TIMOKHINA, M.A., dotsent, kand. med. nauk; BRODSKIY, R.F., kand. med. nauk; SAMOKHINA, A.K.

Dynamics of abortions in women working at a melange combine and ways for their reduction. Sbor. nauch. trud. Ivan. gos. med. inst. no. 28:323-326 '63. (MIRA 19:1)

1. Iz kafedry akusherstva i ginekologii (ispolnyayushchiy obyazannosti zav. kafedroy - dotsent M.A. Timokhina) Ivanovskogo gosudarstvennogo meditsinskogo instituta (rektor - dotsent Ya. M. Romanov). 2. Zaveduyushchaya zhenskoy konsul'tatsiyey Melanzhevskogo kombinata (for. Samokhina).

[redacted], I. P.

"Hemolytic Streptococci in Scarlet Fever and Their Microbiological Characteristics." Cand Med Sci, Minsk State Medical Inst. 25 Feb 54. Dissertation (Sovetskaya Belorussiya Minsk, 14 Feb 54.)

SO: SUM 186, 19 Aug 1954

ZIKHERMAN, Kh.Ya., kandidat sel'skokhozyaystvennykh nauk; SAMOKHINA, K.F., kandidat sel'skokhozyaystvennykh nauk.

Obtaining soil specimens with indisturbed structure with a Nekrasov sampler. Dokl.Akad.sel'khoz. 22 no.1:29-30 '57. (MLRA 10:2)

1. Yaroslavskaya gosudarstvennaya selektsionnaya stantsiya. Predstavlena akademikom I.I.Samoylovym.
(Soil--Analysis)

KONSTANTINOV, A.R.; PUSHKAREV, V.F.; SAMOKHINA, K.P.

Characteristice of evaporation regime in agricultural fields in reclaimed virgin and waste lands. Trudy GGI no.48:5-21 '55. (MLRA 9:7)
(Evaporation)

L 17283-63 EWP(j)/EPF(c)/EWP(q)/EWT(m)/BDS AFFTC/ASD Pr-4/
Pc-4 RM/WW/JD/JG

ACCESSION NR: AP3004383 S/0109/63/008/008/1483/1484

72
68

AUTHOR: Bazarov, Ye. N.; Zolin, V. F.; Samokhina, M. A.

TITLE: Effect of protective coating on the absorption cells in radio spectroscopes with optical indication on the frequency of transitions in the hyperfine structures of rubidium and cesium

87 133

SOURCE: Radiotekhnika i elektronika, v. 8, no. 8, 1963, 1483-1484

TOPIC TAGS: rubidium, cesium, radio spectroscope, hyperfine structure, transition frequency

ABSTRACT: C. O. Alley (Advances in Quantum Electronics, N.Y. 1961, p. 120) states that when the polysiloxane coating of glass was used for suppressing relaxation of spins of Rb atoms that collided with the cell walls, the 0-0- transition frequency, in the hyperfine structure of Rb^{87}, was shifted by -5 or -7 kc (with about 1-kc line width). The authors believe that the frequency shift

Card 1/2

L 17283-63

ACCESSION NR: AP3004383

4

is rather due to the presence of an extraneous gas. A number of experiments with Cs^{135} in a methyl-siloxane-coated glass cell corroborated this belief. Assistance of L. V. Minervina in mass-spectrometer investigations of the gas is noted. "The authors wish to thank M. I. Rodak and Ch. M. Briskina for discussing the work and valuable comments." Orig. art. has: 1 formula.

ASSOCIATION: none

SUBMITTED: 10Sep62 DATE ACQ: 20Aug63 ENCL: 00

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

Card 2/2

L 42905-66 EWT(1)/EWT(m)/EWP(j)/EWP(t)/ETI IJP(c) JD/JG/RM

ACC NR: AP6018452 SOURCE CODE: UR/0051/66/020/006/1081/1083

AUTHOR: Briskina, Ch. M.; Samokhina, M. A.; Zolin, V. F.

ORG: none

TITLE: Sensitizing luminescence of Eu^{3+} and Tb^{3+} ions by organic dyes

SOURCE: Optika i spektroskopiya, v. 20, no. 6, 1966, 1081-1083

TOPIC TAGS: luminescence, luminescent material, sensitivity increase, rare earth, fluorescence

ABSTRACT: A solution of europium carbonate in 85% orthophosphoric acid at 220°C was used. The concentration of Eu^{3+} in the solution was 1 wt % while that of fluorescine was 0.02 wt %. The specimens of other sensitizers were similarly prepared. Fluorescine, titanium yellow and primulin were used to sensitize europium, while Tb^{3+} was sensitized by esculin, titanium yellow and primulin (the dyes are mentioned in order of effectiveness). The addition of fluorescine increased the luminescence of europium by an order of magnitude. An increase in temperature caused a rise in luminescence due to europium and a decrease due to fluorescine. The authors conclude that (as in the case of aldehydes and ketones) energy transfer to the rare earth ions proceeds from the metastable levels of the dyes and is a function of the diffusion velocity. Orig. art. has: 4 figures.

SUB CODE: 20,07/ SUBM DATE: 09Nov65/ OTH REF: 004

Card 1/1

UDC: 541.147:535.37

SAMOKHINA, M.D.

Congenital strangulated hernia of the umbilical cord in a premature baby girl. Akush. i gin. 35 no.1:107 Ja-F '59. (MIRA 12:2)

1. Iz rodil'nogo doma (ispolnyayushchiy obyazannosti glavnogo vracha A.K. Korovnikova) Severoural'ska, Sverdlovskoy oblasti.
(HERNIA) (UMBILICUS--DISEASES)

GERMAN, N.Ye., inzh.; SAMOKHINA, N.A.; ZARUBIN, A.G., inzh., red.

[Catalog of parts for ZIL-164A biaxial trucks, ZIL-164AP tractor trucks, ZIL-MMZ-585L and ZIL-MMZ-585M dump trucks, ZIL-157K triaxial trucks, ZIL-MMZ-164AN and ZIL-157KV tractor trucks with saddle-type hitching arrangements] Katalog detalei dvukhosnogo avtomobilia ZIL-164A, avtomobiliatiagacha ZIL-164AP, avtomobilei-samosvalov ZIL-MMZ-585L i ZIL-MMZ-585M, trekhosnogo avtomobilia ZIL-157K i sedel'nykh tiagachei ZIL-MMZ-164AN i ZIL-157KV. Moskva, Mashgiz, 1964. 451 p. (MIRA 17:6)

1. Moskovskiy avtomobil'nyy zavod.

SAMOKHINA, N.M.

Outstanding women in the textile industry. Tekst.prom. 15 no.3:6-7 Mr '55. (MLRA 8:4)
(Textile workers)

SHVARTSMAN, S.Ya.; TARUSHKINA, G.A.; SAMOKHINA, N.M.

Heroes of socialist labor rank first in production. Tekst.prom. 20 no.7:55-59 Jl '60. (MIRA 13:7)

1. Predsedatel' fabrichnogo komiteta profsoyuza tekstil'shchikov.
(Textile workers)

VINOGRADOV, Yu.; SAMOKHINA, N.

Measuring and planning labor productivity on the basis of labor involved in basic chemistry. Biul.nauch.inform.: trud i zar.plata 4 no.6:14-15 '61. (MIRA 14:6)
(Chemical industries--Labor productivity)

NIKIFOROV, I.A., kand. tekhn. nauk; NOSKOV, S.K., kand. tekhn. nauk; SAMOKHINA, T.M., inzh.

Experience in using reinforced roofs. Prom. stroi. 43 no.9:11-13 '65. (MIRA 18:9)

SAMOKHINA Z.F.

EL'BERT, B.Ya, professor, zasluzhennyy deyatel' nauki; RUBINSHTEYN, I.S., dotsent; SAKOVICH, A.O., dotsent; VILENCHIK G.Yu., kandidat meditsinskikh nauk; GUREVICH, G.TS, kandidat meditsinskikh nauk; IZRAITEL', N.A., kandidat meditsinskikh nauk; KNIGA, A.N., kandidat meditsinskikh nauk; LEVINA, P.I., kandidat meditsinskikh nauk; MARCHENKO,L.O., kandidat meditsinskikh nauk; RABINOVICH, Ye.M., kandidat meditsinskikh nauk; RUBINSHTEYN, B.B, kandidat meditsinskikh nauk; SAMOKHINA, Z.F., kandidat meditsinskikh nauk; KRASIL'NIKOV: A.P., kandidat meditsinskikh nauk; ZMUSHKO, L.S., nauchnyy sotrudnik; NISENBAUM, I.M., nauchnyy sotrudnik; SOLOV'YANCHIK,S.I., nauchnyy sotrudnik; SUSLOVA, M.N., nauchnyy sotrudnik; POL'SKIY, S., redaktor; KUFTINA, P., tekhnicheskiy redaktor; KALECHITS, G., tekhnicheskiy redaktor.

[Practical manual on medical microbiology and bacteriological methods of sanitation research] Prakticheskoe posobie po meditsinskoi mikrobiologii i sanitarno-bakteriologicheskim metodam issledovanii. Minsk, Gos.izd-vo BSSR, Redaktsiia nauchno-tekhn. lit-ry, 1957. 356 p. (MLRA 10:6)

(MICROBIOLOGY)

NOSKOV, S.K., kand. tekhn. nauk; SAMOKHINA, T.M., inzh.

Selecting the type and the composition of waterproofing elements.
Prom. stroi. 42 no.10:42-46 O '64. (MIRA 17:11)

AGAFONOVA, Z.Ya., kand. biolog. nauk; STRUKOV, A.V.; SAMOKHINA, V.P.; KIRSANOV, N., inzh.; PILYUGIN, N.V.; TSVETKOVA, N.N.

Responses to our articles. Zashch. rast. ot vred. i bol. 9 no.2:12-16 '64. (MIRA 17:6)

1. Zaveduyushchaya laboratoriyey zashchity rasteniy Kurskoy opytnoy stantsii (for Agafonova). 2. Direktor Pskovskoy gosudarstvennoy sel'skokhozyaystvennoy opytnoy stantsii (for Strukov). 3. Zaveduyushchaya otdelom zashchity rasteniy Pskovskoy gosudarstvennoy sel'skokhozyaystvennoy opytnoy stantsii (for Samokhina). 4. Glavnyy agronom mekhanizirovannogo otryada Yaroslavskoy stantsii zashchity rasteniy (for Pilyugin). 5. Glavnyy agronom Tatarskoy stantsii zashchity rasteniy (for TSvetkova).

KUPCHENKO, V.A., inzh.; SAMOKHLEB, Ya.P., inzh.

Design of multiple machining attachments. Mashinostroenie no.6:6-9 N-D '62. (MIRA 16:2)

1. Ukrainskiy gosudarstvennyy proyektno-tekhnologicheskiy i eksperimental'nyy institut stankostroitel'noy i instrumental'noy promyshlennosti.
(Kharkov--Machine tools--Attachments)

SAMOKHLEB, Ya.P., inzh.

Universal hardening machine. Mashinostroenie no.6:13-15 N-D '63.
(MIRA 16:12)

ALEKSEYEV, Georgiy Yevgen'yevich; VOLCHONOK, Ioir Izrail'yevich; SAMOKHODKIN, I.M., red.; LOBANOV, Ye.M., red. izd-va; RIDNAYA, I.V., tekhn. red.

[Wages in inland water transportation for members of the crew and operational enterprises] Oplata truda na rechnom transporte rabotnikov plavaiushchego sostava i ekspluatatsionnykh predpriiatii. Moskva, Izd-vo "Rechnoi transport," 1961. 172 p. (MIRA 15:1)

(Wages--Inland water transportation)

SAMOKHODKIN, V. D. Lt. Col., Vet. Corps

"Feeding Horses with Fallen Leaves "(III)

"Bolezni Loshadey" (Equine Diseases), Sbornik Rabot (Collection of Work), Ogiz-Sel'khozgi 1947, Chapter V - Tests and Practice, p 242

Compiled by A. Yu. Branzburg and A. Ya. Shapiro, under Editorship of A. M. Laktionova, State Press for Agric. Literature.

A collection of works on epizootology, surgery, therapy and laboratory and clinical practice in treatment of equine diseases. In majority of cases, articles previously published in the journal Veterinariya or in one of the manuals issued by the Vet. Admin. of the Armed Forces USSR.

-W-9922, 1 May 1950 p 5

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LUKOMSKAYA, A.I.; ORLOVSKIY, P.N.; MEREZHANNYY, S.B.; STUKALOVA, A.F.;
Prinimali uchastiye: SAMOKHODKINA, K.G.; KALINOVA, L.T.;
GORINA, A.K.; STULOVA, V.T.

Effect of the surface-to-volume ratio of a test piece in the evaluation of the processing qualities of rubber blends. Kauch. i rez. 20 no. 4:36-42 Ap '61. (MIRA 14:5)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (for Lukomskaya, Orlovskiy, Merezhannyy, Stukalova).
(Rubber, Testing)

VOSTRIKOV, Nikolay Andreyevich; VAS'KOVSKIY, S.Ye.; IVANOV, N.A.; SAMOKHODSKAYA, I.I.; PASHENKO, L.T.; KRYUKOV, V.L., red.; GUREVICH, M.M., tekhn.red.

[Combined mechanized crews of corn cultivation] Zven'ia kompleksnoi mekhanizatsii vozdelyvaniia kukuruzy. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1960. 111 p. (MIRA 14:1)

(Corn (Maize)) (Agricultural machinery)

VOSTRIKOV, N.A., inzh.; SAMOKHODSKAYA, I.I., inzh.

Organize grain harvesting properly. Zemledelie 27 no.7:11-21 Jl '65. (MIRA 18:7)

1. Gosudarstvennyy nauchno-issledovatel'skiy tekhnologicheskiy institut remonta i ekspluatatsii mashinno-traktornogo parka.

VOSTRIKOV, N.A., inzh.; SAMOKHODSKAYA, I.I., inzh.

Postharvest processing of grain. Zemledelie 27 no.8: 65-77 Ag '65. (MIRA 18:11)

1. Gosudarstvennyy nauchno-issledovatel'skiy tekhnologicheskiy institut remonta i ekspluatatsii mashinno-traktornogo parka.

