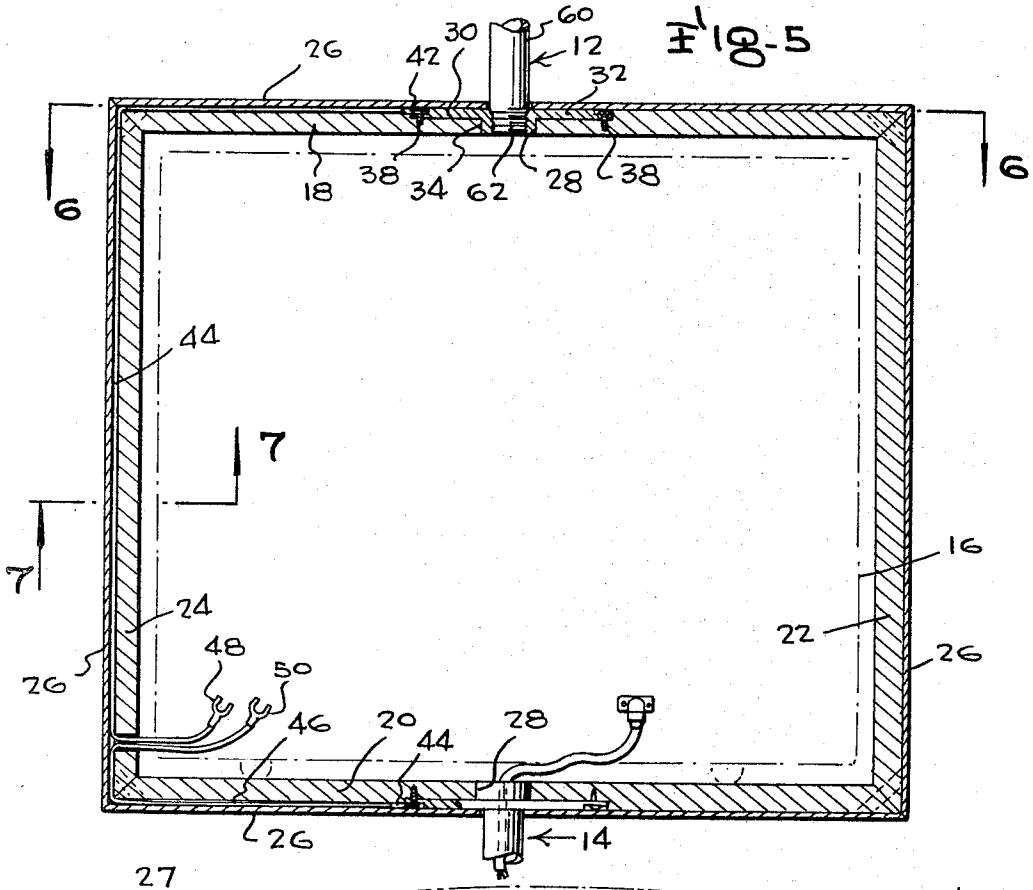
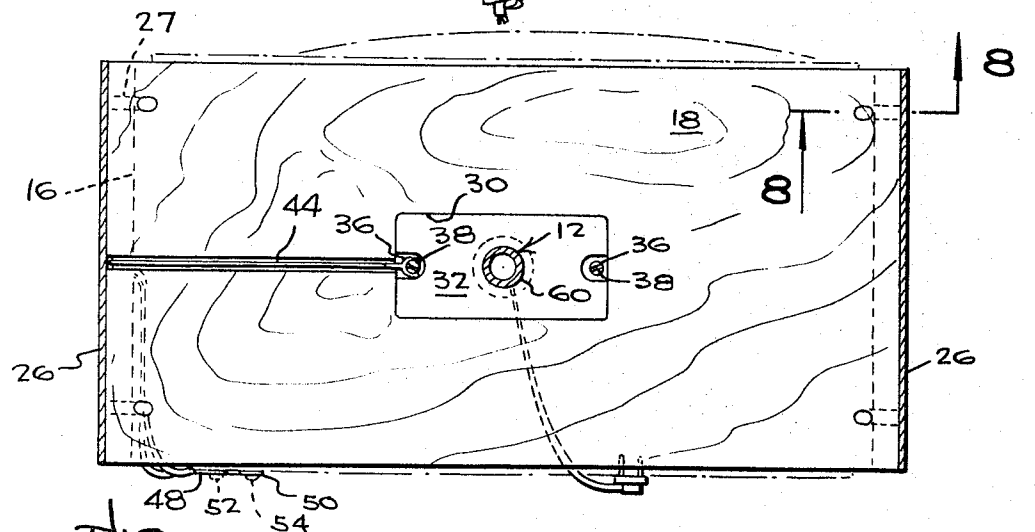


