"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

8(0) SOV/112-58-3-4061

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1958, Nr 3, p 84 (USSR)

AUTHOR: Volkova, Z. S.

TITLE: Electrification and Automation of Locks
(Elektrifikatsiya i avtomatizatsiya shlyuzov)

PERIODICAL: V sb.: Raboty M-va elektrotekhn. prom-sti. SSSR po mekhaniz. i avtomatiz. nar. kh-va. M., 1956, pp 53-57

ABSTRACT: The manufacturing plant "Dinamo" imeni Kirov (Moscow) has developed electric-driving and automation systems for navigable locks. The distinguishing features are: (1) use of AC motors; (2) original driving systems for stop gate with two suspension points, specifically a double-fed motor drive and a wide-speed-regulated drive with saturable reactors; (3) an automatic cyclic control system; (4) original control circuits with terminal and command relays permitting reduction of the number of control wires several times; (5) use of telemechanical devices for supervision of control

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8(0) SOV/112-58-3-4061

Electrification and Automation of Locks

circuits; (6) new self-synchronizing devices for interlocking and for water-level measurements. The system has been tested on a number of new locks put in operation in 1955-1956.

M.P.K.

Card 2/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOLKOVA-PAVLOVA, V.L., kand.med.nauk

Ependymomas of the fourth ventricle growing into the lateral cisterna pontis. Probl.sovr.neirokhir. 4:223-229 '62.
(MIRA 16:2)

(EPENDYMA—TUMORS)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOLKOVA-PAVLOVA, V.L., kand.med.nauk

Indications for removal of the bone flap in operations for intracerebral tumors. Probl.sovr.neirokhir. 3:323-332 '59.
(MIRA 16:6)

(BRAIN—TUMORS) (BRAIN—SURGERY)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

KORNYANSKIY, G.P., prof.; VOLKOVA-PAVLOVA, V.L., kand.med.nauk

Ependymomas of the fourth ventricle growing into the cisterna magna. Probl.sovr.neirokhir. 3:349-354 '59. (MIRA 16:6)
(BRAIN--TUMORS) (SURGERY--COMPLICATIONS AND SEQUELAE)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOLKOVA-VASIL'YEVA, N.M.

Some indices of the peripheral blood in epidemic hepatitis in children treated with ACTH. Zdrav.Kazakh. 22 no.7:38-41 '62.
(MIRA 16:1)

1. Iz kafedry gospital'noy pediatrii (zav. - prof. A.I. Avenirova) Kazakhskogo meditsinskogo instituta.
(HEPATITIS, INFECTIOUS) (ACTH) (BLOOD—EXAMINATION)

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOLKOVETS, N., slesar'-sborshchik (st. Berngardovka, Leningradskaya oblast'); PAVASAR, B., plotnik (st. Simskaya, Chelyabinskaya oblast'); ADIBEKYAN, O., inzh. (Yerevan); ROGOZIN, T. (Odessa); FRADKIN, F., inzhener-mekhanik (Moskva); SEMENENKO, P., mekhanik; RADCHENKO, P., inzh.

Readers' letter exchange. Tekh.mol. 30 no.10:22-23 '62.
(MIRA 15:12)

1. Kolkhoz imeni Tel'mana, Turkmenskaya SSR (for Semenenko).
(Technological innovations)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

ACCESSION NR: AR4014143 S/0137/63/000/012/G035/G035

SOURCE: RZh. Metallurgiya, Abs. 12G234

AUTHOR: Volkovich, A. V.; Komlev, G. A.

TITLE: Refining of cadmium black by vacuum distillation

CITED SOURCE: Sb. Teoriya i praktika metallurgii. Chelyabinsk, vy*p. 5, 1963, 184-189

TOPIC TAGS: Cadmium black, vacuum distillation, cadmium refining apparatus

TRANSLATION: A study was made of the conditions under which refined Cd of a grade not below KD=0 is obtained from sponge containing about 60% Cd and a considerable amount of impurities. The results of the experiments show that Cd of desired purity is obtained at a distillation temperature of 450-470°. The specific output of the apparatus at this temperature and at a residual gas pressure of 0.1-0.3 mm Hg amounts to 0.12-0.44 t/m^2 of evaporator per hour. The separation factors of Cd and Ni in vacuum distillation are related to the temperature by the

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ACCESSION NR: AR4014143

equation log K::9570/T-11.30. A flow sheet was elaborated and an operating model of a unit with continuous feeding of cadmium black and continuous output of refined Cd was tested. A specific output of 120-150 kg/m^2 of evaporator per hour was obtained in the tests. G. Svodtseva.

DATE ACQ: 09Jan64 SUB CODE: ML ENCL: 00

Card 2/2

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

18.3100

7773
SOV/149-60-1-19/27

AUTHORS: Mishkov, I. F., Volkovich, A. V., Raspopin, S. P.

TITLE: Zirconium Deposition on Liquid Zinc Cathode

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Tsvetnaya metallurgiya, 1960, Nr 1, pp 128-132 (USSR)

ABSTRACT: The purpose of this work was to verify an existing opinion that deposition of metals with mp much above that of the fused electrolyte is possible and can produce good results. Potassium fluorozirconate (20-30%), KCl, and NaCl constituted the electrolyte. Molten zinc in a proportion 30:70 to electrolyte was used as cathode. It was assumed that a 100% Zr yield with reference to current consumed would be equivalent to 4% Zr content in Zn. Temperature was kept at 720°. The electrolyzer is shown in Fig. 1.

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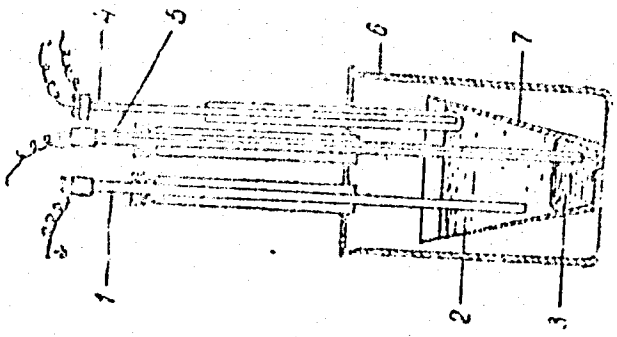
Zirconium Deposition on Liquid Zinc Cathode

77730
SOV/149-60-1-19/27



Card 2/8 Caption on Card 3/8

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Fig. 1. Electrolyzer: (1) anode; (2) electrolyte; (3) molten zinc; (4) thermocouple; (5) molybdenum lead to zinc cathode; (6) porcelain container; (7) alundum crucible.

Tests showed that for better Zr diffusion it was important to break up the oxide films, formed on zinc surface, by stirring. Yields are shown in Table A.

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Zirconium Deposition on Liquid Zinc Cathode

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SOV/149-60-1-19/27

Table A. Results of experimental electrolysis. (1) Electric current, a; (2) cathode current density, a/cm^2; (3) duration of electrolysis, hr; (4) current quantity a/hr; (5) yield with reference to current, %; (6) Zr content in alloy, %. (A) In closed electrolyzers without stirring; (B) in closed electrolyzers with stirring (60 rpm); (C) in open electrolyzers with stirring (60 rpm).

(1)	(2)	(3)	(4)	(5)	(6)
		A			
0,55	0,11	2,68	1,47	30,6	1,26
1,37	0,23	1,07	1,47	39,6	1,63
2,71	0,57	0,54	1,40	47,5	1,98
4,20	0,87	0,35	1,47	35,6	1,48

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

Zirconium Deposition on Liquid Zinc Cathode

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SOV/149-60-1-19/27

B

0,56	0,11	2,68	1,47	16,9	1,93
1,37	0,28	1,07	1,47	66,8	2,71
2,18	0,15	0,68	1,47	82,7	3,50
2,75	0,57	0,51	1,47	91,1	3,77
3,66	0,76	0,10	1,47	70,2	2,88
4,10	0,85	0,36	1,47	63,0	2,40
4,65	0,96	0,32	1,47	45,5	1,90
5,47	1,13	0,27	1,47	27,3	1,13

C

1,37	0,28	1,07	1,47	62,0	2,51
2,18	0,45	0,68	1,47	76,8	3,15
2,75	0,57	0,51	1,47	87,2	3,55

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

Zirconium Deposition on Liquid Zinc Cathode

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SOV/149-60-1-19/27

Polarization of liquid cathode was measured by means of a reference lead cathode and a loop oscillograph. The data are given in Fig. 2.

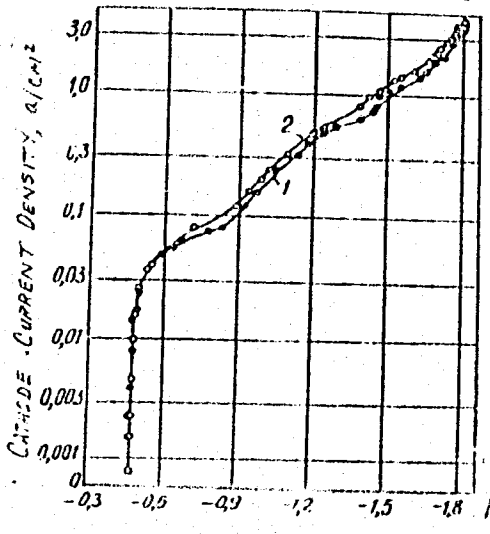

Fig. 2. Polarization of liquid zinc cathode in a fused mixture of KCl and NaCl + 15% (1) and 20% (2) potassium fluorozirconate.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

Zirconium Deposition on Liquid Zinc Cathode

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SOV/149-60-1-19/27

At low current densities a discharge of Zn ions takes place. With increasing current densities Zr deposition in the form of intermetallic compound begins. An accumulation of Zr in the upper layers of the cathode causes considerable polarization. A further increase in current density causes a discharge of Zr^{4+} ions into metallic zirconium. Phase analysis of Zn-Zr alloys. Microphotography of slides disclosed two phases: Zn, hardness 44.9 kg/mm^2, and light-colored grains, hardness 229.4 kg/mm^2 (considerably higher than that of Zr), which are of an intermetallic compound $ZrZn_{12}$. This was confirmed by radiograms. In their conclusions the authors recommend the following optimal conditions for electrolytic separation of zirconium: temperature 700° 6 a/cm^2 urrent re 3 et,

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

GREKOV, S.D.; VOLKOVICH, A.V.