VOSTRIKOV, Nikolay Andreyevich; VAS'KOVSKIY, S.Ye.; IVANOV, N.A.; SAMOKHODSKAYA, I.I.; PASHEDKO, L.T.; KRYUKOV, V.L., red.; GUREVICH, M.M., tekhn.red.

[Over-all mechanized crews in corn cultivation] Zven'ia kompleksnoi mekhanizatsii vozdelyvaniia kukuruzy. Moskva, Gos. izd-vo sel'khoz.lit-ry, 1960. 111 p. (MIRA 14:3)

(Corn (Maize)) (Farm mechanization)

VOSTRIKOV, N.A., inzh.; SAMOKHODSKAYA, I.I., inzh.

Utilize efficiently plowing units. Zemledelie 25 no.8:86-90 Ag '63. (MIRA 16:10)

(Plowing)

KORNEYEV, N.I., doktor tekhn. nauk,prof., red.; SKUGAREV, I.G., kand. tekhn. nauk, dots.,red.; SAMOKHODSKIY, A.I., inzh.,red.; MOROZOVA, P.B., izd. red.; ROZHIN, V.P., tekhn. red.

[Pressure working of alloys] Obrabotka splavov davleniem; sbornik statei. Moskva, Gos. izd-vo obor. promyshl., 1958. 141 p. (MIRA 11:12)

(Alloys)
(Metalwork)

SAMOKHODSKIY, N.Ye.

Packing vibrators made by the Stalino Machine Plant for macaroni products. Khleb. i kond. prom. 1 no.4:37-39 Ap '57. (MLRA 10:5)

1. TSentral'naya nauchno-issledovatel'skaya laboratoriya makaronnoy promyshlennosti.
(Macaroni) (Packaging machinery)

SAMOKHODSKIY, N.Ye.

Spreader for loading PKS-10 and PKS-20 dryers. Khleb.i kond.prom. 1 no.6:16-18 Je '57. (MLRA 10:8)

1.TSentral'naya nauchno-issledovatel'skaya laboratoriya makaronnoy promyshlennosti.

(Drying apparatus)

MARTIROSOV, A.; SHER, A.; SAMOKHOTKIN, I.

Contribution of harbor efficiency promoters. Mor. flot 19 no.7:27-30 Jl '59. (MIRA 12:10)

1.Nachal'nik otdela portov Glavporta Ministerstva morskogo flota (for Martirosov). 2.Starshiy inzhener Otdela truda i zarplaty Ministerstva morskogo flota (for Sher). 3.Starshiy instruktor Otdela truda i zarplaty TSentral'nogo komiteta profsoyuza rabochikh morskogo i rechnogo flota (for Samokhotkin).
(Harbors) (Loading and unloading)

GABINSKIY, Viktor Isaakovich; YERMAKOV, Serafim Fedorovich; OKOL'NIKOV, A.S., retsenzent; SAMOKHOTKIN, I.M., red.; KAN, P.M., red. izd-va; BODROVA, V.A., tekhn. red.

[Organization of wages at machinery manufacturing shipbuilding and ship-repairing enterprises] Organizatsiia zarabotnoi platy na predpriiatiiakh mashinostroeniia, sudostroeniia i sudoremonta. Moskva, Izd-vo "Rechnoi transport," 1962. 228 p. (MIRA 15:6)
(Wages--Machinery industry) (Wages--Shipbuilding)

SAMOKHOTOV, A.V.

Lowering construction costs of plants producing refractory materials. Ogneupory 25 no.7:296-298 '60. (MIRA 13:8)

1. Vsesoyuznyy institut ogneuporov.
(Refractories industry--Equipment and supplies)
(Construction industry--Costs)

GURIN, Fedor Vasil'yevich, kand. tekhn. nauk; ANAN'YEV, Nikolay Vasil'yevich; SAMOKHOTSKAYA, E.A., ved. red.

[Overhead freight-carrying and freight-pushing conveyors used in the machinery industry] Podvesnye gruzonesushchie i gruzotolkaiushchie konveiery v mashinostroenii. Moskva, Gos. nauchno-issl. in-t nauchn. i tekhn. informatsii, 1964. 37 p. (Mekhanizatsiia i avtomatizatsiia tekhnologicheskikh protsessov; materialy zavodskogo opyta, no.10) (MIRA 18:3)

GURIN, Fedor Vasil'yevich, kand. tekhn. nauk; ANAN'YEV, Nikolay Vasil'yevich; SAMOKHOTSKAYA, E.A., ved. red.

[Nonserial ground-type conveyors used in the instrument and machinery industries] Neseriinye napol'nye konveiery, primeniaemye priborostroitel'noi i mashinostroitel'noi promyshlennostiami. Moskva, Gos.nauchn.-issl. in-t nauchn. i tekhn. informatsii, 1964. 39 p. (Mekhanizatsiia i avtomatizatsiia tekhnologicheskikh protsessov; materialy zavodskogo opyta, no.6) (MIRA 17:12)

KHARLAMOV, Vyacheslav Nikolayevich; SAMOKHOTSKAYA, E.A., ved. red.

[Automatic unloading of loose freight from railroad cars] Avtomatizirovannaia vygruzka sypuchikh gruzov iz zheleznodorozhnykh vagonov. Moskva, GOSINTI, 1964. 39 p. (Mekhanizatsiia i avtomatizatsiia tekhnologicheskikh protsessov; materialy zavodskogo opyta, no.12) (MIRA 18:2)

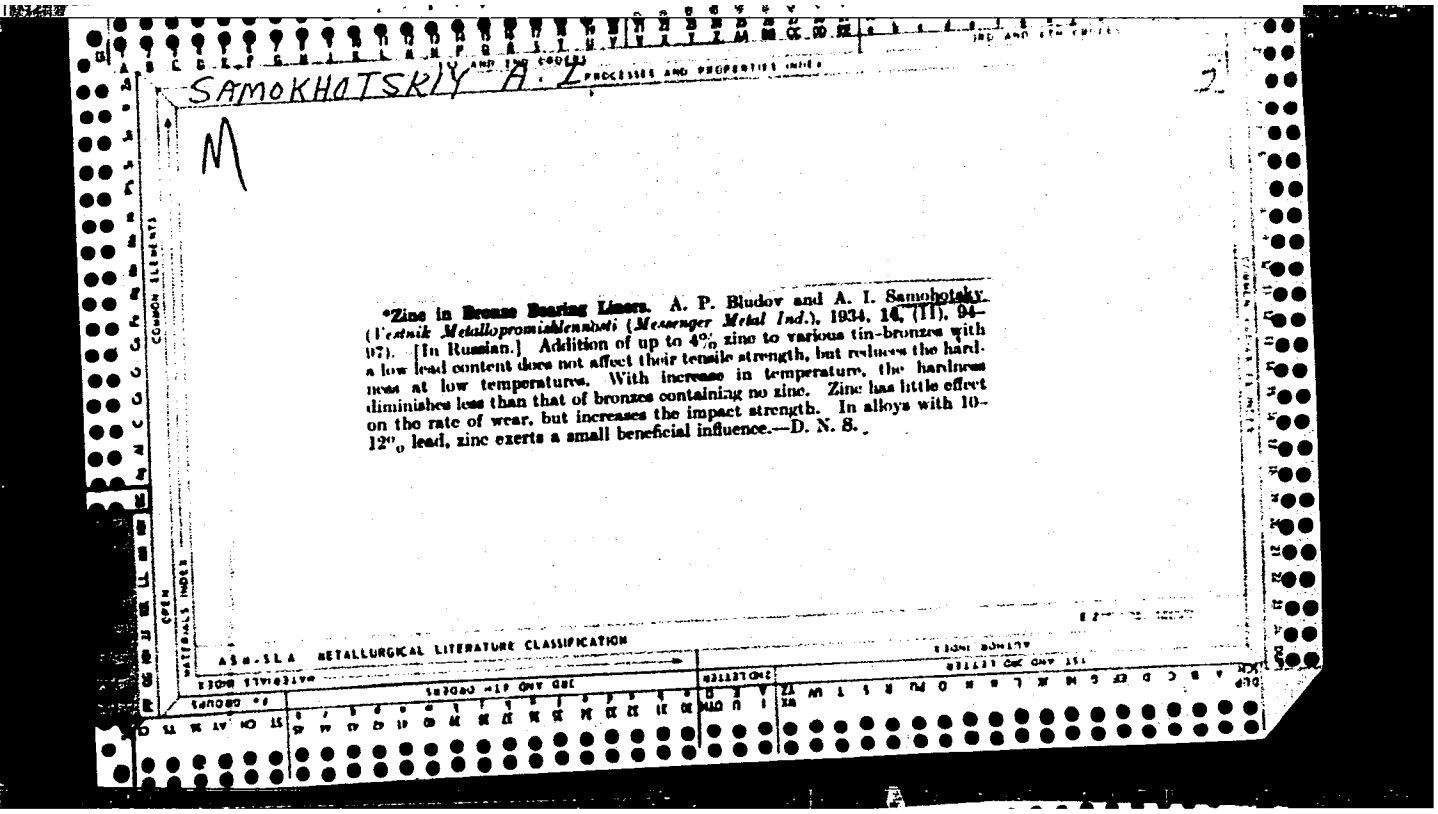
KHARLAMOV, Vyacheslav Nikolayevich; SAMOKHOTSKAYA, E.A., ved. red.

[Mechanized and centralized storage depots of industrial districts] Mekhanizirovannye tsentralizovannye skladskie khoziaistva promyshlennykh raionov. Moskva, Gos.nauchno-issl. in-t nauchn. i tekhn. informatsii, 1964. 41 p. (Mekhanizatsiia i avtomatizatsiia tekhnologicheskikh protsessov; materialy zavodskogo opyta, no.11) (MIRA 18:2)

DANILEVSKIY, Vladimir Viktorovich, dots.; Prinimal uchastiye POLUBINSKIY, V.I., yurist; SAMOKHOTSKIY, A.I., retsenzent; KHOLIN, V.A., retsenzent; STANKEVICH, V.G., inzh., retsenzent; SMIRNOV, B.V., nauchnyy red.; SAMSONOVA, M.T., red.izd-va; YEZHOVA, L.L., tekhn. red.

[Manual for technicians in machinery manufacture] Spravochnik tekhnika-mashinostroitelia. Moskva, "Vysshaia shkola," 1962. 644 p. (MIRA 15:6)

1. Chleny predmetnoy komissii Moskovskogo mashinostroitel'nogo tekhnikuma im. Dzerzhinskogo (for Samokhotskiy, Kholin, Stankevich).
(Mechanical engineering)



SAMOKHATSKIY A. I.

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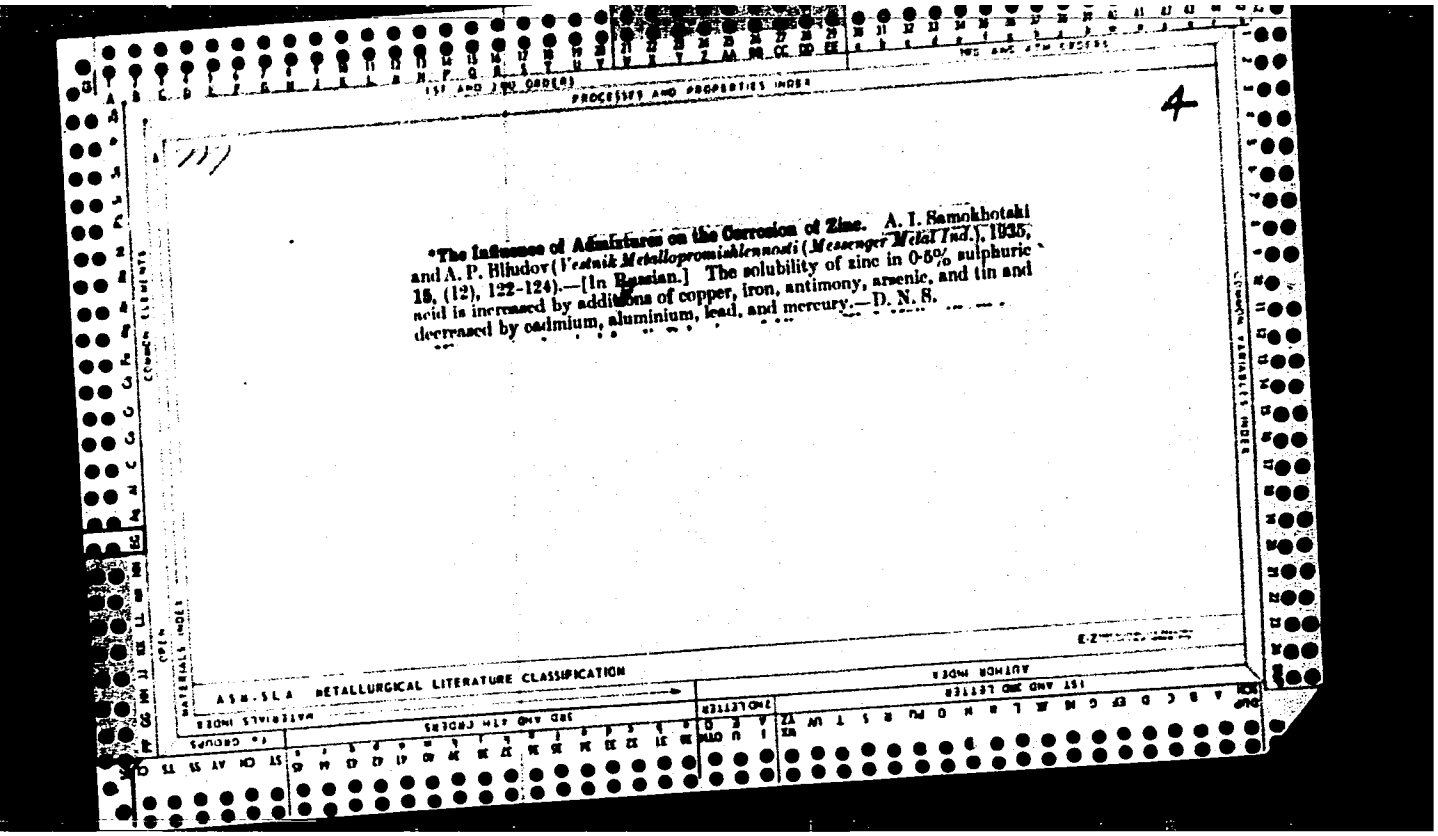
*Zinc in Bronze Bearing Liners. A. P. Bludov and A. I. Samohotsky (*Vestnik Metallopromishlennosti* (*Messenger Metal Ind.*), 1934, 14, (11), 94–97). [In Russian.] Addition of up to 4% zinc to various tin-bronzes with a low lead content does not affect their tensile strength, but reduces the hardness at low temperatures. With increase in temperature, the hardness diminishes less than that of bronzes containing no zinc. Zinc has little effect on the rate of wear, but increases the impact strength. In alloys with 10–12% lead, zinc exerts a small beneficial influence.—D. N. S.