FIG-6



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Filed Feb. 28, 1964 4 Sheets-Sheet 4

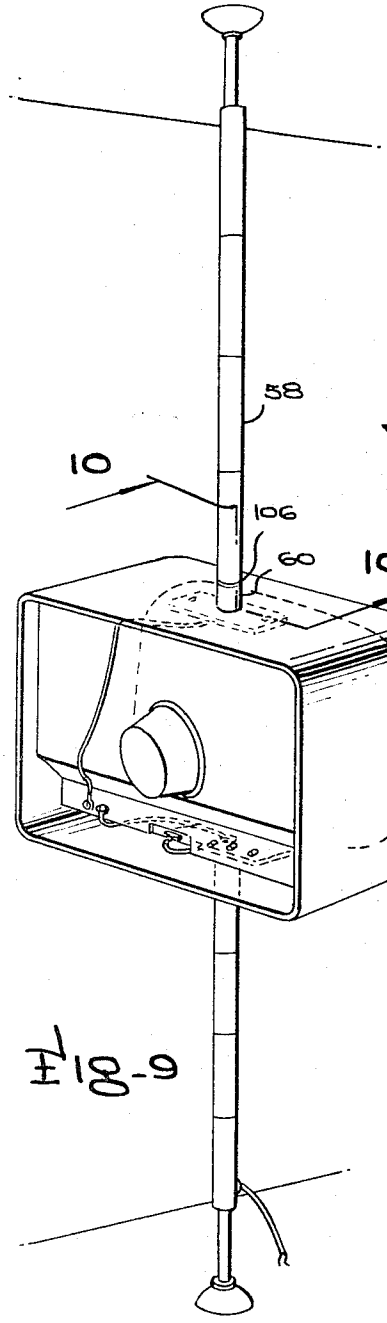

FIG-9

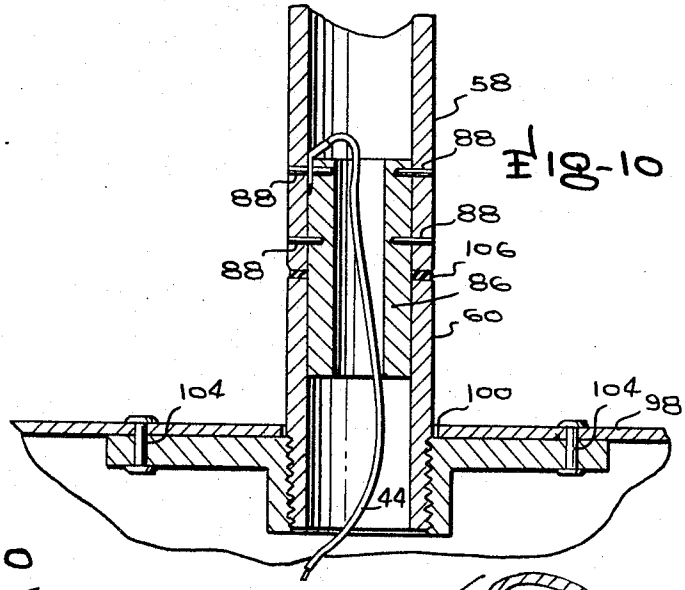

FIG-10

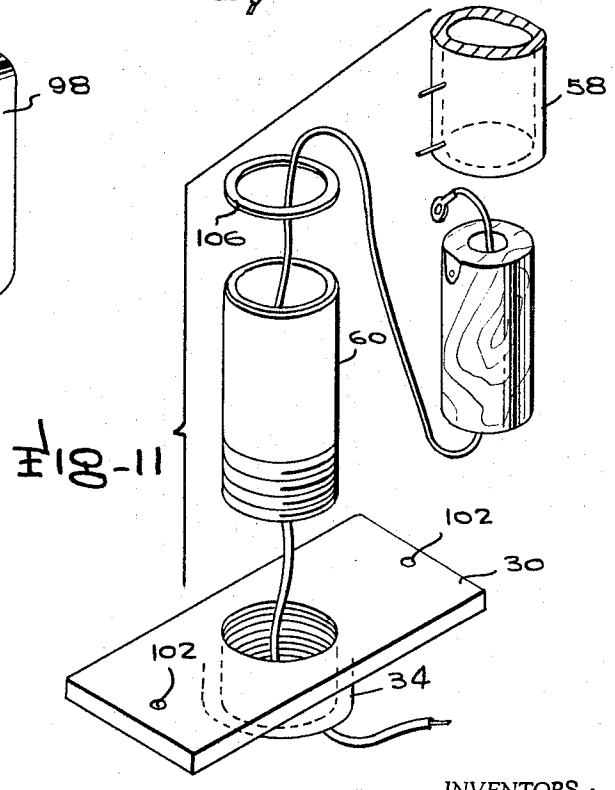

FIG-11

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POLE TELEVISION MOUNTING WHEREIN THE UPPER AND LOWER POLE SECTIONS FORM A DIPOLE ANTENNA

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10 Claims. (Cl. 343—702)

This invention relates to mountings for television sets, particularly the so-called "portable" sets which are supported on mounts, in elevated positions, in contrast to console types, which include a directly floor-supported cabinet.

