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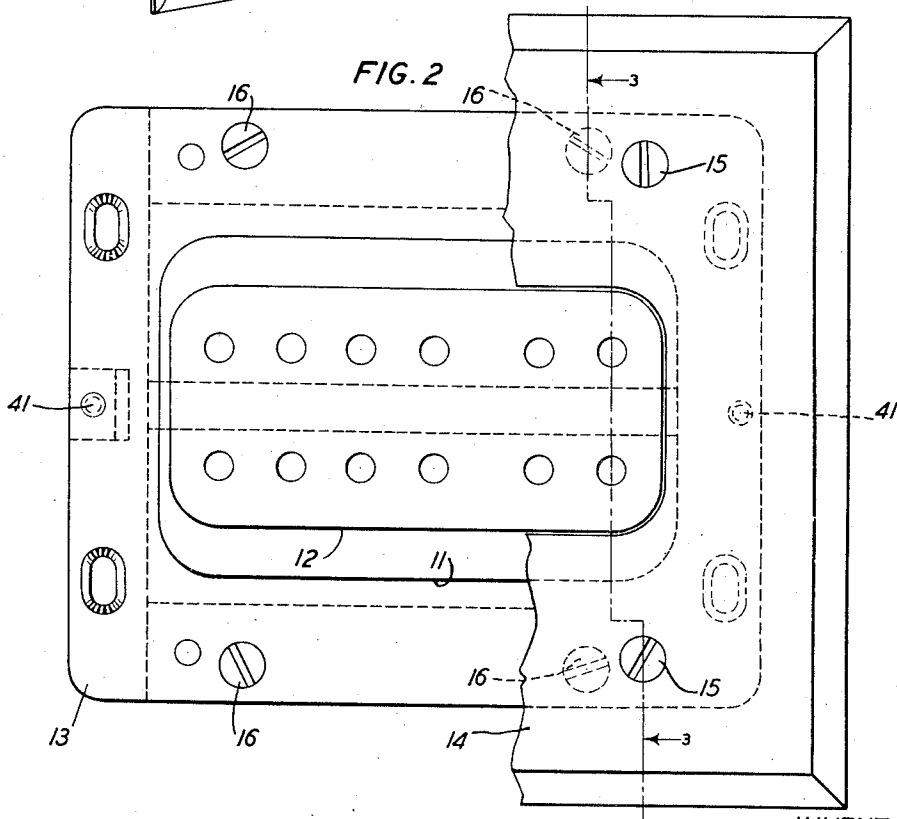
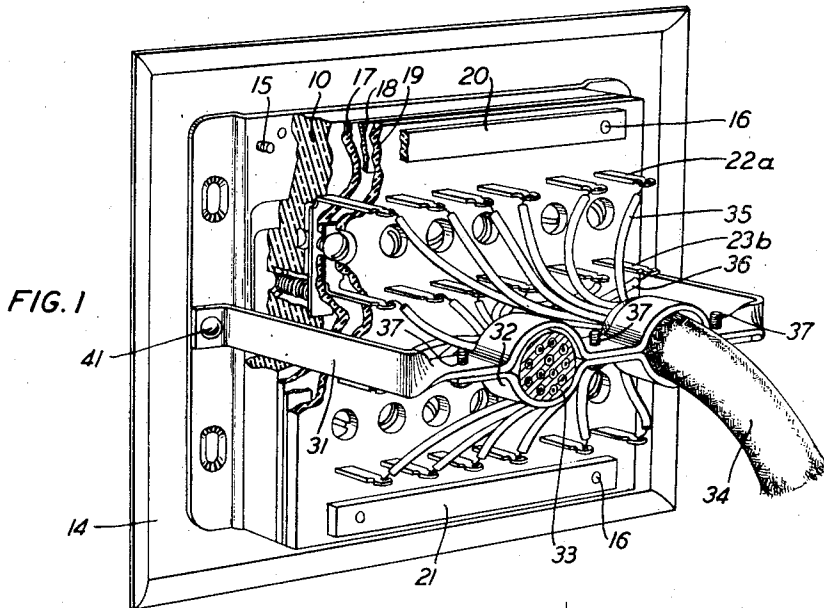
J. J. KUHN

