L 25428-66
ACC NR: AP6010493

programs. 1. Modification of lumber by radiative polymerization of monomers inside the lumber. 2. Modification of synthetic and natural textile fibers. 3. Radiative grafting of polymers on glass or metals. Possible benefits accruing from each of these programs are briefly mentioned.

SUB CODE: 18,13/ SUBM DATE: none

Card 2/2 CC

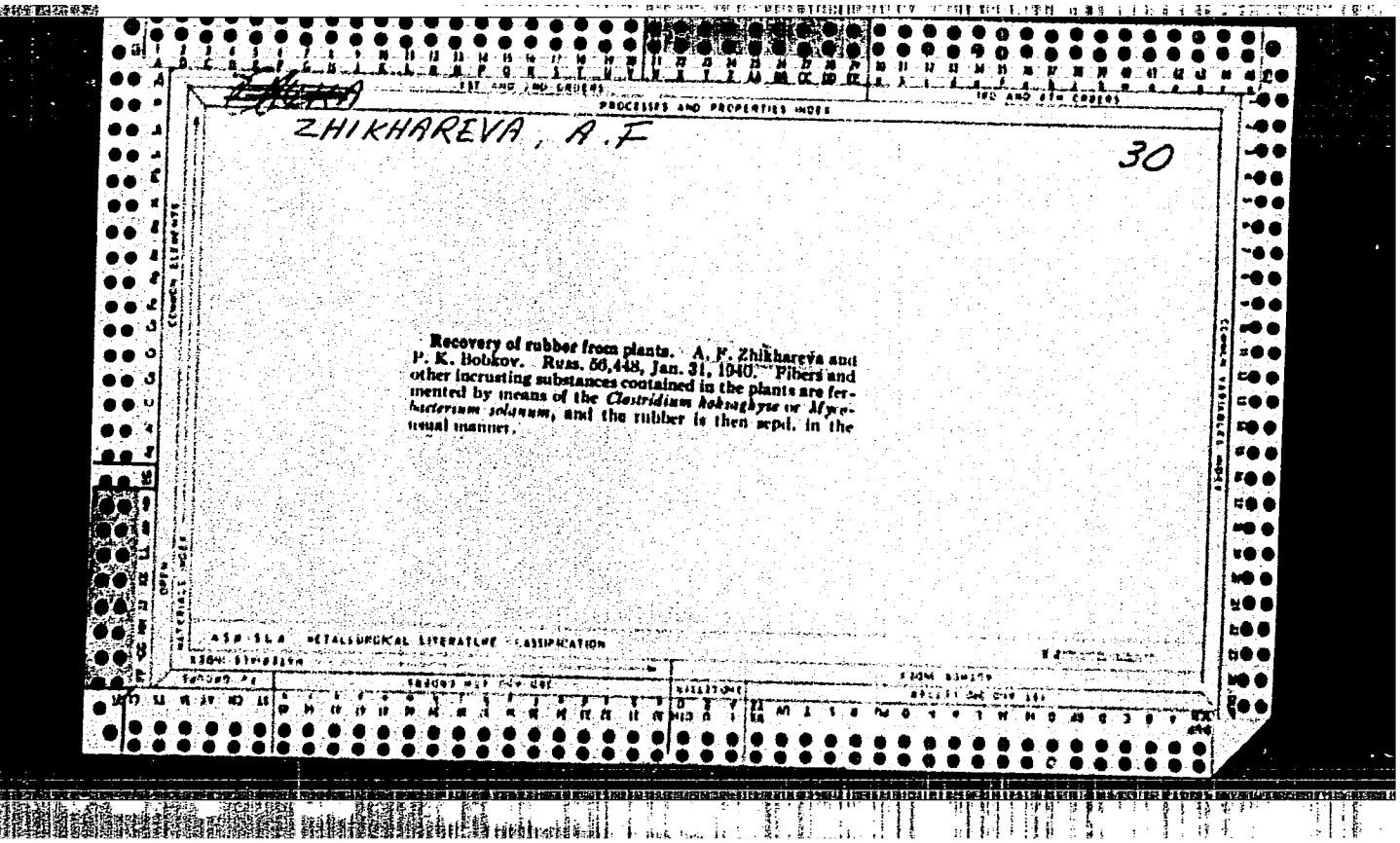
STROMBERG, A.G.; ZHIKHAREV, Yu.N.

Removal of oxygen from polarographic solutions. Zav.lab. 31 no.10:1185-1187 '65. (MIRA 19:1)

1. Tomskiy politekhnicheskiy institut.

ZAKHAROV, Ye.D.; PETROVA, A.A.; ZHIKHAREV, Yu.V.; SAVELOVA, N.M.

Effect of chemical composition on the hardenability of the V95 alloy. Metalloved. i term. obr. met. no.12:16-21 D'63.
(MIRA 17:2)



ZHIKHAREVA, A.F

30

Recovery of rubber from plants. A. F. Zhikhareva and P. K. Bobkov. Russ. 56,448, Jan. 31, 1940. Fibers and other incrusting substances contained in the plants are fermented by means of the *Clostridium kobsaghyse* or *Mycobacterium selanum*, and the rubber is then sepd. in the usual manner.

ZHIKHAREVA, G.P.

Shortcomings in the design of petroleum refineries in the field of safety engineering. Neftianik 5 no.5:28-29 My '60. (MIRA 13:6)

1. Tekhnicheskiy inspektor TSentral'nogo komiteta profsoyuza rabochikh neftyanoy i khimicheskoy promyshlennosti.
(Petroleum refineries) (Safety engineering)

NIKOLAYEV, S.I., red.; SALUKVADZE, V.S., red.; ANDRIANOV, K.I., red.; VASIL'YEV, A.Ye., red.; ZHIKHAREVA, G.P., red.; KRYLOV, P.I., red.; KHONDZER, G.L., red.; KHRAMIKHIN, F.G., red. [deceased]; CHEREMISINOV, M.M., red. Prinimali uchastiye: ANUCHKIN, M.P., red.; GRIGOR'YEVA, M.B., red.; ZHUKOV, V.I., red.; KALYUZHNYY, N.G., red.; KAMERSHTEYN, A.G., red.; KOZLOVSKAYA, A.A., red.; LAVROVA, N.P., red.; NUSOV, G.I., red.; FAL'-KEVICH, A.S., red.; YERSHOV, P.R., vedushchiy red.; FEDOTOVA, I.G., tekhn.red.

[Safety regulations for constructing steel pipelines] Pravila tekhniki bezopasnosti pri stroitel'stve magistral'nykh stal'nykh truboprovodov. Moskva, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry, 1960. 235 p. (MIRA 13:9)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye gazovoy promyshlennosti. 2. Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov (for Anuchkin, Grigor'yeva, Zhukov, Kalyuzhnyy, Kamershteyn, Kozlovskaya, Lavrova, Nusov, Fal'kevich).

(Pipelines) (Industrial safety)

USHENKO, I.K.; ZHIKHAREVA, K.D.

Chemistry of cyanine dyes. Part 19: Benzothiazolylthiacyanines.
Zhur.ob.khim. 32 no.11:3656-3661 N '62. (MIRA 15:11)

1. Institut organicheskoy khimii AN UkrSSR.
(Cyanine dyes) (Thiacarbocyanine)

ZHIKHAREVA, K.D.

AID 985

Entire

28

POLYMETHINE DYES CONTAINING FERROCENE RADICALS (USSR)

16 7

Ushenko, I. K., K. D. Zhikhareva, and F. Z. Rodova. Zhurnal obshchey khimii, v. 33, no. 3, Mar 1963, 798-804. S/079/63/033/003/003/005

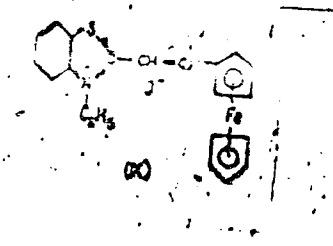
The following new compounds have been synthesized: 2-methyl-6- (I) (mp, 155°C) in 9.5 to 21.7% yields and 2-methyl-5-ferrocenylbenzothiazole (II) (mp, 185°C) in 14 to 27% yields; and bis(2-methyl-6- (III) (mp, 240°C) in an 0.3% yield and bis(2-methyl-5-benzothiazolyl)ferrocene (IV) (mp, 261°C) in an 0.8% yield. The synthesis was accomplished by the reaction of ferrocene with the 1) (dimethyltriazeno)benzothiazoles, 2) benzothiazolyldiazonium chlorides, or 3) benzothiazolyldiazonium acetates

1/3

POLYMETHINE DYES CONTAINING FERROCENE RADICALS (USSR)

AID 985

at the Kiyev Branch of the Donets Institute of Soviet Trade and the Institute of Organic Chemistry of the Ukrainian Academy of Sciences



The reaction mechanism is [illegible] a. formed in all three cases. The UV spectra of I, II, III, and IV contained a band in the 400 to 500-mμ range. Compounds I, II, III, and IV were converted to the quaternary salts from which in turn the following thiocarbocyanines and dimethylmerocyanines were synthesized: 3, 3'-diethyl-6, 6'- (V) and 3, 3'-diethyl-5, 5'-diferrocenylthiacarbocyanine iodide (VI); and 3-ethyl-5-(3-ethyl-5-ferrocenylbenzothiazolinylidene-2-ethylidene)2-thiazolidine-4-one (VII) and 3-ethyl-5-ferrocenylbenzothiazolinylidene-2-ethylidene)2-thiazolidine-thione-4-one (VIII). The optical and photographic properties of V, VI, VII, and VIII were studied to determine 1) their possible use as photosensitizers and 2) the degree of conjugation of the 5 or 6-ferrocenyl substituents in the benzothiazole ring with the basic polymethine chromophores. The absorption maxima of V, VI, VII, and VIII were at 608, 592, 543, and 535 mμ, respectively, indicating that the

2/3

POLYMETHINE DYES CONTAINING FERROCENE RADICALS (USSR)

AID 985

Maxima in these compounds shifted toward long wavelengths with respect to the thiacarbocyanines and merocyanines containing no ferrocenyl substituents. A greater bathochromic shift occurred in the case of thiacarbocyanines containing 6, 6'- than in those with 5, 5'-ferrocene substituents. Compounds V, VI, VII, and VIII are stable dyes, soluble in alcohol and benzene, and differ little in properties from the unsubstituted thiacyanines. In addition, condensation of formylferrocene with 3-ethyl-2-methylbenzothiazolium iodide formed the deep colored dimethine dye (IX see Illustration), which shows absorption maxima at 505 and 601 mμ. The deep color of IX was attributed to positive-charge transfer to the methine groups and to the cyclopentadienyl rings.

hjs

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S/079/62/032/011/007/012
D204/D307

AUTHORS: Ushenko, I.K., and Zhikhareva, K.D.

TITLE: Investigations of the chemistry of cyanine dyes. XIX. Benzothiazolylthiacyanines

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 11, 1962, 3656 - 3661

TEXT: 2-methyl-6- and 2-methyl-5-[benzothiazolyl-(2)]- benzothiazoles (I and II) were prepared by treating the acid chlorides of 2-methyl-benzothiazole-6- and 2-methyl-benzothiazole-5-carboxylic acids (in benzene) with o-aminothiophenol in benzene, boiling for 1 hr. at 100°C. The compounds exhibited absorption maxima at 220 - 240 and 310 - 320 mu (k-bands). The corresponding monoquarternary salts (III and IV) were prepared by heating I and II with ethyl p-toluenesulfonate at 155 - 160°C over 6 hrs. and were then converted to thiacyanine dyes. Thus 3,3'-diethyl-6,6' and 3,3'-diethyl-5,5'-di[benzothiazolyl-(2)] - thiacarbocyanine-p-toluenesulfonates (V and VI) were prepared by boiling III and IV with ethyl orthoformate and pyridine for 30 min. 3-ethyl-5- (3'ethyl-6'- and 3-ethyl-5-

Card 1/2

Investigations of the chemistry of ... S/079/62/032/011/007/012
D204/D307

{3'-ethyl-5'- [benzothiazolyl-(2") - benzo thiazolinilidene-2'] - ethylidene} - thiazolidinthione-2-one-4 (compounds VII and VIII) were prepared by dissolving III and IV in absolute ethanol and boiling for 30 minutes at 100°C with 3-ethyl-5-(acetanilidomethylene)-rhodanine and triethylamine. Compounds IX, 2-(p-dimethylaminostyryl)-6-[benzothiazolyl-(2)] benzothiazole ethyl p-toluenesulfonate, was synthesized by boiling III for 20 min. with p-dimethyl-aminobenzaldehyde and acetic anhydride. Substitution of benzothiazolyl radicals into 5,5' and 6,6'-positions caused considerable shifts of the absorption maxima in the direction of longer wavelengths, the effect being stronger for 6,6'-substituted thiacarbocyanines. Alcoholic solutions of thiacarbocyanines containing 5,5' or 6,6'-substituted benzothiazole radicals fluoresce more strongly than the very strongly fluorescent 6,6'-distrylthiacarboxycyanines. There is 1 figure and 1 table.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk Ukrainskoy SSR (Institute of Organic Chemistry, Academy of Sciences of the Ukrainian SSR)

SUBMITTED: November 20, 1961

Card 2/2

SAMOKHVALOV, G.I.; DAVYDOVA, L.P.; ZAKHARKIN, L.I.; KHORLINA, I.M.; VAKULOVA, L.A.; ZHIKHAREVA, L.T.; PREOBRAZHENSKIY, N.A.

Synthesis studies in the field of polyene compounds. Part 17: New synthesis of retinal or 9,13-dimethyl-7-(1,1,5-trimethylcyclohexen-5-yl)-7,9,11,13-nonatetraen-15-al. Zhur.ob.khim. 30 no.6:1823-1828 Je '60. (MIRA 13:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut.
(Nonatetraenal) (Olefins)

5(3)

AUTHORS: Samokhvalov, G. I., Vakulova, L. A., Men, T. V., Zhikhareva, L.T., Koltunova, V. I., Preobrazhenskiy, N. A.

SOV/79-29-8-25/81

TITLE: Synthetic Investigations in the Field of Polyene Compounds XV. A Complete Synthesis of Citral

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 8, pp 2575-2578 (USSR)

ABSTRACT: Citral is the initial product for the synthesis of vitamin A, the carotinoids, and a number of fragrant substances. The transition of compound (I)*, which was also synthesized by the authors, from acetone and acetylene (Refs 1,2,3) to citral has so far been carried out by condensation with magnesium bromo-ethoxy-acetylene, partial hydrogenation, and saponification of the resultant 1-ethoxy-3,7-dimethyl-octadien-2,6-ol-3 (Ref 4), as well as according to reference 5. In the present paper the synthesis of citral from (I) is carried out without organo-metallic compound according to the given scheme. Otherwise, compound (II) is formed when using the easily accessible tetraethoxy-silane in the presence of orthophosphoric acid, a small quantity of p-toluene-sulfonic acid, and 0.3 mole of

Card 1/2

*(I): 6-methyl-heptene-5-one-2.

3

Synthetic Investigations in the Field of Polyene Compounds. XV. A Complete Synthesis of Citral

alcohol per 1 mole of initial ketone (95-97%) (Ref 6). The authors investigated the reaction of the ketal (II) with the ethyl-vinyl ether under the influence of the catalysts $ZnCl_2$ and $4BR_3 \cdot 3(C_2H_5)_2O$. $ZnCl_2$ was found to give less side products on condensation, and to produce compound (III) in a 60-65% yield. In the subsequent saponification reaction, under separation of one molecule of alcohol, citral is formed under the influence of a 15% sodium-acetate solution and acetic acid for 30 min at 108-110°. The yield is 42-45%. A prolonged reaction time causes an autocondensation of the citral. The purification of citral is carried out via its bisulfite derivative. There are 1 figure and 9 references, 4 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut (All-Union Scientific Institute for Vitamin Research)

SUBMITTED: July 14, 1958

Card 2/2

ACCESSION NR: AP4024456 S/0054/64/000/001/0021/0025

AUTHOR: Zhikhareva, T. V.

TITLE: Near-threshold behavior of inelastic scattering

SOURCE: Leningrad. Universitet. Vestnik. Seriya fiziki i khimii, no. 1, 1964, 21-25

TOPIC TAGS: inelastic scattering, threshold energy, resonance effect, orbital momentum, inelastic cross section, p wave

ABSTRACT: The partial cross-section transition from the l-channel to the i-th channel for complete orbital momentum L is given by

$$\sigma_{ij}=\frac{4\pi}{\kappa_l^2}\frac{2L+1}{2l+1}|T_{ij}|^2.$$

where T - scattering matrix. A three-channel case is considered, and the resonance effect in the inelastic cross section σ_{12} is also considered. The nature of the inelastic cross section σ_{12} anomaly near the threshold $K_3 = 0$ is studied, and it

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ACCESSION NR: AP4024456

is shown that the greater the probability of inelastic processes σ_{13} and σ_{23} the greater will be the anomaly in the threshold $K_3 = 0$ of inelastic cross section σ_{12}. The behavior of p-wave inelastic cross section σ_{12} near the threshold of secondary inelastic reaction is investigated. Above the threshold this is given by

$$\sigma_{12}(\kappa_3)\,\sigma_{12}(0)^{-1} = 1 - \frac{2M_{13}^2(M_{22}^2+\kappa_2^2)\kappa_1^3 + 2M_{23}^2(M_{11}^2+\kappa_1^2)\kappa_2^3}{\varkappa'}\kappa_3^3$$

and below the threshold, by

$$\overline{\sigma_{12}(k_3)\,\sigma_{12}(0)^{-1}} = 1 + \frac{2M_{13}^2(M_{22}^2+\kappa_2^2)M_{11} + 2M_{23}^2(M_{11}^2+\kappa_1^2)M_{22}}{\varkappa'}k_3^3$$

"The author is grateful to G. F. Drukarev for evaluating the work." Orig. art. has: 18 equations and 1 figure.

Card 2/3

ACCESSION NR: AP4024456

ASSOCIATION: none

SUBMITTED: 01Jul63 DATE ACQ: 16Apr64 ENCL: 00

SUB CODE: NP NO REF SOV: 003 OTHER: 001

Card 3/3

L 33187-66 EWT(1)

ACC NR: AR6016170 SOURCE CODE: UR/0058/65/000/011/D003/D003

AUTHOR: Zhikhareva, T. V.

