March 9, 1943. W. L. CARLSON ET AL 2,313,321

ANTENNA

Original Filed June 13, 1936

Fig. 1.

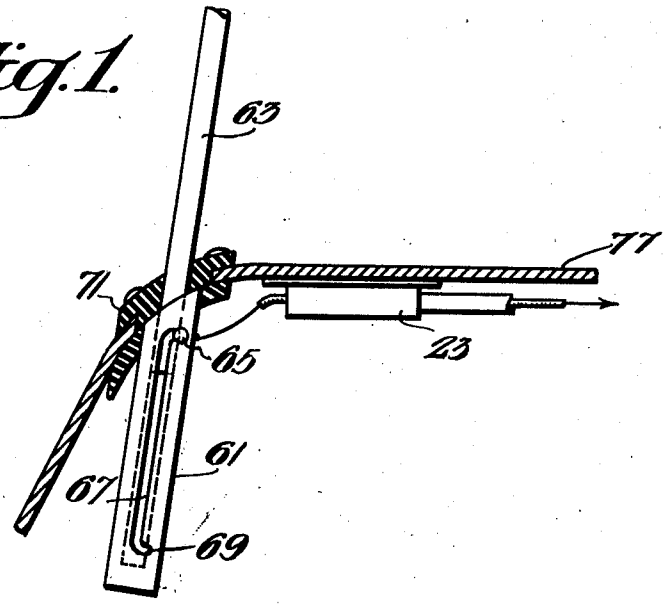
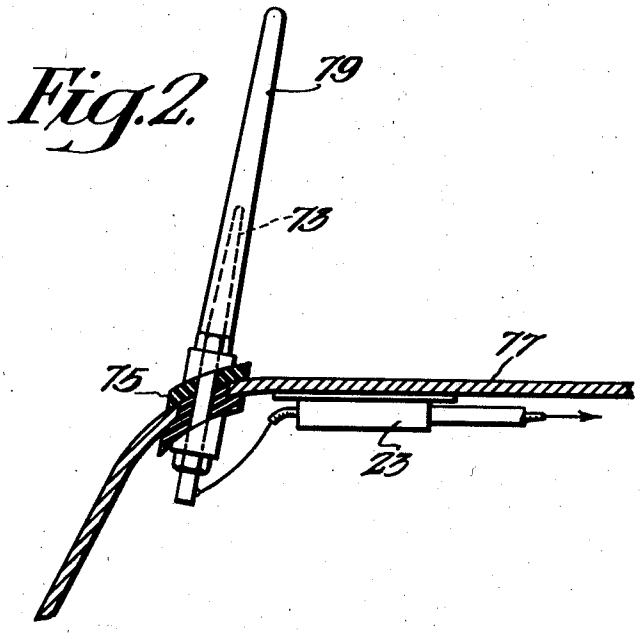


Fig. 2.



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ANTENNA

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Original application June 13, 1936, Serial No. 85,022. Divided and this application October 14, 1940, Serial No. 361,136

4 Claims. (Cl. 250—33)

Our invention relates to antennas and more specifically to an antenna that is especially effective on mobile vehicles.

An object of our invention is to provide an antenna for a mobile vehicle with means for demounting the antenna when it is not in use. This application is a division of our application Serial No. 85,022, filed June 13, 1936 (United States Patent No. 2,218,083, issued as of October 15, 1940).

Referring to the drawing,

Figure 1 is a side elevational view of an antenna mounted on an automobile, the forward roof portion of which is shown in section, embodying one application of our invention, and

Figure 2 is a side elevational view, partly in section, of another application of our invention.

Referring to our invention shown in Fig. 1, a hollow member 61 may be inserted in the corner post of the car, or other suitable position, and insulated from the metal parts of the car body. The antenna member 63 is telescoped within the hollow member 61. The antenna may be slid within the hollow member by a handle 65. This handle projects through a slot 67 and engages bayonet catches 69 to lock the antenna in extended or retracted position. A suitable insulated gasket 71 makes the installation weatherproof.

Referring to the modification of our invention shown in Fig. 2, a relatively short antenna member 73 is represented as mounted, by a suitable insulated clamp 75, on the metal top 77 of a motor car or the like. With a sensitive radio receiver, an antenna member about six or either inches high, has sufficient effective height to respond to strong signals. If the system is to be operated over relatively long distances on weak signals, we have found it expedient to increase the antenna length by a member 79 which may be thrust over the short antenna 73. The additional member may be of the order of two feet in length.

The foregoing applications of our invention illustrate several antennas which are suitable for automobiles. With slight modifications, these antennas may be adapted to aircraft, railway trains, mobile tanks, and the like.

We claim as our invention:

1. In combination with a vehicle having a compartment defined at least in part by a windshield and a roof portion having an opening therein, a member fixed in the compartment adjacent said windshield, means providing a main antenna member slidably associated with said fixed member in telescopic relation therewith for projection through the roof portion into signal receiving position, electrical insulating and waterproof sealing means disposed in said roof opening for supporting said antenna members in alignment with said opening, and means normally connected to said main antenna member and operable from within said compartment for projecting said main antenna member into signal receiving position above the roof at an acute angle to and rearwardly of said roof portion and for retracting the same into a position within said compartment.

2. In combination with a vehicle having a compartment defined at least in part by a sloping windshield and adjacent roof portion, a fixed antenna member, electrical insulating structure supporting one end of said fixed member adjacent said roof portion and said windshield, a main antenna member arranged in operative relation to said fixed member for telescopic movement thereto for projection up above the roof portion at an acute angle rearwardly thereof into signal receiving position, and means associated with said main antenna member and operable from within said compartment for projecting said main antenna member from a position adjacent said windshield into signal receiving position above the roof portion and for retracting the same back adjacent said windshield.

3. In combination with a vehicle having a compartment defined at least in part by a roof portion, a tubular member fixed in said compartment, a main antenna member arranged in said tubular member for telescopic movement therein for projection up through the roof portion into signal receiving position, said tubular member having a longitudinal slot therein, and means arranged with a portion thereof in said slot and attached to said antenna member, said means having a portion outside of said tubular member and operable from within said compartment for projecting said main antenna member into a signal position above said roof portion and for retracting the same back into a position in said compartment.

4. For a vehicle, an operator's compartment having a windshield at its forward part, a roof curving downwardly to meet said windshield, a radio aerial system including a slidable rod located within reach of the operator and capable of being retracted substantially inside said compartment, said rod extending through the compartment to the outside at a slope approximately that of said windshield and at a point located on the curved portion of said roof whereby said rod makes an acute angle with the surface of said roof, a combined insulating and sealing unit adapted to blend with said surface and to permit said rod to pass therethrough, and a slotted tube supported in said compartment and into which said rod telescopes, there being manual control means on said rod protruding from the slot which extends between said unit and one end of said tube to permit extension and retraction.

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