KROTKOV, B.P.; ZOTOVA, T.I.

Regular patterns in the distibution of bauxite deposits in the Urals. Dokl. AN SSSr 108 no.6:1144-1147 Je '56. (MLRA 9:10)

1. Institut geologicheskikh nauk Akademii nauk SSSR. Predstavleno akademikom A.V. Betekhtinym.
(Ural Mountains--Bauxite)

MEKLER, M.M., otv.red.; SHUROV, S.I., red.; BASHLAVINA, G.N., red.; VORONINA, A.N., red.; GUREVICH, I.V., red.; ZASLAVSKIY, I.I., red.; KOZLOV, F.M., red.; LARIN, D.A., red.; LYALIKOV, N.I., red.; MAMAYEV, I.I., red.; NIKISHOV, M.I., red.; RAUSH, V.A., red.; SAMOYLOV, I.I., red.; SLAIKOVA, Ye.A., red.; STROYEV, K.F., red.; SCHASTNEV, P.N., red.; TUTOCHKINA, V.A., red.; KRUKLI, V.G., red.; BUSHUYEVA, M.P., red.kart; DYUZHEVA, A.M., red.kart; KROTKOV, B.S., red.kart; MESYATSEVA, L.N., red.kart; PEKHOVA, Z.P., red.kart; POLYANSKAYA, L.A., red.kart; SAFRONOVA, V.A., red.kart; FEDOTOVA, N.I., red.kart; FETISOVA, N.P., red.kart; CHERNYSHEVA, L.N., red.kart; BUKHANOVA, N.I., tekhn.red.; KUZNETSOVA, O.L., tekhn.red.; NIKOLAYEVA, I.N., tekhn.red.

[Atlas of the U.S.S.R. for the secondary school; course in economic geography] Atlas SSSR dlia srednei shkoly; kurs ekonomicheskoi geografii. Moskva, Glav.uprav.geodez. i kartografii M-va geol.i okhrany nedr SSSR, 1960. 50 p. (MIRA 13:12)

(Geography, Economic--Maps)

ITENBERG, I.M., red.; KROTKOV, B.S., red.kart; FOKINA, T.A., red.kart; CHETVERGOVA, A.D., red.kart; BUKHANOVA, A.V., tekhn.red.

[World atlas] Atlas mira. Moskva, Glav.upr.geodez. i kartograf. M-va geol. i okhrany nedr SSSR, 1960. 64 p. (MIRA 14:1)
(Atlases)

[illegible], L. I. [illegible].

Novye standarty na chernye metally. (Vestn. Mash., 1950, no. 5, p. 44-46)

New standards for ferrous metals.

DLC: TN4.V4

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

[illegible], I. V.

Novye standarty na metallicheskie polufabrikaty i izdeliia.
(Vestn. Mash., 1950, no. 6. p. 69-70)

New standards for metallic half-finished products and articles.

DLC: TN4.V4

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

[redacted], . V.

Novyi standart na stal' obyknovennogo kachestva. (Vestn. Mash., 1950, no. 8 , p. 72-74)

New standard for ordinary steel.

DLC: TN4.V4

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

[illegible], I. V.

Novye standarty. (Vestn. Mash., 1950, no. 10, p. 71-73)

New standards.

LLC: TN4.V4

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

KROTKOV, D. V. Engr

"New Standards" (Tech. Info)

Vest Mash, p. 83, Sep 51

KRYLOV, I. V.

Novyi standart na konstruktsionnuiu kalibrovannuiu stal'. (Vestn. Mash., 1951, no. 1, p. 86-88)

The new standard for gauged structural steel.

DLC: TN4.74

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

KROTKOV, D. V.

KROTKOV, D. V.

Standards, Engineering

New standards. Vest. mash. 31, No. 11, 1951.

9. Monthly List of Russian Accessions, Library of Congress, September 1952 1953, Uncl.

KROTKOV, D. V.

PA 240T37

USSR/Electricity - Standards
Transmission Lines
Welding Electrodes

Mar 52

"New Standards on Steel Parts for Electrical Installations," Engr D. V. Krotkov

"Elektrichestvo" No 3, pp 75-77

Summarizes and discusses the following new standards: (1) GOST 5800-51, "Stranded Steel Conductors For Overhead Transmission Lines," replacing OST/NKTP 8173/1001; and (2) GOST 2523-51, "Steel Electrodes for Arc-Welding and Fusing," replacing GOST 2523-44.

240T37

KROTKOV, D. V.

KROTKOV, D. V.

