

1. A. K. BUTYLENKO, V. M. DANILENKO, YU V. MIL'MAN, YU V. NAYDICH, S. A. RYBAK,
A. A. SMIRNOV
2. USSR (600)
4. Alloys
7. Electrical resistance of well-organized alloys. Zhur. eksp. i teor. fiz. 23
no. 6. 1952.

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

Butylenko, A.K.

Theory of electrical resistivity of ordered alloys. A. K. Butylenko, V. M. Danilenko, Yu. V. Mil'man, Yu. V. Naldich, S. A. Rybak, and A. A. Smirnov. *Izvest. Kiev. Politekhn. Inst.* 12, 18-24(1953); *Referat. Zhur., Fiz.* 1955, No. 9374; cf. *C.A.* 47, 3643e.—Exptl. curves illustrating the relation of elec. resistivity of ordered alloys ρ to compn. and degree of ordering differ from theoretical curves by the presence of rectilinear sections, by sharpness of the max., and in some cases by the rapid discontinuous changes of ρ with compn. If one considers that, at the same temp. for annealing T , the degree of ordering η , attained by alloys of different concns., is not the same, then the exptl. curves can be explained with the aid of known formulas detg. the equil. values of η at given values of T and c (conc.). The favorable effect of the indicated correction is illustrated graphically by a sample of alloys with face-centered and body-centered cubic lattices. It is noted that the skipping of $\rho(c)$ which is sometimes observed when compn. $c \approx 0.5$ is approached contradicts the statistical theory of ordering, which is not able to predict whether the order—non-order transitions in a given alloy are of 1st or 2nd order. This work confirms the usefulness of A. A. Smirnov's theory (*C.A.* 42, 5605f) in explaining the basic qual. features of change in ρ with the compn. which are observed in ordered alloys. M.K.

5.

Butylenko, A.K.

18(7) PHASE I BOOK EXPLOITATION SOV/3355

Akademiya nauk SSSR. Institut metallurgii. Nauchnyy sovet po probleme zharnoprochnykh splavov. IV (Studies on Heat-resistant Alloys, vol. 4) Moscow, Izd-vo AN SSSR, 1959. 400 p. Errata slip inserted. 2,200 copies printed.

Ed. of Publishing House: V. A. Klisov; Tech. Ed.: A. P. Guseva; Editorial Board: I. P. Bardin, Academician; G. V. Kurdyumov, Academician; N. V. Ageyev; Corresponding Member, USSR Academy of Sciences; I. A. Odling, I. M. Pavlov, and I. P. Zudin, Candidate of Technical Sciences.

PURPOSE: This book is intended for metallurgists concerned with the structural metallurgy of alloys.

COVERAGE: This is a collection of specialized studies of various alloys in the section of heat-resistant alloys. Some are concerned with theoretical principles, some with descriptions of new equipment and methods, others with properties of specific materials. Various phenomena occurring under specified conditions are studied and reported on. For details, see Table of Contents. The articles are accompanied by a number of references, both Soviet and non-Soviet.

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Card 8/12

BUTYLENKO, A.K.; GRIDNEV, V.N.; TREFILOV, V.I.

Changes in the structure and properties of titanium cernets during
vacuum rolling. Sbor. nauch. rab. Inst. metallofiz. AN URSR no.9:
89-97 159. (MIRA 12:9)
(Deformations (Mechanics)) (Titanium--Metallography)

ACCESSION NR: AP4012035

S/0185/64/009/001/0100/0103

AUTHOR: Buty*lenko, A. K.

TITLE: The hardness at high temperatures of germanium of various degrees of purity

SOURCE: Ukrayins'ky*y fizy*chny*y zhurnal, v. 9, no. 1, 1964, 100-103

TOPIC TAGS: semiconductor, germanium

ABSTRACT: The hardness of Ge samples (n-type, resistance 0.004, 0.3, and 40 ohm.cm; p-type, resistance 3 ohm.cm) decreased linearly to a relatively small degree from 0 to 250C and then dropped sharply from 250 to 600C along an exponential curve typical for metals. Etching tests showed that dislocations did not develop around the imprint of the hardness testing tool at temps. < 250, but developed at temps. > 250C. The hardness of Ge samples kept under a creep-producing stress for 30 sec. - 1 hr at 100-600C remained practically unchanged at temps. < 250C and decreased proportionally to $\ln \tau$ (τ = time in sec. during which the stress was applied) at temps. > 250C. Softening of Ge at temps. > 250C

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ACCESSION NR: AP4012035

could be due to transfer of this semiconductor into a metallic state because of a sharp increase in the number of current carriers according to the $3/2$ law in the region of self-conductivity and breaking of bonds. The orig. art. has 4 figures.

ASSOCIATION: Instytut Metalofizyky AN URSR, Kiev (Institute Metal Physics)

SUB CODE: PH, EL

SUBMITTED: 31Jul63

NO REF SOV: 007

OTHER: 016

DATE ACQ: 14Feb64

ENCL: 00

Card

2/2

BUTYLENKO, A.K.; GRIDNEV, V.N.

Characteristics of deformation and changes in the physical
properties of chromium-iron alloys. Sbor. nauch. rab.
Inst metallofiz. AN URSR no.18:3-17 '64 (MIRA 17:8)

L 34104-65 EWT(m)/EWP(w)/EPF(n)-2/EWA(d)/I/EWP(t)/EWP(b) PU-4 LJP(c) JD/77
ACCESSION NR: AT5005115 S/2601/64/000/019/0054/0068

AUTHOR: Butylenko, A. K.; Gridnev, V. N. (Corresponding member AN UkrSSR)

TITLE: Investigation of the plastic properties of alloys of chromium and the transition metals

SOURCE: AN UkrSSR. Institut metallofiziki. Sbornik nauchnykh trudov, no. 19, 1964. Voprosy fiziki metallov i metallovedeniya (Problems in the physics of metals and physical metallurgy), 54-68

TOPIC TAGS: transition element, chromium alloy, transition element alloy, alloy brittleness, transition temperature, twin formation, admixture solubility, interstitial additive

ABSTRACT: Referring to a large number of foreign papers concerned with Cr brittleness caused by carbon, oxygen and boron, the authors discuss their own observations of the behavior of Cr alloyed with Lu (5d¹), Fe (3d⁶), Mn (3d⁵), Ni (3d⁸), Ta (5d³), W (5d⁴), Re (5d⁵) and Os (5d⁶). The transition temperature and brittleness of Cr specimens alloyed with transition metals from Lu to Os is proportional to the concentration of additives, this rise being affected by the order of arrangement in the periodic table as shown in Fig. 1 of the report.
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L 34104-65

ACCESSION NR: AT5005115

crease in Cr embrittlement as the 5d-shell is being filled causes the transition temperature to drop. However, in quantities of 1 to 2% (by weight), Ru and Os have a beneficial effect on the plastic properties of Cr. This effect is attributed to the refining action of interstitial additives, particularly nitrogen, and their resultant drastic decrease in solubility. All specimens displayed a higher tendency to brittleness as the amount of alloying elements was raised. At the same time, the transition temperature of Cr fell from 200 to 100°C. Alloying conditions in excess of 1% caused an increase in the transition temperature. The transition of Fe(3d) to Ru (4d) and Os (5d) improved the plastic properties of Cr and Cr - Lu, Cr - Hf, Cr - Ta and Cr - W specimens, twinning was absent at -196 C to the ductile state transition temperature. Conversely, Cr - Fe, Cr - Re, Cr - Os and Cr - Re specimens show a tendency to twinning, as also noted by other authors. In Cr - Ru and Cr - Os systems, twinning is considerably less conspicuous as a result of the higher energy of packing imperfections during alloying. The softening of alloys is appreciable within the 100-300C range; between 700 and 800C hardening occurs - its nature has not been clarified - with softening re-occurring above 900 C. Orig. art. has: 7 figures and 1 table.