TITLE: Influence of closed channel on the resonance effect and threshold behavior of scattering cross section

24
B

SOURCE: Ref. zh. Fizika, Abs. 11D17

REF SOURCE: Tr. Komis. po spektroskopii. AN SSSR, t. 2, vyp. 1, 1964, 118-130

TOPIC TAGS: scattering cross section, scattering amplitude, resonance scattering

ABSTRACT: The energy dependence of the scattering cross section near threshold is considered within the framework of the effective-radius theory. The scattering amplitude is reduced to the Breit-Wigner formula, the width and shape of the resonance peak are determined, as are the conditions for its narrowness. It is shown that weak coupling does not lead to a change in the type of threshold singularity. [Translation of abstract]

SUB CODE: 20

Card 1/1 hmc

L 31500-66 EWT(l)/EWT(m)/EWP(t)/ETI IJP(c) JD/AT
ACC NR: AP6013031 SOURCE CODE: UR/0051/66/020/004/0724/0727

AUTHOR: Zhikhareva, T. V.

ORG: none

TITLE: Resonant phenomena in elastic scattering of electrons by helium atoms. II.

SOURCE: Optika i spektroskopiya, v. 20, no. 4, 1966, 724-727

TOPIC TAGS: helium, electron scattering, elastic scattering, electron energy level, scattering cross section

ABSTRACT: This is a continuation of the first part of the paper (Opt. i spektr. v. 19, 851, 1965), and considers the near-threshold behavior of the cross section for elastic scattering of electrons by helium atoms with account of the 1^1S-2^3S and 1^1S-2^3S-2^1S coupling of the He atoms. The calculation was made in the Born approximation for the reactance matrix. For a better extrapolation of the Born-Oppenheimer method to the low-energy region, the author used V. L. Ochkur's method (ZhETF v. 45, 734, 1963) of separating the principal term of the exchange-scattering amplitude. Tables of the matrix elements with and without allowance for exchange, and plots of the elastic scattering cross sections are presented. The results explain the second resonance observed by C. E. Kuyatt and J. A. Simpson

Card 1/2

UDC: 539.186.2.001.1

(XVII Annual Gaseous Electronic Conference, New Jersey, 1964) and R. H. McFarland (Phys. Rev. v. 136, A1240, 1964) below the threshold of excitation of the 2^3S level of He. It is noted that some of the maxima may not be experimentally observable because of the insufficient monochromaticity of the beam. The author thanks G. F. Drukarev and Yu. N. Demkov for useful discussions, and Yu. A. Fomicheva for help with the calculations. Orig. art. has: 4 figures, 8 formulas, and 2 tables.

SUB CODE: 20/ SUBM DATE: 29Apr65/ ORIG REF: 003/ OTH REF: 003

ZHIKHAREVA, T. V.

Special case of nearthreshold behavior of sections. Vest. LGU 19 no.10:125-126 '64. (MIRA 17:7)

ZHIKHAREVA, T.V.

Threshold behavior of inelastic scattering cross sections. Vest. LGU 19 no.4:21-25 '64. (MIRA 17:3)

L 13007-66 EWT(1)/EWT(m)/EWP(t)/EWP(b) IJP(c) JD/WW/GG
ACC NR: AP6001633 SOURCE CODE: UR/0051/65/019/006/0851/0855

AUTHOR: Zhikhareva, T. V.

ORG: none

TITLE: Resonance phenomena during elastic scattering of electrons by helium atoms

SOURCE: Optika i spektroskopiya, v. 19, no. 6, 1965, 851-855

TOPIC TAGS: helium, ~~atomic physics~~, scattering cross section, elastic scattering, resonance scattering, electron scattering

ABSTRACT: The author studies the near-threshold behavior of the cross section for elastic s-scattering, taking account of the virtual excitation of the 2^3S and 2^1S levels in the helium atom. It is shown that the observed resonance is of the pre-threshold Breit-Wigner type, caused by the bound state of an electron in the field of an excited He atom in the 2S state when bonding of the 1^1S-2^3S-2^1S levels of the atom is taken into account. The coordinate wave function for the helium atom - electron system is used for deriving matrices for the potential energy and volumetric potential. The 2- and 3-level cases are considered. The results are given in

Card 1/2 UDC: 539.186.2 : 546.291

L 13007-66
ACC NR: AP6001633

3

the form of tables and graphs. In conclusion the author is grateful for useful discussion and interest in the work to G. F. Drukarev and V. I. Ochkur, as well as to G. M. Dmitriyeva for assistance in making the calculations. Orig. art. has: 3 figures, 2 tables, 9 formulas.

SUB CODE: 20/ SUBM DATE: 29Sep64/ ORIG REF: 005/ OTH REF: 004

jrn

Card 2/2

SOKOLOVA, Ye.I.[deceased]; BRAYNZAROVA, G.T.; BOCHANOVA, N.S.; ZHIKHAREVA, V.I.; ZAKUMBAYEV, A.K.; ISAYEVA, M.G.; IMAMBAYEVA, U.A.; KRIVOSHEYEV, Yu.O.; KUDAYBERGENOV, Zh.D.; RAKHMETCHIN, S.; TYUTYUKOV, F.M.; SHIM, P.S.; LAZARENKO, Ye.I.; GARANKINA, A.I.; D'YACHENKO, R.; PETUKHOV, R.M., kand. tekhn. nauk, nauchn. red.; SHUPLOVA, M.A., red.; LEVIN, M.L., red.; ROROKINA, Z.P., tekhn. red.

[Food industry of Kazakhstan] Pishchevaia promyshlennost' Kazakhstana. Alma-Ata, Izd-vo AN KazSSR, 1963. 172 p.

1. Akademiya nauk Kazakhskoy SSR, Alma-Ata. Institut ekonomiki.

(Kazakhstan--Food industry)

S/137/62/000/012/075/085
A006/A101

AUTHORS: Konkin, V. D., Zhikhareva, V. I.

TITLE: Determination of tungsten in ferrous metal, alloys, and ferro-tungsten by an indirect complex-metrical method

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 12, 1962, 5, abstract 12K25 ("Sb. tr. Ukr. n.-i. in-t metallov", 1962, no. 8, 337 - 341)

TEXT: The method is based on the preliminary singling-out of tungsten in the form of tungsten oxide (I), its precipitation with Pb^{2+} and titration of the excess Pb^{2+} solution with trilon B (II). An alloy batch is dissolved in 50 ml HCl (1 : 4) and 10 ml HNO_3. The solution is concentrated by evaporation to 10 - 15 ml, 10 ml 1%-gelatin solution and 150 ml water are added, boiled during 5 min and I is filtered-off after 20 min. The precipitate is dissolved in 5 ml 25%-NH_4OH and 50 ml water, the singled out metal hydroxides are filtered, and the filtrate is neutralized with the use of Congo paper. Amounts of 20 ml 10%-NH_4COOCH_3 solution and 10 - 15 ml n. $Pb(NO_3)_2$ solution are added. The solution is boiled for 1 - 2 min, transferred into a 200-ml retort, and 100 ml of

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Determination of tungsten in...

S/137/62/000/012/075/085
A006/A101

the solution are filtered off for analysis. A quantity of 10 ml 10%-NH_4COOCH_3 solution and 0.1 - 0.15 g xylenol orange are added and Pb^{2+} is titrated with a 0.1 n. solution of II. In analysis of Fe-W, 0.1 g of the sample is dissolved in a 10 ml concentrate of HNO_3 and 10 ml HF. The solution is evaporated until dry state and the residue is dissolved in 10 ml concentrated HCl and 25 ml hot water. To the solution are added: 10 ml concentrated HNO_3, 10 ml 1%-gelatin solution and I is separated out; later on the process is conducted as described above. At about 70% content of WO_3, the error of determination was 0.17 - 0.25% (abs). In steel analysis the error was within ±0.09% (abs).

B. Melent'yev

[Abstracter's note: Complete translation]

Card 2/2

KONKIN, V.D., kand. khim. nauk; ZHIKHAREVA, V.I.

Effect of urotropine and trilon B in the systematic analysis of slag with a large content of chromium oxide, titanium dioxide, vanadium pentoxide, and zinc oxide. Sbor. trud. UNIIM no.9:435-443 '64 (MIRA 18:1)

Rapid analysis of rare-earth metal alloys. Ibid.:444-449

S/137/62/000/012/076/085
A006/A101

AUTHORS: Konkin, V. D., Zhikhareva, V. I.

TITLE: Analysis of alloys with the use of urotropine and trilon B

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 12, 1962, 6 - 7, abstract 12K34 ("Sb. tr. Ukr. n.-i. in-t metallov", 1962, no. 8, 329 - 336)

TEXT: A 0.25 g batch of the alloy is dissolved in HNO_3 (1:4); 20 ml H_2SO_4 (1:3) are added, and the solution is heated until SO_3 vapors appear. Then 100 ml water, and 5 ml HCl are added, and Cu is singled out with Na thiosulfate. The Cu precipitate is dissolved in HNO_3, water is added and the solution is neutralized with NH_4OH, acidified with HCl (1:1), and Cu is titrated with 0.05 n. solution of trilon B (I) in the presence of murexide. After singling out Cu of the filtrate with urotropine, Fe and Al are separated from Ni and Co. Then Fe and Al are separated with the use of NaOH and Al is determined by the complexometrical method with eriochrome black ET-00. Fe is also titrated with I in the presence of sulfo-salicyl acid. To the Co- and Ni-containing solution murexide and ammonia solution are added and their sum is titrated with 0.1 n. I-solution.

Ca

Card 1/2

KONKIN, V.D.; ZHIKHAREVA, V.I.

Analysis of lead silicate by means of trilon B. Zav. lab. 30 no.1:31-32 '64. (MIRA 17:9)

1. Ukrainskiy nauchno-issledovatel'skiy institut metallov.

S/137/61/000/012/140/149
A006/A101

AUTHOR: Zhikhareva, V. I.

TITLE: Determining aluminum in chromium steels by the complexometric method

PERIODICAL: Referativnyy zhurnal, Metallurgiya, 1961, no. 12, 3, abstract 12K17 ("Sb. tr. Ukr. n.-i. in-t metallov", 1961, no. 7, 285-288)

TEXT: To determine Al in steel with high Cr content, the metal batch is dissolved in H_2SO_4 (1 : 10) and oxidized with HNO_3. The solution is diluted with water and Cr is oxidized with ammonium persulfate. Furthermore, Al, Fe, Ti, V, phosphate-ion and partially $Mn(OH)_2$ are singled-out by ammonia. The precipitate is boiled together with the solution, filtered off and repeatedly washed with water containing some drops of NH_4OH. The precipitate is washed off the filter into a container and dissolved in HCl. Separation of Al from Fe, Mn and Ti is performed with a 20% NaOH solution. The precipitate is boiled with the solution, placed into a 500 ml retort and filled up with water to the mark; the aliquot portion of the solution is filtered into a 250 ml retort, by throwing-off the initial portions. The filtrate in the measuring retort is transferred

Card 1/2

Determining aluminum in chromium steels ...

into a 500 ml retort; 15 ml 0.1 n trilone B solution are added, acidified with HCl, a chrome black ET-00 indicator is introduced, and ammonia buffer solution is added. The excess of trilone B is titrated with 0.1 n. $ZnSO_4$ solution until the indicator color turns from blue to pink. Al determination in chromium steels by the weight method takes 16 hours; using the complex-metrical method 2 hours 40 minutes are sufficient to determine Al.

L. Vorob'yeva

[Abstracter's note: Complete translation]

Card 2/2

KONKIN, Vasiliy Dmitriyevich; ZHIKHAREVA, Valentina Iosifovna;
TSYBA, L.A., red.; GUSAROV, K.F., tekhn. red.

[Complexometric analysis] Kompleksometricheskii analiz.
Kiev, Gostekhizdat USSR, 1962. 147 p. (MIRA 15:7)
(Chemistry, Analytical) (Complexons)

KONKIN, V.D., kand. khim. nauk; ZHIKHAREVA, V.I.; LIMAN, L.A.

Determining small quantities of calcium in cast iron with the use of trilon B for masking the iron. Sbor. trud. UNIIM no.9: 450-453 '64 (MIRA 18:1)

KONKIN, V.D.; ZHIKHAREVA, V.I.

Rapid analysis of slags and other materials. Zav.lab.27 no.2:143-144 '61. (MIRA 14:3)

1. Ukrainskiy nauchno-issledovatel'skiy institut metallov. (Slags)

KONKIN, V.D.; ZHIKHAREVA, V.I.

Complexometric determination of molybdenum in permalloy and ferromolybdenum. Zav.lab. 29 no.7:791-793 '63. (MIRA 16:8)

1. Ukrainskiy nauchno-issledovatel'skiy institut metallov.
(Molybdenum alloys—Analysis) (Complexons)

KONKIN, Vasiliy Dmitriyevich; ZHIKHAREVA, Valentina Iosifovna; TSYBA, L.A., red.; GUSAROV, K.F., tekhn. red.

[Complexometric analysis] Kompleksometricheskii analiz. Kiev, Gostekhizdat, USSR, 1962. 147 p. (MIRA 15:6)
(Chemistry, Analytical) (Complexons)

KONKIN, V.D., kand.khimicheskikh nauk; ZHIKHAREVA, V.I.

Analysis of phosphorus and manganese slags with use of urotropine and trilon B. Trudy Ukr. nauch.-issl. inst. met. no.7:271-279 '61. (MIRA 14:11)

(Slag--Analysis)

KONKIN, V.D., kand.khimicheskikh nauk; ZHIKHAREVA, V.I.

Determination of manganese in ferromanganese and manganese ores by means of trilon B. Trudy Ukr. nauch.-issl. inst. met. no.7:280-284 '61. (MIRA 14:11)

(Ferromanganese--Analysis) (Manganese ores--Analysis)

ZHIKHAREVA, V.I.

Trilonometric determination of aluminum in chromium steels. Trudy Ukr. nauch.-issl. inst. met. no.7:285-288 '61. (MIRA 14:11)
(Chromium steel--Analysis) (Aluminum--Analysis)

KONKIN, Vasiliy Dmitriyevich; ZHIKHAREVA, Valentina Iosifovna;
EPIK, P.A., kand. tekhn. nauk, retsenzent;

[Complexometric analysis] Kompleksometricheskii analiz.
Izd.2., perer. i dop. Kiev, "Tekhnika," 1964. 255 p.
(MIRA 17:6)

ZHIKHAREVA, Z.

With the diploma to the village. Zashch. rast. ot vred. i bol. 7 no.3:4-5 Mr '62. (MIRA 15:11)
(Women as agriculturists)

FROLYAKINA, Ye.; ZHIKHAREVA, Z.

Itinerant exhibition. Zashch. rast. ot vred. i bol. 10 no.9: 58-59 '65. (MIRA 18:11)

ZHIKHAREVA, Z.L.

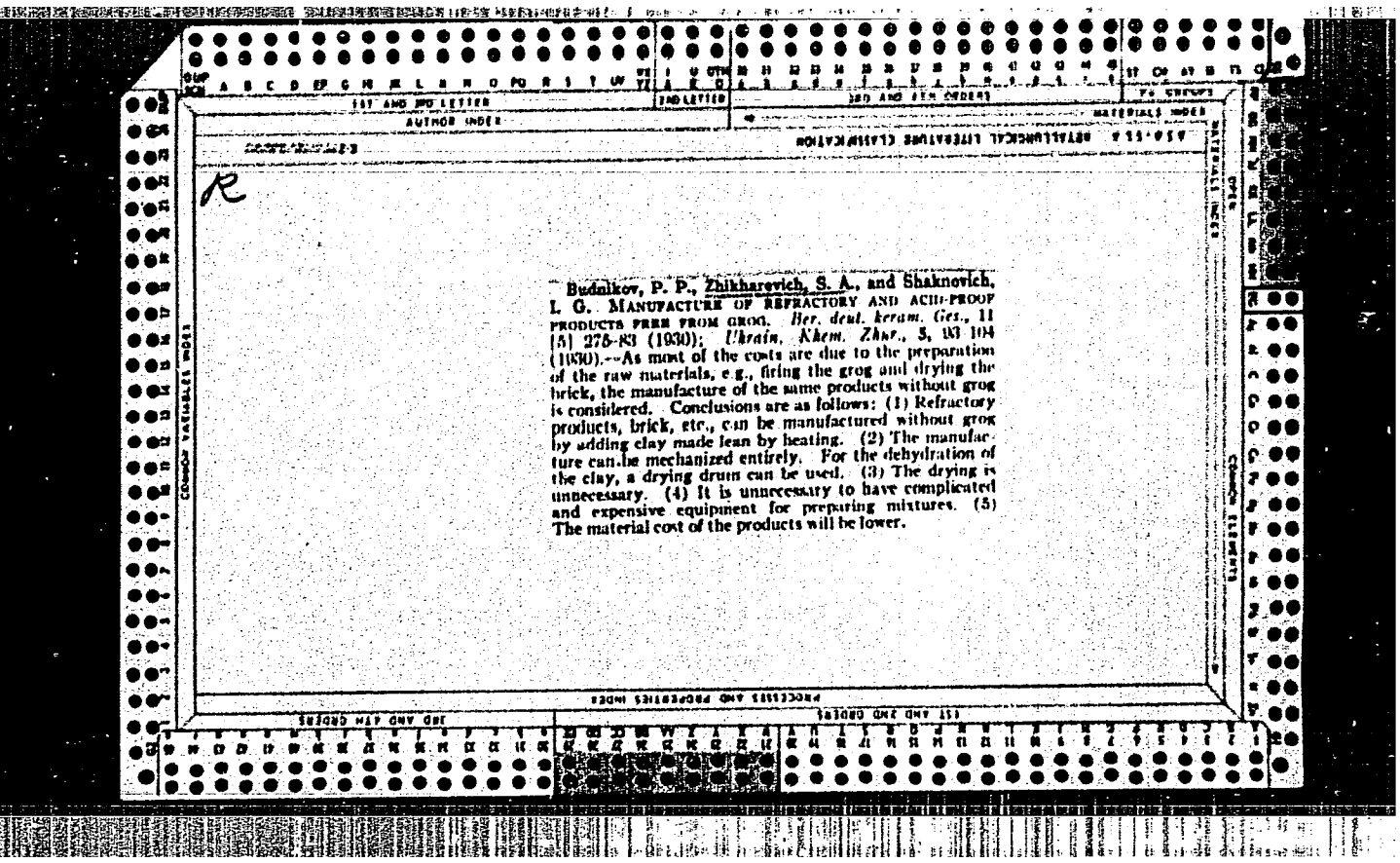
Seminar at the Exhibition of Achievements of the National Economy of the U.S.S.R. Zashch. rast. ot vred. i bol. 9 no.12:50-52 '64. (MIRA 18:4)

ZHIKHAREVA, Z.L.; KHOKHRYAKOV, M.K., prof.; D'YACHKOVSKAYA, R.V.

