PMR, A.G., kand. tekhn. nauk, dots.

Using internal grinding spindles in machining holes. Sbor. st. LITMO no.23:19-22 '57. (MIRA 11:5)

(Grinding and polishing)

PER, Ahram Grigor'yevich; KHRUL'KOV, V.A., kand. tekhn.nauk, retsenzent; KUNIN, P.A., inzh., red.; STEPANOVA, A.A., red. izd-va; NOVIK, A.Ya., tekhn. red.

[Diamond and fine machining in the manufacture of instruments] Almaznaia i tonkaia obrabotka v priborostroenii. Moskva, Oborongiz, 1963. 186 p. (MIRA 16:4)
(Metal cutting) (Instrument manufacture)

PER, Abram Grigor'yevich

Proizvodstvo Optiko-Mekhanicheskikh Priborov. Moskva, Oborongiz, 1959.
337 p. Illus., Diagrs., Graphs, Tables. 23 cm.
Bibliography: p. 334 -335.

25(1) PHASE I BOOK EXPLOITATION SOV/3084

Per, Abram Grigor'yevich

Proizvodstvo optiko-mekhanicheskikh priborov (Manufacture of Optical-Mechanical Instruments) Moscow, Oborongiz, 1959. 337 p. Errata slip inserted. 6,000 copies printed.

Reviewers: Curriculum Commission, Leningrad Tekhnikum for Physics and Mechanics, and S. I. Freyberg (Deceased), Honored Worker in Science and Technology, Professor; Ed.: L. S. Volershteyn, Engineer; Managing Ed.: A. I. Sokolov, Engineer; Ed. of Publishing House: F. G. Tubyanskaya; Tech. Ed.: N. A. Pukhlikova.

PURPOSE: This text book is intended for students of tekhnikums for the course, Optical-Mechanical Instruments. It may also be of use to technical personnel.

COVERAGE: This book deals with the manufacture of optical instruments. The first part of the book presents information on the basic principles of machining mechanical parts for optical instruments. Methods of machining and tooling are described. The second part deals with the assembly and adjustment of instruments. Assembly and adjustment methods employed in the manufacture of precision instruments are discussed. The author thanks

Card 1/7

M. P. Panfilov, plant director, and Engineers A. A. Budinskiy, V. A. Vasil'yev, N. I. Vingradov, S. M. Zagorskiy, Ya. I. Pivovarov, S. A. Rozenson, and P. D. Sergeyev for their assistance. There are 36 references, all Soviet.

TABLE OF CONTENTS:

PHASE I BOOK EXPLOITATION SOV/6458

Per, Abram Grigor'yevich

Almaznaya i tonkaya obrabotka v priborostroyenii (Diamond and Fine Machining in Instrument Manufacture) Moscow, Oborongiz, 1963. 186 p. Errata slip inserted. 5000 copies printed.

Reviewer: V. A. Khrul'kov, Candidate of Technical Sciences; Ed.: P. A. Kunin, Engineer; Ed. of Publishing House: A. A. Stepanova; Tech. Ed.: A. Ya. Novik; Managing Ed.: A. S. Zaymovskaya, Engineer.

PURPOSE: This book is intended for engineering personnel concerned with machining processes employed in instrument-making and machine-building. It may also be useful to students at schools of higher education.

COVERAGE: The book reviews processes of fine machining of instrument parts. Turning, grinding, and finishing of plane and annular surfaces with diamond tools are discussed along with fine milling

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and fine grinding. Data obtained from experiments and from application of these processes under production conditions are presented. The author thanks M. P. Panfilov, Vice-Chairman of Lensovnarkhoz; I. I. Ivanov, Manager of the GOMZ Plant; P. A. Gorshkov, Chief Engineer; Engineers A. A. Budinskiy, S. A. Rozenson, P. D. Sergeyev, and L. V. Stefanovich for their research work; and Engineer E. I. Tayts for participation in the experiments. There are 32 references: 23 Soviet, 6 English, and 3 German.

TABLE OF CONTENTS:

PER, Abram Grigor'yevich; FREYBERG, S.I., prof., zasl.deyatel' nauki i tekhniki, retsenzent [deceased]; VOLKERSHTEYN, L.S., inzh., red.; TUBYANSKAYA, F.G., izd.red.; PUKHLIKOVA, N.A., tekhn.red.

[Manufacture of optical mechanical instruments] Proizvodstvo optiko-mekhanicheskikh priborov. Moskva, Gos.izd-vo obor. promyshl., 1959. 337 p. (MIRA 12:8)
(Optical instruments)

PERESADA, Viktor Petrovich; VORONTSOV, A.Ye., retsenzent; PER, B.A., retsenzent; PANFILOV, V.G., retsenzent; BRENEV, I.V., otv. red.; AZAROVA, I.G., red.; FRUMIN, P.S., tekhn. red.

[Radar detection of marine objects] Radiolokatsionnaia vidimost' morskikh ob"ektov. Leningrad, Gos.soiuznoe izd-vo sudostroit. promyshl., 1961. 158 p. (MIRA 14:12)

(Radar)

PER, F. [Pera, F.]

Hydrochemical characteristics of small lakes in the Latgale Upland in connection with their typology. Vestis Latv ak no.1:93-100 '61.

1. Institut biologii AN Latviyskoy SSR.

USSR/Microbiology - General Microbiology. Water and Air Microorganisms. F

Abs Jour : Ref Zhur Biol., No 22, 1958, 99337

Author : Per, F.L.

Inst : AS LatvSSR

Title : Free Nitrogen-Fixing Conditions in Lakes of the Latvian SSR. Report 1. Free Nitrogen-Fixing Conditions in Water Masses of Lakes in the Latvian SSR

Orig Pub : Latv. PSR Zinatnu Akad. vestis, Izv. AN LatvSSR, 1957, No 3, 97-110

Abstract : The distribution of Azobacter and Clostridium pasteurianum was studied in sex lakes of the Latvian SSR belonging to the hydrocarbonate class with a weakly alkaline water reaction. Azobacter was uncovered mainly in the water of tributaries in a quantity not exceeding 10 cells in

Card 1/2

USSR/Microbiology - General Microbiology. Water and Air Microorganisms. F

Abs Jour : Ref Zhur Biol., No 22, 1958, 99337

1 ml of water. In the water of the lakes themselves there was considerably less Azobacter than in tributary waters. Cl. pasteurianum was present in the ponds being studied in a larger quantity than Azobacter. Organic substance content showed an effect on the development of bacteria of the Clostridium group. In lakes with an increased water acidity the number of Clostridium reached 100 cells per 1 ml, and in lakes with a lowered water acidity it did not go above 10 cells per 1 ml. -- T.A. Kalininskaya

Card 2/2

PER, F. [Pera, F.]

Hydrochemical studies of the lakes of the Latvian S.S.R. in connection with their typology. Report No.3: Hydrochemical characteristics of deep lakes of the Latgale Upland. Vestis Latv ak SSR no.8:87-93 '62.

1. Institut biologii AN Latviyskoy SSR.

USSR/Microbiology - General Microbiology. Water and Air Microorganisms. F

Abs Jour : Ref Zhur Biol., No 22, 1958, 99338

Author : Per, F.L.

Inst : AS LatvSSR

Title : Free Nitrogen-Fixing Conditions in Lakes of the Latvian SSR. Report II. Free Nitrogen-Fixing Conditions in Bottom Deposits.

Orig Pub : Latv. PSR Zinatnu Akad. vestis, Izv. AN LatvSSR 1957, No 7, 93-106

Abstract : Neutral or weakly alkaline active reaction in bottom deposits of the 8 lakes studied, and the quantity of very mobile compounds of phosphoric acid, favored the growth of Azobacter. The distribution and growth of bacteria of the Azobacter group in bottom deposits of

Card 1/3

USSR/Microbiology - General Microbiology. Water and Air Microorganisms.

Abs Jour : Ref Zhur Biol., No 22, 1958, 99338

the 8 lakes studied appeared to be connected with the organic substances and Ca content. Increase of the organic substances content, and also Ca to a definite limit favored the growth of these bacteria. An accumulation of weakly acid organic substances depressed the growth of Azobacter. Absence of bacteria of this group in lake Ata and their slight growth in Lake Razno is explained by the low correlation between the content of Ca and organi substances. Azobacter retained its viability in soils of lakes at a low temperature and intense oxygenous conditions in the near-bottom water layer. In all samples of bottom deposits of the lakes studied, bacteria of the Clostridium group were uncovered. Biochemical activity of bacteria of the Clostridium group is lower than that of the Azobacter group bacteria; however, their role in enriching the bottom deposits

Card 2/3

PER, M.I.; DADIOMOVA, V.G.

