

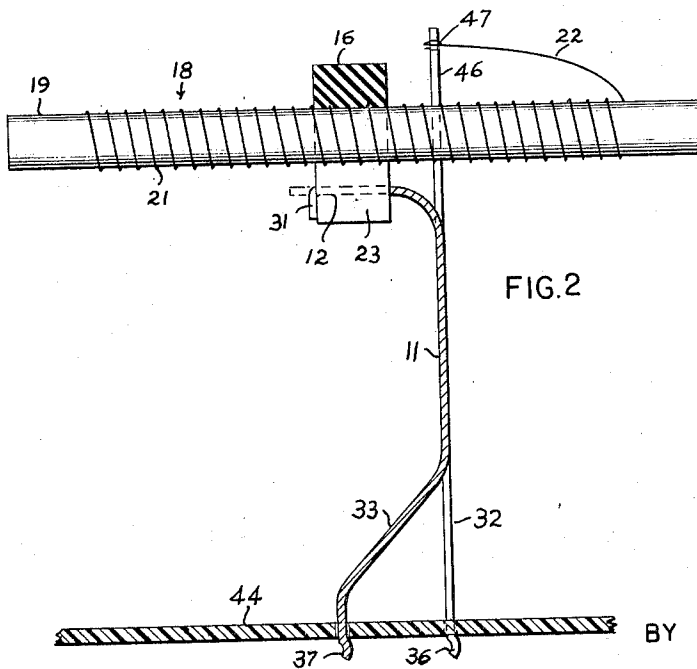
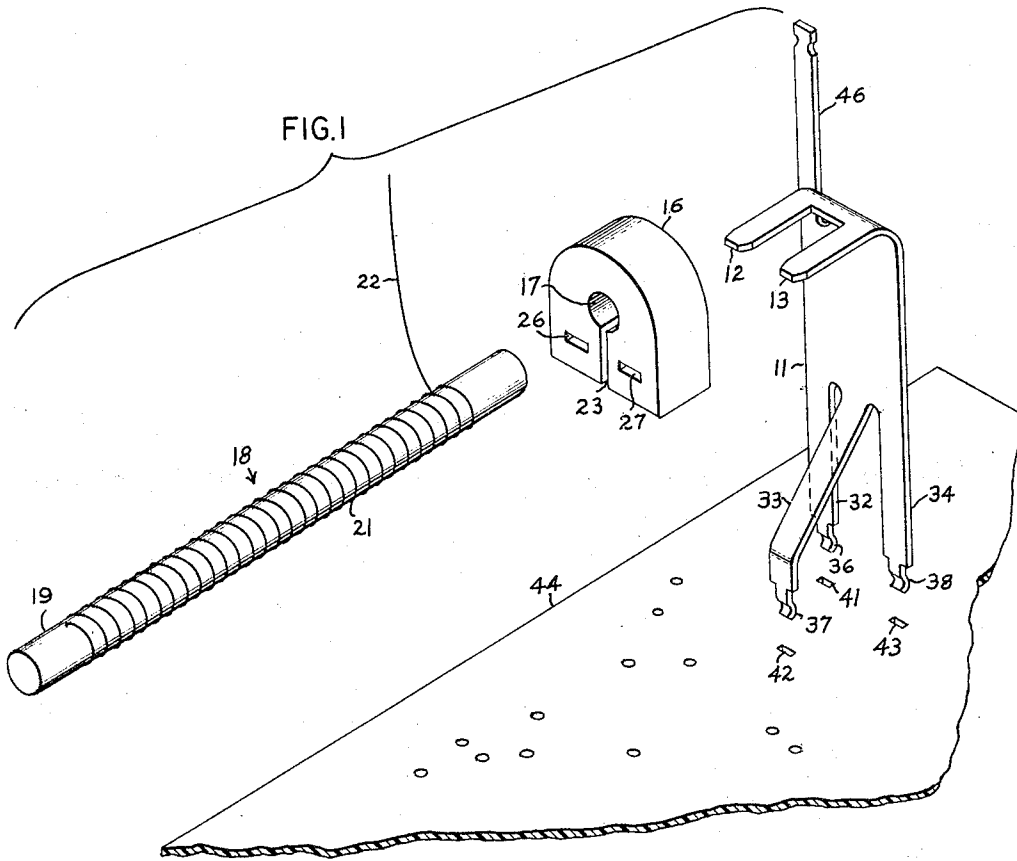
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ANTENNA SUPPORT STRUCTURE