PROCESSES AND PROPERTIES INDEX

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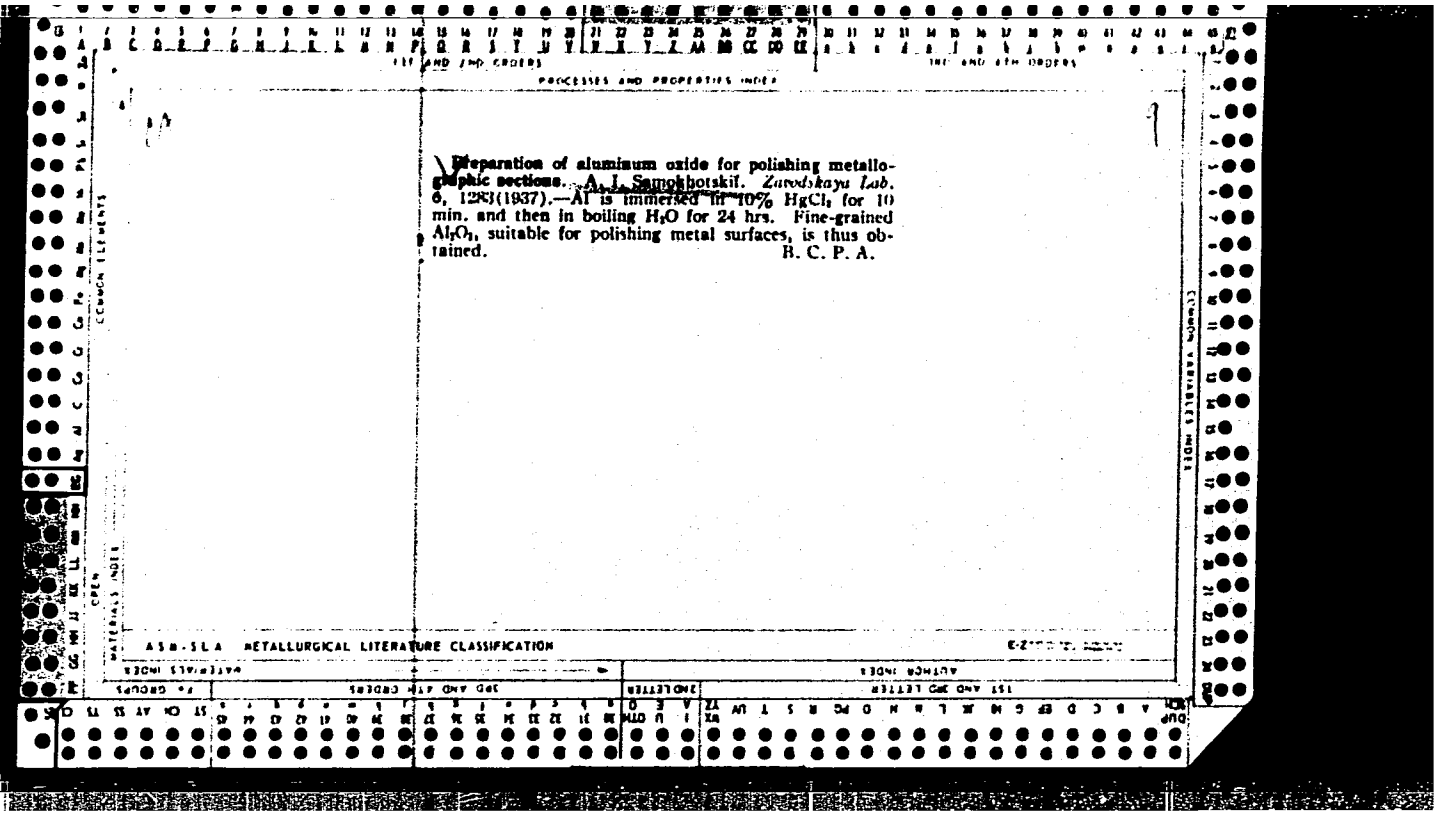
*The Influence of Admixtures on the Corrosion of Zinc. A. I. Samokhotski and A. P. Iliudov (*Vestnik Metallopromishlennosti* (*Messenger Metal Ind.*), 1935, 15, (12), 122-124).—[In Russian.] The solubility of zinc in 0·6% sulphuric acid is increased by additions of copper, iron, antimony, arsenic, and tin and decreased by cadmium, aluminium, lead, and mercury.—D. N. S.

METALLURGICAL LITERATURE CLASSIFICATION

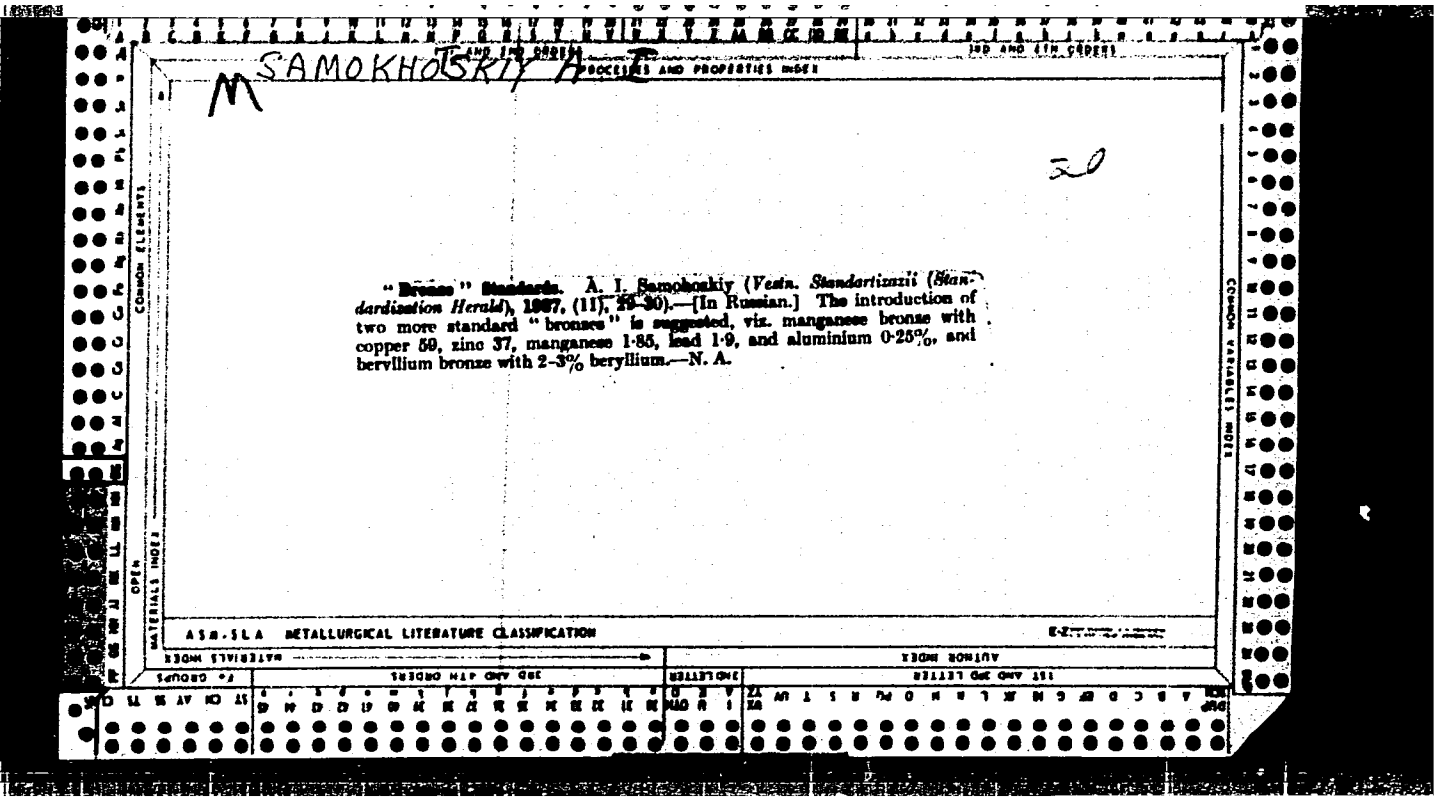
AUTHOR INDEX



PROCESSES AND PROPERTIES INDEX

Preparation of aluminum oxide for polishing metallographic sections. A. I. Samokhotskii. *Zavodskaya Lab.*, 6, 1283(1937).—Al is immersed in 10% $HgCl_2$ for 10 min. and then in boiling H_2O for 24 hrs. Fine-grained Al_2O_3, suitable for polishing metal surfaces, is thus obtained. B. C. P. A.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

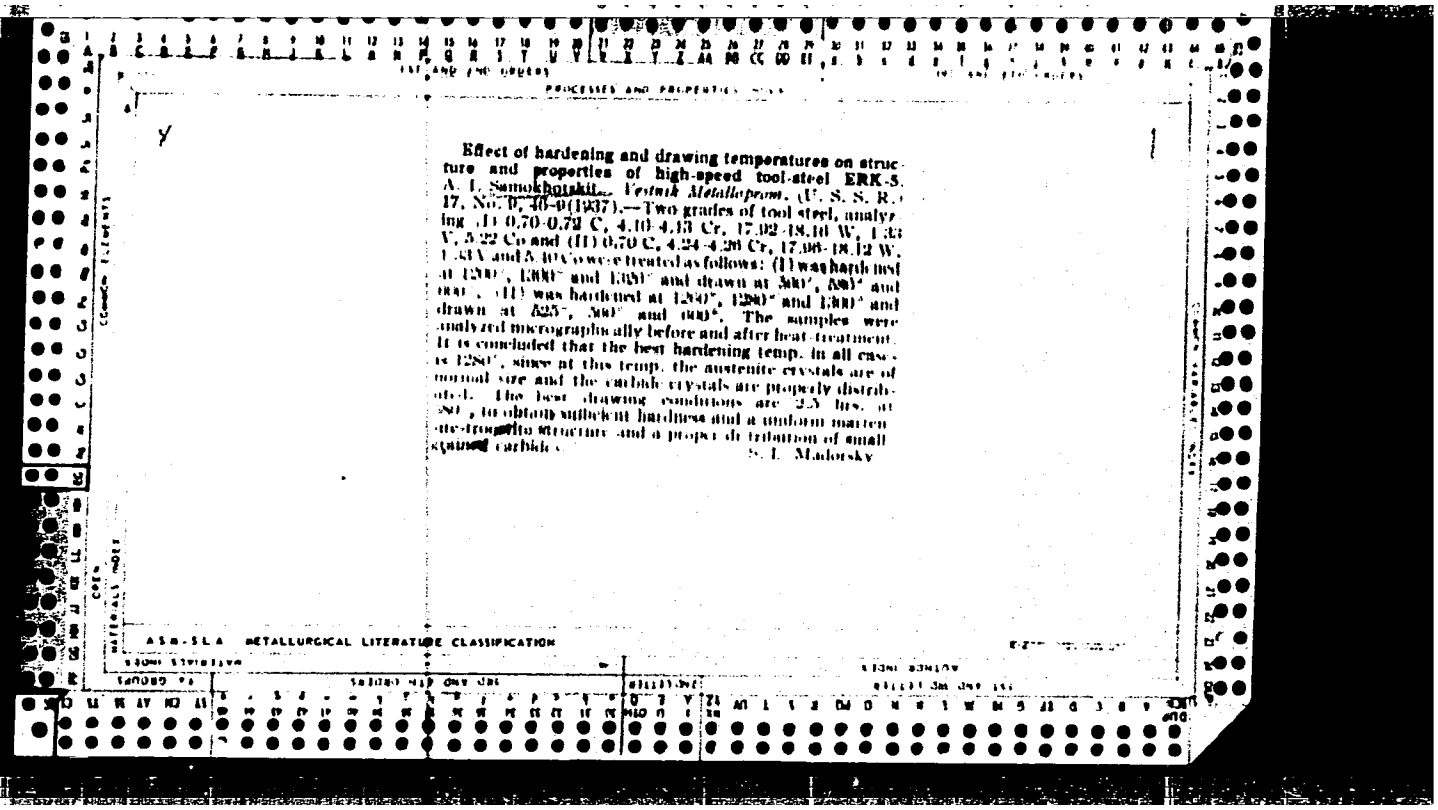


SAMOKHOTSKIY, A.I.

20

"Bronze" Standards. A. I. Samokhotskiy (*Vestn. Standartizatsii* (*Standardization Herald*), 1937, (11), 29–30).—[In Russian.] The introduction of two more standard "bronzes" is suggested, viz. manganese bronze with copper 59, zinc 37, manganese 1·85, lead 1·9, and aluminium 0·25%, and beryllium bronze with 2–3% beryllium.—N. A.

