Formed Blast Furnace Fuel from Non-Coking Coals

semicoke. On caking the briquettes never fuse with each other and the charge freely moves downwards. In the fifth and last stage (bottom part of the furnace) further coking of briquettes takes place. It is sufficient to bring their temperature steadily to 750 - 800°C. Simultaneously the final volatile products (hydrogen and little methane) are evolved. The volatile products are sucked off the bottom part of the furnace (if the latter is externally heated) so that the tar and heavy hydrocarbons formed in the upper part of the furnace are submitted to pyrolysis on the surface of coke briquettes heated to 750 - 800°C. Under these conditions the usual coke oven gas and the usual coking products: tar; raw benzole and ammonia are formed. By varying the final temperature of the coke briquettes or by sucking off the volatile products from various furnace levels their composition can be controlled. The properties of the formed coke are determined by conditions of treatment of the coal mainly during the first two stages of the process and depend on the temperature of preheating and the duration of the retention at this temperature.

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Formed Blast Furnace Fuel from Non-Coking Coals

The conditions during these two stages were chosen correctly if the plastic briquettes obtained possess a certain degree of gas impermeability. The latter can be determined in a special apparatus in 4-5 minutes. For this purpose the plastic briquette is enclosed into a special holder, which prevents it swelling, and placed into an electric furnace preheated to a constant temperature. Coking of the briquette takes place with the formation of gaseous decomposition products inside the briquette. The pressure which the plastic briquette exerts on the walls of the box is measured by a special instrument. This pressure indicates the degree and duration of gas impermeability of the plastic coal mass and in the absence of swelling is expressed by a curve with a maximum. The optimum degree of gas impermeability under experimental conditions corresponds to a pressure inside the briquette of 15-30 kg/cm . By an appropriate adjustment of heating temperature in the first stage of the process and/or the duration of heating in the second stage the required

Card 4/6 degree of impermeability of the plastic briquettes can be

Formed Blast Furnace Fuel from Non-Coking Coals

obtained. The properties of the coke so produced were tested in a small drum, after 150 revolutions in all cases more than 90% (by weight) of the briquettes remained intact, the yield of fines (-10 mm) was below 10%. On heating briquettes in an inert atmosphere to 1400°C their physical properties were further improved. The porosity of coke can be varied from 35 to 60%. It is pointed out that the final volatile content of coke at a final temperature of the process of 750°C was 1.5 - 2.5% which corresponds to a normal metallurgical coke finished at 900 - 1000°C in the tar line plane. Types of coals tested, coking conditions and the quality of the coke produced are given in table 1. During 1957-1958 a number of coals was tested on the pilot plant on the Kharkov Coking Works. At present a new pilot plant is being built which will be used for the final check on the plant equipment and produce sufficient coke for trials on large blast furnaces. All the experimental work should be finished in 1960 and

SOV/68-59-3-5/23

Formed Blast Furnace Fuel from Non-Coking Coals

in 1961 an industrial typical plant for continuous coking should be designed. There is 1 figure and 1 table.

ASSOCIATION: IGI AN SSSR

Card 6/6

SAPOZHNIKOV, L.

Thermal processing of coal used for power engineering. Mast. ugl. 8 no.2:15-16 F '59. (MIRA 13:4)

1. Chlen-korrespondent AN SSSR.
(Coke industry)

Sapozhnikov, L.M.

PHASE I BOOK EXPLOITATION SOV/4252

Akademiya nauk SSSR. Sovet po izucheniyu proizvoditel'nykh sil

Chernaya metallurgiya (Ferrous Metallurgy) Moscow, Izd-vo AN SSSR, 1960. 273 p. (Series: Razvitiye proizvoditel'nykh sil Vostochnoy Sibiri) Errata slip inserted. 2,000 copies printed.

Ed.: G.I. Lyudogovskiy, Candidate of Technical Sciences; Ed. of Publishing House: G.M. Makovskiy; Tech. Ed.: Ye.V. Makuni; Editorial Board of this vol.: S.S. Dvorin, N.V. Ovchininskiy, Candidate of Technical Sciences, A.N. Pokhvisnev, Doctor of Technical Sciences, and A.A. Fedotov, Engineer; Editorial Board of Series: I.P. Bardin,(Deceased), Academician, Academy of Sciences USSR (Chief. Ed.); M.A. Lavrent'yev, Academician, Academy of Sciences USSR; S.I. Vol'fkovich, Academician, Academy of Sciences USSR; V.I. Dikushin, Academician, Academy of Sciences USSR; V.S. Nemchinov, Academician, Academy of Sciences USSR; V.I. Veyts, Corresponding Member, Academy of Sciences USSR; O.D. Levitskiy, Corresponding Member, Academy of Sciences USSR; N.N. Nekrasov, Corresponding Member, Academy of Sciences USSR; L.D. Pustovalov, Corresponding Member, Academy of Sciences USSR; T.S. Khachaturov, Corresponding Member, Academy of Sciences USSR; N.F. Rostovtsev, Academician, All-Union Academy of Agricultural Sciense; A.N. Popov, Member, Academy of Building and Architecture USSR; L. Ye. Grafov, Deputy Chairman, State Planning Committee of the Council of Ministers RSFSR; A.D. Gashev, Member, State Planning Committee of the Council of Ministers RSFSR; A.Ye. Probst, Professor; V.F. Vasyutin, Professor; V.A. Kretov, Professor; P.V. Vasil'yev, Doctor of Economics; G.I. Lyudogovskiy, Candidate of Technical Sciences; P.A. Letunov, Candidate of Geology and Mineralogy; and M.G. Shkol'nikov, Candidate of Economics.

PURPOSE: This collection of papers is intended to furnish information on industrial resources in Eastern Siberia and to provide a basis for future developmental planning in the field of ferrous metallurgy.

COVERAGE: The collection is a summary of the proceedings of the Ferrous Metallurgy Section of the Joint Conference of Representatives of the Academy of Sciences USSR, the State Planning Commission, and the Council of Ministers RSFSR on the Development of the Industrial Resources of Eastern Siberia. The collection deals with four main areas of development in Eastern Siberia: 1) Mineral resources, 2) the fuel base, 3) prospects for the development of ferrous metallurgy, and 4) problems in the development of electrometallurgy. A list of the 112 members of the Section with their affiliations is given in the Appendix. References accompany several of the articles.

Card 5/8

(5)

NIKOLAYEV, Ivan Nikitich; SAPOZHNIKOV, L.M., otv. red.

[Using coal from regions of the U.S.S.R. as a possible raw material for the production of metallurgical coke] Ugli vostochnykh raionov SSSR kak vozmozhnoe syr'e dlia proizvodstva metallurgicheskogo koksa. Moskva, Nauka, 1964. 86 p. (MIRA 17:9)

1. Chlen-korrespondent AN SSSR (for Sapozhnikov).

L 53873-65 EWT(m)/EWG(m)-2 Pw-4

ACCESSION NR: AP5017247 UR/0170/64/000/007/0065/0071

AUTHOR: Plyat, Sh. N.; Sapozhnikov, L. B.

TITLE: Temperature distribution in structural concrete bodies

SOURCE: Inzhenerno-fizicheskiy zhurnal, no. 7, 1964, 65-71

TOPIC TAGS: temperature, concrete, heat transfer

ABSTRACT: A method is given for determining the heat transfer function in concrete, taking into account the dependence of exothermy on time and temperature. Solutions of the problem are given for a number of one- and two-dimensional bodies. Analytical solutions are given for the heat conductivity problem for concrete walls cooled symmetrically and asymmetrically and pylons of circular and rectangular cross section. Orig. art. has: 34 formulas, 1 graph.

ASSOCIATION: Institut gidrotekhniki im. B. Ye. Vedeneyeva, Leningrad (Institute of Hydraulic Engineering)

SUBMITTED: 22Apr63 ENCL: 00 SUB CODE: MT, TD

NR REF SOV: 006 OTHER: 005 JPRS

Card 1/1

ROMANOV, A.D., kand. tekhn. nauk; SAPOZHNIKOV, L.M., insh.

Manufacture of aluminum panels. Energ. stroi. no.1:82-88 '65.
(MIRA 18:7)

ROMANOV, A.D., kand. tekhn. nauk; SAPOZHNIKOV, L.M., inzh.

Machinery bases of network constructing and installing enterprises. Energ. stroi. no. 4:66-72 '65. (MIRA 18:12)

SAPOZHNIKOV M.

107-9-3/53

AUTHOR: Sapozhnikov, M., Head of the Sverdlovsk Radio Center

TITLE: Television in the USSR (Televideniye v SSSR)

PERIODICAL: Radio, 1957, # 9, p 3-4 (USSR)

ABSTRACT: The effective range of the Sverdlovsk TV-Center exceeds 70 km. There are relay stations at Nizhniy Tagil' and Krasnotur'insk, and during 1957 additional stations will be put into operation at Kamensk-Ural'sk, Kamyshlov, Yegorshino and other towns. More than 50,000 TV-receivers of different types were installed in towns and workers' settlements.

