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C. L. JAUSS

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TERMINAL MEANS FOR AN ELECTRICAL DEVICE

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FIG. 1.

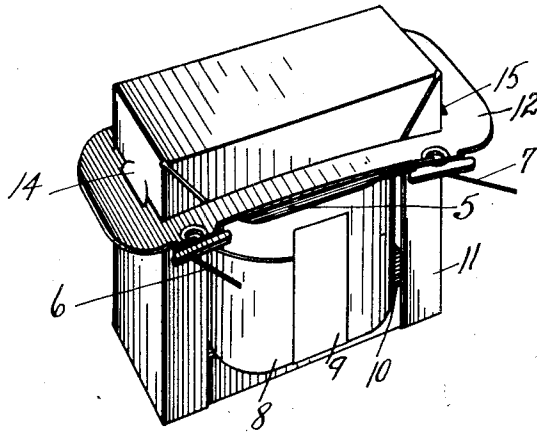
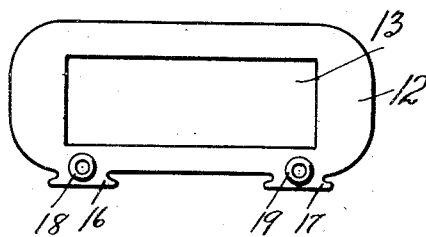


FIG. 2.



INVENTOR
Carlos L. Jaus
BY *S. Stephen Baker*
ATTORNEY

UNITED STATES PATENT OFFICE

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TERMINAL MEANS FOR ELECTRICAL DEVICES

Carlos L. Jauss, New York, N. Y.

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4 Claims. (Cl. 175-21)

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This invention relates to terminal boards and more particularly to means for effecting electrical connections to windings such as used in reactors, transformers, inductances, etc.

One of the objects of this invention is to provide terminal means for an electrical coil which does not require modification of the usual winding procedures therefor. Thus, terminal means according to the instant invention may be applied in a novel manner to a completely wound coil after it has been housed in its casing.

Another object of this invention is to provide means for firmly connecting the coil winding to terminal lead wires so as to entirely eliminate pulling stress upon the coil windings. Allied with this object is the provision of rigid mounting means to be applied externally of a completed coil assembly and having in addition provision for a mechanical support for the coil windings. Thus, the recommended practice of supplying mechanical strength to a wire in addition to soldering is followed.

Other objects of my invention will be apparent from the following description, it being understood that the above general statements of the objects of my invention are intended to describe and not limit it any manner.

Referring to the drawing:

Fig. 1 is a perspective view of an electrical coil winding provided with terminal means pursuant to the instant invention.

Fig. 2 is a top plan view of the terminal board therefor.

The coil winding 5 shown in the drawing is an inductance of the reactor or choke type having two output leads 6 and 7. The layers of the coil winding 5 are separated by the usual insulating paper and the outer wrapper 8 as well as the adhesive strip 9 perform the usual functions of enclosing the winding and securing the output lead 6 respectively.

After the coil 5 is produced by conventional methods as by a coil winding machine, it is suitably mounted on the laminated core 10 and the metallic casing 11 is applied thereover. Any conventional means may be utilized to complete the assembly of the structure and if the inductance is to be mounted on an electrical chassis, the casing 11 may be formed as to provide a perforated projection serving as lug means. However, the reactor or choke as shown may be utilized by disposing the same in a housing and sealing it therein by pitch or a similar substance.

The terminal connecting member 12 is de-

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signed to be applied externally of the assembled reactor so as to provide an effective and simple mechanical connection thereto. The casing 11 is formed with pressed out projections 14 and 15 which are integral therewith. The terminal connecting member 12 is formed with a central opening 13 of substantially the same external dimensions as the casing 11. When the member 12 is fitted and retained over casing 11 as will be hereinafter described, the central opening 13 is concentric with the winding 5. The member 12 is formed of electrically insulating material such as fiber or plastic. When the member 12 is applied over the upper end of casing 11, it abuts the winding 5 and the end walls of opening 13 pass over the projections 14 and 15 whereupon it is snapped thereover and firmly retained in place, the upper end of coil 5 providing an opposing force which maintains the member 12 in place in cooperation with the projections 14 and 15. Thus, the upward thrust provided by the coil 5 is checked by the projections 14 and 15 so as to effect a firm connection of the member 12 to the assembled reactor. Member 12 thus embraces and extends outwardly of the casing 11.

Integral with member 12 are the wire retaining ears 16 and 17 around which the output leads 6 and 7 may be wound either before or after they are respectively soldered to the metal wire connecting eyelets 18 and 19. It is to these eyelets 18 and 19 that terminal conductors are soldered when the inductance is employed in an electrical circuit.

The simplicity with which the assembled reactor is provided with terminal means will be apparent, it being only necessary to slip the flat member 12 over one end of the reactor casing whereupon the wires may be secured as aforesaid, the ears providing mechanical support therefor.

I have shown a preferred embodiment of my invention, but it is obvious that numerous changes and omissions may be made therefrom without departing from its spirit. For example, since the reactor illustrated has two output leads, the member 12 need have only the two ears and eyelets shown. If further terminals are necessary, such as in transformers, member 12 may be provided with commensurate terminal means as will be evident.

I claim:

1. An electrical apparatus comprising an electrical coil winding, a casing for said winding and terminal means for said winding supported by said

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casing, said terminal means comprising an insulating member having a central opening fitted and retained over said casing so as to abut said winding and means on said casing acting upon opposite ends of said insulating member to maintain said insulating member against displacement.

2. An electrical apparatus comprising an electrical coil winding, a casing for said winding and terminal means for said winding supported by said casing, said terminal means comprising an insulating member having a central opening fitted and retained over said casing so as to abut said winding, and projections formed on said casing and bearing downwardly upon ends of said insulating member so as to maintain said insulating member against displacement, said abutting relationship of said insulating member and winding being operative in providing an opposing force to that of said projections whereby said insulating member is firmly secured around said casing.

3. An electrical apparatus comprising an electrical coil winding, a casing for said winding, projections formed on said casing and terminal means engaged by said projections, said terminal means comprising an insulating member having a central opening formed therein and being fitted and retained over said casing by said projections, wire connecting means on said insulating member, and ear-shaped members adapted to have wires wound

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thereon to provide mechanical support therefor in cooperation with the function of said wire connecting means.

4. An electrical apparatus comprising an electrical coil winding, a casing for said winding, terminal means for said winding supported by said casing, said terminal means comprising a normally flat insulating member fitted and retained over said casing so as to substantially retain its flat configuration, and wire connecting means on said insulating member whereby ends of said winding may be connected thereto, said insulating member having a central opening therein and means on said casing cooperating with said central opening for maintaining the insulating member on the casing.

CARLOS L. JAUSS.

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