ASSOCIATION: Institut metallofiziki AN Ukr SSR (Metal physics institute, AN Ukr SSR)

SUBMITTED: 05Jul63

REF SOV: 017

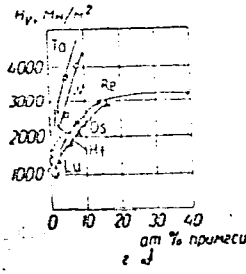
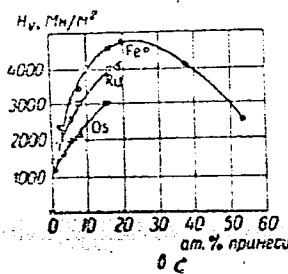
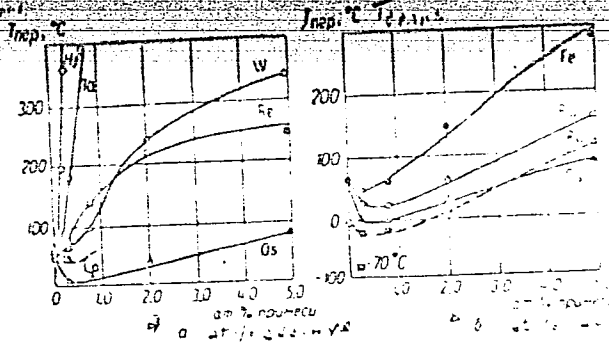
ENCL: 02
OTHER: 029

SUB CODE: MM

L 34104-6⁵

ACCESSION NR: AT5005115

ENCLOSURE: 01



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L 34204-65

ACCESSION NR: AT5005115

ENCLOSURE: 02

Figure 1. The effect of the amounts of alloying elements on transition temperature (a, b) and hardness (c, d) of Cr alloys.

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L 41813-65 EMT(d)/EMT(m)/EMP(w)/EPF(n)-2/EMP(c)/EMA(d)/EMP(v)/T/EMP(t)/EMP(k)/
EMP(h)/EMP(o)/EMP(l) Pf-4/Pu-4 IJP(c) JJ/53
ACCESSION NR: AT5005118 S/2601/64/000/019/0116/0126

AUTHOR: Butylenko, A. K.; Gridnev, V. N. (Corresponding member AN UkrSSR)

TITLE: Electrical properties and volumetric effects in the Neel temperature region in alloys of chromium with the transition metals

SOURCE: AN UkrSSR. Institut metallofiziki. Sbornik nauchnykh trudov, no. 19, 1964. Voprosy fiziki metallov i metallovedeniya (Problems in the physics of metals and physical metallurgy), 116-126

TOPIC TAGS: electrical resistivity, alloy plasticity, thermal expansion, thermoelectromotive force, Neel temperature, transition element, chromium alloy, alloy embrittlement, Fermi surface

ABSTRACT: The authors discuss the changes in electrical resistivity, thermal expansion and thermoelectromotive force of Cr alloys with La, Hf, Ta, V and Pu as well as the characteristics of plasticity at the Neel point and the influence of the valence of the alloying elements. It was found that the elements to the left of Cr in the periodic table, including W, lower the Neel point and exhibit a tendency to form a maximum. The values of the anomalies that occur during alloying with elements to the right of Cr in the periodic table also re-

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ACCESSION NR: AT5005118

veal a maximum, and increase with concentration as it approaches the region of the α' -phase in the phase diagrams. The testing temperature varied from -190 to 400C (see Fig. 1 of the Enclosure). The change in t_N and in the value of the investigated effects correlated with the temperature range of embrittlement in the region of both small and large concentrations of the alloying components in Fe and Re specimens; however, no correlation was observed in alloys with Fe and Os despite the analogous pattern of changes. In Lu, Hf, Ta and W specimens, t_N is lowered without any substantial changes in the value of the effects while the temperature range of embrittlement is heightened with increasing concentrations of the alloying elements. The embrittlement should arise primarily to the electrons on the Fermi surface because of the contraction of the alloying elements on the plasticity of the Cr specimens. "The authors thank V. I. Trefilov for his valuable comments." Orig. art. has: 3 figures and 1 table.

ASSOCIATION: Institut metallofiziki An UkrSSR (Institute of the Physics of Metals, AN UkrSSR)

SUBMITTED: 06Jul63

ENCL: 02

SUB CODE: MM,EM

NO REF SOV: 010

OTHER: 040

Card 2/4

BUTYLENKO, O.K. [Butylenko, O.K.]; GRIDNEV, V.N. [Hridniev, V.N.]

Antiferromagnetism and plasticity of chromium and some of its
alloys with transition metals. Ukr. fiz. zhur. 9 no.3:325-
333. Mar 1964. (MIRA 17:9)

1. Institut metallofiziki AN UkrSSR, Kiyev.

L 40960-65

EWT(1)/EPA(s)-2/EWT(m)/EWP(w)/EWA(d)/I/EWP(t)/EWP(b)

P-10

ACCESSION NR. AP006612 J/TG/CR

AUTHOR: Podolskiy, A. G. / Gridnev, V. N.

TITLE: Antiferromagnetism in chromium alloys

SOURCE: Fizika metallov i metallovedeniye, v. 19, no. 7, 1975, p. 1111-1114

TOPIC TANS: antiferromagnetism, brittleness, chromium alloys

ABSTRACT: The possibility of brittleness due to antiferromagnetic ordering in Cr binary alloys with d-elements was studied. It is shown that the
the decrease in the ductility of Cr alloys at low temperatures
is related to the appearance of antiferromagnetic ordering.
The relationships between the brittleness and the antiferromagnetic
ordering are studied. The relationships between the brittleness and the
antiferromagnetic ordering are shown graphically in fig. 1 of the
closure. Curves which show the physical characteristics of the alloys in the
closure.

Card 1/3

SUBMITTED: 8 APR 64

L 40960-65

ACCESSION NR: AP5006327

point region as a function of temperature have properties which indicate the course of spin antiferromagnetic ordering. These properties also vary depending on the position of the alloying element in the periodic table. Elements to the left of Cr have no noticeable effect on these properties while elements on the right have a significant effect. With an increase in the alloying content, the temperature of the Neel point maximum, the temperature of the onset of the Neel point, the temperature of the onset of the spin antiferromagnetic ordering, and the temperature of the onset of the spin antiferromagnetic ordering decrease. The temperature of the Neel point maximum, the temperature of the onset of the Neel point, and the temperature of the onset of the spin antiferromagnetic ordering decrease with an increase in the alloying content. The temperature of the onset of the spin antiferromagnetic ordering decreases with an increase in the alloying content. The temperature of the onset of the spin antiferromagnetic ordering decreases with an increase in the alloying content.

local antiferromagnetic ordering which may occur above the Neel point. The temperature of the onset of the spin antiferromagnetic ordering decreases with an increase in the alloying content. The temperature of the onset of the spin antiferromagnetic ordering decreases with an increase in the alloying content. The temperature of the onset of the spin antiferromagnetic ordering decreases with an increase in the alloying content. The temperature of the onset of the spin antiferromagnetic ordering decreases with an increase in the alloying content.

ASSOCIATION: Institut metallofiziki AN UkrSSR (Institute of Metal Physics AN UCR)

Card 2/5

BUTYLENKO, O.K.; KURDYUMOVA, I.G. [Kurdiumova, I.H.]; TREFILOV, V.I.

Determining the activation energy of chromium recrystallization.
Ukr.fiz.zhur. 4 no.6:813-814. N-D '59. (MIRA 14:10)

1. Institut metallofiziki AN USSR.
(Chromium crystals)

ACCESSION NR: AP4022702

S/0185/64/009/003/0326/0333

AUTHOR: Buty*lenko, O. K. (Buty*lenko, A. K.); Gridnev, V. N.

TITLE: Antiferromagnetism and plasticity of chromium and some of its alloys with transition metals

SOURCE: Ukrayins'ky*y fizy*chny*y zhurnal, v. 9, no. 3, 1964, 325-333

TOPIC TAGS: chromium alloy, chromium-transition-metal alloy, antiferromagnetic chromium alloy, Néel temperature, chromium alloy plasticity, Néel point anomaly, chromium electrical resistance

ABSTRACT: The influence of alloying with chromium (within the limits of solid solutions) elements of the third large period from Lu to Os, as well as Ru, on the position of the Néel temperature and the magnitude of various physical effects around the Néel point for these alloys were studied systematically from -196 to about /350C. An attempt was made to discover some relation between the behavior of such properties as the elasticity, internal resistance, electrical resistivity, thermal e.m.f., coefficient of thermal expansion, heat capacity and magnetic susceptibility and the plastic deformation properties. A review of the pertinent literature was given, and its seeming inconsistencies and lack of systematization

Card 1/3

ACCESSION NR: AP4022702

were noted as reasons for this study. Electrical resistivity, thermal e.m.f., thermal expansion and plasticity were measured, the latter measurement's depending on the bending of a small slab of the material until a $(\pi/2)$ radian - bend was achieved without breakage. The possibility of an atomistic approach was discussed, and in particular, possible effects of the 5d electrons of the dopant material on the ligandization were sought.

It was observed that Lu, Hf, Ta and W lower the Néel point, without substantially changing the behavior of the aforementioned physical effects relative to the case for pure chromium. At the same time, Re, Os and Ru extend the region of the transformation and raise the Néel point with a tendency toward the maximum.