It is a general object of the invention to provide a mount of minimum silhouette.

A further object is to provide a columnar mounting, as well as one which permits rotation of the set on a vertical axis. Another object, related to the foregoing, is to provide a vertically arranged trunnion mounting for the set.

Yet another object is to provide a pole mount for a television set, wherein upper and lower pole sections function also as antenna units.

The objects also include provision of a mount, as aforesaid, which, in addition, is simple of structure, easy of manufacture and assembly, durable in use, easy of maintenance, and low in cost.

These and other objects, which will be apparent, are attained by the present invention, a preferred form of which is described in the following specification, as illustrated in the drawing, in which:

FIGURE 1 is a perspective view of a support, with a television in place therein,

FIGURE 2 is a bracketed view, in perspective, showing the parts of FIGURE 1 in exploded form, along a staggered, axial line,

FIGURE 3 is a fragmentary sectional view, axially of the upper part of the pole mount, taken on the plane of the line 3—3 of FIGURE 1,

FIGURE 4 is a view similar to FIGURE 3, taken on the plane of the line 4—4 of FIGURE 1,

FIGURE 5 is a vertical, sectional view through the holding box, taken on the plane of the line 5—5 of FIGURE 1,

FIGURE 6 is a horizontal, sectional view through the holding box, taken on the plane of the line 6—6 of FIGURE 5,

FIGURE 7 is a fragmentary, sectional view of a detail, taken on the plane of the line 7—7 of FIGURE 5,

FIGURE 8 is a fragmentary, sectional view of a corner detail, taken on the plane of the line 8—8 of FIGURE 6,

FIGURE 9 is a view similar to FIGURE 1, showing a pole trunnion mount connected directly to a television set,

FIGURE 10 is a fragmentary, sectional view of a detail, taken on the plane of the line 10—10 of FIGURE 9, and

FIGURE 11 is a bracketed view, in perspective, showing the parts of FIGURE 10 in exploded form, on a staggered, axial line.

Referring to the drawings by characters of reference there is shown, in FIGURE 1, a rectangular open box 10, similar to a shadow box, mounted on upper and lower trunnions, 12, 14, respectively, for rotation in azimuth, to change the viewing angle, and housing a closely nested television set 16. In the particular embodiment shown, wooden box 10 has a main body which includes a top section 18, a bottom section 20, and end walls 22, 24,

all overlaid by plastic, or other veneering, 26. Diagonal dowels 27 are used to brace the corners of the wall sections.

As seen in FIGS. 2, 5 and 6, upper and lower plates 18 and 20 have central bores 28, (with registering bores in the veneering), and these are provided with external, counter-recesses 30, for nested mounting of rectangular plates 32, with central, tubular bosses 34, receivable in bores 28. The plates are also provided with end-opening recesses 36, bored to receive attaching screws 38, and also adapted to receive one of the antenna terminals 40, 42, at each plate, and the opposite ends of the antenna leads 44, 46 having terminals 48, 50, adapted for attachment to screws 52, 54, on the rear face of the television set. As will be seen, the pole sections 12, 14 are in electrical contact with plates 32, and therefore function as antenna segments.

The general makeup of the tubular, pole sections is revealed in FIG. 2, wherein the upper part 12 is seen as comprising a short, top segment 56, a long, intermediate segment 58, and a short, bottom segment 60, the latter having a threaded, lower end 62, received in internal threads in the sleeve boss 34 of top plate 32. It will be noted that middle segment 58 has annular grooves 64, to give an appearance harmonizing with the short, end segments 56 and 60.

The upper pole section 12 has a resilient, frictional grip on a ceiling by virtue of a spring-pressed, telescoping pin 66, slidably carried in top section 56, and rotatably engaging in a bearing cup 68, carried in a hemispherical escutcheon 70, the equatorial plane of which engages the ceiling 72. The top segment 56 is connected to middle segment 58 by a dowel 74, half of which is held in segment 56, where it is locked by pins 76, and half of which is friction-fitted in the upper end of segment 58. A compression coil spring 78, acts against dowels 74 and 66, urging escutcheon 70 against the ceiling. Preferably, a narrower, guide dowel 80 is carried in an end bore 82 in dowel 66, extends through spring 78, and is slidable in a central bore 84 in splint dowel 74. Tubes 56, 58 and 60 are preferably of aluminum, which may also comprise the material for bearing cup 68 and escutcheon 70, and the dowels 66, 74 and 80 may be of wood. Middle section 58 is connected to the bottom segment 60 by a dowel splint 86, secured to section 58 by pins 88, and frictionally held in segment 60.