Many rational suggestions were made by the engineers Yu. Filimonov, Ye. Os'kin, I. Levin, as well as by the technicians L. Nemeshayev, Ye. Goncharov and others. The details of these suggestions and improvements are given.

The article contains 2 photos.

AVAILABLE: Library of Congress

Card 1/1

SAPOZHNIKOV, M., polkovnik

Computer in rocket gunnery. Starsh.-serzh. no.8:17 Ag '61. (MIRA 14:10)

(Rockets (Ordnance))

SAPOZHNIKOV, M., polkovnik

Rocket assault from the march. Starsh.-serzh. no.4:25 Ap '62. (MIRA 15:4)

(Rockets (Ordnance))

SAPOZHNIKOV, M. A., and LIDIKH, A. K.

Telephone Instrument of Central Battery (TSB) System., Patent, Class $21a^{2}$, 34_{01}. No 103676, Elektrosvyaz' No. 1, Jan 57.

SAPOZHNIKOV, M.A.

"Compression" method of speech spectra. Elektrosviaz' 12 no.8: 36-47 Ag '58. (MIRA 11:8)
(Information theory)

USSR

ACCESSION NR: AP4014179 S/0286/64/000/003/0032/0032

AUTHOR: Sapozhnikov, M. A.

TITLE: Semiautomatic device for burning-in high-voltage electronic instruments. Class 21, No. 160232

SOURCE: Byul. izobret. i tovarn. znakov, no. 3, 1964, 32

TOPIC TAGS: burn in, aging, instrument aging electronic instrument

ABSTRACT: Enclosure 01 shows the patent device, which consists of a programming unit, regulated voltage supplies, and constant voltage sources; the principal design goal was to increase the quality and productivity of the instruments, accomplished by equipping the device with a unit for analysis of the character and intensity of breakdowns and a unit for maintenance of the voltages attained during accidental switching off. The breakdown-analysis unit consists of two relays and a computer, the number of whose inputs is equal to the number of tubes being aged. The voltage-maintenance unit is a

Card 1/3

ACCESSION NR: AP4014179

capacitor whose voltage is fed to the relay unit of the programming device.

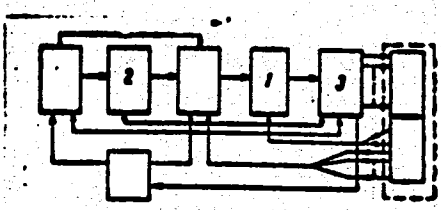
SUBMITTED: 29Jun62 DATE ACQ: 02Mar64 ENCL: 01

SUB CODE: CP, GE NO REF SOV: 000 OTHER: 000

ASSOCIATION: none

Card 2/3

ACCESSION NR: AP4014179 ENCLOSURE: 01



1 — breakdown-analysis unit; 2 — voltage-storage unit; 3 — relay unit

Card 3/3

SAPOZHNIKOV, M.A.; SUSLOV, A.M.; BESPROZVANNYY, B.K. (Moskva)

Macrofollicular lymphoblastoma of the gastrointestinal tract.
Arkh. pat. 22 no. 10:65-71 '60. (MIRA 13:12)

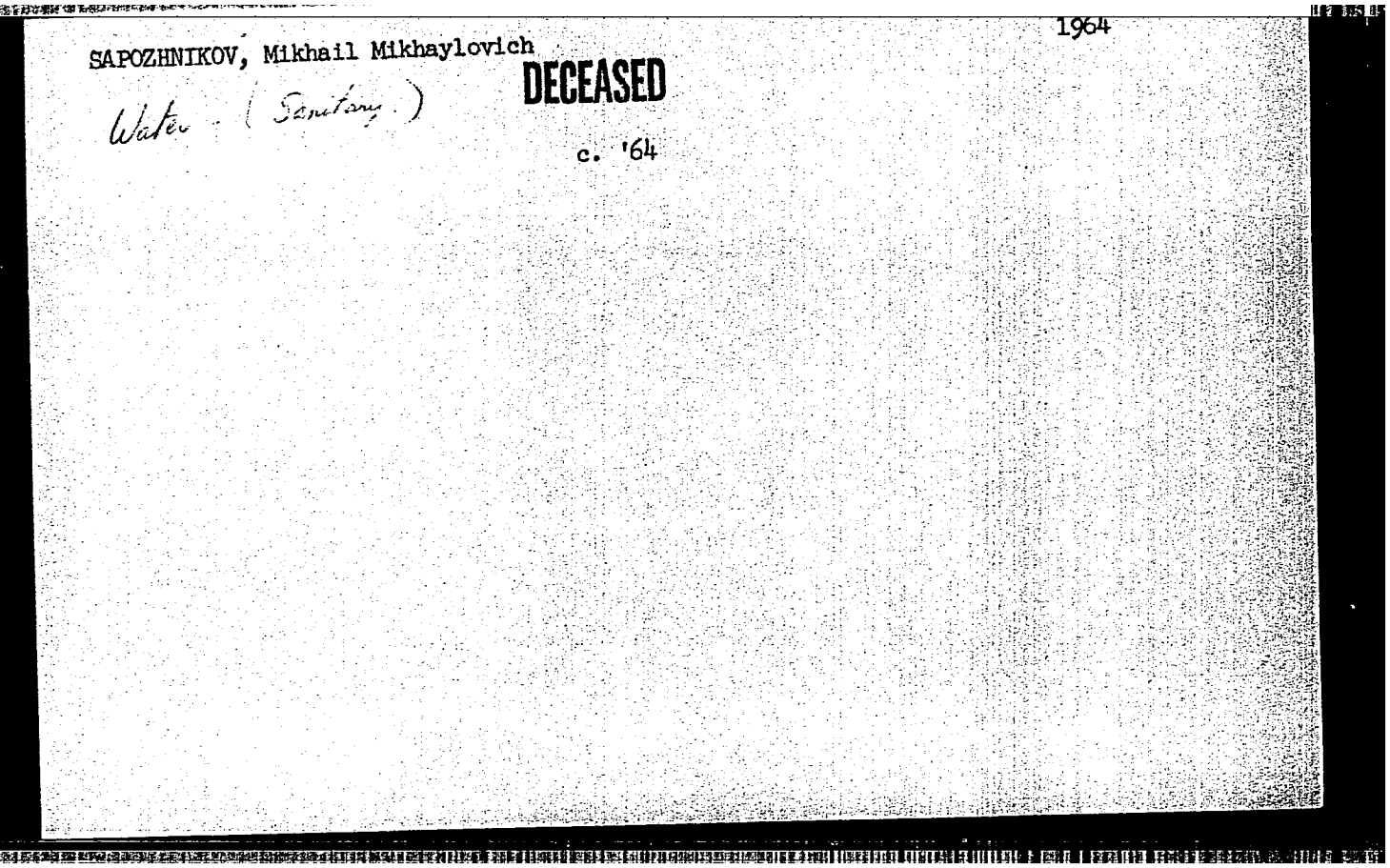
1. Iz patologoanatomicheskogo otdela (zav. - prof. A.V. Smol'yannikov) Nauchno-issledovatel'skogo instituta imeni N.V. Sklifosovskogo (dir. - zasluzhennyy vrach USSR M.M. Tarasov).
(DIGESTIVE ORGANS--TUMORS)

LYUTYY, I.P.; SAPOZHNIKOV, M.B., redaktor; GLOTOVA, M.I., tekhnicheskiy redaktor.

[At a leading mine] Na peredovoi shakhte. Rostov-na-Donu, Rostovskoe kn-vo, 1953. 33p. (Microfilm) (MLRA 9:5)
(Shakhty--Coal mines and mining)

SAPOZHNIKOV, M. I. (Novokuybushevsk)

Nomogram for determining the number of radiator sections in central heating. Vod. i san. tekh. no.9:35 S '60. (MIRA 13:11)
(Radiators) (Nomography (Mathematics))



SAPOZHNIKOV, M.P.

111-58-5-9/27

AUTHOR: Sapozhnikov, M.P., Chief of the Sverdlovskaya Oblast' Radio Center.

TITLE: Operational Successes of the Sverdlov Radio Technicians (Proizvodstvennyye uspekhi sverdlovskikh radistov).

PERIODICAL: Vestnik Svyazi, Nr 5, 1958, pp 16-18(USSR).

ABSTRACT: The Collective of one of the radio stations of the Sverdlovskaya Oblast' noted the 3rd anniversary of its founding at the beginning of 1958. On this occasion, some statistics about income, utilization of technical means, labour efficiency, etc. were published and are mentioned in the article. There are 4 photographs.