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## ANTENNA SUPPORT STRUCTURE

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4 Claims. (Cl. 248—40)

This invention relates to antenna support structures for use in radios and the like, and particularly to support structures for rod-like antennas popularly called "ferrite" or "loop-stick" antennas.

Various structures have been devised for supporting rod-like "ferrite" antennas. A resilient support is highly desirable, because the antenna rod is brittle and if rigidly mounted is easily broken by accidental jarring or contact therewith.

An object of the invention is to provide an improved antenna support structure.

Another object is to provide an improved antenna support structure which resiliently supports a rod-like antenna.

A further object is to provide an improved antenna support structure which is economical to manufacture.

An additional object is to provide a simple antenna support structure which does not require fastening devices such as screws or rivets or the like.

Still other objects will be apparent from the following description and claims, and from the accompanying drawing.

The antenna support structure of the invention comprises, briefly and in a preferred embodiment, a bracket provided with a pair of prongs extending therefrom in mutually parallel spaced relationship, and a resilient rubber mounting block provided with an antenna opening therethrough of a size to hold a rod-like antenna, the mounting block further being provided with a slot extending radially from the antenna opening to an edge of the mounting block, and a pair of elongated openings in the mounting block parallel to the antenna opening and located on opposite sides from said slot, this pair of openings being adapted to respectively fit over the pair of prongs carried by the bracket, thereby securing the mounting block to the bracket and aiding in clamping the antenna in the mounting block.

In the drawing:

FIG. 1 is an exploded perspective view of a preferred embodiment of the invention, and

FIG. 2 is a cross-sectional side view of the construction of FIG. 1 in assembled form.

Now referring to the preferred embodiment of the invention shown in the drawing, a bracket 11 is made from a flat strip-like material such as metal, and is provided with a pair of prongs 12 and 13 extending laterally therefrom near the upper end thereof. A mounting block 16, made from resilient material such as rubber, is provided with an antenna opening 17 therethrough of suitable size and shape to accommodate and hold a rod-like antenna 18 which may comprise a ferrite rod or core 19 about which is wound a wire 21 having one or more leads 22 extending from the antenna 18.

The mounting block 16 is provided with a slot 23 therethrough extending radially from the opening 17 to an edge of the block 16, as shown. The slot 23 preferably is formed by removal of material from the mounting block 16, in which case the slot will have a width dimension, or may be formed without the removal of material from the block 16, in which the slot 23 will have substantially no width. A pair of openings 26 and 27 are provided through the mounting block 16, parallel to each other and to the antenna opening 17, and located on opposite sides of the slot 23, as shown.

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To assemble the antenna and its support structure, the mounting block 16 is spread apart at the slot 23 and slipped over the antenna 18, so that the antenna 18 is suitably positioned in the antenna opening 17. The mounting block 16, while thus carrying the antenna 18, is attached to the bracket 11 by sliding the mounting block 16 so that the openings 26 and 27 thereof respectively fit over and around the prongs 12 and 13, so that the bracket 11 holds the mounting block 16, and the mounting block 16 in turn holds the antenna 18 in a shock-resistant resilient manner due to the resiliency of the mounting block 16. The openings 26 and 27 in the mounting block 16 should be of a size so as to fit snugly over the prongs 12 and 13 of the bracket 11, and also the antenna opening 17 should fit snugly around the antenna 18. The openings 26 and 27 can be positioned mutually apart a slightly greater distance than the spacing between the pair of prongs 12 and 13, so that the positioning of the mounting block 16 with its openings 26 and 27 over the prongs 12 and 13 will tend to compress the mounting block so as to more tightly hold the antenna 18 in the antenna opening 17.

