

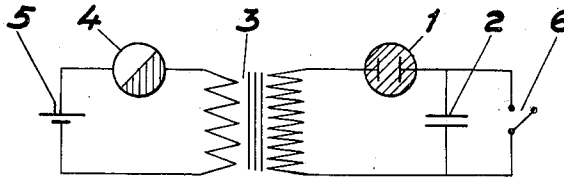
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DISCHARGE LAMP WITH LIGHT FLASHES

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DISCHARGE LAMP WITH LIGHT FLASHES

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1

The present invention relates to a device for generating light flashes in discharge lamps, especially neon lamps energised from a low voltage battery with automatic interrupter. The figure in the accompanying drawing illustrates an embodiment of the invention by way of example. In the drawing 1 designates the neon lamp, which is connected in series with a condenser 2 and the secondary winding of a transformer 3. The condenser may be short-circuited by a switch 6. The primary winding of the transformer is connected to a current source 5, the current from which is periodically interrupted by means of an automatic interrupter 4.

At the opening as well as at the closing of the primary circuit a voltage is induced in the secondary winding of the transformer, but only at the opening thereof this voltage will normally be sufficiently high to ignite the neon lamp. In other words, the voltage impulses produced across the secondary of the transformer by the opening of the interrupters 4 are of a higher voltage value than the impulses produced upon closure of the primary circuit. The lamp 1 therefore serves to block the flow of current in the secondary circuit of the transformer 3 in response to the voltage impulses induced in the secondary winding upon closure of the circuit making and breaking device 4. As a result thereof a pulsating direct current will flow through the lamp and charge the condenser 2. When the voltage across the condenser has attained a sufficient value the lamp is ignited also at a closure of the primary circuit, the energy stored in the condenser then being discharged through the lamp in the form of a current in a direction opposite to that of the charging current. During this discharge period the load impedance of the transformer is decreased, so that at the same time as the condenser is discharged a much greater current impulse than the normal one is delivered from the battery. During the discharge period the lamp will accordingly emit a considerably stronger light than during the charging period.

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

1. Apparatus for producing light flashes comprising, a primary coil, a secondary coil arranged in inductive relationship with respect to the primary coil, a source of direct current, a circuit connecting said source of current across the primary coil, a circuit making and breaking device for repeatedly opening and closing said circuit, a gaseous discharge lamp, a condenser, a circuit connecting said gaseous discharge lamp and said

2

condenser in series relationship across said secondary coil, said gaseous discharge lamp having an ignition potential above the voltage of the uni-directional pulse across the secondary coil during closure of said circuit making device and said gaseous discharge lamp having an ignition potential lower than the voltage across the secondary coil when said circuit making device opens whereby the condenser receives successive charges from uni-directional pulses resulting from repeated openings only of said circuit making device so that a voltage is attained across the condenser which when added to the voltage of a uni-directional pulse produced upon closure of said circuit making device is sufficient to ignite said gaseous discharge lamp.

2. Apparatus for producing light flashes comprising, a primary coil, a secondary coil arranged in inductive relationship with respect to the primary coil, a battery, a circuit connecting said battery across the primary coil, a circuit making and breaking device including a single periodically operable element for repeatedly opening and closing said circuit, a gaseous discharge lamp, a condenser, a circuit connecting said gaseous discharge lamp and said condenser in series relationship across said secondary coil, said gaseous discharge lamp having an ignition potential above the voltage of the uni-directional pulse across the secondary coil during closure of said circuit making device and said gaseous discharge lamp having an ignition potential lower than the voltage across the secondary coil when said circuit making device opens whereby the condenser receives successive uni-directional pulses resulting from repeated openings only of said circuit making device so that a charge is accumulated by the condenser having a polarity corresponding to the uni-directional pulses produced upon opening of the first circuit which when added to the voltage of one uni-directional pulse produced upon closure of said circuit making device is sufficient to ignite said gaseous discharge lamp.

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