ASSOCIATION: Sverdlovskiy oblastnoy radiotsentr (The Sverdlovskaya Oblast' Radio Center).

AVAILABLE: Library of Congress

Card 1/1 1. Radio stations-Operation

SAPOZHNIKOV, M.P. (Moskva)

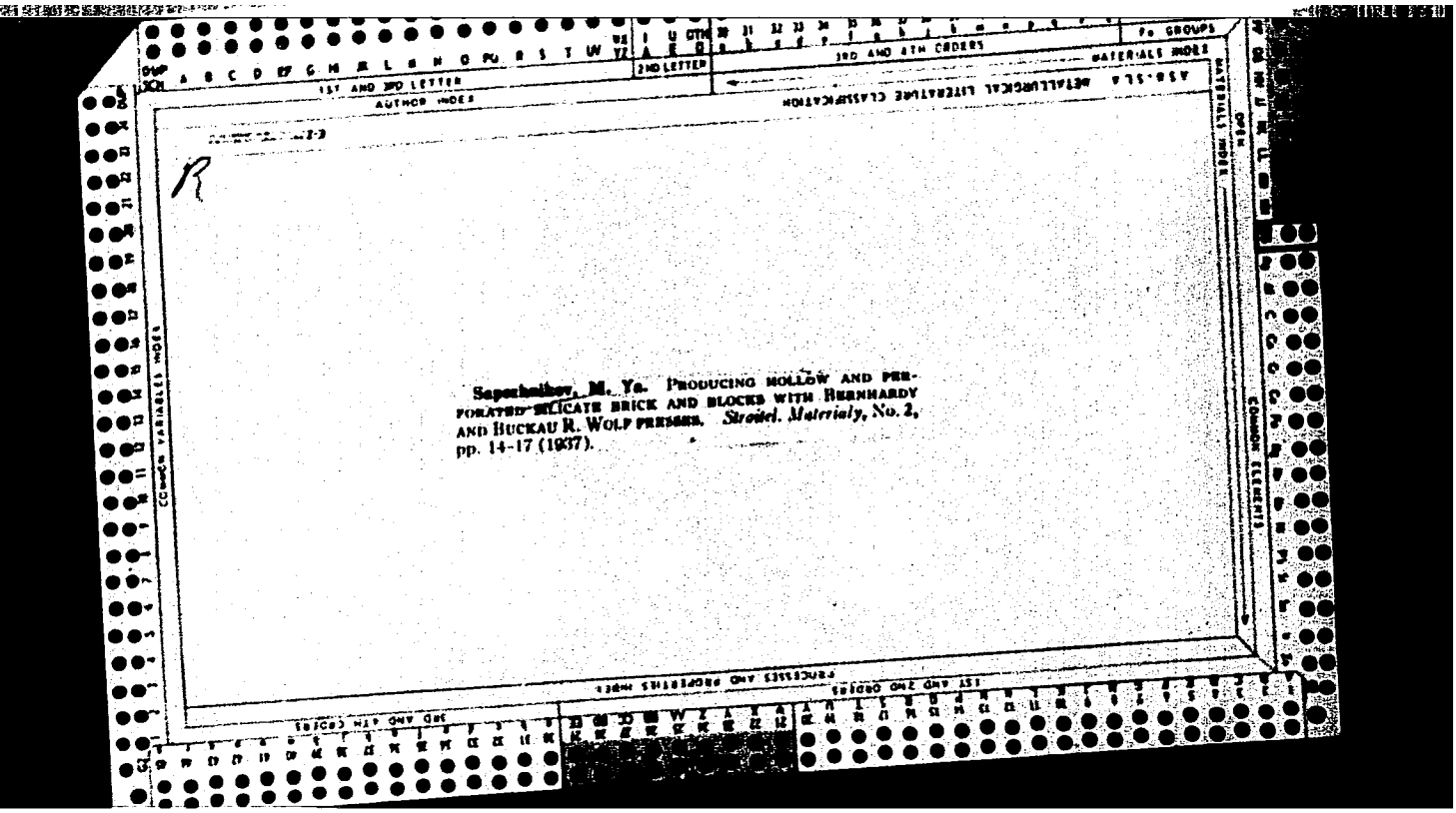
"Technology of orthopedic footwear" by IA.I. Lur'e, A.IA. Mikheev, G.G. Potikhanova. Reviewed by M.P. Sapozhnikov. Ortop.travm. i protez 19 no.4:77-78 Jl-Ag '58 (MIRA 11:11)

(ORTHOPEDIC SHOES)
(LUR'E, IA.I.)
(MIKHEEV, A.IA.)
(POTIKHANOVA, G.G.)

SAPOZHNIKOV, M.P.

Improvement of radio equipment. Vest. sviazi no.7:11 Jl '60.
(MIRA 13:8)

1. Nachal'nik Sverdlovskogo oblastnogo radiotsentra.
(Radio) (Television)



Saposhnikov, M. Ya. PRODUCING HOLLOW AND PERFORATED SILICATE BRICK AND BLOCKS WITH HERRNHARDY AND BUCKAU R. WOLF PRESSES. *Stroitel. Materialy*, No. 2, pp. 14-17 (1937).

SAPOZHNIKOV, M. YA.

Repair and adjustment of equipment used in the construction material industry. Moskva, Gos. izd-vo lit-ry po stroit. materialam, 1949. 375 p. (50-15043)

TJ153.S23

BULAVIN, I.A.; SAPOZHNIKOV, M.Ya.

[Machinery and equipment of the silicate industry] Mashiny i apparaty silikatnoi promyshlennosti. Moskva, Promstroiizdat, 1950-51 2 v.

(MLRA 6:8)

(Silicates) (Machinery)

SAPOZHNIKOV, M. Ya

Mashiny Promyshlennosti stroitel'nykh materialov (Machine Industry of Construction Materials) Atlas Konstrukysiy. Moskva, Gos. Izd-vo Literatury po Stroitel'nym Materialam, 1953.

216 p. Diagrs.

N/5
662.313
.S3

SAPOZHNIKOV, M.Ya.; BANIT, F.G.; STOLYAROV, S.A., redaktor.

[Repair and assembling of equipment in plants of the building materials industry] Remont i montash oborudovaniia zavodov promyshlennosti stroitel'nykh materialov. Izd.2., perer.i dop. Moskva, Gos. izd-vo lit-ry po stroit. materialam, 1953. 506 p. (MLRA 7:6)
(Machinery--Maintenance and repair) (Building materials)

CHIKIDA, I.T.; SAPOZHNIKOV, M.Ya., kandidat tekhnicheskikh nauk, redaktor; GLADYSHEVA, S.A., redaktor; LYUDKOVSKAYA, N.I., tekhnicheskiy redaktor.

[Equipment for roofing factories] Oborudovanie krovel'nykh zavodov. Pod red. M.IA.Sapozhnikova. Moskva, Gos. izd-vo lit-ry po stroitel'nym materialam, 1954. 283 p. [Microfilm] (MIRA 8:1)
(Roofing)

SAPOZHNIKOV, Matvey Yakovlevich; BULAVIN, Ivan Anisimovich; KANTOROVICH, Z.B., professor, doktor tekhnicheskikh nauk, retsenzent; ZUBKOV, V.A., dotsent, kandidat tekhnicheskikh nauk, retsenzent; RASSKAZOV, N.I., kandidat tekhnicheskikh nauk, dotsent, retsenzent; SIDENKO, P.M., kandidat tekhnicheskikh nauk, retsenzent; KOZULIN, N.A., professor, doktor tekhnicheskikh nauk, retsenzent; STOLYAROV, S.A., redaktor; GURVICH, B.A., redaktor; LYUDKOVSKAYA, N.I., tekhnicheskiy redaktor.

[Machines and apparatus used in the silicate industry] Mashiny i apparaty silikatnoi promyshlennosti; obshchii kurs. Izd.2-oe, dop. i perer. Moskva, Gos.izd-vo lit-ry po stroitel'nym materialam, 1955. 423 p. (MLRA 9:5)

(Clay industries)

SAPOZHNIKOV, M. Ya.

SAPOZHNIKOV, M., kandidat tekhnicheskikh nauk

Design and principles of calculation for the vibration mill. Stroi mat. izdel. i konstr. 1 no.5:12-18 My'55. (MLRA 8:11)

1. Zaveduyushchiy kafedroy VZISI
(Milling machinery)

SAPOZHNIKOV, M. Ya.

13536* Vibration Mills and Their Testing. Vibratsionnye mel'nitsy i ikh ispytaniia. (Russian.) M. Ya. Sapozhnikov and K. V. Kugel'. *Mekhanizatsiia stroitel'stva*, v. 12, no. 8, Aug. 1955, p. 6-8.