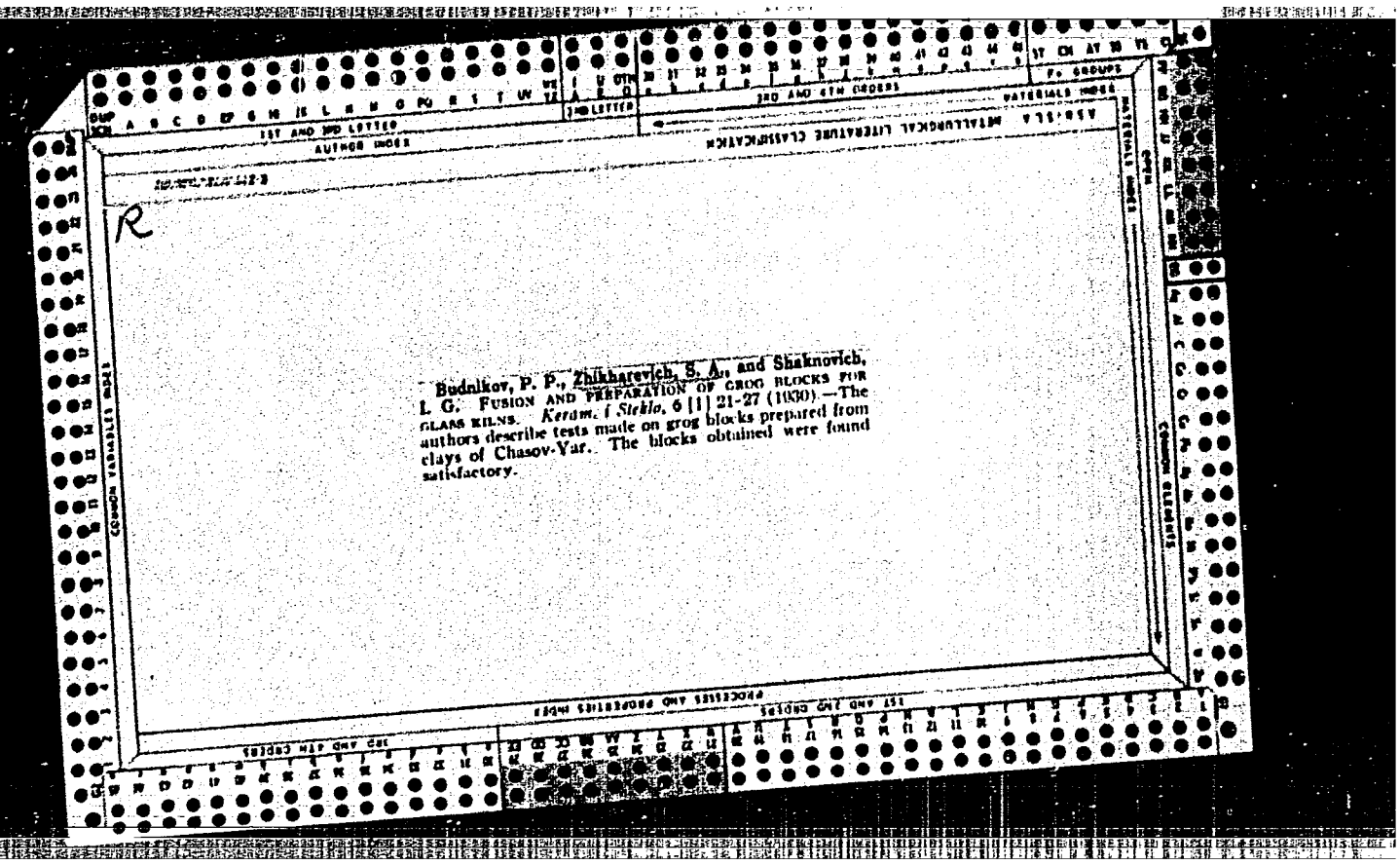
Coevals of the October Revolution. Zashch. rast. ot vred. i bol. 7 no.11:1-4 N '62. (MIRA 16:7)

DETINKO, F.M., inzh.; ZHIKHAREVICH, M.S., inzh.

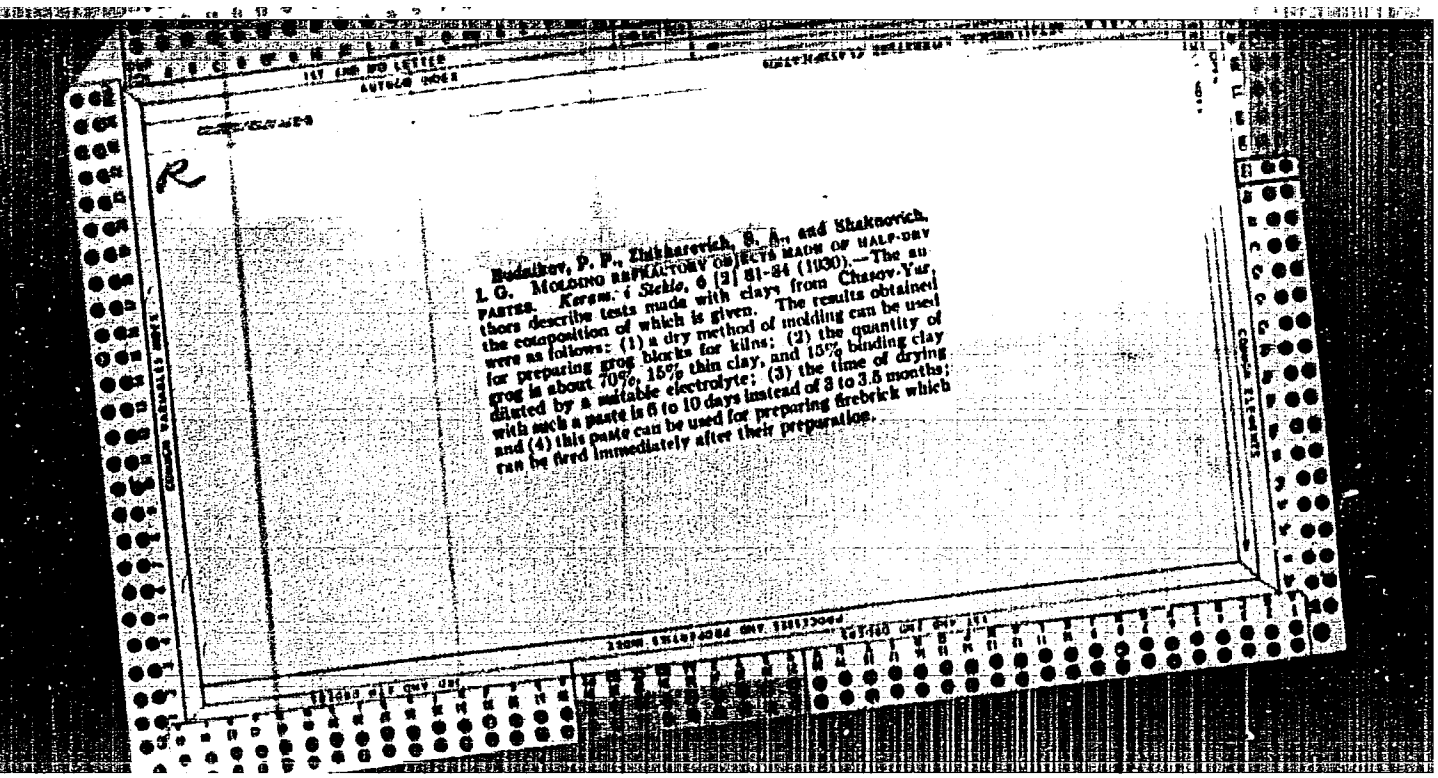
Hydrostatic lift of the rotor of a hydraulic turbine-generator unit.
Elektrotekhnika 35 no.7:57-59 '64. (MIRA 17:11)



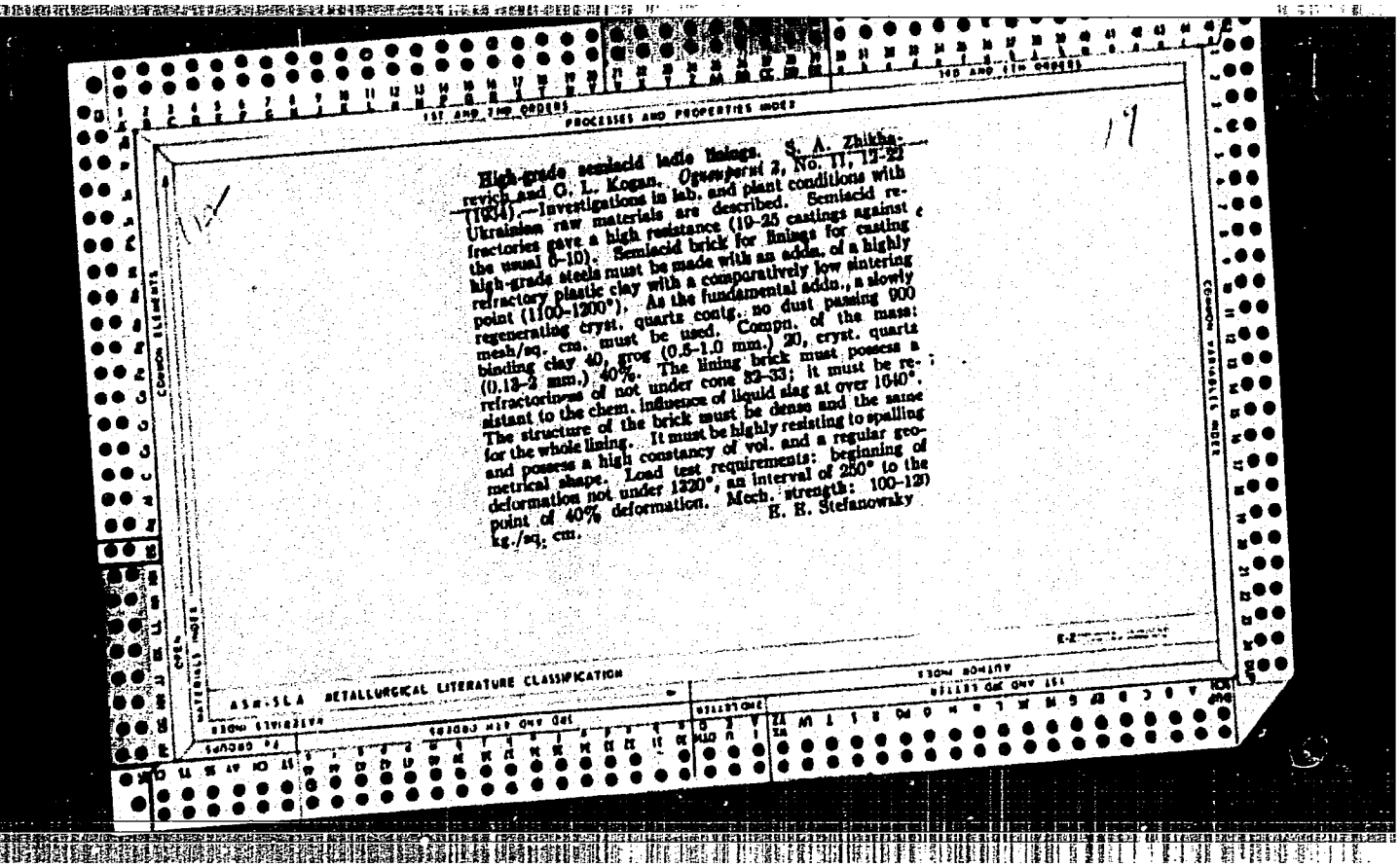
Budnikov, P. P., Zhikharevich, S. A., and Shaknovich, I. G. MANUFACTURE OF REFRACTORY AND ACID-PROOF PRODUCTS FREE FROM GROG. *Ber. deut. keram. Ges.*, 11 [5] 278-83 (1930); *Ukrain. Khem. Zhur.*, 5, 93-104 (1930).--As most of the costs are due to the preparation of the raw materials, e.g., firing the grog and drying the brick, the manufacture of the same products without grog is considered. Conclusions are as follows: (1) Refractory products, brick, etc., can be manufactured without grog by adding clay made lean by heating. (2) The manufacture can be mechanized entirely. For the dehydration of the clay, a drying drum can be used. (3) The drying is unnecessary. (4) It is unnecessary to have complicated and expensive equipment for preparing mixtures. (5) The material cost of the products will be lower.



Budnikov, P. P., Zhikharevich, S. A., and Shaknovich, I. G. FUSION AND PREPARATION OF GROG BLOCKS FOR GLASS KILNS. *Keram. i Steklo*, 6 [1] 21-27 (1930).—The authors describe tests made on grog blocks prepared from clays of Chasov-Yar. The blocks obtained were found satisfactory.

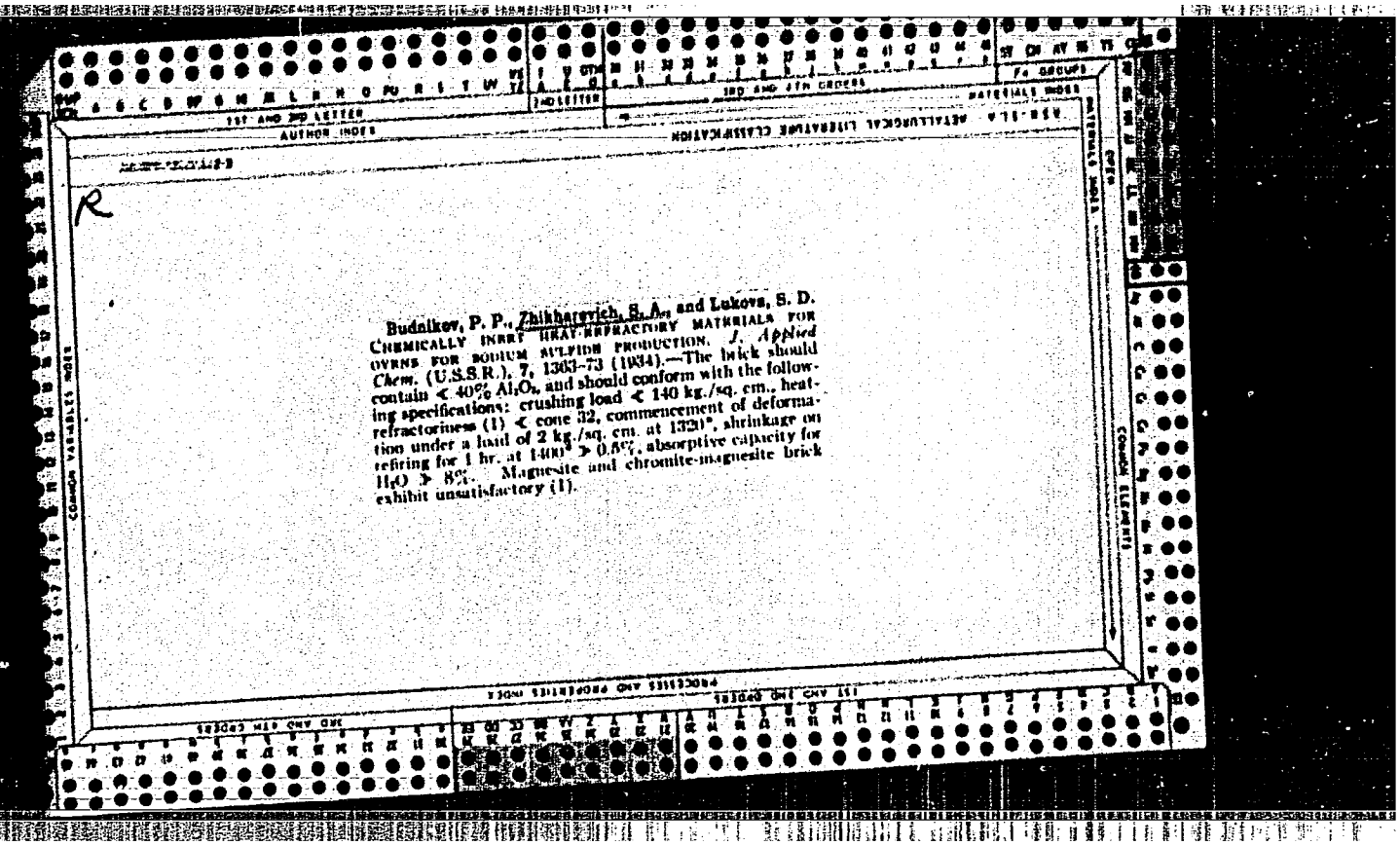


Rudakhov, P. P., Zlatkaverich, S. A., and Shaknovich, I. G. MOLDING REFRACTORY OBJECTS MADE OF HALF-DRY PASTES. *Keram. i Steklo*, 6 [2] 81-84 (1930).—The authors describe tests made with clays from Chasov-Yar the composition of which is given. The results obtained were as follows: (1) a dry method of molding can be used for preparing grog blocks for kilns; (2) the quantity of grog is about 70%, 15% thin clay, and 15% binding clay diluted by a suitable electrolyte; (3) the time of drying with such a paste is 6 to 10 days instead of 3 to 3.5 months; and (4) this paste can be used for preparing firebrick which can be fired immediately after their preparation.