Chronic benign pemphigus of the Hailey-Hailey type and its relation to the pemphigoid form of Darier's disease. Sov.med. 26 no.7:80-87 Jl '62. (MIRA 15:11)

1. Iz muzhskogo kozhnogo otdeleniya (zav. - prof. M.I.Per) Moskovskoy klinicheskoy kozhno-venerologicheskoy bol'nitsy imeni Korolenko (glavnyy vrach A.I.Pustovaya).
(PEMPHIGUS) (KERATOSIS)

PER, M.I.

SMELOV, N.S.; YEGOROV, G.I.; KOKOLIN, A.I.; KSANFOPULO, P.I.; RAKHMANOVA, N.V.; KRYLOVA, Ye.Ye.; RYKOVA, L.K.; PER, M.I.; PETRUSHEVSKIY, S.I.; PUSTOVAYA, A.I.; TUNGSKOVA, A.I.; VELICHKO, Ye.V.; PLAVIT, P.Ya.; GOL'DENBERG, M.M.

Evaluation of results of the treatment of early syphilis according to 1949 scheme. Vest. vener., Moskva No.1:29-33 Jan-Feb 52. (CIML 21:4)

1. Professor for Smelov and Per. 2. Central Skin-Venerological Institute (Director--N.M. Turanov) for Smelov, Yegorov, Sokolin, Ksanfopulo, Rakhmanova, Krylova and Rykov; Hospital imeni Korolenko (Head Physician Docent V.P. Volkov) for Per, Petrushevskiy; First Venereological Dispensary (Head Physician--K.A. Vinogradova) for Pustovaya and Tunguskova); Second Venereological Dispensary (Head Physician--V.G. Bronshteyn) for Velichko, Plavit and Gol'denberg.

PER, F.L.

USSR / Cosmochemistry. Geochemistry. Hydrochemistry. D

Abs Jour : Ref Zhur - Khimiya, No 3, 1957, 7874

Author : Per, F.L., and Shkol'nikova, K.L.
Inst : Biology Institute of the Academy of Sciences of the Latvian SSR
Orig Pub : Tr. In-ta Biol. AN LatSSR, 1955, No 2, 247-292

Abstract : The results from studies carried out in the summer of 1952-53 are presented. The transparency, color index, water temperature and sediments, dissolved O_2 and CO_2, alkalinity, pH, dichromate and permanganate oxidizability, and phosphate, nitrate, Fe, SO_4^{2-}, Cl^-, Ca^{2+}, and Mg^{2+} content of the investigated lakes were studied. The Lakes can be classified into two groups on the basis of organic matter content; the two groups of lakes are located at different heights above sea level. The first group (13 lakes) includes the reservoirs of the Augshzem, Latgal, and Eastern Vidzem ranges;

Card : 1/3

PER, F. L.

PER, F. L. Cand Biol Sci -- (diss) " Condition of the fixation of free nitrogen by bacteria of groups Azotobacter and Clostridium in the lakes of Latvian SSR." Riga, 1957. 16 pp with diagrams. (All-Union Sci Res Inst of the Lake and River Fishing ~~Industry~~).

150 copies.

(KL, 8-58, 104)

. . . Per, F. L.

Category: USSR D

Abs Jour: RZh--Kh, No 3, 1957, 7874

Author : Per, F. L. and Shkol'nikova, K. L.
Inst : Biology Institute of the Academy of Sciences of the Latvian SSR
Title : Hydrochemical Characteristics of Industrial Lakes in the Latvian SSR

Orig Pub: Tr. In-ta Biol. AN LatSSR, 1955, No 2, 247-292

Abstract: The results from studies carried out in the summer of 1952-53 are presented. The transparency, color index, water temperature and sediments, dissolved O_2 and CO_2, alkalinity, pH, dichromate and permanganate oxidizability, and phosphate, nitrate, Fe, SO_4^{2-}, Cl^-, Ca^{2+}, and Mg^{2+} content of the investigated lakes were studied. The Lakes can be classified into two groups on the basis of organic matter content; the two groups of lakes are located at different heights above sea level. The first group (13 lakes) includes the reservoirs of the Augshzem, Latgal, and Eastern Vidzem ranges; the second group (7 lakes) covers the lakes in the Viesit Heights in the

Card : 1/3 -43-

[illegible] observed; in the remaining lakes the usual summer stratification or

Card : 2/3 -44-

Category: USSR

D

Abs Jour: RZh--Kh, No 3, 1957, 7874

homothermy was observed. The oxygen cycle in all the lakes except in the shallow Durbe and Pikster, in which winter freeze-ups are possible, is favorable. The mineralization of the lakes is average and below average; the total ion content varies between 251.5 and 108 mg/liter. The ion content of th shallow lakes is somewhat higher than that of the deeper lakes. The investigated lakes belong to the calcium group of the hydrocarbonate class. By their organic matter content, transparency, and color index, the Latvian lakes closely resemble the reservoirs in the Valdaya range but have a somewhat lower mineral content.

Card : 3/3

PER, Laszlo

Work in the central triple valve repair shop of the Hungarian state Railways has started. Vasut 14 no.12:20-21 D '64.

PER, M.I., prof.; MASHKILLEYSON, A.L., kand.med.nauk

So-called bullous pemphigoid and its relation to true pemphigus and bullous forms of Duhring's disease. Vest.derm. i ven. no.8:19-25 '62. (MIRA 15:9)

1. Iz muzhskogo kozhnogo otdeleniya (zav. - prof. M.I. Per) Klinicheskoy kozhno-venerologicheskoy bol'nitsy imeni V.G. Korolenko.

(PEMPHIGUS) (SKIN--DISEASES)

PER, M.I., prof., MASHKILLEYSON, A.L.

Treating pemphigus with certisone and other corticosteroids.
Sov.med. 22 no.8:102-108 Ag '58 (MIRA 11:10)

1. Iz mushskogo kozhnogo otdeleniya (zav. - prof. M.I. Per) Klinicheskoy kozhno-venerologicheskoy bol'nitsy imeni Korolenko (glavnyy vrach - zasluzhennyy vrach RSFSR V.P. Nikolayev).

(PEMPHIGUS, ther.
adrenal cortex hormones (Rus))
(ADRENAL CORTEX HORMONES, ther. use
pemphigus (Rus))

PER, M.I., prof.; DODIOMOVA, V.G.; KUNDEL', L.M.; MASHKILLEYSON, A.L. (Moskva)

Side effects in the treatment of certain severe skin diseases with ACTH and cortisone. Probl. endok. i gorm. 3 no.6:83-89 N-D '57. (MIRA 11:3)

1. Iz muzhskogo koshnogo otdeleniya (zav.-prof. M.I.Per) klinicheskoy koshno-venerologicheskoy bol'nitsy imeni Korolenko (glavnyy vrach-zasluzhennyy vrach RSFSR V.P. Nikolayev)

(SKIN DISEASES, therapy,
ACTH & cortisone, side eff. (Rus)
(ACTH, injurious effects,
side eff. in skin dis. ther. (Rus)
(CORTISONE, inj. eff.
same)

PER, M. I.

PER, M.I., prof.; DADIOMOVA, V.G.; KUNDEL', L.M.; MASHKILEYSON, A.L.; SHMELEV, K.A. (Moskva)

Treating some serious skin diseases with ACTH and cortisone.
Vrach.delo supplement '57:34 (MIRA 11:3)

1. Klinicheskaya kozhno-venerologicheskaya bol'nitsa.
(SKIN--DISEASES) (ACTH) (CORTISONE)

PER, M.I., prof.; DADIOMOVA, V.G.; KUNDEL', L.M.; MASHKILLEYSON, A.L.

Mercusal therapy of severe forms of psoriasis. Vest. derm. i ven. 33 no.2:60-62 Mr-Ap '59. (MIRA 12:7)

1. Iz muzhskogo kozhnogo otdeleniya (zav. - prof. M.I. Per) klinicheskoy kozhno-venerologicheskoy bol'nitsy imeni Korolenko (glavnyy vrach - zasluzhennyy vrach RSFSR V.P. Nikolayev).

(PSORIASIS, ther.
barbital-mersalyl mixture (Rus))
(BARBITURATES, ther. use,
barbital mersalyl mixture in psoriasis (Rus))
(DIURETICS, MERCURIAL, ther. use,
mersalyl-barbital mixture in psoriasis (Rus))

PER, M.I., prof.; MASHKILLEYSON, A.L.