New vibrators to develop high-quality binding materials and cements from local limestone, sand, and slags. Technical characteristics, strength, and service-life of working parts of the machines. Graphs, photographs, diagrams, table.

(1)

SAPOZHNIKOV, M.Ya.; SILENOK, S.G.; LAPIR, F.A.; FOLOMEYEV, A.A.; GURVICH, [redacted], red.izd-va; GILENSON, P.G., tekhn.red.; SOLNTSEVA, L.M., tekhn.red.

[Machinery and equipment for making building products] Mekhanicheskoe oborudovanie dlia proizvodstva stroitel'nykh izdelii. Pod red. M.IA.Sapozhnikova. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1958. 556 p. (MIRA 12:3)

1. Zaveduyushchiy kafedroy "Mashiny i oborudovaniye zavodov stroymaterialov" Vsesoyuznogo zaochnogo inzhenerno-stroitel'nogo instituta (for Sapozhnikov).
(Construction industry--Equipment and supplies)

SAPOZHNIKOV, M.Ye.; DROZDOV, N.Ye.; GURVICH, E.A., red.izd-va; MEDVEDEV, L.Ya., tekhn.red.; RUDAKOVA, N.I., tekhn.red.

[Handbook on the equipment of building materials plants] Spravochnik po oborudovaniiu zavodov stroitel'nykh materialov. Izd.2., ispr. i dop. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1959. 487 p. (MIRA 12:12)
(Building materials industry--Equipment and supplies)

BAUMAN, V.A., kand.tekhn.nauk; SAPOZHNIKOV, M.Ya., dotsent, kand.tekhn. nauk, retsenzent; KRIMERMAN, M.N., inzh., red.; TIKHANOV, A.Ya., tekhn.red.

[Equipment for manufacturing building materials; a reference manual] Oborudovanie dlia proizvodstva stroitel'nykh materialov; spravochnik. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 576 p. (MIRA 12:7)

1. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR (for Bauman).
(Building materials)

SAPOZHNIKOV, Matvey Yakovlevich; SILENOK, S.G., inzh., retsenzent; IONOV, P.M., inzh., red.; CHERNOVA, Z.I., tekhn. red.

[Machinery of the building materials industry; atlas of designs]Mashiny promyshlennosti stroitel'nykh materialov; atlas konstruktsii. Izd.2., perer. i dop. Moskva, Mashgiz, 1961. 215 p. (MIRA 15:10)
(Building materials industry--Equipment and supplies)

SAPOZHNIKOV, M.Ya.; Prinimal uchastiye FOLOMEYEV, A.A., inzh.; SILENOK, S.G., retsenzent; SAVEL'YEV, Ye.Ya., red. izd-va; SOKOLOVA, T.F., tekhn. red.

[Mechanical equipment for the production of building materials and products]Mekhanicheskoe oborudovanie dlia proizvodstva stroitel'nykh materialov i izdelii. Moskva, Mashgiz, 1962. 520 p. (MIRA 15:12)

1. Gosudarstvennyy komitet Soveta Ministrov SSSR (for Silenok). (Building materials industry—Equipment and supplies)

SHTROM, Vladimir Vladimirovich; SAPOZHNIKOV, M.Ya., kand. tekhn. nauk, retsenzent; LAPIR, F.A., inzh., red.; OTDEL'NOV, P.V., inzh., red. izd-va; GORDEYEVA, L.P., tekhn. red.

[Machinery and equipment for the production of thermal insulating building materials and elements]Mashiny i oborudovanie dlia proizvodstva teploizoliatsionnykh stroitel'nykh materialov i izdelii. Moskva, Mashgiz, 1962. 133 p. (MIRA 16:2)
(Insulation (Heat))
(Building materials industry--Equipment and supplies)

LAPIR, F.A.; SAPOZHNIKOV, M.Ya., kand. tekhn. nauk, prof., retsenzent

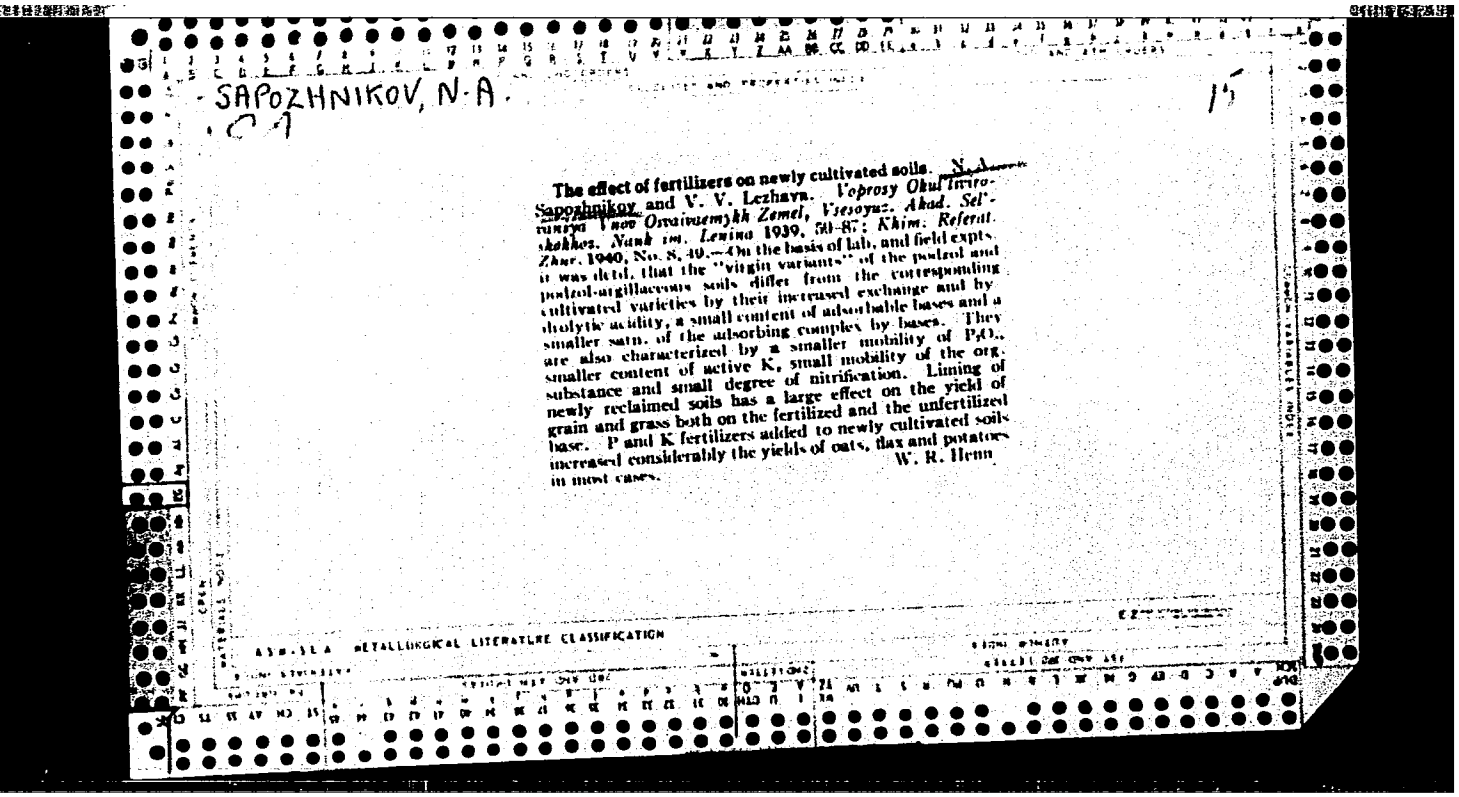
[Equipment and means for automating the manufacture of concrete and reinforced concrete] Oborudovanie i sredstva avtomatizatsii dlia proizvodstva betona i zhelezobetona. Moskva, Izd-vo "Mashinostroenie," 1964. 232 p. (MIRA 17:5)

SHTROM, V.V.; SAPOZHNIKOV, M.Ya., kand. tekhn. nauk, prof., retsenzent; KALISH, L.I., inzh., red.

[Equipment for the production of lightweight fillers] Oborudovanie dlia proizvodstva legkikh zapolnitelei. Moskva, Izd-vo "Mashinostroenie," 1964. 246 p. (MIRA 17:8)

SAPOZHNIKOV, M.Ya., prof.; SIL'NOK, S.G., inzh.

Manual on equipment for the production of building materials in rural areas. Stroi. mat. 10 no.10:40- p.3 of cover O '64. (MIRA 18:2)



SAPOZHNIKOV, N.A.

