United States Patent

Byars

[15] **3,702,480**

[45] **Nov. 7, 1972**

[54] **ELECTRICAL CONNECTOR FOR COUPLING AN EXTERNAL RECEIVER TO A MOBILE WHIP ANTENNA**

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[52] **U.S. Cl.**.....**343/715,** 343/906, 174/70 R, 174/84 R

[51] **Int. Cl.**.....**H01q 1/32**

[58] **Field of Search**.....343/702, 720, 711, 713, 715, 343/906, 70 R; 174/84 R

[56] **References Cited**

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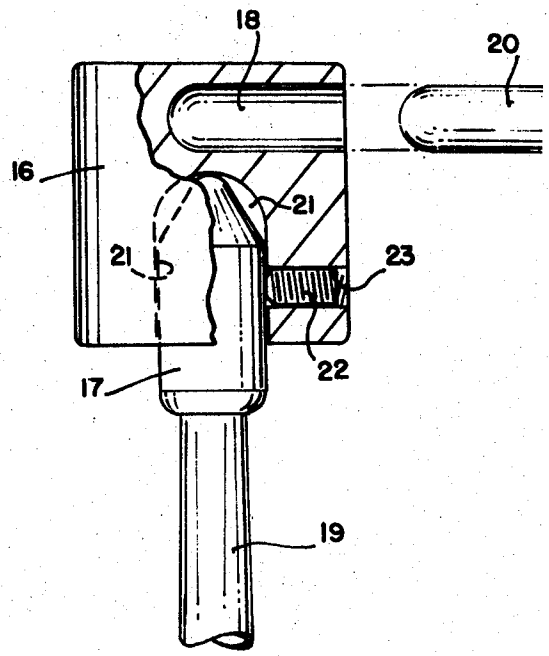
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Primary Examiner—Eli Lieberman
Attorney—James D. Givnan, Jr.

[57] **ABSTRACT**

An antenna tip is disclosed for use in conjunction with a truck mounted antenna with the tip being configured to receive an antenna lead plug whereby a second radio may utilize the truck antenna. The tip removably receives the plug in frictional engagement to retain same yet permitting convenient disengagement. A modified form of the invention is in the form of an attachable tip structure mountable to existing antenna tips and having locking means to prevent loss during vehicle travel.

1 Claim, 5 Drawing Figures



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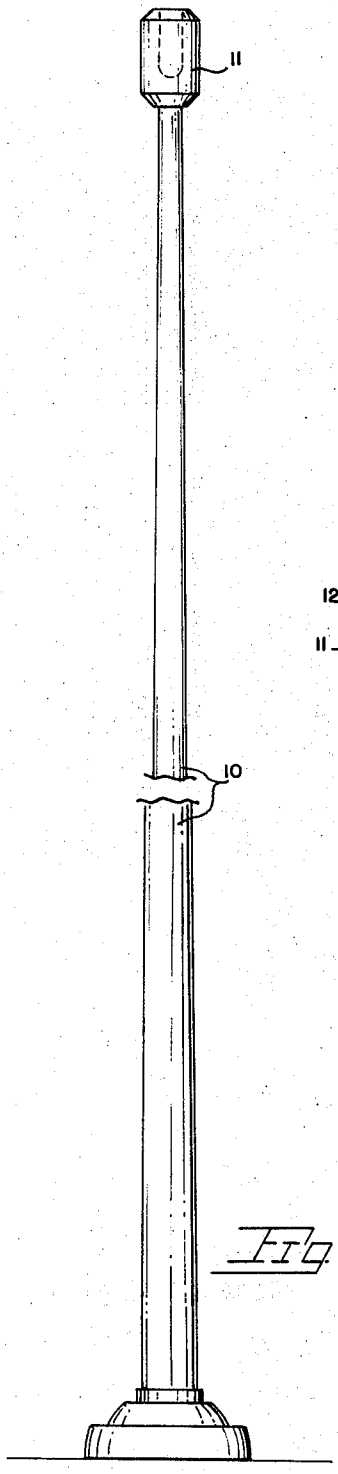