Late results of permanent corticosteroid therapy of patients with pemphigus. Vest.derm.i ven. no.9:19-25 '61. (MIRA 15:5)

1. Iz muzhskogo kozhnogo otdeleniya (zav. - prof. M.I. Per) Klinicheskoy kozhno-venerologicheskoy bol'nitsy imeni Korolenko (glavnyy vrach A.I. Pustovaya).
(CORTICOSTEROIDS) (PEMPHIGUS)

USSR/Pharmacology - Toxicology - Hormone Preparations. V

Abs Jour : Ref Zhur Biol., No 4, 1959, 18865

Author : Per, M.I., Dadiomova, V.G., Kundel', L.M., Mashkilleyson, A.L.

Inst : -

Title : Side Effects in Treatment of Some Severe Skin Diseases with ACTH and Cortisone

Orig Pub : Probl. endokrinol. i gormonoterapii, 1957, 3, No 6, 83-89

Abstract : No abstract.

Card 1/1

PER, M.I., prof.; DADIOMOVA, V.G.; KUNDEL', L.M.; MASHKILLEYSON, A.L.

Cortisone and ACTH treatment of patients with psoriatic erythroderma and arthropathic psoriasis. Sov.med. 23 no.10:119-123 O '59. (MIRA 13:2)

1. Iz muzhskogo kozhnogo otdeleniya (zaveduyushchiy - prof. M.I. Per) Klinicheskoy kozhno-venerologicheskoy bol'nitsy imeni V.G. Korolenko (glavnyy vrach A.I. Pustovaya).

(ERYTHRODERMA ther.)
(PSORIASIS ther.)
(ARTHRITIS ther.)
(CORTICOTROPIN ther.)
(CORTISONE ther.)

PERA, F.

GENERAL

PERIODICALS: VESTIS, No. 1, 1958

PERA. F. Chemical composition of botton sedimentation of Latvian lakes. In Russian. p. 67

Monthly list of East European Accessions (EEAI) LC, Vol. 8, No. 2, February 1959, Unclass.

PER, F.[Pera, F.] (Riga)

Hydrochemical characteristic of small lakes of the Latgalian uplands in connection with their typology. Report II. Vestis Latv ak no.1: 93-100 '61. (EEAI 10:9)

1. Akademiya nauk Latviyskoy SSR, Institut biologii.

(Lakes)

PERADZE, A.G., kand. med. nauk.

Determination of the size of the fetus in parturients by external examination. Akush. i gin. 34 no.6:38-42 N-D '58. (MIRA 12:1)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. I.F. Zhordania) lechebnogo fakul'teta II Moskovskogo gosudarstvennogo meditsinskogo instituta imeni N.I. Pirogova.

(FETUS
fetal size, determ. by external exam. (Rus))

PERADZE, A. G.

"Determination of the Size of the Fetus by External Palpation." Cand Med Sci, Second Moscow Medical Inst imeni I. V. Stalin, Moscow, 1954. (MR, 22 Oct, 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (10)

SO: Sum. No. 481, 5 May 55

PERADZE, G. N.

"Pear Crops in Upper Imereti and the Prospects for Their Development." Cand Agr Sci, Georgian Agricultural Inst, 30 Nov 54.

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No.521, 2 Jun 55

Country : USSR M
Category: Cultivated Plants. Grains.

Abs Jour: RZhBiol., No 11, 1958, No 48888

Author : Peradze, I.
Inst : Georgian Agricultural Inst.
Title : Dynamics of Corn Growth and Productivity in Square-Pocket and Row Planting.

Orig Pub: Tr. Gruz. s.-kh. in-ta, 1957, 46, 233-243

Abstract: No abstract.

Card : 1/1

PERADZE, T.V.

Data on the isolation of the vaccine measles virus from children immunized with a live vaccine against measles. Trudy Len.inst. epid.i mikrobiol. 22:43-54 '61. (MIRA 16:2)

1. Iz virusologicheskoy laboratorii (rukovoditel' - chlen-korrespondent AMN SSSR, prof. A.A. Smorodintsev) Leningradskogo instituta epidemiologii i mikrobiologii imeni Pastera.
(MEASLES--PREVENTIVE INOCULATION) (VIRUSES)

SMORODINTSEV, A.A.; BOYCHUK, L.M.; SHIKINA, Ye.S.; BYSTRYAKOVA, L.V.; PERADZE, T.V.

State of immunity in children vaccinated with a live vaccine against measles. Trudy Len.inst.epid.i mikrobiol. 22:7-20 '61. (MIRA 16:2)

1. Virusologicheskaya laboratoriya Leningradskogo instituta epidemiologii, mikrobiologii i gigiyeny imeni Pastera.
(MEASLES—PREVENTIVE INOCULATION) (IMMUNITY)

SMORODINTSEV, A.A.; BOICHUK, L.M.; SHIKINA, E.S.; BATANOVA, T.B.; BYSTRYAKOVA, L.V.; PERADZE, T.V.

Clinical and immunological response to live tissue culture vaccine against measles. Acta virol.Engl.Ed.Praha 4 no.4:201-204 J1'60.

1. Virological Laboratory, The Pasteur Institute of Epidemiology, Microbiology and Hygiene, Leningrad; The Leningrad Scientific Research Institute of Pediatrics; and the Children's Infections Clinic of the Medical Pediatric Institute, Leningrad, U.S.S.R. (MEASLES immunol)

PERAKALINA, T. M.

USSR/Physics- Steel, Chromium Feb 50
Low Temperature Research

"Influence of Low Temperatures Upon the Magnetic Properties of High-Chrome Steel," F. M. Gal'perin, T. M. Perakalina, 10pp

"Zhur Tekh Fiz" Vol XX, No 2

Discusses magnetic saturation of steels in liquid oxygen (nitrogen); variation in saturation during secondary cooling in liquid oxygen or nitrogen, and in liquid helium, time and speed of magnetic conversion at low temperatures. Curie point for steels worked at low tmeperatures; residual induction; coercive forde; hardness; and specific resistance. Results obtained show that high-chrome steels at low temperatures vary considerably their magnetic and electric properties and hardness. New fact established and studied: magnetic saturation is considerably increased in steels during annealing from low to room temperatures. Submitted 15 Apr 49

PA 156T102

SMORODINTSEV, A.A.; BOYCHUK, L.M.; SHIKINA, Ye.S.; BYSTRYAKOVA, L.V.; PERADZE, T.V.

State of immunity in children vaccinated with live vaccine against measles. Vop. virus. 7 no. 1:59-67 Ja-F '61. (MIRA 14:4)

1. Virusologicheskaya laboratoriya Leningradskogo instituta epidemiologii, mikrobiologii i gigiyeny imeni L. Pastera.
(MEASLES)

PEREKHOD, V.I. [Perakhod, V.I.], akademik

New data on forests of the White Russian S.S.R. Vestsi AN BSSR. Ser.biial.nav. no.2:9-11 '62. (MIRA 15:8)

1. AN Belorusskoy SSR.
(WHITE RUSSIA--FORESTS AND FORESTRY)

PERAKHOD, V.I., akademik

Economic studies on forests. Vestsi AN BSSR Ser.biial.nav. no.2:47-56 '56. (MLRA 10:1)

1. Akademiya nauk BSSR.
(Forests and forestry)

PERAKHOD, V.I., akademik

Care of forests in White Russia. Vestsi AN BSSR.Ser.biial.nav. no.3:5-10 '58. (MIRA 11:11)

1. AN BSSR.

(White Russia--Forest management)

PERANIC

PERANIC

Yugoslavia (430)

Agriculture -- Plant and Animal Industry

Is it practical to merge the Fishery School with the Sea Technical School in Dubrovnik. p. 18. MORSKO RIBARSTVO, Vol. 4, no 1-2, 1952

East European Accessions List, Library of Congress, Vol 1, no 14, Dec 1952. UNCLASSIFIED.

PERARSKAYA, L.D., inzhener.

Nomograms for frequency calculations. Proizv.-tekh.inform. no.7:24-26 '52. (MLRA 10:3)

1. Nauchno-issledovatel'skiy institut vesov i priborov.
(Vibration) (Nomography(Mathematics))

MAYAUSKAS, I.S. [Majauskas, I.]; PERAS, A.

High-temperature unit for determining the strength of oxide ceramics in tensile tests. Zav. lab. 31 no.11:1396-1398 '65. (MIRA 19:1)

1. Institut energetiki i elektrotekhniki AN Litovskoy SSR.

L 01304-67 EWT(d)/EWP(e)/EWT(m)/EWP(v)/EWP(k)/EWP(h)/EWP(l) WW/WH

ACC NR: AP5027469 SOURCE CODE: UR/0032/65/031/011/1396/1398

AUTHOR: Mayauskas, I.S.; Peras, A. Ya.