15

The effect of fertilizers on newly cultivated soils. N. A. Sapozhnikov and V. V. Lezhava. *Voprosy Okul'turivaniya Vnov Osvaivaemykh Zemel, Vsesoyuz. Akad. Sel'skokhoz. Nauk im. Lenina* 1939, 50–87; *Khim. Referat. Zhur.* 1940, No. 8, 49.—On the basis of lab. and field expts. it was detd. that the "virgin variants" of the podzol and podzol-argillaceous soils differ from the corresponding cultivated varieties by their increased exchange and hydrolytic acidity, a small content of adsorbable bases and a smaller satn. of the adsorbing complex by bases. They are also characterized by a smaller mobility of P_2O_5, smaller content of active K, small mobility of the org. substance and small degree of nitrification. Liming of newly reclaimed soils has a large effect on the yield of grain and grass both on the fertilized and the unfertilized base. P and K fertilizers added to newly cultivated soils increased considerably the yields of oats, flax and potatoes in most cases.

W. R. Henn

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

SAPOZHNIKOV N.A.

USSR/Soil Science. Soil Biology J-2

Abs Jour : Ref Zhur - Biol., No 10, 1958, No 43839

Author : Sapozhnikov N.A.
Inst : Leningrad Agricultural Institute
Title : The Application of the Marked Atom Method to the Study of Several Technical Problems in Applying Phosphorus Fertilizers

Orig Pub : Zap. Leningr. s.-kh. in-ta, 1956, vyp. 11, 203-207

Abstract : Plant phosphorus uptake was studied by the marked atom method in relation to the methods of soil placement (on podzolized loam) of superphosphate at the deparment of agricultural chemistry of the Leningrad Agricultural Institute. Twenty ml. of radioactive Na_2P0_4 with a specific activity of $2.5 \cdot 10^{-7}$ curie per 1 ml. were placed in the bunch (the method is described) in the experiment where phosphorus was applied 5 and 15 cm. deep on three occasions. Phosphours uptake from the 5 cm. deep fertilizer was predominant during the tillering stage, and from the 15 cm. deep fertilization

Card : 1/2

Card : 2/2

USSR/Soil Science - Tillage. Amelioration. Erosion. J

Abs Jour : Ref Zhur Biol., No 1, 1959, 1407

Author : Sapozhnikov, N.
Inst :
Title : Nature of Spring Soil Treatment in Leningradskaya Oblast'

Orig Pub : Za bysokuyu kul'turu s. kh., 1957, vyp. 1, 11-13

Abstract : For the clay, heavy, and medium loam soils in Leningradskaya Oblast' it is recommended that the soils be broken up a little in the spring instead of being subjected to a full plowing; that the bed be plowed with a colter plow instead of disking. On deeply porous soils in the spring and with additional sowing of grasses a roller should be used. Under furrowed plants it is expedient periodically (once every 3 - 4 years) to break up the subarable layer down to 30 - 35 cm. -- F.I. Shcherbak

Card 1/1

14-57-7-15334

Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 7, p 179 (USSR)

AUTHOR: Sapozhnikov, N.

TITLE: Agriculture in the Northwestern Zone (Voprosy sistemy zemledeliya v severo-zapadnoy zone)

PERIODICAL: Ekonomika s.-kh. 1957, Nr 1, pp 24-31

ABSTRACT: The author suggests means for increasing agricultural soil yields of the northwestern section of the RSFSR which includes the Arkhangel'sk, Vologda, Leningrad, Pskov, Novgorod, Kalinin , Kaliningrad, and Yaroslavl' Oblasts. Excessively wet land should be reclaimed and structure of podzol soils should be basically improved by proper treatment; sufficient amounts of organic and mineral fertilizers and of lime should be systematically applied, and perennial grasses should be grown.

D. I. K.

Card 1/1

SAPOZHNIKOV, N.A., kand.sel'skokhoz.nauk

Characteristics of tillage practices in northern provinces of the non-Chernozem zone. Zemledelie 7 no.9:29-37 S '59. (MIRA 12:11)

1. Severo-zapadnyy nauchno-issledovatel'skiy institut sel'skogo khozyaystva.

(Tillage)

SAPOZHNIKOV, N.A.

Biological principles of the deep qultivation of turf-Podzolic soils. Trudy Inst. mikrobiol. no.7:59-67 '60. (MIRA 14:4)

1. Severo-zapadnyy nauchno-issledovatel'skiy institut sel'skogo khozyaystva.
(PODZOL) (TILLAGE)

SAPOZHNIKOV, Nikolay Arkad'yevich; PEN'KOVA, G.A., red.; BARANOVA, L.G., tekhn. red.

[Biological principles underlying the tillage of Podzolic soils] Biologicheskie osnovy obrabotki podzolistykh pochv. Moskva, Sel'khozizdat, 1963. 290 p. (MIRA 17:3)

ASTAKHOV, I.I., glav. red.; ANSIN, A.N., red.; IVANOV, D.A., red.; KORNILOV, M.F., doktor sel'khoz. nauk, red.; KONYUKHOV, V.N., kand. sel'khoz. nauk, red.; MARKITANTOVA, A.V., uchenyy sekretar', red.; SAPOZHNIKOV, N.A., red.; DMITRIYEV, N.N., red.

[Science in the service of agricultural production; collection of scientific and technical information] Nauka - sel'skokhoziaistvennomu proizvodstvu; sbornik nauchno-tekhnicheskoi informatsii. Leningrad, Lenizdat, 1964. 143 p. (MIRA 17:3)

1. Leningrad. Severo-zapadnyy nauchno-issledovatel'skiy institut sel'skogo khozyaystva.

ACCESSION NR: AP4033057 S/0147/64/000/001/0187/0189

AUTHOR: Sapozhnikov, N. I.

TITLE: The effect of add-on cavities on compressor characteristics and blade vibrational stress

SOURCE: IVUZ. Aviatsionnaya tekhnika, no. 1, 1964, 187-189

TOPIC TAGS: compressor blade, blade, blade vibration, blade stress, aircraft icing, aircraft heater, pumping limit, compressor rotor, axial compressor, add on cavity

ABSTRACT: When designing axial compressors, the flow-through section (the section between the inlet and outlet valves) is occasionally made to communicate through apertures or windows in the housing with cavities. These latter are called add-on cavities, and their purpose is to tap air in order to heat parts which might otherwise be subject to icing and to provide manifold pressure and cabin heating. It was experimentally established that these cavities lower the pumping limit and, in certain instances, affect the vibrations of the working and guiding blades. In order to illustrate the effect of an add-on cavity on the pumping limit, the author considered the results of a test of the same compressor characterized by the following assembly elements: a) with smooth flow-

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ACCESSION NR: AP4033057

through section; b) with two series of apertures for air transfer (apertures covered by ribbons from the external part of the casing); c) with an air transfer body forming a ring-shaped cavity above each row of apertures. All three versions are shown schematically in Figure 1 of the Enclosure. The author found that: 1) the distortion of the flow-through section by the apertures made in the casing for the air transfer has practically no effect on the characteristics; 2) the add-on cavities considerably lower the pumping limit. In a calculation of the margin of stable operation, the author found that, with a condition of $\bar{n} = 0.804$, represented on a graph as the ratio of the considered revolutions of the rotor n to the rated revolutions n_r, while the first version provided a margin of 11%, the third version (version c in Figure 1) provided only 6%. At lower revolutions, the third version failed to provide a stable operation, since the line of joint operation is below the pumping boundary. While admitting that the nature of the effect of add-on cavities on compressor characteristics is far from clear at the present time, the author proposes two techniques for lessening this effect; namely, a by-pass of the air from the cavities for those conditions subject to rotational disruption and second, a reduction of the cavity size. Orig. art. has: 1 formula and 2 figures.

ASSOCIATION: None

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L 32886-65 EWT(1)/EPA/EWP(m)/EWP(f)/EWA(d)/EWG(v)/T-2/EPA(bb)-2/POS(k)/EWA(1)
Pd-1/Pe-5/Pw-4 WW

ACCESSION NR: AP5005547 S/0147/65/000/001/0139/0143

AUTHOR: Sapozhnikov, N. I. 31 B

TITLE: Effect of attached volume on the rotating speed of a separated zone

SOURCE: IVUZ. Aviatsionnaya tekhnika, no. 1, 1965, 139-143

TOPIC TAGS: multistage compressor, separated flow, gas flow, blade

ABSTRACT: The effect of a circular closed volume attached to the separation zone of a multistage compressor (see Fig. 1 on the Enclosure) on the rotation speed of the separated zone was studied analytically. It is assumed that the gas density, the angular width, and the height of the separation zone remain constant. From momentum conservation considerations, the following expression is derived

L 32886-65

ACCESSION NR: AP5005547

The ratio $(h''-h')/h'$ physically characterizes the resistance of gas overflow from the separation zone into the attached flow zone. A numerical analysis for a 6-stage compressor shows that for $\bar{\omega}_0 < 0.35$-0.4, the separated zone rotation speed first increases slightly, and subsequently goes below its initial value, independently from $h''-h'/h'$, s'', or l_{dep}/l. For $\bar{\omega}_0 > 0.35$-0.4, the rotation speed decreases slowly. Although the expression for $\bar{\omega}$ is approximate, the results seem to agree, at least qualitatively, with experimental values. Orig. art. has: 4 equations and 4 figures.

