March 26, 1940. C. R. HOWER 2,194,502

COIL SUPPORT

Filed June 6, 1939

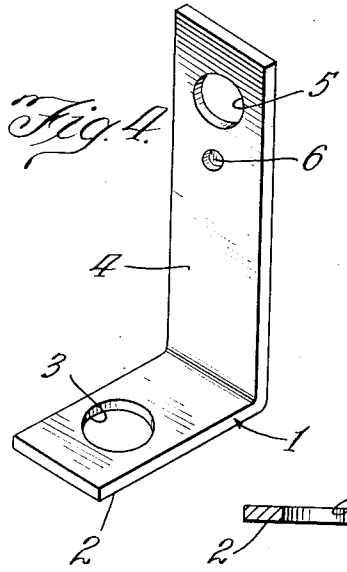


Fig. 4.

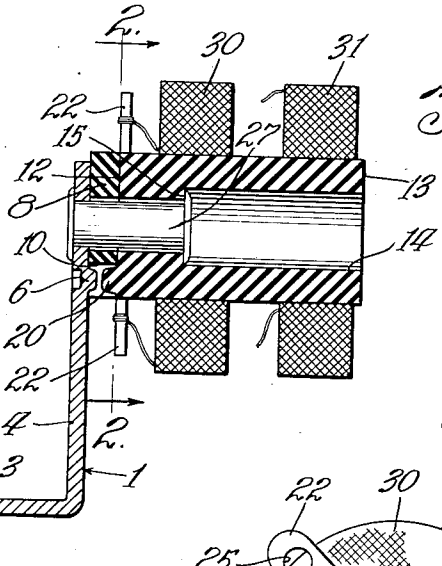


Fig. 1.

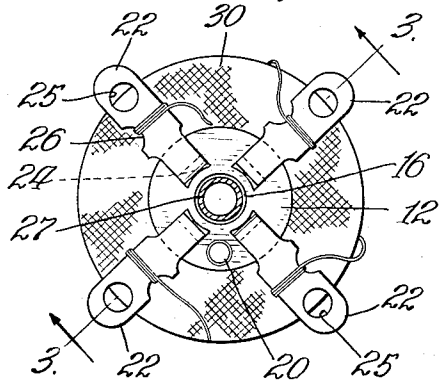


Fig. 2.

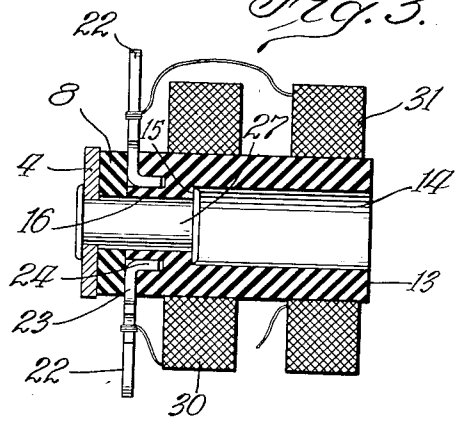


Fig. 3.

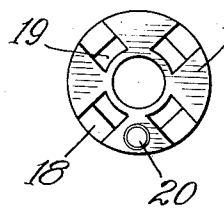


Fig. 5.

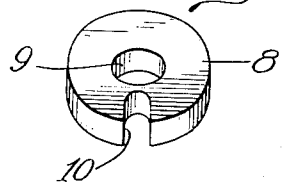


Fig. 7.

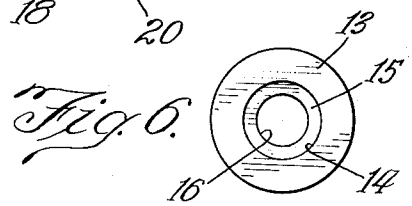


Fig. 6.

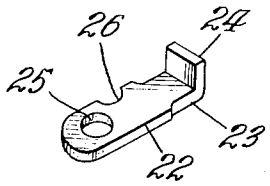


Fig. 8.

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UNITED STATES PATENT OFFICE

2,194,502

COIL SUPPORT

Carl R. Hower, Chicago, Ill., assignor to American Lava Corporation, Chattanooga, Tenn., a corporation of Tennessee

Application June 6, 1939, Serial No. 277,662

1 Claim. (Cl. 175—359)

This invention relates to a coil support and particularly to a support for one or more small coils such as may be used in a radio receiver. The invention has particular application to radio frequency transformers in the antenna circuit or for radio frequency chokes or any other part of any electrical apparatus where a small delicate coil or coils are to be supported.