A comparison of the nature of the changes in the physical properties at the Néel point with the transition temperature of the alloys shows that no correlation can be established between antiferromagnetism and the plasticity of chromium and its alloys. Orig. art. has: 5 sets of graphs.

ASSOCIATION: Instytut Metalofizyky AN Ukr.SSR, Kiev (Institute of Metal Physics AN UkrSSR)

Card 2/3

BUTYLEV, A.A.

Lighting a vertical boring and turning machine. Stan.1 instr. 25 no.4:
29-31 Ap '54. (MIRA 7:6)
(Drilling and boring machinery)

BUTYLEV, A. A.

"Projecting Linear Navigation Courses," Rech. transport, 12, No.4, 1952

BUTYLEV A.A.
BARTENEVA, O.D.; BOLDYREV, N.G.; BUTYLEV, A.A.

Determining the atmospheric transparency and the illuminating power
of distant fires by means of astronomical photometers. Trudy GGO
no.42:59-68 '53. (MIRA 11:1)
(Atmospheric transparency) (Photometry)

BUTYLEV, A.A., kandidat tekhnicheskikh nauk.

Lighting of shipbuilding sheds. Sudostroenie 23 no.4:40-43 Ap
'57. (MIRA 10:5)
(Shipyards) (Lighting)

BUTYLEV, A.A., kandidat tekhnicheskikh nauk.

Mass-produced objective illuminometer. Svetotekhnika 3 no.7:12-15
Jl '57. (MLRA 10:8)

Leningradskiy institut okhrany truda Vsesoyuznogo Tsentral'nogo
Soveta professional'nykh soyuzov.
(Photometers)

BUTYLEV, A.A. kand. tekhn. nauk

Photometric apparatus for testing luxmeters under production conditions.
Svetotekhnika 3 no.10:8-10 0'57. (MIRA 10:10)

1. Leningradskiy institut okhrany truda Vsesoyuznogo tsentral'nogo
soveta profsoyuzov. (Photometry)

BUTYLEV A. A.

BUTYLEV, A.A., kand. tekhn. nauk.

Inertia and light characteristics of photoresistors made of cadmium sulfide. Svetotekhnika 3 no.12:7-8 D '57. (MIRA 11:1)

1. Leningradskiy institut okhrany truda Vsesoyuznogo tsentral'nogo soveta profsoyuzov.

(Photoelectric measurements)

Butylev, A.A.

94-3-22/26

AUTHOR: Butylev, A.A., Candidate of Technical Sciences.

TITLE: Concerning the Article by Engineer V.V. Lyamin "An Alternating Current Lux Meter" (O stat'ye V.V. Lyamina "Skhema lyuksmetra na peremennom toke")

PERIODICAL: Promyshlennaya Energetika, 1958, Vol.13, No.3,
pp. 36 - 37 (USSR)

ABSTRACT: This is a brief criticism of an article that appeared in Promyshlennaya Energetika, 1957, no.1. The instrument described is not to be recommended. It is much inferior to light-meters based on selenium cells. The spectral sensitivity of the caesium cell is very different from that of the human eye. The spherical shape of the light-sensitive surface of the photo-cell leads to errors and the instrument has other defects.

ASSOCIATION: The Leningrad Institute for the Protection of Labour of the All-Union Central Council of Trade Unions (Leningradskiy institut okhrany truda VTsSPS)

AVAILABLE: Library of Congress
Card 1/1

BUTYLEV, A.A., kand. tekhn. nauk.

Portable photoelectric photometer. Svetotekhnika 4 no.9:20-23 S '58.
(MIRA 11:8)

1. Leningradskiy institut okhrany truda Vsesoyuznogo tsentral'-
nogo soveta profsoyuzov.

(Photometers)

Butylev A.A.
3(7); 24(3)

PHASE I BOOK EXPLOITATION

SOV/2548

Leningrad. Glavnaya geofizicheskaya observatoriya

Issledovaniye radiatsionnykh protessov (Study of Radiation Processes) Lenin-grad, Gidrometeoizdat, 1959. 142 p. (Series: Its Trudy, vyp. 80) Errata slip inserted. 1,200 copies printed.

Sponsoring Agency: Glavnoye upravleniye gidrometeorologicheskoy sluzhby pri Sovete Ministrov SSSR.

Ed. (Title page): V. L. Gayevskiy, Candidate of Geographical Sciences; Ed. (Inside book): V. D. Pisarevskaya; Tech. Ed.: A. N. Sergeev.

PURPOSE: This book is intended for geophysicists and engineers studying radiation phenomena. 3

COVERAGE: This collection of articles treats problems in optics of the atmosphere and actinometry. Results of theoretical and experimental investigations of visibility range, transparency of the atmosphere, and the radiation regime of both the active surface and the atmosphere

Card 1/3

Study of Radiation Processes

SOV/2548

are shown. Individual articles deal with the methodology of actinometric observations. No personalities are mentioned. References accompany each article.

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Boldyrev, N. G., and O. D. Barteneva. Visual Methods for Determining the Meteorological Range of Visibility and Testing These Methods on the Hydrometeorological Station Network	3
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Study of Radiation Processes

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AVAILABLE: Library of Congress

Card 3/3

MM/lrb
11-3-59

BUTYLEV, A.A., kand.tekhn.nauk

Plenum of the Lighting Engineering Section of the Central Administration of the Scientific and Technical Society of the Power Industry. Svetotekhnika 6 no.6:23 Je '60. (MIRA 13:7)
(Electric lighting)

BUTYLEVA, Ye.S., inzh.

Studying the possibilities of replacing gypsum by foamed plastics
for the manufacture of sealed ends and molds. Trudy NIISTroikerami-
ki no.21:55-68 '63. (MIRA 17:2)

15(2)

AUTHORS:

Antonevich, H. K., Butyleva, Ye. S.

SOV/72-59-1-7/16

TITLE:

Material for Anodes (Molds) for the Electrophoretic Casting Method of Ceramic Products (Materialy dlya anodov (form) pri elektroforeticheskom sposobe otlivki keramicheskikh izdeliy)

PERIODICAL:

Steklo i keramika, 1959, Nr 1, pp 20-23 (USSR)

ABSTRACT:

Several papers by A. S. Berkman, L. Valenta, I. S. Kaynarskiy, K. B. Malinovskiy (Ref 1), in which the question of the electrophoretic casting method was discussed, showed the possibility of making these castings. Still a number of practical questions must be solved, the most important being the choice of the mold material. The Fiziko-khimicheskaya laboratoriya NIISTroykeramika (Physico-Chemical Laboratory NIISTroykeramika) tested a large amount of materials. The electrophoretic precipitation of ceramic substance was carried out in a special plant with built-in autotransformer LATR-1, a voltmeter of the type M16, and a ammeter MA11/5. On this precipitation hydrogen is separated at the cathode and oxygen at the anode. It may happen that oxygen perforates the precipitate and forms little craters on its surface (Figs 3 and 4). The test results

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SOV/72-59-1-7/16

Material for Anodes (Molds) for the Electrophoretic Casting Method of Ceramic Products

from anodes of various metals are shown in tables 1 and 2. In order to avoid crater formation by free oxygen small pressed porous ceramic plates were used which had been made according to the method by K. A. Smirnova (Ref 2). Artificial graphite can be used for this purpose but the substance has to be much finer than for the production of carbon-electrodes of great diameters. In the year 1950 the TsNIISM MFSM UkrSSR tested the filter production from porous synthetics, as can be seen in the papers by V. E. Gel'ts, M. G. Krichevskiy, V. I. Zinder (Ref 3). The authors of this paper used synthetics of the type "igilit RCV" as initial substance in their tests. Zinc and lead may be used as metal-anodes. For the production of molds porous electro-conducting synthetics produced on a basis of polyvinyl chloride resin are best suited. There are 4 figures, 2 tables, and 6 references, 5 of which are Soviet.

ASSOCIATION: NIISTroykeramika

Card 2/2

FEDOROVA, T.Kh., kand. tekhn. nauk; BUTYLEVA, Ye.S., inzh.

Technological data on the production of colored products
for sanitary engineering. Stek. i ker. 20 no.7:23-25 JI '63.
(MIRA 17:2)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut
stroitel'noy keramiki Gosstroya SSSR.

BUTYLIN, A. G.

33614 Primeneniye Streptotskia V Kachestve Profilakticheskogo Sredstva Pri
Ginekologicheskikh Operatsiyakh. Trudy Kurskogo Gos. Med. In-ta, T. 11,
Vyp. 2, 1948, C. 153-59

SO: Letopis'nykh Statey, Vol. 45, Moskva, 1949

PA 22/49144

BUTYLIN, A. G. Prof

USSR/Medicine -- Penicillin
Medicine -- Genitals, Diseases

Nov/Dec 48

"Use of Penicillin in Septic Diseases," Prof
A. G. Butylin, Dr Med Sci, Obstet and Gynecol
Clinic, Kursk Med Inst, 2¹ pp

"Akusher i Ginekol" No 6

Experimental data was gathered from tests on 91
cases with various septic diseases of female
genitals. USSR and imported penicillin was
injected intramuscularly. Discusses results.

