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MEANS AND METHOD FOR SECURING A RADIO TO A CAB ROOF

Filed March 8, 1960

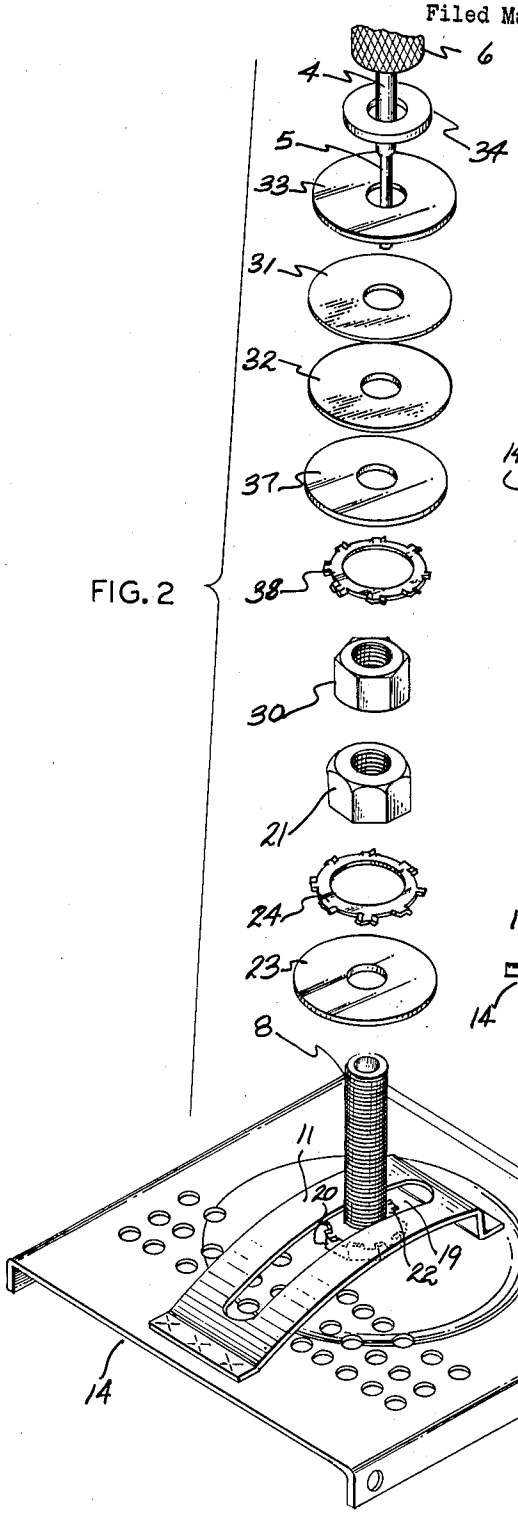


FIG. 2

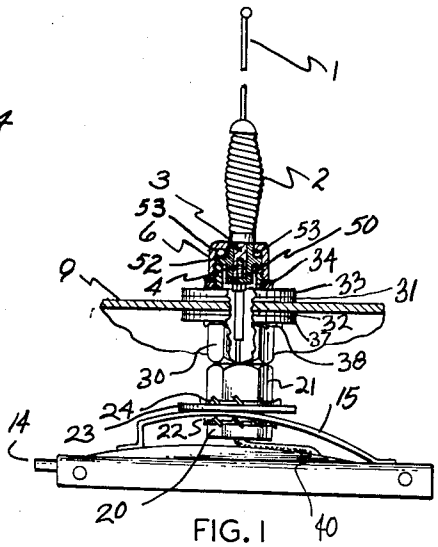


FIG. 1

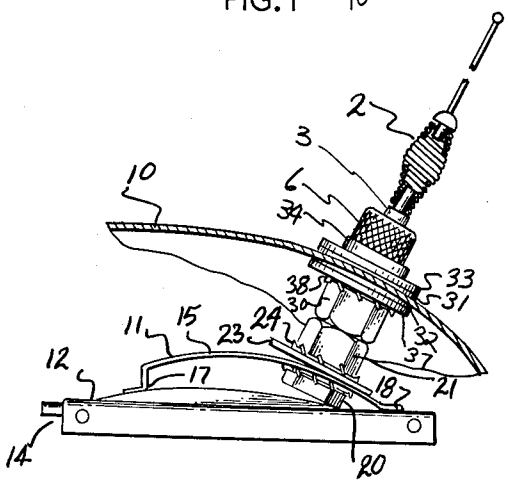


FIG. 3

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MEANS AND METHOD FOR SECURING A RADIO TO A CAB ROOF

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The present invention relates to an antenna and radio support structure and more particularly to a means for attachment of an antenna and radio to the roof of a truck cab or the like.

Truck cabs are built very often with insufficient room under the dashboard for a radio. In such cabs, the radios are normally attached to the roof of the cabs, with the antennas projecting through the cab roofs. In any such installation the radio must be forward of the driver and tilted in such a manner as to permit the driver to reach up and have ready access to the radio knobs. This means that the radio must normally be located in a curved portion of the cab roof substantially above the dashboard.

The present invention provides a simple and inexpensive construction for securing a radio and antenna to any desired portion of a cab roof. Simple means are also provided for adjustment of the radio for a desired tilt with the angle of tilt adjustable for cabs of different design. In addition, unitary securing means are provided for supporting and rigidly securing both the radio and antenna in such a manner as to facilitate their removal for repairs or other purposes. Further, the antenna may be removed for repair or other purposes without the necessity of removing the radio. The structure also permits the adjustment of the radio without removal of or loosening of the antenna while maintaining a water-tight seal at the point at which the antenna passes through the cab roof.

