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A DIRECT CURRENT TRANSFORMER

By

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UNEDITED ROUGH DRAFT TRANSLATION

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A DIRECT CURRENT TRANSFORMER

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The proposed direct current transformer belongs to the semiconductor type containing a master oscillator and a power transformer to which the load is applied.

A feature of the transformer which is the subject of the invention is that in order to excite the given oscillator an auxiliary transformer with an inductive feedback, the primary winding of which is connected in parallel with the primary winding of the power transformer to two junction-type triodes mounted according to the schematic with a common control electrode, for example, the collector, is used.

The proposed construction of the transformer permits a reduction in the quantity of the semiconducting components and an increase in its efficiency.

The drawing shows the schematic of the proposed transformer which is a push-pull relaxation oscillator with power inductive feedback (a blocking oscillator) composed of the junction-type triodes JT_1 and JT_2 and the auxiliary transformer T_a with an inductive feedback. In parallel with the primary winding of this transformer is connected the

primary winding of the power transformer T_p with a rectifier or resistor as a load.

The use of this circuit enables us to obtain the necessary optimum transforming frequency, using in this process the same triodes as for the master oscillator and the power amplifier and not impairing the magnetic circuit by introducing an air gap.

The junction triodes JT_1 and JT_2 are connected to the auxiliary transformer T_a according to the schematic with a common emitter, base, or collector. Using the configuration with a common collector enables us to maintain the polarity in which the storage battery is connected with the vibrapack, i.e., to exclude the necessity of introducing any changes in the wiring of the vibrapack. When connecting the triodes according to the schematic with common emitters the efficiency of the transformer may be increased 3-4%, but for this, changes need to be made in the lay-out of the vibrapack.

Subject of the Invention

A direct current transformer with semiconductor components containing a master oscillator and power transformer, to the latter of which the load is applied, differing in this, that in order to simplify the transformer and increase its efficiency an auxiliary transformer with inductive feedback is used to excite the oscillator frequency; and the primary winding of this transformer is connected in parallel with the primary of the power transformer with two junction-type triodes mounted according to the schematic with a common control electrode, for example, the collector.

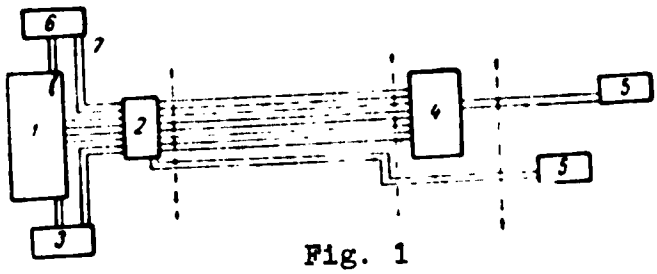

Fig. 1

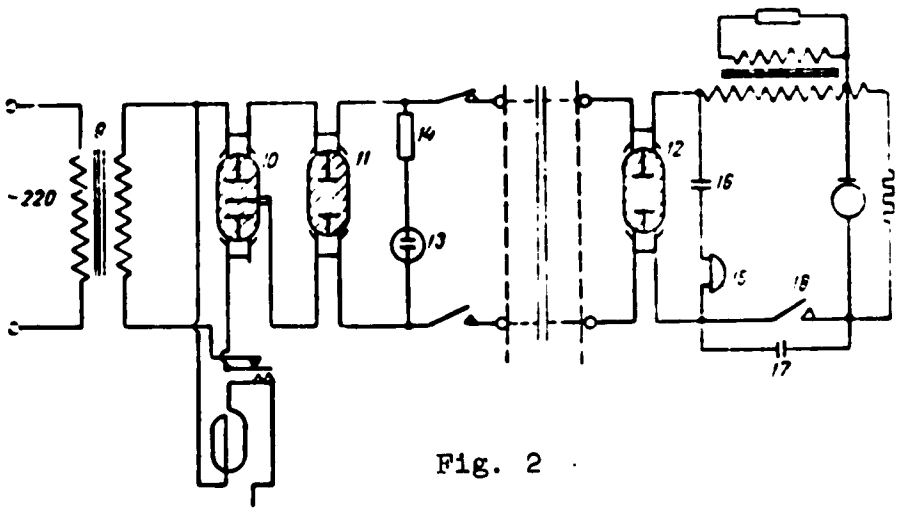

Fig. 2

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