22/49144

BUTYLIN, A.G., prof.; DEMINA, T.N., assistant

Ovarian and menstrual function among workwomen at the "Akkumulator"
Factory. Sbor. trud. Kursk. gos. med. inst. no.13:46-49 '58.

(MIRA 14:3)

1. Iz akushersko-ginekologicheskoy kliniki (zav. - prof. A.G.Butylin)
Kurskogo gosudarstvennogo meditsinskogo instituta.

(LEAD--PHYSIOLOGICAL EFFECT) (MENSTRUATION)
(OVARIES) (PREGNANCY) (LACTATION)

BUTYLIN, A.G., prof.

Diagnosis of ovarian cancer as revealed by clinical materials.
Sbor. trud. Kursk. gos.-med. inst. no.13:149-153 '58.

(MIRA 14:3)

1. Iz kliniki akusherstva i ginekologii (zav. - prof. A.G.Butylin)
Kurskogo gosudarstvennogo meditsinskogo instituta.
(OVARIES—CANCER)

BUTYLIN, A.G., prof.; KAZAK, L.A., ordinator

Immediate and late sequelae of a medical artificial abortion.
Sbor. trud. Kursk. gos. med. inst. no.16:263-270 '62.

(MIRA 17:9)

1. Iz kliniki akusherstva i ginekologii (zav. - prof. A.G.
Butylin) Kurskogo meditsinskogo instituta.

BUTYLIN, A.M.; KOIMOGOROV, R.I., kand. tekhn.nauk, dots., red.;
VOLCHOK, K.M., tekhn. red.

[Drawing and reading architectural and construction plans]
Sostavlenie i chtenie arkhitekturno-stroitel'nykh chertezhei.
Moskva, Izd-vo "Rechnoi transport," 1963. 59 p.
(MIRA 17:1)

BUFYAN, G.

VOYTKO, Denis Iosifovich; ~~BUFYAN, G.~~ redaktor; STSYAPANOVA, H.,
tehnicheskiy redaktor

[Breeding work on a swine farm] Pleniannais rabota na svinahadouchai
ferme. Minsk. Dziarzhhaunae vyd-va BSSR, 1957. 121 p. (MLRA 10:10)
(Swine breeding)

BUTYLIN, G.

OGNEV, Ivan Maksimovich; AMBROSOV, A.L., kand.sel'skokhozyaystvennykh nauk,
red.; BUTYLIN, G., red.; STEPANOVA, N., tekhn.red.

[Forage plants of White Russia; a handbook] Kormovye kul'tury v
BSSR; spravochnoe posobie. Minsk, Gos. izd-vo BSSR, 1957. 250 p.
(White Russia--Forage plants) (MIRA 11:4)

ALEKSEYCHIK, N.A. [Aliakseichyk, N.A.], kand.tekhn.nauk; RAZMYSLOVICH,
I.R., kand.tekhn.nauk; BUTYLIN, G. [Butylin, H.], red.;
STEPANOVA, N. [Staiapanava, N.], tekhn.red.

[Machinery and equipment for mechanizing the cultivation of
potatoes and vegetables] Mashyny i prylady dla mekhanizatsyi
vyroshchvannia bul'by i harodninnykh kul'tur. Minsk, Dziar-
zhaunae vyd-va BSSR, Red.sel'skaha padarchai lit-ry, 1958.
275 p. (MIRA 13:1)

(Agricultural machinery)

Butylin, G.

PUSHKAVEV, I.I., prof., doktor sel'skokhozyaystvennykh nauk, red.; AMBROSOV,
A.L.; STEPANISHIN, S.Ye.; ROVDO, A.I.; ALEKSNYCHIK, N.A.; AL'SMIK,
P.I.; OGNEV, I.M.; ADAMOV, I.I.; BUTYLIN, G., red.; LARIN, V., red.;
STEPANOVA, N., tekhn. red.

[Potato growing in White Russia] Kul'tura kartofelia v Belorusskoi
SSR. Pod red. I.I. Pushkareva. Izd.2., ispr. i dop. Minsk, Gos.
izd-vo BSSR, 1958. 356 p. (MIRA 11:7)
(White Russia--Potatoes)

YEGORUSHKIN, V.Ye.; KRASHENENNIKOV, N.A.; RAZMYSLOVICH, I.R.; FEDOROV,
F.F.; TSEKHANOVICH, P.V.; TSVYRKUN, N.A.; BUTYLIN, G., red.;
KALECHITS, G., tekhn.red.

[Handbook of a tractor driver] Spravochnik traktorista. Minsk,
Gos.izd-vo BSSR, Red.sel'khoz.lit-ry, 1959. 578 p. (MIRA 13:3)
(Highway transport workers--Handbooks, manuals, etc.)

BARANOVA, M.Ye.[Baranova,M.E.], kand. sel'khoz. nauk; BUTYLIN, G. [Butylin,H.], red.; KALECHYTS,G. [Kalechyts,H.], tekhn. red.

[Inland pastures and the effectiveness of their improvement] Matserykovyia lugi i efektyunasts' ikh paliapshennia. Minsk, Dziarzh.vyd-va BSSR. Red.sel'skahaspadarchai lit-ry, 1959. 141 p. (MIRA 14:12)
(White Russia--Pastures and meadows)

SLAVOROSOV, Aleksey Kharitonovich; BUTYLINA, A.I., retsenzent;
BUKRINSKIY, V.A., retsenzent; SIRYACHENKO, F.N., ved.
red.

[Mine surveyors and their assistants] Marksheiderskii
rabochii i s"emshchik. Izd.3., perer. i dop. Moskva,
Nedra, 1964. 267 p. (MIRA 17:12)

BUTYLINA, V. I.

Butylins, V. I. [Co-author] See: Tupenevich, S. M. "Evaluation of Spring Wheat Varieties for Resistance to Fusarium Induced Diseases," 1936

So: SIRA SI - 90-53 15 Dec., 1953

BUTYLKIN, L.P

AUTHORS: Kreymer, S. Ye., Butylkin, L. P. 32-2-1/60

TITLE: — The Determination of Copper by Means of Lead-Diethyldithiocarbamate (Opredeleniye medi s pomoshch'yu dietilditiokarbaminata sviintsa)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 2, pp. 131-133 (USSR)

ABSTRACT: Within the electromotive series: Hg, Ag, Cu, Ni, Co, Pb, Bi, Cd, Tl^{3+} , Sb^{3+} , Zn, Mn^{2+} , Fe^{3+} each metal (in aqueous solution) displaces the subsequent from its carbamate (dissolved in chloroform). According to R. Wickbold (reference 1) this exchange takes place especially quickly at pH-5. It was found experimentally that Ni and Co in acid solution do not displace Pb from its diethyldithiocarbamate, while Pb is displaced by Cu also in the presence of Ni and Co. The Cu-carbamate is yellow, while the Pb-salt is colorless, so that the Pb-carbamate can serve as reagent for small amounts of Cu, which was already pointed out by M. Kovarik and V. Vinsb (reference 3). The present work investigates the possibility of using the Pb-carbamate

Card 1/2

The Determination of Copper by Means of Lead-Diethyldithio- 32-2-1/60
carbaminate

solution in chloroform as a specific Cu-reagent. The effect of pH with the addition of diluted HNO_3 , ammonia, resp. was investigated and the authors found that Cu can be proved in all cases. When aqua regia is present, or in a from 10 - 15 fold diluted state, the diethyldithiocarbamate-colour does not show up or disappears soon. In the investigation of the character of the exchange reaction it was found that probably also a small part of the reagent is water soluble and thus a difference between the results of investigations and those of calculation occur. The investigations of the effect of impurities showed that in the analyses of the materials listed in the table results were obtained which coincide with those obtained from other methods. There are 1 figure, 2 tables, and 3 references.

ASSOCIATION: "Severonikel'" Combine (Kombinat "Severonikel'")
AVAILABLE: Library of Congress
Card 2/2 1. Copper-Determination 2. Lead-Diethyldithiocarbamate-Applications

SOV/32-25-6-7/53

5(2)

AUTHORS:

Kreymer, S. Ye., Butylkin, L. P.