Referring to the drawing:

Figure 1 shows the invention partly in section;

Fig. 2 is a section on line 2—2 of Fig. 1;

Fig. 3 is a section on line 3—3 of Fig. 2;

Fig. 4 is a detail of the angle-shaped supporting member;

Fig. 5 is an end view of the insulating thimble showing the slotted end while Fig. 6 is an end view showing the other end of the thimble;

Fig. 7 is a detail of the insulating compressible disk; and

Fig. 8 is a detail of a connecting lug.

Referring to the drawing the device comprises supporting member 1 of metal having a base portion 2 provided with a mounting aperture 3 and an upstanding portion 4 having an aperture 5 near the end thereof and protuberance 6 near aperture 5. Adjacent the free end of mounting portion 4 is a circular disk 8 of insulating material preferably though not necessarily having substantial compressibility. Thus any of the laminated insulating materials having layers of fabric impregnated with some phenol condensation product and sold under various trade names may be used. Ceramic disks may also be used. Disk 8 is provided with an aperture 9 at the center thereof which is adapted to register with aperture 5 of the mounting member. There is also provided on disk 8 a slot 10 extending inwardly from the edge of the disk toward aperature 9.

Disk 8 is adapted to be disposed against one end 12 of a thimble 13 preferably of ceramic although any other insulating material may be used. This thimble may be of any suitable length and is provided with a bore 14 extending throughout most of the length of the thimble. One end of bore 14 terminates in a shoulder 15 and then the bore is continued as 16 having a diameter substantially less than that of bore 14.

One end face 12 of thimble 13 is provided with a plurality of slots 18 extending inwardly from the edge of the thimble toward the center bore. These slots 18, here shown as four in number, although more or less may be provided, are preferably rectangular and terminate at their inner ends in recesses 19 which extend into the interior of the thimble. A locating protuberance 20 is also provided on end face 12 between two of the slots 18.

Disposed in each slot 18 is a contact lug 22 having a narrowed or reduced mounting portion 23 with an end locking portion 24 bent at right angles thereto. The lug proper may be provided with an aperture 25 and have its edge cut in somewhat at 26 in order to provide for the ready soldering of one or more wires.

As is evident from the drawing, a lug is disposed in slot 18 so that a locking portion 24 extends into a recess 19. The various parts are so proportioned that the lug material is somewhat thicker than the depth of slot 18 and is pressed tightly on opposite sides. In order to maintain the assembly intact the mounting portion or arm 1 together with the disk 8 and thimble 13 are so disposed that the various apertures 5, 9 and 16 all register. Thereafter an eyelet 27 is passed through the registering apertures and curled over in place to maintain the assembly intact. The various parts are so adjusted that the protuberances 6 and 20 are disposed in slot 10 of insulating disk 8 and this disk is preferably of sufficient thickness so that the two protuberances are separated.

Thereafter coils 30 and 31 may be disposed on thimble 13 and have their terminals connected to the lugs in any suitable fashion. As shown in Fig. 3, for example, the coils are disposed in transformer relationship and may be readily picked up or handled without damage.

It is understood of course that the connecting lugs may be changed in number and shape as the occasion demands. The entire assembly is rigid, and turning of the thimble on the eyelet is prevented so that there is no possibility of breaking the connecting wires to outside apparatus. Relative motion between the lugs and the coils is prevented so long as the coils are not moved on the thimble so that the coil terminals will not be damaged. The lugs themselves are retained firmly enough so that the entire unit may be handled either by means of the base member 1 or any of the lugs.

What is claimed is:

A coil support comprising a cylindrical thimble having an end face provided with slots extending inwardly from the edge of the face toward the center thereof, said thimble having a protruding portion at the end face thereof, a connecting lug adapted to fit into each slot and be flush with the end face of said thimble, an insulating disk adapted to be disposed against said end face of said thimble, said insulating disk having a slot adapted to register with said protuberance, a mounting member having a protuberance and adapted to be disposed against said insulating disk with said protuberance fitting into said disk slot, and means for maintaining said insulating disk, mounting member and thimble in rigid relation to lock said lugs together and prevent relative rotation between said disk, mounting member and said thimble.

CARL R. HOWER.