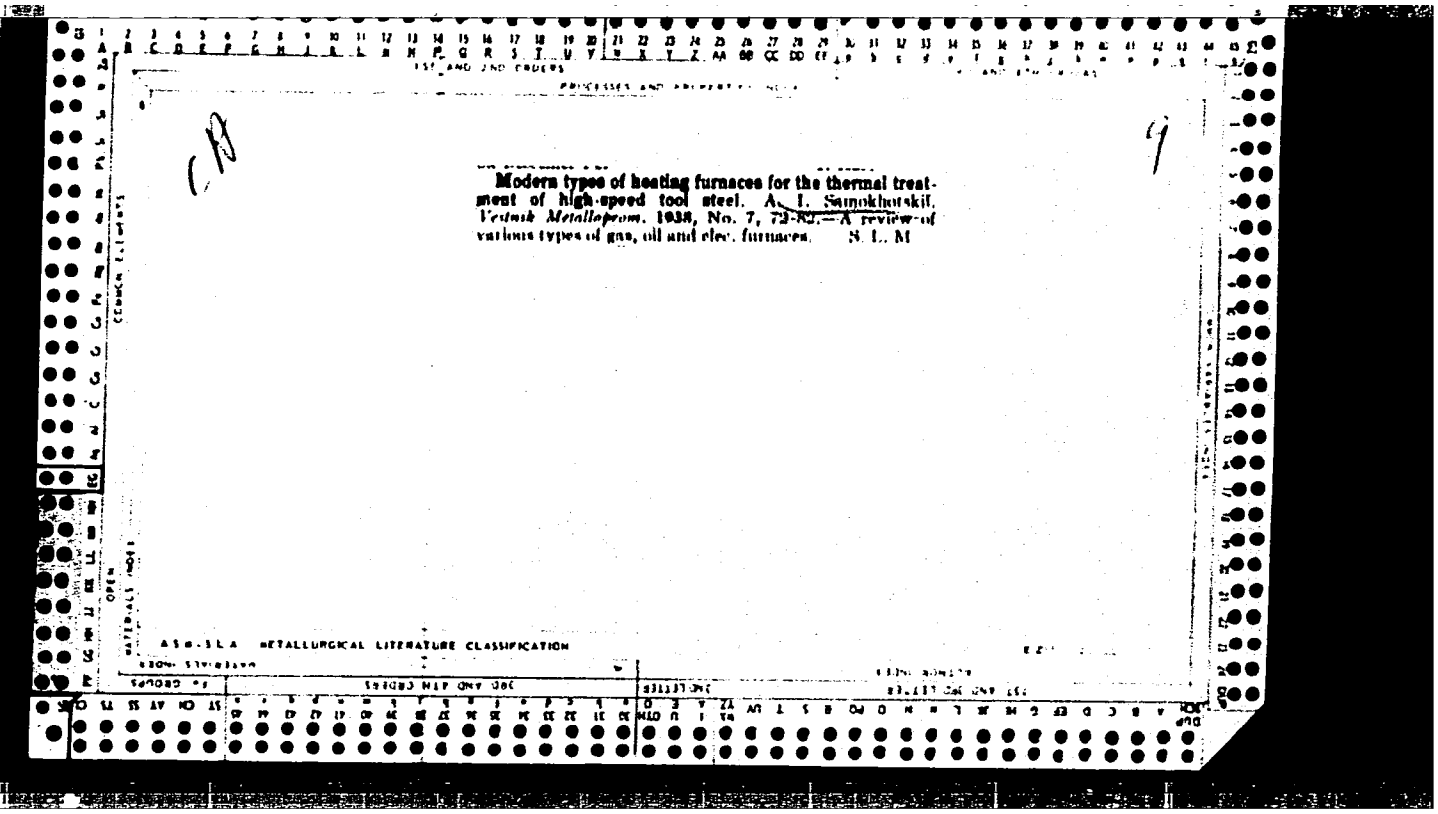
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



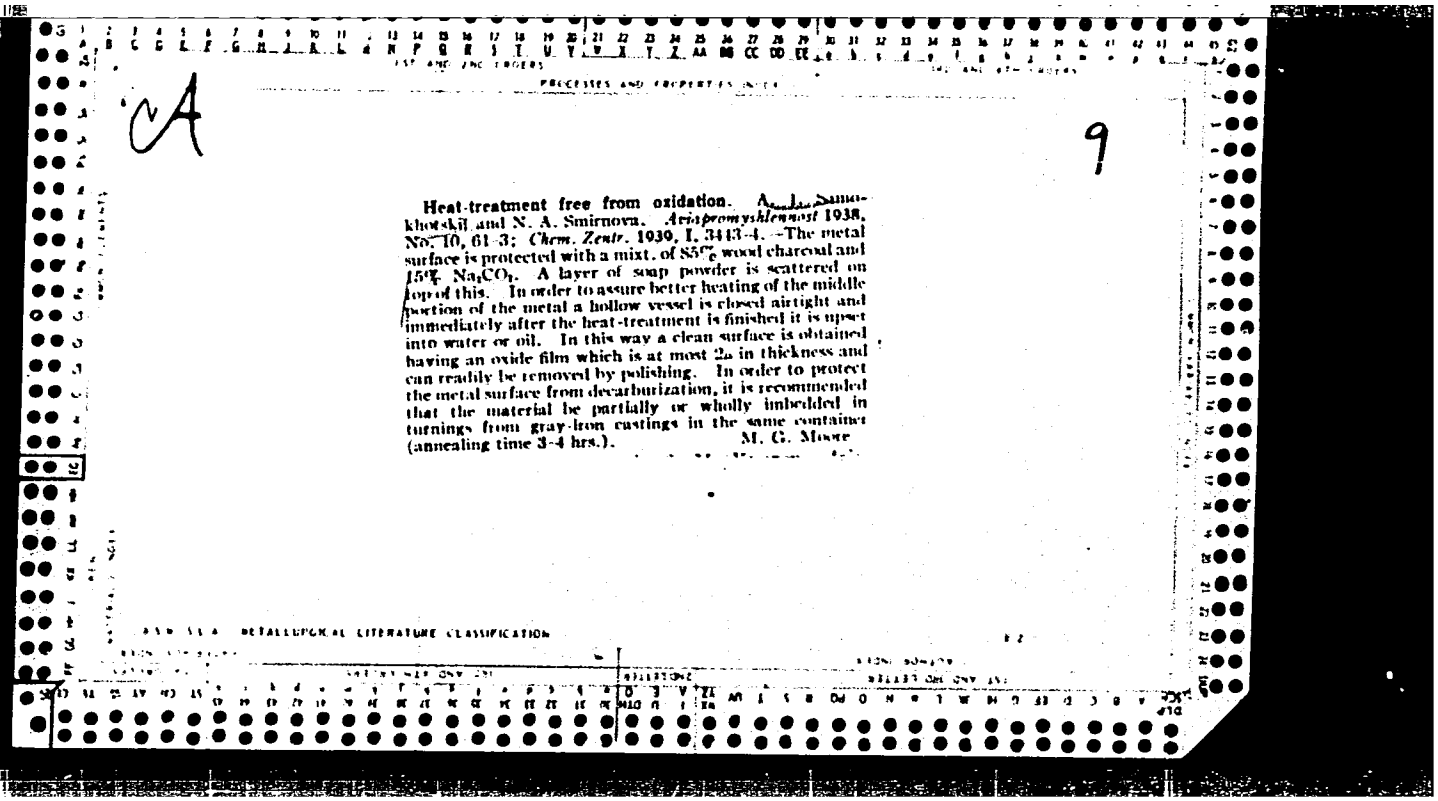
Effect of hardening and drawing temperatures on structure and properties of high-speed tool-steel ERK-5. A. I. Samokhotskii. *Vestnik Metallopromy.* (U. S. S. R.) 17, No. 9, 40-9(1937).—Two grades of tool steel, analyzing (I) 0.70-0.72 C, 4.10-4.13 Cr, 17.02-18.10 W, 1.33 V, 5.22 Co and (II) 0.70 C, 4.24-4.28 Cr, 17.08-18.12 W, 1.31 V and 5.10 Co were treated as follows: (I) was hardened at 1250°, 1300° and 1350° and drawn at 500°, 550° and 600°; (II) was hardened at 1250°, 1280° and 1300° and drawn at 525°, 560° and 600°. The samples were analyzed micrographically before and after heat-treatment. It is concluded that the best hardening temp. in all cases is 1280°, since at this temp. the austenite crystals are of normal size and the carbide crystals are properly distributed. The best drawing conditions are 2-3 hrs. at 560°, to obtain sufficient hardness and a uniform martensite-troostite structure and a proper distribution of small spheroidal carbides.

S. L. Madorsky

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Modern types of heating furnaces for the thermal treatment of high-speed tool steel. A. I. Samokhotskii. *Vestnik Metallopром.* 1938, No. 7, 72-82.—A review of various types of gas, oil and elec. furnaces. S. L. M



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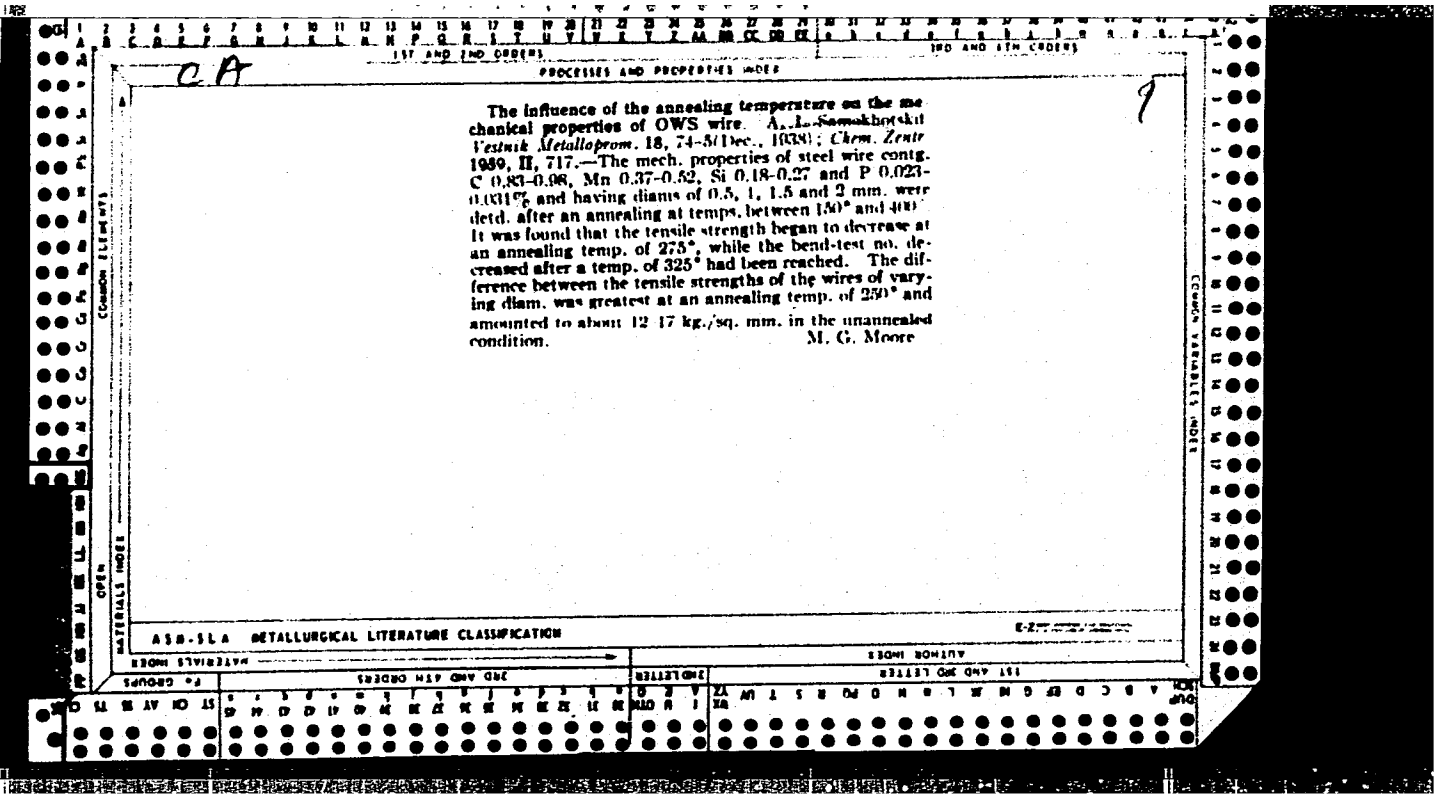
9

Heat-treatment free from oxidation. A. I. Samarkhotskii and N. A. Smirnova. *Aviapromyshlennost* 1938, No. 10, 61–3; *Chem. Zentr.* 1939, I, 3413–4.—The metal surface is protected with a mixt. of 85% wood charcoal and 15% Na_2CO_3. A layer of soap powder is scattered on top of this. In order to assure better heating of the middle portion of the metal a hollow vessel is closed airtight and immediately after the heat-treatment is finished it is upset into water or oil. In this way a clean surface is obtained having an oxide film which is at most 2μ in thickness and can readily be removed by polishing. In order to protect the metal surface from decarburization, it is recommended that the material be partially or wholly imbedded in turnings from gray-iron castings in the same container (annealing time 3–4 hrs.).

