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EXPLOSION-TYPE MAGNETIC GENERATOR,(U)
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EXPLOSION-TYPE MAGNETIC GENERATOR

by

R. Z. Lyudayev, V. Ye. Gurin, and Ye. N. Smirnov

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By: R. Z. Lyudayev, V. Ye. Gurin, and Ye. N. Smirnov

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Block	Italic	Transliteration	Block	Italic	Transliteration
А а	*А а*	A, a	Р р	*Р р*	R, r
Б б	*Б б*	B, b	С с	*С с*	S, s
В в	*В в*	V, v	Т т	*Т т*	T, t
Г г	*Г г*	G, g	У у	*У у*	U, u
Д д	*Д д*	D, d	Ф ф	*Ф ф*	F, f
Е е	*Е е*	Ye, ye; E, e*	Х х	*Х х*	Kh, kh
Ж ж	*Ж ж*	Zh, zh	Ц ц	*Ц ц*	Ts, ts
З з	*З з*	Z, z	Ч ч	*Ч ч*	Ch, ch
И и	*И и*	I, i	Ш ш	*Ш ш*	Sh, sh
Й й	*Й й*	Y, y	Щ щ	*Щ щ*	Shch, shch
К к	*К к*	K, k	Ъ ъ	*Ъ ъ*	"
Л л	*Л л*	L, l	Ы ы	*Ы ы*	Y, y
М м	*М м*	M, m	Ь ь	*Ь ь*	'
Н н	*Н н*	N, n	Э э	*Э э*	E, e
О о	*О о*	O, o	Ю ю	*Ю ю*	Yu, yu
П п	*П п*	P, p	Я я	*Я я*	Ya, ya

*ye initially, after vowels, and after ъ, ь; e elsewhere.
When written as ё in Russian, transliterate as yё or ё.

RUSSIAN AND ENGLISH TRIGONOMETRIC FUNCTIONS

Russian	English	Russian	English	Russian	English
sin	sin	sh	sinh	arc sh	$\sinh^{-1}$
cos	cos	ch	cosh	arc ch	$\cosh^{-1}$
tg	tan	th	tanh	arc th	$\tanh^{-1}$
ctg	cot	cth	coth	arc cth	$\coth^{-1}$
sec	sec	sch	sech	arc sch	sech^{-1}
cosec	csc	csch	csch	arc csch	csch^{-1}

Russian	English
rot	curl
lg	log

EXPLOSION-TYPE MAGNETIC GENERATOR

R. Z. Lyudayev, V. Ye. Gurin, and
Ye. N. Smirnov

The invention pertains to the area of explosive electrical engineering, and also to the acceleration technology.

The known explosive magnetic generator uses a high power-capacity source of initial voltage.

The generator proposed by us makes it possible to reduce the consumption of initial energy.

Figure 1 shows this generator, the cross sections are along А-А and Б-Б and Fig. 2 shows its electrical circuit.

The multitube explosive magnetic generator consists of several spirals 1–7 (coaxials) arranged in parallel with the internal tubes filled with cylindrical charges of an explosive substance which are initiated simultaneously from the ends. One end of the spiral (or of the external tube) is connected with the central tube located inside of it (with the exception of one spiral which is connected to the source of initial voltage) and the other end is connected to the central tube located inside the adjacent spiral. The last spiral is connected directly to a powerful generator or to the load 8 through a cable line.

In such a system the magnetic flux is common for all spirals. Magnetic flow displaced from a particular volume of the spiral does not remain localized in this spiral but redistributes throughout the other spirals.

In the proposed generator, since the charges of the explosive substance are initiated simultaneously, the decrease in energy consumption is not accompanied by the deterioration of other properties of the generator (there is even an increase in the inductance output rate) in contrast to a long generator, which can be viewed as a series of consecutively operating "shafts" arranged on the same axis.

The generator proposed by us also has advantages over the system consisting of several insulated generators operating simultaneously for a single load, in which the output energy increases by n times (n - number of generators), but the initial energy used by the generators also increases by n times.

Object of the invention

The explosive magnetic generator, which contains spirals with a tube filled with an explosive substance inside each spiral and a capacitor of the source of initial voltage, is *distinguished* by the fact that, in order to reduce the consumption of the inital energy, the spirals with tubes are arranged in parallel; at one end the spiral is connected to the tube inside of it and at the other end the spiral is connected to the tube located inside another spiral; the capacitor of the source is connected between the first spiral and the tube located inside this spiral, while the last spiral and the tube of the first spiral are equipped with terminals for the connection with a load.

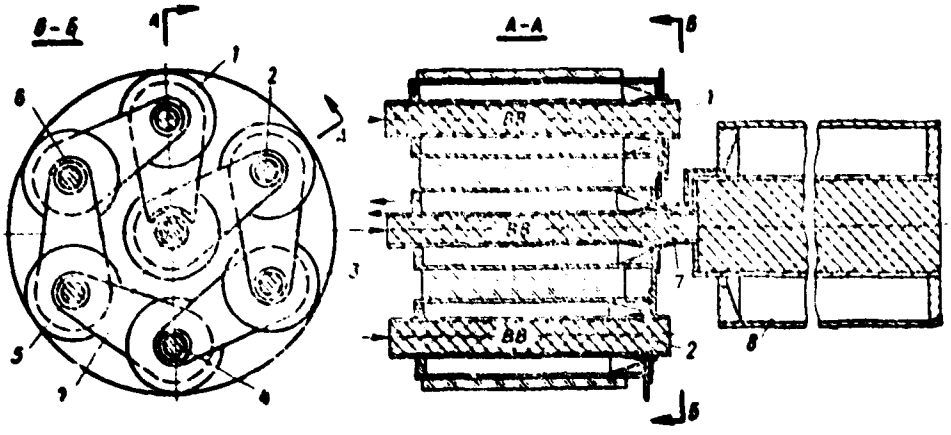

Fig. 1.

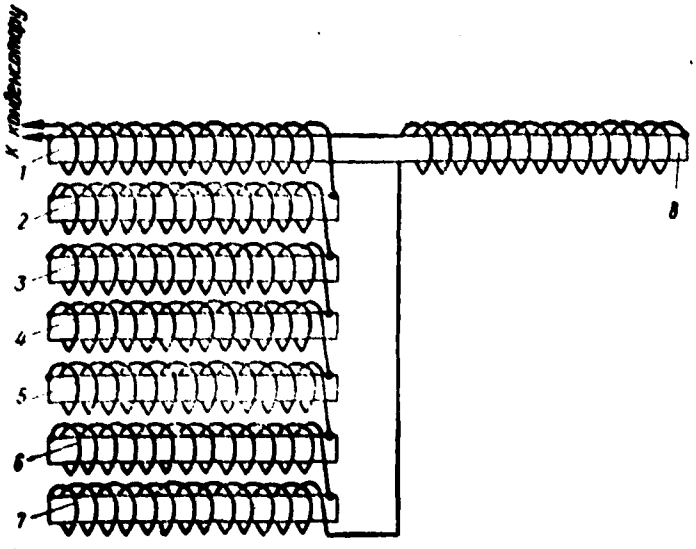

Fig. 2. Key: To capacitor.

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