1,929,925

MULTIPLE TERMINAL BANK

Filed Nov. 11, 1931

2 Sheets-Sheet 1



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BY *J. Mac Donald*
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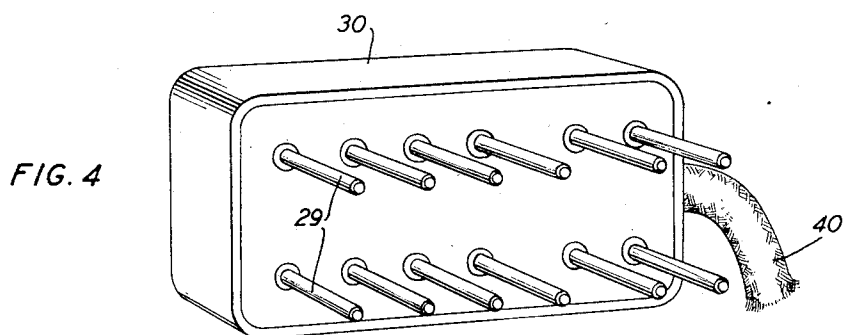
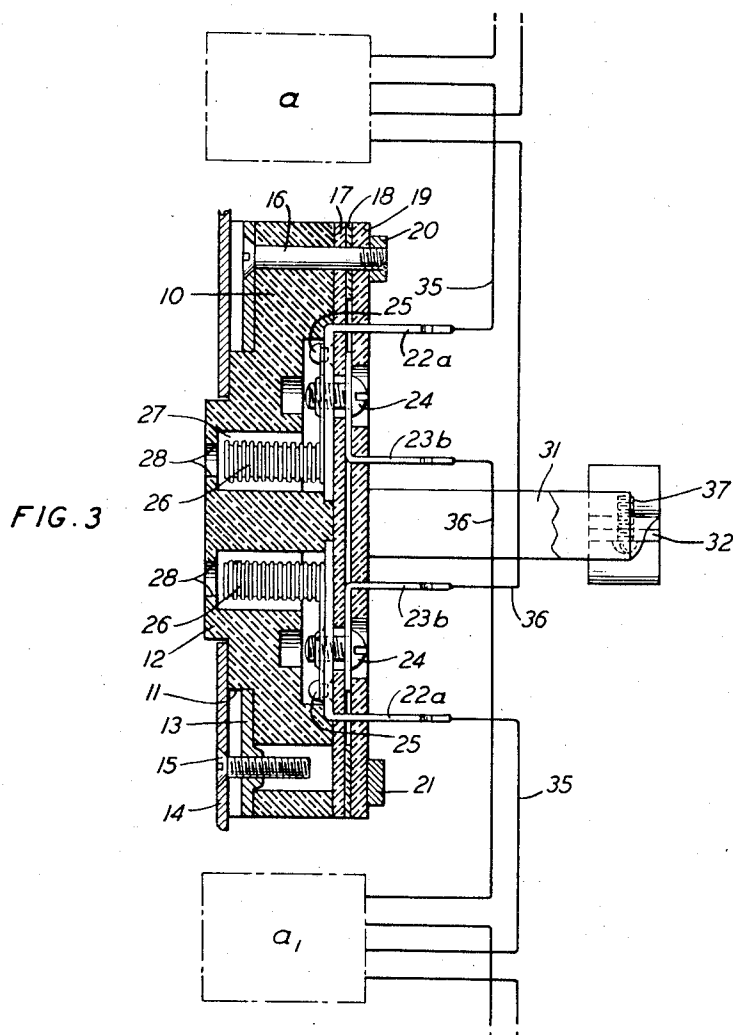
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UNITED STATES PATENT OFFICE

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MULTIPLE TERMINAL BANK

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Application November 11, 1931
Serial No. 574,279

3 Claims. (Cl. 173—324)

This invention relates to multiple terminal bank arrangements for wall outlet boxes used for connecting a plurality of lines or radio channels to loud speakers in radio program distribution systems or the like.

In such a system it is customary to provide a number of channels or circuits which are multiplied in outlet boxes placed in the rooms of a building, the wires terminating on banks of ordinary terminals mounted in the different outlet boxes where they are permanently attached by soldered connections.

The testing of the lines in such a system is effected by interrupting the defective circuit as by breaking its soldered connection as at the middle disposed outlet box, for example, and repeating this operation including any desired number of outlet boxes as the case may be until the defect in that line is located. Such terminal arrangements, however, have proved to be unsatisfactory due to the fact that the testing of any one of the radio channels requires the breaking and resoldering of a number of connections in the outlet boxes in the subscribers' premises and the consequent loss of time, expense and inconvenience.

The terminal bank of this invention avoids these inconveniences by mounting the terminals on each side of an insulating mounting plate and securing these terminals in pairs by screws which also serve to connect the terminals in each pair electrically. Means is provided for holding the terminals of each pair in adjusted relation to each other upon the removal of their connecting screws for the purpose of testing the lines multiplied thereto. A jack is connected to one of the terminals of each pair and extends in a counter-sunk hole in a mounting block. These jacks are engaged by a corresponding number of plugs connecting with the loud speaker cord. In this arrangement the simple removal of the screws which serve to connect the pairs of terminals in the bank interrupts the line multiplied thereto at these points and thereby permits testing while avoiding the breaking of the soldered connections connecting the wires with the terminals in the bank.