M. G. Moore

METALLURGICAL LITERATURE CLASSIFICATION



CA

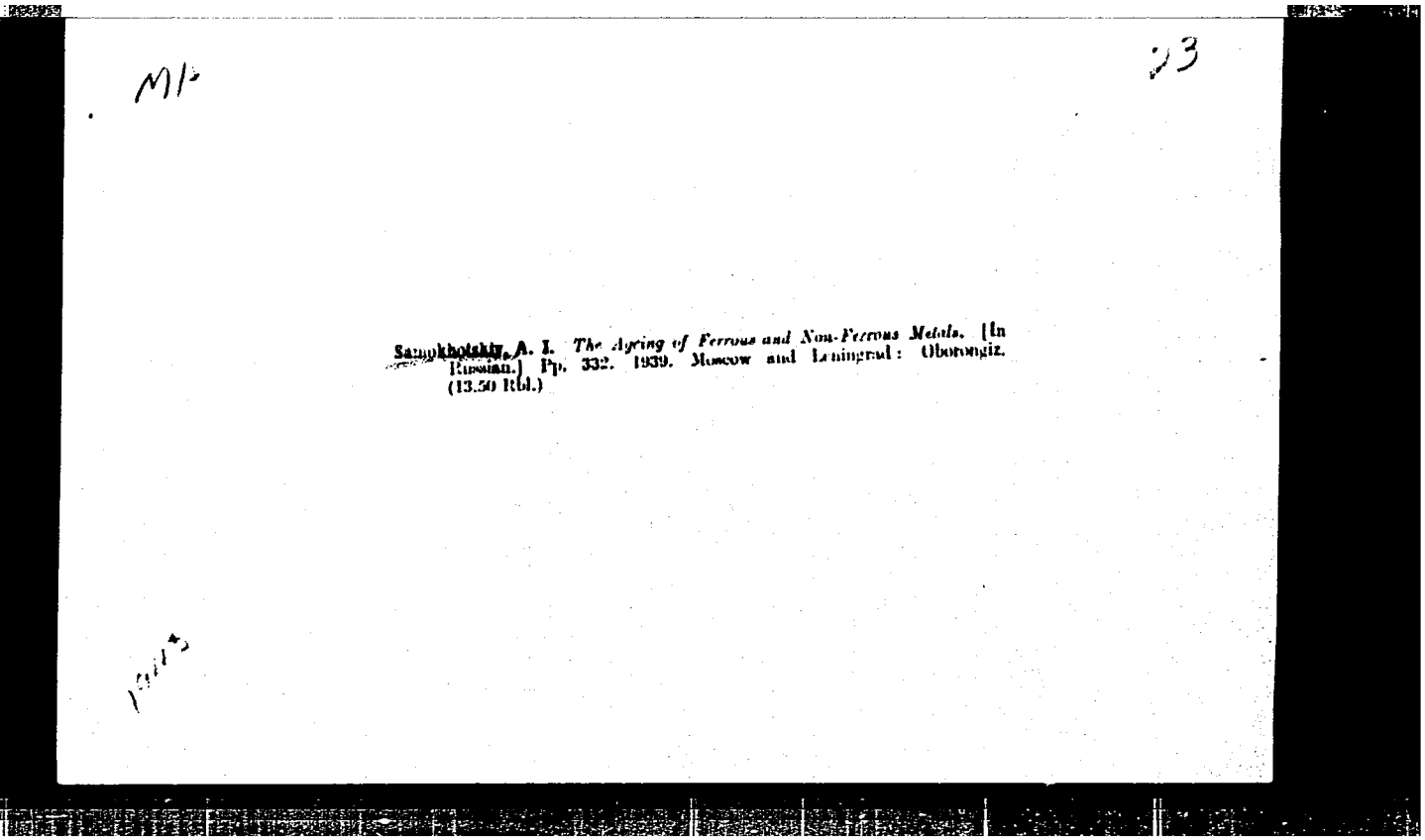
9

PROCESSES AND PROPERTIES INDEX

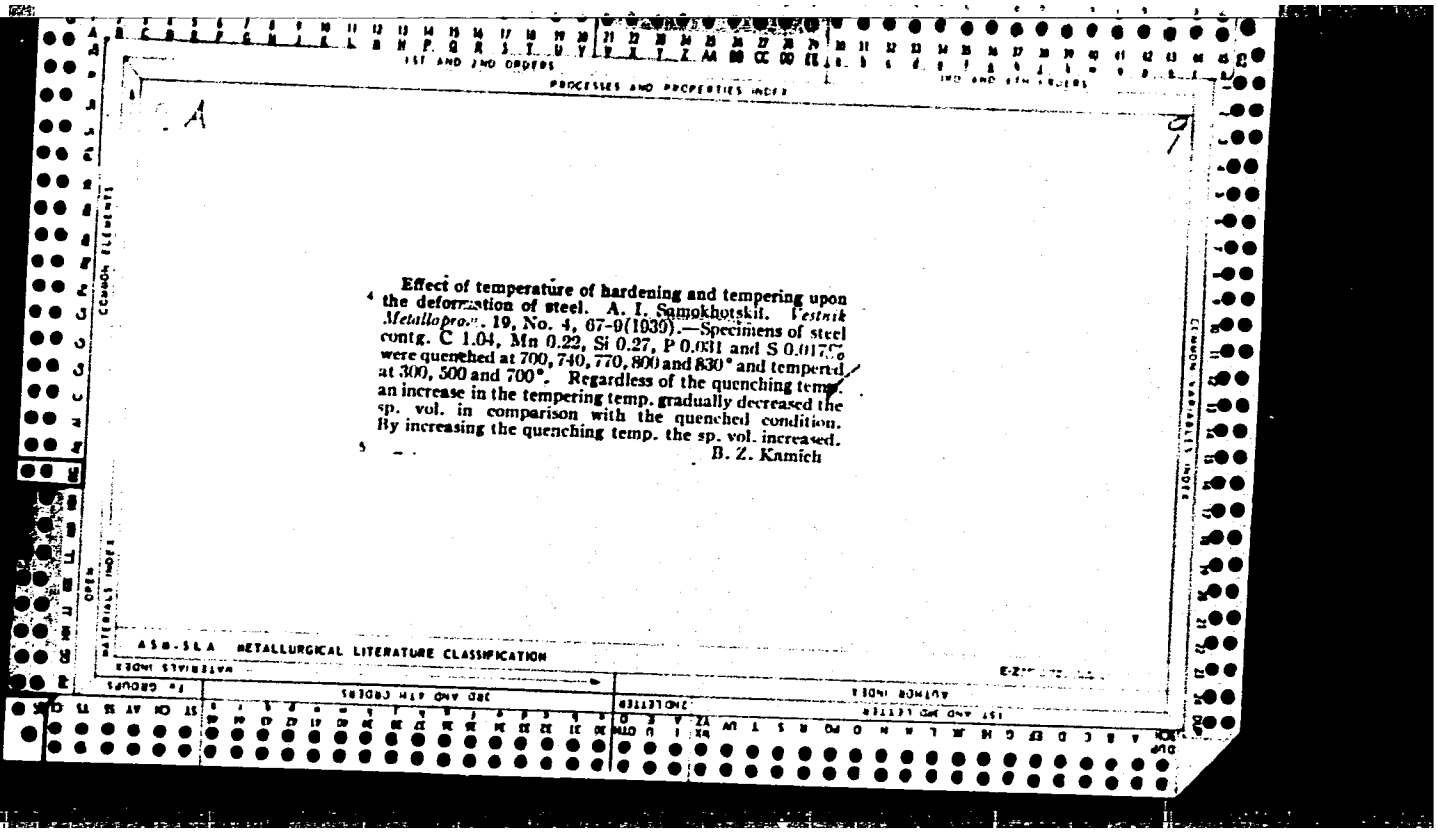
The influence of the annealing temperature on the mechanical properties of OWS wire. A. L. Samokhotskii *Vestnik Metalloprom.* 18, 74–5(Dec., 1938); *Chem. Zentr* 1939, II, 717.—The mech. properties of steel wire contg. C 0.83–0.98, Mn 0.37–0.52, Si 0.18–0.27 and P 0.023–0.031% and having diams of 0.5, 1, 1.5 and 2 mm. were detd. after an annealing at temps. between 150° and 400°. It was found that the tensile strength began to decrease at an annealing temp. of 275°, while the bend-test no. decreased after a temp. of 325° had been reached. The difference between the tensile strengths of the wires of varying diam. was greatest at an annealing temp. of 250° and amounted to about 12–17 kg./sq. mm. in the unannealed condition.

M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

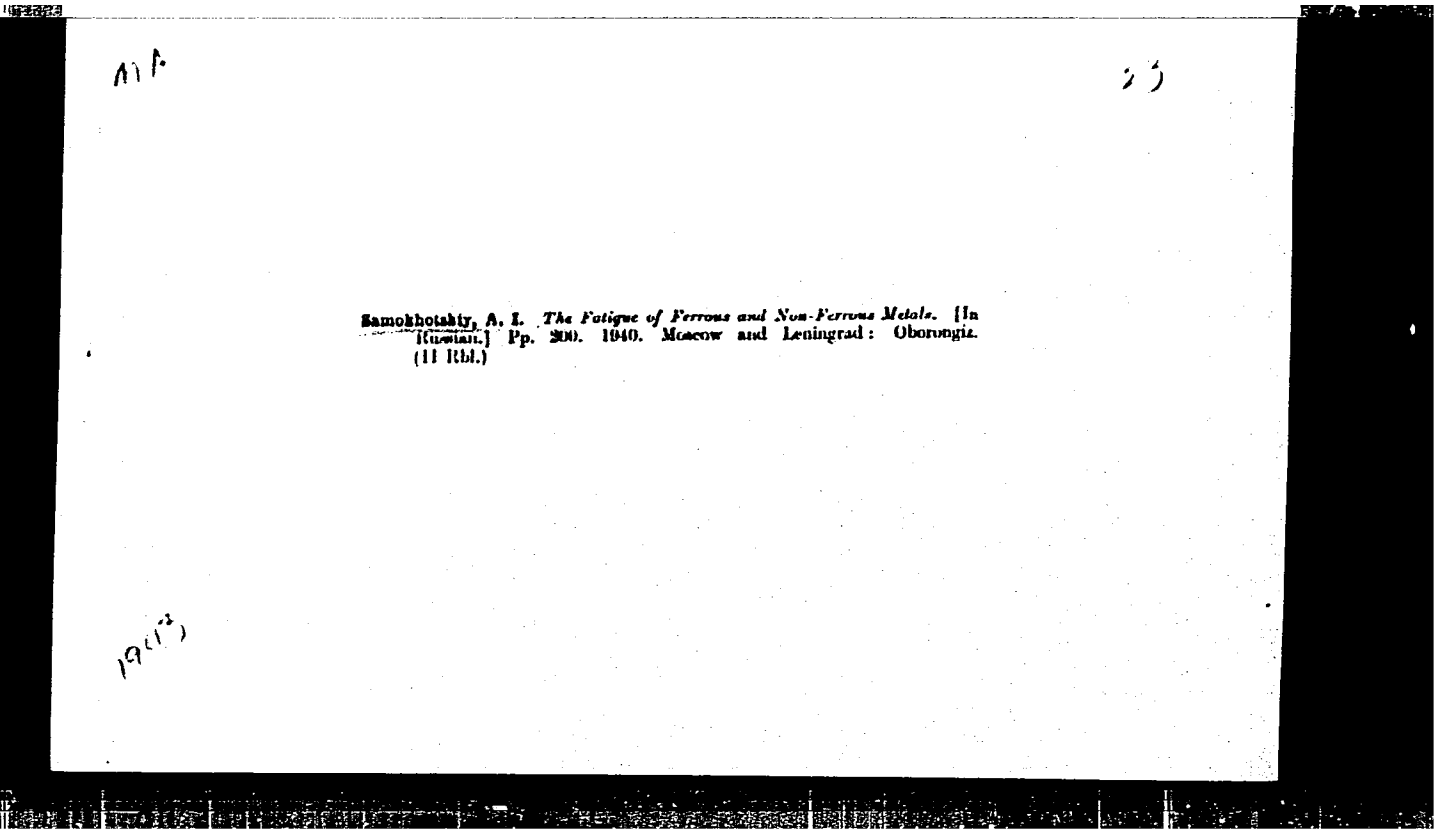


Samukhotskiy, A. I. *The Ageing of Ferrous and Non-Ferrous Metals.* [In Russian.] Pp. 332. 1939. Moscow and Leningrad: Oborongiz. (13.50 Rbl.)

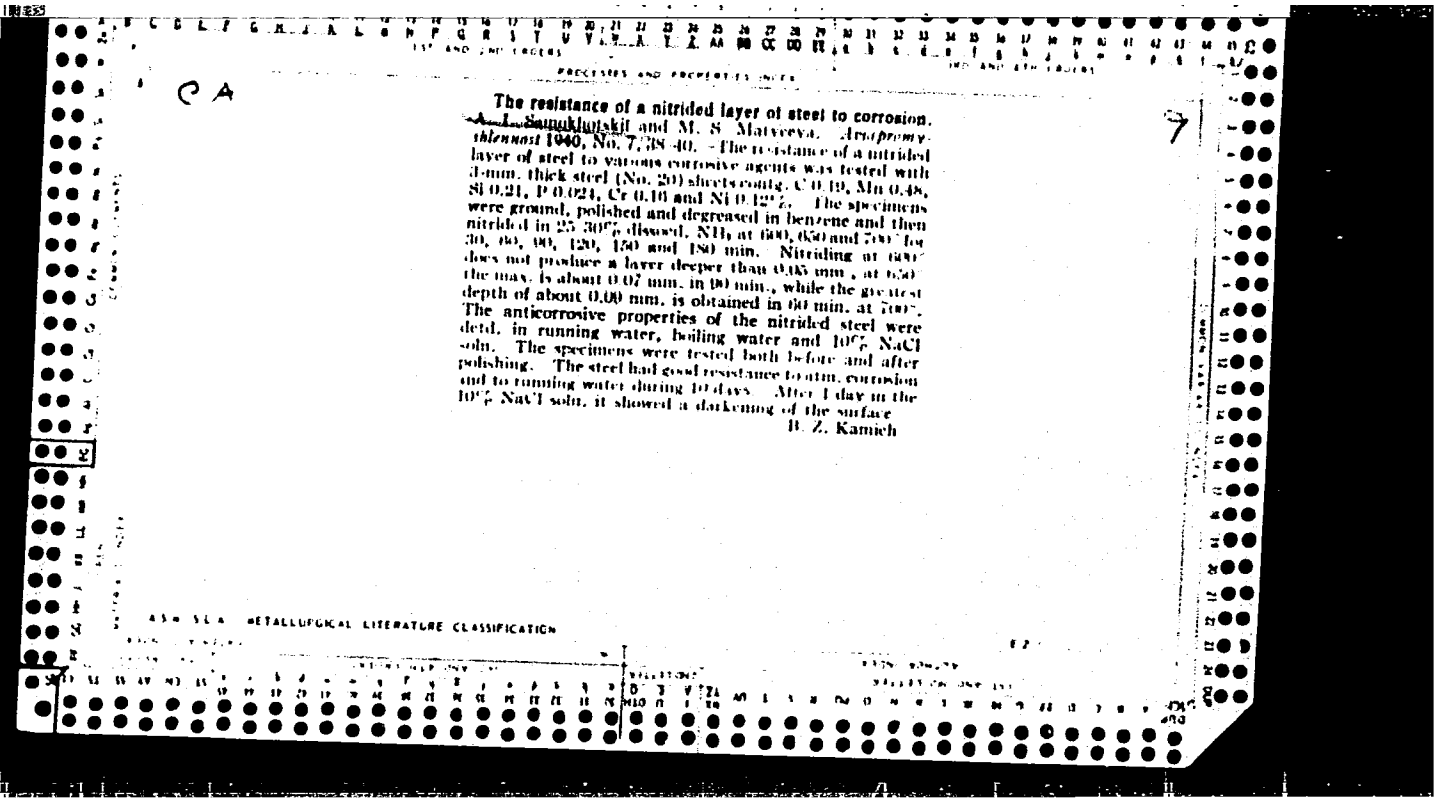


Effect of temperature of hardening and tempering upon the deformation of steel. A. I. Samokhotskii. *Vestnik Metallopro.*. 19, No. 4, 67-9(1939).—Specimens of steel contg. C 1.04, Mn 0.22, Si 0.27, P 0.031 and S 0.017% were quenched at 700, 740, 770, 800 and 830° and tempered at 300, 500 and 700°. Regardless of the quenching temp. an increase in the tempering temp. gradually decreased the sp. vol. in comparison with the quenched condition. By increasing the quenching temp. the sp. vol. increased.
B. Z. Kamich

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Samokhotskiy, A. I. *The Fatigue of Ferrous and Non-Ferrous Metals.* [In Russian.] Pp. 200. 1940. Moscow and Leningrad: Oborongiz. (11 Rbl.)



