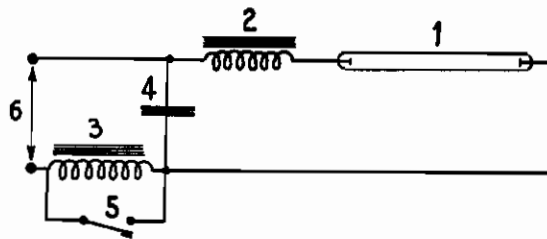


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ELECTRIC DISCHARGE TUBES  
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# ALIEN PROPERTY CUSTODIAN

## DEVICE FOR STARTING AND FEEDING ELECTRIC DISCHARGE TUBES

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For feeding an electric discharge tube it is well known to connect its electrodes to an alternating current supply through the intermediary of a reactance coil which ensures stable working conditions. The presence of this reactance coil diminishes the power factor of the installation, but it may easily be brought as close to unity as desired by means of a condenser connected across the terminals of the assembly formed by the tube and the reactance coil.

Such an installation necessitates that the line voltage shall be sufficiently high to effect starting of the tube without difficulty. Otherwise, more or less complicated starting circuits must be provided.

The object of the present invention, which relates to this last mentioned case, is to produce a circuit arrangement which for the functioning of the tube possesses the advantage of that described above, and allows furthermore a starting of the tube to be obtained with great simplicity.

According to the invention, in a circuit arrangement for starting and feeding an electric discharge tube by means of an alternating current supply source, comprising a reactance coil in series with the tube and a condenser connected across the terminals of this assembly, there is added to the circuit including the tube the reactance coil and the source of feed current, between one of the terminals of the said source and one of the terminals of the condenser, a second reactance coil intended to produce in combination with the said condenser, an over-voltage between the electrodes of the tube which is sufficiently high to start the tube, means being provided for putting out of working the circuit of the said second coil once the starting of the tube is effected.

The annexed drawing furnishes by way of non-limitative example an installation diagram according to the present invention.

In the drawing, 1 illustrates a luminescent discharge tube, 2 and 3 are two reactance coils, 4 is a condenser, 5 a switch and the feed line voltage is applied at the terminals 6.

5 Considering in the first place the functioning of this circuit when the tube is lighted; the coil 3 having been short-circuited by the closing of the switch 5, the coil 2 ensures stabilization of the working conditions and the condenser 4 increases the power factor of the installation as hereinbefore mentioned. When the tube is extinguished, it is sufficient to open the switch 5 in order to constitute, by means of the reactance coil 3 and the condenser 4, an oscillating circuit  
10 connected across the terminals of the line 6; by suitably choosing the elements of this circuit a resonance effect is produced giving a much higher voltage at the terminals of the circuit 2, 4 than the line voltage, and the tube is started. The  
15 duration of the over-voltage necessary to start the tube being very small, the opening of the auxiliary switch 5 is effected by means of a push button which is advantageous especially when the main switch of the installation (not shown) comprises a control of this kind. In these circumstances the mechanisms of the said two apparatuses may in fact be easily combined so that starting of the tube is ensured when the main  
20 switch is closed without the operator having to carry out further operations. The opening of the switch 5 may also be effected by means of a relay actuated by the feed current of the tube, and for this purpose numerous alternatives are equally possible.

25 Finally, if desired a certain amount of mutual induction may be produced between the reactance coils 2 and 3 by partially combining in known manner their magnetic circuits; in this manner a further regulating of the over-voltage produced at the moment of starting is obtained.

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