Cocrystallization of manganese (II) and iron (II) with cadmium sulfate in a strong acid medium. Zhur. neorg. khim. 9 no.2: 456-459 F'64. (MIRA 17:2)

1. Nauchno-issledovatel'skiy institut metallurgii Yuzhno-Ural'skogo soveta narodnogo khozyaystva.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

ACCESSION NR: AP4039009 S/0136/64/000/005/0086/0088

AUTHOR: Volkovich, A. V.; Komlev, G. A.; Vasyukova, A. A.; Kopy*tov, S. A.

TITLE: Cadmium Refining by Vacuum Distillation

SOURCE: Tsvetny*ye metally*, no. 5, 1964, 86-88

TOPIC TAGS: cadmium, refining, extraction, vacuum distillation, impurity, cadmium refining

ABSTRACT: This study relates to cadmium refining by vacuum distillation. Good experimental results obtained by the authors in continuous vacuum distillation of Cd accounted for the construction of a pilot plant at the Chelyabinsk Zinc Plant. The temperatures of the evaporator unit and of the feed tube are 430-460 C, condenser and outflow tube temperatures are 335-350 C, and residual gas pressure is 0.5 to 1 mm Hg. The chemical composition of Cd was (%): 0.0027-0.0036 Ni; 0.002 Zn; 0.005 Ti; 0.02 Pb; 0.004-0.0074 Cu; 0.0004 Fe. Cd extraction amounted to 95-96%. The distillation of secondary sponge with a 60-62% Cd content was carried out by compressing the specimens until moisture content was 5 to 7% and preheating them to 70-80 C. The impurities in the molten metal were (in%):

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ACCESSION NR: AP4039009

0.3-0.32 Ni; 0.002 Zn; 0.017-0.02 Tl; 0.08-0.1 Pb; 0.6-0.7 Cu; 0.014-0.017 Fe. The metal met the State Standards for "KD-O" type Cd. The extraction of Cd from the compact at major plants using a combined method of production varies between 70 and 77% as against 89% obtained by direct extraction from the compact.

ASSOCIATION: None

SUBMITTED: 00 DATE ACQ: 04Jun64 ENCL: 00

SUB CODE: GC, MM NO REF SOV: 009 OTHER: 003

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

KURITS, Aleksandr Ariyevich; VODOLAZHCHENKO, Vitaliy Vasil'yevich; GRINSBERG, Filipp Grigor'yevich; ROZENBLIT, Gennadiy Borisovich; SIMSON, Al'fred Eduardovich; NAYDENKO, O.A., kand. tekhn. nauk, retsenzent; RABOVSKIY, V.V., inzh., retsenzent; VOLKOVICH, G.F., retsenzent; ZAKHARENKO, B.A., kand. tekhn. nauk, nauchn. red.; NIKITINA, R.D., red.; SHISHKOVA, L.M., tekhn. red.

[Diesel engines on ships with electric propulsion] Dizeli na sudakh s elektrodvizheniem. [By A.A.Kurits i dr. Leningrad, Sudpromgiz, 1963. 276 p. (MIRA 17:1)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOL'KOVICH, I.B., dotsent

Some generalizations of the Hertz problem. Trudy KHIIT no.41:29-36 '61. (MIRA 15:2)
(Elasticity)

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOLKOVICH, K.V.

Dynamics of the growth of corn in the south of the Lake Balkhash region. Izv.AN Kaz.Ser.bot.i pochv no.1:14-24 '62. (MIRA 15:5)
(Balkhash Lake region--Corn (Maize))

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOLKOVICH, K.V., kand.biologicheskikh nauk

Features of the flowering of self-pollinated lines and their parent forms. Vest.AN.Kazakh.SSR 16 no.5:76-79 My '60. (MIRA 13:7)
(Corn (Maize))

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOLKOVICH, K. V.

"Effect of Certain Environmental Conditions on the Growth and Development of 'Bes-Bas Biday' Wheat in the Foothill Region of the Zailiisk Ala-Tau." Cand Biol Sci, Kazakh State Pedagogical Inst, Leningrad, 1953. (RZhBiol, No 8, Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOLKOVICH, K.V., kand.biol.nauk

Effect of external conditions on wintering ability of wheat with branched ears. Vest.AN Kazakh.SSR 15 no.1:68-73 Ja'59. (MIRA 12:1)

(Wheat)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOLKOVICH, K.V.

Growth and development of self-pollinated corn varieties.
Izv. AN Kazakh. SSR. Ser. biol. nauk 3 no.1:58-64 Ja-F '65.
(MIRA 18:5)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOLKOVICH, K.V.

Biology of the flowering of corn in the desert zone of the southern Balkhash region. Trudy Inst. bot. AN Kazakh.SSR 16:236-248 '63 (MIRA 17:8)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

GABBASOV, A.M.; VOLKOVICH, K.V.

Development and growth of corn in the new zone. Vest. AN Kazakh. SSR 18 no.7:38-43 Jl '62. (MIRA 15:7)
(Balkhash Lake region--Corn (Maize)--Varieties)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOLKOVICH, M.

Propane-butane as a substitute for acetylene. Stroitel' no. 3:26 Mr '61. (MIRA 14:2)
(Gas welding and cutting)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

ALLIK, A., inzh. (Leningrad); VOLKOVICH, M., inzh. (Leningrad)

Using ultrasonic waves. Mest.prom.i khud.promys. 3 no.2:17 F '62.
(MIRA 15:2)
(Shoe polish)(Ultrasonic waves—Industrial applications)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOLKOVICH, M. A., [redacted]., KOLODIY, Ye.N., and SHAPIRO, N.I.

"Toward the Question of the Role of Damage to the Hemopoietic Organs During Radiation Reaction" in the book "Collection of Works on Radiobiology" edited by N.I. Nuzhdin, Publ. House of AS USSR Moscow 1955.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOL'KOVICH, M.I., inzh.

Chemistry application in the textile industry. Tekst. prom. 25 no.10:82 O '65. (MIRA 18:10)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

SHVAN Aleksandr Germanovich; VOLKOVICH, Mikhail Mikhaylovich; CHERNYAKOVA, I.Z., inzh., red.; FOMICHEV, A.G., red. izd-va; GVIRTS, V.L., tekhn. red.

[Semiautomatic machine for trimming and kurling the edges of parts having the state of a body of revolution] Poluavtomat dlia obrezki i zakatki borta detalei, imeiushchikh formu tel vrashcheniia. Leningrad, 1961. 8 p. (Leningradskii Dom nauchno-tekhnicheskoi propagandy. Opyt novatorov. Seriia: Goriachaia i kholodnaia obrabotka metallov davleniem, no.8) (MIRA 14:12).

(Machine tools)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

ROSNOVSKIY, A.A. (Berezniki).

Nikolai Markianovich Volkovich (1858-1928). Khirurgiia no.6:70-74 Je '53.
(MLRA 6:8)
(Volkovich, Nikolai Markianovich, 1858-1928)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOL'KOVICH, N.Ye.; BAKHTIYAROV, Sh.Z.; KAGALOVSKIY, S.P.; YEROFEYEV, S.B.

Universal stand for testing the working mechanisms of cotton picking machinery. Dokl. AN Uz. SSR no.12:41-44 '57.

(MIRA 11:5)

1. Institut matematiki i mekhaniki im. V.I. Romanovskogo AN UzSSR. Predstavleno akad. AN UzSSR S.S. Kanashom.

(Cotton picking machinery)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

USSR/Cultivated Plants - Commercial. Oil-Bearing. Sugar-Bearing. M-5

Abs Jour : Ref Zhur - Biol., No 20, 1958, 91741

Author : Vol'kovich, N.Ye., Kagalovskiy, S.P., Yerofeyev, S.B.

Inst : AS Uzbed SSR

Title : Distribution of Bolls on Cotton Bushes in Square-Pocket Planting.

Orig Pub : UzSSR Fanlar Akad. dokladlari, Dokl. AN UzSSR, 1957, Nr. 10, 45-49.

Abstract : For the purpose of creating a correct technological basis for cotton harvesting machines the Institute of Mathematics and Mechanics of the Academy of Sciences of Uzbed SSR conducted laboratory and field experiments on square-pocket sowing of cotton (variety 108-F) with different sides to the square and different numbers of plants in the bunch.

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USSR/Cultivated Plants - Commercial. Oil-Bearing. Sugar-Bearing. M-5

Abs Jour : Ref Zhur - Biol., No 20, 1958, 91741

Numerous measurements were made with the aid of a coordinating device which makes it possible to determine all three coordinates of each boll. After statistical processing the curves of boll distribution on the bush were obtained. -- D.B. Vakhmistrov.

Card 2/2

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

ZHALYBIN, V.I.; FILATOV, S.K.; VOLKOVICH, V.A.

Mastering the production of OKh23IU5 steel. Metallurg 9 no.12:17-19 D '64. (MIRA 18:2)

1. UkrNIIspetsstal' i Zlatoustovskiy metallurgicheskiy zavod.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

L 44393-66 EWT(m)/T/EWP(t)/ETI/EWP(k) IJP(c) JD/HW/DJ

ACC NR: AP6023045 SOURCE CODE: UR/0148/66/000/004/0092/0098

AUTHOR: Poksevatkin, M. I.; Tarnovskiy, I. Ya.; Levanov, A. N.; Volkovich, V. A.