CA

The resistance of a nitrided layer of steel to corrosion. A. I. Sanukhinskii and M. S. Matveeva. *Azotirovanie stali* 1940, No. 7, 38-40. - The resistance of a nitrided layer of steel to various corrosive agents was tested with 3-mm. thick steel (No. 20) sheets containg C 0.19, Mn 0.48, Si 0.21, P 0.024, Cr 0.16 and Ni 0.12%. The specimens were ground, polished and degreased in benzene and then nitrided in 25-30% dissocd. NH_3 at 600, 650 and 700° for 30, 60, 90, 120, 150 and 180 min. Nitriding at 600° does not produce a layer deeper than 0.035 mm., at 650° the max. is about 0.07 mm. in 90 min., while the greatest depth of about 0.09 mm. is obtained in 90 min. at 700°. The anticorrosive properties of the nitrided steel were detd. in running water, boiling water and 10% NaCl soln. The specimens were tested both before and after polishing. The steel had good resistance to atm. corrosion and to running water during 10 days. After 1 day in the 10% NaCl soln. it showed a darkening of the surface.

B. Z. Kamich

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

A.T. SAMOKHOTSKIY

Substitutes for Bronzes in Repairing Equipment. A. T. Samokhotskiy and A. P. Sorokin (*Aviatsionnaya Prom.* (*Aviation Ind.*), 1941, 1, 25[illegible]). *Chem. Zentr.*, 1942, 113, (I), 861; *C. Abs.*, 1943, 37, 2767. The following bearing metals are suggested as substitutes for copper-tin bronzes: cast iron; the aluminium alloy AM 5 with 5% copper, [illegible] manium); the lead-bronze BrS 30 with 69-73% copper and 31-27% [illegible] the aluminium-iron bronze BrAZh 9-4 with 9 ± 1% aluminium, [illegible] and rest copper; the tin-containing bronze OTsS 6-6-3 with 6 ± 1% tin, 6 ± 1% zinc, 3 ± 1% lead, and the rest copper; and the silicon-lead bronze LKS 80-3-3 with 80 ± 1% copper, 3.5 ± 1% silicon, 3.5 ± 1% lead, and the rest zinc. The properties of these alloys pertinent to their use as [illegible] metals and as bushings are given.

1943

SAMOKHOTSKIY, A. I. and I. N. LAGUNTSOV.

Tekhnologiia termicheskoi obrabotki. Dop v kachestve uchebnika dlia mashinostroit. technikumov UUZ Min. avtomobil'noi i traktornoi promyshl. SSSR. Moskva, Mashgiz, 1950. 376 p. illus.

(Technology of heat treatment.)

DLC: TN672.S3

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

SAMOKHOTSKIY, A. I.

N/5
615. 15
.S1

Metallovedeniye (Metallography, By) A. I. Samokhotskiy I M. N. Kunyavskiy. Moskva, Mashgiz, 1952.
368 P. Diagrs., Tables.

SAMOKHOTSKIY, A.I., inzhener; KUNYAVSKIY, M.N., kandidat tekhnicheskikh nauk; MODEL', B.I., tekhnicheskiy redaktor.

[The science of metals] Metallovedenie. Izd. 2-e perer. i dop. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. i sudostroit. lit-ry, 1954. 448 p. (MLRA 7:11)

(Metals)

KUNYAVSKIY, M.N.; SAMOKHOTSKIY, A.I.; ASSONOV, A.D., kandidat tekhnicheskikh nauk, laureat Stalinskoy premii, retsenzent; RYBIN, V.V., inzhener, redaktor; KOLLI, A.Ya., redaktor; MATVEYKVA, Ye.N., tekhnicheskiy redaktor.

[Principles of metallography and heat treatment] Osnovy metallovedeniia i termicheskoi obrabotki. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroitel'noi lit-ry, 1955. 371 p. (MLRA 8:12)
(Metals--Heat treatment) (Metallography)

SAMOKHOTSKIY, A.I.

MALYSHEV, Anatoliy Ivanovich; RAKOVSKIY, Valentin Sergeyevich; TELIS, Mikhail Yakovlevich; KHIMUSHIN, Fedor Fedorovich; SAMOKHOTSKIY, A.I., inzh., red.; LOSEVA, G.F., red.izd-va; ZUDAKIN, I.M., tekhn.red.

[Technology of metals and materials for airplane construction] Tekhnologiia metallov i aviatsionnye materialy. Moskva, Gos. izd-vo obor. promyshl., 1957. 358 p. (MIRA 11:3)
(Metallurgy) (Wood) (Plastics)

MIKHAYLOVA, Tamara Ivanovna; SHTRYMOV, Aleksey Ivanovich; AL'BERT, Mark Aleksandrovich; SAMOKHOTSKIY, AI., inzh., ved. red.; SOROKINA, T.M., tekhn. red.

[New type of forging rolls. Automatic loading and unloading of ingots into and out of soaking pits]Kovochnye val'tsy novoi konstruktsii. Avtomatizatsiia zagruzki i vygruzki zagotovok iz nagrevatel'nykh pechei. [By]M.A.Al'bert. Moskva, Filial Vses. in-ta nauchn. i tekhn. informatsii, 1958. 11 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 5. No.M-58-154/7) (MIRA 16:2)
(Forging machinery) (Materials handling)

BLINNIK, Lazar' Borisovich; KOZLOV, Vladimir Vasil'yevich; TUCHINSKIY, Naum Vladimirovich; RAGAZINA, M.F., inzh., ved. red.; SAMOKHOTSKIY, A.I., inzh., red.; SOROKINA, T.M., tekhn. red.

[Efficient conditions for the aging of cast iron]Ratsional'nye rezhimy stareniia chugunnykh otlivok. Moskva, Filial Vses. in-ta nauchn.i tekhn. informatsii, 1958. 12 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyy opyt. Tema 3. No.M-58-112/5)
(MIRA 16:2)

(Cast iorn—Hardening)

SAMOKHOTSKIY, Aleksey Ivanovich; KUNYAVSKIY, Mikhail Naumovich [deceased]; RYBIN, V.V., inzh., red.; MALYSHEV, A.I., inzh., retsenzent; RZHAVINSKIY, V.V., inzh., red.; MODEL', B.I., tekhn.red.

[Laboratory research on metals] Laboratornye raboty po metallovedeniiu. Pod red. V.V.Rybina. Moskva, Gos.nauchno-tekhn.izd-vo mashinostr.lit-ry, 1959. 275 p. (MIRA 12:10)
(Metals--Testing) (Metallography)

SAMOKHOTSKIY, A.I.; ASSONOV, A.D., kand. tekhn. nauk; FRID, L.I., inzh., red.; EL'KIND, V.D., tekhn. red.

[Technology of the heat treatment of metals] Tekhnologiia termicheskoi obrabotki metallov. Moskva, Mashgiz, 1962. 427 p. (MIRA 16:2)
(Metals--Heat treatment)

TRUBITSYN, Nikolay Alekseyevich, inzh.; SAVEYKO, Vladislav Nikolayevich, kand. tekhn. nauk; BIDULYA, Pavel Nikolayevich, doktor tekhn. nauk; SAMOKHOTSKIY, A.I., inzh., red.; SHVETSOV, G.V., tekhn. red.

[Hot crack resistance in carbon steel castings]Goriachaia treshchinoustoichivost' litoi uglerodistoi stali. Moskva, Filial Vses. in-ta nauchn. i tekhn. informatsii, 1958. 13 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 1. No.M-58-207/4) (MIRA 16:3)

(Steel castings--Defects) (Thermal stresses)

MAKEYEV, Igor' Mikhaylovich; SAMOKHOTSKIY, A.I., inzh., ved. red.; GOPMAN, L.M., red.; SOROKINA, T.M., tekhn. red.

[Improved design of steel pouring ladles] Usovershenstvovanie konstruktsii stalerazlivochnykh kovshei. Moskva, Filial Vses. in-ta nauchn. i tekhn. informatsii, 1958. 27 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 1. No.M-58-263/5) (MIRA 16:3)
(Open-hearth furnaces--Equipment and supplies)

SAYKINA, Vera Nikolayevna, inzh.; KALYANOVA, Mariya Pavlovna, inzh.; TRYASUNOVA, Ye.V., inzh., ved. red.; SAMOKHOTSKIY, A.I., inzh., red.; SOROKINA, T.M., tekhn. red.

[Chemical and heat treatment of friction surfaces instead of honing]Khimiko-termicheskaia obrabotka poverkhnostei treniia vzamen dovodki. Moskva, Filial Vses. in-ta nauchn. i tekhn. informatsii, 1958. 7 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 3. No.M-58-246/8) (MIRA 16:2)
(Surfaces (Technology))

SOKOLOV, Nikolay Leonidovich; SAMOKHOTSKIY, A.I., inzh., ved. red.; L'VOV, D.S., kand. tekhn. nauk, red.; SOROKINA, T.M., tekhn. red.

[Economy of die steel in drop forging with mechanical forging presses] Ekonomiia shtampovoi stali pri shtampovke na krivoshipnykh kovochno-shtampovochnykh pressakh. Moskva, Filial Vses. in-ta nauchn. i tekhn. informatsii, 1958. 11 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 5. No.M-58-202/11) (MIRA 16:3)

(Forging)

(Dies (Metalworking))--Maintenance and repair)

PALITSYN, Vladimir Andreyevich, inzh.; SPEKTOR, Moisey Isaakovich, inzh.; OSKOLKOV, Aleksey Ivanovich, inzh.; SAMOKHOTSKIY, A.I., inzh., ved. red.; TRUSOV, L.P., kand. tekhn. nauk, red.; SOROKINA, T.M., tekhn. red.

[High-temperature double-chamber electric furnace for heating stamping billets] Vysokotemperaturnaia dvukhkamernaia elektricheskaia pech' dlia nagreva zagotovok pod shtampovku. Moskva, Filial Vses. in-ta nauchn. i tekhn. informatsii, 1958. 11 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 5. No.M-58-206/12) (MIRA 16:3)

(Electric furnaces)

BAKSHEYEV, Sergey Mikhaylovich, kand. tekhn. nauk; SAMOKHOTSKIY, A.I., inzh., ved. red.; SHOR, E.R., kand. tekhn.nauk, red.; SOROKINA, T.M., tekhn. red.

[Deformability of structural carbon steel] Deformiruemost' konstruktsionnoi uglerodistoi stali. Moskva, Filial Vses. in-ta nauchn. i tekhn. informatsii, 1958. 15 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 5. No.M-58-247/13) (MIRA 16:3)
(Steel, Structural—Testing)
(Deformations (Mechanics))

MALYSHEV, A.I.; NIKOLAYEV, G.N.; SHUVALOV, Yu.A.; SAMOKHOTSKIY, A.I., red.; VOLKOVA, N.A., red.; VORONINA, R.K., tekhn. red.

[Technology of metals and building materials] Tekhnologiia metallov i konstruktsionnye materialy. Moskva, Vysshaia shkola, 1963. 429 p. (MIRA 16:7)
(Metalwork) (Building materials)

DAVIDOVSKAYA, Yelena Aleksandrovna, kand. tekhn. nauk; KESTEL', Lyubov' Prokof'yevna, inzh.; URYUPINA, Yekaterina Ivanovna, kand. tekhn. nauk; RAGAZINA, M.F., inzh., ved. red.; SAMOKHOTSKIY, A.I., inzh., red.; PONOMAREV, V.A., tekhn.red.

[Effect of heat treatment on the tendency in stainless steel toward intercrystalline corrosion] Vliianie termicheskoi obrabotki na sklonnost' nerzhaveiushchikh stalei k mezhkristallitnoi korrozii. Moskva, Filial Vses. in-ta nauchn. i tekhn. informatsii, 1958. 11 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 13. No.M-58-15/1) (MIRA 16:3)
(Steel, Stainless--Corrosion)
(Metals, Effect of temperature on)

BELKOV, Georgiy Mikhaylovich; LITENKO, Nikolay Tikhonovich; ZHURAVLEV, Yuriy Arsen'yevich; SAMOKHOTSKIY, A.I., inzh., ved. red.; OL'SHANSKAYA, I.V., inzh., red.; SOROKINA, T.M., tekhn. red.

[Effect of heating conditions on the plastic properties of 9KhF steel at forging temperatures. Skid hopper for metal feed from the furnace to the forging hammer] Vliianie rezhima nagreva na plasticheskie svoistva stali 9KhF pri kovochnykh temperaturakh. Metallopodavatel' ot pechi k kovochnomu molotu. [By] IU.A.Zhuravlev. Moskva, Filial Vses. in-ta nauchn. i tekhn. informatsii, 1958. 14 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 5. No.M-58-252/14) (MIRA 16:3)

(Metals, Effect of temperature on)
(Forge shops--Equipment and supplies)

LEYKIN, Abram Yefimovich; POROTSKIY, Efroim Solomonovich; RODIN, Boris Iosifovich; SAMOKHOTSKIY, A.I., inzh., retsenzent; ZOL'NIKOVA, N.K., inzh., retsenzent; ROMADIN, K.P., kand. tekhn. nauk, red.

