Oct. 1, 1957 G. SNYDER 2,808,278

REPLACEABLE ANTENNA STAFF

Filed March 21, 1957

FIG. 1.

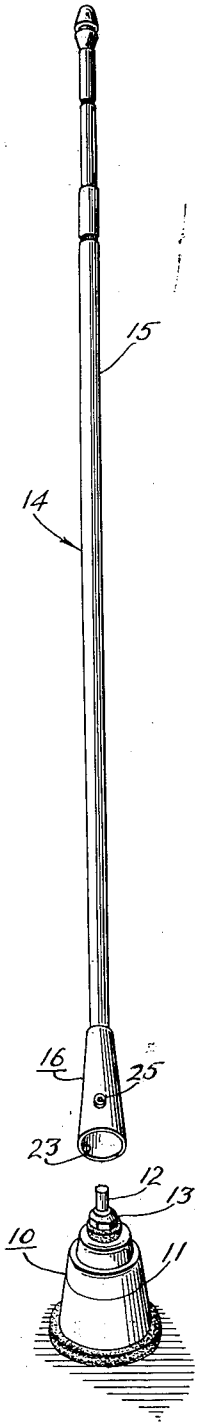


FIG. 2.

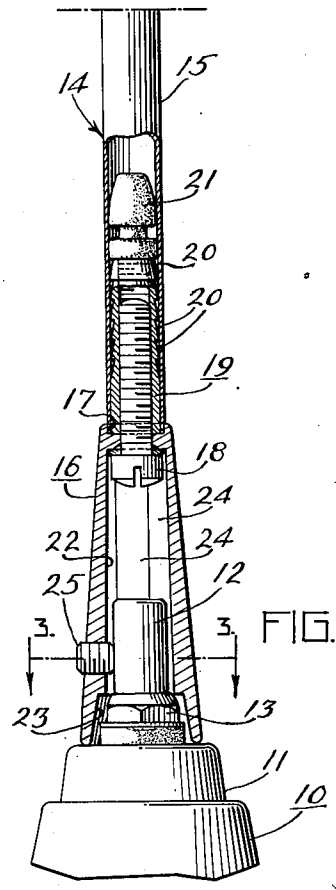


FIG. 3.

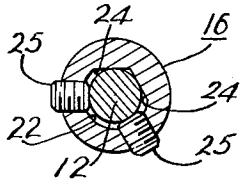
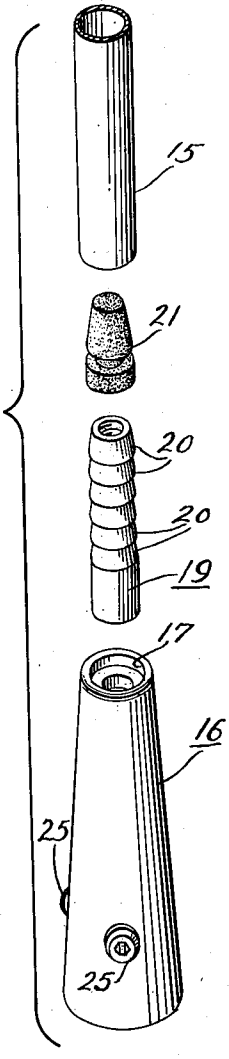


FIG. 4.



INVENTOR:
GERSON SNYDER

BY Howson & Howson
ATTYS.

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REPLACEABLE ANTENNA STAFF

Gerson Snyder, Wynnewood, Pa., assignor to Snyder Manufacturing Company, Philadelphia, Pa., a corporation of Pennsylvania

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4 Claims. (Cl. 287—20)

The present invention relates to new and useful improvements in antenna staffs and more particularly to new and useful improvements in replacement antenna staffs for automobiles and the like which may be secured to any conventional antenna mount and used as a replacement for weather-beaten, broken or stolen antenna staffs.