ORG: Ural Polytechnic Institute (Ural'skiy politekhnicheskiy institut)

TITLE: Contact pressure during hot upsetting of heat resistant steels and alloys

SOURCE: IVUZ. Chernaya metallurgiya, no. 4, 1966, 92-98

TOPIC TAGS: heat resistant steel, heat resistant alloy, hot upsetting, metal deformation, pressure distribution, surface pressure, friction, temperature dependence

ABSTRACT: Experimental methods and analysis of data are based on an earlier work (Poksevatkin, et al, *Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya*, 1964, no. 6). The parameters $\psi=\tau_{av}/\tau_s$ and $\eta=p_{av}/\sigma_s$ are given as functions of the ratio of surface contact diameters D to sample heights H at 950, 1050 and 1150°C. Upsetting was done on a friction press and a drop hammer. Values for ψ and η were calculated by averaging the tangential τ_{av} and normal pressures p_{av} over the contact surface, while $\tau_s=\sigma_s/\sqrt{3}$, where σ_s is the average value of the flow limit in the deformation volume. The relative compression was 20-30% in the friction press and 15-20% in the drop hammer. Data for heat resisting steels and alloys corresponded to those obtained in the reference cited above for ordinary carbon and alloy steels. A theoretical analysis of

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ACC NR: AP6023045

contact pressure during plastic deformation is given. During plastic deformation under variable surface friction, the tangential contact pressure τ depended on the normal pressure p and on the contact displacement u. A qualitative graph is shown of τ as a function of u at constant p for both strain hardening and nonstrain hardening materials. The onset of external friction forces was caused by deformation and other mechanical processes. The increase of contact slipping obeyed the law of minimum external and internal work. For internal displacement under constant relative deformation, samples of different thickness (B) to height (H) ratios but constant widths were compared. For complete surface contact, the displacement deformation depended on H, given a constant value of B, or on B/H--given a constant deformation. The magnitude and distribution of surface friction depended on the mechanical properties of the materials and above all on the thin precontact layer. For hot deformation, the change of temperature fields on the contact surface was extremely important. Under upsetting, the increase in τ_{av}/τ_s with D/H was retarded, while P_{av}/σ_s rose sharply with increase in D/H. This was caused by the character of strengthening of the precontact and inner layers during deformation and of the temperature changes on the contact. The changes in τ_{av}/p_{av}, indicating the force of contact friction, were given as functions of D/H at 950, 1050 and 1150°C. In all cases, τ_{av}/p_{av} had a maximum at about D/H=5. This was explained by changes in kinematic conditions and the nonlinear dependence of friction on pressure. Orig. art. has: 6 figures, 2 formulas.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

ACC NR: AT5028933 SOURCE CODE: UR/0000/65/000/000/0006/0024

AUTHOR: Volkovich, V. L.; Samoylenko, Yu. I.

ORG: None

TITLE: Optimum filtration in spatially distributed systems

SOURCE: AN UkrSSR. Slozhnyye sistemy upravleniya (Complex control systems). Kiev, Naukova dumka, 1965, 6-24

TOPIC TAGS: optimal control, electric filter, probability, random process

ABSTRACT: Following a brief survey of the literature on application of the theory of random processes to control systems with distributed parameters, the authors examine one of the problems involved in synthesis of an optimum distributed system for useful signal filtration when there is interference from random fields. The distributed reception systems to be synthesized may either be independent, e.g. in the communication channels, or be part of the control system as distributed pickup units. Because of the bilateral nature of the communication channels, the results for distributed receivers may be extended to distributed transmitters (controllers). Analysis shows that the distributed filtration system has the advantage of near-regularity, i.e. the error in reproduction of useful information may be reduced to an unlimited extent by reduction of the noise inherent in the filter. The system is also found to be highly reliable. Simultaneous failure of more than one of the receiving units does not

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ACC NR: AT5023933

disrupt the operation of the system, but only raises the error slightly. The system may be used for simultaneously controlling the state of a field at various points with a single distributed pickup and several integral transducers with weight functions which depend on the control point. The principal disadvantage of systems in this class is the technical complexity involved in making a distributed pickup unit. Nevertheless, this complexity is an absolute necessity for precise and reliable control of objects with distributed parameters. It is pointed out that the proposed method for synthesis of optimum filters provides for synthesis of systems with a finite set of point pickups. It must only be kept in mind that in this case the basis of the system is a discrete point set with an extent uniformly distributed among all its points. The property of near-regularity is lost in a system of this type. The following important problems in the theory of field filtration are mentioned: 1. determining the optimum operator in the case of a linear filter for a spatially distributed signal (distributed transmitter); 2. synthesis of an optimum linear communication channel with distributed transmitter and receiver; 3. the problem of optimum filtration for a signal from a moving source; 4. synthesis of an optimum filter system when there are fluctuations in the main part of the transmission channel. Orig. art. has: 3 figures and 43 formulas.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOLKOVICH, V.L. [Volkovych, V.L.] (Kiyev)

Determination of optimal weight coefficients of a discretely distributed receiving device. Avtomatyka 10 no.4:72-75 '65. (MIRA 18:10)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

L 06268-67

ACC NR: AP6028542 SOURCE CODE: UR/0280/66/000/003/0126/0134

43
13

AUTHOR: Volkovich, V. L. (Kiev); Samoylenko, Yu. I. (Kiev)

ORG: none

TITLE: Optimal detection of signals by a spatially distributed reception system

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 3, 1966, 126-134

TOPIC TAGS: signal detection, antenna array, random noise, radio reception

ABSTRACT: An approach, based on the general theory of detection, to the problem of the synthesis of equipment for the space-time detection of signals is presented. A solution is found for the problem of synthesizing an optimum distributed (diversity) signal detection system, designed to operate against the background of a random interference field. The general correlations obtained in the paper may be used when analyzing the quality of detection of signals of finite length by two-point receiving equipment with an infinite time base. Using this type of detection system and a four-dimensional space-time continuum (the direct product of infinite three-dimensional space and an infinite time interval), the authors show that the method of space-time signal selection makes possible a substantial improvement in the quality of signal detection. This finding is in agreement with previously published results (V. D. Volkovich, Yu. I. Samoylenko. Sb. "Slozhnyye sistemy upravleniya", "Naukova

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ACC NR: AP6028542 O

Dumka", ser. "Kibernetika", 1965) regarding the problem of signal filtering based on a criterion of the least mean-square error. Orig. art. has: 50 formulas.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

ACC NR: AP6024370 SOURCE CODE: UR/0280/66/000/002/0114/0120

AUTHOR: Volkovich, V. L. (Kiev)

ORG: none

TITLE: Distributed reception of information with fluctuation in system parameters

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 2, 1966, 114-120

TOPIC TAGS: signal receiver, Fredholm equation, integral equation, automatic control

ABSTRACT: The solution of a large number of automatic control problems necessitates obtaining information on the state of the field of physicochemical variables (temperatures, pressures, intensities of electrical and magnetic fields, etc.). In such cases it is expedient to employ the method of the distributed reception of information in some region of physical space. Such a spatially distributed data reception system is construed as a system restoring useful information on the basis of an analysis of the field state not in one or a few points of space as is the case in lumped reception systems but in a region of space termed the base line. In this connection the author derives the integral equation of the weight function of a linear spatially distributed receiving unit in the presence of random interfering fields and fluctuation of the

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system parameters. It is shown that the optimal weight function must satisfy Fredholm's integral equation of the second kind, whose kernel depends on the statistical properties of the system, and that specific optimal weight functions exist for specific zones of the spatially distributed receiving unit. If the optimal weight function for a concrete base line is known, the error in reproducing the signal can be readily assessed. The system for the distributed reception of information displays a high reliability due to the continuous dependence of the integral (in the formula of the output signal) on the weight function. Breakdown of part of the elementary sensors does not detract from the operating efficiency of the receiving unit and it merely increases the error insignificantly. This is illustrated by deriving the integral equation for determining the optimal weight function of a distributed receiving unit reproducing a random point signal propagating in a turbulent atmosphere; along the path of the propagation of the waves from the source to the observation point there occur fluctuations in the refractive index due to turbulence, thus leading to fluctuations in the amplitude phase and other parameters of the wave. "The author is indebted to Yu. I. Samoylenko for statement of the problem and assistance in this project." Orig. art. has: 2 figures, 29 formulas.

SUB CODE: 12, ~~05~~, 09/ SUBM DATE: 29Nov64/ ORIG REF: 008/

Card 2/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

TROFIMOVA, Z.; VOLKOVICH, Ye.

Work of the White Russian Urological Society during 1958-1960. (MIRA 15:2)
Zirav.Bel. 7 no.8:72-74 Ag '61.
(WHITE RUSSIA--UROLOGICAL SOCIETIES)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

TROFIMOVA, Z.A.; VOLKOVICH, Ye.D. (Minsk)

Report on the activities of the White Russian Urological Society for 1958. Urologiia 24 no.3:79-80 My-Je '59. (MIRA 12:12)
(WHITE RUSSIA--UROLOGICAL SOCIETIES)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOL'KOVICH, Yu.N.

One hundred proposals in one year. Put' i put. khoz. 9 no.9:37-38 '65. (MIRA 18:9)

1. Stantsiya Nizhnedneprovsk-Uzel, Pridneprovskoy dorogi.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOL'KOVICH, Yu.N.

Man with a restless mind. Put' i put.khoz. 9 no.8:35 '65.
(MIRA 18:8)

1. Stantsiya Yasinovataya, Donetskoy dorogi.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOL'KOVICH, Yu.N.

Insulated rail joints with polyethylene insulation. Put' i put.khoz. 8 no.3:21 '64. (MIRA 17:3)

1. Starshiy dorozhnyy master, stantsiya Ugreshskaya, Moskovskoy dorogi.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOL'KOVICH, Yu.N.

Work and live the communist way! Put' i put. khoz. 8 no.5:25-26 My '64. (MIRA 17:6)

1. Stantsiya Yaroslavl'-Glavnyy, Severnoy dorogi.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOL'KOVICH, Yu.N., inzh.

Railroaders improve their qualifications. Put' i put. khoz. 8 no.9: 38 '64. (MIRA 17:11)

1. Stantsiya Podzamche L'vovskoy dorogi.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOL'KOVICH, Yu.N.

In the workshops of the division. Put' i put. khoz. 8 no.7:28-29 '64. (MIRA 17:10)

1. Stantsiya Ternopol' L'vovskoy dorogi.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOL'KOVICH, Yu.N.

Glorious achievements of a progressive collective. Put' i put.khoz. 9 no.4:6-8 '65. (MIRA 18:5)

1. Apostolovskaya distantsiya puti Pridneprovskoy dorogi.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOL'KOVICH, Yu.N.