[Aircraft materials] Aviatsionnoe materialovedenie. Moskva, Mashinostroenie, 1964. 458 p. (MIRA 17:12)

L 00650-67 EWT(m)/T/EWP(t)/ETI IJP(c) GD/JD

ACC NR: AT6016346 (N) SOURCE CODE: UR/0000/65/000/000/0104/0109

AUTHORS: Kunin, N. F.; Zhilik, K. K.; Voropayev, A. G.; Samokhval, V. V.

ORG: Belorussian State University im. V. I. Lenin (Belorusskiy gosudarstvennyy universitet)

TITLE: Thermal treatment of silver, copper, and tin vacuum condensates

SOURCE: AN UkrSSR. Podvizhnost' atomov v kristallicheskoy reshetke (Mobility of atoms in crystal lattice). Kiev, Izd-vo Naukova dumka, 1965, 104-109

TOPIC TAGS: ~~thin~~ metal film, silver, copper, tin, metal heat treatment, activation energy

ABSTRACT: The laws for stabilizing the properties of silver, tin, and copper thin films are investigated in order to remove the data scatter in their properties caused by the method of film preparation and to study the nature of the defects present in the freshly deposited films. The films were deposited on a glass substrate at room temperature in a 10^{-4} mm Hg vacuum. After deposition, the metal films were spontaneously aged at room temperature for 50 hrs during which time their resistance decreased gradually. The heat treatment for tin was made at 150C in hydrogen as well as in air, without an irreversible change in its resistance. The heat treatment for silver was at 70--120C and for copper at 150--200C. The results are shown on graphs and tables. Plots are given of resistance versus time, relative change in film resistance versus

Card 1/2

L 00650-67

ACC NR: AT6016346

time, activation energy as a function of temperature, and curves of resistivity versus film thickness. The results show that in freshly deposited silver and copper films there exist many structural defects with widely varying spectra of activation energies. Also, the heat treatment stabilizes the film properties of all three metals. Orig. art. has: 4 formulas, 4 figures, and 2 tables.

SUB CODE: 11/ SUBM DATE: 10Nov64/ ORIG REF: 003/ OTH REF: 002

Card 2/2 pb

SAMOKHVALENKO, A.A.

Apparatus for greasing tin cans. Kons.i ov.-vrom. 15 no.2:17 F '60. (MIRA 13:5)

1. Chernigovskiy ovoshchesushil'nyy zavod.
(Chernigov--Tin cans)

SAMOKHVALENKO, A.A.

Use of the KRP redesigned machine for slicing potatoes into strips. Kons.i ov.prom. 15 no.3:12-13 Mr '60. (MIRA 13:6)

1. Chernigovskiy ovoshchesushil'nyy zavod.
(Chernigov--Potatoes)
(Chernigov--Canning and preserving--Equipment and supplies)

SAMOKHVALENKO, A.A.

Mechanization of the removal of ash entrained from flues.
Kons.i ov.prom. 15 no.4:23 Ap '60. (MIRA 13:6)

1. Chernigovskiy ovoshchesushil'nyy zavod.
(Chernigov--Canning industry--Equipment and supplies)

SAMOKHVALENKO, A.I.

Device for heating the discharge pan of KPK/A press dies. Kons.i ov.prom. 16 no.5:16 My '61. (MIRA 14:5)

1. Chernigovskiy ovoshchesushil'nyy zavod.
(Canning and preserving—Equipment and supplies)

SAMOKHVALENKO, A.M.

Automation of the pumping operation of an artesian well.
Kons. i ov. prom. 16 no.6:18-19 Je '61. (MIRA 14:8)

1. Chernigovskiy ovoshchesushil'nyy zavod.
(Artesian wells) (Automation)

SAMOKHVALENKO, A.M.

Device for proportioning dried vegetables for compressing into blocks. Kons. i ov. prom. 16 no.7:28 Jl '61. (MIRA 14:8)

1. Chernigovskiy ovoshcheсushil'nyy zavod.
(Vegetables—Drying)

COUNTRY : USSR
CATEGORY : Cultivated Plants. Cereals. M

ABS. JOUR. : RZhBiol., No.14, 1958, No. 63325

AUTHOR : Samokhvalenko, S. K.
INST. : Ukrainian Scientific and Research Institute of Hydraulic*
TITLE : Basis for the Rates and Periods of the Irrigation of Winter Wheat in the Southern Part of the Steppe in Ukraine.

ORIG. PUB. : Nauchn. tr. Ukr. n.-i. in-t gidrotekhn. i melior., 1956, vyp. 77/3, 13-25

ABSTRACT : Results of experiments at Kamensko-Dneprovskaya and Brilevskaya experimental stations(1951-1953). The principal irrigation for winter wheat is considered to be the pre-sowing moisture charging irrigation. On the slightly clayey chernozems in the area of Kamensko-Dneprovskaya station, one vegetation watering in April-beginning of May is recommended in addition to the moisture charging application. Two vegetation waterings are required in the area of Brilevskaya

* Engineering and Melioration

Card: 1/2

28

Card: 2/2

USSR/Cultivated Plants - Grains.

Abs Jour : Ref Zhur - Biol., No 9, 1958, 39195

Author : Samokhvalenko, S.K.
Inst : -
Title : Irrigation of Winter Wheat.

Orig Pub : Kolgospnik Ukraini, 1957, No 8, 39-40.

Abstract : No abstract.

Card 1/1

TYULENEV, N.A., doktor sel'khoz. nauk, prof., otv. red.; ALPAT'YEV, S.M., kand.sel'khoz. nauk, otv. red.; [illegible] red.; MOSHINSKIY, [illegible] red.; KUTKOVSKIY, B.I., kand. K.P., kand. tekhn. nauk, red.; SAMOKHVALENKO, S.K., kand. sel'khoz. tekhn. nauk, red.; ORLOVA, N.A., kand. tekhn. nauk, red.; MOKIYAK, V.I., kand. tekhn. nauk, red.; SUSHKO, I.S., red.

[Materials of the Joint Conference of Young Scientists in the Field of Melioration and Hydraulic Engineering] Materialy ob"edinennoi nauch -tekhnicheskoi konferentsii molodykh nauchnykh rabotnikov v oblasti melioratsii i gidrotekhniki. Kiev, Urozhai. Nos. 1 - 2. 1964. (MIRA 18:3)

1. Ob"yedinennaya konferentsiya molodykh nauchnykh rabotnikov v oblasti melioratsii i gidrotekhniki, Kiev, 1963. 2. Chlen-korrespondent AN Ukr.SSR (for Tyulenev).

SAMOKHVALOV, A. A. and FAKIDOV, I. G.

"Testing the properties and characteristics of a gamma defect detector with an ionization counter", appearing in the "Detection of defects in Metals by Gamma — Collection of Papers", (Gamma Defektoskopiya Metallov — Sbornik Statei), published by the Academy of Sciences USSR, p 109, 1955.

SAMOKHVALOV, A.

Primary trade-union organizations need help and attention.
Sov. profsoiuzy 7 no.6:13-14 Mr '59. (MIRA 12:6)

1. Predsedatel' Chelyabinskogo oblastnogo soveta profsoyuzov.
(Chelyabinsk Province--Trade unions)

SAMOKHVALOV, A.A.

7804

IONIZATION METHODS FOR DETERMINATION OF DEFECTS OF THICK SECTIONS OF METAL BY GAMMA-RAYS. I. G. Fakidov and A. A. Samokhvalov. p.165-81 in Meetings of the Division of Technical Sciences. Session of the Academy of Sciences of the U.S.S.R. on the Peaceful Use of Atomic Energy. July 1-5, 1955. Moscow, Publishing House of the Academy of Sciences of the U.S.S.R., 1955. 339p. (In Russian)

A description is given of work connected with making ionization gamma instruments for testing thick metal parts. The advantages of the use of counters in gamma defectoscopy are: higher sensitivity, higher test speed, the possibility of constant control of a moving part, the cut in cost due to the fact that X-ray film and other photographic materials are not used. The instrument consists of the following main parts: a gamma radiation direction device, a mechanical and electric-power portion for moving the gamma-ray beam system with respect to the part being tested, and the recording portion. The most convenient gamma source for testing parts of thickness 250 to 300 mm is the Co-60 isotope. For thicknesses of steel from 70 to 100 mm, use may be made of isotope Ir-134 or Ir-192, though the latter is less convenient because of its small half life of 2.5 months. The gamma counter in the instrument was either a scintillation counter or a self-extinguishing gas-filled counter. An investigation of the properties of the gamma instrument showed a considerable influence of the parameters of the geometric scheme of the instrument on its sensitivity. An optimum instrument was selected on the basis of experiments in which changes were made in the dimensions of the container, the channel diameter of the container, the size of the counter screen, the diameter of the counter screen window and the relative positions of the source, the part being tested and the counter. The problem of the correspondence between the size of internal defects and the heights of the peaks on the defectograms registered by self-recording potentiometers was clarified. The sensitivity of the instrument depends on the control conditions. In the case of parts with a small difference of wall thickness, the sensitivity may reach a fraction of a percent. With respect to parts of thickness up to 300 mm, and of complex form with a large difference of wall thickness, the sensitivity of an instrument with a self-extinguishing counter permits location of defects up to 3% in the case of a slightly active source (1.5 curies). An instrument with a scintillation counter has a sensitivity 2 to 3 times greater (1-1.5%). The control speed in the case of complex-form parts with a large difference of wall thickness is 30 cm^2/min. The

(CVE 12)

control result is recorded on the defectogram. With parts of the same thickness, the control speed may be increased several times. The possibility of using a new detector of gamma radiation (a crystal of cadmium sulphide together with phosphorus) is also reported. This detector was studied in the laboratory. (auth)

2/2

SAMOKHVALOV, A.A.

Category : USSR/Solid State Physics - Structure of Deformable Materials E-8

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3949

Author : Fakidov, I.G., Samokhvalov, A.A.
Title : Gamma Defectoscope with Scintillation Counter.

Orig Pub : Zavod. laboratoriya, 1956, 22, No 6, 673-677

Abstract : The use of scintillation counters in gamma defectoscopy has many advantages both compared with the photography method of recording the radiation, and compared with defectoscopes with Geiger-Mueller counters in that it has a higher sensitivity and speed of control and that continuous control of a moving object is possible. A defectoscope was designed for the control of articles with a thickness up to 250 -- 300 mm. The defectoscope is quite stable and its indications are readily reproducible. The sensitivity of the instrument is 2 -- 2.5%.

Card : 1/1

FAKIDOV, I.G.; SAMOKHVALOV, A.A.

Characteristics of the scintillation counter and its technical applications. Zav.lab. 22 no.6:678-682 '56. (MLRA 9:8)

1. Institut fiziki metallov Ural'skogo filiala Akademii nauk SSSR.
(Scintillation counters) (Gamma rays--Industrial applications)

SAMOKHVALOV, A. A.

SAMOKHVALOV, A. A. and FAKIDOV, I. G.

"Data on a Simple Scintillation Counter, Its Characteristics and its Application in γ-type Flaw Detection."

A conference on Electron and Photo-Electron Multiplier; Radiotekhnika i Elektronika, 1957, Vol. II, No. 12, pp. 1552-1557 (USSR)

Abst: A conference took place in Moscow during February 28 and March 6, 1957 and was attended by scientists and engineers from Moscow, Leningrad, Kiev and other centres of the Soviet Union. Altogether, 28 papers were read and discussed.

AUTHORS: Samokhvalov, A. A. and I. G. Fakidov. 126-2-11/30

TITLE: The Hall effect and the influence of a magnetic field on the resistance of magnetite. (Effekt Kholla i vliyaniye magnitnogo polya na soprotivleniye magnetita).

PERIODICAL: "Fizika Metallov i Metallovedeniye" (Physics of Metals and Metallurgy), Vol.IV, No.2, 1957, pp. 249-256. (U.S.S.R.)

ABSTRACT: Measurement of the galvanomagnetic effects was carried out on two specimens of magnetite. Specimen No.1 was polycrystalline and was in the form of a parallelepiped 6 x 12 x 52 mm. Specimen No.2 was cut from an octahedral monocrystalline specimen (parallel to a face in the 111 plane) and was in the form of a plate 9.1 x 18.2 mm and 2.8 mm thick. The method of measurement is indicated in Fig.1. The resistivity of specimen No.1 was 1.63 Ohm.cm., and the resistivity of specimen No.2 was 1.27 Ohm.cm. The conductivity was found to be electronic (from the sign of thermal e.m.f.). Results indicate that the Hall e.m.f. may be described by the usual formula for ferromagnetic metals:

$$E_x = R_o(H_i + 4\pi\alpha M)jb$$

where R_o - Hall constant for the "ordinary" part of the

Card 1/3

The Hall effect and the influence of a magnetic field on the resistance of magnetite. (Cont.) 126-2-11/30

It is shown that (eq.7)

$$\frac{E_x}{jb} = R_o H_e \left[1 - \frac{N(\mu - 1)}{\mu N - N + 4\pi} + \frac{4\pi a (\mu - 1)}{\mu N - N + 4\pi}\right]$$

where H_e is the external field, N the demagnetisation factor and $\mu = B/H_i$. Using this formula, R_o and a can be determined from experimental curves of $\frac{E_x}{jb} = f(H_e)$. Since for a thin plate N is known to be approximately equal to 4π. The values obtained are given in Table 1. There are 3 tables, 8 figures and 6 references, 4 of which are Slavic.

Card 3/3

SUBMITTED: October 5, 1956.

ASSOCIATION: Institute of Metal Physics, Ural Branch, Ac.Sc.,USSR. (Institut Fiziki Metallov Ural'skogo Filiala AN SSSR).

AVAILABLE:

SAMOKHVALOV, A.A.

21(8) [illegible]

Va[illegible] po [illegible] i [illegible] 1957.

Trudy... [illegible] (Transactions of the All-Union Conference on the Use of Radioactive and Stable Isotopes and Radiation in the National Economy and Science; [illegible] and Instrument Manufacturing) Moscow, Izd-vo AN SSSR, 1958. 358 p. 4,500 copies printed.

Sponsoring Agencies: USSR. Glavnoye upravleniye po ispol'zovaniyu atomnoy energii, and Akademiya nauk SSSR.