TITLE:

Extraction Determination of Iron and Cobalt in Pure Nickel
(Ekstraktsionnoye opredeleniye zheleza i kobal'ta v chistom
nikele)

PERIODICAL:

Zavodskaya Laboratoriya, 1959, Vol 25, Nr 6, pp 662 - 666 (USSR)

ABSTRACT:

Diantipyrilmethane (I) forms difficultly soluble compounds with the thiocyanates of Fe, Co, Cu and other metals, whereas no precipitate is caused with nickel. This is the principle on which the method (Ref 1) of the nickel separation from a number of impurities is based. Cobalt may be determined in the concentrate of the impurities (Ref 2). The (I)-salts of Fe, Co and other metals are well soluble in chloroform and may be determined by colorimetry because of their intense coloring (Refs 3,4). In the case under review it was found that iron- and cobalt salts of (I) decompose in a treatment with weakly acid aqueous solutions, with cobalt and iron passing completely to the water phase, while the strongly acid solutions do not lead to any variation of this kind (Fig 1, function of the extraction degree of the pH). A treatment of the cobalt

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Extraction Determination of Iron and Cobalt in Pure
Nickel

SOV/32-25-6-7/53

salt of (I) with a buffer solution leads to the decomposition of the salt and to the passage of cobalt thiocyanate into the water phase, where cobalt may be determined with nitroso-R-salt by colorimetry. Iron (III) with (I) and ammonium thiocyanate forms a red compound soluble in chloroform. From the chloroform solution (as is the case with cobalt) the metal may be extracted with an acetate buffer solution (pH= 5.37). In the case under review iron was determined colorimetrically with orthophenanthroline (II), the disturbing coloring of cobalt with (II) being removed by nitric acid. The investigation results of the checking and comparison analyses of the cobalt and iron determinations under review and both analytic courses are specified (Tables 1,2). There are 4 figures, 2 tables and 6 Soviet references.

ASSOCIATION: Kombinat "Severonikel'" (Kombinat "Severonikel'")

Card 2/2

BENYAKOVSKIY, Mark Aleksandrovich; DENEZHNIKIN, Boris Sergeevich;
CHUKHLOVA, Lyudmila Nikolayevna; BUTYLKINA, Larisa
Il'inichna; RYMOV, V.A., red.

[Quality of sheet surfaces] Kachestvo poverkhnosti listov.
Moskva, Izd-vo "Metallurgiya," 1964. 53 p. (MIRA 17:7)

L 37924-66 FBD/EWT(1)/EEC(k)-2/T/EWP(k) IJP(c) WG

ACC NR: AP6022079

SOURCE CODE: UR/0141/66/009/003/0538/0544

AUTHOR: Butylkin, V. S.; Gurevich, G. L.; Kheyfets, M. I.; Khronopulo, Yu. G. 38ORG: Scientific-research Institute of Radiophysics, Gor'kiy University
(Nauchno-issledovatel'skiy radiofizicheskiy institut pri Gor'kovskom universitete) BTITLE: Effect of the resonance field on the operation of a two-photon laser 25

SOURCE: IVUZ. Radiofizika, v. 9, no. 3, 1966, 538-544

TOPIC TAGS: laser theory, laser R and D, two photon laser

ABSTRACT: R. L. Garwin considered two-photon processes in a substance incorporated within the laser resonator (IBM J. Rand D, 8, 338, 1964); natural frequencies of the resonator were $\omega_1, \omega_2, \omega_3$; the field of near- ω_{12} frequency was assumed to be nonexistent. As the resonator practically always has a finite Q at ω_{12} , the present article examines possible effects of the ω_{12} resonance field on the laser operation. Integral equations describing the fields are added to material-system equations; the solutions are analyzed for these cases: (a) one of the fields is specified and (b) no field is specified. It is found that: (1) A resonator tuned to the frequency of transition between active levels of the substance may considerably impair the excitation conditions in a two-photon laser; (2) The number of excited particles required for the stationary generation of the combination field does not change substantially. Orig. art. has: 2 figures and 34 formulas. [03]

SUB CODE: 20 / SUBM DATE: 31Aug65 / ORIG REF: 005 / OTH REF: 001

Card 1/1 MCP

UDC: 621.378.325

L 38104-66 FBD/EWT(1)/EEC(k)-2/T/EWP(k) IJP(c) WG

ACC NR: AP6022080

SOURCE CODE: UR/0141/66/009/003/0545/0549

AUTHOR: Butylkin, V. S.; Gurevich, G. L.; Kheyfets, M. I.; Khronopulo, Yu. G. ³⁸

ORG: Scientific Research Institute of Radiophysics, Gor'kiy University
(Nauchno-issledovatel'skiy radiofizicheskiy institut pri Gor'kovskom universitete)

TITLE: Generation of the second harmonic in a resonant laser ²⁵

SOURCE: IVUZ. Radiofizika, v. 9, no. 3, 1966, 545-549

TOPIC TAGS: laser theory, laser R and D, nonlinear optics

ABSTRACT: As a strong ω -field exists in the resonator of conventional lasers and as the populations of active levels are inverted, a 2ω -field may arise due to the anti-Stokes process in the laser active substance. Equations describing this process are set up and analyzed. It is found that the stationary generation of a 2ω -field can materialize only with a sufficiently large (giant pulse) number of excited particles (10^{19} -- 10^{21}); the population difference of such an order can be obtained under pulsed-Q operating conditions. Even under the giant-pulse conditions, frequency doubling is possible only when the active medium meets some rigorous requirements: the quantity $|o_2|$ must be very large and the $2-1$ transition must be highly forbidden, $|p_{12}| < 10^{-20}$ CGSE. Orig. art. has: 1 figure and 28 formulas. [03]

SUB CODE: 20 / SUBM DATE: 31Aug65 / ORIG REF: 003 / OTH REF: 001 / ATD PRESS: 5046

Card 1/1 ¹⁹⁷²

UDC: 621.378.325

BENYAKOVSKIY, M.A.; BUTYLKINA, L.I.; NASIBULLIN, A.F.; MEL'NIKOV, O.M.

Preheating the working rolls of the 2800/1700 mill. Metallurg
9 no.5:32-33 My '64. (MIRA 17:8)

1. Cherepovetskiy metallurgicheskiy zavod.

BENYAKOVSKIY, M.A.; BUTYLKINA, L.I.

Efficient conditions for the skin press rolling of strip.

Metallurg 10 no.5:32 My '65.

(MIRA 18:6)

1. Cherepovetskiy metallurgicheskiy zavod.

BENYAKOVSKIY, M.A.; GUTNIK, M.V.; TORPOV, G.M.; BUTYLKINA, L.I.;
REUTOV, Yu.G.; SHIKHANCHICH, B.A.; FIRSOV, P.A.; MAGAIEV, S.A.

Mastering the operation of the plant for cold-rolled sheet production.
Stal' 25 no.8:726-730 Ag '65. (MIRA 18:8)

1. Cherepovetskiy metallurgicheskiy zavod.

S/075/60/015/004/018/030/XX
B020/B064

AUTHORS: Kreymer, S. Ye., Butylkin, L. P., and Stogova, A. V.

TITLE: Photometric Determination of Palladium in the Products of Nickel Production

PERIODICAL: Zhurnal analiticheskoy khimii, 1960, Vol. 15, No. 4, pp. 467 - 471

TEXT: It has previously (Ref. 3) been shown that when an antipyrine solution and an excessive KI solution are added to a PdCl_2 solution, a complex is formed that can be extracted with chloroform. By measuring the optical density of the resulting extract at $340 \text{ m}\mu$, it is possible to determine 1 - 20 γ Pd. The authors' experiments showed that similar results are obtained if, instead of antipyrine, a solution of diantipyryl methane is added to dissolve the palladium iodide complex. The compound $(\text{C}_{23}\text{H}_{24}\text{O}_2\text{N}_4)_2 \cdot \text{H}_2 [\text{PdI}_4]$ is likely to be thus formed. The solutions of the compound of palladium with iodide and diantipyryl methane in chloroform are cherry-red, and obey the Beer law (Fig. 1). With the device

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Photometric Determination of Palladium in the S/075/60/015/004/018/030/XX
Products of Nickel Production B020/B064

ФЭК-М (FEK-M) it is possible to determine more than $0.48 \mu\text{g}$ Pd/ml in a 10 mm thick layer of the solution by means of a blue light filter. The absorption maximum of the solution is found at 450μ . The colored compound of palladium with iodide and diantipyryl methane must be obtained in a hydrochloric acid solution in the absence of oxidizing agents, since otherwise elementary iodine is set free. A reversible reaction takes place between the palladium dimethyl glyoximate solution in chloroform and the aqueous solutions of diantipyryl methane and KI, by which a compound of Pd with iodine and diantipyryl methane is formed in the chloroform layer, while dimethyl glyoxime passes over into the aqueous layer. Table 1 shows the results of experiments made to separate palladium in the presence of various metals, by extracting palladium dimethyl glyoximate with chloroform. They confirm the data published in Ref. 4 on the separation of palladium from Ni, Cu, Co, Fe, Pt, and Au in this way. The photometric determination of palladium may also be carried out with the nitroso R-salt. When heated with nitroso R-salt, palladium chloride forms a compound of an intense red color. The accuracy of palladium determination is $0.30 \mu\text{g}$ when the device ФЭК-М (FEK-M) is used with a green light filter and a bulb 10 mm thick. The Beer law holds for the solutions (Fig. 2). The

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Photometric Determination of Palladium in the S/075/60/015/004/018/030/XX
Products of Nickel Production B020/B064

nitroso R-salt was used by the authors to determine palladium after the separation of the accompanying metals in the products of nickel production (Table 2). Methods of determining 0.01 - 0.05% Pd in residues containing up to 45% Ni, up to 20% Cu, and up to 5% Fe, and of determining less than 0.01% Pd in products containing larger amounts of iron are given. The photometric determination of Pd with nitroso R-salt is also described. There are 2 figures, 2 tables, and 6 references: 5 Soviet and 1 Japanese.