ORG: Institute of Power Engineering and Electrical Engineering, AN LitSSR (Institut energetiki i elektrotekhniki AN LitSSR)

TITLE: High-temperature device for testing the tensile strength of refractory ceramic articles

SOURCE: Zavodskaya laboratoriya, v. 31, no. 11, 1965, 1396-1398

TOPIC TAGS: high temperature instrument, refractory product, ceramic product, tensile strength, tensile test, physics laboratory instrument

ABSTRACT: The authors describe a device used in their institute for testing refractory materials at temperatures higher than 1700C. The basic parts consist of : 1. vacuum chamber, 2. resistance heater, 3. dynamometer, 4. loading circuit with clamps, 5. lever loading system, 6. welded base, 7. tested sample. Heating the sample is accomplished by the resistance heater, consisting of 4 basic copper plates, 8 curved 2-mm diameter tungsten bars, a system of radial and front screens and reinforcing parts made from molybdenum, heat-resistant steel, and copper. The tensile strength is measured with a dynamometer mounted in the vacuum chamber. Temperatures are measured with a pyrometer and a thermocouple. A smooth charging of the testing sample at pre-

Card 1/2 UDC: 620.172.25:1.05

L 01304-67

ACC NR: AP5027469

scribed speed is accomplished by feeding water from a small tank 8 (see Fig. 1) into a loading tank suspended at the end of the lever loading system. The balancing of the weight of the levers and the tank is accomplished by a counterweight 10. When measuring the temperature with the pyrometer it is necessary to shade the heat emission by the heating rods and a bellows-like device was constructed for this purpose. The first experiments conducted at temperatures up to 2100C using the device were quite satisfactory. Orig. art. has: 3 fig.

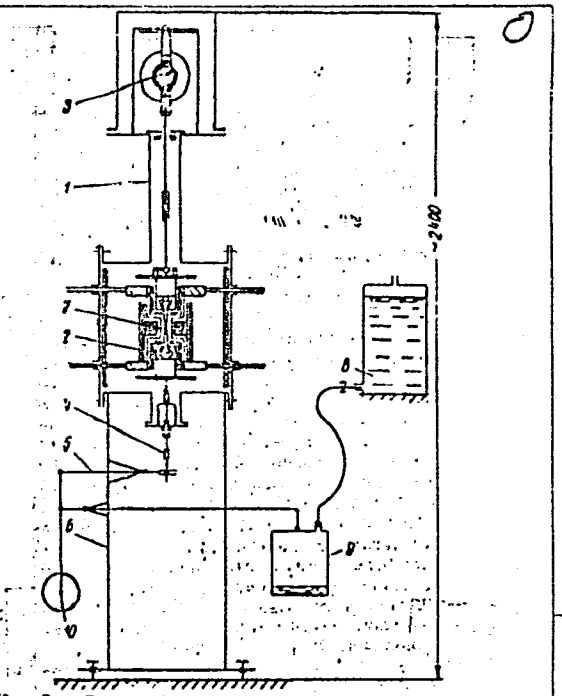

Fig.1. Line diagram of the device

SUB CODE: 14/11/ SUBM DATE: none/ ORIG REF: 001

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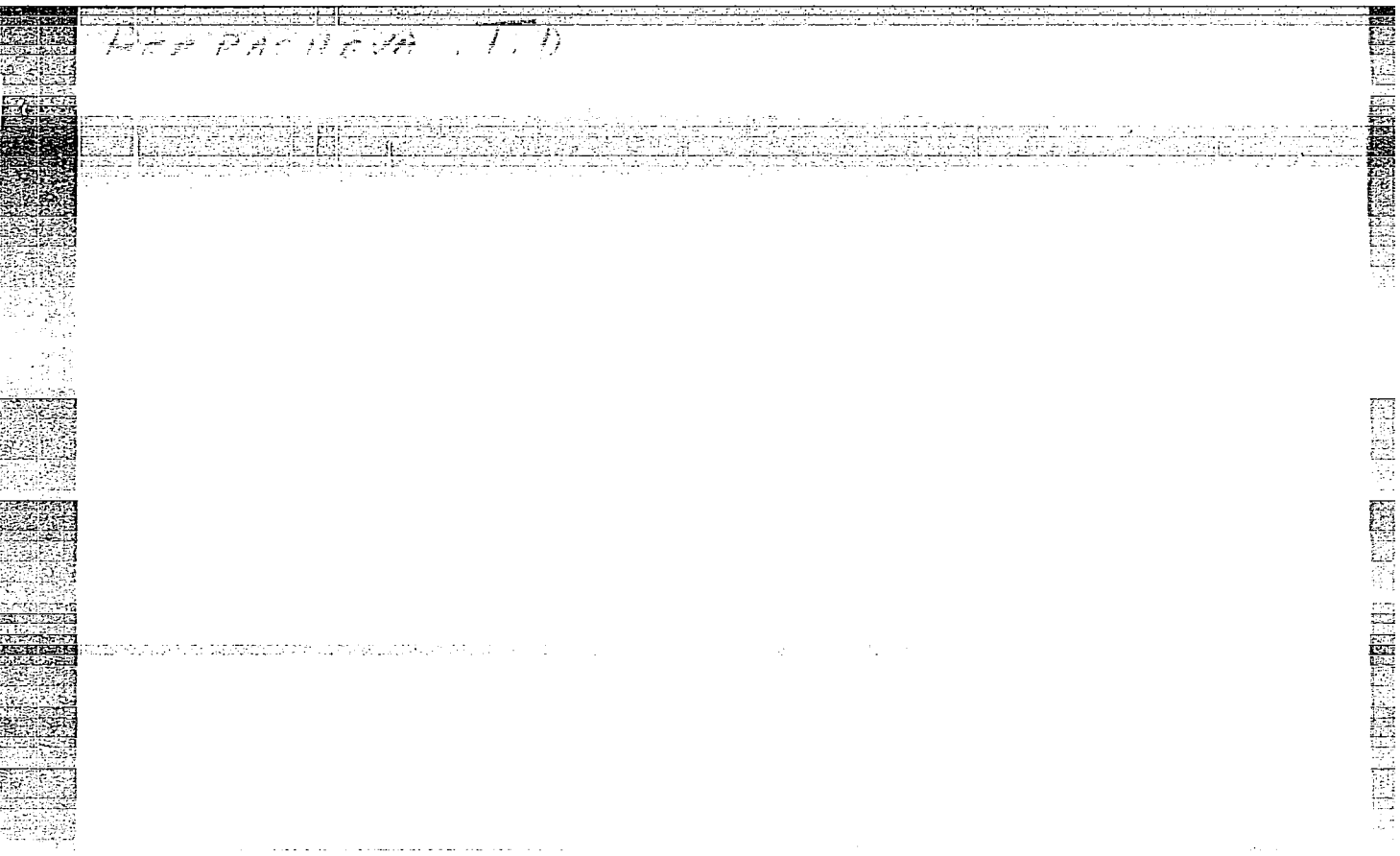

PERBOMAYSKIY G. S.

PERVOMAISKIY, G. S., SHUSTROV, A. K. and GRABOVSKIY, B. S.

"Repellents and Ways of Using Them to Control Epidemics."

Tenth Conference on Parsitological Problems and Diseases with Natural Reservoirs, 22-29 October 1959, Vol. II, Publishing House of Academy of Sciences, USSR, Moscow-Leningrad, 1959.

(Leningrad)

Percel, Istvan

6

Cyrii

The influence of various manures on soil. II. Lajos Kreybig, László Gáspár, Márta Végh, Sándor Schonfeld, István Percel, and Gyula Latorczai (Ministry Local Inds., Budapest). *Agrokémia és Talajtan* 3, 67–74(1954)(French summary).—Expts. begun in 1950 (cf. Kreybig, *Agrokémiai Kutató Intézet Evkönyve* (1950)) with brown prairie soil were continued under anaerobic conditions. This was achieved by vigorously stamping the soil in the culture vessels whenever watering, to exclude air. While air made the soils acid, anaerobic conditions caused mineralization of the org. substances and led to a pH shift toward alky. The org. content of the soils decreased by about 1/3. This was considerably accelerated by the addn. of synthetic fertilizers. Both active and total humus content decreased, and some of the active humus became inactivated. The N content decreased in general, probably by denitrification. The lower, more anaerobic soil layers had a N loss approx. 3 times as high as the higher, better-aired layers. The same was true of the org.-content distribution, leading to an over-all lowering of the C/N ratio. Treatment, start analysis, end analysis, and other data on the 20 soil samples are tabulated.

Peter D. Moskovits

PERCES, E.; SARKANY, S.

Histogenetical observations in the stem tip of Papaver Somniferum L. In English. p. 183.
(Acta Biologica. Vol. 7, no. 2/3, 1957. Budapest.)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 6, June 1957. Uncl.

PERCEVIC, D.

The production of mineral aggregates in Sumnik near Raska.