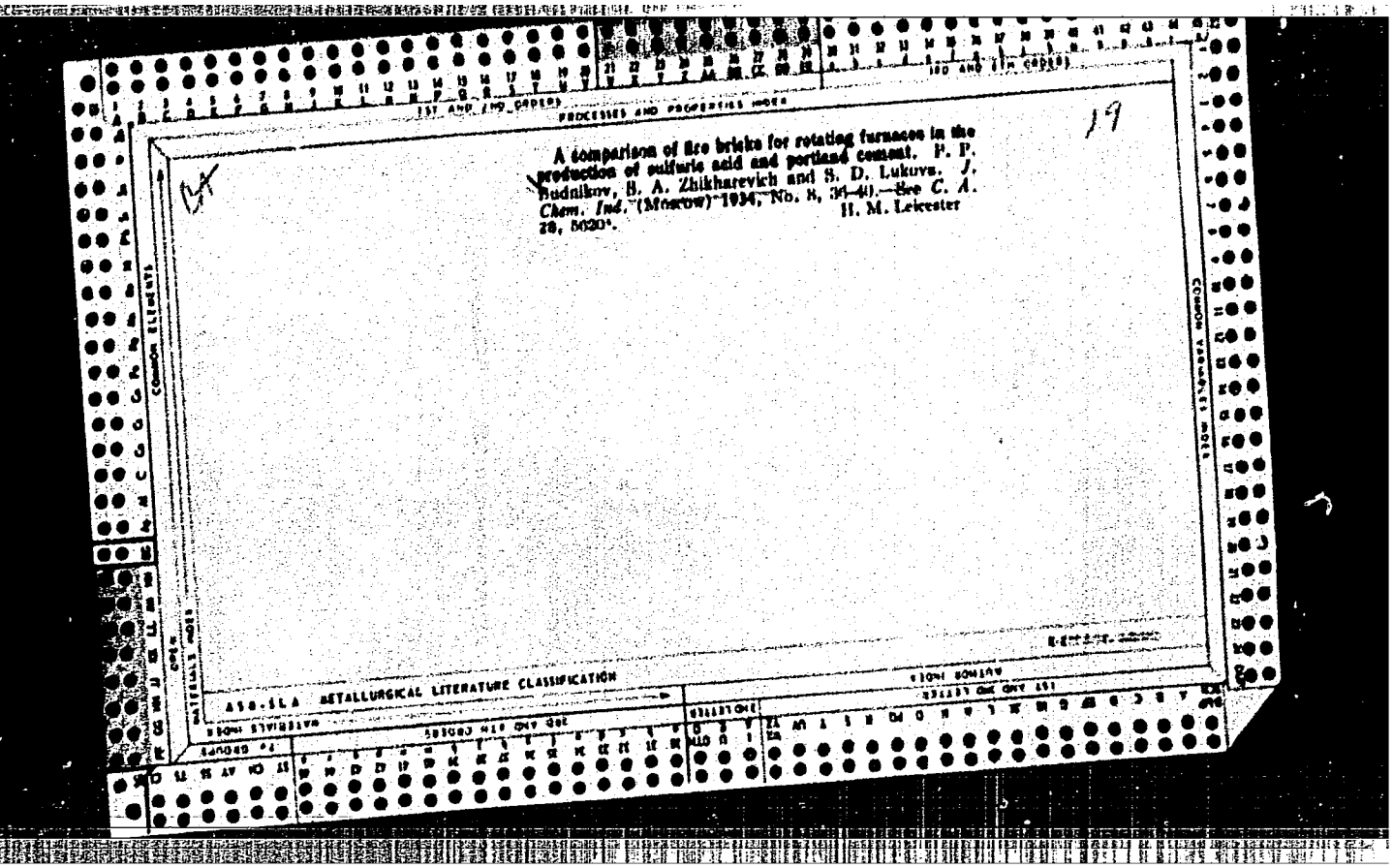


High-grade semiacid ladle linings. S. A. Zhikha-revich and O. L. Kogan. *Ogneupory* 2, No. 11, 12-27 (1934).—Investigations in lab. and plant conditions with Ukrainian raw materials are described. Semiacid refractories gave a high resistance (19-25 castings against the usual 6-10). Semiacid brick for linings for casting high-grade steels must be made with an addn. of a highly refractory plastic clay with a comparatively low sintering point (1100-1200°). As the fundamental addn., a slowly regenerating cryst. quartz contg. no dust passing 900 mesh/sq. cm. must be used. Compn. of the mass: binding clay 40, grog (0.5-1.0 mm.) 20, cryst. quartz (0.13-3 mm.) 40%. The lining brick must possess a refractoriness of not under cone 32-33; it must be resistant to the chem. influence of liquid slag at over 1640°. The structure of the brick must be dense and the same for the whole lining. It must be highly resisting to spalling and possess a high constancy of vol. and a regular geometrical shape. Load test requirements: beginning of deformation not under 1320°, an interval of 250° to the point of 40% deformation. Mech. strength: 100-120 kg./sq. cm.

E. E. Stefanowsky



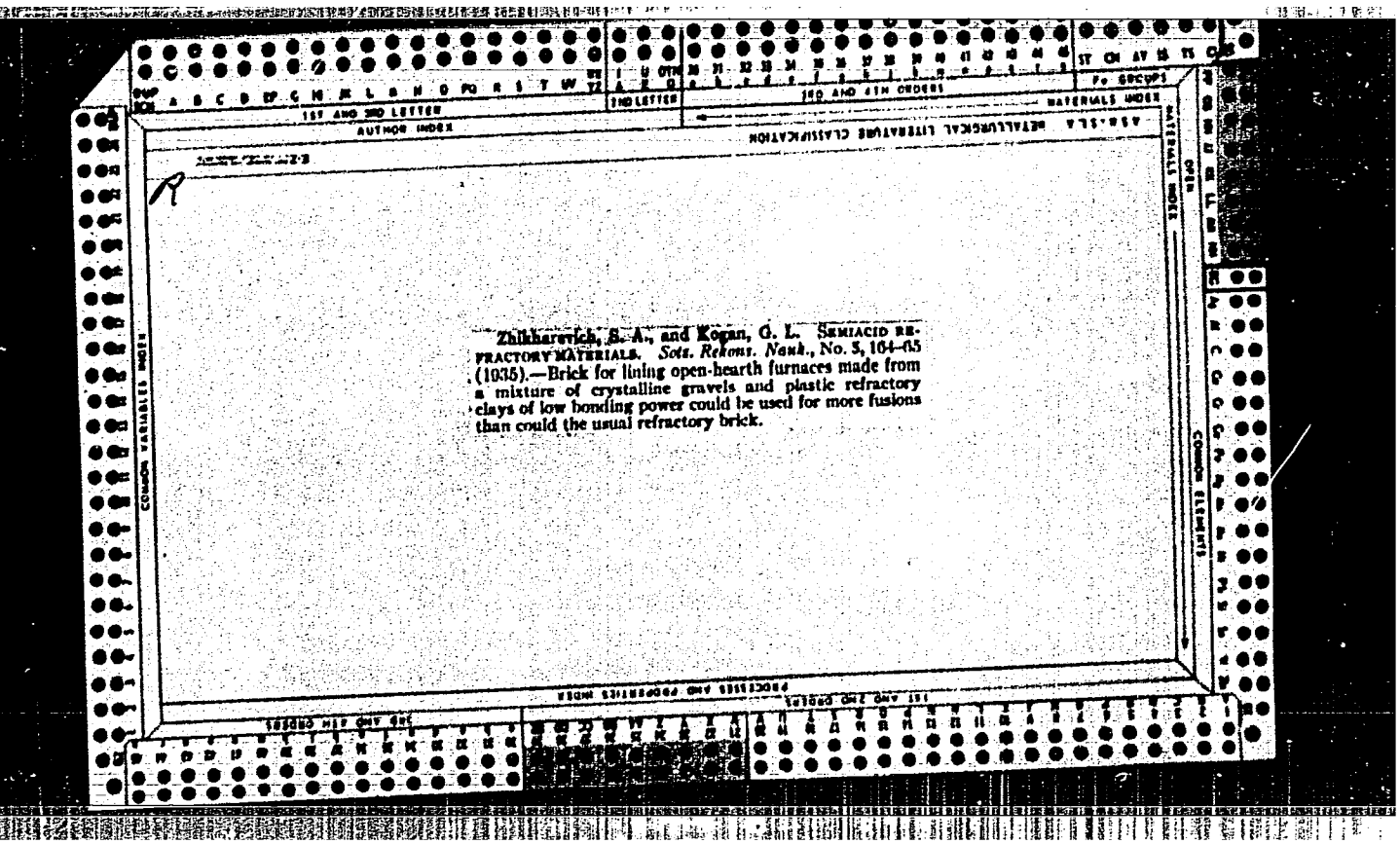
Budnikov, P. P., Zhikharevich, S. A., and Lukova, S. D. CHEMICALLY INERT HEAT-REFRACTORY MATERIALS FOR OVENS FOR SODIUM SULFIDE PRODUCTION. *J. Applied Chem.* (U.S.S.R.), 7, 1363–73 (1934).—The brick should contain < 40% Al_2O_3, and should conform with the following specifications: crushing load < 140 kg./sq. cm., heating refractoriness (1) < cone 32, commencement of deformation under a load of 2 kg./sq. cm. at 1320°, shrinkage on refiring for 1 hr. at 1400° > 0.5%, absorptive capacity for H_2O > 8%. Magnesite and chromite-magnesite brick exhibit unsatisfactory (1).



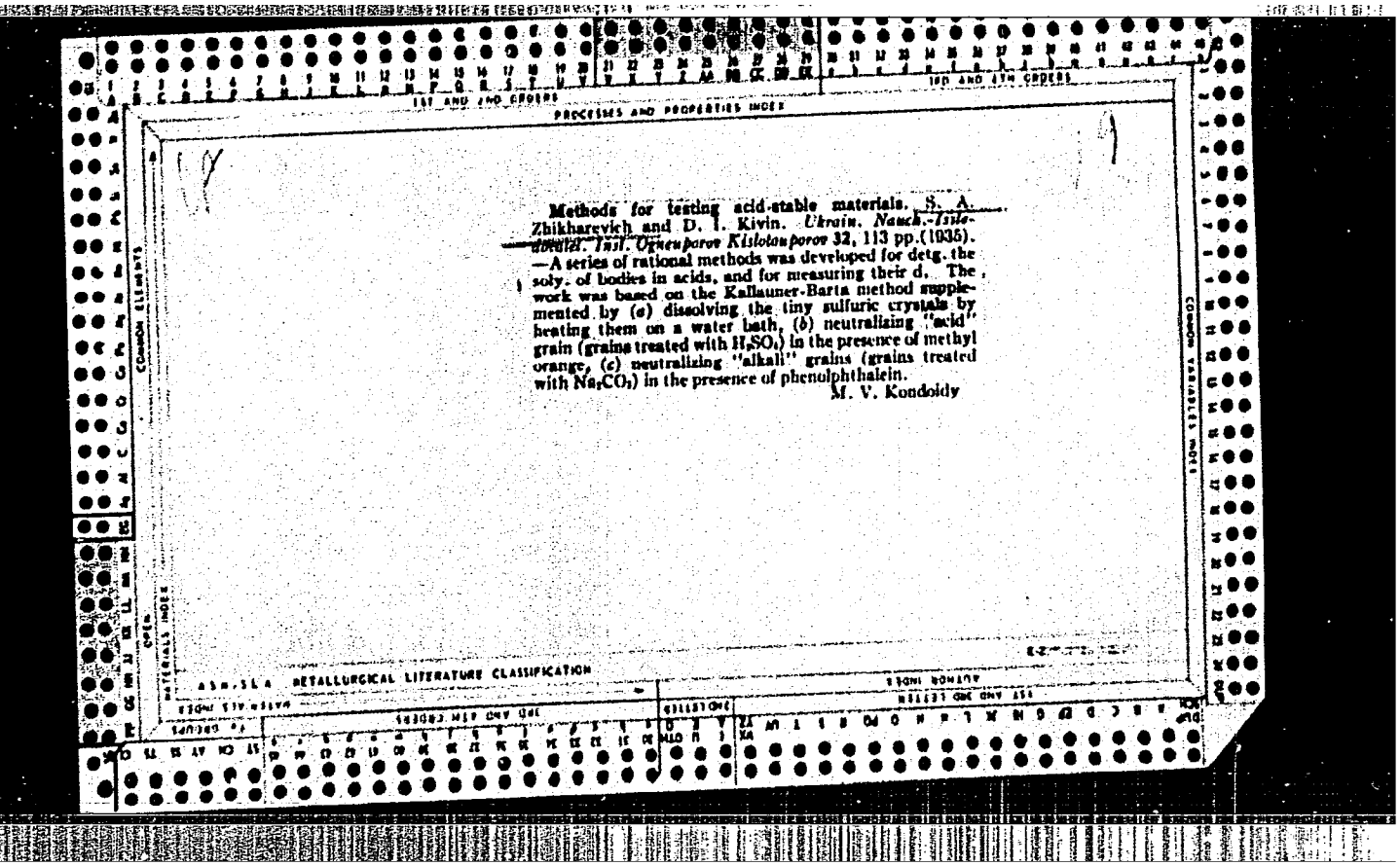
A comparison of fire bricks for rotating furnaces in the production of sulfuric acid and portland cement. P. P. Budnikov, B. A. Zhikharevich and S. D. Lukova. *J. Chem. Ind.* (Moscow) 1934, No. 8, 34–40.—See *C. A.* 28, 5020⁸. H. M. Leicester

19

A58-SLA METALLURGICAL LITERATURE CLASSIFICATION

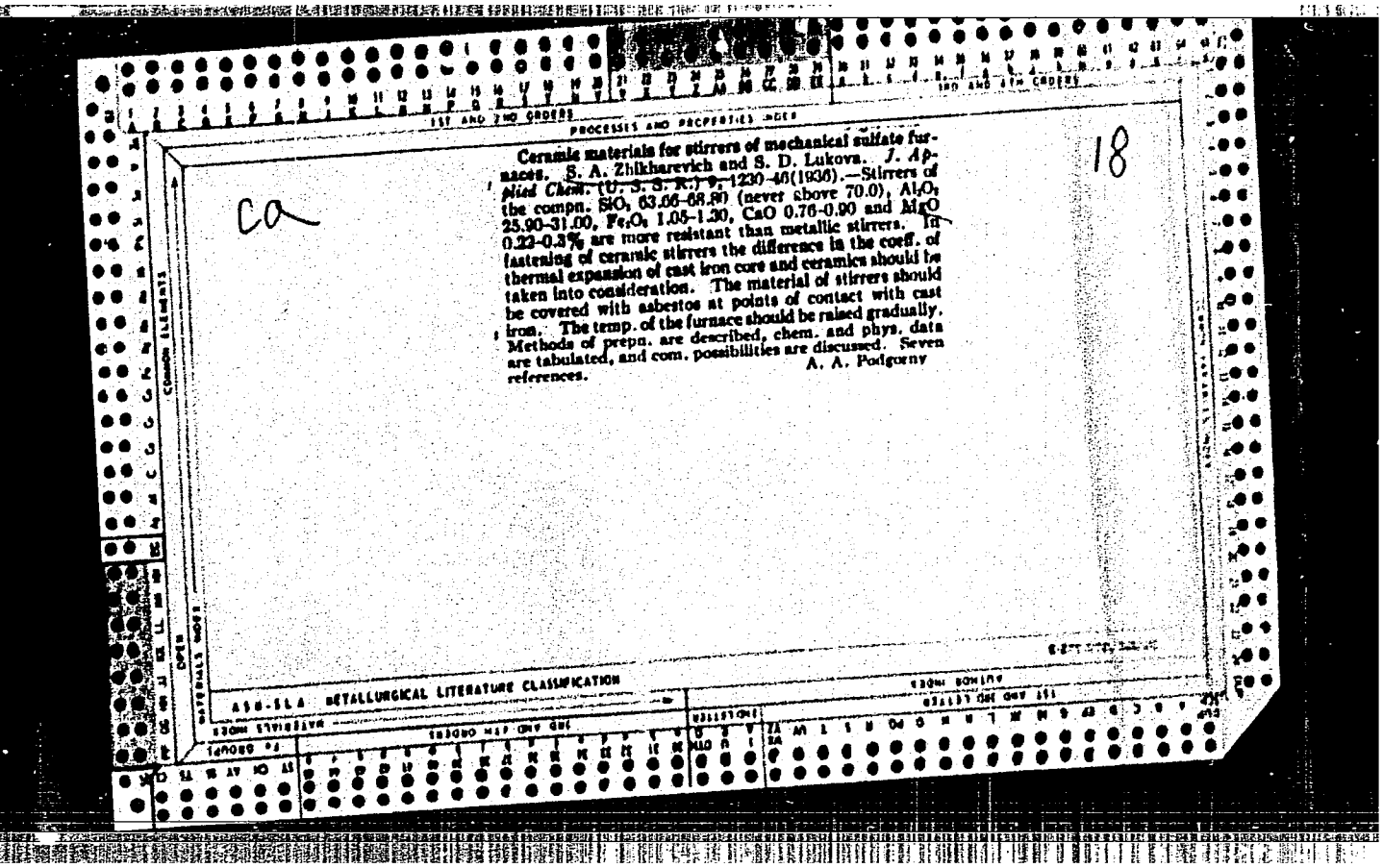


Zhikharevich, S. A., and Kopan, G. L. SEMIACID REFRACTORY MATERIALS. *Sots. Rekonst. Nauk.*, No. 5, 164–65 (1935).—Brick for lining open-hearth furnaces made from a mixture of crystalline gravels and plastic refractory clays of low bonding power could be used for more fusions than could the usual refractory brick.



Methods for testing acid-stable materials. S. A. Zhikharevich and D. I. Kivin. *Ukrain. Nauch.-Issledovatel. Inst. Ogneuporov Kislotaporov* 32, 113 pp. (1935). —A series of rational methods was developed for detg. the soly. of bodies in acids, and for measuring their d. The work was based on the Kallauner-Barta method supplemented by (*a*) dissolving the tiny sulfuric crystals by heating them on a water bath, (*b*) neutralizing "acid" grain (grains treated with H_2SO_4) in the presence of methyl orange, (*c*) neutralizing "alkali" grains (grains treated with Na_2CO_3) in the presence of phenolphthalein.