After the antenna and its mounting block have been assembled to the bracket 11 as has been described, one or both of the prongs 12 and 13 can be bent laterally as indicated by the numeral 31 in FIG. 2, to maintain the mounting block 16 securely in position on the bracket 11.

The lower end of the bracket 11 is provided with three attachment legs 32, 33, and 34, the center leg 33 being bent out of alignment with the plane of the bracket 11, as shown. The lower ends of the attachment legs 32, 33, and 34 are respectively provided with attachment tabs 36, 37, and 38, for insertion into suitable openings 41, 42, and 43, respectively, in a circuit board 44, whereupon the attachment tabs 36, 37, and 38 become dip-soldered to circuits carried by the circuit board 44. To facilitate attachment of the bracket 11 to the board 44 prior to dip-soldering, the attachment tabs 36, 37, and 38 are provided with curved or offset shapes, as shown, which project from the underside of the circuit board 44 when the bracket 11 is in place, as shown in FIG. 2. The tripod-like arrangement of the attachment legs 32, 33, and 34 provides rigidity of the bracket 11 with respect to the circuit board 44.

If desired, one or more of the attachment legs 32, 33, and 34 may be soldered to an electrical conductor on the chassis which forms a circuit conductor on the circuit board 44, and a connector tab 46 is provided at the upper end of the bracket 11, to which the antenna lead wire 22 is soldered at 47, whereby the bracket 11 not only provides support for the antenna 11 but also serves as an electrical connection between the antenna winding 21 and electrical circuits carried by the circuit board 44. For this purpose, the bracket 11 preferably is made of a metal, such as "zilloy" which is an easily solderable electrical conductor but which does not have any adverse effects on functioning of the antenna 18.

It will be apparent that the invention provides an economical and easily assembled antenna support structure which does not require the use of any fastening devices such as screws or the like, thereby resulting in economy and ease of manufacture and assembly operations, while at the same time providing an effective support structure for supporting a rod-like antenna in the desired position and providing shock-resistant resiliency for preventing accidental breakage of the antenna core rod 19.

While a preferred embodiment of the invention has been shown and described, various other embodiments and modifications thereof will become apparent to those skilled in the art, and will fall within the scope of invention as defined in the following claims.

What we claim is:

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1. An antenna support structure comprising means providing a pair of spaced apart mutually parallel prongs, and a mounting block of resilient material provided with an antenna opening therethrough for holding a rod-like antenna, said mounting block further being provided with a slot extending radially therethrough from said opening to an edge of the block, and a pair of elongated openings in the mounting block, located at opposite sides from said slot and parallel to said antenna opening and adapted to fit over said prongs thereby securing the mounting block to said prongs.

2. An antenna support structure as claimed in claim 1, in which said pair of openings are positioned in said block mutually farther apart than the spacing between said prongs, whereby said mounting block becomes compressed when mounted on said prongs thereby more tightly securing said antenna in said antenna opening.

3. An antenna support structure comprising a bracket of generally flat elongated configuration, said bracket being provided with a pair of mutually parallel prongs extending from an end thereof, a mounting block of resilient material provided with an antenna opening therethrough for holding a rod-like antenna, said mounting block fur-

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ther being provided with a slot extending radially therethrough from said opening to an edge of the block, and a pair of elongated openings in the mounting block located at opposite sides from said slot and parallel to said antenna opening and adapted to fit over said prongs thereby securing the mounting block to said bracket.

4. An antenna support structure as claimed in claim 3, in which said pair of openings are positioned in said block mutually farther apart than the spacing between said prongs, whereby said mounting block becomes compressed when mounted on said prongs thereby more tightly securing said antenna in said antenna opening.

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