24(8) PHASE I BOOK EXPLOITATION SOV/1826

Akademiya nauk SSSR. Energeticheskiy institut

Teploperedacha i teplovoye modelirovaniye (Heat Transfer and Modeling of Heat Processes) Moscow, Izd-vo AN SSSR, 1959. 419 p. Errata slip inserted. 3,500 copies printed.

Resp. Ed.: M. A. Mikheyev, Academician; Ed. of Publishing House: D. A. Ivanova; Tech. Ed.: G. B. Shevchenko.

PURPOSE: The book is intended for scientists concerned with heat transfer, heat emission, and hydraulics of liquid metals, etc.

COVERAGE: This collection is dedicated to the memory of Academician M. V. Kirpichev who in the twenties initiated a systematic investigation of heat transfer processes and the efficiency of heat apparatus. Later he led the development of research work in this field. Two special collections devoted to works of Kirpichev's school have been published, one in 1938, Materialy soveshchaniya po modelirovaniyu (Materials of the Conference on Modeling) and in 1951, Teoriya podobiya i modelirovaniya (Theory of Similitude and Modeling). The present collection prepared in 1956 represents further development of the work of this school. This theory is fundamental for the analysis of many heat problems in the field of first systematic investigations of great importance are the electrical and radio engineering. Of great importance are the hydraulics of liquid metals which as a new kind of heat carrier may be used in the various branches of modern engineering. As a result of special investigations of some cases of convective heat transfer, a dependence of the process on the kind of liquid, temperature, pressure, direction of the heat flow, and other factors, was discovered and established. On the basis of a wide generalization of experimental data, new dependable recommendations for heat analysis of engineering equipment were developed. Of no less interest is the work on heat transmission in boiling liquids and the condensation of vapors. All investigations are based on the theory of similitude, the nature of which, according to M. V. Kirpichev, is that of "experimentation." Work on the theory of a regular regime applied to a system of bodies with an internal source of heat is of interest for the future.

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Surinov, Yu. A. On Methods of Analysis of Integral and Local Radiation Angle Coefficients 319

This work contains a description of methods for analyzing integral and local radiation angle coefficients of bodies in two-dimensional and of some categories of three-dimensional problems. Examples of the application of these methods are given. Some new theorems on the kinematic structure of the field of radiation and the properties of radiation streams are also described. The following personalities are mentioned: P. S. Aleksandrov and A. N. Kolmogorov in connection with the determination of fundamentals of the theory and measurement of great numbers; Academician V. A. Fok, G. . Polyak, Yu. Surinov, in connection with the methods of analysis of integral geometric invariants (angle-coefficients of irradiation). There are 16 references: 13 Soviet, 2 English, and 1 German.

Kerzhiy, A. S. Application of the Theory of Similarity to Analysis of the Phenomenon of Radiation in Furnaces and Burners 350

This article consists of a systematic review of the application of the theory of similarity to investigations of radiation in the chambers of furnaces and burners of boilers. In view of the complexity of processes taking place in furnaces and burners, radiation was studied mainly contained problems. First attempts in the study of this problem were made by G. . Ivanov, A. V. Betanin, and G. . Syrkin. First publications on this subject were done by G. . Polyak, . . Nevskiy, and . . Burvich (1940-1941). Later works were written by . . Baskov,

A. M. Gurvich, S. Ye. Pashkovskiy, . . Malovatskiy, and P. K. Konakov. Yu. . Surin discussed problems of radiation exchange in the presence of absorbing and dispersing media. There are 16 Soviet references.

SOV/96-59-4-11/21

AUTHOR: Nevskiy, A.S., Candidate of Technical Sciences

TITLE: The Influence of Screen Surface Contamination on the Effectiveness of Operation of the Screens (O vliyanii zagryazneniya ekrannykh poverkhnostey na effektivnost' raboty ekranov)

PERIODICAL: Teploenergetika, 1959, Nr 4, pp 56-61 (USSR)

ABSTRACT: Hitherto, calculations of radiative heat exchange in the furnaces of steam boilers have been based on the assumption that radiation emitted by the heated surfaces is negligible in comparison with radiation from the fire. When the screens and boiler surfaces are clean this assumption is undoubtedly valid but it has been suggested that when the surfaces are heavily contaminated their outside surfaces get much hotter and may give off appreciable amounts of radiation. It is of interest to consider this problem from a theoretical standpoint. In this article it is considered on the one hand from the standpoint of total radiative heat exchange in the furnace chamber, taking as a basis the magnitude of the visible radiation factor and, on the other hand, on the basis of local concepts, taking as initial data the incident and

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The Influence of Screen Surface Contamination on the Effectiveness of Operation of the Screens

effective radiation of the screen wall. First, the chamber is supplied to be filled with radiating medium which is everywhere the same temperature. The chamber walls are covered with uniformly radiation absorbing surface in the form of screen tubes mounted on an adiabatic lining. In the general case the tubes are assumed to be contaminated with layers of flyash, slag and so on. The usual assumptions are made such as are used in methods of analysing radiative heat exchange. The theoretical treatment is given and formula 18 gives the magnitude of radiative heat exchange per square meter of furnace chamber wall on the assumption that the temperature of the radiating medium is constant. Using the mean effective temperature method of calculating the radiation in furnaces this formula may also be used to determine the total heat exchange in the furnace, see Eq.23. This can be further simplified to the form of Eq.25. An analysis of the effect by the method of the theory of similarity is then given. Heat exchange at the

The Influence of Screen Surface Contamination on the Effectiveness of Operation of the Screens

boundary of the fire is first considered. The method of arriving at an equation that may be used to determine the utilisation coefficient of the screen is explained. A graphical relationship between the coefficient of thermal effectiveness of the screen and the referred absorptive capacity are given in Fig.6. Local values of radiant flux are then considered. Thermal probe readings are used for two sets of operating conditions, giving two equations of the type equation (39) with two unknowns, which can be solved simultaneously. In this way with the degree of blackness of the radiation receiving surface can be found. Test data obtained for a boiler type TP-230-3 are briefly given. There are 6 figures and 10 Soviet references.

ASSOCIATION: VNII metallurgicheskoy teplotekhniki (Scientific Research Institute of Metallurgical Thermal Technology)

PHASE I BOOK EXPLOITATION SOV/4076

Nevskiy, Aleksandr Sergeyevich

Primeneniye teorii podobiya k izucheniyu teplovy raboty nagrevatel'nykh pechey (Application of the Similarity Theory to the Study of the Thermal Processes in Heating Furnaces) Sverdlovsk, Metallurgizdat, 1960. 126 p. Errata slip inserted. 3,650 copies printed.

Ed.: A.V. Kavaderov; Ed. of Publishing House: M.M. Syrchina; Tech. Ed.: Ye.D. Turkina.

PURPOSE: The book is intended for engineers working in metallurgical heat engineering and scientific workers. It may also be used by students in advanced courses at schools of higher technical education.

COVERAGE: The problems of applying the theory of similarity to the study of thermal processes in heating furnaces are discussed. General aspects of the theory of similarity are briefly reviewed. Application of this theory to continuous and batch-type furnaces is studied. Principles of modeling of heating furnaces are

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presented. No personalities are mentioned. There are 34 references: 32 Soviet, 1 English, and 1 German.

TABLE OF CONTENTS:

Application of the Similarity Theory (Cont.) SOV/4076

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SOV/4076

NEVSKIY, A. S.; ARSEYEV, A. V.; CHUKANOVA, L. A.; MALYSHEVA, A. I.; SHAROVA, T. V.

"Convective heat transfer in cylindrical chambers with recirculation."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12 May 1964.

All-Union Sci Res Inst Metallurgy.

85439

S/170/60/003/011/013/016
B013/B056

11.2320

AUTHOR: Nevskiy, A. S.

TITLE: The Melting Mechanism of Multicomponent Systems

PERIODICAL: Inzhenerno-fizicheskiy zhurnal 1960, Vol. 3, No 11, pp. 102-107

TEXT: The author investigated the melting process of perpendicular or inclined plates of crystalline bodies. It was assumed that the temperature gradient in the solid on the boundary layer to the molten-off material is constant. In a thermodynamic investigation the author derives a formula for the fusing rate of the material. From this formula it may be seen that the fusing rate depends on the fusion heat of the material and the conditions of the heat supply on the boundary layer between solid and molten material. Formulas are given for the thickness of the boundary layer and its temperature. Furthermore, the author investigates the fusing process in consideration of the pre-heating of the plate caused by melting-off. This means that the temperature gradient in the solid on the boundary layer is no longer looked upon as constant. The variation of temperature distribution is studied in this case, and a formula is given for the quantity

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of heat absorbed as fusion heat by a layer of the thickness dy. Finally the following differential equation is set up for the boundary layer for the conditions investigated here:

$$\frac{d}{dx}\lambda\frac{dt}{dx} = \gamma v\frac{dq}{dx}\left(1 - \frac{x}{\delta}\frac{d\delta/d\tau}{v}\right) \qquad (19).$$

This differential equation differs from that describing melting-off at constant temperature gradients by the term:

$$\frac{x}{\delta}\frac{d\delta/d\tau}{v}$$

There are 3 figures

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut metallurgicheskoy teplotekhniki, g. Sverdlovsk
(All-Union Scientific Research Institute for Metallurgical Heat Engineering, Sverdlovsk)

SUBMITTED: April 18, 1960

NEVSKIY, A.S., doktor tekhn.nauk

Radiant heat exchange with a contaminated screen wall.
Teploenergetika 7 no.10:75-79 O '60. (MIRA 14:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metallurgicheskoy teplotekhniki.
(Heat—Transmission) (Boilers)

Report presented at the Conference on Heat and Transfer.
Minsk, USSR, 5-10 June 61.

RN-2352
56

287. P. I. Povarnin, Generalization of the Data on the Boiling Crisis at Water Flow in Tubes at the Temperature [illegible] Saturation Temperature.

288. I. R. Krichevsky, N. E. Khazanova, L. R. Linshits, Diffusion in Gases Near the Critical Point of Liquid-Vapor Equilibrium.

289. V. I. Tolubensky, The Rate of Vapour Bubble Growth at Boiling of Liquid.

290. N. G. Styushin, New Investigation Results on Heat Transfer at Surface Boiling.

291. K. I. Ismailov, The Theory of Convective Heat Transfer at Vaporization.

292. I. R. Krichevsky, N. E. Khazanova, L. S. Lesnevskaya, Diffusion in Gases at High Pressures.

293. P. I. Povarnin, Thermodynamic Similarity Method for Liquid Surface Tension Calculation.

294. A. V. Arseev, A. S. Nevsky, Aerodynamics, Burning and Heat Transfer in Cylindrical Chambers at Gas Fuel Combustion.

295. G. A. Ostroumov, Hydrodynamic Explanation of Electrical Properties of Insulating Liquids.

296. K. M. Leonovich, Aerodynamic Means of Heterogeneous Process Intensifications.

297. S. M. Ripa, Thermodynamic Investigation of the Liquid Oxygen Gasification Process.

298. G. V. Vasyunina, L. S. Akselrod, On the Determination of the Work Duration of Freezers of Air Separators.

** 299. S. Endrenyi (HPR), Heat and Mass Transfer at the Hygroscopic Phase of Drying at Convective and Conductive Heat Transfer System.

300. A. S. Ginsburg, Actual Problem of Drying of Grain.

301. V. G. Karpenko, Heat and Mass Transfer at Drying of Brown Coal, Combined with Grinding.

302. P. I. Zubov, L. A. Lepilkina, Investigation of Inner Stresses in Polymer Coatings.

** 303. A. F. Sorokin, Yu. K. Koptelov, Radiative-Convective [illegible] Drying of Belted Cables [illegible].

304. V. N. Pravdin, A. N. [illegible], Experimental Investigation of Heat and Mass Transfer of the [illegible].

305. G. A. Bunin, Intensification of Convective and Conductive Drying of Textiles by [illegible].

APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R00113681OC

NEVSKIY, A.S.

Materials preparation in investigating the melting of the charge in a liquid melt. Izv. vys. ucheb. zav.; chern. met. 4 no.12:40-44 '61. (MIRA 15:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metallurgicheskoy teplotekhniki.
(Open-hearth furnaces) (Scrap metals)

NEVSKIY, A.S., doktor tekhn.nauk

Physical meaning of radiation equations and associated errors in the derivation of the energy equation. Teploenergetika 8 no.8:94-95 Ag '61. (MIRA 14:10)
(Heat—Transmission)
(Furnaces)

NEVSKIY, A.S.

On P.K.Konakov's article in IFZh no.6, 1962. Inzh.-fiz.zhur. 6 no.3:127-130 Mr '63. (MIRA 16:4)
(Dimensional analysis) (Heat engineering)

NEVSKIY, Aleksandr Sergeyevich; KAVADEROV, A.V., doktor tekhn. nauk, red.; SHIROKOV, G.I., retsenzent; YAKOVENKO, N.N., red. izd-va; KARASEV, A.I., tekhn. red.

[Heat transfer in open-hearth furnaces] Teploperedacha v martenovskikh pechakh. Moskva, Metallurgizdat, 1963. [illegible] p. (MIRA 17:2)

NEVSKIY, A. S.

Selection of an initial impulse for the continuous automatic control of thermal processes on open-hearth furnaces; concerning A. I. Chernogolov's article. Izv. vys. ucheb. zav.; chern. met. 7 no. 4:160-163 '64. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metallurgicheskoy teplotekhniki.

NEVSKIY, A.S.; SHABALIN, K.N.; KITAYEV, B.I.; ZABRODSKIY, S.S.

Nikolai Ivanovich Syromyatnikov, 1915- ; on his 50th birthday.
Inzh.-fiz. zhur. 8 no.3:411-412 Mr '65.

(MIRA 18:5)

L 52193-65 EWT(1)/EPF(c)/EPF(n)-2/EWG(m)/EPR Pr-4/Ps-4/Pu-4 MM
ACCESSION NR: AP5013917 UR/0170/65/000/005/0613/0619
536.3

AUTHOR: Nevskiy, A. S.