M. V. Kondoidy



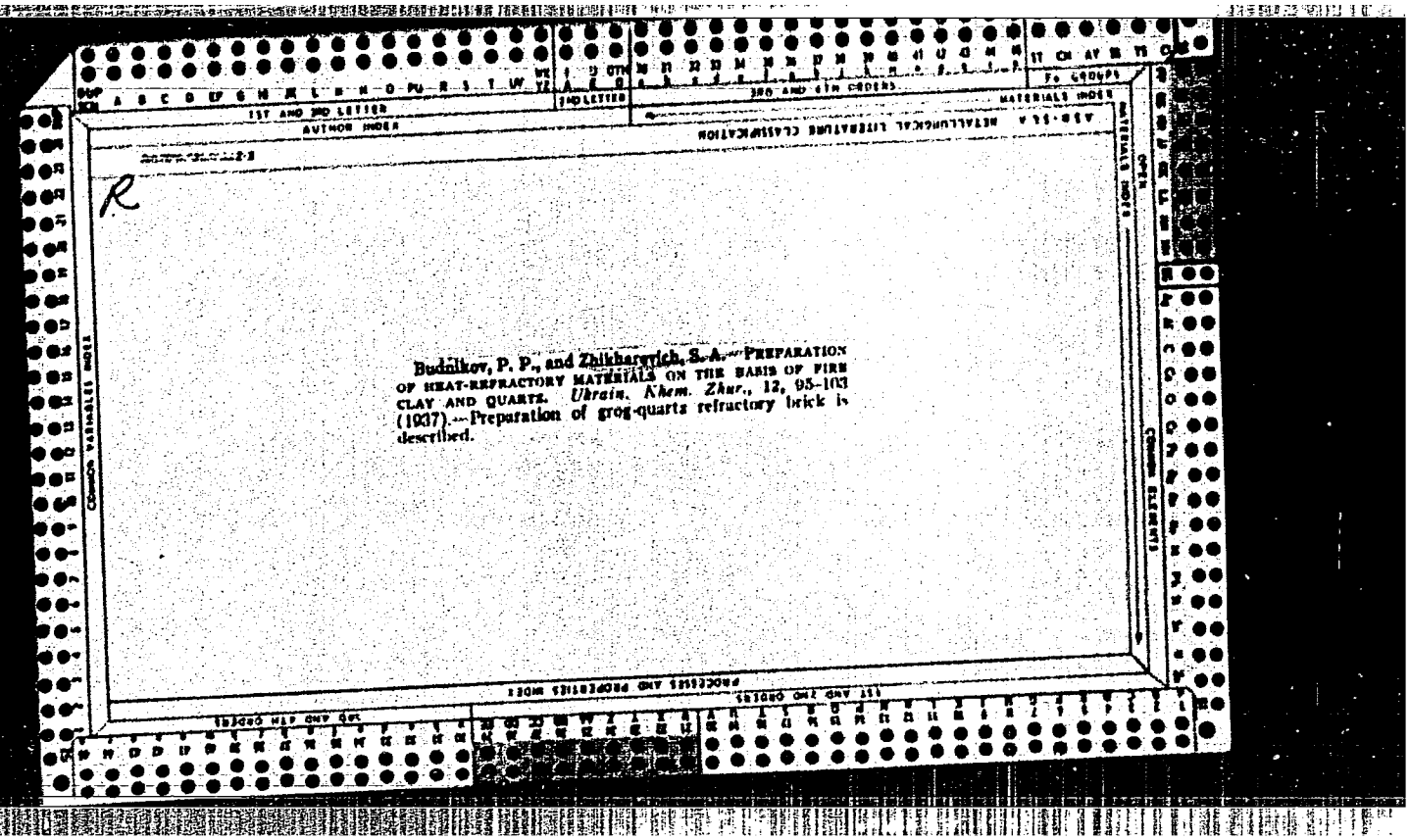
Ca

18

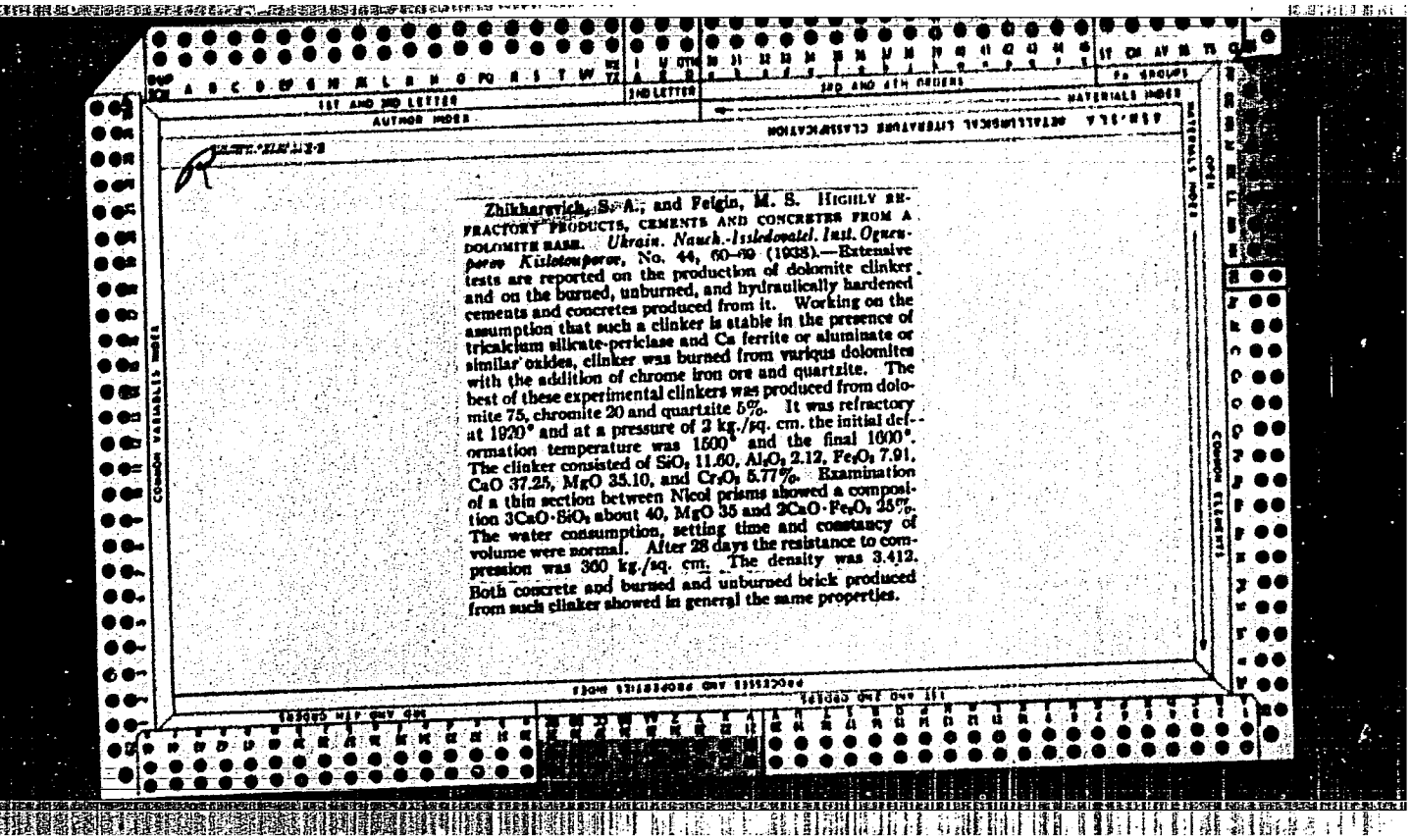
Ceramic materials for stirrers of mechanical sulfate furnaces. S. A. Zhikharevich and S. D. Lukova. *J. Applied Chem.* (U. S. S. R.) 9, 1230-46(1936).—Stirrers of the compn. SiO_2 63.66–68.80 (never above 70.0), Al_2O_3 25.90–31.00, Fe_2O_3 1.05–1.30, CaO 0.76–0.90 and MgO 0.22–0.3% are more resistant than metallic stirrers. In fastening of ceramic stirrers the difference in the coeff. of thermal expansion of cast iron core and ceramics should be taken into consideration. The material of stirrers should be covered with asbestos at points of contact with cast iron. The temp. of the furnace should be raised gradually. Methods of prepn. are described, chem. and phys. data are tabulated, and com. possibilities are discussed. Seven references.

A. A. Podgorny

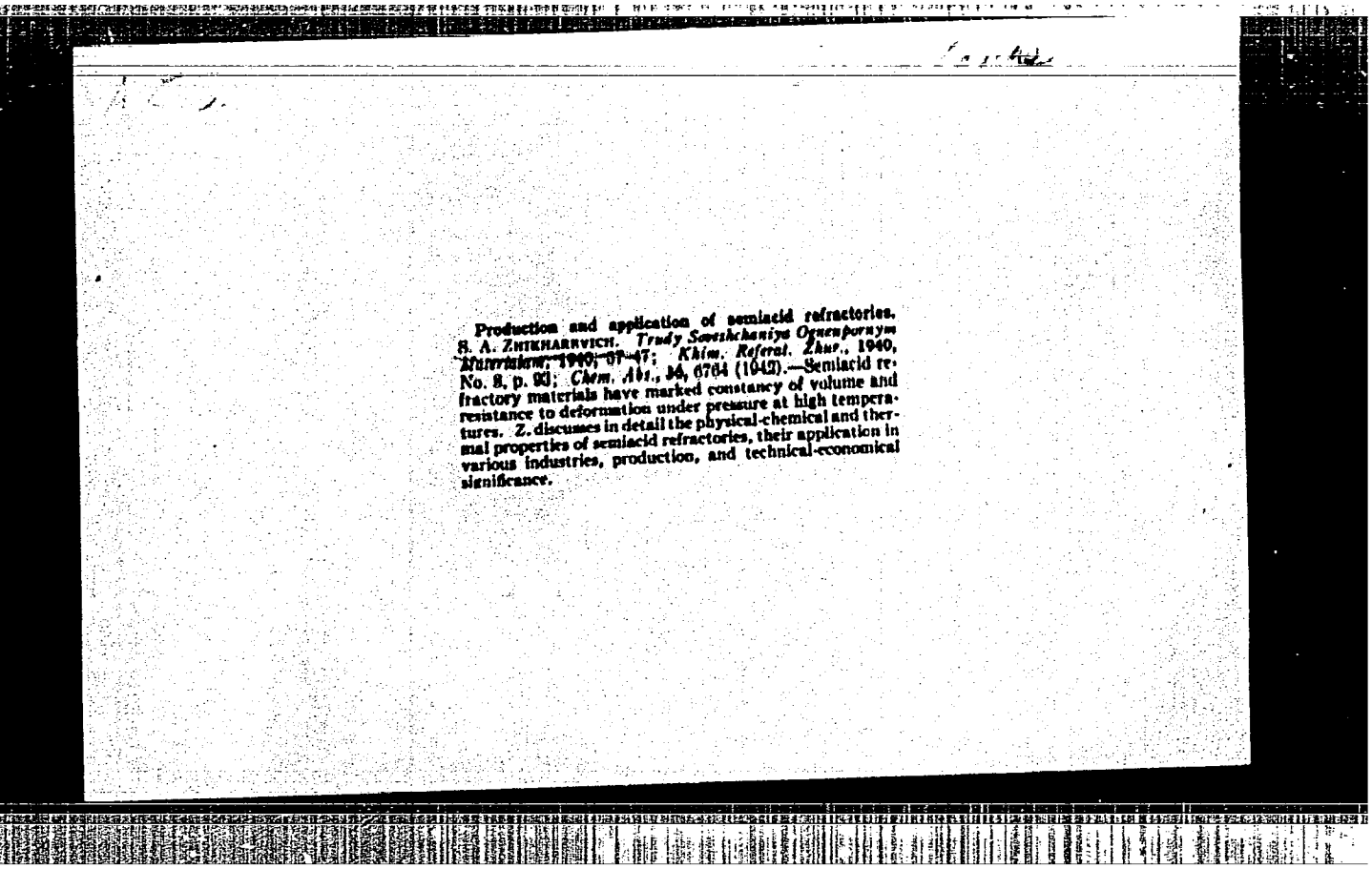
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



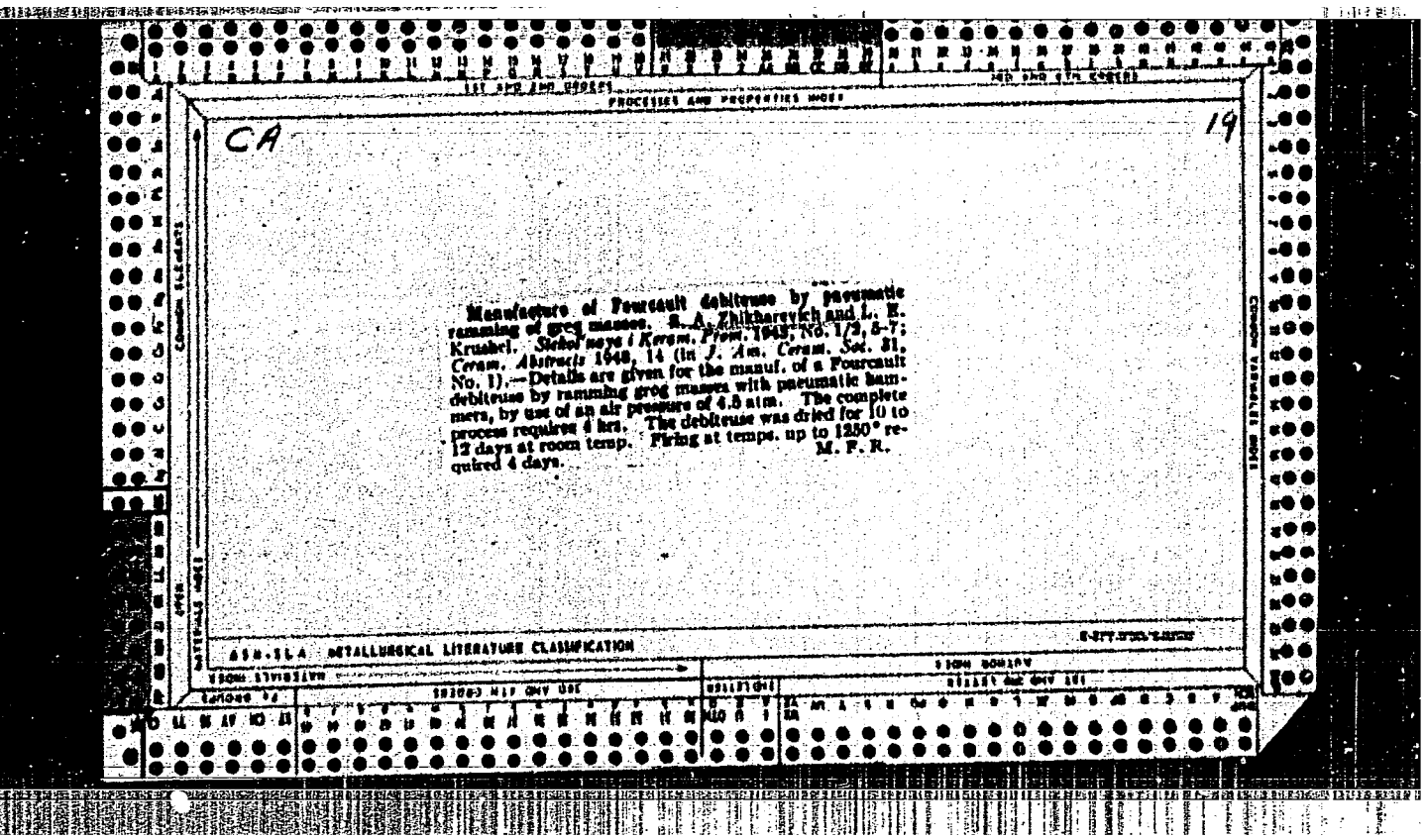
Budnikov, P. P., and Zhikharevich, S. A.—PREPARATION OF HEAT-REFRACTORY MATERIALS ON THE BASIS OF FIRE CLAY AND QUARTZ. *Ukrain. Khem. Zhur.*, 12, 95–103 (1937).—Preparation of grog-quartz refractory brick is described.



Zhikharevich, S. A., and Feigin, M. S. HIGHLY REFRACTORY PRODUCTS, CEMENTS AND CONCRETES FROM A DOLOMITE BASE. *Ukrain. Nauch.-Issledovatel. Inst. Ogneuporov Kislotoporov*, No. 44, 60–69 (1938).—Extensive tests are reported on the production of dolomite clinker and on the burned, unburned, and hydraulically hardened cements and concretes produced from it. Working on the assumption that such a clinker is stable in the presence of tricalcium silicate-periclase and Ca ferrite or aluminate or similar oxides, clinker was burned from various dolomites with the addition of chrome iron ore and quartzite. The best of these experimental clinkers was produced from dolomite 75, chromite 20 and quartzite 5%. It was refractory at 1920° and at a pressure of 2 kg./sq. cm. the initial deformation temperature was 1500° and the final 1600°. The clinker consisted of SiO_2 11.60, Al_2O_3 2.12, Fe_2O_3 7.91, CaO 37.25, MgO 35.10, and Cr_2O_3 5.77%. Examination of a thin section between Nicol prisms showed a composition $3CaO \cdot SiO_2$ about 40, MgO 35 and $2CaO \cdot Fe_2O_3$ 25%. The water consumption, setting time and constancy of volume were normal. After 28 days the resistance to compression was 300 kg./sq. cm. The density was 3.412. Both concrete and burned and unburned brick produced from such clinker showed in general the same properties.