Work aesthetics in a division. Put' i put.khoz. 10 no.1: 32-34 '66. (MIRA 19:1)

1. Stantsiya Lipetsk, Yugo-Vostochnoy dorogi.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOL'KOVICH, Z.S.

Water hyacinth (Eichhornia crassipes Solms, fam. Pontederiaceae).
Biul.Sib.bot.sada no.5:83-84 '58. (MIRA 12:11)

1. Sibirskiy botanicheskiy sad pri Tomskom gosuniversitete im.
V.V. Kuybysheva.
(Tomsk--Water hyacinth)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

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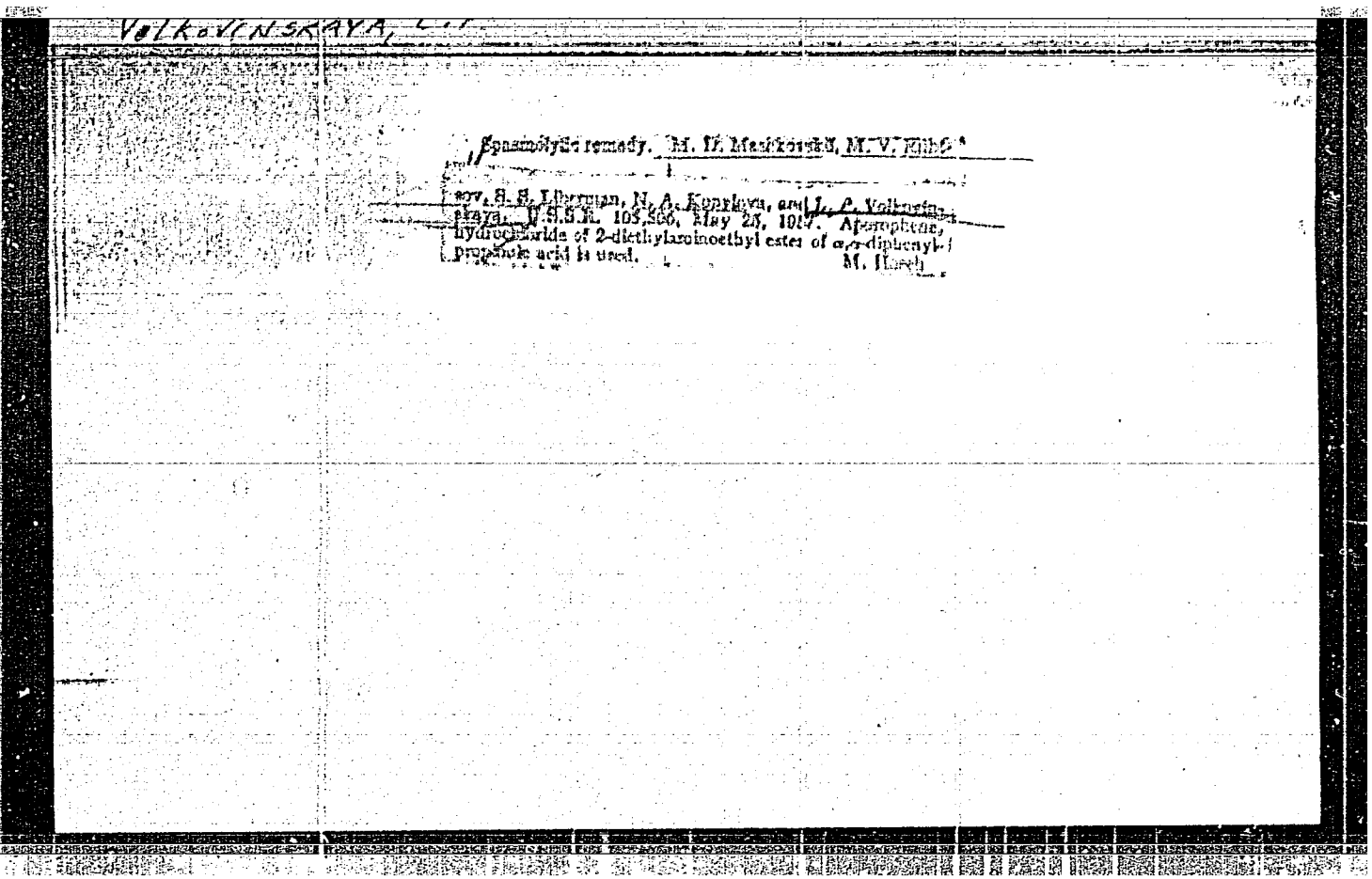

VOLKOVINSKAYA, L. P.

Spasmolytic remedy. M. D. Mashkovskii, M. V. Kilbo-sov, S. S. Liberman, N. A. Kopylova, and L. P. Volkovinskaya. U.S.S.R. 105,306, May 25, 1957. Aporophene, hydrochloride of 2-diethylaminoethyl ester of α,α-diphenylpropionic acid is used. M. Hosch

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

POZHARSKAYA, A.M.; VOLKOVINSKAYA, L.P.

Metazide tablets. Khim. i med. no.14:106-107 '60. (MIRA 14:12)

1. Laboratoriya lekarstvennykh form Vsesoyuznogo nauchno-issledovatel'skogo khimiko-farmatsevticheskogo instituta imeni S.Ordzhonikidze. (METAZIDE)

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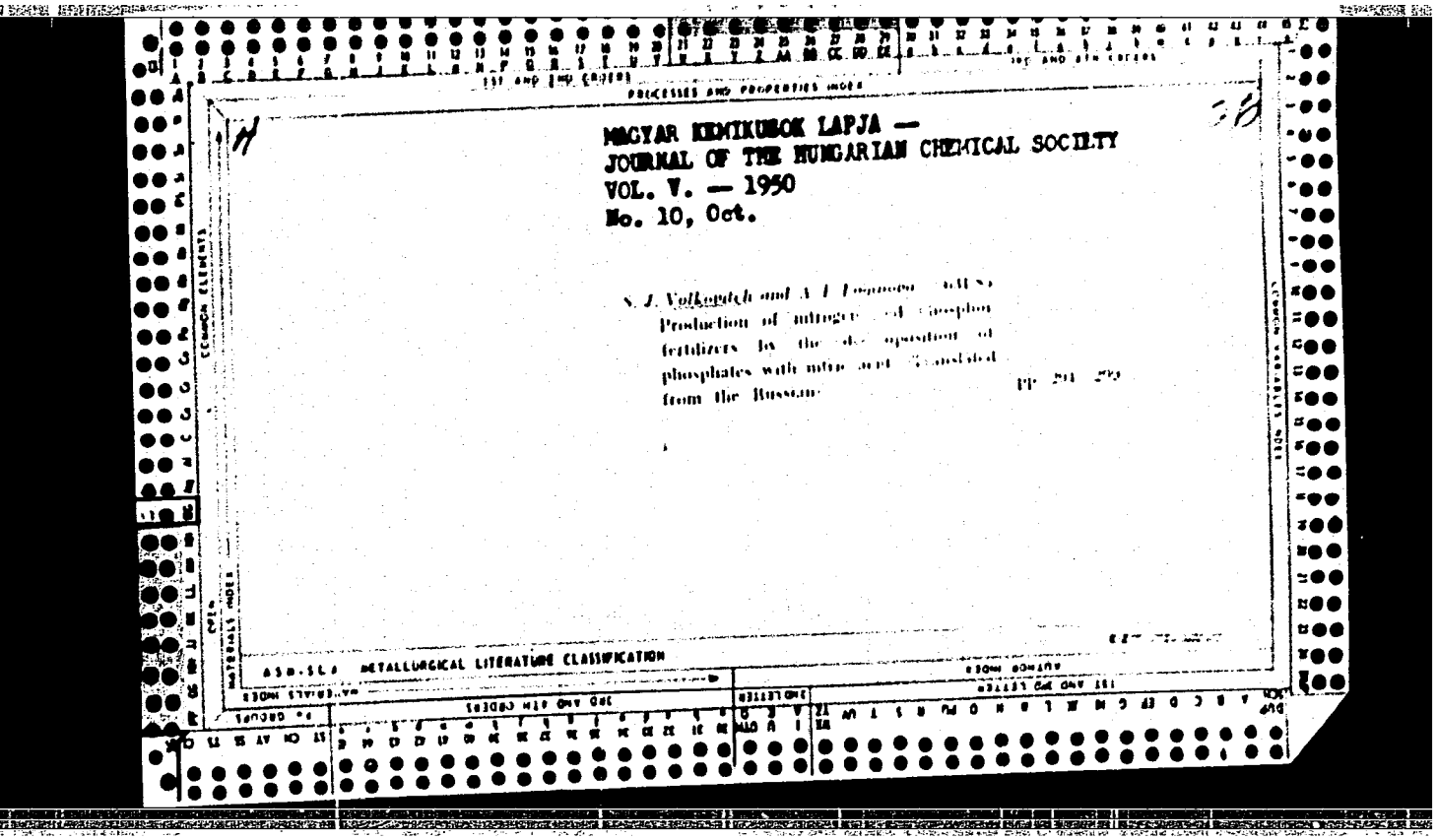

MAGYAR KEMIKUSOK LAPJA —
JOURNAL OF THE HUNGARIAN CHEMICAL SOCIETY
VOL. V. — 1950
No. 10, Oct.

S. I. Volkovich and A. I. [illegible]
Production of nitrogen and phosphorus fertilizers by the decomposition of phosphates with nitric acid. Translated from the Russian.

METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

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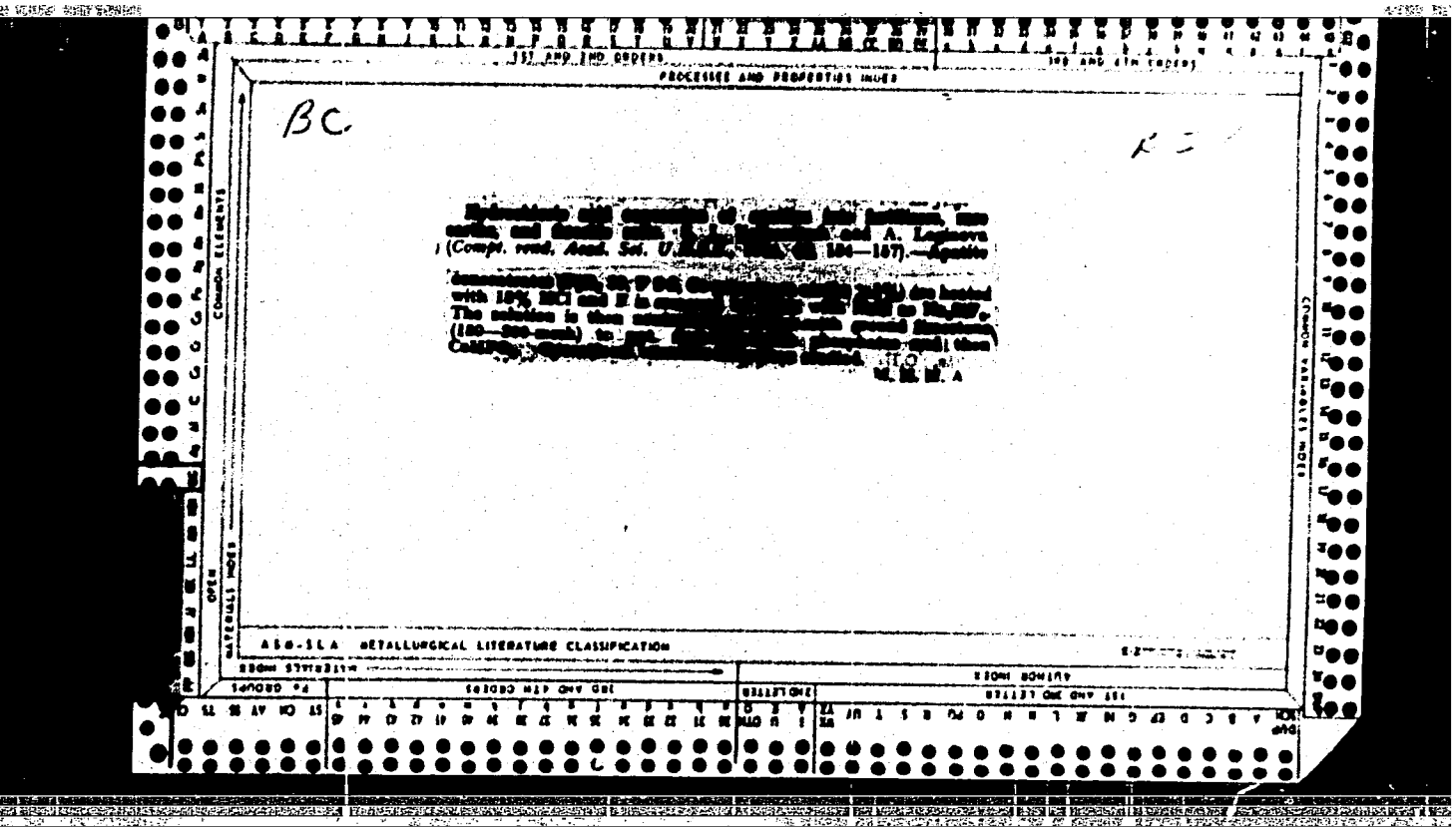