TITLE: On the possibility of a single approach to consideration of several cases of radiation heat transfer between bodies

SOURCE: Inzhenerno-fizicheskiy zhurnal, no. 5, 1965, 613-619

TOPIC TAGS: radiation heat transfer, integral equation, mathematical model, approximation method

ABSTRACT: Three cases of radiation heat transfer between arbitrary shapes were considered analytically. The three shapes constitute radiation exchange between two surfaces, between a surface and a volume, and between two volumes. The shape factors for each of the above geometries are given by

$$\cos\theta_i \cos\theta_k x^{-3} \exp(-\bar{k}x)\, dF_i\, dF_k$$

$$H_{F-V}(i, q) = \frac{1}{\pi} \int_{F_i} \int_{V_q} k_q \cos\theta_i x^{-3} \exp(-\bar{k}x)\, dF_i\, dV_q$$

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ACCESSION NR: AP5013917

$$H_{V-V}(p, q) = \frac{1}{\pi} \int_{V_p} \int_{V_q} k_p k_q x^{-3} \exp(-\bar{k}x)\, dV_p\, dV_q$$

where the various parameters are defined in Fig. 1 on the Enclosure. In the analysis, H(i,k) is represented by $H_n(i, k_n)$ which approximates ...

expressed by equations

$$H_{p-q}(i, q) = \overline{H}_s(i_n, k_n) \qquad \overline{H}_s(i_n, k_n) = \sum_{\alpha} \sum_{\beta} \overline{H}(\alpha_n, \beta_n),$$

and

$$H_{V-V}(p, q) = \overline{H}_{s-s}(i_n, k_n) \qquad \overline{H}_{s-s}(i_n, k_n) = \sum_{\alpha} \sum_{\beta} \overline{H}(\alpha_n, \beta_n).$$

A special example is considered where radiating volumes are divided into 36 elemental surfaces and the total shape factor is represented by the sum of these elemental shape factors. Orig. art. has: 25 formulas and 2 figures.

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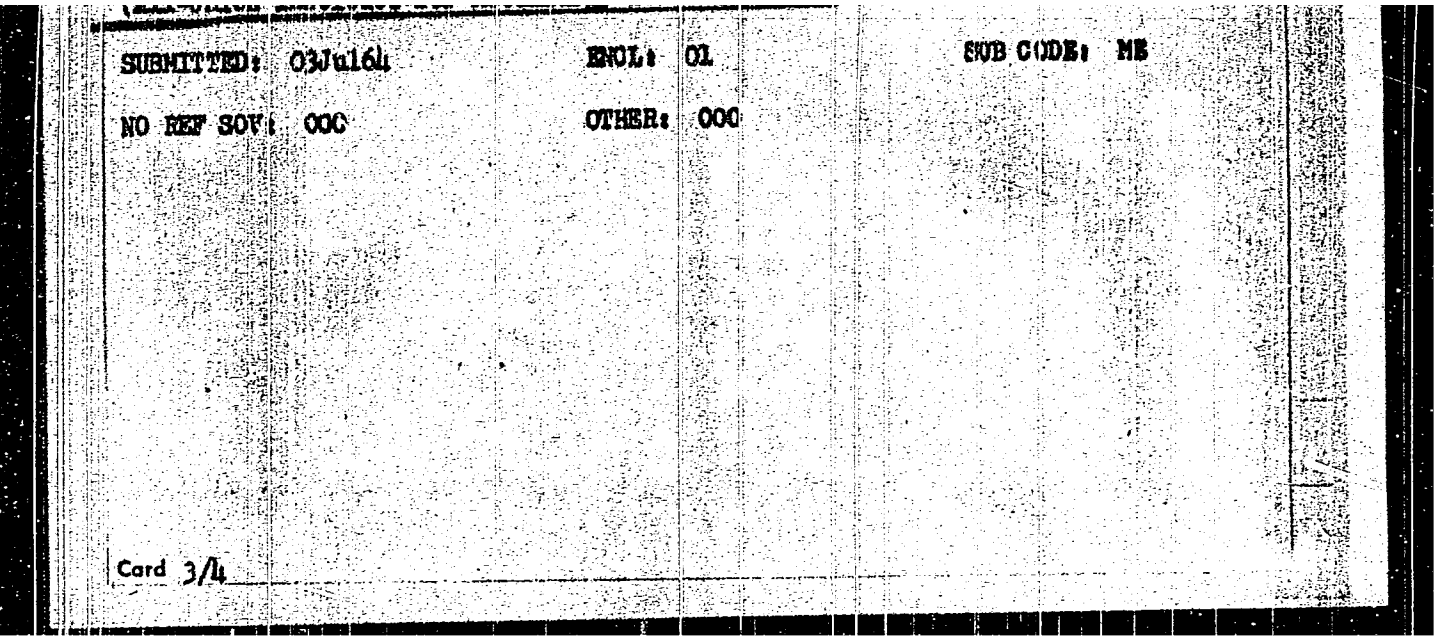
L 52198-65

ACCESSION NR: AP5013917

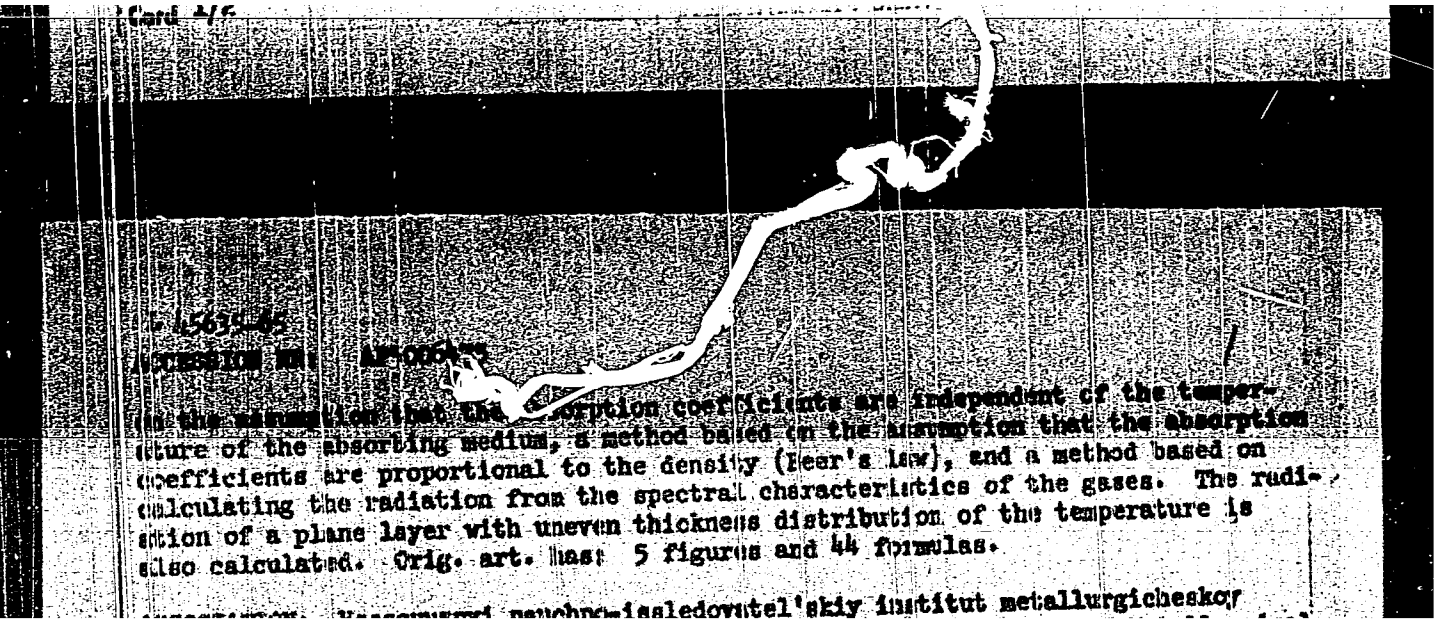
ASSOCIATION: Vsesoyuznyy institut metallurgicheskoy teplomekhaniki, g. Sverdlovsk



SUBMITTED: 03Jul64 ENCL: 01 SUB CODE: ME

NO REF SOV: 000 OTHER: 000

Card 3/4



Card 2/2

L 45635-65

ACCESSION NR: AP5006[illegible]

ABSTRACT:

[illegible] the assumption that the absorption coefficients are independent of the temperature of the absorbing medium, a method based on the assumption that the absorption coefficients are proportional to the density (Beer's law), and a method based on calculating the radiation from the spectral characteristics of the gases. The radiation of a plane layer with uneven thickness distribution of the temperature is also calculated. Orig. art. has: 5 figures and 44 formulas.

[illegible] nauchno-issledovatel'skiy institut metallurgicheskoy

Heat Engineering)

SUBMITTED: 25Nov64 ENCL: 00 SUB CODE: TD, NP

NR REF SOV: 009 OTHER: 001

Card 2/2 MB

L 00479-66 EWT(m)/EPF(c)/EWP(t)/EWP(b) LJP(c) JD

ACCESSION NR: AP5020560 UR/0294/65/003/004/0577/0586

535.231.4:546.265

AUTHOR: Chukanova, L. A.; Nevskiy, A. S.

TITLE: Experimental investigation of the irradiation of carbon dioxide gas at nonequilibrium temperatures. II.

SOURCE: Teplofizika vysokikh temperatur, v. 3, no. 4, 1965, 577-586

TOPIC TAGS: gas irradiation, carbon dioxide, nitrogen, temperature dependence

ABSTRACT: Irradiation of the gas was carried out in two coaxial chambers with a beam length of 163 mm in each chamber. Along the axis of the chamber were, to the left, a radiometer for measuring the irradiation of the gas and, to the right, a hot or cold black body. A mixture of carbon dioxide gas and nitrogen was blown through the chambers at different temperatures in each chamber. Each chamber consisted of an inner volume in which the irradiation of the gas was measured, and an outer annular space in which the gas was heated. Three series of experiments were made: 1) with identical temperatures and carbon dioxide concen-

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ACCESSION NR: AP5020560

trations in both chambers, 2) with different temperatures but identical concentrations, and 3) with different temperatures and concentrations in both chambers. Tests were made at nonequilibrium temperatures up to 900C. Experimental values agreed well with calculated values. For calculation of the temperature dependence of gas absorption, it is recommended to proceed by an approximate method based on the assumption of lack of dependence of the spectral coefficients of the absorbing medium on its temperature. This method has been verified up to 900C. Orig. art. has: 6 formulas, 7 figures and 3 tables

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut metallurgicheskoy teplotekhniki (All-Union Research Institute for Metallurgical Heat Technology)

SUBMITTED: 29Jun64 ENCL: 00 SUB CODE: ME, TD

NR REF SOV: 003 OTHER: 000

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L 10091-66 EWT(1)/ETC(F)/EPF(n)-2/ENG(m) WW/GS

ACC NR: AT6001367 SOURCE CODE: UR/0000/65/000/000/0230/0238

AUTHOR: Nevskiy, A. S.; Arseyev, A. V.; Chulanova, L. A.; Malysheva, A. I.; Sharova, T. V.

ORG: All-union Scientific Research Institute of Metallurgical Heat Engineering, Sverdlovsk (Vsesoyuznyy nauchno-issledovatel'skiy institut metallurgicheskoy teplotekhniki)

TITLE: Convective heat transfer in cylindrical chambers with flow recirculation

SOURCE: Teplo- i massoperenos. t. 1: Konvektivnyy teploobmen v odnorodnoy srede (Heat and mass transfer. v. 1: Convective heat exchange in an homogeneous medium). Minsk, Nauka i tekhnika, 1965, 230-238

TOPIC TAGS: heat transfer, cooling, combustion chamber

ABSTRACT: Experiments were made to determine the heat transfer conditions when a hot gas is injected through a nozzle at the closed end of a cylindrical chamber. Under these conditions, a pressure gradient along the wall is established which induces flow recirculation. The latter considerably increases the heat transfer from the gas to the wall as compared with conventional turbulent heat transfer without recirculation. The experiments were conducted with two chambers which were 1.83 m and 2.43 m long and 0.3 and 0.18 m in diameter. The cylinder jackets were divided into 13 and 16 separate compartments, respectively, to permit calorimeteric

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ACC NR: AT6001367

measurement of the heat transfer at various points in the chamber. Air preheated to 973K was injected through one central and one peripheral nozzle. The nozzle diameters and the flow rates were varied as parameters. Nu_{ex} (experimental Nusselt number) were determined from the measured flow rates and temperatures in each calorimetric section. Nu was then calculated from the formula $Nu = 0.018\ Re^{0.8}$, and the ratio $\phi = Nu_{ex}/Nu$ was calculated and plotted for various air flow rates and nozzle sizes as a function of the distance from the inlet. It was found that ϕ increases and at a distance $\ell = (1.5—2.9)D$ (D is the chamber diameter), it reaches a maximum which for a given flow rate may attain a value of 7. When the air flow rate through the central nozzle was increased, the maximum of ϕ shifted toward the chamber outlet. The maximum had the lowest value when the air flow rates through the central and peripheral nozzles were equal. When air was injected through 55 uniformly spaced orifices in the chamber bottom, ϕ had no maximum and decreased rapidly to the normal value for turbulent heat transfer. Orig. art. has: 5 figures. [PV]

SUB CODE: 21/ SUBM DATE: 31Aug65/ ATD PRESS: 4176

HW

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NEVSKIY, A.S.

Experimental method for determining the integral coefficient of ray attenuation in a furnace medium. Inzh.-fiz. zhur. 19 no.1:135-137 Ja '64. (MIRA 17:

1. Institut metallurgicheskoy teplotekhniki, Sverdlovsk.
Submitted April 10, 1962.

NEVSKIY, A. V.

IA 242T45

USSR/Electricity - Literature Feb 52

"Literature on Industrial Power Engineering," compiled by A. V. Nevskiy

"Prom Energet" No 2, pp 30-31

Lists and describes briefly contents of 21 books published in USSR (16 in 1950, 5 in 1951) on industrial power engineering, including "Electronics" ("Elektronika"), an exposition of the physical basis of electronics, describing fundamental vacuum tube devices and ways of using them in appropriate equipment, under general editorship of A. L. Zhigarev (1951).

