

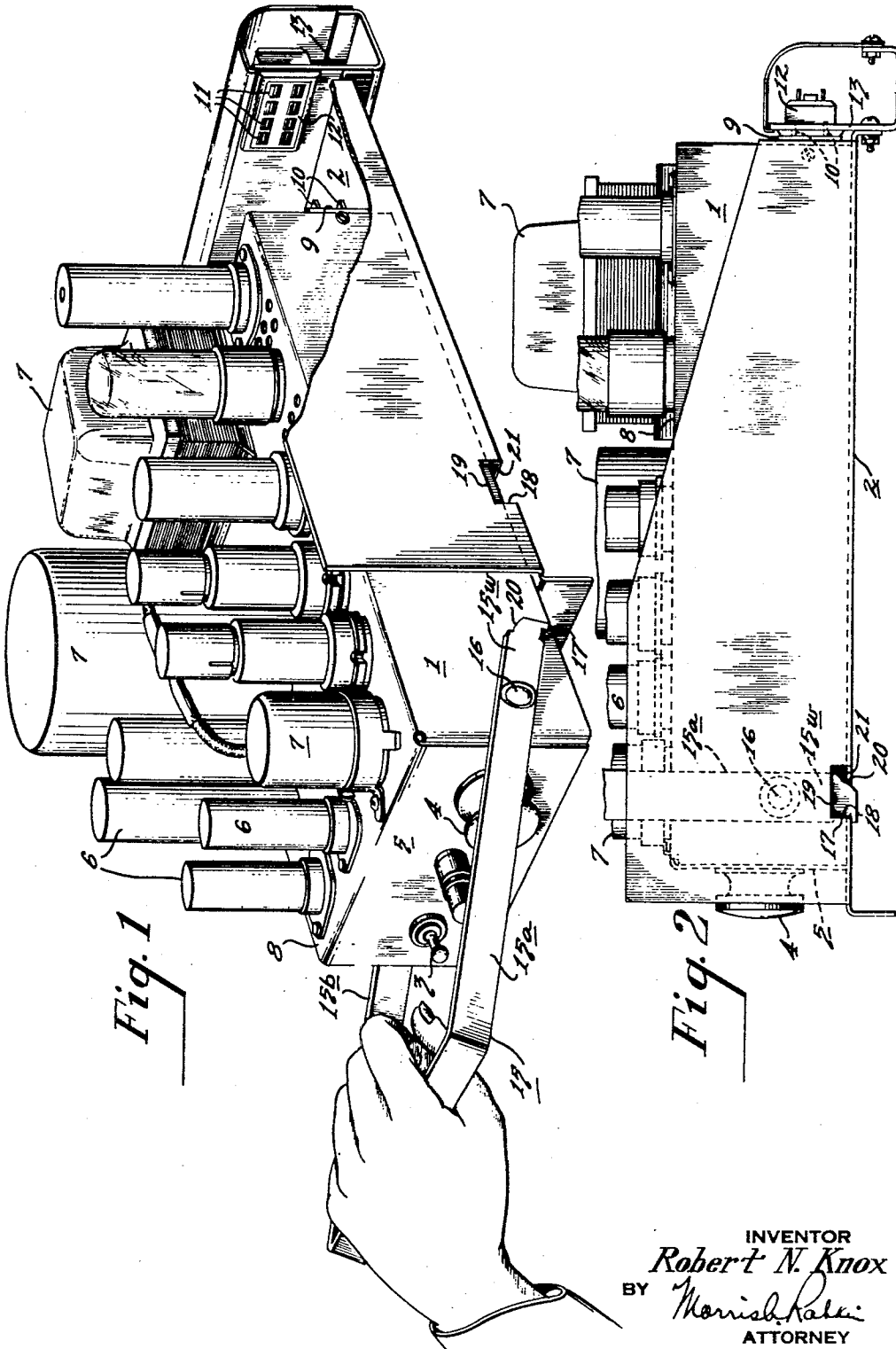
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RADIO CHASSIS OF THE PLUG-IN TYPE

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RADIO CHASSIS OF THE PLUG-IN TYPE

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1 Claim. (Cl. 175-298)

1

This invention relates to radio and analogous electrical apparatus of the type wherein the various parts or stages of the installation are contained in "plug-in" chassis units in order to permit the removal of any given chassis unit for purposes of inspection and repair.

In such apparatus a great many complementary plug and socket terminals or contacts may be required to complete the electrical circuits between each unit and the other units of the set. Such complementary terminals or contacts, or some of them, may carry currents of high frequency, hence they must fit very tightly and, as a consequence, difficulties frequently arise in aligning and inserting and withdrawing such plug-in chassis-units from the shelves or panels upon which they are mounted.

Accordingly, the principal object of the present invention is to provide an improved plug-in chassis assembly and one characterized by the provision of means for facilitating the alignment and the insertion and removal of the plug-in chassis units from the shelves or panels upon which they are mounted.