Lower pole section 14 is identical in structure with upper section 12, except for being arranged in mirror-image relationship thereto, and, in the case shown, having a middle section only two-thirds as long as middle section 56. Also, the lowermost segment 90 of the lower part, corresponding to segment 56 of the upper part, has a lateral post 92, receiving a rubber grommet 94, which accommodates the power cord 96, which is thus led to the television set internally of pole section 14.

With structure of the general nature thus far described, the mounting of a television set may be accomplished to suit any of several situations, as required. For instance, by suitably choosing the length of the middle segments above and below the set, a proper elevation can be obtained, as for eye-height viewing by seated adults, or to locate it above the meddling fingers of very small children. In either case, the pole sections, while strong enough to serve their purpose, are nevertheless unobstrusive, and offer little or not obstacle to room-cleaning operations. Furthermore, in addition to serving as trunnions, for selective lines of sight in azimuth, the pole sections do double duty as antenna components. They may serve to hold lamps, also. This antenna is vertically polarized, non-directional, and center-fed, and has a half-wave, dipole configuration, presenting a reasonably good im-

pedance match to the television tuner input circuit. Some advantages are: the elimination of the horizontal directivity problem of the conventional, television antenna; minimization of "ghosting" problem due to multiple-path reception; elimination of unsightly, separate, antenna elements ("rabbit ears"); reasonable gain for local area reception, durability and ruggedness; and the availability of the basic material in large quantities.

In lieu of resort to the "shadow-box" holder, the pole supports may attach directly to the television set, as shown in FIGS. 9–11, and the adapting structure may be included at the factory as standard equipment.

Thus, as shown in FIGS. 9 and 10, a television set **98** has upper and lower openings **100**, receiving the bosses **34** of the plates **30**, which, in this case, may have simple bores **102**, to receive rivets **104**. In this case (FIG. 10) the lower segment **60** of the top pole part is separated from segment **58** by an insulating, plastic or rubber washer **106**, and the top lead **44** to the antenna passes through the hollow dowel **86**, its upper terminal being anchored on one of the pins **88**, in contact with sleeve **58**. A similar antenna connection is made on the under side of the set.

While a certain, preferred embodiment has been shown and describer, various modifications will be apparent, in the light of this disclosure, and the invention should not, therefore, be deemed as limited, except insofar as shall appear from the spirit and scope of the appended claims.

We claim:

1. A pole mount for a receiver, said pole mount having upper and lower sections, means to mount a receiver, said means being secured intermediate said upper and lower sections, said upper and lower sections being electrically insulated from one another, an electrical connection means on each section capable of being connected to an antenna terminal of the receiver, said upper and lower sections in combination with said electrical connection means acting as a dipole antenna feeding energy to the antenna terminals of the receiver.

2. The pole mount of claim **1**, and wherein said upper and lower sections define an axis of rotation, said receiver mounting means being rotatable around said axis of rotation.

3. The pole mount of claim **2**, and wherein the sections are provided at their ends with abutment elements respectively engageable with the floor and ceiling of a room, the ends of the sections being rotatably-seated in said abutment elements.

4. The pole mount of claim **3**, and wherein each abutment element is provided with a recess and a bearing cup mounted in the recess, the ends of the sections engaging in said bearing cups.

5. The pole mount of claim **1**, and wherein said means to mount the receiver is provided with insulating connection portions at its points of securement to said upper and lower sections.

6. The pole mount of claim **5**, and wherein said receiver-mounting means comprises a housing having top and bottom walls including insulating material at said points of securement to said upper and lower sections.

7. The pole mount of claim **5**, and wherein said upper and lower sections are provided with axial portions of insulating material adjacent said points of securement.

8. The pole mount of claim **1**, and wherein said electrical connection means comprises respective wires connected to the upper and lower sections adjacent their points of securement to the receiver-mounting means and of sufficient length to be connected to the antenna terminals of the receiver.

9. The pole mount of claim **8**, and wherein said receiver-mounting means comprises a housing having top, bottom and side walls, and said wires extend through portions of said walls.

10. The pole mount of claim **9**, and wherein respective metal plates are provided in the top and bottom walls of the housing, said upper and lower sections being threadedly-secured to said metal plates, said wires being respectively connected to said metal plates.

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