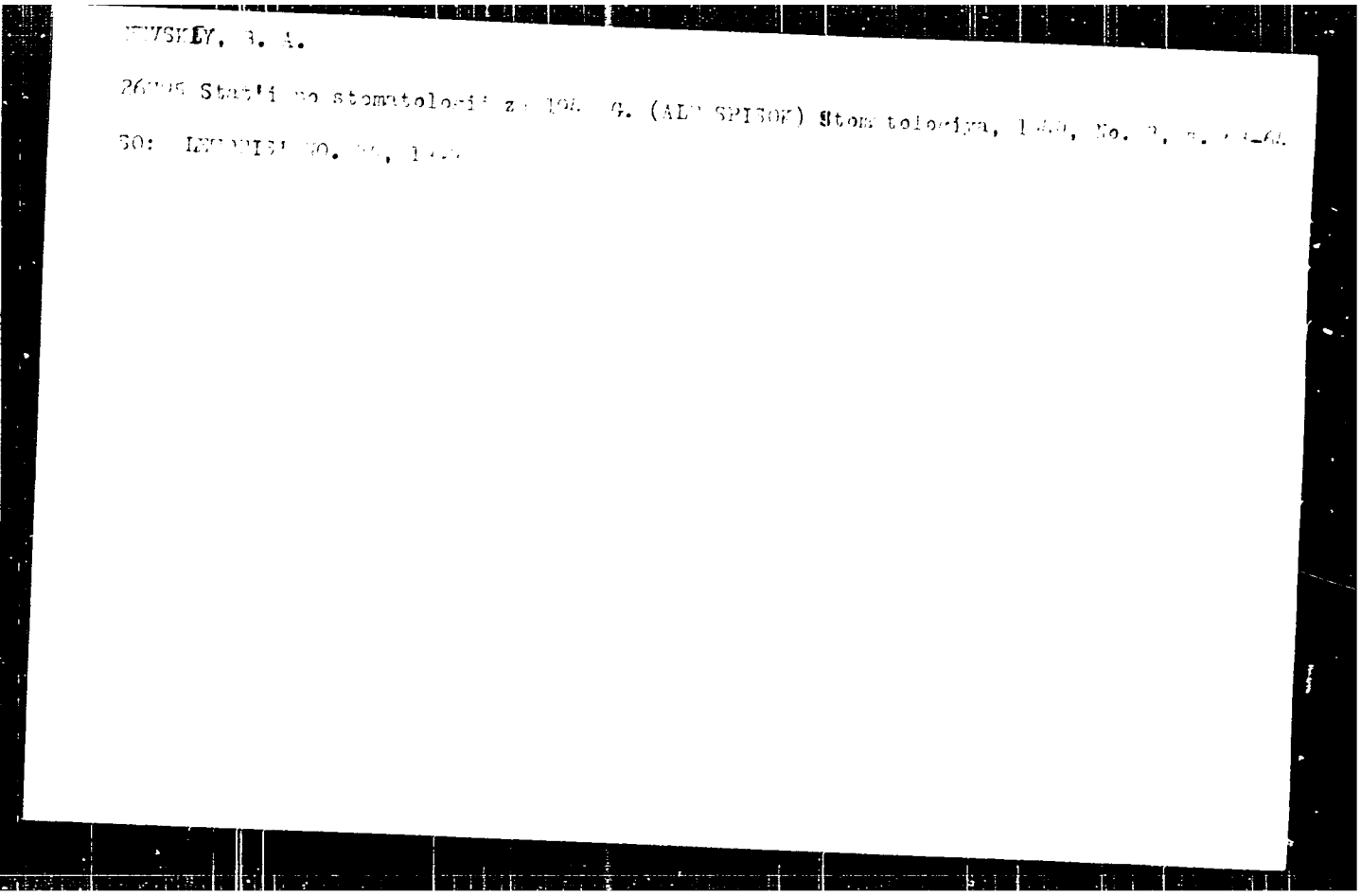
242T45

1. NEVSKIY, A. V.
2. USSR (600)
4. Technology--Bibliography
7. Survey of technical books and journals, Sel'khozmashina, No. 4, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April, 1953, Uncl.

NEVSKIY, A.V.

Literature on industrial power engineering. Prom.energ. 10 no.5:30 My '53.
(MLRA 6:5)
(Power engineering--Bibliography)



[illegible]SKIY, A. A.

26[illegible] Stat'i po stomatolo-i z. [illegible] G. (AL[illegible] SPISOK) Stomatologiya, 1[illegible], No. [illegible], s. [illegible]-60.

SO: [illegible]IS' NO. [illegible], 1[illegible]

Science

Handbook of nomography. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1951.

Monthly List of Russian Accessions, Library of Congress, April, 1952. UNCLASSIFIED.

NEVSKIY, B.N.

In the Collegium of the Ministery of Public Health of the R.S.F.S.R.
Zdrav. Ros. Feder. 4 no.6:43-44 Je '60. (MIRA 13:9)
(PUBLIC HEALTH)

NEVSKIY, B.N.

In the Collegium of the Ministry of Public Health of the R.S.F.S.R.
Zdrav.Ros.Feder. 4 no.11:37-38 '60. (MIRA 13:11)
(PUBLIC HEALTH RESEARCH)

NEVSKIY, B.N.

"Squeezing out" of foreign bodies from the esophagus. Sov.med. 26 no.8:92-98 Ag '62. (MIRA 15:10)

1. Iz klinicheskogo otdeleniya i patofiziologicheskoy laboratorii Moskovskogo nauchno-issledovatel'skogo instituta ukha, gorla i nosa (dir. - prof. N.A.Bobrovskiy).
(ESOPHAGUS--FOREIGN BODIES)

NEVSKIY, B.N.

Amyloidosis of the larynx. Zhur. ush.,nos. i gorl.bol.23 no.3: 49-55 My-Je'63. (MIRA 16:7)

1. Iz Moskovskogo gosudarstvennogo nauchno-issledovatel'skogo instituta ukha, gorla i nosa (dir.-prof. N.A.Bobrovskiy).
(AMYLOIDOSIS) (LARYNX—DISEASES) (HORMONE THERAPY)

BOBROVSKIY, N.A., prof., red.; VOL'FKOVICH, M.I., prof., red.; VOL'FSON, Z.I., prof., red.; LIKHACHEV, A.G., prof., red.; NEVSKIY, B.N., red.; PREOBRAZHENSKIY, B.S., prof., red.; SAGALOVICH, B.E., doktor med. nauk, red.; SAKHAROV, P.F., prof., red.; UNDRITS, V.F., prof., red. [deceased]

[Transactions of the first All-Russian Congress of Otorhinolaryngologists] Trudy pervogo Vserossiiskogo s"ezda otorinolaringologov. Moskva, Medgiz, 1963. 318 p. (MIRA 17:7)

1. Vserossiyskiy s"yezd otorinolaringologov. 1st. Volgograd, 1962. 2. Deystvitel'nyy chlen AMN SSSR (for Preobrazhenskiy). 3. Chlen-korrespondent AMN SSSR (for Undrits). 4. Glavnyy otorinolaringolog Ministerstva zdravookhraneniya RSFSR (for Bobrovskiy).

BOBROVSKIY, N.A., prof., red.; VOL'FKOVICH, N.I., prof., red. (Saratov); VOL'FSON, Z.I., prof., red.; NEVSKIY, B.N., red.; PREOBRAZHENSKIY, B.S., prof., red.; SAGALOVICH, B.M., doktor med. nauk, red.; SAKHAROV, P.P., prof., red.; UNDRITS, V.F., prof., red. [deceased]

[Transactions of the First All-Russian Congress of Otorhinolaryngologists] Trudy Vserossiyskogo s"yezda otorinolaringologov. Moskva, Medgiz, 1963. 518 p. (MIRA 18:3)

1. Vserossiyskiy s"yezd otorinolaringologov. 1st, Volgograd, 1962. 2. Deystvitel'nyy chlen AMN SSSR (for Preobrazhenskiy). 3. Chlen-korrespondent AMN SSSR (for Undrits).

BARSKIY, Aron El'yevich, inzh.; LYMSHITS, Mikhail Abramovich, inzh.; NEVSKIY, B.N., inzh., retsenzent; SENCHUROV, P.P., inzh., red.izd-va; STARODUB, T.A., tekhn. red.

[Attachments for machine tools; adjusting and multiple-purpose] Prisposobleniia k metallorezhushchim stankam; naladochnye i universal'nye. Kiev, Gostekhizdat USSR, 1963. 223 p. (MIRA 17:3)

SAL'NIKOV, Georgiy Pavlovich, inzh.; DIDKOVSKIY, P.V., inzh., retsenzent; DONDIK, I.G., inzh., retsenzent; ZAKHARENKO, I.P., kand. tekhn. nauk, retsenzent; ZEYGERMAKHER, R.S., inzh., retsenzent; KAMENICHNYY, I.S., inzh., retsenzent; MITSKEVICH, Z.A., kand. khim. nauk, retsenzent; NEVSKIY, B.N., inzh., retsenzent; RADOMYSEL'SKIY, I.D., kand. tekhn. nauk, retsenzent; CHEKURNA, M.G., inzh., red.izd-va; SHAFETA, S.M., tekhn. red.

[Brief handbook for mechanical engineers] Kratkii spravochnik mashinostroitelia. Kiev, Gostekhizdat USSR, 1963. 542 p.
(MIRA 17:2)

NEVSKIY, B.N.

X-ray diagnosis of foreign bodies in the esophagus. Kaz. Med. Zhur. no.6:21-25 '62. (MIRA 17:5)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut ukha, gorla i nosa Ministerstva zdravookhraneniya RSFSR (dir. - prof. N.A. Bobrovskiy).

NEVSKIY, B.N.

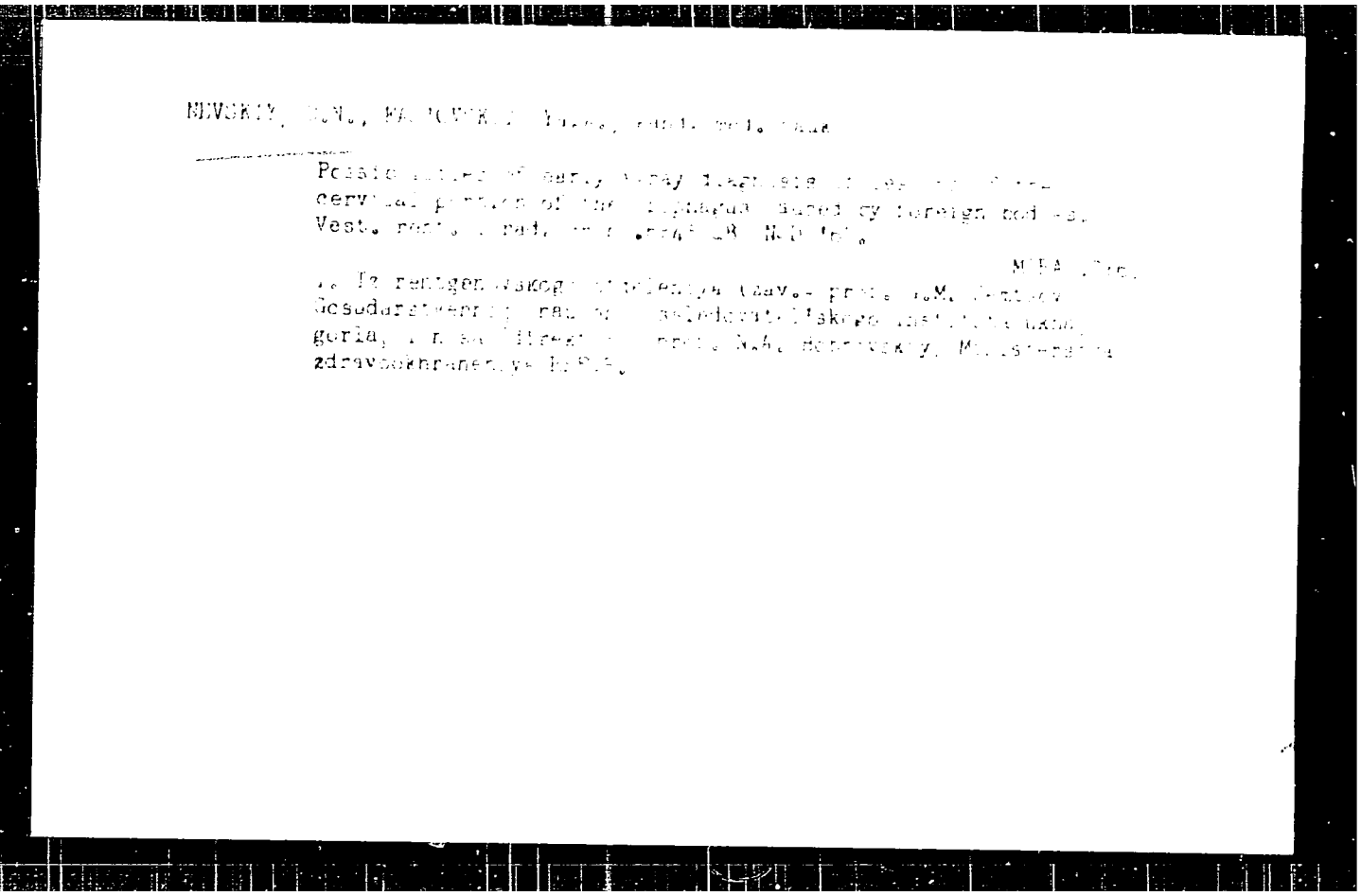
Hemorrhage of the frontal sinus as a sequela of arotrauma and its treatment. Zhur. ush., nos. i gorl. bol. 23 no.5: 72-75 S-O'63 (MIRA 17:3)

