

J. W. ALEXANDER

RADIO RECEIVING SET FOR ALTERNATING CURRENT SUPPLY

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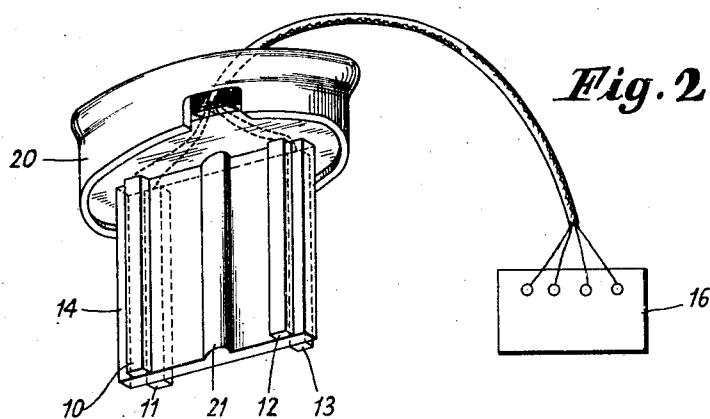
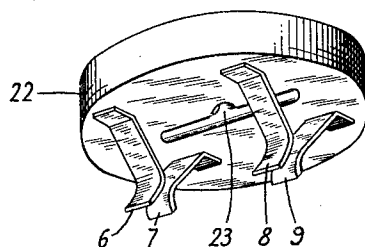


Fig. 3



INVENTOR
JOHAN W. ALEXANDER

BY

H.S. Grover
ATTORNEY

UNITED STATES PATENT OFFICE

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RADIO RECEIVING SET FOR ALTERNATING
CURRENT SUPPLY

Johan Willem Alexander, Eindhoven, Netherlands, assignor to N. V. Philips' Gloeilampenfabrieken, Eindhoven, Netherlands, a corporation of the Netherlands

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2 Claims. (Cl. 250—27)

This invention relates to a radio receiving set for alternating current supply and has for its purpose to adapt it to a direct current network.

The use of devices for converting direct current into alternating current in radio receiving sets for alternating current supply is known. Furthermore it is known, when the available voltage is too low for direct supply, to convert it into alternating voltage with the aid of an incorporated converting device, the alternating voltage after rectification being used for the supply of anode voltage. In this case the filaments are directly connected to the source of direct current. Consequently the set requires a particular construction.

According to the invention a usual alternating current receiving set is adapted to be connected to a direct current network by providing a device for converting direct current into alternating current, this device being easily interchangeable, i. e. without it being necessary to loosen the connecting lines. Moreover, a switching device is available which is preferably constructed as a plug with the aid of which the converter can be switched on so that the direct current of the network is first transformed into alternating current. Preferably the arrangement is constructed in such a manner that upon changing over the supply conductors are interrupted inside the set and the converter is interposed, a switch being provided by means of which the set and in the case of direct current supply also the change over device, can be switched off.

The invention has the advantage that only a single kind of set need be established in which the set is normally adapted for alternating current supply and can be adapted to a direct current network in a very simple manner, for instance, by incorporating a converter in the casing of the set and by operating a switch or again by inserting a plug. If the receiving set should accommodate various network voltages, as is nearly always the case, this holds also good with direct current supply. In either case changing over to another network voltage is effected in the same manner, for instance by changing over the primary winding of the supply transformer.

The invention will be more clearly understood by reference to the accompanying drawing given by way of example.

Fig. 1 is a schematic representation of the device according to the invention.

Fig. 2 illustrates a form of plug for use with the device as represented in Fig. 1.

Fig. 3 shows a particular construction of a plug receptacle for the plug shown in Fig. 2.

The device according to the invention is schematically represented in Figure 1, wherein the terminals 1 are the network terminals of a radio receiving set. The network current is supplied to the primary winding 4 of the supply transformer 5 through safety contacts 2 which are opened, for instance upon opening the casing of the set, and a usual switch 3. According to the invention the conductors comprise contact devices consisting of elastic contact pieces 6, 7, 8 and 9 which are normally arranged in pairs, as appears from the drawing. In this case the set is adapted for alternating current supply. The casing 19 of the set indicated in dotted lines furthermore contains a schematically represented device for converting direct current into alternating current and comprising direct current terminals 17 and alternating current terminals 18, which are connected to the contact strips 10, 12 and 11, 13 respectively. The contact strips are separated from each other by insulating parts 14 and 15 and can be slipped between the contact pieces 6, 7 and 8, 9 respectively, so that these are separated and the converter is put in. In this case the set is adapted for direct current supply. The set, and in the case of direct current supply also the converter, can be switched off by means of the switch 3.

Figures 2 and 3 show one form of construction of the converting device according to the invention. Figure 2 shows a particular construction of a plug for use in a device represented in Fig. 1, this plug consisting of a body 20 and an insulating strip 14 on either side of which are provided the four strips 10, 11, 12 and 13 connected to the converter. Fig. 3 shows the contact device for the receiving set cooperating therewith and consisting of an insulating portion 22 having an aperture 23 whose form corresponds to that of the plug. The body 22 carries the contacts 6, 7, 8 and 9 each of which is secured with one end to the body 22 and which normally bear with the other end to the end of another contact. Upon inserting the plug each of the strips 10 to 13 is made to contact with one of the contacts 6 to 9.

The plug is shaped unsymmetrically, so that it can be inserted only in one position and wrong connections are obviated. According to Figures 2 and 3 this is ensured by providing on one side of the plug a thickening 21 which fits in a cavity which is also provided only on one side of the aperture.

What is claimed is:

1. In amplifying apparatus and the like incorporating electronic tubes, power conditioning means for rectifying alternating current and supplying the rectified current to the electronic tubes for energizing the same, means including
5 a pair of terminals adapted to be connected to a suitable power supply network, a circuit including a spring contact device for connecting the terminals to the input of the power conditioning circuit, said spring contact device being
10 adapted to receive a cooperating plug device, means for changing direct current into alternating current, said last named means being provided with a plug device arranged so as to be received
15 by the spring contact device, said spring contact device being arranged so as to connect said terminals directly to the power conditioning circuit in the absence of the plug device and to connect the terminals to the power conditioning circuit
20 through the current changing means when the plug is positioned in the spring contact device.

2. In a power supply system adapted to utilize either an alternating current or a direct current source, a power transformer having primary and secondary windings, means for connecting the primary winding across the source to be utilized,
5 said means including a plug receptacle device provided with normally closed spring contact elements, a vibrator means adapted to change direct current into alternating current, said vibrator means being provided with direct current input
10 terminals and alternating current output terminals, plug means connected to the input and output terminals, said plug means being arranged so as to be received by said plug receptacle and to open said spring contact elements upon insertion
15 therein and thereby interpose the vibrator means between the primary winding and the source to adapt the power supply system for operating with a direct current source.

JOHAN WILLEM ALEXANDER.