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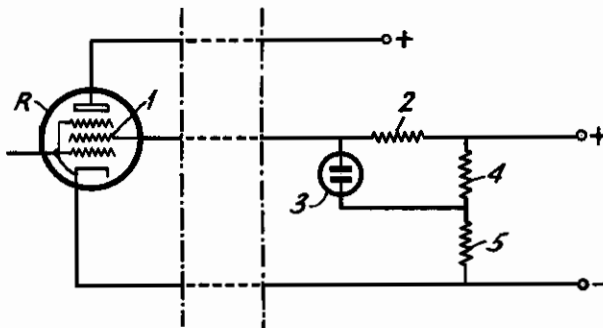
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# ALIEN PROPERTY CUSTODIAN

## FAULT INDICATOR DEVICE FOR AMPLIFIER TUBES

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It is often desirable in practice to have available ways and means designed for automatic indication of tube defects. Such an arrangement would be particularly valuable and useful where equipment and outfit is concerned which comprises a large number of tubes.

What is employed for this purpose according to the invention is a circuit organization in which the failure of the emission current upon a tube being rendered defective or inoperable occasions the indicator device to respond.

The drawing shows an exemplified embodiment of the object of the invention. The problem here is to check up on the tube R permanently. To this end the high potential required for the operation an electrode impressed with a positive bias is impressed upon this electrode across the resistance 2. The latter is of such a size that a considerable drop of potential is caused across it. In parallel relation to the source of potential supply is a voltage divider comprising the resistances 4 and 5. The telltale glow tube 3 is connected between the lead from the resistance 2 to the electrode 1 and the lead connecting resistances 4 and 5. In other words, the glow-tube or gaseous-conducting tube has one pole at the electrode potential. It is impressed through the voltage divider 4, 5, with a voltage which is considerably lower than the striking

voltage. If, then, a tube defect arises so that the circuit to the electrode is broken the drop of potential across resistance 2 becomes zero. As a result the glow-tube 3 receives a potential which is far above the firing or striking potential. As a result the glow-tube 3 is caused to flash. The resistances may be readily proportioned so that the voltage change will be 50 V and over, thus insuring safe and dependable indication or telltale action. Since a current will flow through the glow-tube only when the lamp has been struck the operation of the tube will not be impaired by this glow-tube.

The new arrangement, in spite of the limited circuit means which it requires insures permanent and uninterrupted control, and the latter in no way affects normal operations. The resistances of the glow-tube may be so chosen that most widely varying conditions can be met. If desired, the current which flows through the glow-tube may be utilized to cause actuation of another warning signal or alarm of an acoustic nature, say, a signal bell.

Where large installations of tubes are dealt with, all tell-tale glow-tubes may be united to form a panel so that such defects as may arise can be discovered immediately.

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