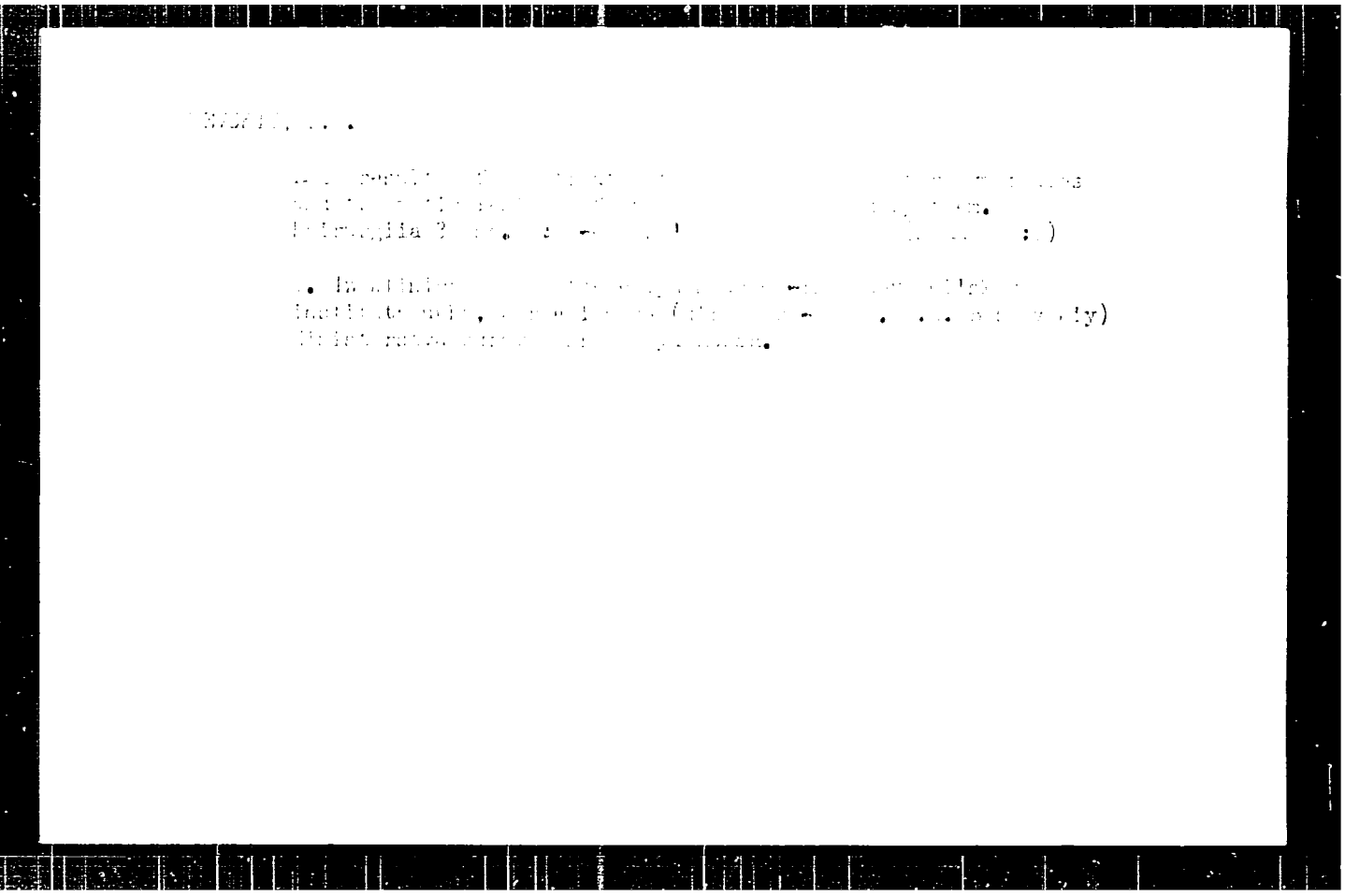
1. Iz Moskovskogo gosudarstvennogo nauchno-issledovatel'skogo instituta ukha, gorla i nosa (dir. - prof. A.N. Bobrovskiy).

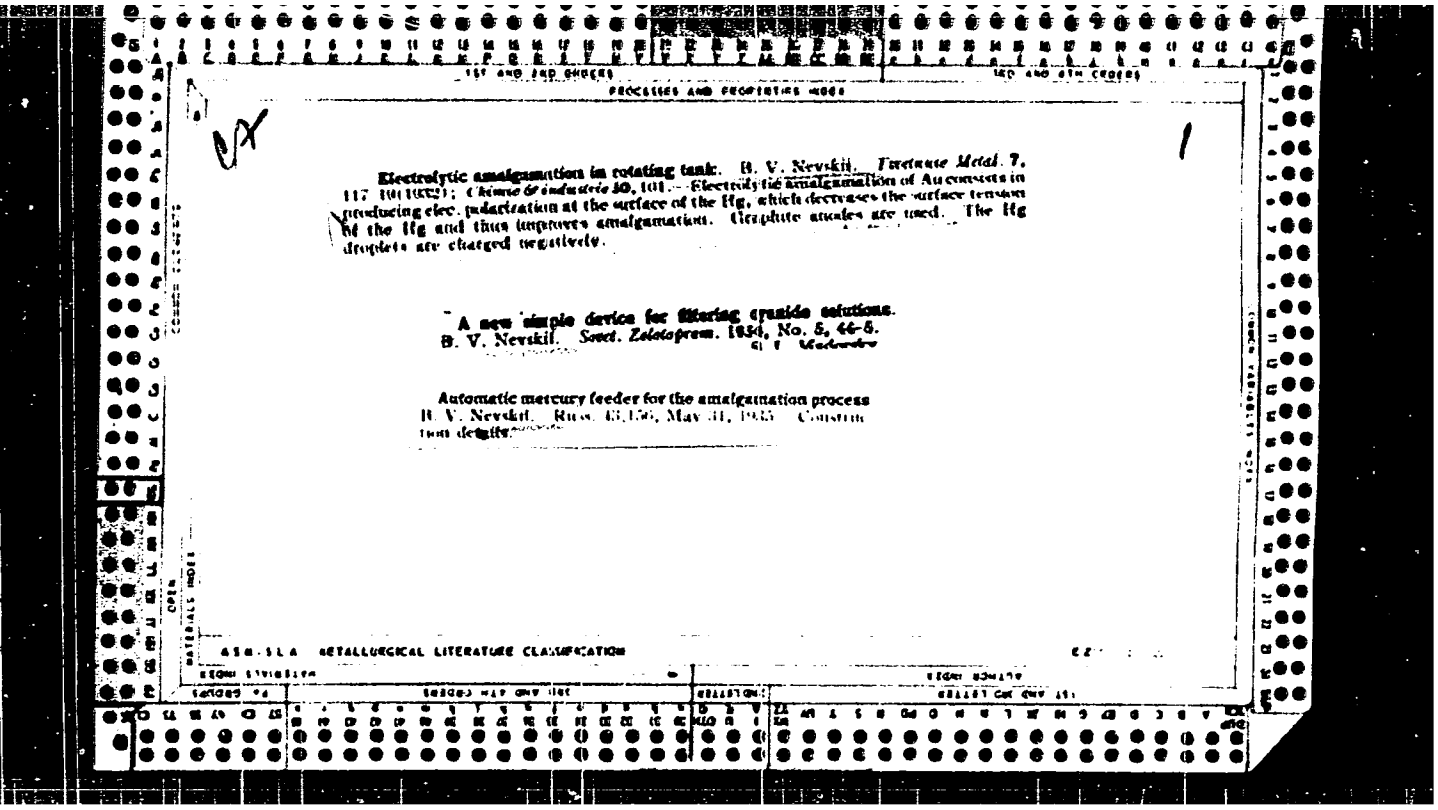
NEVSKIY, B.N.

Treatment of patients with foreign bodies and injuries of the esophagus. Vest. oto-rin. 25 no.4:53-58 Jl-Ag '63. (MIRA 17:1)

1. Iz klinicheskogo otdeleniya Gosudarstvennogo nauchno-issledovatel'skogo instituta bolezney ukha, nosa i gorla (dir. - prof. N.A. Bobrovskiy) Ministerstva zdravookhraneniya RSFSR, Moskva.







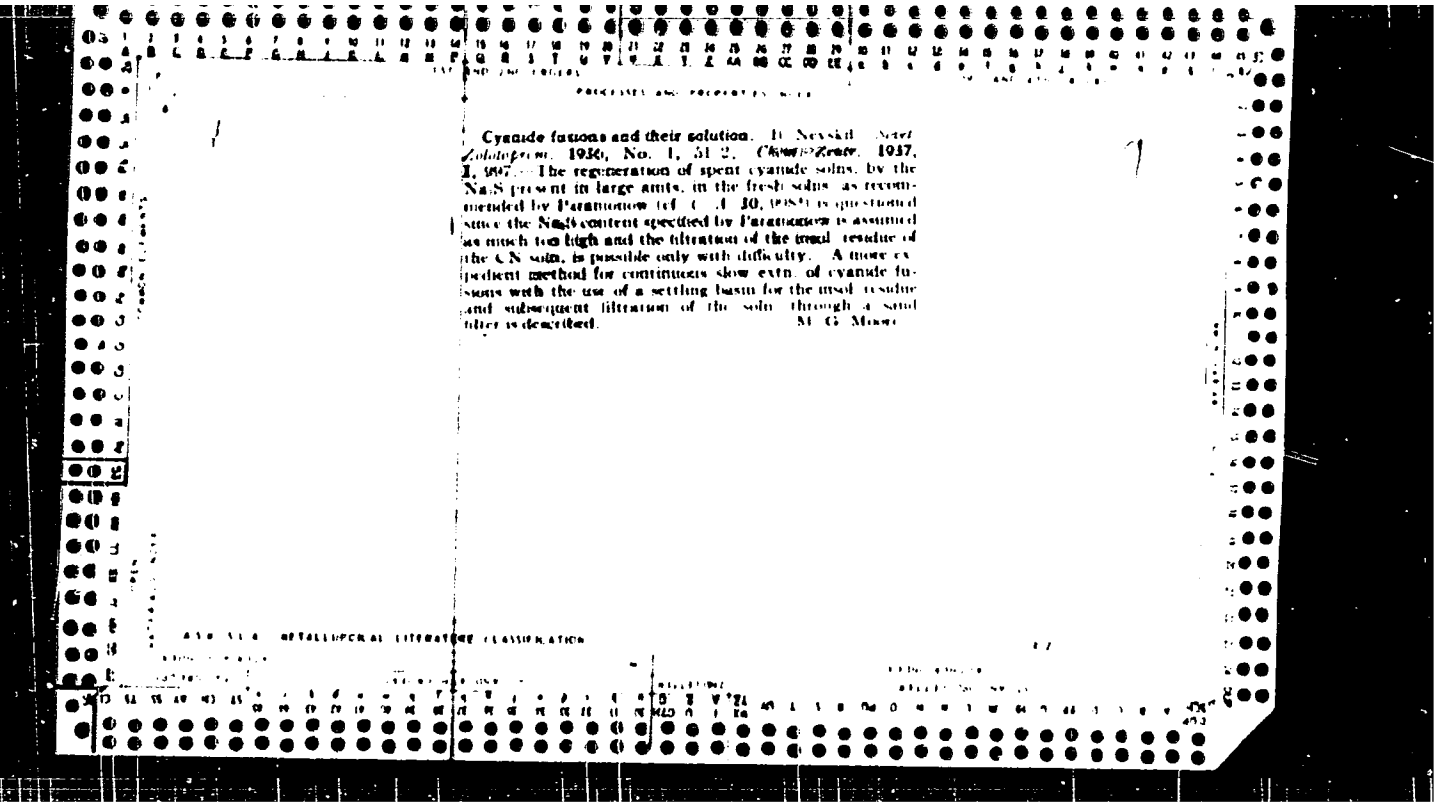
PROCESSES AND PROPERTIES INDEX

Electrolytic amalgamation in rotating tank. B. V. Nevskii. *Tsvetnye Metal.* **7**, 117 [10] (1952); *Chimie & industrie* **70**, 101.—Electrolytic amalgamation of Au concentrates in producing elec. polarization at the surface of the Hg, which decreases the surface tension of the Hg and thus improves amalgamation. Graphite anodes are used. The Hg droplets are charged negatively.

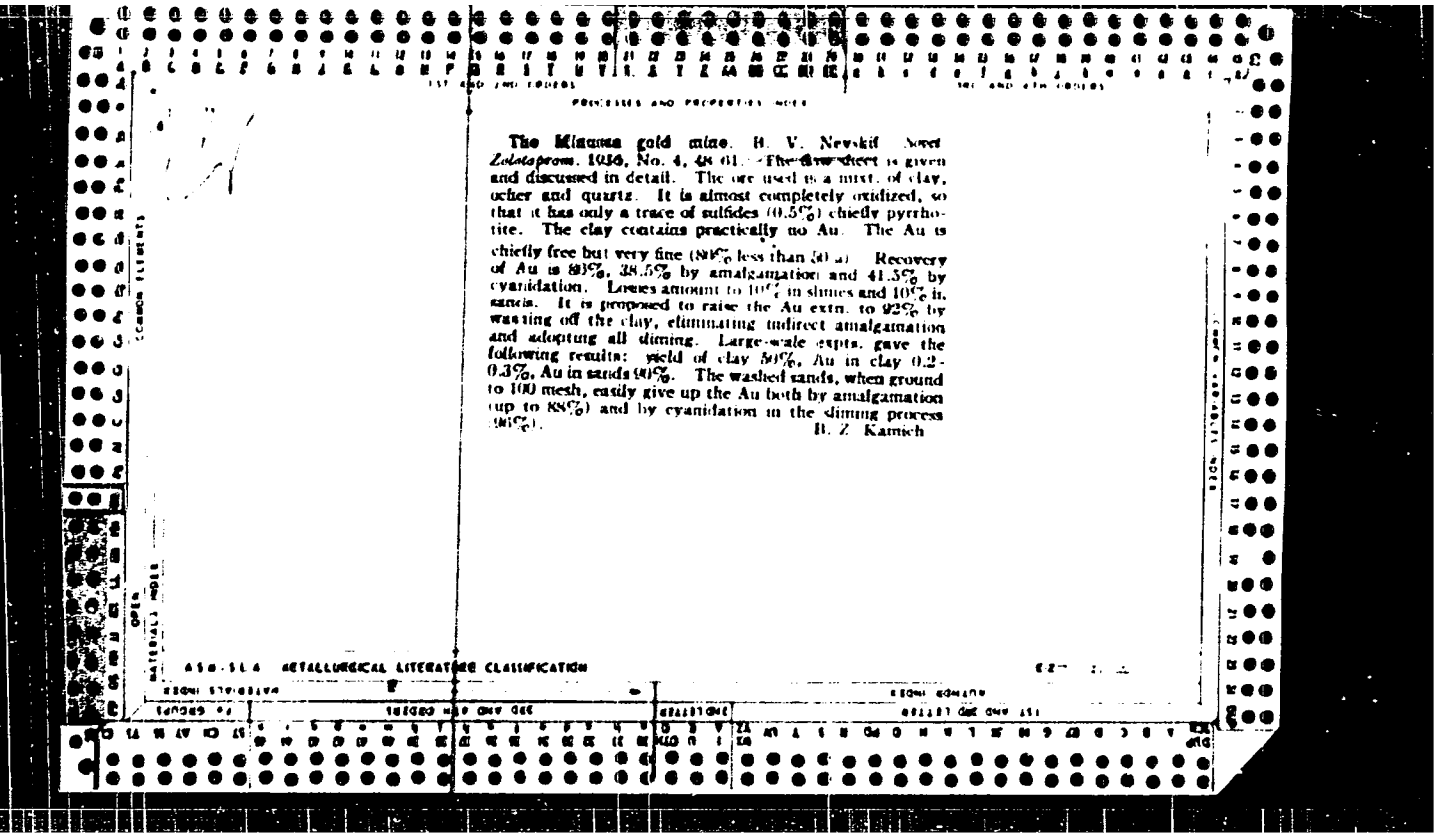
A new simple device for filtering cyanide solutions.
B. V. Nevskii. *Sovet. Zolotoprom.* 1954, No. 5, 44-5.

