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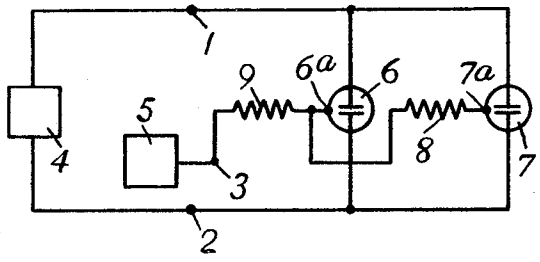
ELECTRICAL STAND-BY CIRCUITS

Filed Nov. 19, 1962



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1

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ELECTRICAL STAND-BY CIRCUITS

Reginald Muggeridge, Ickenham, Middlesex, England, assignor to Rotax Limited, Willesden, London, England

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Claims priority, application Great Britain, Nov. 29, 1961, 42,627
1 Claim. (Cl. 315—88)

This invention relates to electrical stand-by circuits, and makes use of discharge tubes of the kind having an anode, a cathode and a triggering electrode, the arrangement being that when the device is connected to a source of D.C. supply it can be switched on by a suitable pulse applied to its triggering electrode.

A circuit according to the invention comprises in combination first and second similar discharge tubes of the kind specified connected in parallel circuits to a pair of terminals for connection to a D.C. source, a third terminal for connection to a source of triggering pulses, and a resistor through which the triggering electrode of the second tube is connected to the triggering electrode of the first tube, the triggering electrode of the first tube being further connected to the third terminal and the arrangement being such that the second tube will only be rendered conductive by a triggering pulse in the event of failure of the first tube.

The accompanying drawing is a circuit diagram illustrating one example of the invention.

Referring to the drawing, there are provided first and second terminals **1**, **2** adapted for connection to a D.C. source **4**, and a third terminal **3** adapted for connection to a source **5** of triggering pulses. Connected in parallel circuits across terminals **1**, **2** are first and second discharge tubes **6**, **7** having triggering electrodes **6***a*, **7***a* and each having similar characteristics. The triggering electrode **7***a* is connected to the terminal **3** through first and second resistors **8**, **9**, and a point intermediate the resistors **8**, **9** is connected to the triggering electrode **6***a*.

In operation, the potential at the triggering electrode

2

7*a* is always less than that at the triggering electrode **6***a* because of the resistor **8**, and so when the tube **6** fires the tube **7** is non-conductive. As soon as the tube **6** fires the voltage of its triggering electrode **6***a* fails, and hence when the tube **6** is operating normally the tube **7** will not be fired. However, in the event of the tube **6** failing to fire, the voltage at its triggering electrode **6***a* continues to rise, and when this voltage exceeds the firing voltage by an amount equal to the voltage drop across the resistor **8**, the tube **7** will be fired.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

An electrical stand-by circuit comprising in combination first and second terminals for connection to a D.C. source, a third terminal for a connection to a source of triggering pulses, first and second discharge tubes, each of said discharge tubes having an anode, a cathode and a triggering electrode, and each discharge tube being switched on to permit current flow between its anode and cathode by a predetermined voltage between its triggering electrode and cathode, means connecting the anodes of said tubes to said first terminal and the cathodes of said tubes to said second terminal, a first resistor connected between said third terminal and the triggering electrode of said first tube, and a second resistor connected in series with said first resistor between said third terminal and the triggering electrode of said second tube, the voltage between the triggering electrode and cathode of said first tube being sufficient to cause said first tube to conduct between its anode and cathode, and the voltage between the triggering electrode and cathode of said second tube being insufficient to cause said second tube to conduct unless said first tube ceases to conduct due to failure.

References Cited by the Examiner

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DAVID J. GALVIN, *Primary Examiner.*