In many instances, automobile antenna staffs will become rusted or weather-beaten to the extent where they need replacement. Also, automobile antenna staffs will quite frequently be broken or stolen. When an antenna staff is broken or stolen, the antenna mount will usually be left in position on the automobile.

Prior to the present invention, when one of these above conditions arose, it was necessary to remove the antenna mount from the automobile body and purchase an entirely new antenna staff and mount. Removing the antenna mount is a job involving a considerable amount of time, and replacing an entire antenna structure is relatively expensive. There was not, prior to the present invention, a commercially available replacement antenna staff which could be used to replace weather-beaten, broken or stolen antenna staffs using the original staff mount. This is true, even though, in the great majority of cases, where an antenna staff is broken or stolen the antenna mount remains in good condition, and in position on the automobile body.

With the foregoing in mind, the principal object of the present invention, is to provide a novel replacement antenna staff which may be secured to any conventional antenna mount and serve as a replacement for weather-beaten, broken or stolen antenna staffs.

Another object of the present invention is to provide a novel replacement antenna staff which may be easily and permanently secured to an antenna mount and provide a good electrical connection with the antenna mount.

A still further object of the present invention, is to provide a novel replacement antenna staff having the features and characteristics set forth above which is of relatively simplified construction, may be manufactured easily and cheaply, and is entirely efficient and effective in operation and use.

These and other objects of the present invention and the various features and details of the operation and construction thereof are hereinafter more fully set forth and described with reference to the accompanying drawings, in which:

Fig. 1 is a perspective view of a replacement antenna staff of the present invention in position above a conventional antenna mount.

Fig. 2 is an enlarged fragmentary view partially in section illustrating the replacement antenna staff of the present invention in position on an antenna mount;

Fig. 3 is a transverse sectional view taken on line 3—3, Fig. 2; and,

Fig. 4 is an exploded perspective view of the various elements of the replacement antenna staff of the present invention.

Referring more specifically to the drawings, reference numeral **10** designates generally a conventional antenna mount in the condition it usually appears when its associated antenna staff has been removed therefrom. A conventional antenna mount of this type comprises a base portion **11** having a small central stud **12** projecting upwardly therefrom, about which is positioned the usual nut **13** for securing the antenna mount to the automobile body.

Reference numeral **14** designates generally the replacement antenna staff of the present invention which comprises a telescoping staff member **15** permanently secured at its lower end to a hollow replacement adaptor **16**. The replacement adaptor **16** is of generally frusto-conical shape and has an inwardly extending annular shoulder **17** positioned a short distance down from the upper end thereof which is engaged by the lower end of the telescoping staff **15**. The staff **15** is permanently secured to the adaptor **16** by means of a bolt **18** which extends upwardly through the annular shoulder **17** and is threadedly received within a stem **19** formed, for example, as illustrated in Fig. 4 and is fixed within the lower end of the staff **15**. The stem **19** has a series of downwardly and outwardly projecting frusto-conical portions **20** at the upper end thereof which are forced into the lower end of the staff **15** and resist displacement of the stem **19** from the staff **15**. By this construction, the stem **19** is securely fixed within the lower end of the staff **15**.

A rubber sealing plug **21** is positioned within the staff **15** on top of the stem **19** to prevent any moisture which might enter the staff from passing downwardly through the staff. In addition, the rubber sealing plug **21** acts as a resilient bumper and engages the lower end of the telescoping member of the staff **15** when the telescoping member is in its lower limit position.

In accordance with the present invention, this replacement antenna staff is designed to fit on any conventional antenna mount. To accomplish this, the replacement adaptor **16** has a central longitudinal opening **22** therein which terminates at its lower end in a relatively wide frusto-conical shaped bore portion **23** adapted to fit over the stud **12** and the nut **13** of the antenna mount with the lower edge of the adaptor in engagement with the upper surface of the body portion of the antenna mount. With this type of central bore in the replacement adaptor **16** the adaptor may be readily fitted on any conventional antenna mount regardless of variations in the size of the studs **12** and nut **13**.