P. 54 (PUT I SAOBRACAJ) (Beograd, Yugoslavia) No. 1/2, Jan./Feb 1956

SO: Monthly Index of East European Accessions (EEAI) LC Vol. 7, No. 5. 1958

1. M. I. PERCHACHEK

2. USSR (600)

4. Botany - Pamirs

7. Ascorbic acid content in plants of the Eastern Pamir as a function of habitat. Soob. TFAN SSSR no. 23. 1950.

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

PERCHAL, Vladimir

Complex utilization of coal mud and flotation waste. Tech praca 16 no.2:112-113 F'64.

1. Urad pro patenty a vynalezy.

PERCHANIK V. B.

PHASE I BOOK EXPLOITATION 660

Ignatenko, Dmitriy Grigor'yevich; Starosel'skiy, Anatoliy Lazarevich; and Perchanik, Vladimir Borisovich

Mashinist-operator postov upravleniya prokatnogo stana; uchebnoye posobiye dlya proizvodstvenno-tekhnicheskogo obucheniya rabochikh (The Operator of Rolling Mill Control Equipment; a Textbook for the Technical Instruction of Workers) Moscow, Metallurgizdat, 1957. 246 p. 4,200 copies printed.

Ed.: Bystrov, B.M.; Ed. of Publishing House: Golyatkina, A.G.; Tech. Ed.: Karasev, A.K.

PURPOSE: This book is intended as a textbook for improving the qualifications of operators of control equipment in rolling mills and also as a texbook for technical schools.

COVERAGE: In this book general information on the properties of steel is given and the fundamentals of the theory of rolling are discussed. The basic and auxiliary equipment of rolling mills and their operation, general information on electrical engineering,

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organization of work, production economics, and safety techniques are also covered. The works of A.I. Tselikov, I.G. Kul'bachnyy, Yu. M. Chizhikov, M.L. Mirenskiy and N.A. Chelyshev were widely used in the preparation of the book. There are 10 references, all Soviet.

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AVAILABLE: Library of Congress

GO/ksv
10-10-58

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VATKIN, Ya.L., doktor tekhn. nauk; CHERNYAVSKIY, A.A., kand. tekhn. nauk; KAZAKOV, V.E., inzh.; GLIKIN, M.P., inzh.; PERCHANIK, V.V., inzh.; KHANIN, M.I., inzh.; BIBA, V.I., inzh.

Reducing internal laps in tube rolling on Pilgrim mills. Stal' 24 no.1:63-67 Ja '64. (MIRA 17:2)

1. Dnepropetrovskiy metallurgicheskiy institut i zavod im. Libknekhta.

KULAKOVSKIY, I.V.; VASHCHENKO, Ye.A.; LOBANOVSKIY, G.A.; YAKOVENKO, Ye.P.; BESSONOV, A.A.; GLOBIN, N.M.; PERCHANOK, B.Kh.

From the pages of "Biulleten izobretenii i tovarnykh znakov." Elek. stat. 35 no.1:37 Ja '64. (MIRA 17:6)

PERCHANOK, B. Kh., inzh.

Dynamic balancing of units with combined supports. Elektrotekhnika 34 no.9:68-70 S '63. (MIRA 16:11)

21586

9.3120 (1003, 1137, 1140)
26.2340

S/109/60/005/010/009/031
E033/E415

AUTHORS: Lepeshinskaya, V.N., Borisov, V.L. and Perchanok, T.M.

TITLE: Secondary-Emission Characteristics of Effective Emitters on an Alloy Base Over a Wide Range of Primary Electron Energies

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol.5, No.10, pp.1636-1642

TEXT: This paper was presented at the 9th All-Union Conference on Cathode Electronics, Moscow, October 1959.

The processes of diffusion and oxidation occurring during the formation of effective emitters on CuAlMg and CuBe alloys are examined, mainly on the basis of existing literature, to obtain a rational selection of activation conditions. Then the article gives the statistical results of measuring the secondary electron emission coefficient σ and the coefficient of non-elastic electron reflection η in the medium-energy (200 to 2000 ev) and high-energy (2 to 30 kev) primary-electron energy ranges. Non-elastic reflection electrons are those with energies exceeding

Secondary-Emission ...

50 ev. Graphs of $\sigma(E_p)$ and $\eta(E_p)$ (E_p being the primary electron energy) are plotted. With medium-energy primary electrons σ_{max} varies from 10 to 15 and occurs in the region of 600 to 1000 ev. The value of η is approximately constant at 15 to 16% for MgO film and at 12 to 13% for BeO film, formed on the corresponding alloys. Curves are also given for the region E_p = 0.5 to 30 kev. Then σ for normally activated CuAlMg alloy has a maximum in the region E_p = 1.3 kev after which it falls sharply. η is approximately constant up to 2.5 kev and then it increases to approximately 30% with increase of E_p. When $E_p = E_p^*$ (about 20 kev) η has its value for the base material. Thus the thickness of the activated film can be estimated from the $\eta(E_p)$ curve and the values obtained (400 to 700 Å) coincide approximately with those obtained by calculations based on the activation conditions. The curves $\sigma(E_p)$ and $\eta(E_p)$ were obtained for samples having four different film thicknesses (obtained by activation times of 1, 10, 20 and 60 min) and the lower limit to the effective depth of the output of slow secondary electrons was obtained. For MgO it was approximately 500 Å. Finally, it was found that the energy spectrum of the...

Secondary-Emission

secondary electrons does not depend on the value of E_p in the range 1 to 16 kev. The results are summarized in the table which compares the calculated thicknesses of the MgO film based on CuAlMg (93% Cu, 6% Al, 1% Mg) for different activation times. The activation temperature was 600°C, the CO_2 pressure was 0.1 mm Hg. Acknowledgments are expressed to G.B.Stuchinskiy for his assistance. There are 4 figures, 1 table and 15 references: 6 Soviet and 9 non-Soviet.

SUBMITTED: December 21, 1959

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S/109/60/005/010/009/031
E033/E415

Secondary-Emission ...

(1) Время активирования, мин	(2) Толщина слоя MgO, Å (3) рассчитанная по (4) диффузии	(5) окислению	(6) данным η	(7) $\sigma_{макс}$	(8) $E_{рмакс}$, эв	(9) E^*_p, кэв
1	180	—	225	10,2	700	1,3
3	310	180	300	11,3	800	1,6
5	400	300	350	12,1	900	1,8
10	560	600	490	13,1	1000	2,3
15	690	900	820	13,0	1100	3,4
20	800	1200	—	12,5	1300	—
60	1380	—	1300	8,5	1300	4,3

1 - Activation time (min). 2 - Thickness of the MgO layer Å.
3 - calculated by. 4 - diffusion. 5 - oxidation. 6 - η.
7 - σ_{max}. 8 - $E_{p\,max}$ ev. 9 - E^{*}_{p} kev.

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21587

9,3120 (1002, 1137, 1140)
26.2340

S/109/60/005/010/010/031
E033/E415

AUTHORS: Borisov, V.L., Perchanok, T.M. and Lepeshinskaya, V.N.

TITLE: Angular and Temperature Dependences of the Secondary Emission Coefficient σ and of the Coefficient of Non-Elastic Electron Reflection η of Activated Alloy-Type Emitters

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol.5, No.10, pp.1643-1649

TEXT: This paper was presented at the 9th All-Union Conference on Cathode Electronics, Moscow, October 1959.

The use of alloy-type emitters in "dynode" particle multipliers demands information on the physical processes occurring in such emitters in different temperature ranges, in particular in the range -60 to -70°C. This information is partly obtainable by investigation of the manner in which the secondary-emission coefficient σ and the non-elastic reflection coefficient η depend on temperature and on the angle of incidence φ of the primary electrons. The article is in three sections, viz investigation of (1) the temperature dependence of σ; (2) dependence of σ and η on the angle of incidence of the

Angular and Temperature ...

