

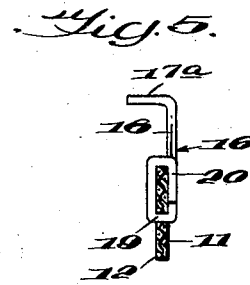
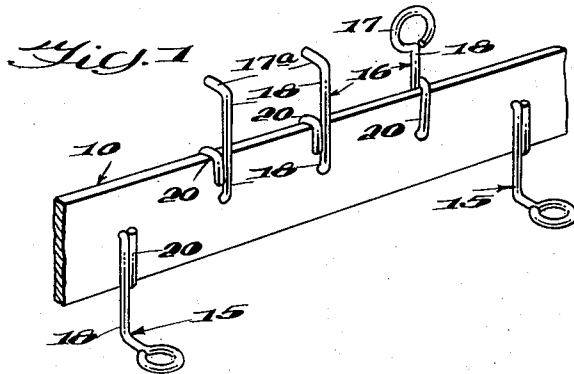
Aug. 8, 1950

S. M. DEL CAMP

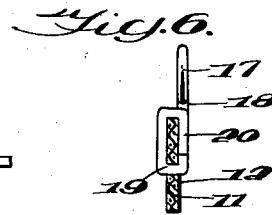
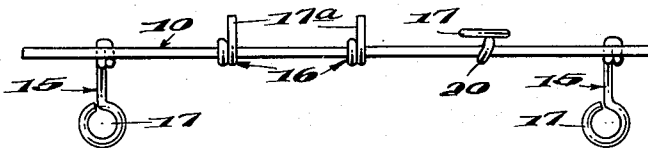
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ELECTRICAL WIRING TERMINAL INSTALLATION

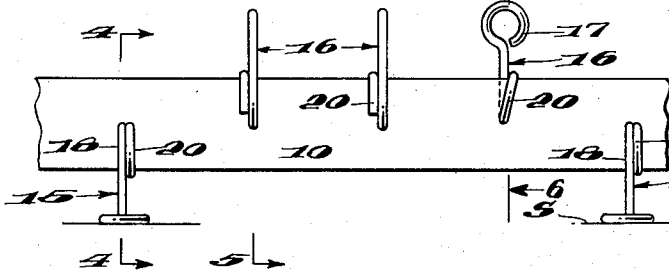
Filed Sept. 7, 1946



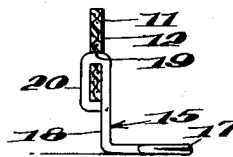
*Fig. 2*



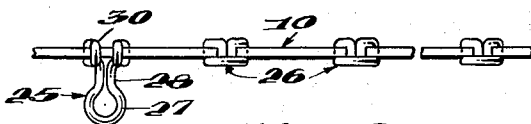
*Fig. 3*



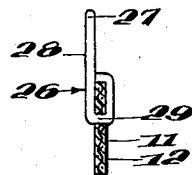
*Fig. 4*



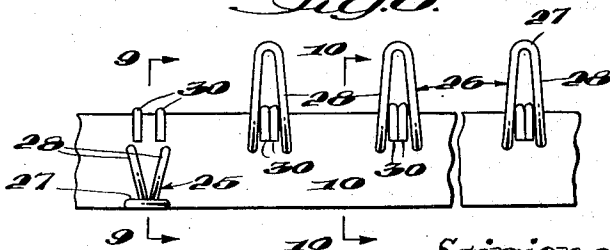
*Fig. 7*



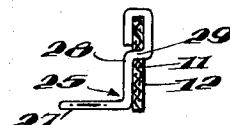
*Fig. 10*



*Fig. 8*



*Fig. 9*



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## UNITED STATES PATENT OFFICE

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ELECTRICAL WIRING TERMINAL  
INSTALLATION

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1 Claim. (Cl. 173—324)

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The present invention relates to electrical wiring terminals and installations thereof wherein soldering or wiring terminals are secured in assembly with insulated supporting strips or panels, and aims generally to improve the construction of the terminals as well as the installations and the method of making the installations.

