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R. C. PITARD

GRID CONDENSER

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Fig. 1.

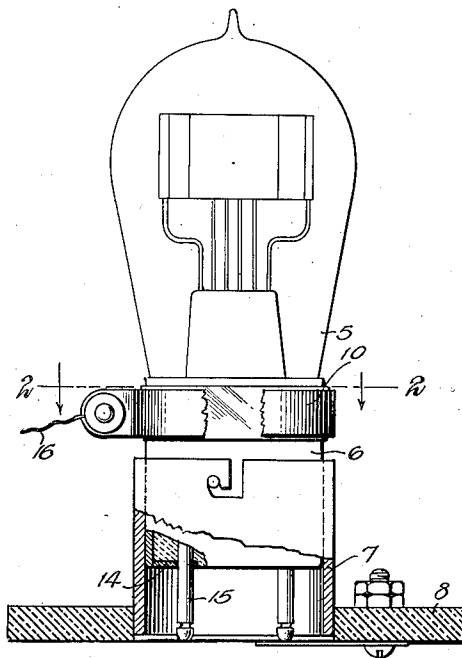


Fig. 2.

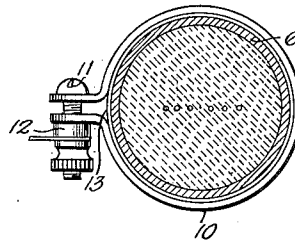


Fig. 4.

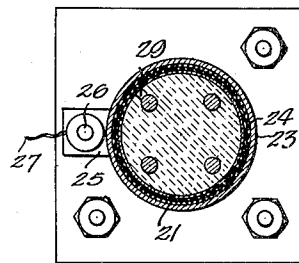
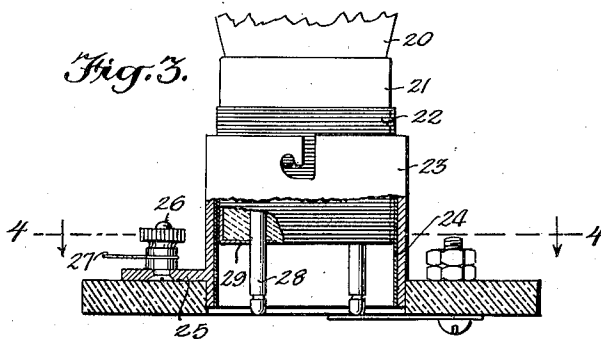


Fig. 3.



WITNESSES

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ROBERT C. PITARD, OF JACKSON, MISSISSIPPI.

GRID CONDENSER.

Application filed December 15, 1923. Serial No. 680,941.

To all whom it may concern:

Be it known that I, ROBERT C. PITARD, a citizen of the United States, and a resident of Jackson, in the county of Hinds and State of Mississippi, have invented a new and Improved Grid Condenser, of which the following is a full, clear, and exact description.

The present invention relates to electric condensers of the fixed type, and pertains particularly to a condenser adapted for use in the grid circuit of radio receiving tubes.

It is one of the primary objects of the invention to provide a new and improved form of fixed condenser, the attachment of which to a receiver is greatly facilitated.

It is a further object of the invention to construct a device of this character in such a manner that the parts attendant its use are materially reduced.

It is a further object of the invention to employ the elements of the tube in such a manner as to form one of the members of the condenser.

With the above and other objects in view, reference is had to the accompanying drawings, in which—

Figure 1 is a view partly in elevation and partly in section, of a condenser constructed in accordance with the present invention and showing its manner of use;

Fig. 2 is a horizontal sectional view taken on the line 2—2 of Fig. 1;

Fig. 3 is a view partly in elevation and partly in section of a slightly modified form of the invention;

Fig. 4 is a detail horizontal view taken on the line 4—4 of Fig. 3.

Referring more particularly to the drawings, the reference numeral 5 designates the tubular member of a tube used in radio apparatus, and 6 designates the tube base. The reference numeral 7 designates a tube socket carried by a socket base 8 in the ordinary manner.

In Fig. 1, the reference numeral 10 designates a metallic band, which is adapted to be clamped around the tube base 6 by means of a bolt 11 and nut 12. Interposed with respect to this metallic band, there is a band 13 of dielectric material, such as mica. As shown at 14 in Fig. 1, the lamp socket is grounded with the grid leg or post 15 of the tube, by a conductor bridged between the metallic section of the tube base

6 and the post 15. This form of the invention operates as follows:

Current is led to the metallic band 10 by means of a suitable conductor 16, and the energization of this band 10 by an electric current sets up an induced current in the lamp base 6 through the medium of the dielectric material 13. This induced current is conducted from the tube base by means of the conductor 14 to the grid leg 15 of the tube and hence to the grid in the ordinary manner.

This form of the invention when employed, does away with the grid terminal on the lamp base and also provides a convenient means for attaching a grid condenser in the grid circuit.

In that form of the invention shown in Fig. 3, the reference character 20 designates the tube and 21 the tube base, and in this embodiment of the invention the tube base is enameled or otherwise insulated as indicated by the reference numeral 22. The reference numeral 23 designates the tube socket and such socket is provided with an insulated lining 24 which, together with the insulation 22 of the tube, serves to insulate the tube with respect to the tube socket 23. In this form of the invention the tube socket 23 has a projecting portion 25 provided with a terminal or binding post 26, to which is attached a suitable conductor 27. The reference numeral 28 designates the grid leg or post of the tube, and said grid leg or post is in electrical connection with the metallic portion of the tube base, by means of a conductor 29.

In the form of the invention shown in Fig. 3, current is led in by the conductor 27 and the tube socket 23 is energized. Energization of the tube socket induces through the insulation 24 which is in the form of a dielectric material, current in the metallic portion of the tube base, and this current is led by means of the conductor 29, to the grid post or leg 28, and thence to the grid of the tube.

From the foregoing it is apparent that the present invention provides a grid condenser of the fixed type in which the method employed in connecting the grid condenser in the grid circuit is greatly simplified over that commonly employed and at present in use, and that, furthermore, the present invention combines as one of the elements of

the condenser, certain elements of the tube.

What is claimed is:

1. A fixed condenser comprising in combination with a tube, an electrical conductor adapted to embrace a portion of the tube, and a dielectric material interposed between the conductor and the tube.
2. A grid condenser comprising a conductor adapted to embrace a metallic portion of a tube, a dielectric material interposed between the conductor and the metallic portion of the tube, and means for establishing connection between the metallic portion of the tube and the grid terminal thereof.
3. In a grid condenser, a conductor adapted to embrace the metallic portion of a tube, a dielectric material interposed between said conductor and the portion of the tube embraced thereby whereby current will be induced in the metallic portion of said tube, and means for establishing connection between the metallic portion of said tube and the grid of the tube, whereby said induced current will be led to the grid of the tube.
4. In combination with a radio tube, an electrical conductor adapted to surround the metallic base thereof, said conductor being insulated with respect to said metallic base in such a manner as to permit of a current in the metallic base and induced from said conductor, and means for leading said induced current into the grid circuit of the tube.
5. A vacuum tube having a base, a receiving means for the base, a condenser, a portion of said base forming one of the plates of said condenser.
6. A vacuum tube having a base, a receiving means for the base, a condenser, said condenser surrounding one of the elements of the tube, which element forms one of the plates of the condenser.

ROBERT C. PITARD.