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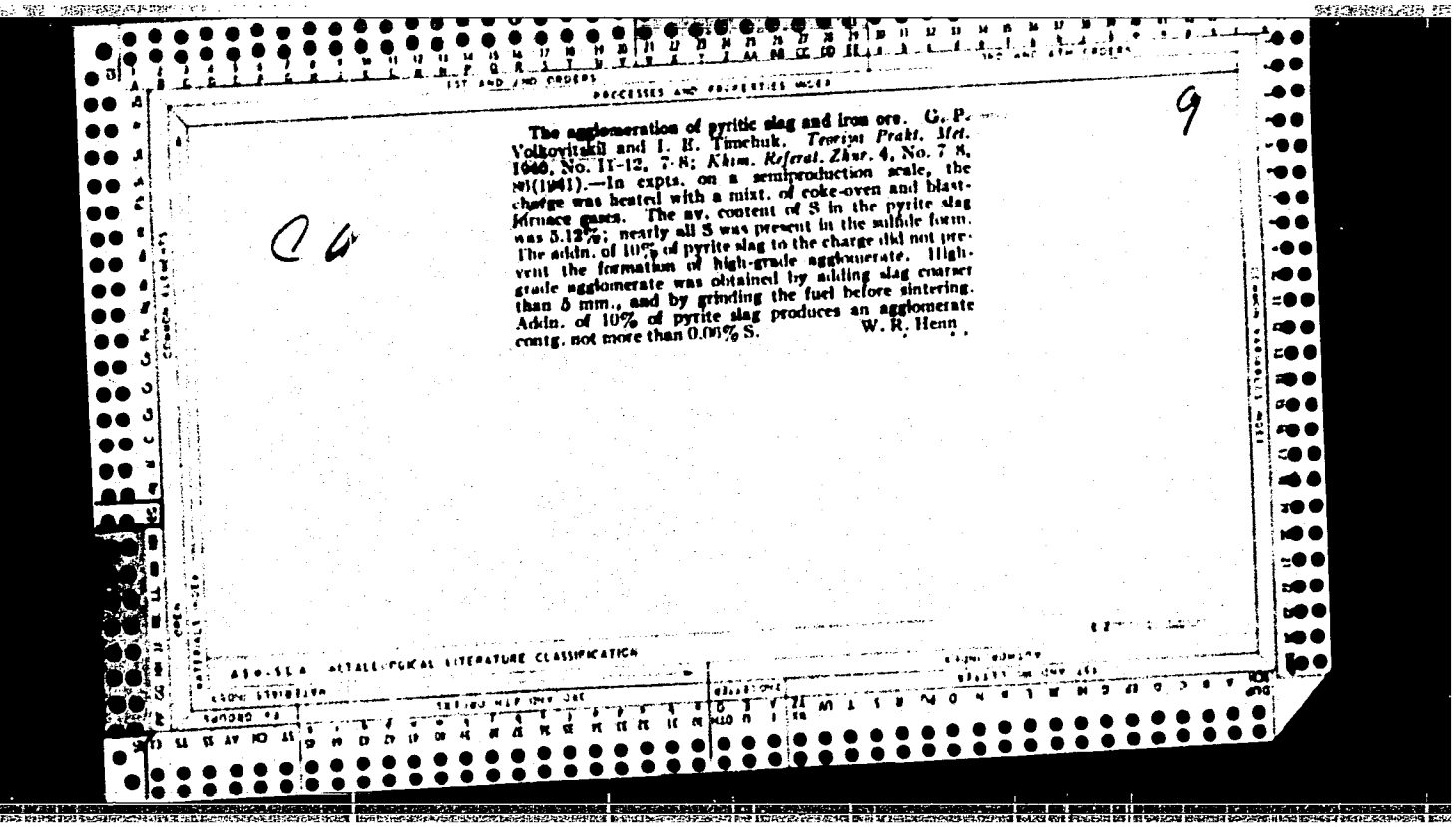

The agglomeration of pyritic slag and iron ore. G. P. Volkovitskii and I. E. Timchuk. *Tsvetn. Prakt. Met.* 1940, No. 11-12, 7-8; *Khim. Referat. Zhur.* 4, No. 7-8, 89(1941).—In expts. on a semiproduction scale, the charge was heated with a mixt. of coke-oven and blast-furnace gases. The av. content of S in the pyrite slag was 5.12%; nearly all S was present in the sulfide form. The addn. of 10% of pyrite slag to the charge did not prevent the formation of high-grade agglomerate. High-grade agglomerate was obtained by adding slag coarser than 5 mm., and by grinding the fuel before sintering. Addn. of 10% of pyrite slag produces an agglomerate contg. not more than 0.06% S.

W. R. Henn

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PROCESSES AND PROPERTIES INDEX

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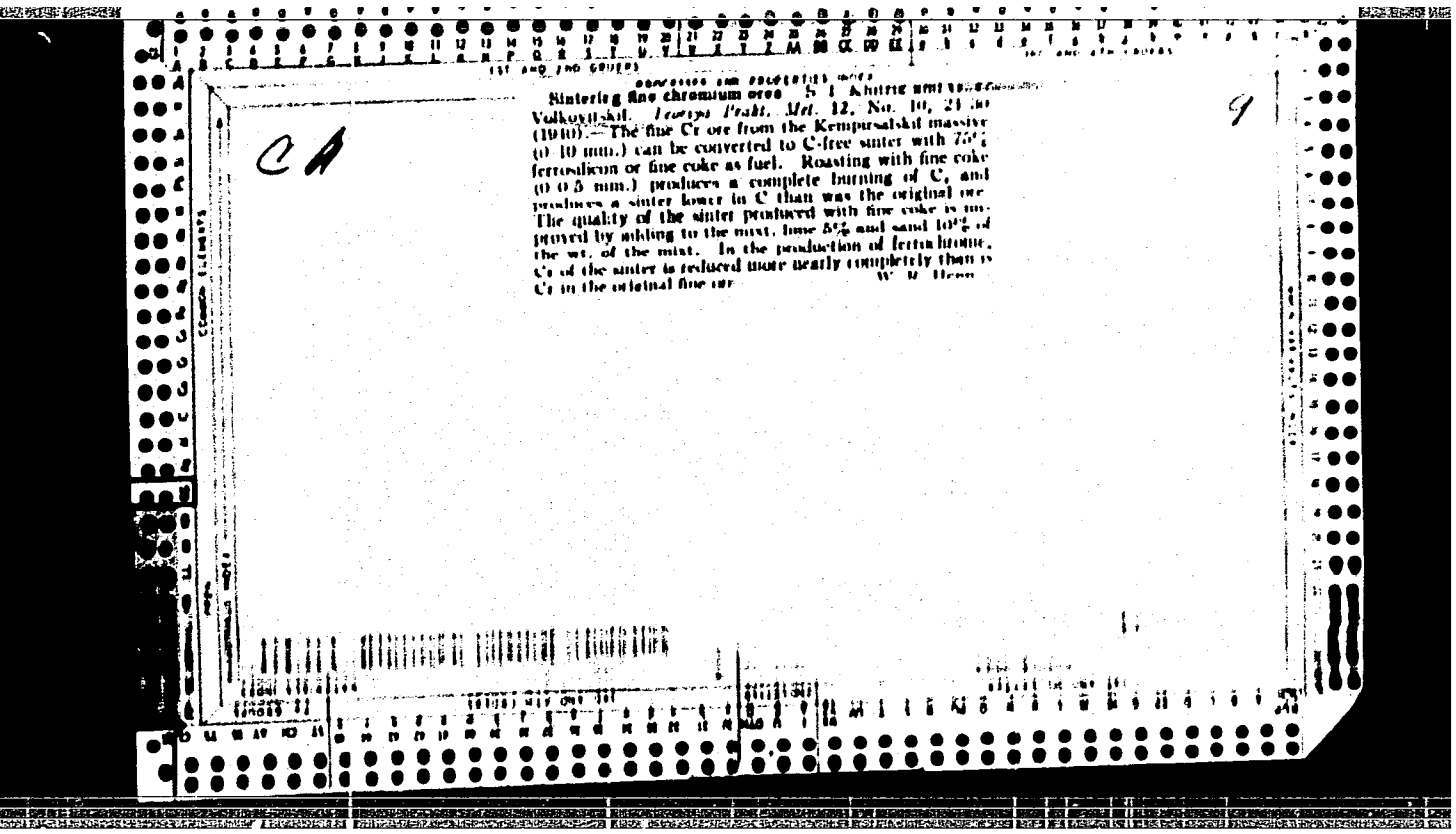