ASSOCIATION: Kombinat Severonikel'

SUBMITTED: August 4, 1958

Card 3/3

KHRAPUNOVA, N.V. (Simferopol', ul. Frunze, d. 30, kv.7); BUTYLIN, Yu.P.
(Simferopol').

Simultaneous bilateral lung resection for tuberculosis in a
patient with mitral stenosis. Grudn. khir. 5 no.4:93-94 J1-Ag'63
(MIRA 17:1)

87655

15.8340 2209

S/191/60/000/003/008/013
B016/B054

AUTHORS: Li, P. Z., Lukovenko, T. M., Akutin, M. S.,
Butylkina, M. P., Musina, A. Ya.

TITLE: Laminated Plastics on the Basis of Glass Fiber. Report VII.
Glass Textolite on the Basis of Polyvinyl Butyral

PERIODICAL: Plasticheskiye massy, 1960, No. 3, pp. 48 - 49

TEXT: The authors report on their studies of methods of producing glass textolite from polyvinyl butyral (PVB) with glass fabric of the type ACTT (σ) (ASTT (b)) as a filler. They used A-type PVB, and found that PVB embrittles at high temperatures, and loses its elasticity and solubility. Also its impact strength decreases, whereas hardness and bending strength increase. At high temperatures, PVB decomposes, becomes sticky, and its mechanical strength decreases. This was ascribed to a change in molecular structure, which changes from linear to steric with numerous cross links (Refs. 2,3). In glass textolite, the PVB content dropped to 4% after impregnating the glass fabric with an 18% PVB solution after drying at high temperature. Glass textolite was produced for

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Laminated Plastics on the Basis of Glass Fiber. S/191/60/000/003/008/013
Report VII. Glass Textolite on the Basis of B016/B054
Polyvinyl Butyral

experimental purposes a) by molding at different pressures and b) by deformation in vacuo. The authors studied the effect of temperature, PVB content, and deformation pressure on the properties of glass textolite. They found that a change in the PVB content has no great influence on the quality of glass textolite. A pressure of more than 45-50 kg/cm², however, effects a decrease in strength with the use of most kinds of resin, probably due to destruction of the filler. It is shown that with the use of PVB a much higher pressure can be applied, without detrimental consequences, than with the use of other resins. Further, the authors found that PVB glass textolite deformed in vacuo has a lower strength than phenol glass textolite produced in vacuo. Experimental results show that the increased specific pressure endured by PVB products improves their quality. The properties of PVB glass textolite can be changed by additional heat treatment. There are 2 figures and 4 Soviet references.

Card 2/2

BUTYL'KOV, M.N.

First hydraulic section in Lugansk Economic Council mines.
Ugol' Ukr. 3 no.3:33-34 Mr '59. (MIRA 12:5)

1. Nachal'nik gidrouchastka shakhty No.160.
(Lugansk Province--Hydraulic mining)

BUTYLOCHKIN, M.I.; SHCHETININ, I.P., red.; NIKITINA, L.V., red. izd-va;
BAGHURINA, A.M., tekhn. red.

[MD-2 railway motorcar; "Forestry and Lumber" pavilion] Motodrezina
MD-2; Pavil'on lesnaia promyshlennost' lesnoe khoziaistvo. [Moskva]
TSentr. byuro tekhn. informatsii [1957] 5 p. (MIRA 11:10)

1. Moscow. Vsesoyuznaya promyshlennaya vystavka,
(Railroad motorcars)

~~BUTYLOCHKIN, Mikhail Ivanovich; IVANOV, Afanasiy Ustinovich; ETUSH, L.A.,~~
red.izd-va; BACHURINA, A.M., tekhn.red.

[MD-2 trolley; manual of construction, operation and maintenance]
Motodrezina MD-2; rukovodstvo po ustroistvu, ekspluatatsii i ob-
sluzhivaniu. Moskva, Goslezbumizdat, 1957. 64 p. (MIRA 11:4)
(Railroads--Equipment and supplies)

HUTYLOCHKIN, Mikhail Ivanovich; VLASOV, Viktor Mikhaylovich; SUBOCH, N.I.,
red.; GORYUNOVA, L.K., red. izd-va; SHITS, V.P., tekhn. red.

[DM-54 diesel switcher for 750 mm gauge track] Dizel'nyi motovoz
DM-54 kolei 750 mm. Moskva, Goslesbumizdat, 1958. 104 p.
(Diesel locomotives) (MIRA 11:9)

BUTYLOCHKIN, Mikhail Ivanovich; FROLOV, A.V., red.; PITERMAN, Ye.L.,
red. izd-va; LCBANKOVA, R.Ye., tekhn. red.

[The TU-2M diesel locomotive for a 750 mm gauge track;
basic design and operation] Teplovoz TU-2M kolei 750 mm;
ustroistvo i ekspluatatsiia. Moskva, Goslesbumizdat, 1961.
150 p. (MIRA 15:4)

(Diesel locomotives)

BUTYL'SKAYA, E.

Publishing activity of societies. NTO 2 no.3:60-61 Mr '60.
(MIRA 13:6)

1. Uchenyy sekretar' redaktsionno-izdatel'skogo soveta Tsentral'nogo pravleniya Nauchno-tehnicheskogo obshchestva chernoy metallurgii.

(Technical societies)

AUTHOR: Batyl'skiy, E.S.

130-58-5-1/16

TITLE: ~~Application of Photography to the Control and Study of the~~
Course of Open-hearth Melting (Primeneniye fotografii dlya
kontrolya i izucheniya khoda martenovskoy plavki)

PERIODICAL: Metallurg, 1958, Nr 5, inside front cover (USSR)

ABSTRACT: Pointing out the need for an objective method of
evaluating the state of the open-hearth slag surface in the
furnace, the author describes the use of photography for this
purpose. The work was carried out on a 10-ton oil-fired
furnace, the photograph being taken through the observation
hole in a charging door with a "Zorkiy" miniature camera in a
protective case and behind a smoked-glass filter. "Yupiter-8"
and "Yupiter-11" lenses, "Izopankrom" film (sensitivity
45-65 GOST units) and exposures of 0.001 - 0.002 sec with a
stop up to 1:22 gave good results. Three photographs for the
furnace are shown and the author advocates the extension of
the work to furnaces of different sizes and fired with other
fuels.

ASSOCIATION: Kiyevskiy zavod "Bol'shevik" ("Bol'shevik" Works, Kiyev)
Card 1/1

BUTYRIN, A.P. (Chelyabinsk)

Treatment of lacrimation by surgical dilatation of the upper
punctum lacrimalia. Oft.shur. 15 no.1:52-55 '60. (MIRA 13:5)
(LACRIMAL ORGANS--SURGERY)

8(6), 14(6)

SOV/112-59-4-6579

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 4, p 27 (USSR)

AUTHOR: Butyrin, A. S.

TITLE: Standardizing Steam-Turbine Units

PERIODICAL: Tr. Leningr. metallich. z-da, 1957, Nr 5, pp 17-30

ABSTRACT: Three standard layouts have been developed with an AP-25-2 turbine: for the machine room with a span over 18 m, under 18 m, and 16 m. In the first two layouts, the heaters are arranged along the turbine axis, in the third layout, across. Standard layouts for high-pressure turbines (VK-50-1, VPT-25-3, VT-25-4, VR-25-31-3, and others) have been developed for 6-atm deaerator and two high-pressure heaters. Bay sizes of turbine rooms and axis layout for VT-25 and VPT-25, VK-50 and VK-100 turbines are presented. Crane capacity and height are given. The condenser room is 8-m high. Layouts are used with the low-pressure heater built in the condenser, which cuts metal requirements for piping. The VK-50-1 turbine layout is given.

