Nov. 3, 1959 J. V. GERGELY 2,911,643

ANTENNA BOOSTER

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Fig. 1

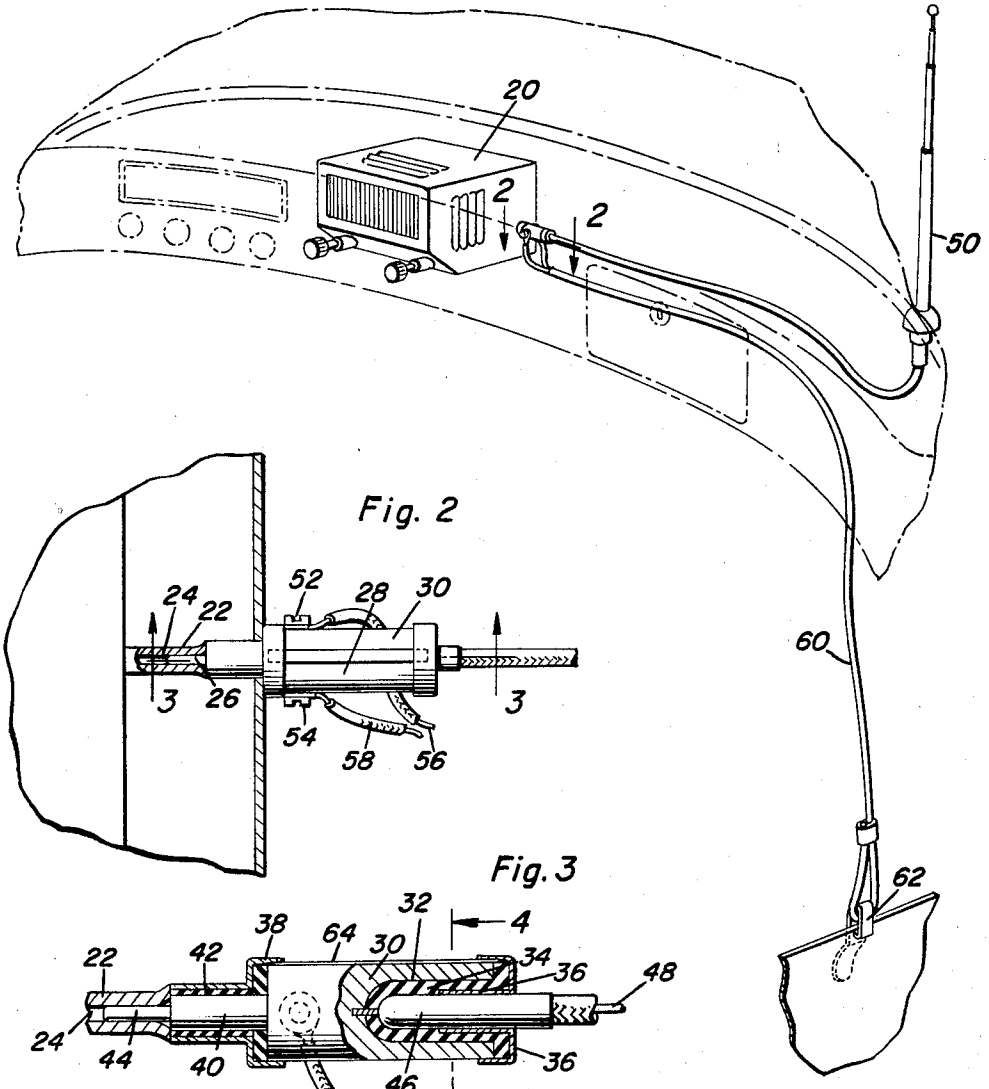
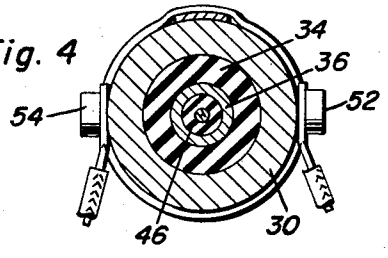