Automatic mercury feeder for the amalgamation process
B. V. Nevskii. Russ. [illegible], May 31, 1955. Contains [illegible]

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



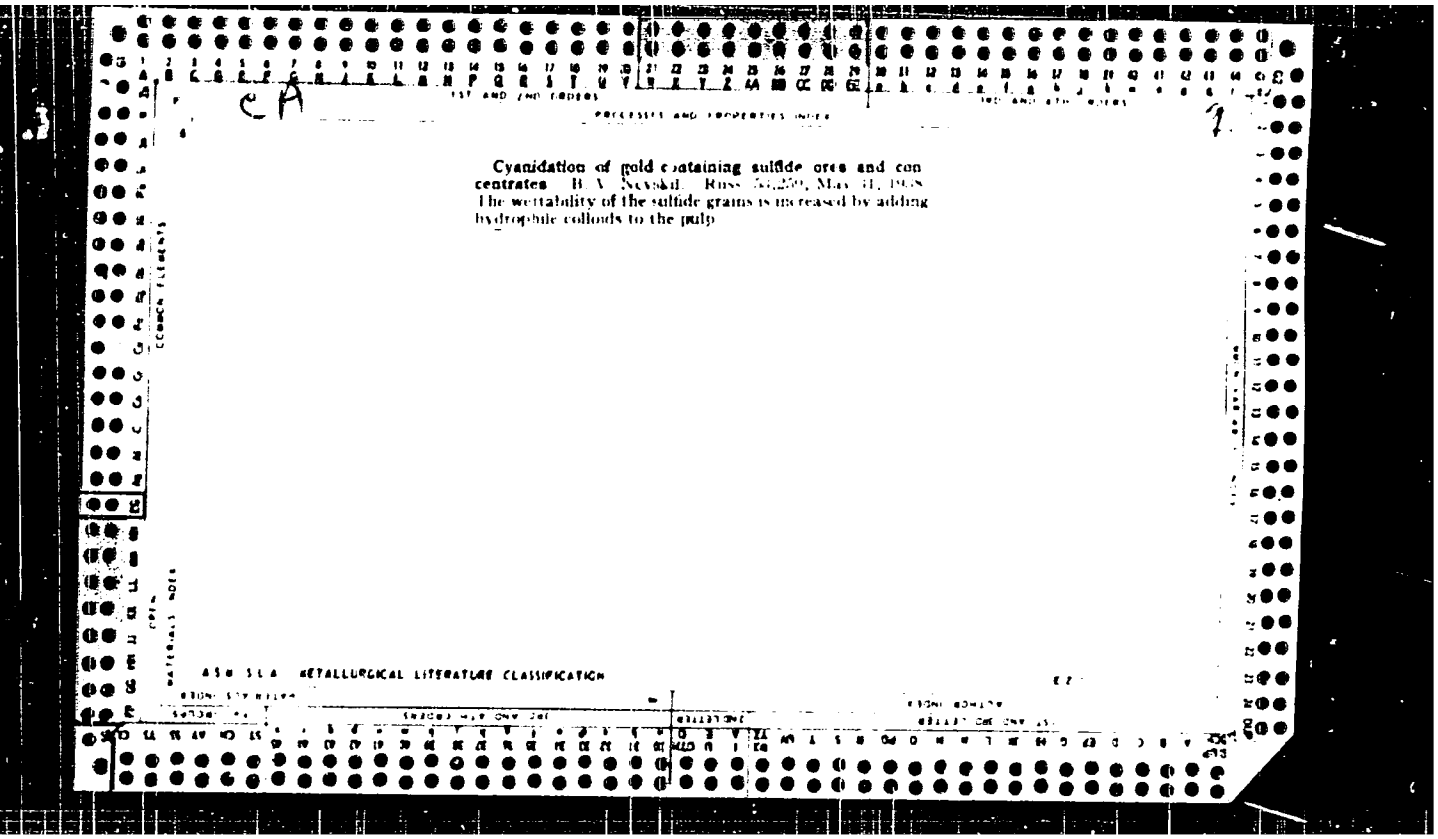
Cyanide fusions and their solution. H. Nevskii. *Tsvet. Zolotopromysl.* 1936, No. 1, 51–2. *Chem. Zentr.* 1937, I, 3867.—The regeneration of spent cyanide solns. by the Na$_2$S present in large amts. in the fresh solns. as recommended by Paramonow (cf. *C. A.* 30, 1958) is questioned since the Na$_2$S content specified by Paramonow is assumed as much too high and the filtration of the final residue of the CN soln. is possible only with difficulty. A more expedient method for continuous slow extn. of cyanide fusions with the use of a settling basin for the final residue and subsequent filtration of the soln. through a sand filter is described. M. G. Moore



PROCESSES AND PROPERTIES INDEX

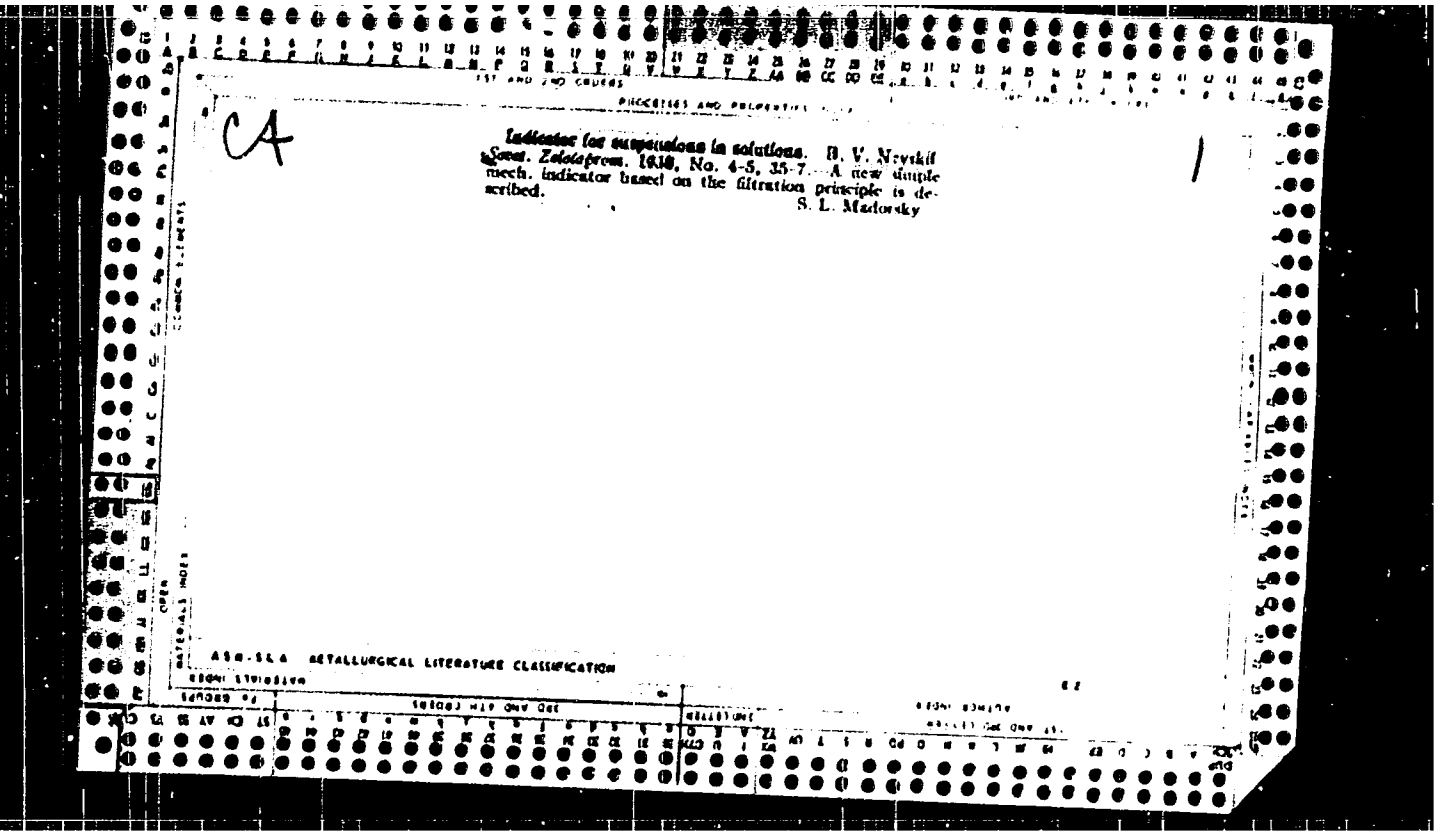
The Mikunsa gold mine. B. V. Nevskif. *Soviet Zolotaprom.* 1936, No. 4, 48-61.—The flow-sheet is given and discussed in detail. The ore used is a mixt. of clay, other and quartz. It is almost completely oxidized, so that it has only a trace of sulfides (0.5%) chiefly pyrrhotite. The clay contains practically no Au. The Au is chiefly free but very fine (80% less than 0.1 mm.). Recovery of Au is 80%, 38.5% by amalgamation and 41.5% by cyanidation. Losses amount to 10% in slimes and 10% in sands. It is proposed to raise the Au extn. to 92% by washing off the clay, eliminating indirect amalgamation and adopting all diming. Large-scale expts. gave the following results: yield of clay 50%, Au in clay 0.2-0.3%, Au in sands 90%. The washed sands, when ground to 100 mesh, easily give up the Au both by amalgamation (up to 88%) and by cyanidation in the diming process (91%).

B. Z. Kamich



Cyanidation of gold containing sulfide ores and concentrates B. V. Nevskii. Russ. 53,250, May 31, 1938. The wettability of the sulfide grains is increased by adding hydrophile colloids to the pulp.

A5a S1a METALLURGICAL LITERATURE CLASSIFICATION

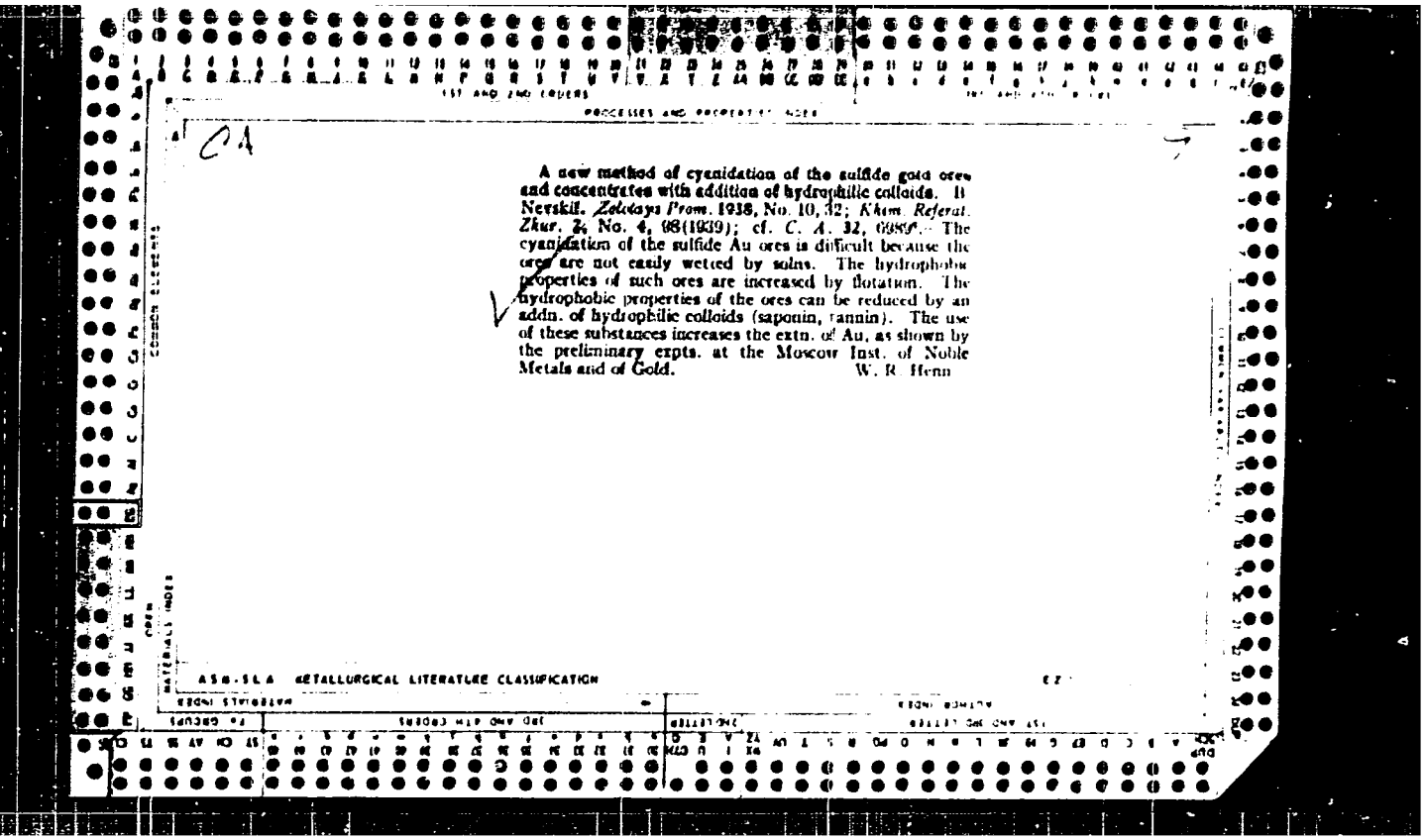


CA

Indicator for suspensions in solutions. B. V. Neyskif *Sovet. Zelezaprom.* 1938, No. 4-5, 35-7. A new simple mech. indicator based on the filtration principle is described.
S. L. Madorsky