I.N.G.

Card 1/1

BUTYRIN, A.S.

PHASE I BOOK EXPLOITATION

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Leningradskiy metallicheskiy zavod, Leningrad

Paroturbostroyeniye i gazoturbostroyeniye (Steam and Gas Turbine Construction)
Moscow, Mashgiz, 1957. 351 p. (Series: Its Trudy, vyp. 5) 3,500 copies
printed.

Additional Sponsoring Agency: RSFSR. Leningradskiy ekonomicheskii rayon. Sovet
narodnogo khozyaystva. Upravleniye tyazhelogo mashinostroyeniya.

Editorial Board: Grinberg, M. I., Doctor of Technical Sciences, Professor (deceased);
Stepanov, I. M., Engineer, and Kolotilov, A. I., Engineer; Ed. of Publishing
House: Leykina, T. L.; Tech. Ed.: Pol'skaya, R. G.; Chief Ed. (Mashgiz,
Leningrad Branch): Bol'shakov, S. A., Engineer.

PURPOSE: This collection of articles is intended for engineers and technical
personnel employed at turbine building plants and scientific research
institutes, and also for students of technical institutes.

COVERAGE: This book contains articles dealing with the problems of design and
operation of gas and steam turbine installations, and high-pressure
feed pumps. For abstract of each article see Table of Contents.

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Steam and Gas Turbine (Cont.)

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TABLE OF
CONTENTS:

Foreword

3

Design and Operation of Steam Turbine Installations

Grinberg, M. I., Doctor of Technical Sciences, Professor. Progress in Turbine Building at the Leningrad Metalworking Plant

9

In this article the author discusses the past and present accomplishments, and outlines plans for future developments in the field of steam and gas turbine building at the Leningrad Metalworking Plant.

Butyrin, A. S., Engineer. Standardization of the General Arrangement of Steam Turbine Installations

17

In this article the author gives an account of experience with general arrangement of steam turbine installations gained at the Leningrad Metalworking Plant. He discusses the procedure for preparing detailed drawings and presents diagrams of standard arrangements of steam turbine installations.

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Steam and Gas Turbine (Cont.)

584

Nikolayev, G. V., Engineer. Condensers for LMZ Turbines

31

The author presents details of design and construction of various types of condensers developed at the Leningrad Metalworking Plant.

Peysikhis, B. I., Engineer. Special Valves and Equipment for Steam Turbine Installation.

48

The author presents a detailed description of safety valves and special regulating devices used in high-pressure steam turbine installations. The article contains numerous diagrams and specifications of various types of valves.

Shapiro, Yu. B., Engineer. Selection of Thermal Scheme for Steam Turbine Installations

68

This article deals with the basic problems involved in the developing of new regenerative vapor-cycles. The author presents a basic method for selecting feed-water preheating temperatures, and the optimum distribution of steam extraction points in a regenerative vapor-cycle. There are 7 references, of which 6 are Soviet, and 1 English.

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Steam and Gas Turbine (Cont.)

Shapiro, Yu. V., and Tortiko, M. A., Engineers. Modernization of SVK-150-1 and VK-100-2 Turbines 79

In this article the authors present the basic principles of turbine stage design which were used as a basis for modernizing VK-100-2 and SVK-150-1 turbines. The authors also present the results of an aerodynamic investigation of turbine blade systems. There are 5 Soviet references.

Petelina, A. M., Engineer. Application of Controllers Without Feedback for Oil Turbine Pump and Steam Turbine Seals 90

In this article the author presents results of testing an experimental steam and oil regulator used in the steam turbine installations. The author concludes that the regulator developed for automatic start-up of turbine oil pump and control of steam flow through turbine seals has been found to be satisfactory and reliable under various operating conditions. The article contains schematic diagrams and descriptions of the regulator.

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Steam and Gas Turbine (Cont.)

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Reznichenko, V. Ya., and Etinger, S. M., Engineers. Welded Wheel Constructions for Centrifugal Pumps and Compressors

98

The authors familiarize the reader with the experience gained at a plant in the field of construction and manufacturing welded stainless-steel wheels for high-speed feed water pumps, pumps used at cracking plants, and centrifugal gas compressors.

Frenkel', L. D., Etinger, S. M., and Chernin, Kh. N., Engineers. Problems in the Construction of Stationary Gas Turbine Installations.

105

The authors discuss several problems dealing with the design of stationary gas turbine installations, axial and centrifugal compressors, and combustion chambers. The article contains drawings of gas turbine installations and tables and graphs of experimental research data on gas turbines.

Stepanov, I. M., Engineer. Experience Operating High-pressure Turbines

131

The author analyzes various troubles and difficulties encountered by the plant
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Steam and Gas Turbine (Cont.)

584

during the initial operation of new types of high-pressure steam turbines and he presents the methods used by the plant to make necessary design improvements. The article contains illustrations and descriptions of various turbine failures.

Etinger, S. M., Engineer. Operating Experience and Familiarization With SVP-220-280 Super High-pressure Feed Pumps and the Resulting Design Improvements and Adjustments at the Cherepet State Regional Electric Power Plant.

155

The author analyzes various design improvements resulting from operating experience acquired during the initial operation of super high-pressure feed pumps. The article contains schematic drawings of pumps and their components.

Fedorovich, D. A., Engineer. Hydraulic Test Pressure of Steam Turbine Cylindrical Elements

178

This article deals with the determination of hydraulic test pressures and working pressures for various types of steel at temperatures not specified in existing All-Union State Standards (GOST) 356-52. The article contains tables of turbine design data.

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Steam and Gas Turbine (Cont.)

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Ben', M. Ya., Engineer. Improvements in Design of Rotor Blade Fastenings and in Quality of Blade Attachments to the Steam Turbine 193

Ben', M. Ya., Engineer. Means for Improving the Construction Technology 198

In the first article the author describes a method of attaching blades to the turbine disc which reduces manual filing originally required to secure a proper fit. In his second article the author discusses methods used by the design department to improve the technology of turbine construction.

Investigations and Calculations

Levin, A. V., Candidate of Technical Sciences, and Shur, S. S., Engineer. Blade-root Torsional Vibration in Steam Turbines 213

The article presents a theoretical investigation of turbine blade vibrations. The authors derive equations for determining the mode of vibration and also give curves showing the stresses developed in turbine blades.

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Steam and Gas Turbine (Cont.)

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Volkova, E. M., Engineer. Blade-root Design for Static Bending at Various Blade Loads 231

Volkova, E. M., Engineer. Calculation of Blade Profile Slots in the Welded Nozzle-Diaphragms 240

In the first article the author presents a method of designing blade roots for static bending at various blade loads and variable blade cross sections. In the second article the author presents a method for determining the contour of slots for installing guide blades in the welded nozzle diaphragm.

Bedcher, F. S., Engineer, and Lomakin, A. A., Professor, Doctor of Technical Sciences. Determination of Pump Rotor Critical Speeds with Consideration of Forces Developed in the Shaft Packings 249

This article deals with determination of pump rotor critical speeds taking into account the effect of hydrodynamic forces developed in the pump packings. The authors present theoretical and experimental methods for determining forces developed in the packings, and give equations for determination of rotor vibration frequency. There are 2 Soviet references.
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Steam and Gas Turbine (Cont.)

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Bedcher, F. S., and Rotner, I. S., Engineers. Method of Determining Universal (General) Characteristics of a Pump 270

This article deals with approximate method for determining universal (general) characteristics of a pump using special interpolation formula. The authors state that this method is very useful in determining characteristics for multistage compressors on the basis of experimental data for a single stage.

Ratner, I. S., Engineer. Methods of Calculating Partial Regimes of Gas Turbine Installations 275

The author presents methods of statical design of dual-shaft gas-turbine installations driving an electric generator. He states that this involves a solution of the system of nonlinear equations and presents methods of successive approximation and a graphical method of calculation. There are 4 Soviet references.

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Steam and Gas Turbine (Cont.)

584

Ratner, I. S., Engineer. Investigation of Stability of a Single-shaft Gas Turbine Installation With Regenevators Having Relatively Large Time Constant 292

Ratner, I. S., Engineer. On Natural Stability of Stationary Gas Turbine Installations 301

Malev, V. V., Engineer. On Natural Stability of Dual-shaft Gas Turbine Installations 322

The above three articles deal with the investigation of stability of gas turbine installations. In the first article the author discusses application of the electrical analog method in investigating stability of the systems with relatively large or small time constants. In the second article the author investigates the problem of natural stability of stationary steam turbine installations using the principle of discrete analysis and taking into account temperature variation in the turbine. In the third article the author presents results of an investigation of natural stability of six different systems of dual-shaft stationary gas turbine installations.