These and other features of the present invention will be more clearly understood when considered in connection with the accompanying drawing in which:

FIG. 1 is a cross sectional elevation through a flat portion of a cab roof showing the invention,

FIG. 2 is an exploded perspective view of the invention, and,

FIG. 3 is a cross section through a cab roof showing the invention attached to the cab at a curved portion of the cab roof.

The antenna **1** having a helical spring support **2** is mounted on a base **3**. The base **3** internally threaded at its lower end is adapted to threadingly engage the externally threaded upper end of the probe **4**. This probe **4** terminated at its lower end in a narrowed shoulder section **5**. The base **3** fits into a cylindrical insulating bushing **50** with the probe **4** projecting upwardly through the bottom of the bushing **50** into threaded engagement with the base **3**. A nut **51** threaded onto the probe **4** secure the base **3**, probe **4** and bushing **51** together. A freely rotatable collar **6** is rotatably mounted on the bushing between a flange **52** integral with the bushing **50** and the support **2**. An O-ring, coaxial with the bushing **50** fits between the flange **52** and upper wall **53** of the collar thereby forming a watertight seal. The collar **6** is internally threaded at its open lower end and is threaded onto the externally threaded shaft **8** at its upper end.

The externally threaded shaft **8** projects through the cab roof illustrated at **9** in FIG. 1 and **10** in FIG. 3. The lower end of the shaft **8** projects through the radio supporting bracket **11** which is rigidly secured to the upper casing wall **12** of a radio. The radio of which wall **12** is a part may be of any conventional design, but preferably has the control knobs at the end, indicated at **14**, FIG. 2. The bracket **11** is formed with an arcuate

sector **15** and is secured at its ends **17** and **18** to the wall **12** by suitable means such as welding (FIG. 3). The bracket **11** is formed with an elongated slot **19**, FIG. 2, through which the shaft **8** projects. The shaft **8** may be adjustably secured at selected positions along the slot **19** by means of nuts **20** and **21** which are threaded onto the shaft **8** respectively above and below the bracket **11**. Lock washer **22** is positioned between the bracket **11** and nut **20**, while washer **23** and lock washer **24** are positioned between the bracket **11** and nut **21**. The shaft **8** is secured to the roof or the cab illustrated at **9** in FIG. 1 and **10** in FIG. 3 by nut **30** and threaded collar **6** positioned respectively below and above the cab roof. In order to effect a water-tight seal, rubber washers **31** and **32** are positioned respectively above and below the cab roof. The metal washer **33** is positioned above washer **31**. Above washer **33** is a smaller rubber gasket **34**. Positioned below and adjacent washer **32** are metal washer **37** and lock washer **38**.

In FIG. 3 the antenna is inclined forward due to its position at the bend in the cab roof. However, the radio is maintained in a horizontal plane. While the radio shown in FIG. 1 is in a horizontal plane and parallel to the roof **9**, it may be inclined with respect to the roof **9** by loosening the nut **20** and turning the radio until a desired inclination is obtained.

The antenna may be connected to the radio through the casing **12** by means of a cable **40** which extends upwardly through the roof **12** and internally through the threaded shaft **8**. The wire **40** may be connected to a female receptacle mounted internally of the threaded shaft **8** and adapted to receive the probe **5**.

What I claim is:

1. A device for securing an antenna and radio casing to a roof comprising an arcuate bracket having an elongated slot therein secured to a wall of a radio casing, a threaded shaft adapted to project through said slot and said roof, nuts threaded on said shaft on either side of said bracket adjustably securing said bracket and shaft together, resilient insulating washers positioned on said shaft and adapted to be positioned on either side of said roof, another nut and a collar threaded on said shaft outside of said insulating washers securing said shaft to said roof, a base for said antenna, a downwardly projecting probe threadingly engaging said base, an insulating bushing having an integral flange projecting outwardly therefrom, said bushing coaxial with and surrounding said base, means fixing said bushing to said base, said collar having an inwardly extending flange in spaced facing relation with said integral flange, and an O ring interposed between and adapted to engage said flanges in a substantially watertight seal.

2. A device for securing an antenna as set forth in claim 1 wherein said probe projects through and is secured to the base of said bushing.

3. A device as set forth in claim 1 wherein said insulating bushing is cylindrical in shape with said insulating flange extending outwardly from the outer wall thereof, said base projecting into said cylinder.

4. A device for securing an antenna and radio casing to a roof comprising a threaded shaft adapted to project through a roof, means for adjustably securing said shaft intermediate its ends to said roof, means for adjustably securing a radio casing at the lower end of said shaft, and means removeably securing an antenna at the upper end of said saft.

5. A device as set forth in claim 4 wherein said means securing said shaft to said radio casing comprises an arcuate bracket having an elongated slot extending longitudinally thereof and a pair of nuts threaded on said shaft above and below said bracket adjustably securing said bracket to said shaft.

6. A device as set forth in claim 4 wherein said means removeably securing said antenna comprises a base and a probe extending downwardly therefrom adapted to project into said shaft, an insulating bushing enclosing and engaging said base, a threaded collar coaxial with and surrounding said bushing, and means in part formed on said collar and said bushing for interengagement thereof,

said collar adapted to thread onto the upper end of said shaft.

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