MgO and BeO with a rough surface; (3) CuBe with a mechanically polished surface. The results are presented graphically by plotting $\sigma_\varphi/\sigma_o = f(\varphi)$ for different values of primary electron energies (V_p = 400, 800, 1200, 1500 and 2000 V). For all three groups the following conclusions were drawn: σ_φ/σ_o is large with large values of φ; σ_φ/σ_o increases with increase of V_p; σ_φ/σ_o is independent of angle for V_p less than 200 V. The degree of dependence on φ is greatly affected by the surface finish. η/η_o increases with φ and also with the energy of the primary electrons. The angular dependence $\sigma(\varphi)$ is explained on the basis of the simultaneous action of three factors: (1) change in the conditions of formation of secondary electrons as the angle of incidence of the primary-electron beam is altered, (2) the angular dependence of η, (3) the micro-finish of the surface. In the third section, the apparatus for investigation of the angular distribution of secondary electrons is described and illustrated. The polar diagrams (for T = 400°C) for activated CuAlMg are produced. The polar diagrams show the distribution of secondary electrons and the distribution of reflected electrons for normal incidence and for 20° angle of

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incidence. The diagrams relate to V_p = 500 V but the same general shape holds for from 50 to 500 V. The distribution conforms to a cosine law. Finally, the maximum of the energy distribution of the secondary electrons does not depend on the angle of incidence. This confirms the work of Gornyy (Ref.12) but is in opposition to the results obtained by Frumin and Kushnir (Ref.11). Acknowledgments are expressed to V.A.Zakrevskiy, G.V.Lomakin and G.N.Chizhukhin who participated in this work. There are 6 figures and 12 references: 9 Soviet and 3 non-Soviet.

SUBMITTED: December 21, 1959

LEPESHINSKAYA, V.N.; BORISOV, V.L.; PERCHANOK, T.M.

Secondary emission characteristics of effective emitters made from alloys with a wide energy band of the primary electrons. Radiotekh. i elektron. 5 no.10:1636-1642 O '60. (MIRA 13:10)
(Secondary electron emission) (Cathodes)

ACC NR: AP7001315 SOURCE CODE: UR/0057/66/036/012/2188/2190

AUTHOR: Perchanok, T. M.; Russov, V. M.; Fridrikhov, S. A.

ORG: Leningrad Polytechnic Institute im. M. I. Kalinin (Leningradskiy politekhnicheskiy institut)

TITLE: Some operational characteristics of the pulse emission of an He-Ne laser

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 12, 1966, 2188-2190

TOPIC TAGS: ~~laser~~, laser pulse, ~~pulse laser~~, ~~laser pulse emission~~, ~~He-Ne laser~~, ~~He-Ne laser pulse emission~~, gas laser, discharge tube, phototube

ABSTRACT: The dependence of the output power of an He-Ne laser on its various parameters was experimentally investigated under conditions of short (0.5-μsec) pulses in rapid (2000 pulses/sec) succession. A gas discharge tube with quartz windows installed at the Brewster angle in a semi-confocal resonator was used. An FEU-22 multiplication phototube served as the receiver. The output pulse shape of the 6-mm and 15-mm discharge tubes was recorded by an IO-4 oscillograph. The dependence of output light pulses with a duration of 30—100 μsec on the pumping power and pressure of the mixture was investigated. The optimal Ne and He ratios in the tube were 1 to 15 and 1 to 30 for 6- and 15-mm tubes, respectively. More powerful emission occurred from 15-mm tubes (about 1 wt), with pulse power about three orders higher than that under continuous emission. The average and peak output power of this tube, plotted against pumping voltage (varied from about 10 to 30 kv at pressures up to

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BORISOV, V.L.; PERCHANOK, T.M.; LEPESHINSKAYA, V.N.

Angular and temperature dependence of activated alloy emitters on the secondary electron emission coefficient σ and the nonelastic electron reflection coefficient η. Radiotekh. i elektron. 5 no.10: 1643-1649 O '60. (MIRA 13:10)
(Secondary electron emission) (Cathodes)

ACC NR: AP7001315 SOURCE CODE: UR/0057/66/036/012/2188/2190

AUTHOR: Perchanok, T. M.; Russov, V. M.; Fridrikhov, S. A.

ORG: Leningrad Polytechnic Institute im. M. I. Kalinin (Leningradskiy politekhnicheskiy institut)

TITLE: Some operational characteristics of the pulse emission of an He-Ne laser

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 12, 1966, 2188-2190

TOPIC TAGS: ~~laser~~, laser pulse, ~~pulse laser~~, ~~laser pulse emission~~, ~~He-Ne laser~~, ~~He-Ne laser pulse emission~~, gas laser, discharge tube, phototube

ABSTRACT: The dependence of the output power of an He-Ne laser on its various parameters was experimentally investigated under conditions of short (0.5-μsec) pulses in rapid (2000 pulses/sec) succession. A gas discharge tube with quartz windows installed at the Brewster angle in a semi-confocal resonator was used. An FEU-22 multiplication phototube served as the receiver. The output pulse shape of the 6-mm and 15-mm discharge tubes was recorded by an IO-4 oscillograph. The dependence of output light pulses with a duration of 30—100 μsec on the pumping power and pressure of the mixture was investigated. The optimal Ne and He ratios in the tube were 1 to 15 and 1 to 30 for 6- and 15-mm tubes, respectively. More powerful emission occurred from 15-mm tubes (about 1 wt), with pulse power about three orders higher than that under continuous emission. The average and peak output power of this tube, plotted against pumping voltage (varied from about 10 to 30 kv at pressures up to

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ACC NR: AP7001315

4 mm Hg, and 10 to 22 kv for pressures from 6 to 12 mm Hg) shows, under pressures up to 4 mm Hg, monotonically rising curves to about 30 kv. In the higher pressure range, a narrowing of the emission zone occurs and the curves take the shape of sharp peaks which shift with pressure toward higher or lower values and tend generally toward higher output values at higher pressures. For a full explanation of these relationships further investigations are felt necessary. The observations of the cross-sectional intensity distribution within the output beam revealed an multimode structure. Under certain conditions (pressure 4 mm Hg, pumping voltage 14 kv) the beam cross section in the near zone took the form of a ring 12 mm in outside diameter and 5 mm in inside diameter. At higher pressures and higher pumping voltages, a delay and widening of the emission pulse as observed and explained earlier by Yegorov and others (Optika i spektroskopiya, 18, 1965, 719; ibid, 15, 1963, 839) took place. Attempts to obtain emission from the same tubes on the 6328 Å wavelength were unsuccessful at pressures of 1 to 8 mm Hg and pumping voltages of 6 to 30 kv. The authors thank A. R. Shul'man for his interest in the work and D. K. Terekhin and A. E. Fotiadi for useful discussions. Orig. art. has: 2 figures. [WA-14]

SUB CODE: 20/ SUBM DATE: 13Oct65/ ORIG REF: 004/ OTH REF: 005/

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PERCHATKIN, P.N.

SOV/5556

PHASE I BOOK EXPLOITATION

Moscow. Institut stali.

Novoye v teorii i praktike proizvodstva martenovskoy stali (New [Developments] in the Theory and Practice of Open-Hearth Steelmaking) Moscow, Metallurgizdat, 1961. 439 p. (Series: Trudy Mezhvuzovskogo nauchnogo soveshchaniya) 2,150 copies printed.

Sponsoring Agency: Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya RSFSR. Moskovskiy institut stali imeni I. V. Stalina.

Eds.: M. A. Glinkov, Professor, Doctor of Technical Sciences, V. V. Kondakov, Professor, Doctor of Technical Sciences, V. A. Kudrin, Docent, Candidate of Technical Sciences, G. N. Oyks, Professor, Doctor of Technical Sciences, and V. I. Yavoyskiy, Professor, Doctor of Technical Sciences; Ed.: Ye. A. Borko; Ed. of Publishing House: N. D. Gromov; Tech. Ed.: A. I. Karasev.

PURPOSE: This collection of articles is intended for members of scientific institutions, faculty members of schools of higher education, engineers concerned with metallurgical processes and physical chemistry, and students specializing in these fields.

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New [Developments] in the Theory (Cont.) SOV/5556

COVERAGE: The collection contains papers reviewing the development of open-hearth steelmaking theory and practice. The papers, written by staff members of schools of higher education, scientific research institutes, and main laboratories of metallurgical plants, were presented and discussed at the Scientific Conference of Schools of Higher Education. The following topics are considered: the kinetics and mechanism of carbon oxidation; the process of slag formation in open-hearth furnaces using in the charge either ore-lime briquets or composite flux (the product of calcining the mixture of lime with bauxite); the behavior of hydrogen in the open-hearth bath; metal desulfurization processes; the control of the open-hearth thermal melting regime and its automation; heat-engineering problems in large-capacity furnaces; aerodynamic properties of fuel gases and their flow in the furnace combustion chamber; and the improvement of high-alloy steel quality through the utilization of vacuum and natural gases. The following persons took part in the discussion of the papers at the Conference: S.I. Filippov, V.A. Kudrin, M.A. Glinkov, B.P. Nam, V.I. Yavoyskiy, G.N. Oyks and Ye. V. Chelishchev (Moscow Steel Institute); Ye. A. Kazachkov and A. S. Kharitonov (Zhdanov Metallurgical Institute); N.S. Mikhaylets (Institute of Chemical Metallurgy of the Siberian Branch of the Academy of Sciences USSR); A.I. Stroganov and D. Ya. Povolotskiy (Chelyabinsk Polytechnic Institute); P.V. Umrikhin (Ural Polytechnic Institute); I.I. Fomin (the Moscow "Serp i molot" Metallurgical Plant); V.A. Fuklev (Central Asian Polytechnic Institute)

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New [Developments] in the Theory (Cont.) SOV/5556

and M.I. Beylinov (Night School of the Dneprodzerzhinsk Metallurgical Institute). References follow some of the articles. There are 268 references, mostly Soviet.

