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HIGH-VOLTAGE VARIABLE CAPACITANCE CAPACITOR, (U)
MAR 79 I I KALYATSKIY, V I KURETS

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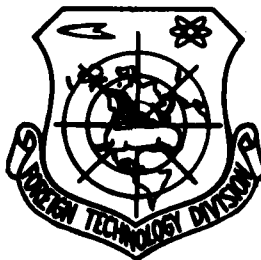
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HIGH-VOLTAGE VARIABLE CAPACITANCE CAPACITOR

by

I. I. Kalyatskiy, V. I. Kurets, et al.



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EDITED TRANSLATION

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14 March 1979

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HIGH-VOLTAGE VARIABLE CAPACITANCE CAPACITOR

By: I. I. Kalyatskiy, V. I. Kurets, et al.

English pages: 2

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U. S. BOARD ON GEOGRAPHIC NAMES transliteration SYSTEM

Block	Italic	Transliteration	Block	Italic	Transliteration
А а	А а	A, a	Р р	Р р	R, r
В в	В в	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 yë or ë.

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

Committee on Inventions
and Discoveries
in the USSR Council of
Ministers

DESCRIPTION OF INVENTION
For the Inventor's Patent
Subject to Patent No. _
Applied for 13.X.1967 (No. 1189985/26-9)
accompanied by application form No. _
Priority _
Published 05.V.1972. Bulletin No. 15
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1.VI.1972

Inventors: I. I. Kalyatskiy, V. I. Kurets, V. N. Ponomarev, V. N. Safronov and V. A. Tsukerman
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HIGH-VOLTAGE VARIABLE CAPACITANCE CAPACITOR

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The invention belongs to the field of radio engineering, in particular to the shaping of high-voltage pulses of voltage and current.

High-voltage variable capacitance capacitors which consist of two cylindrical plates with a conducting rod and control capacitances are well known.

The purpose of the invention is smooth regulation of the capacitance of the capacitor when the intrinsic inductance is constant.

The proposed capacitor is shown in the drawing.

The high-voltage capacitor consists of the cylindrical plate 1 with ground and the plate 2 connected to the conducting rod 3 which has polyethylene insulation. A high-voltage pulse is fed to the rod.

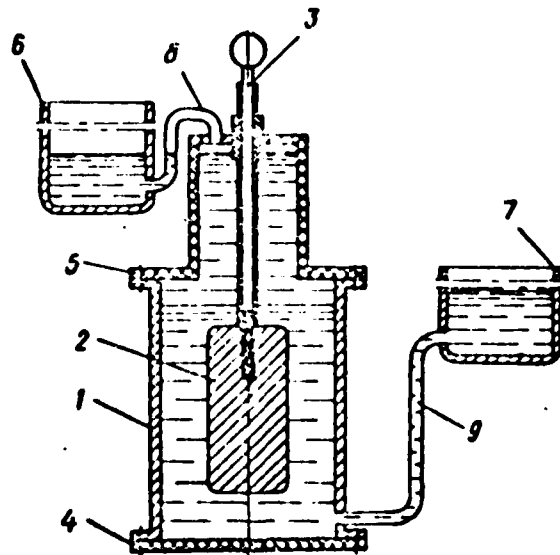
1

The air-tightness of the capacitor is maintained by the insulated bottom 4 and the insulating cover 5. Coaxiality of the cylinders is ensured due to threaded fastening of the conducting rod 3 in the cover 5. Transformer oil serves as a dielectric in the upper part of the capacitor, and glycerin in the lower part.

The volume occupied by the transformer oil and the glycerin is regulated smoothly by means of the reservoirs 6 and 7 through the tubing 8 and 9. The required magnitude of the capacitor capacitance is calculated from the conditions for the equality of the volumes occupied by the glycerin and the transformer oil.

Subject of the Invention

The high-voltage variable capacitance capacitor consisting of two cylindrical casings with a conducting rod and control capacitances is distinguished by the fact that in order to regulate smoothly the magnitude of the capacitance of the capacitor when the intrinsic inductance is constant, two liquids are used as dielectrics. These liquids do not mix, they have different dielectric and physical properties, and their volumes are regulated in the capacitor.



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