1

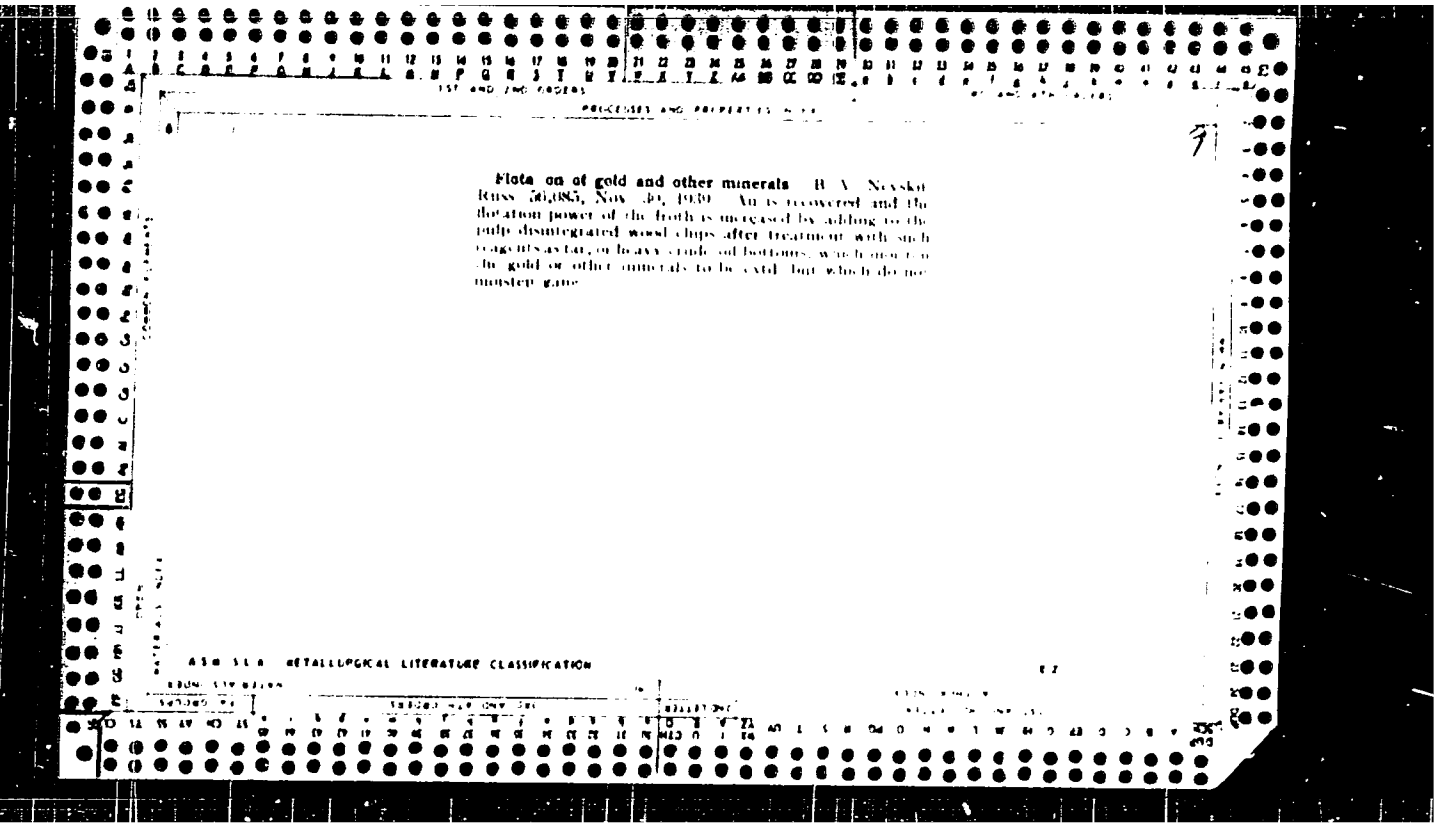
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



CA

A new method of cyanidation of the sulfide gold ores and concentrates with addition of hydrophilic colloids. B Nerskil. *Zolotaya Prom.* 1938, No. 10, 32; *Khim. Referat. Zhur.* 2, No. 4, 98(1939); cf. *C. A.* 32, 6985⁸. The cyanidation of the sulfide Au ores is difficult because the ores are not easily wetted by solns. The hydrophobic properties of such ores are increased by flotation. The hydrophobic properties of the ores can be reduced by an addn. of hydrophilic colloids (saponin, tannin). The use of these substances increases the extn. of Au, as shown by the preliminary expts. at the Moscow Inst. of Noble Metals and of Gold. W. R. Henn

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Flota on of gold and other minerals B. V. Nevskii Russ. 50,085, Nov. 30, 1936. An is recovered and the flotation power of the froth is increased by adding to the pulp disintegrated wood chips after treatment with such reagents as tar, or heavy crude oil bottoms, which increase the gold or other minerals to be extd. but which do not moisten gangue.

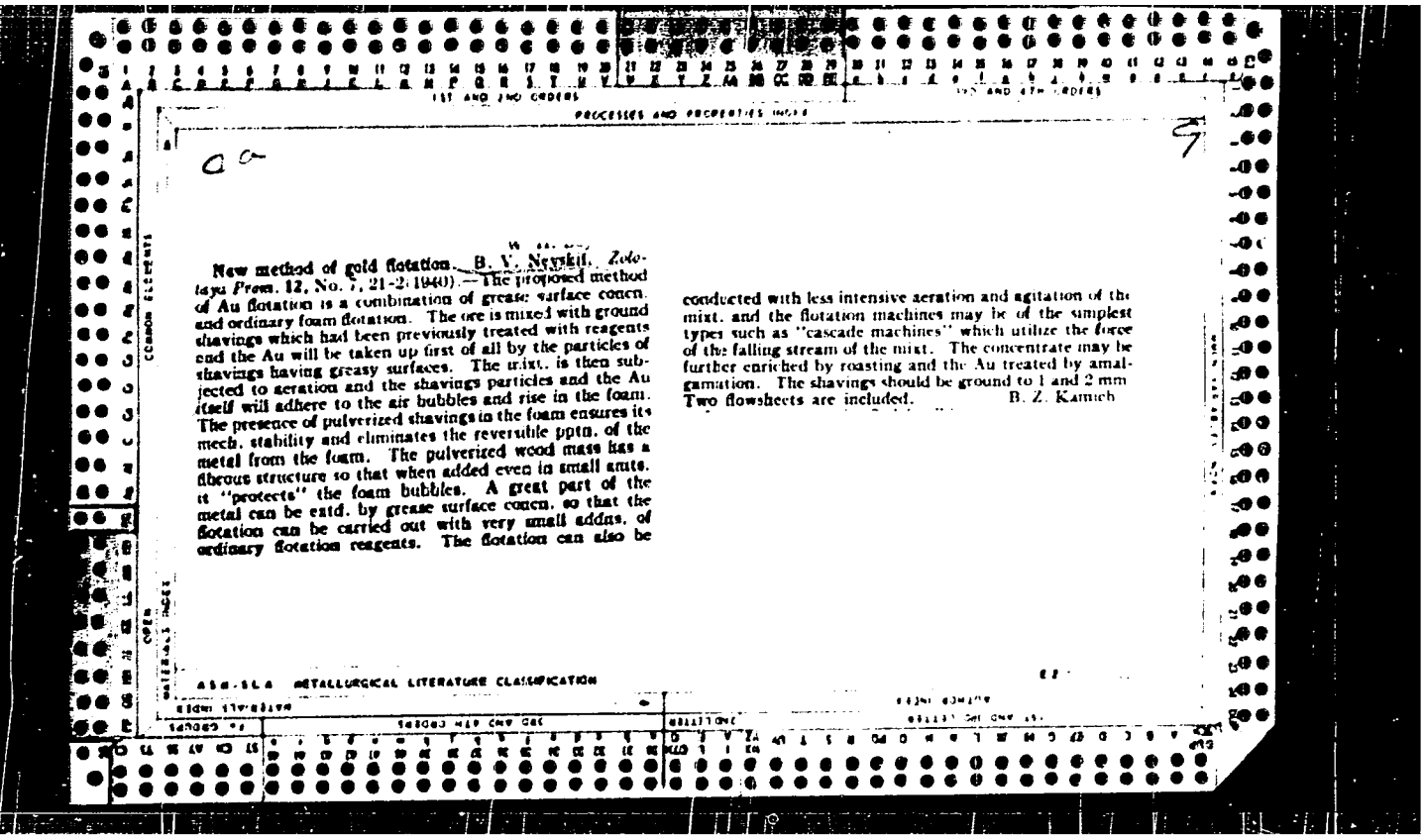
ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

1. NEVSKIY, B.V.

2. USSR (600)

"Giprozoloto" (State Institute for Planning Gold Industry Enterprises) "The Elimination of the Loss of Concentrates in the Discharge of Coagulants", TSvet. Met. 14, No 8 August 1939.

9. [redacted] Report U-1506, 4 Oct 1951.



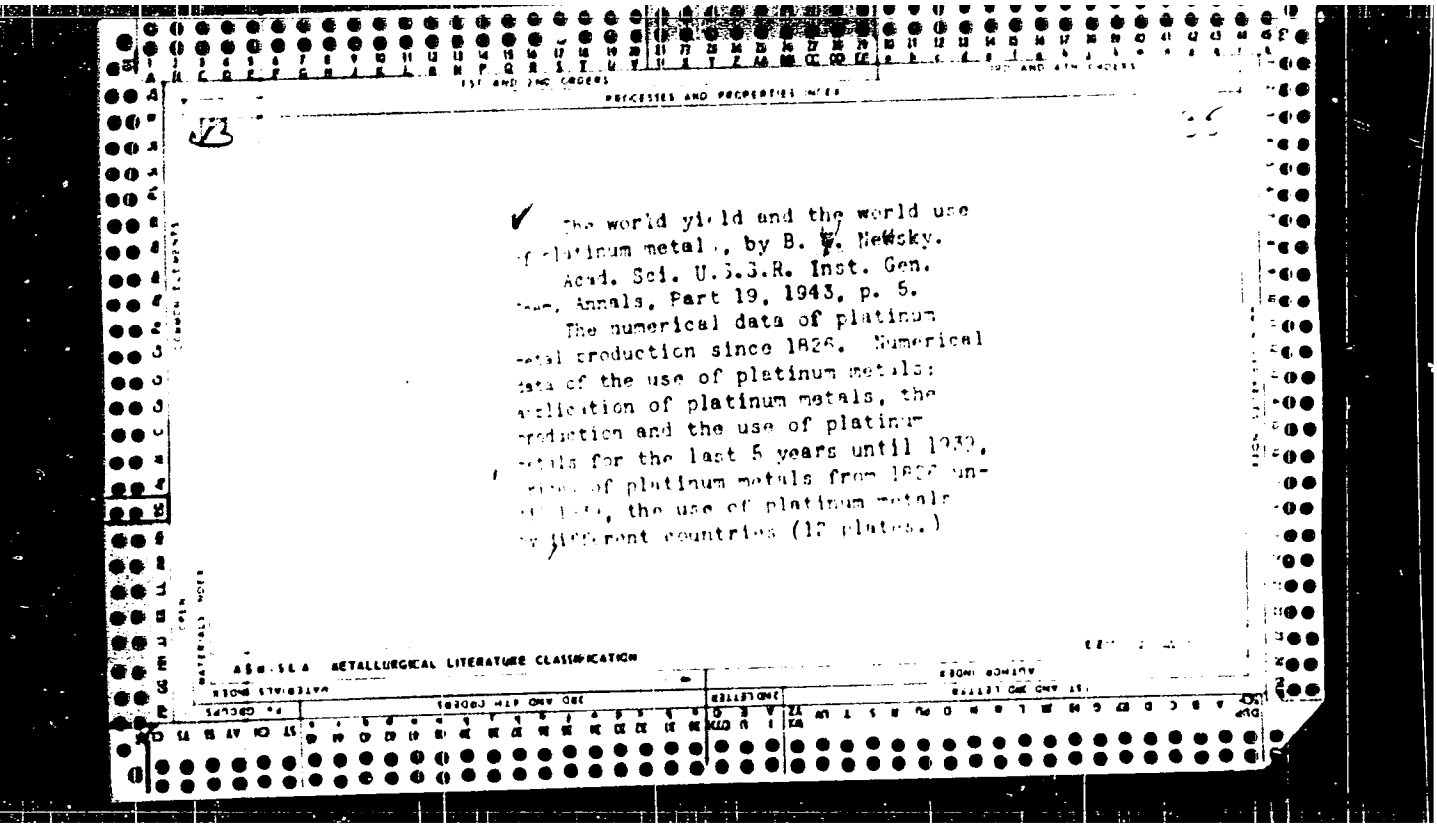
New method of gold flotation. B. V. Neyrkii. *Zolotaya Prom.* 12, No. 7, 21-2 (1940).—The proposed method of Au flotation is a combination of grease surface concn. and ordinary foam flotation. The ore is mixed with ground shavings which had been previously treated with reagents and the Au will be taken up first of all by the particles of shavings having greasy surfaces. The mixt. is then subjected to aeration and the shavings particles and the Au itself will adhere to the air bubbles and rise in the foam. The presence of pulverized shavings in the foam ensures its mech. stability and eliminates the reversible pptn. of the metal from the foam. The pulverized wood mass has a fibrous structure so that when added even in small amts. it "protects" the foam bubbles. A great part of the metal can be extd. by grease surface concn. so that the flotation can be carried out with very small addns. of ordinary flotation reagents. The flotation can also be conducted with less intensive aeration and agitation of the mixt. and the flotation machines may be of the simplest types such as "cascade machines" which utilize the force of the falling stream of the mixt. The concentrate may be further enriched by roasting and the Au treated by amalgamation. The shavings should be ground to 1 and 2 mm. Two flowsheets are included. B. Z. Kamich

NEVSKIY, B.V.

[illegible], T. I., Engr., [illegible], Engr.

"Automatic control and regulation of processes at [illegible] extracting factories."

Avtomatika i Telemekhanika, Vol 6, [illegible], 1941.