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PERCHATKIN, P. N.

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PHASE I BOOK EXPLOITATION SOV/5411

Konferentsiya po fiziko-khimicheskim osnovam proizvodstva stali. 5th, Moscow, 1959.

Fiziko-khimicheskiye osnovy proizvodstva stali; trudy konferentsii (Physicochemical Bases of Steel Making; Transactions of the Fifth Conference on the Physicochemical Bases of Steelmaking) Moscow, Metallurgizdat, 1961. 512 p. Errata slip inserted. 3,700 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni A. A. Baykova.

Responsible Ed.: A. M. Samarin, Corresponding Member, Academy of Sciences USSR; Ed. of Publishing House: Ya. D. Rozentsveyg. Tech. Ed.: V. V. Mikhaylova.

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Physicochemical Bases of (Cont.) SOV/5411

PURPOSE: This collection of articles is intended for engineers and technicians of metallurgical and machine-building plants, senior students of schools of higher education, staff members of design bureaus and planning institutes, and scientific research workers.

COVERAGE: The collection contains reports presented at the fifth annual convention devoted to the review of the physicochemical bases of the steelmaking process. These reports deal with problems of the mechanism and kinetics of reactions taking place in the molten metal in steelmaking furnaces. The following are also discussed: problems involved in the production of alloyed steel, the structure of the ingot, the mechanism of solidification, and the converter steelmaking process. The articles contain conclusions drawn from the results of experimental studies, and are accompanied by references of which most are Soviet.

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PERCHATKIN, P. N. and PANOV, A. S.

Sopostavleniye desul'furiruyushchey sposobnosti okislov v period plavleniya pri peredele malomargantsevistykh chugunov.

report submitted for the 5th Physical Chemical Conference on Steel Production, Moscow, 30 Jun 1959.

PERCHATKIN, P.N.; PANOV, A.S.; BEZDENEZHNYKH, A.A.; BIGEYEV, A.M.; LETIMIN, V.N.; D'YAKONOV, A.I.

Sulfur distribution between metal and slag during conversion smelting of low-manganese pig iron. Izv. vys. ucheb. zav.; chern. met. no.1:33-40 '60. (MIRA 13:1)

1.Magnitogorskiy gorno-metallurgicheskiy institut.
(Open-hearth process) (Desulfuration)

PERCHATKIN, P.N., inzh.; BEZDENEZHNYKH, A.A., dots., kand.tekhn.nauk

Metal desulfuration in 400-ton open-hearth furnaces. Izv.vys. ucheb.zav.; chern.met. no.8:31-38 Ag '58. (MIRA 11:11)

1. Magnitogorskiy gorno-metallurgicheskiy institut.
(Open-hearth furnaces) (Desulfuration)

PERCHATKIN, P.N.

137-58-5-9078

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 47 (USSR)

AUTHORS: Perchatkin, P.N., D'yakonov, A.I.

TITLE: Heat Absorption in the Hearth of an Open-hearth Furnace in the Course of a Heat (Teplopogloshcheniye martenovskoy vanny po khodu plavki)

PERIODICAL: Sb. nauchn. tr. Magnitogorskiy gornometallurg. in-t, 1957, Nr 11, pp 85-92

ABSTRACT: Absolute heat absorption (HA) values were determined for in the course of an open-hearth heat. The investigations were carried out in an 185-ton gas-heated open-hearth furnace (OHF) with carburization with tar. The heat flows (HF) were measured by means of a calorimeter of VNIIT design. The HF's vary sharply in the course of an open-hearth smelting; the direct flow, passing from the flame to the hearth, varies more than the return flow from the hearth. A graph is presented showing the variations of the direct HF along the hearth. The absolute value of the direct HF is greater at the end than it is at the midway point in the scrap-charging process. The return HF remains practically constant throughout the length and width of the hearth.

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137-58-5-9078

Heat Absorption in the Hearth of an Open-hearth Furnace (cont.)

During the charging of scrap the HA varied from 340, 000 kcal/m^2 at the second opening to 140, 000 kcal/m^2 at the fifth one. A similar nonuniformity was observed in other stages of smelting also. The HF also varies from one switching to another. The variations of the direct and return HF's in the course of a smelting are shown in the form of a graph. The HA, which at the time of charging of limestone amounted to 260-300 thousand kcal/m^2, decreased to a value of 130-140 thousand kcal/m^2 after the limestone had been heated for a period of 3-5 minutes. An analogous situation is observed in the course of charging of Fe ore. After the introduction of the metal scrap charge into the furnace, the HA amounted to 260-340 thousand kcal/m^2, but after 1.5 hrs of heating it dropped to a value of 140-160 thousand kcal/m^2. At the end of the smelting period and throughout the boiling stage, the HA diminishes smoothly from 120-160, 000 to 30-50, 000 kcal/m^2. The HA is also shown to be a function of the combustion rate of C in the hearth. The HA, which prior to the introduction of Fe-Mn into the hearth had a value of 90-120, 000 kcal/m^2 (the hourly oxidation rate of C being equal to 0.20-0.25%), is reduced to a value of 40-55, 000 kcal/m^2 three to five minutes after the introduction of the Fe-Mn.

S.I.

1. Open hearth furnaces 2. Heat--Absorption 3. Temperature--Measurement 4. Calorimeters--Applications

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APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239930004-0"

PERCHATKIN, P.N.

BEZDENEZHNYKH, A.A., kandidat tekhnicheskikh nauk; BIGEYEV, A.M., kandidat tekhnicheskikh nauk; DIKSHTEYN, Ye.I., inzhener; PERCHATKIN, P.N., inzhener; SIROTENKO, A.I., inzhener.

Improving the technology of rimmed steel deoxidation. Stal' 17 no.8:701-707 Ag '57. (MLRA 10:9)

1. Magnitogorskiy gorno-metallurgicheskiy institut i Magnitogorskiy metallurgicheskiy kombinat.
(Open-hearth process)

133-8-6/28

AUTHORS: Bezdenezhnykh, A.A. and Bigeyev, A.M. (Cands.Tech.Sci.), Dikshteyn, Ye.I., Perchatkin, P.N. and Sirotenko, A.I., (Engineers).

TITLE: The development of the deoxidation process of rimming steel. (Usovershenstvovaniye tekhnologii raskisleniya kipyashchey stali).

PERIODICAL: "Stal'" (Steel), No.8, 1957, pp.701-707 (USSR).

ABSTRACT: An investigation of factors causing substantial variation in manganese losses during deoxidation of quality low carbon rimming steels (08 кп Н, 08 кпГ, 08 кп рГ and 08 кп chemical composition is given in Table 1), produced in 400 t open hearth furnaces was carried out. The following students of MGMI participated in the investigation: V. Antipin, N.Kuskov, B.Khorshun and others. The composition of pig used varied within comparatively wide limits, % C 4.1-4.5, Mn 0.15-0.25, Si 0.65-1.0; S 0.025-0.055; P 0.085-0.150. The limits of composition of metal and slag during the individual smelting periods are given. The composition of metal before deoxidation %: C 0.06-0.09; Mn 0.04-0.09; S 0.030-0.033; P 0.007-0.010; slag: CaO 43-46; SiO_2 11-17, FeO 10-20. For the deoxidation of steel the whole required amount of ferromanganese was added to the

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The development of the deoxidation process of rimming steel. (Cont.)

both in one lot at the beginning of tapping. Some retention of steel in the furnace after the above addition was used only when ferromanganese contained more than 1% of Si. Maximum possible manganese loss was calculated using A.M. Bigeyev's formula:

$$U_{max} = \frac{77.5\ K_{Mn}(FeO)q}{100 + 0.775\ K_{Mn}(FeO)q} \qquad (1)$$

where: q - relative proportion of slag %; K_{Mn} - equilibrium constant of the deoxidation reaction [Mn] + [FeO] = (MnO) + Fe l. The dependence of maximum manganese losses in the furnace at 1600 C on the amount of slag and its FeO content is shown in Fig.1 and the frequency distribution of total manganese losses during deoxidation of low carbon rimming steel in 400 t furnaces (170 melts) in Fig.2. The maximum manganese losses during deoxidation can vary between 60 and 70% while actual losses varied from 30 to 70% (average 40-50%), therefore to obtain metal of a required composition the