One of the principal objects of the invention is the provision of wiring terminals of novel and simple construction which may be quickly attached to a supporting panel as it is being formed so as to lessen the cost of manufacture of the installation.

A further object of the invention is the provision of a simple and durable terminal panel for electrical apparatus, for example radio receivers, which can be quickly and cheaply manufactured at a fraction of the cost of making existing panels.

Terminal panels of the type above referred to generally comprise a supporting panel or strip of insulating material such as a phenolic condensation product, to which is attached metallic mounting feet and wiring terminals to which the electrical conductors may be soldered.

According to existing standard practices of manufacturing terminal panels, the mounting feet and wiring terminals are preformed in one operation, the supporting insulating base is preformed by being punched to provide holes for the reception of attaching portions of the mounting feet and wiring terminals, and the two are thereafter assembled in a third forming operation.

The present invention provides a new construction of terminal panel and method of making it, wherein a continuous length of metal wire may be formed into mounting feet or lugs or wiring terminals and directly driven through and attached to a supporting panel or strip without requiring pre-punching of the supporting panel.

Other aims and objects of the invention will be apparent to persons skilled in the art from a consideration of the accompanying drawings and annexed specification illustrating and describing two preferred embodiments of the invention, and typical steps of the method of making the panels.

In the drawings—

Fig. 1 is a perspective view of a typical terminal panel installation according to the invention;

Fig. 2 is a top plan view of the terminal panel illustrated in Fig. 1;

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Fig. 3 is a face elevation of the terminal panel shown in Figs. 1 and 2;

Fig. 4 is a transverse sectional view of the terminal panel as taken on the line 4—4 of Fig. 3, illustrating the construction of one of the mounting lugs or feet;

Fig. 5 is a transverse sectional view of the terminal panel as taken on the line 5—5 of Fig. 3, illustrating the construction of one of the wiring terminals;

Fig. 6 is a transverse sectional view of the terminal panel installation as taken on the line 6—6 of Fig. 3, illustrating a second form of wiring terminal;

Fig. 7 is a top plan view of an alternative form of terminal panel according to the invention;

Fig. 8 is a face elevation of the terminal panel shown in Fig. 7;

Fig. 9 is a transverse sectional view taken on the line 9—9 of Fig. 8, illustrating the construction of one of the mounting lugs or feet according to the form of invention shown in Figs. 7 and 8; and

Fig. 10 is a transverse sectional view taken on the line 10—10 of Fig. 8, illustrating the construction of one of the wiring terminals according to the form of invention shown in Figs. 7 and 8.

Referring to the drawings, the wiring terminal panel of the present invention comprises a strip or panel body 10 of resinous insulating material and a plurality of attaching members secured thereto some of which permit the panel body to be attached to a support, and others permit the wires of an electrical circuit to be connected together.

The insulating material commonly used as an insulating support for wiring terminal panels usually consists of a strip or sheet of cured phenolic condensation thermo-setting compound. Such synthetic resinous materials are more or less fragile and brittle and are subject to shattering, and the surfaces are readily cracked as a result of attaching the members thereto. For this reason, it has been customary, heretofore, to first perforate the synthetic resinous sheet and thereafter assemble and secure the attaching members to the perforated sheet.

Adequate strength in the supporting panel may be provided for many installations by a very thin sheet or strip of cured laminated fibrous material impregnated with a phenolic condensation product. One example of such material is the so-called "linen panel" consisting of one or more sheets of linen fabric 11 impregnated and lami-

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nated by a phenolic condensation product 12. A linen panel support of a thickness of approximately  $\frac{1}{32}$  of an inch provides a sufficiently strong durable insulating base for many installations, particularly those used in radio receiving sets, and is not brittle or fragile. Such a support may be punctured by a wire when its thickness does not exceed substantially the diameter of the wire.

