May 14, 1940.

A. T. MACE

2,200,888

SUPPORT FOR RADIO ANTENNAE

Filed Jan. 13, 1940

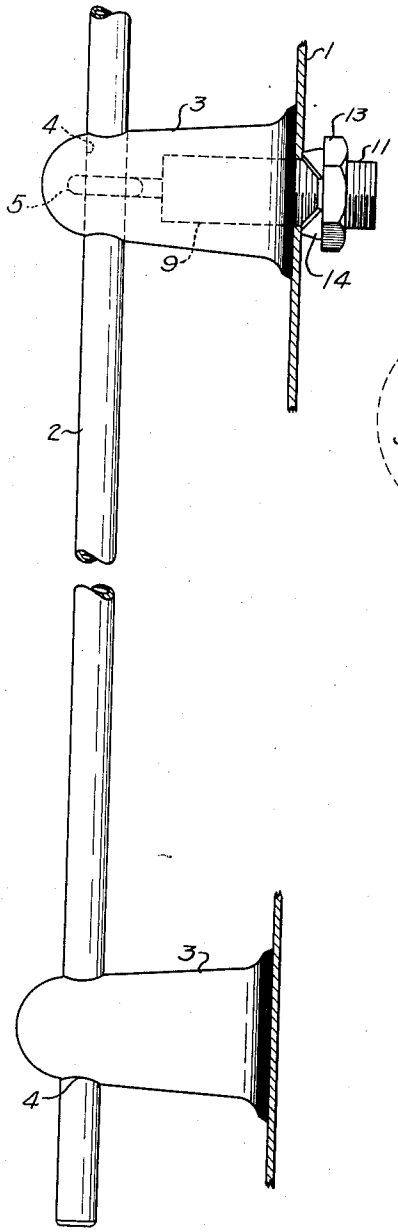


Fig. 1

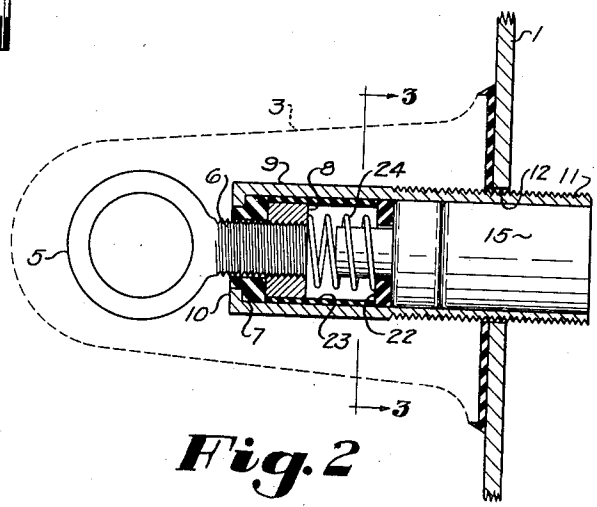


Fig. 2

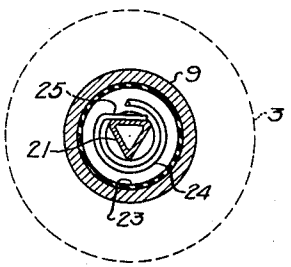


Fig. 3

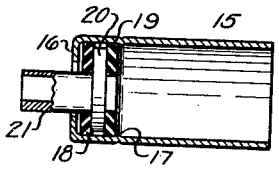


Fig. 4

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Patented May 14, 1940 2,200,888

UNITED STATES PATENT OFFICE

2,200,888

SUPPORT FOR RADIO ANTENNAE

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Application January 13, 1940, Serial No. 313,767

8 Claims. (Cl. 250—33)

This invention relates, as indicated, to supports for radio antennae, but has reference more particularly to a support for an automobile antenna of the so-called mast or telescopic type.

The primary object of the invention is to provide a novel and advantageous assembly of the eye-bolt and sleeve, such as is used in supports for the mast type of antenna.

Another object of the invention is to provide an efficient and satisfactory electrical connection between the antenna and lead-in wire under any and all conditions encountered during the operation of an automobile.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawing, forming a part of this specification, and in which like numerals are employed to designate like parts through the same,

Fig. 1 is a view, in side elevation, illustrating the mounting of an antenna on an automobile body by means of a support embodying the invention;

Fig. 2 is a cross-sectional view through the upper support of the antenna;

Fig. 3 is a vertical cross-sectional view, taken on the line 3—3 of Fig. 2; and

Fig. 4 is a cross-sectional view through the socket for the terminal of the lead-in cable.

Referring more particularly to the drawing, there is disclosed a mast-type antenna adapted to be mounted on the side of the cowl 1 of an automobile body, said antenna comprising an antenna rod 2 which is which is carried by two vertically spaced frustro-conical shaped insulators or supports 3, these insulators having vertically extending openings 4 through which the rod 2 extends.

The rod 2 is supported in the openings 4 and against the insulators 3 by means of devices which will now be described.

The upper of these devices comprises an eye-bolt 5 having a threaded shank 6 which passes freely through a shoulder washer 7 of "Bakelite" or similar material, and is in threaded engagement with a nut 8, preferably made of brass.