The development of the deoxidation process of rimming steel. (Cont.)

influence of the following factors on manganese losses was studied. 1) The influence of retention time in the furnace after deoxidation; 2) Duration of tapping (Fig.3); 3) The influence of metal temperature before deoxidation; 4) The influence of FeO content in slag (Fig.5). This influence becomes obvious only at FeO content above 12-14%; 5) The influence of silicon content in ferro-manganese (Fig. 6); 6) The influence of carbon content of metal before deoxidation (Fig.7) and as during decarburisation of steel 08 kp ore additions are often made (1-1.5 t) not long before deoxidation, the influence of this addition was also studied (Fig.8). On the basis of the data obtained the consumption of ferromanganese for deoxidation for MMK conditions was calculated, using a formula derived by A.M. Bigeyev:

$$T_{FeMn} = 10^5 \frac{T([Mn]f - [Mn]r)}{[Mn]_{FeMn} \cdot (100-U_{Mn})}$$

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where: T_{FeMn} - consumption of ferromanganese for the deoxidation of the whole charge of steel in kg.; T -

The development of the deoxidation process of rimming steel. (Cont.)

furnace capacity, tons; [Mn]f - manganese content of finished steel %; [Mn]r - residual manganese content in steel before deoxidation, %; U_{Mn} - total manganese losses (in furnace, runner and ladle), %. The frequency distribution of residual manganese content before deoxidation is given in Fig.9. To facilitate calculations under works conditions, tables were prepared (2 and 3) of required ferromanganese additions for various operating conditions encountered in practice. An example of calculations is given. It is stated in conclusion that the application of the method of calculating the required ferromanganese additions in practice decreased the consumption of the latter by 1 - 1.5 kg/ton of steel and prevented the production of metal outside the composition required.

There are 3 tables, 9 figures and 5 Slavic references.

ASSOCIATION: Magnitogorsk Mining-Metallurgical Institute and MMK. (Magnitogorskiy Gorno-Metallurgicheskiy Institut i MMK).

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AGAPOV, V.F.; BEZDENEZHNYKH, A.A.; PERCHATKIN, P.N.; DIKSHTEYN, Ye.I.

Fluxed sinter of sulfurous ores used in open hearth smelting.
Stal' 22 no.8:697-700 Ag '62. (MIRA 15:7)

1. Magnitogorskiy gornometallurgicheskiy institut i Magnitogorskiy metallurgicheskiy kombinat.
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AUTHORS: Perchatkin, P. N., Panov, A. S., Bezdenezhnykh, A. A., Bigeyev, A. M., Letimin, V. N., D'yakonov, A. I.

TITLE: Distribution of Sulphur Between Metal and Slag During Melting Down Period in Conversion of Low-Manganese Cast Iron

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, 1960, Nr 1, pp 33-40 (USSR)

ABSTRACT: This article describes an attempt by the authors to establish the effect of some slag components on the coefficient of distribution of sulphur between the metal and the slag during melting down period, when processing low-manganese cast iron in large capacity basic open hearth furnaces. Fifty-two test melts were conducted at the Magnitogorsk Metallurgical Combine (MMK). During the processing of the obtained data many valuable advices were given by Ye. I. Rabinovich (Candidate of Technical Sciences). A. I. Ivanov and

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Distribution of Sulphur Between Metal and Slag During Melting Down Period in Conversion of Low-Manganese Cast Iron

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N. V. Limin (Engineers), A. I.Nenevolya (Technician), F. A. Bezdenezhnykh (Student), and A. F. Milyayev (Laboratory Technician) participated in the study of test melts together with the authors. The furnaces were working on scrap ore process. The charge consisted of 67.5% of liquid cast iron; 32.5% of scrap; 15-16.5% of iron ore; and 3.5-4.5% of limestone. The regular cast iron chemical composition was: 0.15-0.35% Mn; 0.60-0.95% Si; 0.030-0.045% S; and 0.090-0.140% P. During 27 test melts the furnaces were fired by sulphurous mazut (Russian petroleum residue, fuel oil). During 25 melts the furnaces were fired by almost pure (in regard to sulphur)mixed gas (coke and blast furnace gas). During the test melts, 222 parallel samples of slag and metal were taken during melting down period. In addition 33 slag samples (according to data of A. N. Morozov, V. F. Agapov, and D. K. Pugachev) were used. Altogether 255 parallel samples of slag and metal obtained during melting down period were processed. Figures 1, 2, 3, and 4 show the results of the tests.

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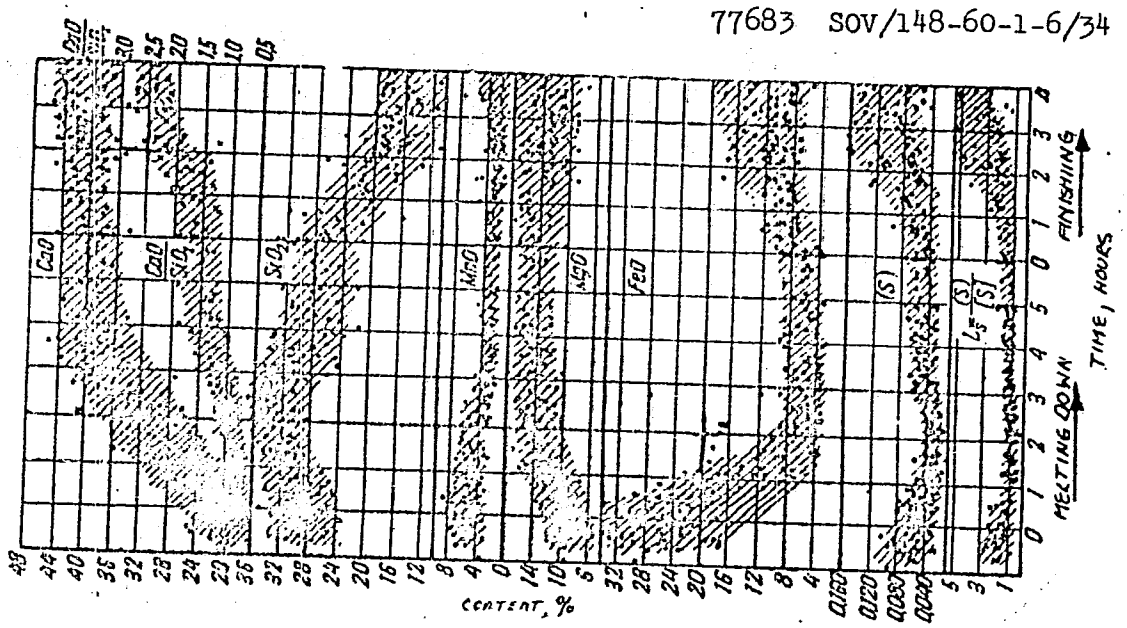

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Fig. 1. Change of slag composition during the periods of melting down and finishing.

Distribution of Sulphur Between Metal and Slag During Melting Down Period in Conversion of Low-Manganese Cast Iron

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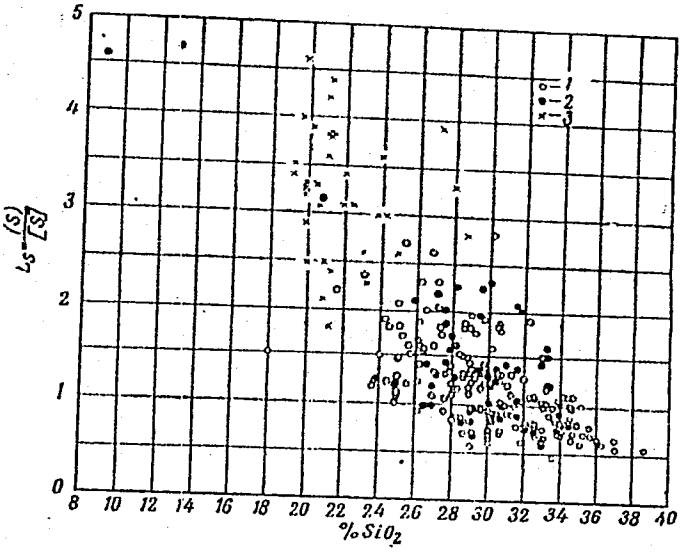

Card 4/10 Fig. 2. Caption on Card 5/10

Distribution of Sulphur Between Metal and Slag During Melting Down Period in Conversion of Low-Manganese Cast Iron

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Fig. 2. The effect of silica content in the slag on the coefficient of distribution of sulfur between the metal and the slag. (1) During firing of furnace by sulphurless mixed gas; (2) during firing of furnace by sulfurous mazut; (3) during conversion of manganous cast iron (Mn $\geq$ 1.5%).

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