Sintering fine chromium ores. S. I. Khitrik and [illegible] Volkovitskii. *Teoriya Prakt. Met.* 12, No. 10, 21-30 (1940).—The fine Cr ore from the Kempirsalskii massive (0-10 mm.) can be converted to C-free sinter with 75% ferrosilicon or fine coke as fuel. Roasting with fine coke (0-0.5 mm.) produces a complete burning of C, and produces a sinter lower in C than was the original ore. The quality of the sinter produced with fine coke is improved by adding to the mixt. lime 5% and sand 10% of the wt. of the mixt. In the production of ferrochrome, Cr of the sinter is reduced more nearly completely than is Cr in the original fine ore. W. R. Henn

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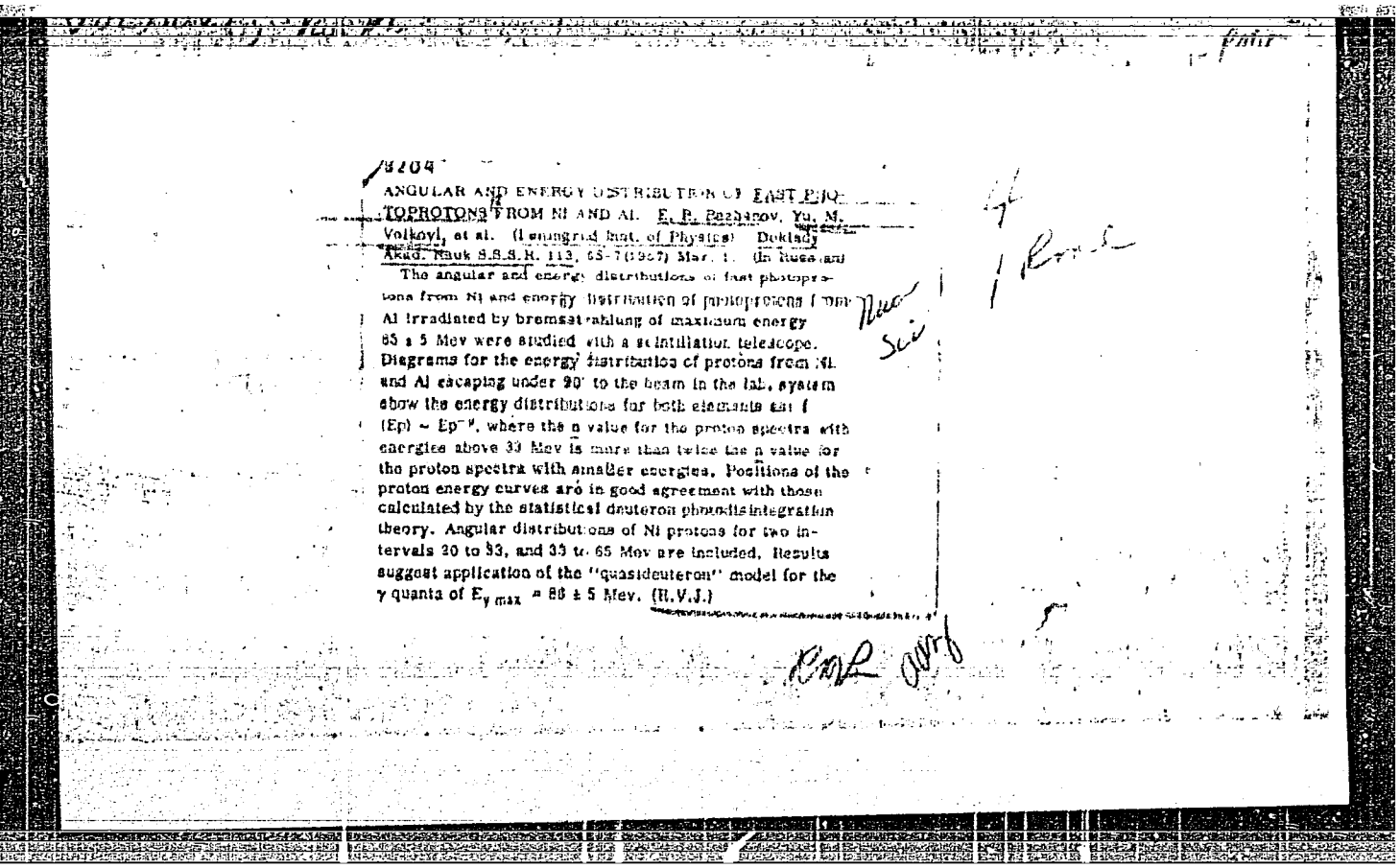

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ANGULAR AND ENERGY DISTRIBUTION OF FAST PHOTOPROTONS FROM Ni AND Al. E. P. Pazhanov, Yu. M. Volkovyi, et al. (Leningrad Inst. of Physics) Doklady Akad. Nauk S.S.S.R. 113, 65-70(1957) Mar. 1. (In Russian)

The angular and energy distributions of fast photoprotons from Ni and energy distribution of photoprotons from Al irradiated by bremsstrahlung of maximum energy 85 ± 5 Mev were studied with a scintillation telescope. Diagrams for the energy distribution of protons from Ni and Al escaping under 90° to the beam in the lab. system show the energy distributions for both elements can be $f(Ep) \sim Ep^{-n}$, where the n value for the proton spectra with energies above 30 Mev is more than twice the n value for the proton spectra with smaller energies. Positions of the proton energy curves are in good agreement with those calculated by the statistical deuteron photodisintegration theory. Angular distributions of Ni protons for two intervals 20 to 33, and 33 to 65 Mev are included. Results suggest application of the "quasideuteron" model for the γ quanta of $E_{\gamma\,max} = 80 \pm 5$ Mev. (R.V.J.)

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOLKOVICH, A.V., inzh.; KOCHERGIN, A.I., inzh.; GREKOV, S.D., inzh.; ZINOV'YEV, A.F., inzh.; TETENEVA, M.S., inzh.

Mechanizing the production of cadmium sulfate. Khim. i neft. mashinostr. no.1:39 Jl '64. (MIRA 17:12)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOL'KOVICH, N.Ye.; KAGALOVSKIY, S.P.; YEROFEYEV, S.B.

Distribution of bols on checkrow cotton. Dokl. AN Uz. SSR no.10: 45-49 '57. (MIRA 11:5)

1. Institut matematiki i mekhaniki im. V.I. Romanovskogo AN UzSSR. Predstavleno chlenom-korrespondentom AN UzSSR B.A. Levkovichem.
(Cotton growing) (Plants, space arrangement of)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOLKOVINSKAYA, L.P.; POZHARSKAYA, A.M.

Production of stable indigo carmine solutions for injections. (MIRA 15:2)
Med. prom. 15 no.12:48-49 D '61;

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze.
(INDIGO CARMINE)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

MITKIN, I., inzh.; VOLKOVINSKIY, I., inzh.

Graphic work schedule in housing construction. Zhil. stroi. no.7:2-3 '65. (MIRA 18:8)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOLKOVINSKIY, Leonid Mikhaylovich; DAVYDOVSKIY, Vladimir Mikhaylovich; POGODIN, Aleksandr Mikhaylovich; SOKOLOV, A.G., inzh., red.; KHITROV, P.A., tekhn.red.

[Railroad telephone communications] Zheleznodorozhnaia telefonnaia sviaz'. Izd.2., perer. i dop. Moskva, Vses.izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1960. 483 p. (MIRA 14:1)
(Railroads--Communication systems) (Telephone)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOLKOVINSKIY, L.M.; TERESHCHENKO, N.N., red.; BOKMANIS, Ya.R., tekhn. red.

[Electrical engineering (alternating current)]Elektrotekhnika (peremennyi tok); uchebnoe posobie dlia uchashchikhsia elektrotekhnicheskikh spetsial'nostei. Moskva, Vses. zaochnyi tekhnikum zheleznodorozhnogo transporta, 1958. 211 p. (MIRA 16:10)

(Electric engineering)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOLKOVINSKIY, Leonid Mikhaylovich, inzh.; ZBAR, Naum Rafailovich, inzh.; ZAKHAROVA, N.V., red.

[Automatic telephone communication in railroad transportation] Avtomaticheskaia telefonnaia sviaz' na zheleznodorozhnom transporte. Moskva, Transport, 1964. 278 p. (MIRA 17:9)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOLKOVINSKIY, Vasiliy Ivanovich [Volkovyns'kyi, V.I.]; GODLEVSKAYA, V. [Hodlevs'ka, V.], red.; MIL'KIN, Yu., tekhn. red.

[Modern Indonesia] Suchasna Indoneziia. Kyiv, Derzh. vyd-vo polit. lit-ry URSR, 1960. 87 p. (MIRA 14:10)
(Indonesia—Politics and government)
(Indonesia—Economic conditions)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOLKOVINTSER, V.I.

Characteristics of soil formation in steppe depressions of the south-eastern Altai. Trudy Biol. inst. Sib. otd. AN SSSR no.12:17-29 '64. (MIRA 18:7)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

MURASHOV, N.A.; VOLKOVINTSER, V.I.

Nutrient balance in Solonetz soils of Baraba under different methods of cultivation. Trudy Biol. inst. Sib. otd. AN SSSR no.9:99-106 '62 (MIRA 17:8)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

FEDOSOV, M.V.; VOLKOVINSKIY, V.V.

The oxygen regime, an index of the primary productivity of marine waters. Trudy VNIRO 57:131-144 '65. (MIRA 18:6)

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

STEBAYEV, I.V.; VOLKOVINTSER, V.V.

Animal population in soils of the northern part of the Baraba Forest Steppe and the water balance of soils. Zool. zhur. 43 no.10:1425-1439 '64. (MIRA 17:12)

1. Zoological Museum of Biological Institute of the Siberian Branch of the Academy of Sciences of the U.S.S.R. (Novosibirsk).

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

ACCESSION NR: AT4010219 S/3056/63/000/000/0014/0025

AUTHOR: Volkovitskaya, Z. I.; Mashkova, G. B.