ASSOCIATION: none

SUBMITTED: 25Feb64 ENCL: 01 SUB CODE: PR, ME

NO REF SOV: 002 OTHER: 000

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L 32886-65

ACCESSION NR: AP5005547

ENCLOSURE: 01

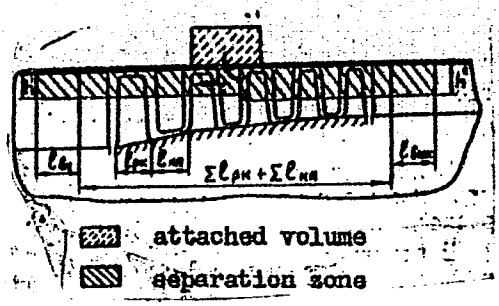

Fig. 1. Multistage compressor

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SAPOZHNIKOV, N.I.

Effect of an additional volume on the rotation speed of the stalling zone. Izv. vys. uchab. zav.; av. tekh. 8 no.1:139-143 '65. (MIRA 18:3)

ABAKUMOVSKIY, D.D., inzh.; VIKIMAN, Yu.L., inzh.; VODOVOZOV,A.I.,inzh.; ZORIN,R.P.,inzh.; IGNATCHENKO,Ye.A.,inzh.; LITINSKIY,M.E.,inzh.; SAZONOV,A.I.,inzh.; PRITULA,V.A., inzh.,; POMAZKOV,S.A.,inzh.; FRUKHTBEYN,L.I.,inzh.; SAPOZHNIKOV,N.M.,inzh.; MASYUK, A.I., inzh.; YANKELEV,L.F.,inzh.; BASHILOV,N.M.,otv. red.; LATINSKIY,M.E., red.; POLOSINA, A.S., tekhn. red.

[Handbook for buidlers and assemblers of the petroleum industry] Spravochnik stroitelia-montazhnika neftianoi promyshlennosti. Moskva, Gostoptekhizdat, 1946. 250 p. (MIRA 15:4)

1. Russia(1923- U.S.S.R.)Narodnyy komissariat neftyanoy promyshlennosti. Glavnoye upravleniye. 2. Narodnyy komissariat neftyanoy promyshlennosti SSSR (for all except Bashilov, Latinskiy, Polosina). (Petroleum industry)

SAPOZHNIKOV, N. N.

SAPOZHNIKOV, N. N. "The Crimean karakul breeding state farmand its fodder base," Karakulevodstvo i zverovodstvo, 1949, No. 3, p. 37-39

SO: U-5240, 17, Dec. 53, (Letopis 'Zhurnal Statey, No. 25, 1949).

SAPOZHNIKOV, N.P.

AUTHOR: Sapozhnikov, N.P. 133-58-3-5/29

TITLE: Remarks on the Paper of A.S. Ayukov "Charge Distributor of a New Design" (Otklik na stat'yu A.S. Ayukova "Raspredelitel' shikhty novoy konstruktsii")

PERIODICAL: Stal', 1958, Nr 3, p 208 (USSR)

ABSTRACT: The author agrees with the views expressed in the paper published in Stal', 1956, Nr 11.

ASSOCIATION: Cherepovetskiy metallurgicheskiy zavod (Cherepovets Metallurgical Works)

AVAILABLE: Library of Congress

Card 1/1

LEVIN, L.Ya.; VANCHIKOV, V.A.; SHUR, A.B.; KAYLOV, V.D.; BYALYY, L.A.; Prinimali uchastiye: RUSAKOV, P.G.; ANTONOV, V.M.; KOSTROV, V.A.; KOTOV, A.P.; YEGOROV, N.D.; BUGAYEV, K.M.; SOLODKOV, V.I.; YASHCHENKO, B.F. KOREGIN, A.V.; SAPOZHNIKOV, N.P.; TSUKANOV, V.N.; VITOVSKIY, V.M.

Mastering the operation of high-capacity blast furnaces. Stal' 23 no.9:773-778 S '63. (MIRA 16:10)

SAPOZHNIKOV, N.S.; MAKEYEV, B.A.; TYAGUNOV, V.A., kandidat tekhnicheskikh nauk, retsenzent; DUGINA, N.A., tekhnicheskiy redaktor

[Improving the stuffing box of the lateral transmission of the S-80 tractor] Usovershenstvovanie sal'nika bortovoi peredachi traktora S-80. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry, 1953. 19 p. (MLRA 7:8)
(Tractors--Engines)

SAPOZHNIKOV, N.S., inzhener.

Work practice in economizing metals in pressing shops of the Chelyabinsk Kirov Plant. (In: Ryzhkov, D.A., ed. Ekonomiia metallov v kuznechno-shtampovochnom proizvodstve. Moskva, 1953, p.225-229.) (MLRA 7:1)
(Forging) (Punching machinery)

BEREZKIN, P.N., inzh.; BONDIN, Ye.A., inzh.; GRIGOROV, G.Ya., inzh.; DURNOVSKIY, V.I., inzh.; KOZHEUROV, P.I., inzh.; NARTOV, Ya.G., inzh.; RAZSHIGAYEV, A.F., inzh.; RAYEVSKIY, S.A., inzh.; SAPOZHNIKOV, M.S., inzh.; TELIPAN, M.G., inzh.; CHEREMOVSKIY, Yu.I., inzh.; CHERNOV, D.A., inzh.; DUGINA, N.A., tekhn.red.

[ChTZ tractors] Traktory ChTZ. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1957. 101 p. (MIRA 11:5)
(Tractors)

LILICH, L.S.; SAPOZHNIKOV, O.V.

Vapor pressures in the systems $CuCl_2$ - HCL -H_2O and $Cu(ClO_4)_2$ - $HClO_4$ - H_2O. Izv.vys.ucheb.zav.;khim.i khim.tekh. 6 no.4:572-577 '63. (MIRA 17:2)

1. Leningradskiy gosudarstvennyy universitet im. A.A.Zhdanova. Kafedra obshchey khimii.

SAPOZHNIKOV, P.F.

94-3-9/26

AUTHORS: Bazunov, G.I., Palley, S.S. and Sapozhnikov, P.F.

TITLE: Automation of Plating-shop Production (Avtomatizatsiya gal'vanicheskogo proizvodstva)

PERIODICAL: Promyshlennaya Energetika, 1958, Vol.13, No.3, pp. 17 - 18 (USSR)

ABSTRACT: This is a suggestion that received fifth premium in an All-Union competition for the economy of electric power. Plating shops generally use a single source of direct current and the supply to individual baths is regulated by rheostat. This is very wasteful of electric power.
The authors developed a new method of supply with individual sources for each bath and automatic control of the quality of plating. The new arrangement was applied to 22 baths of the works' plating shop and economised in electricity and improved the quality of the product. Each bath has a control board with selenium rectifiers, type BSГ-3M. The output voltage is regulated by an input auto-transformer. When the output of these rectifiers was insufficient, small d.c. generators were used with field control.
To control the process of plating and make it automtic, use was made of instrument, type 2КПП, developed by Engineer Palley. The instrument has a probe in the plating bath, and

Card1/2

SAPOZHNIKOV, P.M.

Clamp for a horizontal milling machine. Stan. i instr. 26 no.4:32-33 Ap '55. (MIRA 8:6)
(Milling machines)

SAPOZHNIKOV, P.M.

Milling attachments set in vises. Stan.i instr. 34 no.7:34-35 J1 '63. (MIRA 16:9)

(Milling machines--Attachments)

SAPOZHNIKOV, R. (Kiyev)

At the customer's home. Prom. koop. 12 no.10:23 O '58.
(MCRA 11:10)

1. Predsedatel' pravleniya arteli "Remmebel'."
(Kiev--Furniture--Repairing)

KONORSKIY, B., prof.; SAVYUK, V., inzh. (Krayova, Rumyniya); CHAKI, F., kand. tekhn. nauk (Budapesht, Vengriya); GRESHNYAKOV, V.M., inzh.; MODEROV, A.A., inzh.; SAPOZHNIKOV, R.A., doktor tekhn. nauk, prof.; SAPERSHTEYN, N.D., kand. fiz.-mat. nauk; BOGATYREV, O.M., kand. tekhn. nauk (Moscow).