In order to permit the antenna staff of the present invention to be securely fixed to the antenna mount, the inner surface of the bore **22** is formed as illustrated in Fig. 3 of the drawings with a pair of flat vertical wall portions **24**, **24** joining one another at an obtuse angle. In addition, a pair of set screws **25**, **25** having central socket openings therein are threaded through openings in the side wall of the replacement adaptor adjacent the lower portion of the bore **22** equally disposed at opposite sides at a point diametrically opposed to the junction between the wall portions, **24**, **24** and are adapted to be forced into pressure applying relationship with the stud **12**. By this construction, after the adaptor **16** is placed over the stud **12** and into engagement with the base of the antenna mount with the stud **12** engaging the two wall portions **24**, **24** the set screws **25**, **25** are threaded inwardly to securely fix the replacement antenna staff in position on the antenna mount **10**.

From the foregoing it will be apparent that the present invention provides a novel replacement antenna staff which may be manufactured relatively inexpensively and which may be easily and permanently secured to any con-

ventional antenna mount and serve as a replacement antenna staff for weather-beaten, broken or stolen staffs.

While a particular embodiment of the present invention has been illustrated and described herein, it is not intended to limit the invention to such a disclosure and changes and modifications may be incorporated and embodied therein within the scope of the following claims.

I claim:

1. A replacement antenna staff adapted to be secured to an upwardly extending stud portion of an antenna mount comprising; a tubular staff, a cylindrical stem fixed within the lower end of said tubular staff, an adaptor operable to be secured to the lower end of said staff, means defining a central opening extending longitudinally of said adaptor, an inwardly projecting annular shoulder within said adaptor opening formed integrally with said adaptor and spaced downwardly from one end thereof adapted to receive the lower end of said staff, means interlocking said stem and said adaptor to secure said stem and said staff to said adaptor, said adaptor operable to be positioned over the stud portion of said antenna mount, and locking means extending through the wall of said adaptor operable to engage said stud portion and secure said replacement antenna staff to said antenna mount.

2. A replacement antenna structure for an antenna mount having a projecting stud portion thereon, comprising; a linear antenna staff having a tubular end portion, an adaptor carried by said end portion of the staff and coaxial with said staff, said adaptor having an outwardly extending portion thereon fitting within said tubular end portion of said staff and fixedly secured thereto, means defining a central bore extending longitudinally of said adaptor adapted to fit over and receive therein said stud portion with the adaptor in engagement with the antenna mount, and locking means extending through said adaptor into said bore operable to engage said stud portion and secure said adaptor and staff in position on said antenna mount.

3. A replacement antenna structure for an antenna mount having an outwardly projecting stud portion thereon and a fastening member positioned about one end of the stud portion in engagement with the antenna mount, comprising; an antenna staff, an adaptor fixedly secured to one end of said staff, means defining a central bore extending longitudinally of said adaptor, said central bore having an upper portion operable to fit over and receive therein said stud portion and a lower portion of increased diameter spaced outwardly from the stud portion operable to be positioned about said fastening member with the adaptor in engagement with said antenna mount, and locking means extending through said staff into said bore upper portion operable to engage said stud portion and secure said adaptor and staff in position on said antenna mount.

4. A replacement antenna structure for an antenna mount having an outwardly projecting stud portion thereon and a fastening member positioned about the inner end of the stud portion in engagement with the antenna mount, comprising; a linear antenna staff having a tubular end portion, an adaptor carried by said tubular end portion of said staff and coaxial therewith, said adaptor having an outwardly extending portion thereon fitting within said tubular end portion of said staff and fixedly secured thereto, means defining a central bore extending longitudinally of said adaptor coaxially with said staff, said central bore having an upper portion operable to fit over and receive said stud portion and a lower portion of increased diameter operable to be positioned about said fastening member with the adaptor in engagement with said antenna mount, and locking means extending through said adaptor into said bore upper portion operable to engage said stud portion and secure said adaptor and staff in position on said antenna mount.

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