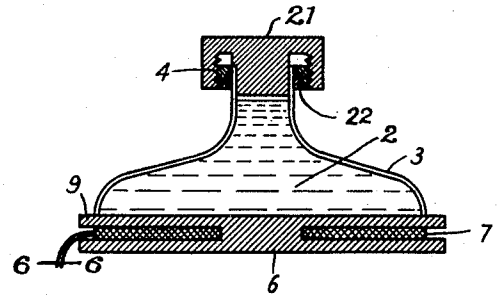
Nov. 22, 1938. M. OSNOS 2,137,411

ELECTRIC CONDENSER

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ELECTRIC CONDENSER

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2 Claims. (Cl. 175—41.5)

This invention relates to an improved electric condenser whose capacity varies very markedly with the temperature. A condenser of this invention is particularly adapted to use in a circuit for tuning the capacity of a vacuum tube transmitter, especially when short waves are employed, and is to be controlled from a remote point or else for the purposes of stabilizing frequency of a valve transmitter controlled by the agency of a piezo-electric crystal.

This application is a division of my copending application Serial No. 609,401, filed May 5, 1932.

According to the invention a condenser of this kind is created so that its active surface or its inter-electrode distance, or else both, are adjusted or regulated by a fluid possessing a large temperature coefficient of expansion or else by a gas (say, air) or a combination thereof. It is then feasible to heat the liquid or the gas or a combination of both, for example, by means of electric heating to a more or less high degree, with the result that the capacity of the condenser is regulable or adjustable at will at any desired rate.

A simple embodiment of this invention is shown by the single figure of the drawing, in which 3 is a glass jar or bottle having a base or bottom considerably larger in area than the cross-section of the neck. The space within the jar 3 is filled with a suitable liquid, for example, mercury 2. A metallic electrode 21 is located at the neck of jar 3 and can be screwed in or out by means of a screw thread 4, fastened on a collar ring or flange 22 so as to be at the correct distance above the liquid level.

When the temperature of the liquid mercury increases, its level will rise and decrease the space between electrode 21 and mercury 2, thus changing the capacity of the condenser in direct proportion to the variation in temperature. For example, if the liquid mercury is heated by means of the heater winding 7, which is wound within a coil form 9, preferably of metal, the coil 7 being connected to an external source of electric current (not shown) by means of leads 6, the liquid 2 will be caused to expand, the distance between its surface and the electrode 21 decreases and the capacity of the condenser increases.

I claim:

1. An electric condenser comprising an insulating bottle-like container having a base of substantially larger area than the cross section of the neck of said bottle, a conducting fluid within said container, an electrode closing the opening of said container, and means for changing the capacity between said conducting liquid and said metallic electrode.

2. An electric condenser comprising an insulating bottle-like container having a base of substantially larger area than the cross section of the neck of said bottle, a conducting fluid within said container, an electrode closing the opening of said container, and electrical heating means at the base of said container for controlling the capacity between said conducting liquid and said metallic electrode.

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