Modification of the Heaviside formula. Elektrichestvo no.3:86-88 Mr '58. (MIRA 11:5)

1. Lodzinskiy politekhnicheskiy institut, Pol'sha (for Konorskiy). 2. Leningradskiy politekhnicheskiy institut imeni Kalinina (for Greshnyakov, Moderov). 3. Leningradskiy voyenno-mekhanicheskiy institut (for Sapozhnikov, Sapershteyn).
(Electric engineering)

TIKHODEYEV, P.M.; FEDOROV, B.F.; VOLOTSKOY, N.V.; TELYAT'YEV, V.V.; ZIL'BER, D.A.; SAPOZHNIKOV, R.A.; SHAYKEVICH, A.S.; KHORRING, G.M.; SEREBRYAKOV, V.M.; DADIOMOV, M.S.; LEVIT, G.O.

Professor Viacheslav Vasil'evich Novikov; on his 70th birthday.
Svetotekhnika 5 no.2:30 F '59. (MIRA 12:1)
(Novikov, Viacheslav Vasil'evich, 1888-)

SAPOZHNIKOV, R.A., doktor tekhn. nauk, prof.

A.S. Popov's works on illumination and photometry. Svetotekhnika 5 no.8:1-3 Ag '59. (MIRA 13:2)
(Popov, Aleksandr Stepanovich, 1859-1906).

PHASE I BOOK EXPLOITATION SOV/4216

Sapozhnikov, Rostislav Alekseyevich

Teoreticheskaya fotometriya; osnovy rascheta osveshcheniya (Theoretical Photometry; Principles in Calculating Illumination) Moscow, Gosenergoizdat, 1960. 176 p. 3,500 copies printed.

Ed.: A.P. Ivanov; Tech. Ed.: O.S. Zhitnikova.

PURPOSE: This book is intended for engineers and physicists dealing with optics, illumination and heat transfer. It may also be used by students of schools of higher education studying photometry, theoretical light engineering and radiant heat exchange.

COVERAGE: The book is an outgrowth of the author's dissertation "Osnovy fotometricheskogo rascheta" (Principles of Photoelectric Calculation) and contains fundamentals required for working out the theory of light distribution and for its practical application. It examines methods of calculating the distribution of radiant energy which are of practical significance for light and thermal engineering. The author describes the development and practical applications of some of these methods. Areas of theoretical photometry dealing with the energetics of radiation, but without reference to the medium in which the energy

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is propagated, are reviewed. The author thanks Professors A.A. Gershun, P.M. Tikhodeyev, G.K. Ustyugov, L.D. Bel'kind, M.M. Gurevich, and A.P. Ivanov. There are 252 post-1918 references of which 105 are Soviet and the remainder are English, German, French, Italian, and Japanese.

TABLE OF CONTENTS:

DADIOMOV, Maks Samuilovich; SAPOZHNIKOV, R.A., doktor tekhn.nauk, prof., retsenzent; LEVITIN, I.B., kand.tekhn.nauk, red.; ZHITNIKOVA, O.S., tekhn.red.

[Lighting with floodlights] Prozhektornoe osveshchenie. Moskva, Gos.energ.izd-vo, 1960. 211 p. (MIRA 14:6)
(Electric lighting)

SAPOZHNIKOV, R.A., doktor tekhn.nauk, prof.

Design of floodlight illumination. Svetotekhnika 6 no.2:1-4 F '60. (MIRA 13:5)
(Electric lighting)

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S/194/61/000/008/029/092
D201/D304

16,8000 (1043, 1132, 1329)

AUTHORS: Sapozhnikov, R.A. and Mokiyenko, T.N.

TITLE: Analysis of the Vyshnegradskiy diagram

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 8, 1961, 35, abstract 8 V271 (Sb. tr. Leningr. mekhan. in-ta, 1960, no. 12, 23-36)

TEXT: In his works I.A. Vyshnegradskiy has used his well-known diagram for systems of the 3rd order, but he did not analyze any of the curves constructed in this diagram. The full analysis is given of the diagram in its general form which corresponds to the problems of automatic control. Application of the Viet theorem to the characteristic equation of the 3rd order makes it possible to obtain by simple means the stability limits. Equations are given of the trajectories of equal real roots together with those of real and imaginary terms of complex roots. The analysis of these equations has shown that the trajectories of the equal real roots are

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Analysis of the...

straight lines; the trajectory of real terms of complex roots has a maximum and 2 asymptotes; a maximum is also exhibited by the line of equal imaginary terms. From the parametric equation of the latter line, the known parametric equations of the limits of real roots are obtained. The use of Viet formulae makes it possible to obtain easily the equation of the line constructed by Vyshnegradskiy, where the real root is equal to the real terms of complex roots. 3 references. [Abstracter's note: Complete translation]

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68698

AUTHOR: Sapozhnikov, R. A.

S/053/60/070/02/015/016
B006/B007

TITLE: The Spectral Distribution of Radiant Energy

PERIODICAL: Uspekhi fizicheskikh nauk, 1960, Vol 70, Nr 2, pp 387-390 (USSR)

ABSTRACT: In the present "Letter to the Editor" the author shows that the energy distribution in a spectrum may be represented, besides in the usual manner by means of the spectral density $p(\lambda) = dP/d\lambda$ (P = radiant flux), also in a different manner by using any other quantity uniquely interrelated with λ, e.g. by using the wave number $n = 1/\lambda$: $p(n) = dP/dn$. Here $p(n) = -p(\lambda)/n^2$. Figure 1 shows the curves $P(\lambda) = \text{const}$ and $P(n) = \text{const}$ in the coordinates $P(\lambda)$ and λ. Considering radiant flux in the interval λ, $\lambda + \Delta\lambda$ in figure 1, $\Delta P = p(\lambda)\Delta\lambda$, and in the coordinates P(n) and n (Fig 2) one may put $\Delta P = p(n_m)\Delta n$, where n_m is the mean value of the wave number in this interval. $\Delta n = 1/\lambda - 1/(\lambda + \Delta\lambda)$. In the following the author shows that the general representation $p(f) = dP/df$, $f = f(\lambda)$ is possible. Then $P = \int p(f)df$, and if one considers an interval Δf, one may put $p(f)\,\Delta f/P = \eta$. This efficiency η

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The Spectral Distribution of Radiant Energy

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B006/B007

is investigated in the following. Thus, for the maximum efficiency η_{max}, $\eta_{max} = k\Delta\lambda/\lambda$ is obtained for a given λ, where $k = \frac{c_1}{\sigma} \frac{C^{-4}}{\exp x - 1}$. Here $C = c_2/x$, x is determined from the equation $\frac{x}{1 - \exp(-x)} = 4$; σ is the Stefan-Boltzmann- and c_1 and c_2 are the Planck constants. Several details connected with the use of an arbitrary spectral scale are discussed, in which connection reference is made to Gershun. There are 2 figures and 15 references, 6 of which are Soviet.

Card 2/2

SHAYKEVICH, Aleksandr Semenovich; KNORRING, G.M., kna.d tekhn. nauk, retsenzent; SAPOZHNIKOV, R.A., doktor tekhn. nauk, prof., nauchnyy red.; SOBOLEVA, Ye.M., tekhn.red.

[Quality of industrial electric lighting systems and methods for their improvement]Kachestvo promyshlennogo osveshcheniia i puti ego povysheniia. Moskva, Gosenergoizdat, 295 p. (MIRA 15:11)

(Electric lighting) (Industrial plants—Lighting)

KNORRING, G.M., kand.tekhn.nauk; SAPOZHNIKOV, R.A., doktor tekhn.nauk, prof.

Problem concerning the optimum location of flood lights for lighting large areas. Svetotekhnika 7 no.2:28-29 F '61. (MIRA 14:10)

(Electric lighting)

SAPOZHNIKOV, R.A.; MAKSHANOV, V.I.

Automatic lighting control systems. Prom.energ. 16 no.11:34-35 N '61. (MIRA 14:10)
(Automatic control) (Electric lighting)

SAPOZHNIKOV, R.A., prof., doktor tekhn.nauk

Spectral characteristics of radiation. Svetotekhnika 8 no.10:1-4 O '62. (MIRA 15:9)

(Light)

SAPOZHNIKOV, R.A., doktor tekhn.nauk, prof.

Concerning the necessity for standardized terminology in the theory of radiation transfer. Svetotekhnika 8 no.12:16 D '62. (MIRA 16:1)

(Electric lighting)

KOREYSHA, M.M.; SAPOZHNIKOV, R.M.; SHUMSKIY, P.A., doktor geogr. nauk, otv. red.; GRAVE, N.A., doktor geogr. nauk, otv. red.; FEDOROVA, G.N., red.; ERILING, N.V., red.