Preferably the sheet or strip of insulating material should have a plurality of sets of attaching members secured to the body and extending transversely beyond the longitudinal side edges thereof, one set of attaching members providing supporting legs or lugs 15 by means of which the panel body may be secured to a support S and mounted thereon preferably in spaced relation thereto, and the other set of attaching members 16 providing wiring terminals by means of which a plurality of conductors may be secured or soldered together to complete an electric circuit.

Referring to the form of invention illustrated in Figs. 1 to 6 inclusive, the attaching members 15 and 16 are formed from a continuous length of metal wire of desirable uniform cross section, and preferably each comprises a receiving portion 17 adapted to receive a fastening screw or a plurality of conductor wires as the case may be, a leg portion 18 extending outwardly from the body 10 for supporting the receiving portion 17 in spaced relation to the body 10, a body-penetrating portion 19 forced through the body 10 in tight frictional-gripping contact therewith, and a locking end portion 20 adapted to be clenched over an edge of the body 10 to lock the attaching member thereto and prevent turning of the leg portion 18 and the receiving portion relative to the body 10. The receiving portion 17 of the attaching members 15 or 16 may be a looped portion, as an eye, or the receiving portion 17 of the members 16 may merely be hooked or otherwise looped as indicated at 17<sup>a</sup>.

The attaching members 15 and 16 may be applied or stapled to the continuous imperforated strip or body 10 by means of wire stapling machine of suitable type designed to initially shape the attaching member and force an end thereof through the resinous body 10. The locking end portion 20 of the attaching member may then be clenched over an edge of the body 10 in contact with a side of the leg portion 18 to prevent turning of the latter relative to the body 10.

The terminal panel thus formed is characterized by the provision of a strong thin flexible panel body of puncturable fabric reinforced resinous insulating material having sets of wire-attaching members extending beyond the panel along opposite edges thereof. The attaching members each include a receiving portion 17, preferably of ring or loop shape connected to the panel body 10 by a single leg 18 having a penetrating portion extending through and gripped by the body 10 and a locking end portion 20 looped or clenched over an edge of the panel 10. Preferably the locking end 20 is folded or clenched over the edge of the panel 10 adjacent

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the leg 18 so as to engage the leg and prevent turning thereof relative to the panel.

According to a modified form of the invention shown in Figs. 7 to 10, the attaching members 25 and 26 may be double-legged, each having a central looped or bight portion 27 adapted to receive a fastening screw or a plurality of conductor wires, as the case may be, opposed leg portions 28—28 extending outwardly from the body 10 for supporting the receiving loop portions 27 in spaced relation to the body 10. The locking end portions 30—30 may be clenched over an edge of the support and positioned between the legs 28—28 in Figs. 7 and 8. If desired, the locking end portions 30—30 may be clenched over an edge of the support opposite the loop portion 27 as shown in Figs. 8 and 9.

As stated above, the attaching members 15, 16, or 25 and 26, may be formed and applied to a continuous length of imperforated resinous insulating strip or panel by means of a wire stitching machine of suitable design and construction, and thus may be most economically manufactured in a single operation involving a minimum of labor.

Although I have illustrated and described two embodiments of the invention, I do not intend to be limited thereto as the scope of the invention is best defined in the appended claim.

I claim:

A wiring terminal panel comprising an elongated strip of thin, flexible resin impregnated fabric material, a plurality of terminal members formed of wire attached to said strip adjacent an edge thereof, each of said terminal members including spaced portions of uniform diameter driven through said strip, then bent outwardly along one face of the strip toward an edge thereof in converging relationship and clinched over the edge of the strip, each of said members further including a bight portion integrally connected to the spaced portions and extending outwardly at right angles thereto along the opposite face of said strip and beyond the edge thereof.

SCIPIONE M. DEL CAMP.

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