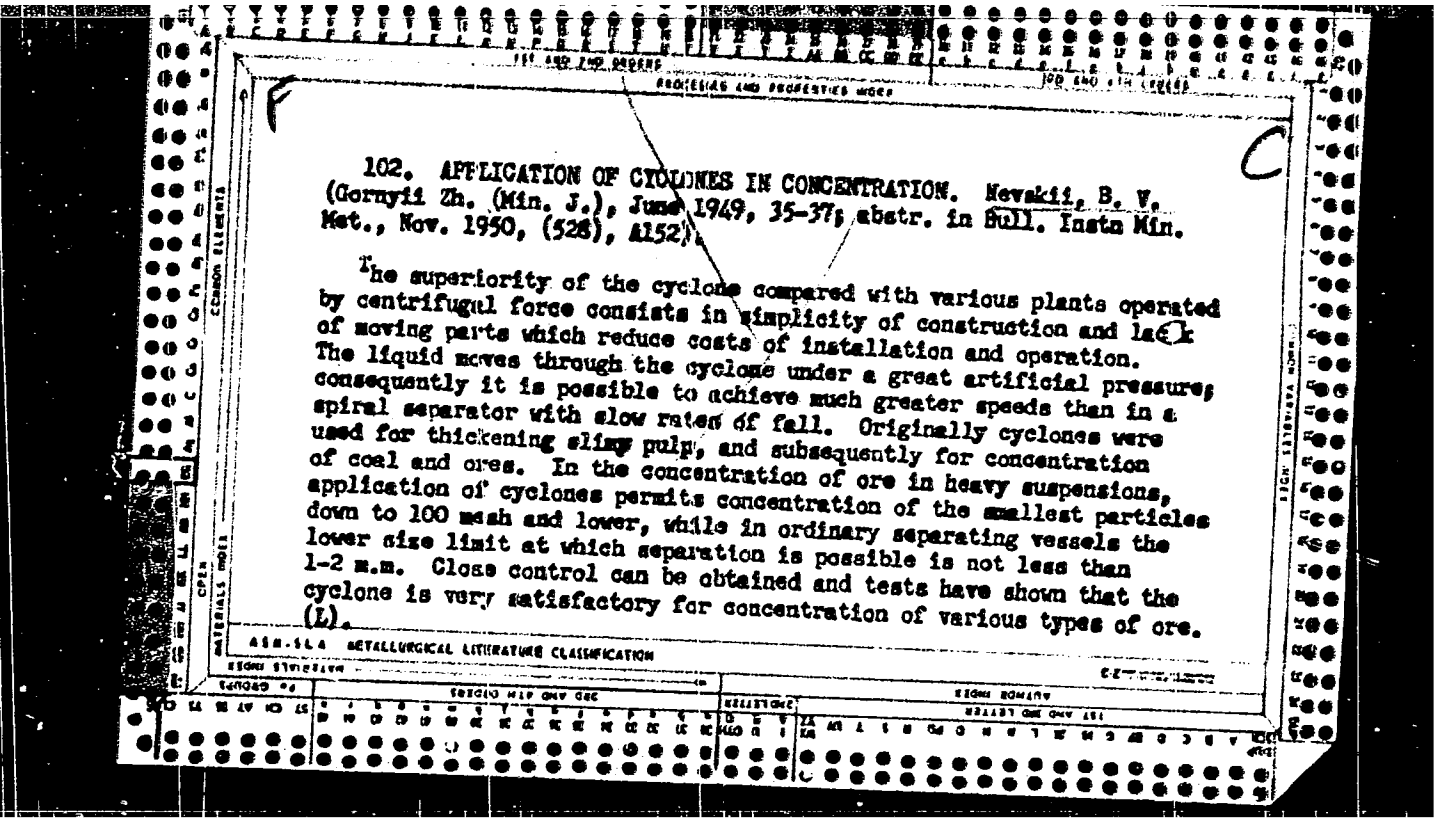
The world yield and the world use of platinum metals, by B. V. Nekrasov. Acad. Sci. U.S.S.R. Inst. Gen. Chem., Annals, Part 19, 1943, p. 5.

The numerical data of platinum metal production since 1826. Numerical data of the use of platinum metals: extraction of platinum metals, the production and the use of platinum metals for the last 5 years until 1939, [illegible] of platinum metals from 1800 until 1939, the use of platinum metals in different countries (17 plates.)

NEVSKIĬ, B. V.

Ore dressing Moskva, Gos. nauch.-tekhn. izd-vo lit-ry po chernoĭ i tsvetnoĭ metallurgii, 1947.
335 p. (49-14325)

TN520.N4



102. APPLICATION OF CYCLONES IN CONCENTRATION. Nevskii, B. V. (Gornyii Zh. (Min. J.), June 1949, 35-37; abstr. in Bull. Instn Min. Met., Nov. 1950, (528), A152).

The superiority of the cyclone compared with various plants operated by centrifugal force consists in simplicity of construction and lack of moving parts which reduce costs of installation and operation. The liquid moves through the cyclone under a great artificial pressure; consequently it is possible to achieve much greater speeds than in a spiral separator with slow rates of fall. Originally cyclones were used for thickening slimy pulp, and subsequently for concentration of coal and ores. In the concentration of ore in heavy suspensions, application of cyclones permits concentration of the smallest particles down to 100 mesh and lower, while in ordinary separating vessels the lower size limit at which separation is possible is not less than 1-2 m.m. Close control can be obtained and tests have shown that the cyclone is very satisfactory for concentration of various types of ore. (L).

NEVSKIY, B. V.

Koval'skiy, I. L. and Nevskiy, B. V., "Theoretical Principles of Regulation," in their book, Avtomatizatsiya i kontrol' protsessov v obogashchenii i gidrometallurgii [Automatization and Control of Processes in Enrichment and in Hydro-metallurgy], Moscow, Metallurgizday, 1953, Pages 139-163; 16 figures.

NEVSKIY, B.V., dotsent.

"Planning concentration plants" by K.A. Razumov. Reviewed by B.V. Nevskii. Tsvet. met. 26 no.2:70-72 Mr-Ap '53. (MLRA 10:9)
(Ore dressing) (Razumov, K.A.)

NEVSKIY, B.V.

Efficient systems for gravity concentration of ores. TSvet.met. 26 no.4:5-10 Jl-Ag '53. (MIRA 10:10)
(Ore dressing)

NEVSKIY, B.V., kand.tekhn.nauk.

Unified standard of concentration. TSvet.met.27 no.3:64-65 My-Je '54.
(MIRA 10:10)
(Ore dressing)

AUTHOR: Zefirov, A.P. and Nevskiy, B.V. 136-4-21/23

TITLE: Research and design organisations of France. (Issledovatel-skie i proektnye organizatsii Frantsii.)

PERIODICAL: "Tsvetnye Metally" (Non-ferrous Metals), 1957, No.4, pp. 88 - 93 (U.S.S.R.)

ABSTRACT: The authors visited organisation in France in 1956 and in this article they describe some of these: the research laboratory of Minerais et Métaux, the testing station and design office of the PIC firm, the research laboratories and design office of SECPIA. The special features of these organ-isations are given as their broad scope, the fact that they work on a contract basis and the volume of work which they do for non-French interests.
There are 6 figures.

AVAILABLE:

Card 1/1

AUTHORS: Zefirov, A.P. and Nevskiy, B.V. 136-7-20/22

TITLE: The production of pure titanium dioxide and titanium tetrachloride in France. (Proizvodstvo chistoy dvuokisi titana i chetyrekhkhloristogo titana vo Frantsii).

PERIODICAL: "Tsvetnyye Metally", 1957, No.7, pp.91-93 (USSR).

ABSTRACT: The authors give an account of the methods and installations for the production of pure titanium dioxide and tetrachloride which they recently saw in France and discuss some opinions by French technologists.

There is 1 figure.

1/1

AVAILABLE: Library of Congress

21(1)

AUTHOR: Nevskiy, B. V. SOV/89-6-1-1/33

TITLE: Combined Use of Uranium Ores (Kompleksnoye ispol'zovaniye uranovykh rud)

PERIODICAL: Atomnaya energiya, 1959, Vol 6, Nr 1, pp 5 - 13 (USSR)

ABSTRACT: This is a detailed review of 22 English language articles published in Canada and America. It is shown that many uraniferous ores contain a number of valuable components which can be additionally obtained from these ores. Numerous other ores, which are mined only because of their molybdenum-, tantalum-, zirconium- content etc., contain a certain quantity of uranium which might be additionally obtained when dressing the ores. As in the case of additional production the work of mining, transport, crushing, etc. is generally carried out at the expense of the principal components, the production of such small quantities of uranium or other metals does not involve high costs. This applies to the following ore occurrences:

gold-uranium ores
uraniferous phosphorites
uranium-pyrite ores
zirconium-uranium ores

uranium-vanadium ores
uranium-copper ores
uraniferous coal and slate
niobium-tantalum-uranium ores
uranium-thorium ores
uranium-molybdenum ores

There are 4 figures, 2 tables, and 22 references.

SUBMITTED: September 20, 1958

21(1), 11(6)

AUTHORS: Kaplan, G. Ye., Laskorin, B. N., Nevskiy, B. V.

SOV/69-6-2-1/28

TITLE: Industrial Methods of Low-Grade Uranium Ore Refinement (Promyshlennyye metody pererabotki bednykh uranovykh rud)

PERIODICAL: Atomnaya energiya, 1959, Vol 6, Nr 2, pp 113 - 123 (USSR)

ABSTRACT: This paper gives a survey of 28 English Geneva Reports dealing with the technical problems and industrial reprocessing of uraniferous ores. The extraction of uranium from uranium solutions by sorption at synthetic resins is being widely used at present, and 70% of all uranium is now obtained by this method. Uranium extraction by liquid extracting agents is less applied. The usual mechanical enrichment methods, such as gravitation, flotation, etc., are of secondary importance. However, this method regains importance in connection with the possibility of complex ore refinement. Radiometric enrichment is a very modern method, wherein the radioactive properties of uraniferous minerals are used for separating them from barren rock. There are 4 figures and 28 references.

Card 1/2

ZEFIROV, A.P., prof., doktor tekhn. nauk; NEVSKIY, B.V.; IVANOV, G.F.; VORONOVA, A.I., red.; MAZEL', Ye.I., tekhn. red.

[Plants for the processing of uranium ores in capitalist countries] Zavody po pererabotke uranovykh rud v kapitalisticheskikh stranakh. Pod obshchei red. A.P.Zefirova. Moskva, Gosatomizdat, 1962. 370 p. (MIRA 15:7)
(Uranium industry)

ALKHAZASHVILI, G.M.; NEVSKIY, B.V.; ARKHAROVA, I.I.

Use of minerals of enclosing rocks in studying uranium sorption. Atom. energ. 16 no.1:51-55 Ja '64. (MIRA 17:2)

NEVSKIY, B.V.; SMIRNOV, I.P.; PIPKOVSKIY, S...

Effect of the mass transfer intensity on certain indicators in the process of autoclave leaching of uranium ore. Atom. energ. 17 no.3:201-205 S '64. (MIRA 17:9)

L 63967-65

ACCESSION NR: AP5022495 UR/0089/65/018/006/0647/0648

AUTHOR: Korenev, M. A.; Nevskiy, N. V.; Zorina, Z. P.; Ambartsumyan, Ts. L.; Nazarenko, N. G. 5 B

TITLE: Precipitation of uranyl and ammonium arsenates and some of their properties

SOURCE: Atomnaya energiya, v. 18, no. 6, 1965, 647-648

TOPIC TAGS: uranium compound, uranyl nitrate, ammonium compound, arsenate, chemical precipitation

ABSTRACT: X ray and thermographic analysis of uranyl nitrates (with 0.5g/l uranium) showed that at 20°C and arsenic-uranium near stoichiometric the precipitation of uranyl and ammonium arsenates from uranyl nitrates began at pH ≈ 1.5. At pH = 2.5 the main part of uranium precipitation was accomplished by the ammonium [illegible] arsenates looked like a fine crystal

Card 1/2

L 63967-65

ACCESSION NR: AP5022495

and di- and trivalent iron and aluminum arsenates as functions of uranium (0.250g/l) concentration and pH of the solution was determined. The pH values for the initial and final uranyl and ammonium arsenates precipitation were determined. The constructed curves show that uranyl and ammonium arsenates and trivalent iron co-precipitated at close pH values which prevents selective uranium separation. Precipitation of divalent iron and aluminum begins at larger pH than uranium precipitation of uranium is easily achieved in the presence

of divalent iron and aluminum ions. Orig. art. has: 2 tables.

ASSOCIATION: none

SUBMITTED: 13May64 ENCL: 00 SUB CODE: IC, GC

NR REF SOV: 004 OTHER: 004 NAICS:

Card 2/2

NEVSKIY, D.

For a more serious approach to the question of sending cadres of rural construction workers to school. Sel'.stroi.10 no.6:8 Je'55. (MLRA 8:10)

1. Bukhgalter Kurskoy mezhoblastnoy shkoly perepodgotovki rukovodyashchikh rabotnikov sel'skogo stroitel'stva
(Kursk--Building--Study and teaching)

KOLTON, A.Yu., kand. tekhn. nauk; NEVSKIY, D.Yu., inzh.

Development and study of the runners of the turbines of the Krasnoyarsk Hydroelectric Power Station. [Trudy] LMZ no.10:53-79 '64. (MIRA 18:12)

NEVSKIY, G.K.

Tectonic prerequisites for oil and gas prospecting in Paleozoic sediments of the Chu - Sary-Su Depression. Geol. nefti i gaza 6 no.7:14-19 Jl '62. (MIRA 15:6)

1. Vsesoyuznyy neftyanoy nauchno-issledovatel'skiy geologorazvedochnyy institut.

(Chu Valley—Petroleum geology)
(Sary-Su Valley—Gas, Natural—Geology)
(Sary-Su Valley—Petroleum geology)
(Chu Valley—Gas, Natural—Geology)

NEVSKIY, G.K.

Tertiary continental sediments of some troughs in Central Asia.
Trudy VNIGRI no.190:412-420 '62. (MIRA 16:1)
(Asia, Central--Geology, Stratigraphic)

NEVSKIY, I.A., uchitel'

Lessons in studying the pulse family. Biol.v shkole no.4: 15-18 Jl-Ag '60. (MIRA 13:7)

1. Srednyaya shkola No.4, g.Lyublino, Moskovskoy oblasti.
(Botany--Study and teaching)
(Leguminosae)

NEVSKIY, I.A.

Study of crustaceans and arachnids. Biol.v shkole no.4:42-47 Jl-Ag '62. (MIRA 15:12)

1. Institut teorii i istorii pedagogiki Akademii pedagogicheskikh nauk RSFSR.

(Crustacea) (Arachnida)
(Zoology--Study and teaching)

NEVSKIY, I.A.