[Suntar-Khayata] Suntar-Khaiata. Moskva, 1963. 2 v. (MIRA 18:5)

1. Akademiya nauk SSSR. Sibirskoye otdeleniye. Institut merzlotovedeniya.

L 44158-65 EEC-4/EWT(d)/EEC(t)/FSS-2 Pn-4/Pp-4/Pac-4

ACCESSION NR: AR4045071 S/0274/64/000/006/A016/A016

SOURCE: Ref. Zh. Radiotekhnika i elektrosvyaz'. Svodnyy tom, Abs. 6A76

AUTHOR: Sapozhnikov, R. A.

TITLE: Stationary random signals of limited duration

CITED SOURCE: Sb. tr. Leningr. mekhan. in-ta, no. 33, 1963, 7-11

TOPIC TAGS: stationary signal, random signal, signal analysis

TRANSLATION: A rigorous description of signals which are dealt with in automatic-control problems should specify the beginning and the end of their existence, $t = 0$, $t = T$, which determine the time of existence of the function f(t). This can be achieved by multiplying f(t) by the difference of unit functions: $x(t) = f(t)[1(t) - 1(t-T)]$. Such a description of signals has not only the advantage of exactly representing physical properties but is also simpler in investigation of characteristics of stationary random signals (autocorrelation function and spectral density). If the time T is sufficiently long, the autocorrelation function can be written as

$$R_x(\tau) = \frac{1}{T}\int_{-\infty}^{\infty} x(t)\,x(t+\tau)\,dt.$$

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ACCESSION NR: AR4045071

If nonrandom components are absent in x(t), then $\lim_{\tau\to\infty} R_x(\tau)=0$, and the autocorrelation function can be Fourier-transformed: $R(j\omega)=\frac{1}{T}|X(j\omega)|^2$, where $X(j\omega)$ is the Fourier transform of the signal x(t). Here, the signal spectral density $S(\omega)=\lim_{T\to\infty}\frac{1}{T_c}|X(j\omega)|^2$ is a Fourier transform of the autocorrelation function of the same signal. Thus, the well-known relation $S(\omega)=2\int_0^\infty R_x(\tau)\cos\omega\tau d\tau$ between the autocorrelation function and the spectral density can be obtained without introducing a present spectrum, i. e., without the artificial technique necessary when an infinitely long signal is considered. A discrete signal of the form of a sequence of instantaneous pulses having a repetition period T_n can be represented by a lattice function $x(n) = f(t)\{1(n) - 1[n - N]\}$. Its spectral density is a function of the relative (nondimentional) frequency β and can be found by a discrete Fourier transformation. Bibliography: 6 titles.

SUB CODE: EC ENCL: 00

Card 2/2

SAPOZHNIKOV, R.A., doktor tekhn. nauk, prof.

Calculation of the illuminance emanating from a rectangle of even brightness. Svetotekhnika 9 no.10:13-15 O '63. (MIRA 16:11)

SAPOZHNIKOV, Rostislav Alekseyevich; BESSONOV, Aleksandr Andreyevich; SHOLOMITSKIY, Adrian Grigor'yevich; TEMNIKOV, F.Ye., prof., retsenzent; TIMOFEYEV, V.A., prof., retsenzent; SVECHINSKIY, V.B., retsenzent; IVANOV, A.Z., retsenzent; KHRUSTALEVA, N.I., red.

[Reliability of automatic control systems] Nadezhnost' avtomaticheskikh upravliaiushchikh sistem. Moskva, Vysshaia shkola, 1964. 263 p. (MIRA 17:12)

BUKETOV, Ye.A.; PASHINKIN, A.S.; UGORETS, M.Z.; MULDAGALIYEVA, R.A.; SAPOZHNIKOV, R.A.

Thermal stability of silver selenite. Zhur. neorg. khim. 9 no.12: 2701-2704 D '64. (MIRA 18:2)

SAPOZHNIKOV, R.A., doktor tekhn.nauk, prof.

Spectral sensitivity and spectra. Svetotekhnika 10 no.3:7-9 Mr '64. (MIRA 17:3)

L 61901-65 EWT(d)/EWT(l)/EWP(v)/EEC(b)-2/EWP(k)/EWP(h)/EWP(l)/EWA(h) Pm-4/
Po-4/Pq-4/Pf-4/Pg-4/Peb/Pk-4/Pl-4 IJP(c) GS/BC
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Sapozhnikov, Rostislav, Alekseyevich; Bessonov, Aleksandr Andreyevich; Sholomitskiy, Adrian Grigor'yevich

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Reliability of automatic control systems (Nadezhnost' avtomaticheskikh upravlyayushchkikh sistem), Moscow, Izd-vo "Vysshaya shkola", 64. 0263 p. illus., biblio., index. 15,000 copies printed.

TOPIC TAGS: automatic control system, reliability theory, reliability engineering

PURPOSE AND COVERAGE: The book discusses the theory of reliability 25 and its applicationto automatic control systems. The material may be of assistance in the design, manufacture, and operation of various systems of automatic control. The The book is intended for readers familiar with principles of the theory of probability interested in problems of reliability in automation.

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SUB CODE: IE, MA SUBMITTED: 02Apr64 NO REF SOV: 081

OTHER: 040

dm

Card 2/2

ACC NR: AP6035196 SOURCE CODE: UR/0311/66/000/010/0001/0005

AUTHOR: Sapozhnikov, R. A. (Doctor of technical sciences); Letuchiy, Yu. A. (Engineer)

ORG: none

TITLE: The dynamics of linear radiation detectors

SOURCE: Svetotekhnika, no. 10, 1966, 1-5

TOPIC TAGS: photoeffect, photodiode, photoelectric cell, photoelectric detection, radiation detector, radiation receiver

ABSTRACT: The response of radiation detectors to radiation is analyzed in time domain, complex plane, and frequency domain. Well known methods and expressions from the control theory are used to obtain transient response expressions for a pulse type excitation of radiation detectors in general. Transfer functions in the frequency domain are obtained from the time domain response using the Fourier transform. The devices are initially considered as non-inertial elements in terms of conversion. An electric time constant is then included to represent realistic conditions. The step response is analyzed in the complex plane. The derived formulas are used to calculate and plot the response of a photodiode to a step input, its transfer function in the frequency domain, and the transfer function in the *S*-plane are derived. All considerations are

UDC: 535.24

Card 1/2

ACC NR: AP6035196

strictly from the point of view of control theory; quantum processes are not mentioned. Orig. art. has: 2 figures, 26 formulas.

SUB CODE: 09/ SUBM DATE: none/ ORIG REF: 012/ OTH REF: 001

Card 2/2

PASHINKIN, A.S.; SAPOZHNIKOV, R.A.

Cubic modification of cadmium selenide. Kristallografiia 7 no.4: 623 Jl-Ag '62. (MIRA 15:11)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
(Cadmium selenide crystals)

L 29593-66 EWT(d)/T/EWP(1) IJP(c)
ACC NR: AR6012288 SOURCE CODE: UR/0274/65/000/010/A003/A004

AUTHOR: Sapozhnikov, R. A.

49
B

TITLE: Using the concepts of entropy, information, and negentropy

SOURCE: Ref. zh. Radiotekhnika i elektrosvyaz', Abs. 10A27

REF SOURCE: Sb. tr. Leningr. mekhan. in-ta, no. 41, 1964, 4-12

TOPIC TAGS: entropy, negentropy, information retrieval

ABSTRACT: The causes of the disordered state of various plants are considered. The entropy can serve as a measure of the disordered state. The well-known formula of the entropy of a plant whose all states have the same probability P, $S = -k\ln P$ has a limited application. Specifically, the entropy estimated from this formula cannot measure the disordered state if the state depends on the method of connection of plant parts. A formula is given for the entropy with n possible states which have different probabilities P_i, $i = 1,2,\ldots,n$,

$$S = -k\sum_{i=1}^{n} P_i \ln P_i.$$

A concept of negentropy $N = -S$ is offered, and its treatment by Shannon and Brillouin is discussed, as well as the treatment of the information and disinformation concepts. The effect of the code used on the information content is illustrated by an example. Bibliography of seven titles. L. S. [Translation of abstract]

Card 1/1 SUB CODE: 09 UDC: 621.391.133

KUNIN, N.Ya.; SAPOZHNIKOV, R.B.

Structure of the southeastern margin of the Caspian Lowland. Geotektonika no.6:91-94 N-D '65. (MIRA 19:1)

1. Turlanskaya geofizicheskaya ekspeditsiya, Chimkent. Submitted May 26, 1965.

SAPOZHNIKOV, R.G., kand.med.nauk; POPOVA, N.M., kand.med.nauk

Hygienic prerequisites for the organization of occupational training of upper class students. Gig.i san. 25 no.8:27-32 Ag '60. (MIRA 13:11)

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta sanitarii i gigiyeny imeni F.F.Erismana Ministerstva zdravookhraneniya RSFSR.
(VOCATIONAL EDUCATION) (SCHOOL HYGIENE)