The nut 8 is slidably mounted within a metallic sleeve or thimble 9, having an inturned flange 10 at its forward end, between which and the nut 8, the washer 7 is interposed.

The sleeve 9 is exteriorly threaded as at 11, and such threaded portion passes through an opening 12 in the cowl 1, a nut 13 being secured to such threaded portion to thereby secure the sleeve, and consequently the insulator, to the cowl. A ground washer 14 is interposed between the nut 13 and the inner surface of the cowl 1.

Secured within the rear threaded portion 11 of the sleeve 9 is a brass socket 15 having an inturned flange 16 at its forward end, between which and an annular indentation 17 in the sleeve, a pair of spaced Bakelite washers 18 and 19 is interposed. Between the washers 18 and 19 is interposed the base flange 20 of a lead-in cable terminal socket 21, which, as shown in Fig. 3, is of triangular cross-section. The terminal 21 is thus fully insulated from the socket 15.

Adjacent the outer surface of the flange 16 of the socket 15 is disposed a washer 22 of Bakelite or the like, this washer being maintained in spaced relation to the washer 7 by means of a cylindrical spacer sleeve 23 formed of Bakelite.

For the purpose of establishing an electrical connection between the nut 8 and the terminal socket 21, a coiled compression spring 24 is provided, which is interposed between the nut 8 and the washer 22 and has a flattened end portion 25, which, as shown in Fig. 3, bears on one of the faces of the terminal socket 21.

It is thus seen that, irrespective of any wear of the metallic parts of the support, and of vibration of the automobile in use, the coil 24 at all times provides a positive satisfactory electrical connection between the antenna and its lead-in cable (not shown).

Moreover, the assembly is rugged, compact and well-adapted for usage under all conditions.

It will be understood, of course, that the invention is not limited to the specific form illustrated in the drawing and that various modifications may be resorted to without departing from the scope of the invention.

I therefore particularly point out and distinctly claim as my invention:

1. In an automobile radio antenna, the combination of an antenna rod and means for securing said rod to the cowl of the automobile, said means comprising a metallic sleeve, a nut within said sleeve and insulated therefrom, an eye-bolt secured to said nut, a lead-in cable terminal socket secured within said sleeve and insulated therefrom, and a coil spring interposed between said nut and socket.

2. In an automobile radio antenna, the combination of an antenna rod and means for securing said rod to the cowl of the automobile, said means comprising an insulator, a sleeve integrally joined to said insulator and having a threaded portion extending through said cowl, a nut secur-

ing said sleeve to said cowl, spaced metallic elements adapted to establish an electrical connection between said antenna rod and the lead-in cable of the radio set, and a coil spring interposed between said elements.

3. In an automobile radio antenna, the combination of an antenna rod and means for securing said rod to the cowl of the automobile, said means comprising an insulator, a sleeve disposed within said insulator and having a threaded portion extending through said cowl, a nut securing said sleeve to said cowl, an eye-bolt projecting from and insulated from said sleeve and adapted to embrace said antenna rod, a lead-in cable terminal socket within and insulated from said sleeve and spaced from the shank of said eye-bolt, and a resilient connection between said eye-bolt and socket.

4. An eye-bolt and sleeve assembly for radio antennae, said assembly comprising a sleeve having a threaded portion, an eye-bolt insulated from said sleeve, the shank of which is disposed within said sleeve and the eye of which projects from said sleeve, a lead-in cable terminal socket within and insulated from said sleeve and spaced from the shank of said eye-bolt, and a resilient connection between said eye-bolt and socket.

5. An eye-bolt and sleeve assembly for radio antennae, said assembly comprising a sleeve, an eye-bolt projecting from and insulated from said sleeve, a lead-in cable terminal socket of triangular cross-section within and insulated from said sleeve and spaced from the shank of said eye-bolt, and a coil spring interposed between said eye-bolt and socket, said spring having a flattened end portion bearing against one of the faces of said socket.

6. An eye-bolt and sleeve assembly for radio antennae, said assembly comprising a sleeve, a nut within said sleeve, an eye-bolt projecting from and insulated from said sleeve and in threaded engagement with said nut, an insulating washer disposed between said nut and one end of said sleeve, an element within said sleeve having a lead-in cable terminal socket supported thereby and insulated therefrom and from said sleeve, a second insulating washer adjacent said element and disposed about said socket, and a spacer sleeve between said insulating washers.

7. In an automobile radio antenna, the combination of an antenna rod and means for securing said rod to the cowl of an automobile, said means comprising a metallic sleeve, a nut within said sleeve and insulated therefrom, an eye-bolt secured to said nut, a lead-in cable terminal socket secured within said sleeve and insulated therefrom, and means interposed between said nut and socket for establishing an electrical connection therebetween.

8. An eye-bolt and sleeve assembly for radio antennae, said assembly comprising a sleeve having a threaded portion, an eye-bolt insulated from said sleeve, the shank of which is disposed within said sleeve and the eye of which projects from said sleeve, a lead-in cable terminal socket within and insulated from said sleeve and spaced from the shank of said eye-bolt, and means establishing an electrical connection between said eye-bolt and socket.

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