Fig. 2

Fig. 3

Fig. 4



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Fig. 5

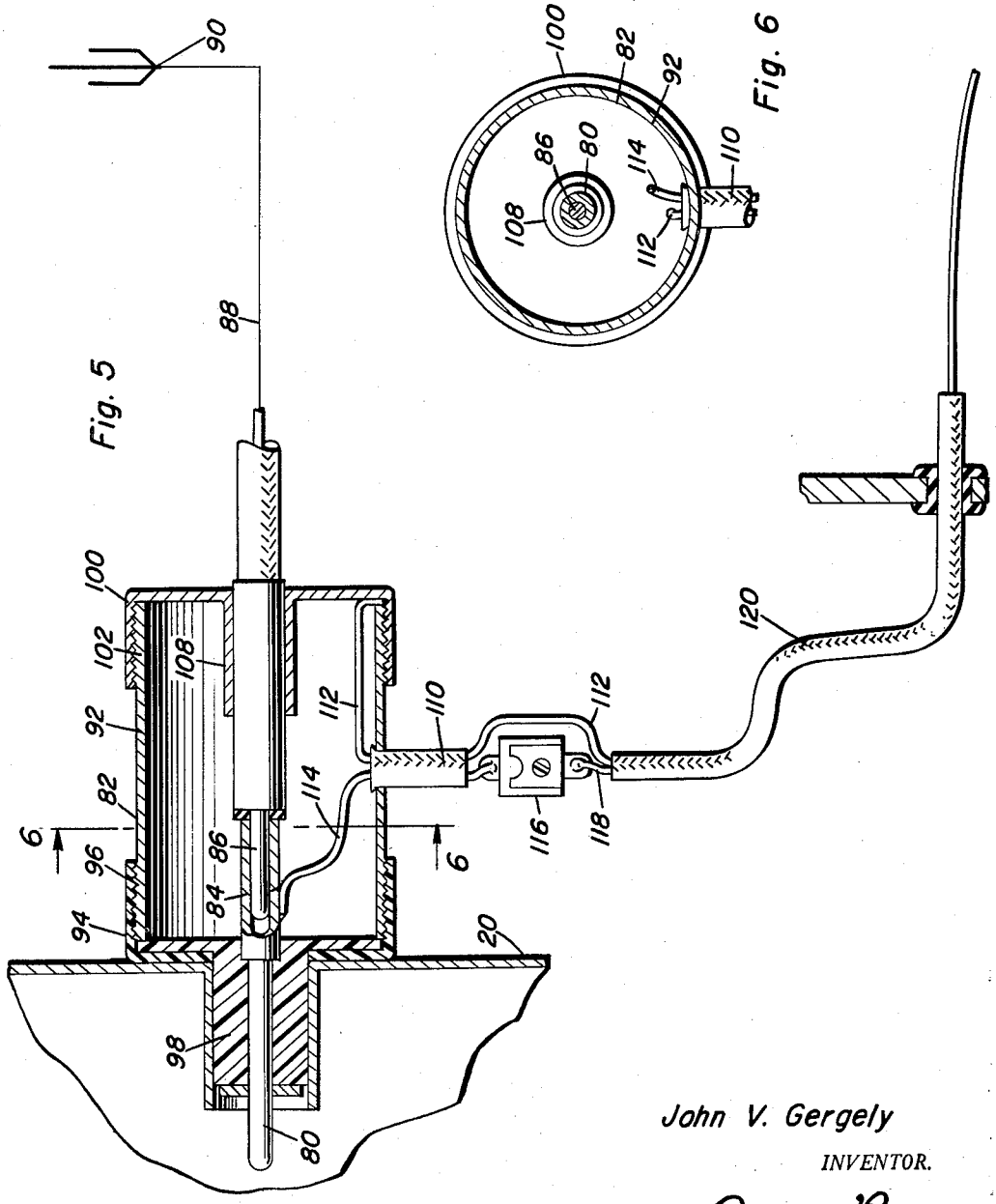


Fig. 6

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ANTENNA BOOSTER

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2 Claims. (Cl. 343—711)

This invention relates to an antenna booster especially adapted for use in conjunction with radios as are conventionally mounted on automobiles or other similar vehicles, and more particularly to a device adapted for use in conjunction with the conventional antenna customarily mounted on automobiles.

The primary object of the present invention resides in the means for boosting the quality and quantity of signal reception provided by conventional whip antennas.

As is known whip antennas do not provide any considerable service for reception of radio frequency waves. The present invention provides means for utilizing an antenna cable in conjunction with the whip antenna whereby an increased surface for reception of waves of both higher and lower frequencies of waves propagated at radio frequencies will be received.