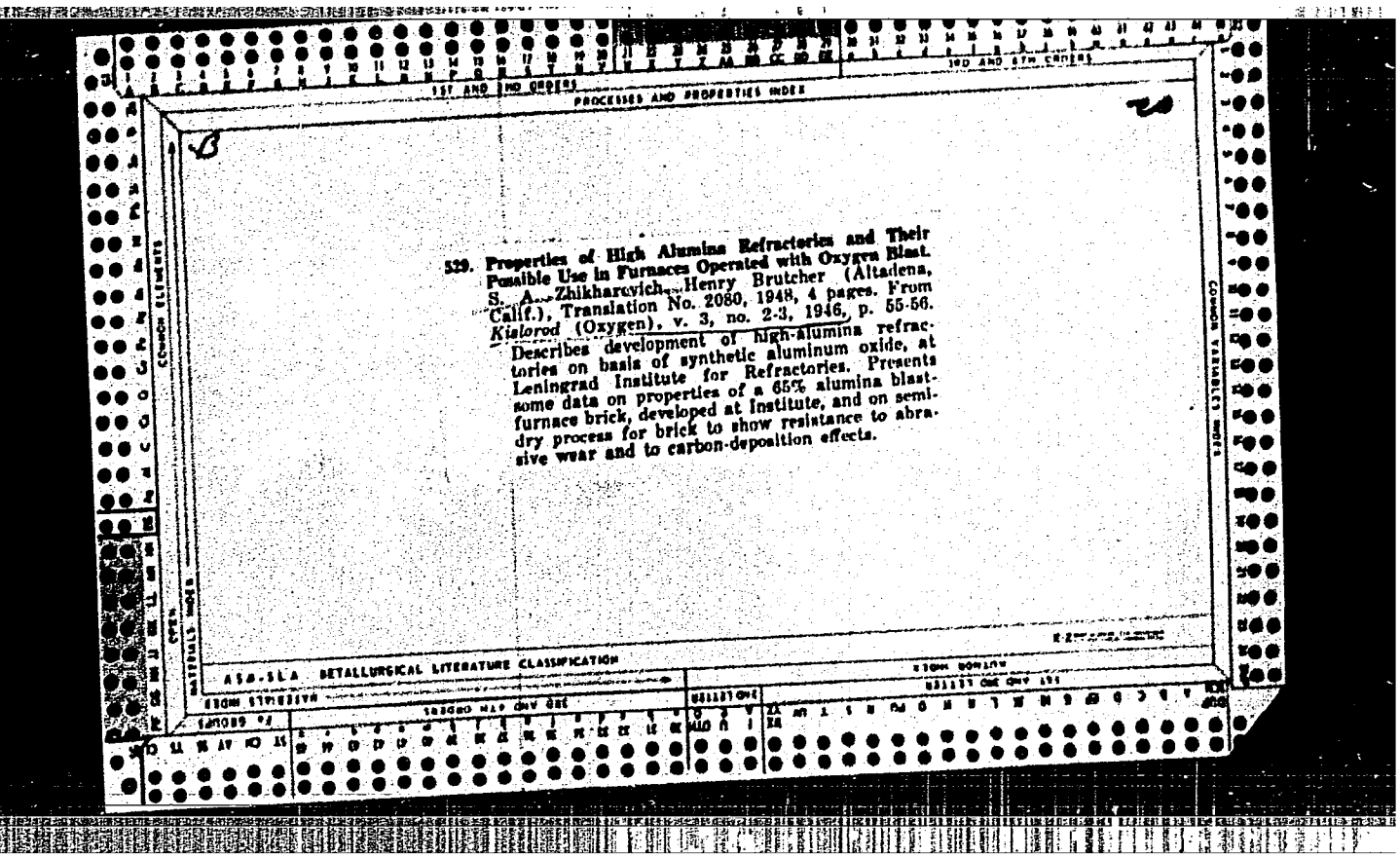


Production and application of semiacid refractories. S. A. ZHITKHAREVICH. *Trudy Soveshchaniya Ogneuporam Metallurgii*, 1940, 37–47; *Khim. Referat. Zhur.*, 1940, No. 8, p. 93; *Chem. Abs.*, 36, 6764 (1942).—Semiacid refractory materials have marked constancy of volume and resistance to deformation under pressure at high temperatures. Z. discusses in detail the physical-chemical and thermal properties of semiacid refractories, their application in various industries, production, and technical-economical significance.



CA 19

Manufacture of Foursault debiteuse by pneumatic ramming of grog masses. S. A. Zhikharevich and L. E. Krushel. *Steklo i Keram. Prom.* 1943, No. 1/2, 5-7; *Ceram. Abstracts* 1943, 14 (in *J. Am. Ceram. Soc.* 31, No. 1).—Details are given for the manuf. of a Foursault debiteuse by ramming grog masses with pneumatic hammers, by use of an air pressure of 4.5 atm. The complete process requires 4 hrs. The debiteuse was dried for 10 to 12 days at room temp. Firing at temps. up to 1250° required 4 days. M. F. R.



PROCESSES AND PROPERTIES INDEX

529. **Properties of High Alumina Refractories and Their Possible Use in Furnaces Operated with Oxygen Blast.** S. A. Zhikharevich. Henry Brutcher (Altadena, Calif.), Translation No. 2080, 1948, 4 pages. From *Kislorod* (Oxygen), v. 3, no. 2-3, 1946, p. 55-56.
Describes development of high-alumina refractories on basis of synthetic aluminum oxide, at Leningrad Institute for Refractories. Presents some data on properties of a 65% alumina blast-furnace brick, developed at Institute, and on semi-dry process for brick to show resistance to abrasive wear and to carbon-deposition effects.

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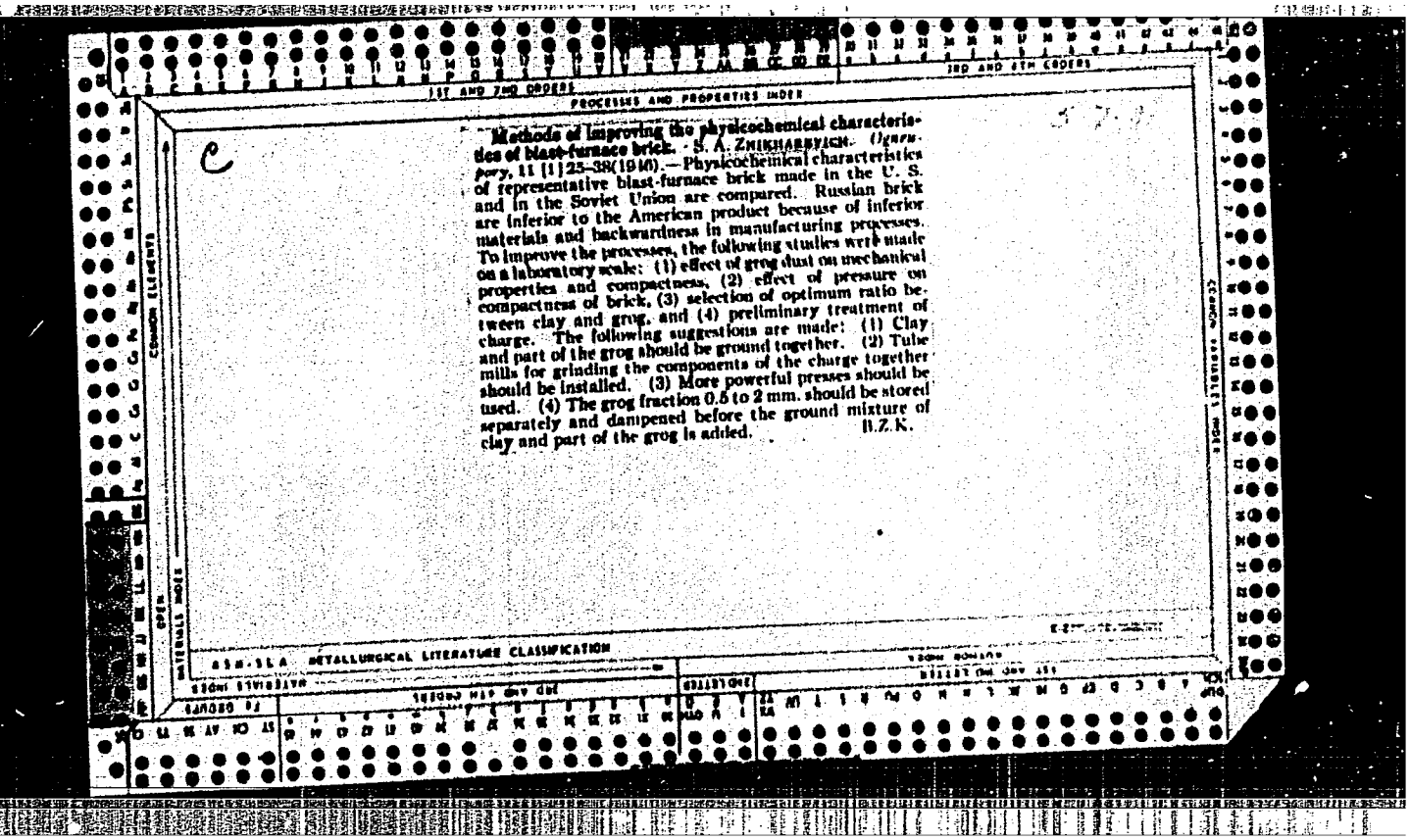
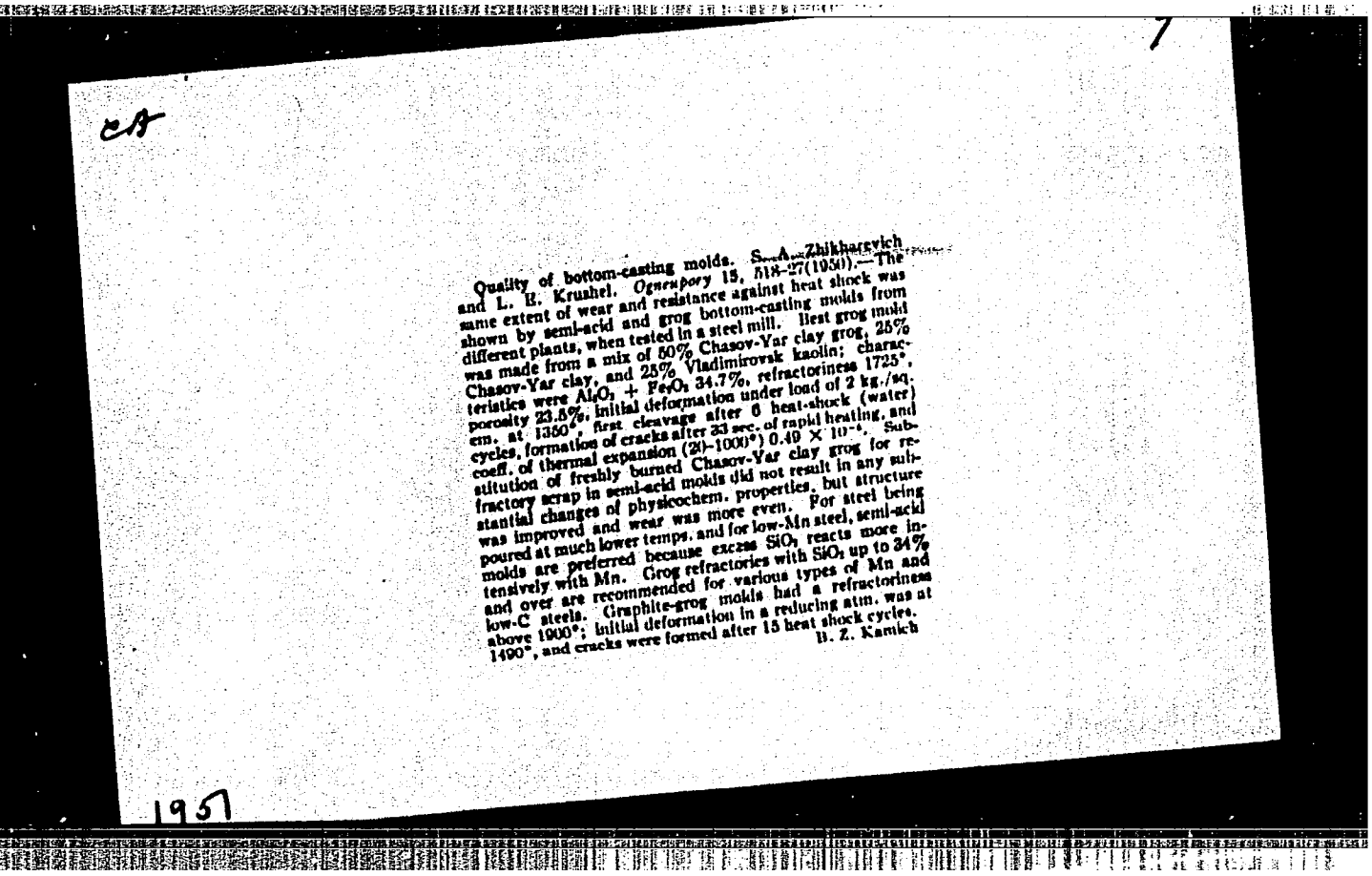


PROCESSES AND PROPERTIES INDEX

Methods of improving the physicochemical characteristics of blast-furnace brick. - S. A. ZHIKHARKVICH. (*Ogneupory*, 11 [1] 25-38(1946).—Physicochemical characteristics of representative blast-furnace brick made in the U. S. and in the Soviet Union are compared. Russian brick are inferior to the American product because of inferior materials and backwardness in manufacturing processes. To improve the processes, the following studies were made on a laboratory scale: (1) effect of grog dust on mechanical properties and compactness, (2) effect of pressure on compactness of brick, (3) selection of optimum ratio between clay and grog, and (4) preliminary treatment of charge. The following suggestions are made: (1) Clay and part of the grog should be ground together. (2) Tube mills for grinding the components of the charge together should be installed. (3) More powerful presses should be used. (4) The grog fraction 0.5 to 2 mm. should be stored separately and dampened before the ground mixture of clay and part of the grog is added. B.Z.K.



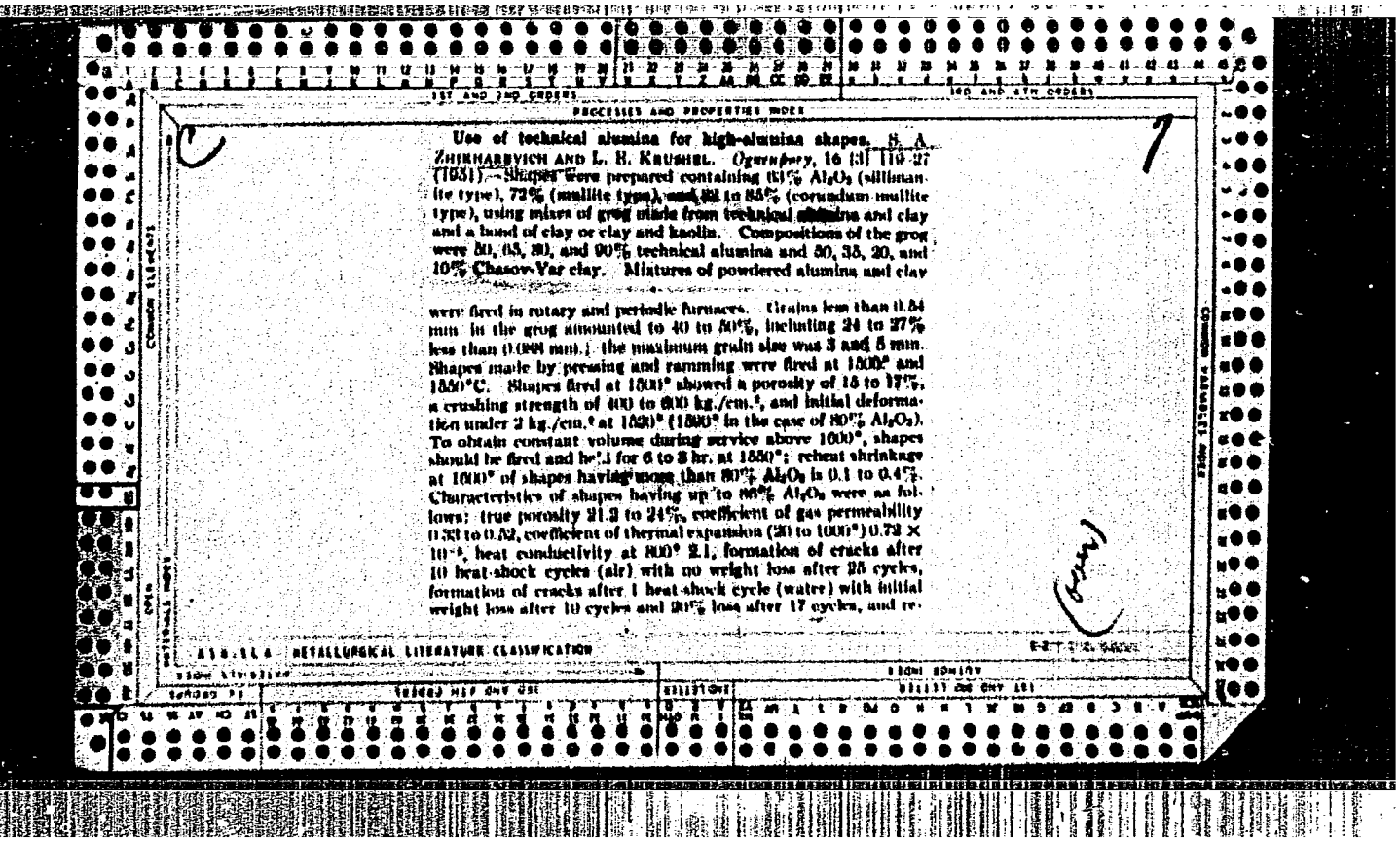
7

CA

Quality of bottom-casting molds. S. A. Zhikharevich and L. B. Kruzhel. *Ogneupory* 15, 518–27(1950).—The same extent of wear and resistance against heat shock was shown by semi-acid and grog bottom-casting molds from different plants, when tested in a steel mill. Best grog mold was made from a mix of 50% Chasov-Yar clay grog, 25% Chasov-Yar clay, and 25% Vladimirovsk kaolin; characteristics were Al_2O_3 + Fe_2O_3 34.7%, refractoriness 1725°, porosity 23.5%, initial deformation under load of 2 kg./sq. cm. at 1350°, first cleavage after 6 heat-shock (water) cycles, formation of cracks after 33 sec. of rapid heating, and coeff. of thermal expansion (20–1000°) 0.40 × 10^{-4}. Substitution of freshly burned Chasov-Yar clay grog for refractory scrap in semi-acid molds did not result in any substantial changes of physicochem. properties, but structure was improved and wear was more even. For steel being poured at much lower temps. and for low-Mn steel, semi-acid molds are preferred because excess SiO_2 reacts more intensively with Mn. Grog refractories with SiO_2 up to 34% and over are recommended for various types of Mn and low-C steels. Graphite-grog molds had a refractoriness above 1900°; initial deformation in a reducing atm. was at 1490°, and cracks were formed after 15 heat shock cycles.