Editorial Board of Set: V.I. Dikushin, Academician (Resp. Ed.), K.N. Shumilovskiy (Deputy Resp. Ed.), Yu. S. Zaslavskiy (Deputy Resp. Ed.), L.K. Tatochenko, B.I. Verkhovskiy, S.T. Nazarov, L.I. Petrenko and N.G. Zelevinskaya (Secretary).

Ed. of Publishing House: P.N. Belyanin; Tech. Ed.: T.P. Poleneva.

PURPOSE: This book is intended for specialists in the field of machine and instrument manufacture who use radioactive isotopes in the study of materials and processes.

COVERAGE: This collection of papers covers a very wide field of the utilization of tracer methods in industrial research and control techniques. The topic of this volume is the use of radioisotopes in the machine-and instrument-manufacturing industry. The individual papers discuss the applications of radioisotope techniques in the study of metals and alloys, problems of friction and lubrication, metal cutting, engine performance, and defects in metals. Several papers are devoted to the use of radioisotopes in the automation of industrial processes, recording and measuring devices, quality control, flowmeters, level gauges, safety devices, radiation counters, etc. These papers represent contributions of various Soviet institutes and laboratories. They were published as Transactions of the All-Union Conference on the Use of Radioactive and Stable Isotopes and Radiation in the National Economy and Science, April 4-12, 1957. No personalities are mentioned. References are given at the end of most of the papers.

Vedernikov, A.N. (Kazanskiy aviatsionnyy institut — Kazan' Aviation Institute). Certain Problems in the Preparation of Beta Emitters for the Elimination of Electrostatic Charges 292

Medvedeva, V.S. and I.S. Royzen (Moskovskiy institut khimicheskogo mashinostroyeniya — Moscow Insitute for Chemical Machinery). Use of Radioactive Isotopes in Safety Practice 293

Royzen, I.S. (Moskovskiy institut khimicheskogo mashinostroyeniya — Moscow Institute for Chemical Machinery). Production of Plates for Charge Neutralization 298

Abramova, T.V. (Ministerstvo svyazi SSSR — USSR Ministry of Communications). Determination of Leaks in the Lead Sheath of Communication Cables 299

Kuznetsov, V.I. (Institut khmicheskoy fiziki Akademii nauk SSSR — Institute of Physical Chemistry, Academy of Sciences, USSR). Determination of Points of Gas Leakage From Underground Pipelines 301

Tatochenko, L.K. (Institut metallovedeniya i fiziki metallov TsNIIChM — Institute of Metallography and the Physics of Metals TsNIIChM). Ionization Method of Gamma Defectoscopy 304

Fakidov, I.G., A.A. Samokhvalov, N.I. Davidenko, and M.D. Avramenko (Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii — Central Scientific Research Institute of Ferrous Metallurgy). Use of Scintillation Counters in Betatron Defectoscopy 310

Arkhangel'skiy, A.A., and G.D. Datyshev (Leningradskiy institut inzhenerov zheleznodorozhnogo transporta — Leningrad Railroad Engineers Institute). Use of Scintillation Counters in the Product Quality Control 314

Tatochenko, L.K., V.S. Tokmakov, and V.K. Latyshev (Institut metallovedeniya i fiziki metallov TsNIIChM — Insitute of Metallography and the Physics of Metals TsNIIChM). Radioscopic Control of Welded Seams in Ferrous Metallurgy 320

Nazarov, S.T. (Moskovskoye vyssheye tekhnicheskoye uchilishche imeni N.E.Baumana — Moscow Higher Technical School imeni N.E. Bauman). Radiography of Welded Pipe Joints 324

24(3) SOV/126-7-2-29/39

AUTHORS: Vasil'yeva, I. N., Novogrudskiy, V. N., Samokhvalov, A.A. and Fakidov, I. G.

TITLE: The Hall Effect in the Mn-Sb System (Effekt Kholla v sisteme Mn-Sb)

PERIODICAL: Fizika Metallov i Metallovedeniye, 1959, Vol 7, Nr 2, pp 304-305 (USSR)

ABSTRACT: Electrical and magnetic properties of alloys are often used when the state (phase) diagram is constructed. Although galvanomagnetic properties are more structure-sensitive than electrical and magnetic properties, the former are rarely used in the construction of phase diagrams. The present paper reports measurements of the Hall effect in the two-phase system Mn-Sb as a function of composition. According to the phase diagram (Refs 1,2) the Mn-Sb alloys are a two-phase system in the region of Mn concentrations from 0 to 50 atomic %; this two-phase system consists of ferromagnetic MnSb and free antimony. These components form a eutectic at approximately 20 at.% Mn. Samples of Mn-Sb alloys were prepared by melting together fine, well-mixed powders of Mn (99.8% purity) and Sb (99.88% purity) in evacuated quartz ampoules.

Card 1/3

The Hall Effect in the Mn-Sb System SOV/126-7-2-29/39

The authors studied alloys containing 15.2, 20.2, 28.0, 31.7, 44.0 and 49.6 at.% of Mn. The phase composition of samples was checked by metallographic examination. It was found that the phase composition of the alloys produced by the authors is identical with the phase composition of the alloys described by Murakami and Hatta (Ref 2). Measurements of the Hall effect were made, using Düsselhorst's compensator and a galvanometer with a sensitivity of 4×10^{-8}V per division. Fig 1 shows the dependence of the Hall e.m.f. on the applied magnetic field intensity for samples of alloys of compositions listed above (curves 2-7) and of pure antimony (curve 1). Fig 1 shows that the Hall effect curves have the usual form for ferromagnetics. With increase of the amount of antimony in the alloy, the Hall e.m.f. increases and the curves shown in Fig 1 become more linear. Dependences of the "ordinary" component of the Hall constant R_o (which is proportional to the magnetic field intensity) and of the Hall constant R_f

Card 2/3 of the ferromagnetic phase (which is proportional to

magnetization of the sample) on composition are shown in Fig 2. R_o is seen to depend linearly on the amount of manganese except in the region of the eutectic composition, where it has a minimum. The other Hall constant, R_f increases with increase of the manganese content following a near-quadratic law. From the experimental data reported in the present paper, it is concluded that the Hall constant R_o is a sensitive indicator of the eutectic point in the Sb-MnSb system. Measurements of the magnetic (Ref 3) and electrical properties of the Mn-Sb alloys and of changes of electrical resistance in a magnetic field did not show any peculiarities at the eutectic point. This means that the Hall constant R_o is a more sensitive indicator of the phase composition than the properties just listed. There are 2 figures and 3 references, 2 of which are German and 1 Japanese.

(Note: This is an abridged translation)

ASSOCIATION: Institut fiziki metallov AN SSSR (Institute of Metal Physics, Ac.Sc., USSR)

SUBMITTED: October 28, 1957

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SOV/126-7-3-35/44

AUTHORS: Samokhvalov, A. A. and Fakidov, I. G.

TITLE: Thermoelectric Properties of a Monocrystal of Magnetite in the Low Temperature Transformation Range (Termoelektricheskiye svoystva monokristalla magnetita v oblasti nizkotemperaturnogo prevrashcheniya)

PERIODICAL: Fizika metallov i metallovedeniye, Vol 7, Nr 3, pp 465-467 (USSR)

1959

ABSTRACT: Magnetite undergoes a transformation at approximately 114°K the nature of which is not yet clear. At this temperature anomalies in thermal (Refs.1, 2), magnetic (Refs.3, 4), electrical (Ref.4), galvanomagnetic (Refs.4, 5) and other properties (Refs.6, 7) are observed. The aim of the present work was to study the temperature dependence of the thermoelectric properties of magnetite in the low temperature transformation range, as well as at higher temperatures up to 400°K. The thermo-e.m.f. of magnetite was measured on six monocrystal specimens of natural magnetite. The specimens 1, 3, 4 and 6 were cut out from one octahedral magnetite monocrystal, and the specimens 2 and 5 from two other magnetite monocrystals. All specimens had the shape

Card 1/4

Thermoelectric Properties of a Monocrystal of Magnetite in the Low Temperature Transformation Range

of plates, 8.15 x 5.60 x 2.15 mm (specimen 4), and 9.20 x 7.00 x 2.10 mm (specimen 6). The other specimens had approximately the same dimensions. The measurements were carried out at temperatures ranging from that of liquid nitrogen to 400°K in a cryostat similar to that described by Zavaritskiy (Ref.12). A thermal gradient was created in the specimens by a furnace on a copper block to which the specimens were welded. The temperature of the joints was measured by a copper-constantan thermocouple by a compensation method. The result of thermo-e.m.f. measurement in the magnetite monocrystal (specimen 1) in the range 90 - 400°K is shown in Fig.1. In this range the thermo-e.m.f. has a negative sign which is due to electronic conductivity in the magnetite. Fig.2 shows the results of parallel thermo-e.m.f. and electrical resistance measurement of magnetite (specimen 6) in the low temperature transformation range in relation to temperature. Along the ordinate axis α and $\ln\rho$ are plotted as a function of $(10^7/T)$. The results obtained for the temperature dependence of the thermo-e.m.f. coefficient cannot be explained on the basis of the zone

Thermoelectric Properties of a Monocrystal of Magnetite in the Low Temperature Transformation Range

theory for semiconductors because of the low mobility of the electric current carriers (Ref.11) and of the mechanism of electroconductivity of magnetite (Ref.8) which is different from that of the usual semiconducturs. The authors arrived at the following conclusions:

1. The temperature dependence of the thermo-e.m.f. coefficient of magnetite has a maximum in the low temperature transformation range at a temperature of 95 $\pm 0.5^{\circ}$K.
2. The position of the maximum of the thermo-e.m.f. coefficient coincides with the deviation at B of the curve $\ln \rho(1/T)$ on entering the range below the transformation range.
3. These results, as well as those obtained by other workers (Refs.1-10) show that the low temperature transformation in a magnetite monocrystal which is associated with electron ordering occurs over a considerable temperature range.

There are 2 figures and 12 references, of which 3 are Soviet, 7 English, 1 Japanese and 1 German.

Card 3/4

67728
SOV/126-7-3-35/44

Thermoelectric Properties of a Monocrystal of Magnetite in the Low Temperature Transformation Range

ASSOCIATION: Institut fiziki metallov AN SSSR (Institute of Metal Physics, Ac. Sc., USSR)

4

SUBMITTED: May 21, 1958

Card 4/4

67756

SOV/126-8-5-8/29

24.7600

AUTHORS: Samokhvalov, A.A., and Fakidov, I.G.

TITLE: Thermoelectric Properties of Magnetite in the 80-400 °K Temperature Range

PERIODICAL: Fizika metallov i metallovedeniye, Vol 8, 1959, Nr 5, pp 694-699 (USSR)

ABSTRACT: The present work is part of a series on the electrical properties of magnetite. It gives results of an investigation of the thermoelectric properties with the object of getting certain data on the energy spectrum of the conduction electrons and the low-temperature transformation in magnetite known (Refs 2,3,4,6,7,9) to lead to changes in many physical properties at about 118 °K. The thermo-e.m.f. was measured for six specimens of a natural-magnetite single crystal, Nrs 1, 3, 4 and 6 being cut from one large octahedral and Nrs 2 and 5 from two other single crystals, and for a polycrystalline specimen (Nr 7). All specimens were in the form of plates. For temperatures of 300-400 °K a thermostat was used; at and above the boiling temperature of liquid nitrogen a modification of the cryostat described by Zavaritskiy (Ref 15) was used

Card 1/4

Thermoelectric Properties of Magnetite in the 80-400 °K Temperature Range

(Fig 1). A more detailed view of the apparatus is shown in Fig 2; the single-crystal magnetite specimens were soldered to a copper block around which a heater (to produce the temperature difference) was wound, the whole then being placed in the gap in the top part of the cryostat tube. Junction temperatures were measured with copper-constantan couples. The relatively long polycrystalline specimen had the heater wound directly on it and was enclosed in a second heater which enabled the overall temperature to be adjusted. Temperature and thermo-e.m.f. were measured with a low-resistance potentiometer by the compensating method, preliminary experiments having shown (Fig 3) that the thermo e.m.f. coefficient was independent of temperature difference when this exceeded 1°C. The electrical resistance was also measured and, for some specimens, the temperature dependence of the initial magnetite permeability. The temperature coefficient of the thermo-e.m.f. for specimen Nr 1 was found to be relatively constant from 400 °K down to about 120 °K, reach a maximum at 95 ± 2 °K, and fall

Thermoelectric Properties of Magnetite in the 80-400 °K Temperature Range

sharply at still lower temperatures (Fig 4). Fig 5 shows plots (specimen Nr 6) of the temperature coefficient and logarithm of resistivity against 10^3/absolute temperature: the position of the maximum temperature-coefficient (95°K) corresponds to a break in the logarithm curve, a further break occurring at 114 ± 2 °K. Similar correlations were obtained for the other specimens and the greatest change in their magnetic permeability was found at 109 ± 2 °K. The corresponding curves for the polycrystalline specimen (Nr 7) are shown in Fig 6. The logarithmic curve shown a break and not a jump, and the temperature-coefficient curve has no maximum or sudden change corresponding to the transformation. For all specimens the temperature coefficient fell sharply on cooling below the transformation temperature range. The rise in the value at the transformation temperature is attributed by the authors to deviations of the magnetite from stoichiometric composition. The authors use the relation between the temperature coefficient of the

Card 3/4

Thermoelectric Properties of Magnetite in the 80-400 °K Temperature Range

thermo-e.m.f. and entropy (Refs 1, 14) to try to obtain data on the chemical potential (Fermi level) of the conduction electrons. A graphical (Ref 13) solution of the equation showed that above 200 °K the chemical potential is positive, decreasing below this temperature and becoming negative at the low-temperature transformation temperature. These results confirm the authors' conclusions from studies of the Hall effect (Refs 12,16). Comparison of temperature-coefficient values with those of parallel resistivity determinations indicates that the anomalies associated with the low-temperature transformation persist at 14-15° below this temperature, which is confirmed by the authors' (Ref 17) work on the Nernst-Ettinghausen effect in magnetite.

Card 4/4

There are 6 figures and 17 references, of which 7 are Soviet, 7 English, 1 French, 1 Japanese and 1 in Acta Crystallographica.

ASSOCIATION: Institut fiziki metallov AN SSSR (Institute of Physics of Metals, Academy of Sciences USSR)

SUBMITTED: May 15, 1959