Still further objects and features of this invention reside in the provision of an antenna booster, preferred embodiments of which have been illustrated in the accompanying drawings, by way of example only, wherein:

Figure 1 is a perspective view of the instrument panel of an automotive vehicle illustrating the connection between a radio, an antenna, and the antenna booster comprising the present invention;

Figure 2 is an enlarged detailed view as taken along the plane of line 2—2 of Figure 1;

Figure 3 is an enlarged sectional detail view as taken along the plane of line 3—3 in Figure 2;

Figure 4 is a greatly enlarged sectional detail view as taken along the plane of line 4—4 of Figure 3;

Figure 5 is a longitudinal sectional view of a modified form of the invention; and

Figure 6 is a sectional detail view as taken along the plane of line 6—6 of Figure 5.

With continuing reference to the accompanying drawings wherein like reference numerals designate similar parts throughout the various views, and with initial attention directed to the embodiment of the invention as is shown in Figures 1 through 4, reference numeral 20 generally designates a vehicle radio having associated therewith a connector 22, see Figure 2, having a socket 24 for reception of a pin 26 as is usually provided on an antenna lead-in wire. In lieu of connecting the antenna lead-in wire in the socket 24, there is provided the booster 28 utilizing the present invention which includes a cylinder 30 of suitable conductive material having a socket 32 therein provided and lined with an insert of insulating material as indicated at 34. Received in the insert 34 and the peripheral edge of the cylinder 30 adjacent the end of the cylinder 30. The cylinder 30 is further provided with a forward cap 38 and a plug 40 is held in insulating relationship with respect to the cap 38 by means of an insulation layer 42. The plug 40 has an end piece 44 receivable within the socket 24. Receivable within the fitting 34 of insulative material is a plug 46 of a conductor 48 which is connected to the whip antenna 50.

Terminals as at 52 and 54 are provided on the cylinder 30 to which conductors 56 and 58 are connected, these conductors being trunked as at 60 and then connected by means of a clip 62 to the frame or body of the vehicle. A ground lead 64 connects the caps 38.

Referring now to the embodiment of the invention as

is shown in Figures 5 and 6, it is noted that a plug 80 on the cylinder 82 is connected to the radio 20 and is provided with a bore as at 84 which is adapted to receive the plug 86 at the end of an antenna lead in wire 88 connected to the antenna 90. Cylinder 82 comprises a hollow tube 92 of electrically conductive material haivng an insulative cap 94 threadedly secured on the threaded end portion 96 thereof. The cap 94 holds the insulative piece 98 in position. Cap 100 is threadedly secured to the threaded end 102 of tube 92 and has a socket 108 for receiving plug 86.

Insulative sheathing 110 is provided and is secured to the tube 92. An auxiliary antenna wire 114 and shield wire 112 extend through the sheathing 110 and are connected respectively to the plug 80 and the tube 92. Auxiliary antenna wire 114 is connected to one side of a trimmer 116. The other side of the trimmer 116 is electrically connected to a continuation of the auxiliary antenna wire 118 which is covered by insulation 120. The insulation 120 and shield wire 112 are trimmed from the wire 118 after passing through the floor boards of the vehicle.

The antenna shielded lead-in 120 provides additional means for receiving radio frequency signals, preferably those broadcast at the lower frequencies thereof whereby a signal of better quality and quantity may be received.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. An antenna system for utilization with a vehicle radio having an antenna input comprising a conventional whip antenna supported by said vehicle exteriorly thereof, an antenna lead-in wire connected to said whip antenna and remotely terminating in an antenna plug, an antenna booster, said booster including a capped tubular conductive cylinder, a conductive plug supported in said cylinder but insulated therefrom, said plug projecting from said cylinder and detachably received in the vehicle radio antenna input, a socket extending into said cylinder, said antenna plug receivably supported in said socket and electrically communicating with said conductive plug in said cylinder, an auxiliary antenna wire, said antenna wire electrically connected to said conductive plug.

2. An antenna system for utilization with a vehicle radio having an antenna input comprising a conventional whip antenna supported by said vehicle exteriorly thereof, an antenna lead-in wire connected to said whip antenna and remotely terminating in an antenna plug, an antenna booster, said booster including a capped tubular conductive cylinder, a conductive plug supported in said cylinder but insulated therefrom, said plug projecting from said cylinder and detachably received in the vehicle radio antenna input, a socket extending into said cylinder, said antenna plug receivably supported in said socket and electrically communicating with said conductive plug in said cylinder, an auxiliary antenna wire, said antenna wire electrically connected to said conductive plug, a trimmer condenser electrically interposed in said antenna wire, said auxiliary antenna wire extending exteriorly of said vehicle.

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