B. Z. Kamich

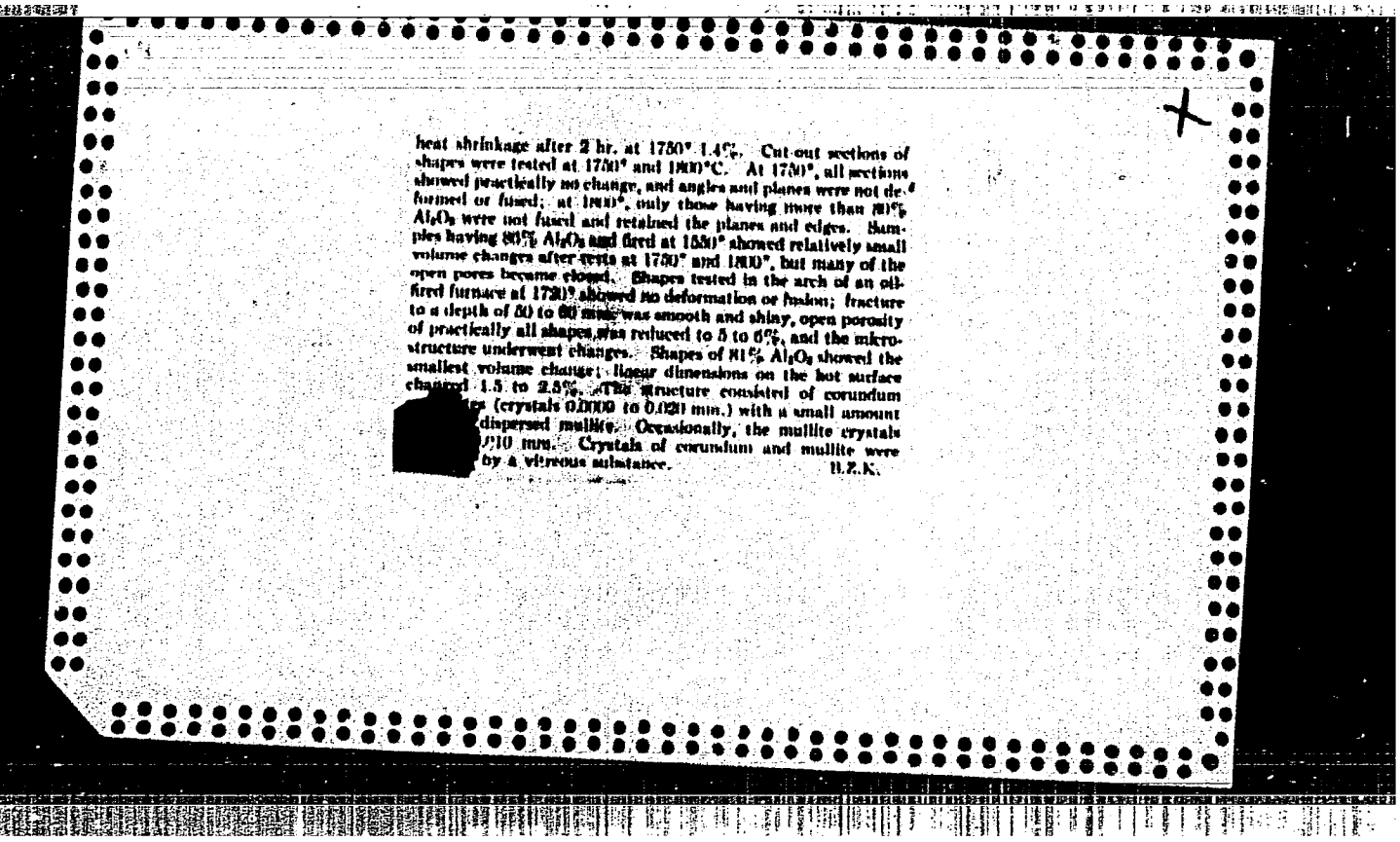
1951



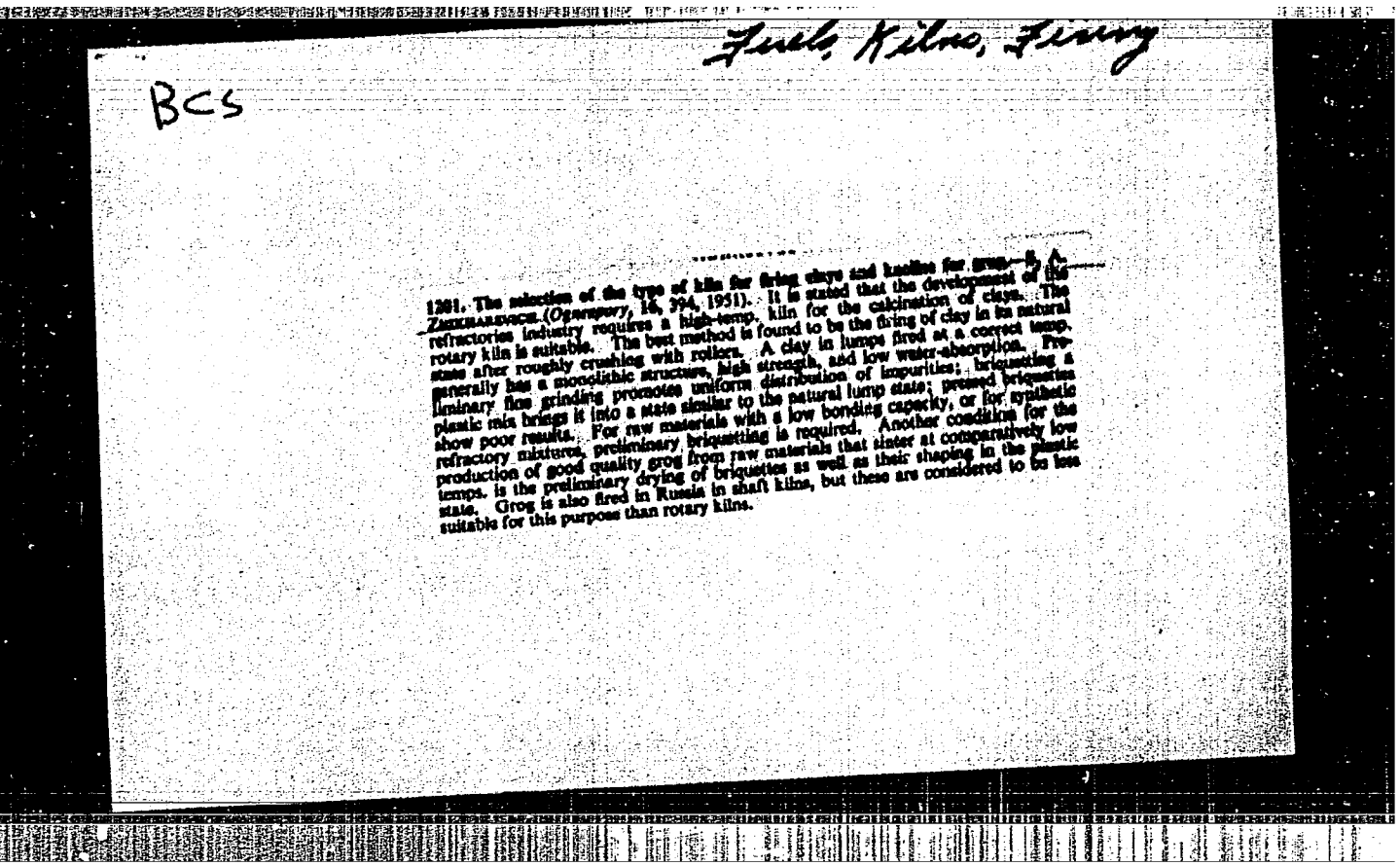
PROCESSES AND PROPERTIES INDEX

Use of technical alumina for high-alumina shapes. N. A. ZHIRNAREVICH AND L. B. KRUSHEL. *Ogneupory*, 16 [3] 119-27 (1951).—Shapes were prepared containing 61% Al_2O_3 (sillimanite type), 72% (mullite type), and 82 to 85% (corundum-mullite type), using mixes of grog made from technical alumina and clay and a bond of clay or clay and kaolin. Compositions of the grog were 50, 65, 80, and 90% technical alumina and 50, 35, 20, and 10% Chasov-Yar clay. Mixtures of powdered alumina and clay were fired in rotary and periodic furnaces. Grains less than 0.84 mm. in the grog amounted to 40 to 50%, including 24 to 27% less than 0.088 mm.; the maximum grain size was 3 and 5 mm. Shapes made by pressing and ramming were fired at 1500° and 1550°C. Shapes fired at 1500° showed a porosity of 15 to 17%, a crushing strength of 400 to 600 kg./cm.², and initial deformation under 2 kg./cm.² at 1450° (1500° in the case of 80% Al_2O_3). To obtain constant volume during service above 1000°, shapes should be fired and held for 6 to 8 hr. at 1550°; reheat shrinkage at 1000° of shapes having more than 80% Al_2O_3 is 0.1 to 0.4%. Characteristics of shapes having up to 80% Al_2O_3 were as follows: true porosity 21.3 to 24%, coefficient of gas permeability 0.53 to 0.52, coefficient of thermal expansion (20 to 1000°) 0.73×10^{-6}, heat conductivity at 800° 2.1, formation of cracks after 10 heat-shock cycles (air) with no weight loss after 25 cycles, formation of cracks after 1 heat-shock cycle (water) with initial weight loss after 10 cycles and 20% loss after 17 cycles, and re-

A 1 5 1 1 4 METALLURGICAL LITERATURE CLASSIFICATION



heat shrinkage after 2 hr. at 1750° 1.4%. Cut-out sections of shapes were tested at 1750° and 1800°C. At 1750°, all sections showed practically no change, and angles and planes were not deformed or fused; at 1800°, only those having more than 80% Al_2O_3 were not fused and retained the planes and edges. Samples having 80% Al_2O_3 and fired at 1550° showed relatively small volume changes after tests at 1750° and 1800°, but many of the open pores became closed. Shapes tested in the arch of an oil-fired furnace at 1720° showed no deformation or fusion; fracture to a depth of 50 to 60 mm. was smooth and shiny, open porosity of practically all shapes was reduced to 5 to 6%, and the microstructure underwent changes. Shapes of 81% Al_2O_3 showed the smallest volume change; linear dimensions on the hot surface changed 1.5 to 2.5%. The structure consisted of corundum [redacted] (crystals 0.0000 to 0.020 mm.) with a small amount dispersed mullite. Occasionally, the mullite crystals 0.010 mm. Crystals of corundum and mullite were by a vitreous substance. B.Z.K.



Fuels, Kilns, Firing

BCS

1201. The selection of the type of kiln for firing clays and kaolins for grog.—S. A. ZHERDARIENKO. (*Ogneupory*, 16, 394, 1951). It is stated that the development of the refractories industry requires a high-temp. kiln for the calcination of clays. The rotary kiln is suitable. The best method is found to be the firing of clay in its natural state after roughly crushing with rollers. A clay in lumps fired at a correct temp. generally has a monolithic structure, high strength, and low water-absorption. Preliminary fine grinding promotes uniform distribution of impurities; briquetting a plastic mix brings it into a state similar to the natural lump state; pressed briquettes show poor results. For raw materials with a low bonding capacity, or for synthetic refractory mixtures, preliminary briquetting is required. Another condition for the production of good quality grog from raw materials that sinter at comparatively low temps. is the preliminary drying of briquettes as well as their shaping in the plastic state. Grog is also fired in Russia in shaft kilns, but these are considered to be less suitable for this purpose than rotary kilns.

ZHIKHAREVICH, S.A.; KRUSHEL', L.Ye.

Important refractory materials made of kaolin from the Novoselitsa region. Ogneupory 21 no.3:97-102 '56. (MLRA 9:8)

1. Khar'kovskiy institut ogneuporov (for Zhikharevich); 2. L'vovskiy filial nauchno-issledovatel'skogo instituta stroymaterialov (for Krushel').
(Novoselitsa region--Kaolin) (Refractory materials)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002064810008-2"

AUTHORS: Zhikharevich, S.A., Getman, I.A., Kozyreva, L.A., Savkevich, I.A., Mil'shenko, R.S., Konetskiy, N.V. 131-58-4-10/17

TITLE: The Production Technology of Highly Aluminous Dense Products When Using the Dispersed Concentrate of the Aktash Occurrence (Tekhnologiya proizvodstva vysokoglinozemistykh plotnykh izdeliy s primeneniyem aktashskogo diasporovogo kontsentrata)

PERIODICAL: Ogneupory, 1958, Nr 4, pp. 175-179 (USSR)

ABSTRACT: Experiments showed that this dispersed concentrate is not easily caked together at high temperatures even if previously finely crushed. Further, the result of petrographic investigations carried out by N.V. Gul'ko is given. An illustration shows the properties of samples from 100% dispersed concentrate of the Aktashsk occurrence at a pressure of 200 kg/cm^2 and a burning temperature of up to 1700°. If the dispersed concentrate is burned twice its quality is improved but the working process is rendered more complicated. Experiments were therefore carried out in which previously burned and finely ground dispersed concentrate is used as a dust-like component of the fire-clay mass (dispersed fire clay).

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The Production Technology of Highly Aluminous Dense Products When Using the Dispersed Concentrate of the Aktash Occurrence

131-58-4-10/17

The properties of dispersed fire clay and of such made of technical alumina and clay are given in table 1. The characteristic of the masses and the properties of the crude samples may be seen from table 2, and those of samples burnt at 1520° from table 3. Furthermore, an industrial quantity of blast furnace bricks of the type D-2 was made. The granulation of the fire clay is shown in table 4 and the characteristic of the mass and the raw products are shown in table 5. Conclusions: 1.) By a joint application of the dispersed concentrate and technical alumina it is possible to obtain highly aluminous dense products. 2.) The dispersed aluminous products with a porosity of less than 12% have a good structure, they are of low permeability for smelts and gases, and have a volume stability at 1500-1550°. It is recommended to intensify the search for dispersed ores on the condition that costs are considerably reduced. There are 1 figure, 5 tables, and 5 references, 4 of which are Soviet.

Card 2/3

The Production Technology of Highly Aluminous Dense Products When Using the Dispersed Concentrate of the Aktash Occurrence

131-58-4-10/17

ASSOCIATION: Khar'kovskiy institut ogneuporov (Khar'kov Institute for Refractories)
Voronezhskiy Sovnarkhoz (Voronezh Economic Council)
Semilukskiy ogneupornyy zavod (Semiluki Plant for Refractories)

Card 3/3

AUTHORS: Zhikharevich, S. A., Getman, I. A., Kozyreva, L. A. SOV/131-58-9-1/11

TITLE: Technology of Dense, Volume-Constant, High-Alumina Products for the Brick Lining of Blast Furnaces (Tekhnologiya plotnykh ob"yemopostoyannykh vysokoglinozemistykh izdeliy dlya kladki domennykh pechey)

PERIODICAL: Ogneupory, 1958, 23 Nr 9, pp. 385 - 395 (USSR)

ABSTRACT: The fireproof bricks in the well of blast furnaces are exposed to a longlasting influence of liquid crude iron kept at a temperature of 1500° as well as to a static pressure of 4-5 kg/cm^2. The conditions of the heat conduction, especially in the central part of the well, are unfavorable as well. Previously, the bricks were manufactured from raw kaolin, but they developed a considerable shrinkage. For the improvement of the stone quality a significant increase of the Al_2O_3 content (within the limits 65-75%) is necessary. High-alumina products comply with these requirements. Table 1 shows the composition and properties of the high-alumina fire-clay. From Table 2 the porosity,

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density and shrinkage of the products under a pressing force of 1000 kg/cm^2 and a burning temperature of 1550° at a duration of 10 hours is seen. In table 3 the composition of the batch and the porosity of the raw material are presented. The influence of the fine-grained parts of the batch on the quality of samples from highly aluminous batches are given in table 4 and the shrinkage in table 5. Figures 3 and 4 show the properties of samples produced from this batch. Table 6 contains the chemical composition and the heat resistance of the samples and table 7 the fire properties. In table 8 the properties of products which were manufactured in the testing plant UNIIO, are tabulated. The experience gained in laboratory- and experimental work were introduced in the Semiluki plant of refractories. In this work participated: from the Institute Ye.A.Gin'yar, A.P.Kochetova; from the plant T.A.Fitkalenko, I.A.Savkevich, R.S.Mil'shenko, Ye.G.Volodarskaya, Ye.V.Rachkova, S.I.Fedosov, N.V.Konetskiy and others (Ref 1). In table 9 the granulation of the batches is given and in table 10 the pressing process. Table 11 shows the properties of the bricks. Conclusions: It is possible

to produce fireproof, highly aluminous bricks with low porosity and high stability as well as with a volume constancy at 1550-1600°. The technological parameters of this ware are presented. Together with an increased solidity of the stones also the construction of the well must be improved, in order to avoid a vaulting of the stones. It is recommended to enlarge the dimensions of the stones in order to reduce the number of joint. There are 4 figures, 11 tables, and 4 references, 4 of which are Soviet.

ASSOCIATION: Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov (Ukrainian Scientific Research Institute of Refractories)

ZHIKHAREVICH, A.S.; KARAULOV, A.G.; PANICH, B.I.; SHEYKO, I.I.; POLYAKOV, V.F.; KHALEMSKIY, S.F.

Replacement of cast steel plugs used in the top pouring of steel by ceramic graphite-bearing inserts. Metallurg 6 no.11:18-19 N '61. (MIRA 14:11)

(Steel ingots)

ZHIKHAREVICH, S.A.; KARAULOV, A.G.

Graphite-bearing refractories for ingot mold bottom plates during the top pouring of killed steel. Ogneupory 27 no.3:104-111 '62. (MIRA 15:3)

1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov.
(Refractory materials) (Ingot molds)

ZHIKHAREVICH, S.A.; ZELENSKAYA, A.[illegible] SAFRONOVA, I.P.; ZOZULYA, I.S.; VITRENKO, P.M.; CHERNYAVSKAYA, Z.Ya.; ABRAMOVICH, A.M.

Production and service of graphite containing inserts. Ogneupory 29 no.12:536-540 '64. (MIRA 18:1)

1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov (for Zhikharevich, Zelenskaya, Safronova). 2. Konstantinovskiy ogneupornyy zavod "Krasnyy Oktyabr'" (for Zozulya, Vitrenko, Chernyavskaya, Abramovich).

ZHIKHAREVICH, S.A.; KARAULOV, A.G.; SAFRONOVA, I.P.; PANICH, B.I.; DRYAPIK, Ye.P.; DYMARSKIY, M.Ya.; MOISEYENKO, A.I.; TARZEYAN, P.G.

Replacing steel, circular-flanged ingot stools by graphite-containing ones. Ogneupory 28 no.10:437-443 '63. (MIRA 16:11)

1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov (for Zhikharevich, Karaulov, Safronova). 2. Ukrainskiy nauchno-issledovatel'skiy institut metallov (for Panich). 3. Kommunarskiy metallurgicheskiy zavod (for Dryapik, Dymarskiy, Moiseyenko, Tarzeyan).

KUKOLEV, G.V.; ZHIKHAREVICH, S.A.

Ladle brick, service conditions, characteristics, and selection of an efficient technology. Ogneupory 25 no.11:491-496 '60.
(MIRA 13:12)

1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov.
(Firebrick)

BUDNIKOV, Petr Petrovich, akademik, zasluzhennyy deyatel' nauki i tekhniki, trizhdy laureat Stalinskoy premii; KUKOLEV, G.V., prof., doktor tekhn.nauk, otv.red.; BEREZHNOY, A.S., red.; AVGUSTINIK, A.I., prof., red.; BUTT, Yu.M., prof., red.; MCHEDLOV-PETROSYAN, O.P., prof., red.; GINSTLING, A.M., prof., red.; SMELYANSKIY, I.S., prof., red.; ZNACHKO-YAVORSKIY, I.L., kand.tekhn.nauk, red.; ZHIKHAREVICH, S.A., kand.tekhn.nauk, red.; KRECH, E.I., kand.tekhn.nauk, red.; MATVEYEV, M.A., kand.tekhn.nauk, red.; ROYAK, S.M., kand. tekhn.nauk, red.; NEMCHENKO, Ye.M., red.izd-va; MARCHUK, G.T., red.izd-va; KADASHEVICH, O.A., tekhn.red.