TITLE: Wind profile and the characteristics of the turbulent regime in the lower 300-meter layer of the atmosphere

SOURCE: Issledovaniye nizhnego 300-metrovogo sloya atmosfery*. Moscow, 1963, 14-25

TOPIC TAGS: meteorology, wind, wind profile, atmospheric turbulence, lower atmosphere, temperature profile

ABSTRACT: After reviewing the various techniques for calculating the wind profile in the lower levels of the atmosphere, with special reference to the methods of Obukhov-Monin and Monin-Kazanskiy, the authors apply these calculations to data on wind velocity and temperature obtained at 13 levels of a 300-meter meteorological tower between August and September of 1961. Particular attention is devoted to the profiles of wind and temperature in the layer nearest the ground, calculated by means of:

$$\frac{\varkappa u(z)}{v_*} = F_1\left(\frac{z}{L_1}, \mu\right) - F_1\left(\frac{z_0}{L_1}, \mu\right)$$

$$\frac{\varkappa v(z)}{v_*} = F_2\left(\frac{z}{L_1}, \mu\right) - F_2\left(\frac{z_0}{L_1}, \mu\right)$$

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$$\frac{T_*(z)-T(z_0)}{T_*}=F_3\left(\frac{z}{L_1},\mu\right)-F_3\left(\frac{z_0}{L_1},\mu\right)$$

where the function $F(z/L_1, \mu)$ can be determined empirically. The relationship between these profiles and atmospheric turbulence and stratification is discussed, and changes in wind velocity during the day are tabulated. Fig. 1 of the Enclosure shows the relationship between wind profile, altitude and the relative heights of the dynamic sublayer and dynamic layer. Orig. art. has: 8 figures, 5 tables and 6 formulas.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 20Feb64 ENCL: 02

SUB CODE: AS NO REF SOV: 014 OTHER: 000

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A004/A101

25537

1.1500

AUTHORS: Volkovitskiy, G. I.; Tsvetnenko, K. U.; Trubchenko, P. A.; Samoylov, G. D.

TITLE: Centrifugal tube blank castings from bessemer steel smelted with the application of oxygen blast

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 11, 1961, 28, abstract 11G181 (V sb. "Proiz-vo trub". no. 3, Khar'kov, 1960, 92-102)

TEXT: The authors present technological data and investigation results of the quality of centrifugal tube blank castings from bessemer steel smelted with oxygen blast (St.20 and carbon steel). The obtained results were compared with the corresponding data on centrifugal casting of tube blanks from carbon electric steel. It was found that the structure of the centrifugally cast blanks is not so much determined by the smelting method but by the casting parameters. The optimum metal overheating over the liquidus temperature should not exceed 50-70°C (in this case 60-70% of the blank metal does generally not possess a zonal macro-structure over the wall thickness). The absence of an even growth of C, S and P-concentrations from the outer casting surface to the inner one was found, which

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is generally related to the effect of the centrifugal process, although the inner surface zone contains nevertheless more S and P than the outer one. An additional nitrogen saturation of centrifugal cast blanks from bessemer steel with oxygen blast does not take place. The increase of the nitrogen content towards the inner blank surface is connected with the separation of dissolved gases by the centrifugal forces (metals with a higher manganese content contain more nitrogen). The blank metal from electric steel contained 0.006-0.011% N, i. e. nearly the same quantity as in bessemer steel. All strength characteristics both over the cross section and in various zones over the blank length vary in a comparatively narrow range. Besides, the strength characteristics of centrifugal cast blanks are always higher, while the plastic characteristics after heat treatment are mostly higher than it is stipulated by GOST for rolled tubes. The suggested technology ensures a high quality of tubing blanks, including their deformation ability.

S. Shamirgon

[Abstracter's note: Complete translation]

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOLKOVITSKIY, G.I., kand.tekhn.nauk

Optimum phosphor content in cast iron used for centrifugal casting pipes in metal molds. Biul.nauch.-tekh.inform.VNITI no.4/5:125-135 '58. (MIRA 15:1)

(Pipe, Cast iron) (Founding)

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L 56680-65 EWT(m)/EPF(c)/EWA(d)/EWP(t)/EWP(z)/EWP(b) MJW/JD/WB

ACCESSION NR: AP5013787 UR/0128/65/000/005/0001/0002

621.74.042:669.14.018.85

25
B

AUTHOR: Volkovitskiy, G. I. (Candidate of technical sciences); Plyatskovskiy, O.A. (Doctor of technical sciences); Yuferov, V. M. (Candidate of technical sciences); Dzyuba, M. I. (Engineer); Khokhlov-Nekrasov, O. G. (Engineer)

TITLE: Centrifugal casting of large tube blanks from OKh10N20T2 steel

SOURCE: Liteynoye proizvodstvo, no. 5, 1965, 1-2

TOPIC TAGS: centrifugal casting, austenitic steel, high-strength tube, corrosion resistance

ABSTRACT: Procedures employed in centrifugal casting of 3700 mm long tube blanks with internal diameters of 160, 145 and 120 mm and external diameters of 490, 450 and 365 mm are described. The tubes were cast from austenitic precipitation hardening OKh10N20T2 steel (≤0.08% C, ≤0.80% Si, ≤0.03% P, 10-12% Cr, 18-20% Ni, 1.5-2.5% Ti, ≤0.60% Al). The cast tubes were then machined externally to a tolerance of 10-12 mm and internally to a tolerance of 20-25 mm. All of the specimens exhibited

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ACCESSION NR: AP5013787

a primarily columnar structure. The mechanical properties of the finished rolled and heat treated tubes were as follows: σ_b>70 kg/mm^2, σ_s>40 kg/mm^2, σ=25% and ψ=40%. It is determined that the cost of tubes prepared by this method is 25-30% less than that of those prepared from forged blanks.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NO REF SOV: 003 OTHER: 000

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A054/A127

11300

AUTHORS: Volkovitskiy, G. I., Docent, Candidate of Technical Sciences, Pishchikov, G. P., Engineer, Yuferov, V. M., Docent, Candidate of Technical Sciences, Dzyuba, M. I., Say, N. F., Engineers

TITLE: Special features of producing large-diameter X18H12M2T (Kh18N12M2T) steel tubes

PERIODICAL: Stal', no. 6, 1962, 532 - 535

TEXT: Kh18N12M2T steel tubes cannot be made with diameters larger than 219 mm owing to the high deformation resistance and low ductility of the steel and because no tube blanks with larger diameter are available in this grade. Therefore, a technology to produce large-diameter Kh18N12M2T steel tubes from hollow tube blanks produced by centrifugal casting was established. The steel for centrifugal castings was smelted in a medium-size basic arc furnace with partial oxidation. To ensure the required mechanical properties, and reduce the segregation of the alpha-phase and the amount of non-metallic inclusions, the additions of Cr, Ni and Ti were within narrower limits than permitted by the standard, (Cr 16.0 - 16.8; Ni 12.0 - 14.0; Ti 0.30 - 0.55). The billets were

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Special features of...

produced in two sizes: 285 x 65 x 3,200 and 320 x 65 x 3,200 mm (after machining: 260 x 35 x 3,200 and 300 x 35 x 2,900 mm). The mechanical tests showed a strength of 45 - 50 kg/mm^2 and a relative elongation of 45 - 60%. After heating to 1,000 - 1,050°C and a holding time of 1 hour 15 min - 1 hour 25 min and subsequent air-cooling, the strength limit and yield point had not changed, relative elongation increased slightly, relative contraction considerably. The tests on rolling tubes from the centrifugal castings were carried out on a "350" automatic mill. Two versions were applied. Three tube blanks, 245 x 45 x 2,900 mm in size, were rolled on two piercing stands, while in the other version 265 x 35 x 2,900 mm billets were rolled only on one piercing stand prior to the automatic stand, (with mandrels, 236 mm in diameter in the first pass and 238 mm in the second). Better results were obtained with the second version: no cracks formed on the tube end, the surface was also improved and power consumption was lower. Therefore, in the industrial-scale tests only the second version (using one piercing stand) was applied. In these tests 273-mm diameter tubes were produced from 260 x 35 x 2,900 mm billets and 325-mm diameter tubes from 300 x 35 x 2,900 mm billets (with a machining allowance of + 3 mm). About 25% of the 273 x 15 mm tubes had to be rejected owing to scaling. Macrostructural tests

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showed that in the metal of the tube blanks rolled the alpha-phase content attained index values of 3.5 - 4.0, due to the unfavourable chrome-to-nickel ratio. Investigations into the macrostructure of the tube blanks revealed changes taking place in it upon piercing, on account of the stresses then arising. The total value of reduction of the tube wall on the piercing stand, when 265 x 35 mm billets are processed into 273 x 20 mm tube blanks, should amount to 44.1%. After such a deformation it can be expected that the development of defects is checked. The tests were carried out with the participation of V. A. Surzhikov, A. D. Kovaleva, A. V. Tkachenko, N. S. Kirvalidze, D. V. Gladkikh, and A. T. Esaulov, Engineers, (Yuzhnotrubnyy zavod-Yuzhnotrubnyy Plant). There are 6 figures.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

S/137/62/000/005/020/150
A006/A101

AUTHORS: Samoylov, G. D., Volkovitskiy, G. I., Tsvetnenko, K. U.

TITLE: Oxygen-blown converter-steel cast pipe blanks

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 5, 1962, 59, abstract 5V345 (V sb. "Proiz-vo trub", no. 5, Khar'kov, Metallurgizdat, 1961, 129-132)

TEXT: To investigate the possibility of rolling pipes from O_2-blown converter metal ingots, a series of grade "20" killed steel round ingots were cast (345 mm in diameter, 2,000 mm high). To study the structure of chemically heterogeneous ingots and the mechanical properties in the cross section at 600 mm from the bottom, templets were cut out. Samples and specimens were taken from the templets at different spots in the direction from the external surface to the axis. The structure of an ingot is characterized by the presence of 3 zones. Zone 1 of the external surface consists of a thin strip of very fine equiaxial crystals which slowly pass over into fine columnar crystals; zone 2 following zone 1, consists of ramified dendrites; zone 3 is located in the ingot depth at about 90 mm distance from the external surface extending towards its axis.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

Oxygen-blown converter-steel cast pipe blanks

S/137/62/000/006/020/150
A006/A101

It consists of coarse equiaxial crystals with intermediate segregations. The distribution of elements in a converter metal ingot is the same as in open-hearth steel ingots. The results obtained in rolling show the possibility of successful pipe production from converter metal ingots on pilger mills.

P. A.

[Abstracter's note: Complete translation]

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

S/123/62/000/006/017/018
A004/A101

AUTHORS: Samoylov, G. D., Volkovitskiy, G. I., Tsvetnenko, K. U.