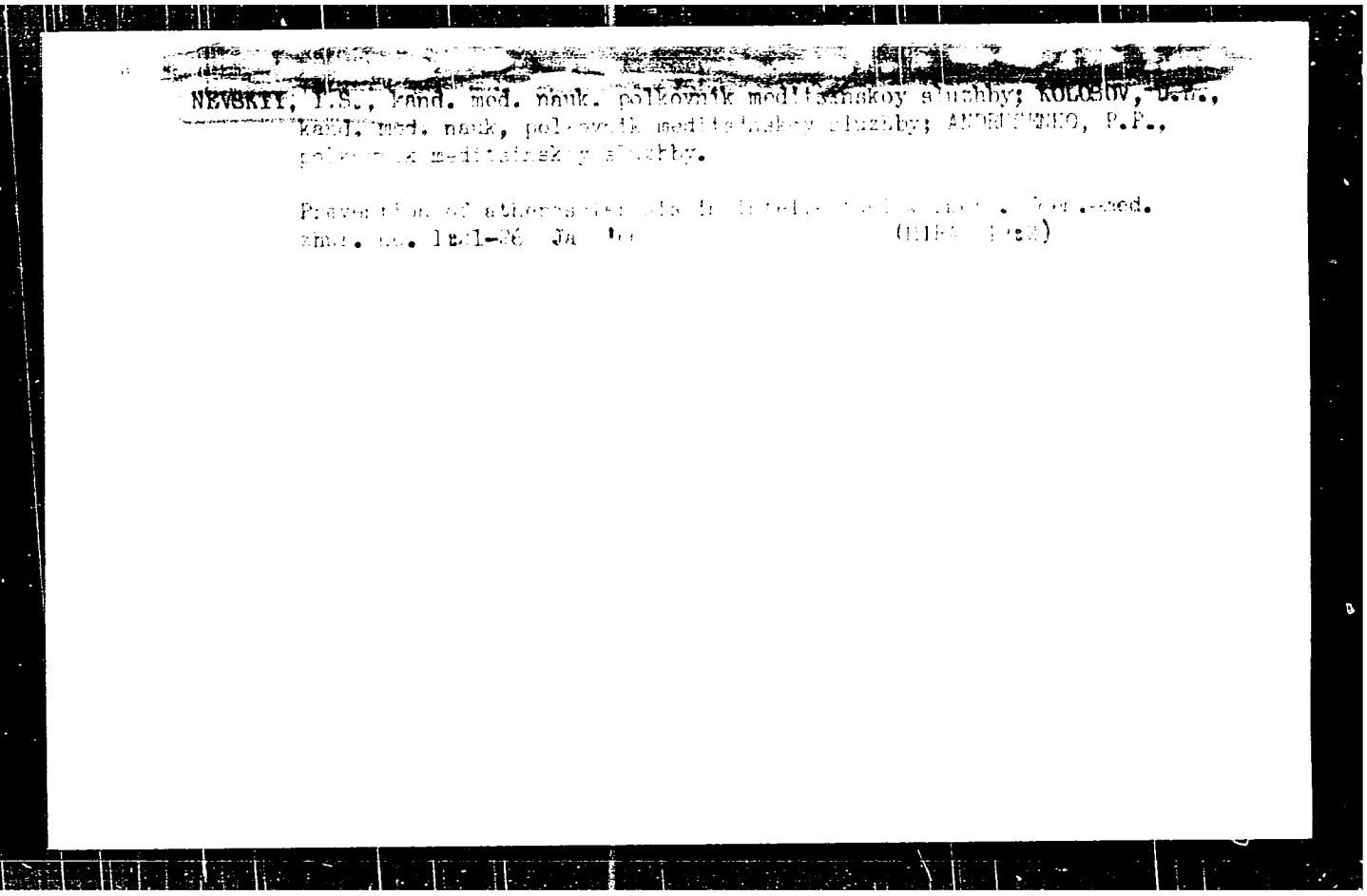
Study and development of inclinations during the teaching process in school. Vop. psikhol. 10 no.2:57-66 Mr-Ap '64. (MIRA 17:9)

1. Institut teorii i istorii pedagogiki Akademii pedagogicheskikh nauk RSFSR, Moskva.

[redacted] M. I. [redacted].

"[redacted] early [redacted] of [redacted] of the [redacted] system."

report submitted at the 13th [redacted] Plenum [redacted] of [redacted], [redacted] and Intellectuals, 19[redacted].



NEVSKIY, I.S., kand. med. nauk, polkovnik med. sluzhby; KOLOSOV, D.S., kand. med. nauk, polkovnik meditsinskoy sluzhby; ANDRIYENKO, P.P., polkovnik meditsinskoy sluzhby.

Prevention of atherosclerosis in [illegible]. Voen.-med. zhur. no. 1:71-76 Ja [illegible] ([illegible])

NEVSKIY, L.A. (Nerekhta, Kostromskoy oblasti)

In the south of the taiga region. Priroda 47 no.4:124-12[illegible] Ap [illegible].
(MIRA [illegible])

1.Chlen-korrespondent AN Turkmenskoy SSR, Ashkhabad.
(Kara kum--Spring)

NEVSKIY, L. M.

NEVSKIY, L. M.: "The content of free and bound water and the viscosity of protoplasm in barley plants at various stages of development and with various degrees of soil moisture." Leningrad State Pedagogical Inst imeni A. I. Gertsen. Chair of Botany. Leningrad, 1956. (Dissertation For the Degree of Candidate in Biological Science.)

Knizhnaya Letopis'
No 32, 1956. Moscow.

NEVSKIY, V.V., inzh.

New visual methods for studding flows in water streams.
Transp.stroi. 15 no.10:40-42 O '65.

(MIRA 18:12)

NEVSKIY, L.S.

" Atypical Forms of Malignant Anthrax." Theses for degree of Cand. Veterinary Sci., Sub 26 May 49, Moscow Chemicotechnological Inst of Meat Industry.

FDD Summary 82, 18 Dec 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1949. From Vechernyaya Moskva, Jan-Dec 1949.

NEVSKIY, L. S. (Cand. of Vet. Sciences)

"Improve the work of meat control stations on kolkhoz markets."

SO: Vet. 27 (2), 1950, p. 43

NEVSKIY, L. S.
USSR/Medicine - Veterinary FD 324

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Author : Nevskiy, L. S., Candidate of Veterinary Sciences, and Pugovkina, A. A., Senior Veterinary Physician

Title : Manifestation of tapeworms

Periodical : Veterinariya, 6, 58, June 1954

Abstract : Although cases of tapeworm in cattle are less frequent now than before the revolution, the disorder is still prevalent in some parts of the country. In order to render meat fit for public consumption the authors of this article recommend freezing it first; they suggest storing meat in places where a temperature of minus 25°C is maintained. They further suggest that veterinary agencies provide necessary personnel to inspect meat and to see that cattle are fed well and receive proper care. One table.

Institution : Moscow City Veterinary Department

Submitted :

NEVSKIY, L.S., kandidat veterinarnykh nauk.

Kerosene in tympanites. Veterinariia 32 no.5:71 My '55.
(MLRA 8:7)

1.Moskovskaya gorodskaya vetbaklaboratoriya.
(STOMACH--DISEASES) (KEROSENE--PHYSIOLAGICAL EFFECT)

23769

S/190/61/003/006/012/019
B110/B208

11221 abs. 22.09

AUTHORS: Frolova, M. I., Nevskiy, I. V., Ryabov, A.V.

TITLE: Light aging of polymethyl methacrylate.
II. Study of photolysis by radioactive carbon C^{14}

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 6, 1961, 877 - 881

TEXT: The study of the gases separated during light aging of polymers (e.g., polymethyl methacrylate - PMMA) is of importance in the clarification of destruction reactions and in the development of rational stabilization methods. An attempt is made in the present study to explain the formation mechanism of photolysis gases by C^{14}, and the relationship between the mechanism of gas evolution and the photolysis of PMMA. PMMA samples labeled with C^{14} in different positions were subjected to block polymerization at 45°C with subsequent heating to 110°C, and then freed of the monomer by three-fold precipitation with methanol from acetone solution. The powder samples with linear particle dimensions of 0.5

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~ 1.5 mm were irradiated with the PRK-2 (PRK-2) mercury quartz lamp in glass boats at ~ 10^{-5} mm Hg residual pressure for 50 hr. The pressure there increased to 6.7 mm. The reaction vessel 6 for the combustion of the gases formed was then fitted to the device shown in the Fig. Stopcock 2 was closed and the whole plant was evacuated by means of a rough vacuum pump through the stopcocks 3,4,5. A part of the gases was then conducted into vessel 7 by opening stopcock 2. The necessary amount of oxygen flew in through stopcock 9. The gas to be analyzed which was mixed with oxygen in vessel 8 was oxidized over copper oxide at 750 - 850°C, carbon dioxide was collected in 12, the water vapor in 11. In vessel 13 the radioactive carbon dioxide was diluted with ordinary CO_2 up to the volume required for filling the counter, radioactivity was measured in 14. Gas evolution in the presence of oxygen and nitric oxide was studied in a similar way. The gases could be quantitatively burned in the plant. The macromolecular chains may be ruptured by primary action

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of light and by secondary reaction, as the radiant energy of TPK-2 (PRK-2) lamps of 120 kcal/mole is sufficient for the rupture of chemical compounds. In the case of UV radiation the ester groups are most sensitive. Their separation gives rise to low- and high-molecular radicals:

$$-CH_2-\underset{\displaystyle COOCH_3}{\overset{\displaystyle CH_3}{\overset{|}{\underset{|}{C}}}}- \xrightarrow{h\nu} -CH_2-\underset{\displaystyle COOCH_3}{\overset{\displaystyle CH_3}{\overset{|}{\underset{|}{C}}}}\cdot$$

The mass spectrum analysis of the gases formed in the photolysis of PMMA in vacuo disclosed a short lifetime of the low-molecular radicals owing to their reaction with the surrounding molecules. The formation of methyl formate was also confirmed by mass spectrum analysis (characteristic peaks): $COOCH_3 + RH \longrightarrow HCOOCH_3 + R^{\cdot}$ ($R^{\cdot}$ = macroradical). UV radiation

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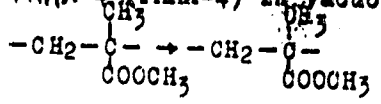
destroys methyl formate under formation of a complicated gas mixture. The separation of lateral ester groups is supported by the activity data of the decomposition gases of PMMA-3 and PMMA-4 samples. As the activity decreased after three-fold reprecipitation it is assumed to be due to impurities. No monomeric methyl methacrylate molecules are split off in this connection. In the PMMA-1 and PMMA-2 decomposition, the subsequent decomposition of methyl formate gives rise to the formation of CO_2 and other gases which react with the polymer chains and thus separate from the gas phase. In the photolysis in the presence of oxygen, carbon from the α-methyl group and a quaternary carbon atom were detected. The exact relationship between the reactions causing the macromolecular chain rupture (1) and those of ester group separation (2) could not be established. (1) can only be primary in the rupture of C-C-bonds at the quaternary C-atom like in the rupture due to electron action. When the α-methyl group is split off in the photolysis of PMMA-4 (PMMA-4) in vacuo:



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Light aging of polymethyl methacrylate. II. Study of ...

the methyl radical also reacts with polymer chains or radicals. The authors thank V. A. Kargin for his advice and M. V. Tikhomirov for studying the mass spectra of the gases. There are 1 figure, 1 table, and 16 references: 5 Soviet-bloc and 11 non-Soviet-bloc. The most important references to English-language publications read as follows: Ref. 4: J. H. Flinn, W. K. Wilson, W. L. Morrow, J. Res. Nat. Bur. Stand., 60, 229, 1958. Ref. 6: L. H. Wartman, Industr. and Engng. Chem., 47, 1013, 1955. Ref. 7: D. E. Winkler, J. Polymer Sci., 35, 3, 1959.

SUBMITTED: July 28, 1960

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L 00440-65

ACCESSION NR: AP5018040

associated with a rapid evolution of gas, which dropped off with time of irradiation. Mass-spectrometric analysis of the gaseous products of polyurethane containing 3% carbamide groups established the presence of CO_2, CO, H_2, H_2O, CH_4, HCN, and CH_2O. ESR spectra showed the presence of free radicals and will be discussed in a later report. The viscosity of the soluble part of the irradiated polymers remains practically unchanged during the course of irradiation. Measurements of the angle of wetting lead to the conclusion that, as irradiation goes on, hydrophobization of the surface of the films takes place. Orig. art. has: 4 figures, 1 table, and 2 formulas.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: OC

NO REF SOV: 004 OTHER: 011

L 08800-67 EWT(m)/EWP(j) IJP(c) RM

ACC NR: AP6030853 (A, N) SOURCE CODE: UR/0191/66/000/009/0045/0047

AUTHOR: Nevskiy, L. V.; Tarakanov, O. G.

34

ORG: none

15

TITLE: Color formation in polyurethanes as a result of illumination

SOURCE: Plasticheskiye massy, no. 9, 1966, 45-47

TOPIC TAGS: polyurethane, isocyanate resin, polymer physical chemistry, synthetic material, free radical, UV irradiation, UV absorption

ABSTRACT: The factors underlying the yellowish color in polyurethanes based on toluylenediisocyanate when illuminated with UV-light were investigated. The study was conducted on 0.1 mm films prepared from toluenediisocyanate adduct and polyoxypropylenediol in benzene by hardening the condensation product with glycerine on the mercury surface. Steps were taken to exclude moisture from the reaction zone and portions of the sample areas were protected from UV-light. The extent of the color formation in the films was defined optically (in terms of optical density) on a CF-4 spectrophotometer. All samples were illuminated for 50 hrs. It was concluded that oxidation in the UV-illuminated polyurethanes may occur in the absence of oxygen. This type of oxidation in polyurethanes is attributed either to light-induced changes in the aromatic ring of the disocyanate or to a conjugation involving an unpaired electron. The

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L 08800-67

ACC NR: AP6030853 O

formation of this unpaired electron would result from the cleavage of the N-C bonds in the polyurethane chains. Orig. art. has: 2 figures.

SUB CODE: 07,11/ SUBM DATE: 00/ ORIG REF: 004/ OTH REF: 008

Card 2/2 nst

NEVSKIY, M. L.

NEVSKIY, M.L.

[Origin of animals and plants] O proiskhozhdenii zhivotnykh i rastenii. Moskva, Gos. antireligiornoe izd-vo, 1953. 69 p.
(Natural history) (MLRA 7:5)

NEVSKIY, M.P.

Bioelectric activity of the brain in hypnotic sleep. Zhur.nevr.i psikh. 54 no.1:26-32 Ja '54. (MLRA 7:1)

1. Psikhiatricheskaya klinika im. S.S.Korsakova I Moskovskogo ordena Lenina meditsinskogo instituta.
(Brain) (Sleep) (Electrophysiology)