[Selected works] Izbrannye trudy. Kiev, Izd-vo Akad.nauk USSR, 1960. 571 p. (MIRA 13:7)

1. AN USSR; chlen-korrespondent AN SSSR (for Budnikov). 2. Chlen-korrespondent AN USSR (for Berezhnoy).
(Silicates) (Ceramic materials) (Refractory materials) (Binding materials)

15 (2), 15 (6)

AUTHORS: Zhikharevich, S. A., Royzen, A. I., Gin'yar, Ye. A., Kozyreva, L. A., Kablukovskiy, A. F., Skorokhod, S. D.

SOV/131-59-7-6/14

TITLE: Refractory Concrete as Electric Insulating Material for [illegible] Electrode Coolers of [illegible] Electric-arc Furnaces (Ogneupornyy beton kak elektroizolyatsionnyy material dlya okhladiteley elektrodov dugovykh staleplavil'nykh pechey)

PERIODICAL: Ogneupory, 1959, Nr 7, pp 309-319 (USSR)

ABSTRACT: The magnesite-chromite tiles in the arch of a steel-melting furnace are saturated, during operation, by iron- and chromous oxide, and become more conductive in this way, which often leads to short circuits and a burning through of the coolers. Figure 1 shows the dependence of the logarithm of the specific electric resistance on the temperature for some industrial refractories. At the experimental plant of the Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov (UNIIO) (Ukrainian Scientific Research Institute of Refractories (UNIIO)) and at the Semiluki Works, experiments with highly aluminous refractories, the original materials of which are indicated in a table, were carried out. The microscopic investigations were carried out by N. Ye. Drizheruk (Footnote 2).

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The mass composition and the properties of the samples are indicated in table 1. Figure 2 shows the thermal expansion, and figure 3 the dependence of the logarithm of the specific electric resistance of the samples. It was not possible, however, to ensure the electric insulation of the coolers in this way. Highly aluminous cement was also prepared at the experimental plant of the UNIIO. Highly aluminous fire clay with a grain size of from 3 to below 0.09 mm was used as a filler. The chemical composition and refractoriness of the cement and of the fire clay are indicated in table 2. The petrographic investigation was carried out by L. A. Kuz'mina (Footnote 3), the X-ray examination by B. Ya. Sukharevskiy (Footnoe 4), and the thermal analysis by V. V. Pustovalov (Footnote 5 and Fig 4). Further experiments were carried out with leaned masses, the composition, density and strength values of which are indicated in table 3. The characteristic of the samples is shown in table 4. Figure 5 shows the cohesion of the concrete with a refractory product and an iron tube, and figure 6 shows the cohesion of the concrete with a magnesite-chromite tile. But also this experiment did not ensure an adequate electric insulation of the coolers. Experiments with highly aluminous cement and highly aluminous tiles of a

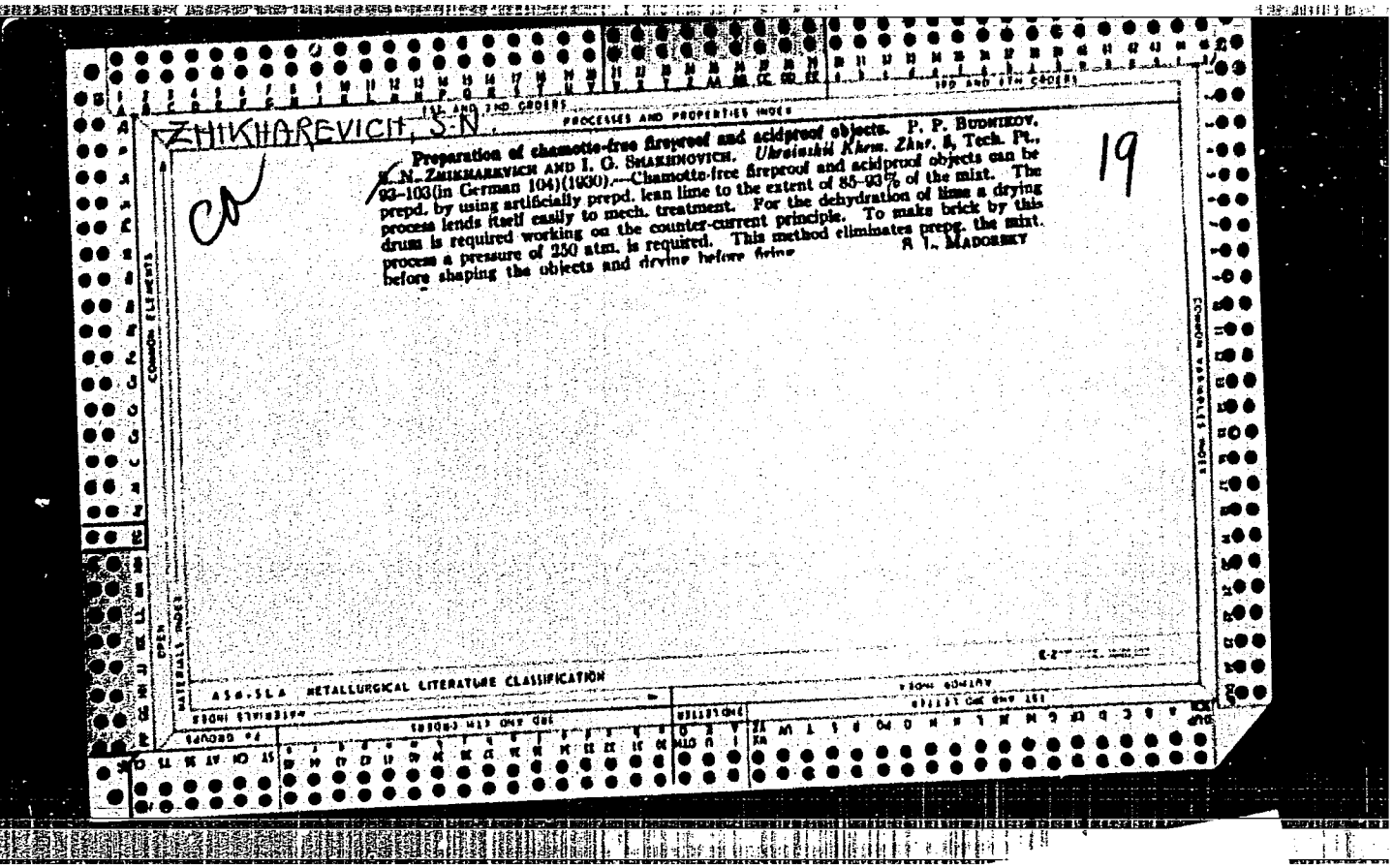
mullite-corundum composition were also carried out at the experimental plant of the UNIIO. The properties of the cement and concrete with the filler of highly aluminous fire clay are indicated in table 5. Some data characterizing the quality of the highly aluminous arch tiles and of the fire clay are indicated in table 6. The insulation of the coolers by refractory concrete is carried out in 2 variants (Figs 7 and 8). The chemical composition of the concrete zone and of the slag crust is shown in table 7. The petrographic investigation was carried out by M. Ye. Drizheruk (Footnote 7). Figure 9 shows a concrete piece after 72 melts. The experiments carried out showed that the use of concrete eliminates the burning through of the coolers by short circuit, and extends the working period of the furnace arches by 12-15 %. Conclusions: The satisfactory application results of the concrete insulation for electrode coolers should be introduced, as soon as possible, in all electrometallurgic plants, particularly in the furnaces working with oxygen. The series production of the material needed for the insulation should be organized. There are 9 figures, 8 tables, and 20 references, 10 of which are Soviet.

Refractory Concrete as Electric Insulating Material for Electrode Coolers of Electric-arc Furnaces SOV/131-59-7-6/14

ASSOCIATION: Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov (Ukraine Scientific Research Institute of Refractories) (Zhikharevich, S. A., Royzen, A. I., Gin'yar, Ye. A., Kozyreva, L. A.); Zavod "Elektrostal'" ("Elektrostal'" Works) (Kablukhovskiy, A. F., Skorokhod, S. D.)

Card 4/4

ZHIKHARENTSEV, S.F.



ZHIKHAREVICH, S.N.

CA

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Preparation of chamotte-free fireproof and acidproof objects. P. P. BUDNIKOV, S. N. ZHIKHAREVICH AND I. G. SHAKHNOVICH. *Ukrainskii Khim. Zhur.* 5, Tech. Pt., 93–103(in German 104)(1930).—Chamotte-free fireproof and acidproof objects can be prepd. by using artificially prepd. lean lime to the extent of 85–93% of the mixt. The process lends itself easily to mech. treatment. For the dehydration of lime a drying drum is required working on the counter-current principle. To make brick by this process a pressure of 250 atm. is required. This method eliminates prepg. the mixt. before shaping the objects and drying before firing. S. L. MADORSKY

A56-SLA METALLURGICAL LITERATURE CLASSIFICATION

32444
S/044/61/000/010/008/051
C111/C222

16.3400

AUTHORS: Glazman, I.M., and Zhikhor', N.A.

TITLE: The reversion of singular dissipative differential operators of second order

PERIODICAL: Referativnyy zhurnal. Matematika, no. 10, 1961, 21, abstract 10 B 100. ("Uch. zap. Khar'kovsk. gos. ped. in-t", 1957, 21, 9-24)

TEXT: In the $L^2(0,\infty)$ the author considers the differential expression $l(y) = -y'' + q(x)y$ generated by the differential expression $l(y)$ (closure of the operator $L_1 y = l(y)$ given on the finite functions), where $q(x)$ is a complex-valued function with a non-negative imaginary part which is summable on every finite interval $[0,1]$. It is proved that for $\mathrm{Im}\ \lambda < 0$ for the corresponding equation

$$-y'' + q(x)y = \lambda y \qquad (1)$$

the basic results of Weyl remain true, i.e. there occours the case either of the boundary point or the boundary circle. In the first case (1) has only one (up to a constant factor) solution of $L^2(0,\infty)$, in the second

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case all solutions of (1) belong to $L^2(0,\infty)$. Furthermore the author investigates complete dissipative extensions L of the operator L which satisfy the conditions $\tilde{L} \supseteq L$, $\mathrm{Im}\,(\tilde{L}f,f) \geq 0$

$$f \in D_{\tilde{L}}\,,\quad (\tilde{L} - \lambda L)D_{\tilde{L}} = L^2(0,\infty)\,.$$

It is stated that in the case of the boundary point all such extensions are given by boundary conditions of the type $y'(0) = hy(0)$, $\mathrm{Im}\, h \geq 0$, and that the resolvent of an arbitrary such extension is a bounded integral operator with a Carleman kernel ; in the case of the boundary circle the resolvent of an arbitrary such extension is a kernel of Hilbert-Schmidt.

[Abstracter's note : Complete translation.]

SOV/155-58-4-5/34

16(1) 16,4600

AUTHOR: Zhikhor', N.A.

TITLE: On the Theory of I - Symmetric Operators in the Hilbert Space (K teorii I - simmetricheskikh operatorov v gil'bertovom prostranstve)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Fiziko-matematicheskiye nauki, 1958, Nr 4, pp 33 - 38 (USSR)

ABSTRACT: A linear operator A with a domain D_A dense in H is called I - symmetric according to I.M. Glazman [Ref 2], if for arbitrary φ and ψ from D_A it holds :

(1) $(A\varphi, I\psi) = (\varphi, IA\psi)$,

which is equivalent to the relation

(2) $A \subset IA^*I$.

If it holds the equality sign in (2), then A is called I-self-adjoint.

Theorem: Every I-symmetric operator A with a point λ_o of regular type (see [Ref 1]) can be extended to an I-self-ad-

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joint operator A', where λ_0 is the point of regularity of A' (see [Ref 1]).
I-self-adjoint extensions of A for which λ_0 is the point of regularity are called correct.
Theorem: If A' is a correct I-self-adjoint extension of an I-symmetric operator A, then it is

$$D_{IA^*I} = D_A + (A' - \lambda_0 I)^{-1} \mathfrak{N}_{\bar{\lambda}_0} + I \mathfrak{N}_{\bar{\lambda}_0}$$

where $\mathfrak{N}_{\bar{\lambda}_0}$ is the linear manifold of the solutions of

$$A^* u - \bar{\lambda}_0 u = 0 .$$

Theorem : In order that $\tilde{A}$ be a correct I-self-adjoint extension of the I-symmetric A, it is necessary and sufficient that

$$D_{\tilde{A}} = D_A + (A' - \lambda_0 I)^{-1} \mathfrak{N}_{\bar{\lambda}_0} + B \mathfrak{N}_{\bar{\lambda}_0}$$

On the Theory of I-Symmetric Operators in the Hilbert Space SOV/155-58-4-5/34

where A' is a correct I-symmetric extension of A and $D_B = \mathfrak{N}_{\bar{\lambda}_0}$, $BD_B \subset I\,\mathfrak{N}_{\bar{\lambda}_0}$.

Several further theorems refer to the I-self-adjoint extensions of I-symmetric differential operators, whereby in the case of second order the classical results of H.Weyl [Ref 3] are generalized.

The author mentions M.I. Vyshik. Altogether there are given 10 theorems without proof.

There are 5 references, 4 of which are Soviet, and 1 German.

ASSOCIATION: Khar'kovskiy gosudarstvennyy pedagogicheskiy institut (Kharkov State Pedagogical Institute)

SUBMITTED: February 30, 1958

Card 3/3

ZHIKHOR', N.A.

Theory of I-symmetric operators in a Hilbert space. Nauch. dokl. vys. shkoly; fiz.-mat. nauki no.4:33-37 '58. (MIRA 12:5)

1.Khar'kovskiy gosudarstvennyy pedagogicheskiy institut.
(Functional analysis)

ZHIKHOV, A. S.

For a perfect organization of geological prospecting. Bezop. truda v prom. 5 no.11:5-6 N '61. (MIRA 14:11)

1. Gornotekhnicheskiy inspektor Kurskoy rayonnoy gornotekhnicheskoy inspektsii.

(Prospecting--Safety measures)

ZHIKHOVICH, V.V.

Creep and normal and lasting strength of compact Maeotic clays. Osn., fund. i mekh. grun. 5 no.4:7-10 '63. (MIRA 16:11)

ZHIKHOVICH, Ye.V. (Dnepropetrovsk)

Calculation of cylindrical shells for concentrated actions. (MIRA 18:10)
Prikl. mekh. 1 no.9:20-25 '65.

1. Dnepropetrovskiy filial Nauchno-issledovatel'skogo instituta stroitel'nogo proizvodstva.

L 27183-66 EWT(d)/EWT(m)/EWP(w)/EWP(v)/EWP(k)/EWA(h)/ETC(m)-6 IJP(c) WW/RM

ACC NR: AP6016879 SOURCE CODE: UR/0198/65/001/009/0020/0025

AUTHOR: Zhikhovich, Ye. V. (Dnepropetrovsk)

ORG: Dnepropetrovsk Branch, NII Construction Industry (Dnepropetrovskiy filial NII stroitel'nogo proizvodstva)

TITLE: Calculating the effect of concentrated loads on cylindrical shells

SOURCE: Prikladnaya mekhanika, v. 1, no. 9, 1965, 20-25

TOPIC TAGS: cylindric shell structure, material deformation

ABSTRACT: An approximate method is given for calculating cylindrical shells for any concentrated loads. The calculation is done in two stages to assure satisfactory convergence in the solution. In the first stage, the zero-moment convolution is calculated and the normal stresses are determined together with the resultant angular deformations. The second stage involves analysis of the moment state of the shell as a folded system loaded by the angular deformations found in the first stage. The method may be used for shell calculations involving longitudinal, distributed and concentrated forces, as well as for computing the setting of one or several supports for any given boundary conditions at the ends of the shell. Orig. art. has: 2 figures, 7 formulas, and 3 tables. [JPRS]

SUB CODE: 13, 20 / SUBM DATE: 17Dec64 / ORIG REF: 003 / OTH REF: 002

Card 1/1

L 36929-66 EWT(m)/T/EWP(t)/ETI IJP(c) JD

ACC NR: AP6012217 SOURCE CODE: UR/0032/66/032/004/0438/0442

AUTHOR: Bokshteyn, B. S.; Zhikhovitskiy, A. A.; Surmava, G. G.

ORG: Moscow Steel and Alloy Institute (Moskovskiy institut stali i splavov)

TITLE: Method for study of diffusion in whisker crystals

SOURCE: Zavodskaya laboratoriya, v. 32, no. 4, 1966, 438-442

TOPIC TAGS: metal whisker, metal diffusion

ABSTRACT: It is proposed to determine the coefficient of diffusion of a component in a whisker crystal by measurement of its transverse dimension. The results of a study of the diffusion of zinc in whisker crystals of copper have shown that the rate of the diffusion of zinc atoms in whiskers is 1 to 1.5 orders of magnitude less than in ordinary monocrystalline coppers. The article gives a detailed flow sheet of the equipment used to study this phenomenon. Experimental results are given in a series of curves. The results indicate that the rate of growth of the whiskers actually limits diffusion. Orig. art. has: 15 formulas and 3 figures.

SUB CODE: 07, 20/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 005

UDC: 532.72

Card 1/1

ZHIKHOVITSKIY, A.A.; TURKEL'TAUB, N.M.; Prinimali uchastiye: GAYYER, M.; LAGASHKINA, M.N.

"Vacancy-chromatography." Dokl. AN SSSR 143 no.3:646-648 Mr '62. (MIRA 15:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy neftyanoy institut. Predstavleno akademikom P.A.Rebinderom.
(Chromatographic analysis)

ZHIKIN, I.

To work where work is difficult! Mast. ugl. 8 no.8:6 Ag '59.
(MIRA 12:12)

1.Birgadir rabochikh ochistnogo zaboya shakhty imeni Kalinina.
(Kizel Basin--Coal miners)

GORFINKEL', V.M.; ZHIKIN, L.V.

Use of pig iron in cupola melting. Lit. proizv. no.11:31-32 N '60.
(MIRA 13:12)

(Iron founding)