TITLE: Cast tube blanks from converter steel blown through with oxygen

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 6, 1962, 5, abstract 6G32 (V sb. "Proiz-vo trub", no. 5, Khar'kov, Metallurgizdat, 1961, 129-132)

TEXT: The use of oxygen blast (containing 92 - 94% oxygen) considerably improves the quality of converter metal. Its chemical composition approaches that of open-hearth steel, while its content of harmful impurities and gases is reduced to the following limits: 0.020 - 0.045% S, 0.010 - 0.035% P, 0.005 - 0.010% N_2, 0.002 - 0.003% O_2, 0.0002 - 0.0004% H_2. To investigate the feasibility of rolling tubes from ingots of converter metal blown through with oxygen, a batch of round-section ingots (345 mm in diameter and 2,000 mm high) were cast from killed grade 20 steel. The rolling results revealed the possibility of a successful production, on pilger mills, of tubes from ingots of converter metal blown through with oxygen.

[Abstracter's note: Complete translation]

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

S/123/61/000/004/019/027
A004/A104

AUTHORS: Tsvetnenko, K. U.; Volkovitskiy, G. I., and Samoylov, G. D.

TITLE: Centrifugal casting of hollow pipe blanks from converter metal blown through with oxygen

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 4, 1961, 20, abstract 4G155. ("Byul. nauchno-tekhn. inform. Ukr. n.-i. trubn. in-t", 1959, nos. 6-7, 131-135)

TEXT: The authors report on the casting of pipes from converter steel of the grades K 0, K 10, K 20, КС (KS) and КД (KD) on centrifugal machines, the steel having been smelted with oxygen blowing. The blanks had a length of 3,320 mm, a diameter of 285 mm and a wall thickness of 40-45 mm. High-quality blanks can be obtained if the following technological parameters are observed: rotation speed of 600 rpm at the moment of pouring and 500 rpm after the steel has reached the opposite chill end; pouring rate - 25 kg/sec; sand layer thickness on the inner chill surface - 5-6 mm. There is 1 figure and 3 references.

S. Zhukovskiy

[Abstractor's note: Complete translation]

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860620012-5

VOLKOVITSKIY, G.I.; YUFEROV, V.M.; DZYUBA, M.I.; PISHCHIKOV, G.P.; SAY, N.F.

Centrifugal casting of EI448 steel billets for large diameter pipes. Lit. proizv. no.6:14-15 Je '63. (MIRA 16:7)

(Centrifugal casting)

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L 10536-66 EWT(d)/FSS-2
ACC NR: AR5018781 SOURCE CODE: UR/0274/65/000/007/V024/V025

SOURCE: Ref. zh. Radiotekhnika i elektrosvyaz', Svodnyy tom, Abs. 7V167

AUTHOR: Genkina, N. F.; Volkovitskiy, K. Ye. 44,55 44,55

TITLE: Elimination of the register-shift mechanism in an electronic telegraph receiver

CITED SOURCE: Tr. uchebn. in-tov svyazi. M-vo svyazi SSSR, vyp. 21, 1964, 133-140

TOPIC TAGS: telegraph equipment, electronic circuit 44,55

TRANSLATION: A single-row type wheel of a 3-register electronic telegraph apparatus is described, and the circuit of an electronic converter for no-register reception designed with ferrite-diode single-end-connected binary elements is

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presented. To simplify the above mechanism and to replace the 3-row type wheel with a single-row wheel, it is suggested that the letters, numerals, and signs be deployed on both sides of the single-row wheel beginning from its rotation-start point. A special circuit of the electronic converter permits elimination of blank spots on the wheel rim, which (on 3-row wheels) were needed to ensure the time periods for reception of register combinations and for operation of the tape transport. The time of passing of each half-wheel over the print-magnet striker must not be shorter than the time of operation of the tape transport. This precludes the possibility of printing the first character after the last without receiving the register-shift combination between them. The operation of the tape-transport mechanism starts immediately after the character has been printed, and the mechanism has sufficient time for its operation under all conditions. A table of letters, numerals, and signs arranged on the single-row-wheel rim is shown. The above type-wheel design was used in a prototype of the electronic telegraph apparatus; the quality of print was not inferior to that of the ST-35 apparatus. Bib 3, figs 3.

SUB CODE: 17, 09

Card 2/2 yw

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SHASHIN, Yuriy Vasil'yevich; VOLKOVITSKIY, K.Ye., red.; SHIROKOVA, M.M., tekhn. red.

[Electronics in photography] Elektronika v fotografii. Moskva, Gos. energ. izd-vo, 1961. 79 p. (Massovaia radiobiblioteka, no.424) (MIRA 15:4)
(Photography—Electronic equipment)

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S/106/61/000/003/003/003
A055/A133

24,7200 (1121, 1147, 1164)

AUTHOR: Volkovitskiy, K. E.

TITLE: On the problem of calculating single-cycle ferrite-diode system.

PERIODICAL: Elektrosvyaz', no. 3, 1961, 41 - 49

TEXT: This article is an analysis of the operation of single-cycle ferrite-diode systems i.e., of the processes occurring at the magnetic reversal. The magnetic substance hysteresis loop is supposed to approximate an ideal rectangular loop. The author begins by reproducing some general formulae, such as:

$$\left.\begin{aligned} i_{min} &= \frac{5H_c r_{min}}{w_1} \\ i_{max} &= \frac{5H_c r_{max}}{w_1} \\ i_{max} - i_{min} &= \frac{5H_c}{w_1}(r_{max} - r_{min}) \end{aligned}\right\} \quad (1)$$

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On the problem of calculating .....

where i_{min} and i_{max} are currents corresponding to the beginning and the end of the magnetic reversal, respectively, H_c is the operating field-strength, w_1 is the number of turns of the magnetization winding, r_{min} and r_{max} are the inner and outer radii respectively of the toroidal core. During the magnetic reversal process, the ferrite cell is represented by a transformer, the diode being represented by its forward resistance and by a shunting capacitance. The loss-resistance r_n is small, C_{diode} can be neglected (if a germanium point-contact diode is used as valve), the secondary-winding resistance r_2' can be combined with the diode resistance, and L_{s2} can be taken into account in the primary circuit. Therefore, an equivalent circuit will be used, where:

$$R'_{diode} = R_e \frac{w_1^2}{w_2^2}; \quad R_e = R_{diode} + r_2'; \quad C' = C \frac{w_2^2}{w_1^2} \qquad (4)$$

The author first examines the operation of the ferrite cell in the ideal case ($R_{diode} = 0$). Analyzing this circuit and using formulae (1) and (4), he finds the following expression for the magnetic reversal time:

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On the problem of calculating ....

$$T_{mpr} = 2w_2 \sqrt{\frac{BSC}{\left[i_{1(\xi_1)} - i_{3(\xi_1)}\right] w_1}} = T_{ideal} \qquad (5)$$

where B is the magnetic induction, S = ah (a and h being, respectively, the height and thickness of the toroidal core), and ξ_1 is a certain intermediate moment. In further discussions, the time T_{mpr} corresponding to the ideal case will be designated by T_{ideal}. The condenser energy at the end of the charge is then calculated. It is found to be:

$$A_c = 2i_2(\xi_1) w_1 BS, \qquad (6)$$

where $i_2(\xi_1) = i_1(\xi_1) - i_3(\xi_1)$. The author examines then the general case ($R \neq 0$). By an analogous reasoning he finds:

$$T_{mpr} = \sqrt{\frac{4w_1^2 BSC}{\left[i_{1(\xi_2)} - i_{3(\xi_2)}\right] w_1}} + (\kappa R_{diode} C) - \kappa R_{diode} C$$

where

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On the problem of calculating ....

$$K = \frac{i_{K(\xi_1)} - i_{3(\xi_1)}}{i_{1(\xi_2)} - i_{3(\xi_2)}}. \qquad (11)$$

Using the expressions (5) (for T_{ideal}) and $R_{diode} C = T_z$ (7)

he finally obtains:

$$T_{mpr} = \sqrt{T_{ideal} + (KT_z)^2} - KT_z \qquad (8)$$

The energy accumulated in the condenser is:

$$A_c = \frac{CU_c^2}{2} = \frac{C_2^2 T_{mpr}^2}{2C} = \frac{(i_2 w_1)^2 T_{mpr}^2}{2Cw_2^2} \qquad (9)$$

and the efficiency of the system is:

$$\eta = \frac{1}{1 + \frac{2KT_z}{T_{mpr}}} \qquad (9')$$

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On the problem of calculating ....

To determine K, the author observes that the magnitudes appearing in (11) depend on the value and shape of the pulse of current i_1, on the magnetic reversal time of the core and on the number of turns of the magnetization winding. If the pulse front can be approximated by an oblique straight line, we have:

$$\left.\begin{aligned} i_{1(\xi_1)} &= \frac{1}{2} i_{max} \frac{T_{mpr}}{T_{fr}} \\ i_{1(\xi_2)} &= \frac{1}{3} i_{max} \frac{T_{mpr}}{T_{fr}} \end{aligned}\right\} \qquad (12)$$

if $0 < T_{mpr} \leqslant T_{fr}$ (T_{fr} being the duration of the pulse front), and

$$\left.\begin{aligned} i_{1(\xi_1)} &= \left(\frac{T_{fr}}{2T_{mpr}} + \frac{T_{mpr} - T_{fr}}{T_{mpr}}\right) i_{max} \\ i_{1(\xi_2)} &= \left[\frac{\left(T_{fr}^2\right.}{3T_{mpr}^2} + \frac{\left.T_{mpr} - T_{fr}\right)^2}{T_{mpr}^2}\right] i_{max} \end{aligned}\right\} \qquad (13)$$

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On the problem of calculating ....

if $T_{mpr} \geqslant T_{fr}$. If the pulse front can be approximated by an exponential curve, we have:

$$i_{1(\xi_1)} = i_{max}\left(1 - \frac{\tau_{fr}}{T_{mpr}}\left(1 - e^{-T_{mpr}/\tau_{fr}}\right)\right) \qquad (14)$$

$$i_{1(\xi_2)} = i_{max}\left\{1 - 2\frac{\tau_{fr}}{T_{mpr}}\left[1 - \frac{\tau_{fr}}{T_{mpr}}\left(1 - e^{-T_{mpr}/\tau_{fr}}\right)\right]\right\}$$

where τ_{fr} is the time constant of the pulse front. As for $i_{3(\xi_1)}$ and $i_{3(\xi_2)}$, they have practically the same values at any shape of i_1 :

$$\left.\begin{aligned} i_{3(\xi_1)} &= \frac{5H_c}{w_1}\left(r_{mean} - a/6\right) \\ i_{3(\xi_2)} &= \frac{5H_c}{w_1}\left(r_{mean} - a/3\right) \end{aligned}\right\} \qquad (15)$$

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