Fig. 1

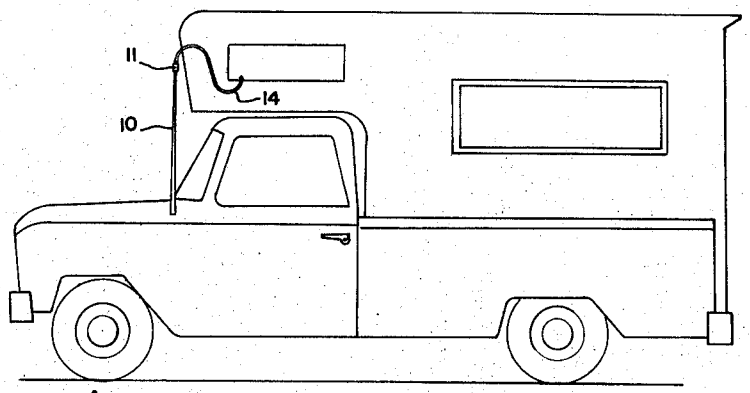


Fig. 2

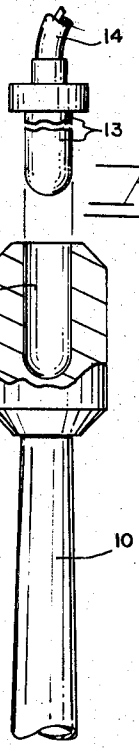


Fig. 3

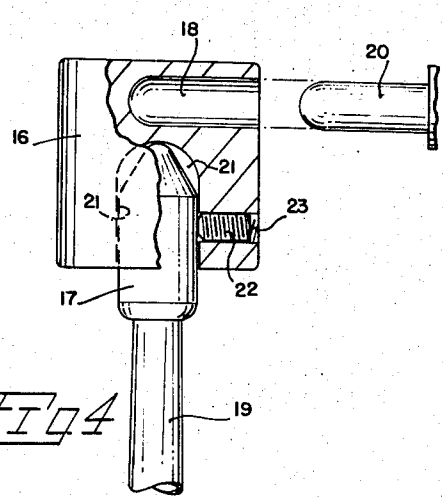


Fig. 4

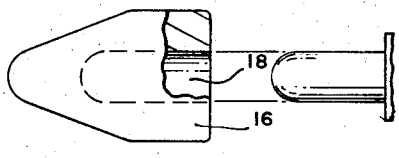


Fig. 5

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ELECTRICAL CONNECTOR FOR COUPLING AN EXTERNAL RECEIVER TO A MOBILE WHIP ANTENNA

BACKGROUND OF THE INVENTION

The present invention relates generally to radio antennas for vehicles for the reception of commercial broadcast frequencies and in particular to antennas mounted on trucks for carrying camper bodies.

With the advent of the wide use of metal bodied camper units the problem has arisen of providing an adequate antenna for a radio used within the camper unit. The effectiveness of a radios built-in antenna within a metal camper body is reduced by reason of the campers metal wall structure. As the size of such camper units does not permit the mounting of telescopic antennas thereon they must rely on exterior temporarily makeshift antennas which, of course, must be set up and taken down each time the camper is moved. Attempts to temporarily attach an antenna lead to the antenna of the truck has not provided the answer to this problem as the makeshift attachment is not adequate to conduct and adequate signal to the antenna lead of the camper radio.

SUMMARY OF THE INVENTION

The present invention concerns the modification of a conventional antenna tip structure while a second form of the invention provides a socket fitting, attachable to the tip of an existing antenna structure.

In the first form of the invention said metal tip is permanently mounted to the upper end of an otherwise conventional antenna structure. The tip is somewhat larger than a conventional antenna tip for the purpose of providing an internal socket for reception of a plug member of a lead from the radio antenna input terminal.

The remaining form of the invention is embodied within an attachable tip for an existing truck mounted antenna. The attachable tip includes both a socket receptacle and locking means for securing same to the antenna tip. As shown the attachable tip may be of streamlined configuration.

BRIEF DESCRIPTION OF THE DRAWING

In the accompanying drawing:

FIG. 1 is an elevational view of an antenna structure embodying one form of the present invention,

FIG. 2 is a side elevational view of a pickup truck and camper unit with a radio antenna lead in attachment with the upper end of the truck antenna,

FIG. 3 is an enlarged detail view of the truck antenna tip with a radio antenna plug removed therefrom,

FIG. 4 is a view similar to FIG. 3 but showing a modified form of the invention in the form of an attachment for a truck radio antenna, and

FIG. 5 is a plan view of FIG. 4.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

With continuing reference to the accompanying drawings wherein applied reference numerals indicate parts similarly identified in the following specification, the reference numeral **10** indicates a telescopic radio antenna of the general type widely used on various types of vehicles. The antenna is shown sectioned with intermediate tubular telescopic sections removed for convenience of illustration.

The novel tip structure of the antenna is indicated at **11** which comprises a solid metal body secured in the normal manner to the uppermost telescopic section. The tip structure defines a cylindrically walled recess **12** for reception of a plug member **13** the latter being in circuit with a shielded lead **14** terminating in circuit with a radio antenna input. The plug member **13** is of conventional shape for frictional engagement with the cylindrical walls defining the recess **12**.

The modified form of the invention viewed in FIGS. **4** and **5** provides an attachable tip structure **16** for use in conjunction with the antennas existing tip structure indicated at **17** of a truck antenna **19**. The structure **16** defines a cylindrically walled recess at **18** of a depth to frictionally receive and retain an antenna lead plug member **20**.

Extending upwardly from the bottom wall of the detachable tip structure **16** is a recess **21** of a size to receive the existing tip **17** of the truck antenna **19**. Locking means in the form of a set screw **22** is carried in a threaded recess **23** of the attachable tip structure.

As best viewed in FIG. **5** tip structure may be of streamlined configuration for obvious reasons.

While I have shown but two embodiments of the invention it will be apparent to those skilled in the art that the invention may be embodied still otherwise without departing from the spirit and scope of the invention.

Having thus described the invention what is desired to be secured under a Letters Patent is:

1. Attachable tip structure for attachment to a telescopic radio antenna mounted exteriorly of a truck body, said attachable tip structure comprising a solid metal body having an inwardly extending cylindrical wall defining an elongate recess, said recess adapted to removably receive a plug member having a lead terminating in circuit with the antenna input of a radio receiver located in a camper body carried by the truck, said tip structure additionally defining a recess adapted to receive the conventional tip structure of the antenna, and locking means carried by said attachable tip structure engageable with said conventional tip structure when the latter is disposed within the tip receiving recess of the attachable tip structure.

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