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Steam and Gas Turbine (Cont.)

584

Kirsanov, V. I., Coefficients of Discharge and Unbalance of Slide Valves at Large Openings

338

On the basis of the theory of flow of ideal noncompressible fluids the author determines coefficients of discharge and coefficient of unbalance of slide valves. There are 3 references of which 2 are Soviet and 1 German.

Ovrutskaya, N. B., Engineer, and Kheifets, M. Z., Candidate of Technical Sciences. On Stability of Turbine Rotor Shafts Equipped With a Relieving (Balancing) Device

345

In this article the author investigates stability of turbine rotor shafts equipped with a relieving device acting on a principle similar to hydraulic servo-mechanisms.

AVAILABLE: Library of Congress

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GO /fal
9/17/58

BUTYRIN, A.V.; ZHUROV, N.M.; YEVSTIFEYEV, N.M.

Attaching an aerosol generator to the spraying machine. Zashch.
rast.ot vred.1 bol. 4 no.3:21-23 My-Je '59.
(MIRA 13:4)

1. Inzhenery po khlopku Gosudarstvennogo spetsial'nogo konstruktor-
skogo byuro.
(Spraying and dusting equipment) (Aerosols)

BUTYRIN, A.V., inzh.

Unit for preparing insecticide mixtures and filling them into
airplanes. Zashch. rast. ot vred. i bol. 7 no.1:19-20 '62.
(MIRA 15:6)

1. Gosudarstvennoye seriyno-konstruktorskoye byuro po khlopku.
(Insecticides)
(Aeronautics in agriculture)

KOSHEVNIKOV, Georgiy Antonovich, akademik; KHAMIDOV, Aslam, kand.
tekhn. nauk; KOTOV, Vladimir Fedorovich; GERASTMOV, Mikhail
Fedorovich; BASEVICH, Lev Yefimovich; BUTYRIN, Aleksandr
Vasil'yevich; RAYEV, Boris Grigor'yevich; BONDARENKO, M., red.;
SALAKHUTDINOVA, A., tekhn. red.

[Machinery for cultivating cotton] Mashiny dlia vzdelyvaniia
khlopchatnika. Tashkent, Gosizdat UzSSR, 1961. 1E2 p.

(MIRA 15:7)

1. Nachal'nik otdela Gosudarstvennogo spetsial'nogo konstruk-
torskogo byuro (for Kotov). 2. Rukovoditel' gruppy gosudar-
stvennogo spetsial'nogo konstruktorskogo byuro po khlopku (for
Basevich, Rayev).

(Cotton machinery)

BUTYRIN, A.V., inzh.; KRAVETS, D.D., inzh.

Mechanization of the placement of herbicides in cotton fields. Zashch.
rast. ot vred. i bol. 6 no.7:22-24 J1 '61. (MIRA 16:5)

1. Gosudarstvennoye spetsial'noye konstruktorskoye byuro po
khlopku, Tashkent.
(Uzbekistan--Weed control) (Uzbekistan--Cotton growing)

BUTYRIN, M. V.

Butyrin, M. V. - "Improved screened water meters and water outlets," Trudy Sredneaziat. nauch-issled. in-ta irrigatsii, Issue 73, 1948, p. 85-90

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, no. 15, 1949.)

1. BUTYRIN, M. [V.]
2. USSR (600)
4. Sluice Gates
7. Using open sluice gates for calculating flow in irrigation. Khlopkovstvo no. 11, 1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

AUTHOR: Butyrin, M.V., Candidate of Technical Sciences 99-58-7-4/10

TITLE: Discharge from Segment Sluice Gates of Hydrotechnical Constructions (Istecheniye iz-pod segmentnykh zatvorov gidrotekhnicheskikh sooruzheniy)

PERIODICAL: Gidrotekhnika i melioratsiya, 1958, Nr 7, pp 26-30 (USSR)

ABSTRACT: The author presents a series of analytic and graphic determinations on the water discharge from segment sluice gates of hydrotechnical installations. In this connection, he makes reference to the theoretical research on this subject done by Professor N.Ye. Zhukovskiy and states that the quantitative and qualitative characteristic properties of the discharge from segment sluice gates in dimensional conditions have not yet been sufficiently studied. He gives an explanation of his laboratorial and industrial research work on free discharge from segment sluice gates (diametrical scheme "a", figure 1) and on submerged discharge from segment sluice gates (diametrical scheme "b", figure 1) and comes to the conclusion that in case of telemetering it is necessary to install water-surveying rods for a daily registration and regulation of the water. With free discharge, one rod is installed in the upper water head: with submerged discharge, a second one is installed behind the

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39-58-7-4/10

Discharge from Segment Sluice Gates of Hydrotechnical Constructions

support in the lower water head (figure 1). In order to prove the theoretical results obtained, experiments have been carried out on the main structure of the Zakh Canal. The findings are given in table 1. There are 2 diagrams, 1 graph and 1 table.

1. Canals - USSR
2. Sluice gates -- Discharge -- Properties -- Theory

Card 2/2

14(10)

SOV/99-59-6-4/13

AUTHOR: Butyrin, M.V., Candidate of Technical Sciences
(Tashkent)

TITLE: A New Water-Measuring Weir Developed by the SANIIRI,
the "VPS"

PERIODICAL: *Gidrotekhnika i melioratsiya*, 1959, Nr 6, pp 20-24,
(USSR)

ABSTRACT: The article describes a water-measuring weir, the
"VPS", developed by the *Gidrometricheskaya laboratoriya*
Sredneaziatskogo nauchno-issledovatel'skogo instituta
irrigatsii, or the SANIIRI, (Hydrometrical Laboratory
of the Central Asian Research Institute of Irrigation).
Its action is based on the dependence of water dis-
charge on only one variable - the head H above the weir
height with a considerable relative submergence
($\frac{h}{H} = 0.80$ to 0.82). The banked-up water caused by
the weir at a maximum discharge is negligible (only

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SOV/99-59-6-4/13

A New Water-Measuring Weir Developed by the SANIIRI, the "VPS"

10 to 12 % of the corresponding water depth of the canal). Thus, this afore-mentioned dependence on the head H renders possible the action of the following accessories for automation and telemechanization of the "VPS"-type weir: depth gauges, discharge gauges, teletransmitting devices, and other equipment brought into action by the head H. In 1958, 3 such weirs were installed: one on the Chimkent Canal, Yuzhno-Kazakhstanskaya Oblast', and two more weirs on the irrigational system of the Bol'shoy Ferganskiy kanal (Great Fergana Canal) of which one weir was put into service on the Ak-Altyn Canal. Tests conducted there showed good results. The article mentions the following names in connection with the development of water-measuring weirs: A.R.Berezinskiy, Yartsev, Venturi-Parshal, and Ivanov. There is 1 photo, 1 graph, and 2 sets of diagrams.

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BUTYRIN, M. V.

Gauges for irrigation canals with a discharge of 2 to 20 m³/sec.
Vop. gidr. no.4:36-50 '62. (MIRA 15:10)

(Irrigation canals and flumes)
(Water meters)

TYULENEV, A.M.; BUZUNOV, I.A.; ASKAROV, A.A., kand. tekhn. nauk;
OSTANKOV, A.G., kand. tekhn. nauk; IVANOV, A.I., kand.
tekhn. nauk [deceased]; KHORST, G.O., kand. tekhn. nauk;
BUTYRIN, M.V., kand. tekhn. nauk; PEREVERZEV, S.K., kand.
tekhn. nauk; KRIVONOSOVA, N.A., red.

[Manual for irrigation engineers] Spravochnik gidrotehnika-
irrigatora. Tashkent, Uzbekistan. Pt.2. 1964, 328 p.
(MIRA 18:10)

BUTYRIN, M. V.

Intrafarm PAR spring-equipped automatic device for assuring
constant discharge. Vop. gidr. no.4:66-75 '62.

(MIRA 15:10)

(Irrigation canals and flumes—Equipment and supplies)
(Automatic control)

BUTYRIN, Ya.N.

AID P - 3333

Subject : USSR/Power Engineering
Card 1/1 Pub. 26 - 19/28
Authors : Butyrin, Ya. N., Eng. and B. A. Kazantsev,
Senior Techn.
Title : Tenon joining of waterwalls in the boiler furnace
Periodical : Elek. sta., 8, 48-49, Ag 1955
Abstract : The article describes the manner in which the
welding of tenons in a 110t/hour, 42 atm boiler,
operating on anthracite culm was made without
cutting out the waterwalls. The operation is
described in great detail with 3 diagrams.
Institution : None
Submitted : No date