Another and related object of the invention is to provide an improved portable plug-in chassis unit having a handle for carrying the same, and one wherein the handle is so constructed, positioned and arranged with respect to the electrical terminals or contacts of the assembly that it constitutes a lever for applying engaging and disengaging forces to said terminals or contacts.

Certain details of construction together with other objects and advantages will be apparent and the invention itself will be best understood by reference to the following specification and to the accompanying drawing, wherein,

Fig. 1 is a view in perspective of an improved shelf-mounted electrical installation including a lever-actuated plug-in chassis constructed in accordance with the principle of the invention, the chassis being shown upon the shelf of the assembly with its electrical terminals disconnected and

Fig. 2 is a fragmentary side elevation of the assembly of Fig. 1, the chassis being shown in its normal position on the shelf with the terminals connected.

In the embodiment of the invention that has been selected for purposes of illustration 1 designates, generally, an inverted box-like metal chassis or compartment, and 2 is a stationary shelf upon which the chassis is removably supported. The removable compartment 1 is of more or less conventional form and dimensions

2

and, as in standard practice, is provided with a number of control elements, exemplified by a switch 3 and knob 4 on its front panel 5, and has a multiplicity of vacuum tubes 6 and other elementary parts 7 of an electrical amplifier on its top surface 8. These several parts 3 to 7 inclusive will be understood to be interconnected within the compartment 1 and there is an insulating terminal or contact board 9 having prong-like connectors 10 affixed to the rear surface of the said compartment for connecting the amplifier to an external circuit or circuits through the complementary jacks 11 of a socket 12 which is mounted in register with the male connectors 10 upon an upstanding panel 13 at the rear of the shelf 2.

As previously indicated, the aligned plugs 10 and jacks 11 are preferably tight-fitting, to ensure perfect electrical continuity, and this tightness (which may be enhanced through long engagement) may render it difficult to remove and re-install the chassis. This objection to present day plug-in chassis installations is overcome, in accordance with the present invention by the provision of a lever 15 on the chassis 1 and a catch for the "weight arm" of the lever, upon the shelf 2. As shown more clearly in Fig. 1 the lever 15 preferably comprises an inverted U-shape member having its arms 15a and 15b pivotally secured intermediate their ends, as at 16, to the sides of the chassis adjacent to the front panel 5. This U-shape member 15 thus comprises a lever of the first class and is adapted to be pivoted forwardly and downwardly toward the plane of the shelf 2 and thus to comprise a handle for removing the chassis from the shelf and for carrying the chassis when it is off the shelf. Each of the free ends or "weight arms" 15w of the lever has a latch on the form of a notch 17 in its "front" edge for engagement with the front edge or catch 18 of the cutaway portion 19 of the shelf 2. Thus, when the handle 15 is "down" as shown in Fig. 1 so that the notch or latch 17 of the lever clears the surface of the shelf, the chassis may be pushed inwardly until the latch is in register with the opening 19. When the chassis is in this position, i. e. with the latch in register with the aperture 19, the prongs 10 at the rear of the chassis are closely adjacent the socket 12 on the rear panel 13. The handle 15 may now be raised so that its notch or latch 17 engages the edge or catch 18 on the shelf. The continued application of force to the handle moves the chassis rearwardly on the shelf and urges prongs 10 into the jacks 11 in the socket 12.

3

It will be observed that the rear corner of the weight arm 15w of the lever is cut-away at the rear of the notch 17 to provide a curved or slanting surface 20. When the handle 15 is pulled forwardly from its upright or "locked in" position, this slanting surface 20 is caused to bear against the rear edge 21 of the aperture 19. Thus, when the handle is pulled down the resulting lever action moves the chassis forwardly a limited distance sufficient to pull the prongs 10 out of the socket 12 whereupon the chassis may be pulled off the shelf and carried away upon the handle.

It will now be apparent that the present invention provides an improved plug-in chassis assembly and one characterized by the provision of a combined handle and lever for facilitating the insertion and removal of the plug-in units from the shelves or panels upon which they are mounted.

What is claimed is:

In combination a rectangular chassis, a shelf for supporting said chassis provided with an aperture spaced from its front edge, said chassis being removably mounted on said shelf, cooperating electrical contacts, one of said contacts being mounted on the rear face of said chassis and the other of said contacts being mounted at the rear of said shelf, a pivot on the side of said chassis spaced from its lower edge, a lever rotatably mounted on said pivot, said lever having a notch in one end thereof, said notch en-

4

gaging the front edge of said aperture when said lever is rotated in one direction about its pivot, whereby continued movement of said lever in said direction forces said chassis into mounted position and said contacts into firm engagement, a cam surface on said lever opposite said notch, said surface engaging the back edge of said aperture when said lever is rotated in the opposite direction whereby continued movement of said lever in said opposite direction withdraws said chassis from mounted position and forces said contacts out of engagement.

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