Other advantages of this invention will appear from the following description and by the claims appended thereto, reference being had to the accompanying drawings in which:

Fig. 1 is a perspective rear view of the terminal bank showing a number of parts with portions cut away;

Fig. 2 is a front elevation showing the faceplate partially cut away;

Fig. 3 is a cross-sectional view taken approximately on line 33, of Fig. 2 showing diagrammatically a number of wires connected to the terminals in the bank; and

Fig. 4 is a perspective assembly view of a multiple plug used for connection with the terminals in the bank.

In the drawings 10 indicates an angularly-shaped mounting block of insulating material having projections 11 and 12 respectively engaging a metallic plate 13 and a faceplate 14. Plate 14 is held in adjusted position on projection 12 by a number of screws 15 which engage the plate 13, the latter being in turn secured to the block 10 by a number of screws 16, as shown in Figs. 1 and 3, which are also used for securing insulating plates 17 and 19 and an insulating spacer member 18 collectively to the opposite face of the block 10 through their engagement with similarly threaded holes in the bars 20 and 21.

On the plate 17 there is mounted a plurality of right angled terminals 22—*a* and 23—*b* arranged by pairs. The terminals in each pair are clamped securely to the opposite sides of this plate by a screw 24 which also serves to establish electrical connection between these terminals. The free end of terminal 22—*a* protrudes through the plates 17 and 19 and the end of terminal 23—*b* protrudes through the plate 19 in parallel relation with terminal 22—*a*. The plate 19 is provided for holding the terminals 23—*b* in adjusted relation with respect to terminals 22—*a* upon the removal of the screws 24 and terminals 22—*a* are held securely between plate 17 and the block 10 through their engagement with the latter and the plate 19 as shown in Figs. 1 and 3, the removal of screws 24 being effective to interrupt the lines multiplied to their respectively associated terminals for a purpose that will be hereinafter described in detail.

To the front portion of each terminal 22—*a* there is secured as by rivet 25 a jack 26 of the intermeshing spring type which extends in a counter-sunk hole 27 in the block 10 in registry with an opening 28 serving to guide the plugs 29 in a bank 30 shown in Fig. 4 in engagement with jacks 26, these plugs connecting with the loud speaker's cords 40, a portion of which is shown in Fig. 4.

On the plate 13, as shown in Figs. 1 and 2 there is secured as by rivets 41 an angularly formed

bracket 31 which is provided with a clamping plate 32 and screws 37 for securing the cables 33 and 34 in juxtaposition to the rear of the bank to facilitate the connection of the wires 35 and 36 with the pairs of terminals 22—*a* and 23—*b* as shown in Figs. 1 and 3 and the whole enclosed in an ordinary casing or box *a*, *a*₁ shown diagrammatically in Fig. 3 which may be inserted in the wall of a room in a manner similar to that of the so-called outlet box used in connection with lighting fixtures.

In the use of this terminal bank the testing of the lines or radio channels is effected by removing one of the screws 24 at any bank through the different rooms of a building for interrupting the defective circuit at that point, noting the operation of the devices remaining connected in the circuit and repeating this operation until the defect in that line is located, thus avoiding the inconvenience of breaking and resoldering the wire connections, and thus saving time while effecting considerable economy in the maintenance cost of such a system.

What is claimed is:

1. In a terminal bank, an insulating mounting plate, pairs of terminals, the members of each pair being mounted on opposite sides of said plate, one terminal of each pair being bent to extend through an aperture in said plate, and a

metal detachable fastening member for each pair of terminals passing through said terminals, and serving to secure them to said mounting plate and electrically connecting them together.

2. In a terminal bank, an insulating mounting plate, pairs of terminals, the members of each pair being mounted on opposite sides of said plate, one terminal of each pair being bent to extend through an aperture in said plate in parallel relation to the other terminals in said pairs, a metal detachable fastening member for each pair of terminals passing through said terminals and serving to secure them to said mounting plate and electrically connect them together, and a jack mounted on one terminal of each pair.

3. In a terminal bank, a mounting block, a pair of plates bolted to said block in parallel relation, pairs of terminals mounted on opposite sides of one of said plates, similar terminals in each pair having portions extending through both plates and the other terminals having portions extending through the other plate, a screw for securing the terminals of each pair to the first mentioned plate and electrically connecting them together, and means for clamping certain of said terminals between said plates and the others between the block and the first mentioned plate.

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55	130
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70	145
75	150