Steel, Structural

New standard for quality carbon structural steel. Avt. trakt. prom. no. 8, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 1952 1953, Uncl.

KROTKOV, D. V., Eng.

KROTKOV, D. V., Eng.

Electric Welding

New standards for electric welding equipment. Avtog. delo, 23, No. 7, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 1952 1953, Uncl.

ERCTKOV, B. V.

ERCTKOV, B. V.

Railroads, Rails

Standards for light rails. Torf. prom., 29, No. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April, 1952 ~~1953~~, Uncl.

1. KROTKOV, D.V. ENG.

2. USSR (600)

4. Steel-Standards

7. New standards. Vest. mash. 32 no. 7 1952

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

1. KROTKOV, D. V., Eng.

2. USSR (600)

4. Steel--Specifications

7. Establishment of standard trade marks of carbon steel for important welded construction, Aviog. delo, 24, No. 2, 1953.

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

1. KROTKOV, D. V., Eng.

2. USSR 600

4. Nickel Alloys - Standards

7. Standards for nickel alloys and steel, Vest. mash, 33, No. 1, 1953.

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

[illegible], V.V., [illegible].

New standards. Vest.mash. 33 no.4:88-90 Ap '53. (MLRA 6:5)
(Street railroads)

FROTKOV, D.V., inzhener.

New standards. Vest.mash. 33 no.10:107 O '53. (MLRA 6:10)
(Steel--Standards)

USSR/ Engineering - Standards

Card 1/1 : Pub. 128 - 33/38

Authors : Krotkov, D. V.

Title : New standards

Periodical : Vest. mash. 9, 99-100, Sep 1954

Abstract : The following new standard specifications for rolling stock shafts are given: (GOST 408-53) rolling stock shafts for wide-gage rail; (GOST 3281-53) locomotive shafts for wide-gage rail; and (GOST 6690-53) rolling stock shafts made of carbon steel.

Institution : .....

Submitted : .....

USSR/Engineering - Standards

Card : 1/1

Authors : Krotkov, D. V., Engineer

Title : New standards

Periodical : Vest. Mash., 34, Ed. 6, 104 - 105, June 1954

Abstract : The following new standards are announced:
GOST 4728-53 Axle Manufacturing for the Rolling Stock of Broad-Gage Railroads.
GOST 2052-53 High-Quality, Hot-Rolled, Spring Steel. Technical Specifications.
Comments are given on the differences between the new standards and the old and the reasons for the changes.

Institution : ...

Submitted : ...

KROTKOV,D.V., inzhener

New standard welding materials. Svar.proizv. no.2:29-30 F '55.
(Welding--Standards) (Steel, Structural) (MLRA 8:9)

IROTKOV, D.V., inzhener

New standards and methods of testing welded joints. Svar. proizv. no.4: 32-33 Ap '55. (MLRA 8:9)
(Welding--Testing)

KROTKOV, D.V., inzhener.

New standards. Transp.strei.5 no.8:26-27 O '55. (MLRA 9:1)
(Reinforced concrete--Standards) (Railroads--Rails)

AVRASIN, Ya.D., kandidat tekhnicheskikh nauk; BERG, P.P., professor, doktor tekhnicheskikh nauk, BERNSHTEYN, M.L., kandidat tekhnicheskikh nauk; GEMEROZOV, P.A., starshiy nauchnyy sotrudnik; GLIKER, D.M., inzhener; DAVIDOVSKAYA, Ye.A., kandidat tekhnicheskikh nauk; YELCHIN, P.M., inzhener; YERMIN, N.I., kandidat fiziko-matematicheskikh nauk; IVANOV, D.P., kandidat tekhnicheskikh nauk; KHOROZ, L.I., inzhener; KOBRIN, M.M., kandidat tekhnicheskikh nauk; KORITSKIY, V.G., dotsent; KROTKOV, D.K., inzhener; KUDRYAVTSEV, I.V., professor, doktor tekhnicheskikh nauk; KULIKOV, I.V., kandidat tekhnicheskikh nauk; LEPETOV, V.A., kandidat tekhnicheskikh nauk; LIKINA, A.F., inzhener; MATVEYEV, A.S., kandidat tekhnicheskikh nauk; MIL'MAN, B.S., kandidat tekhnicheskikh nauk; PAVLUSHKIN, N.M., kandidat tekhnicheskikh nauk; PTITSYN, V.I., inzhener [deceased]; RAKOVSKIY, V.S., kandidat tekhnicheskikh nauk, RAKHSHTADT, A.G., kandidat tekhnicheskikh nauk; RYABCHENKOV, A.V., professor, doktor khimicheskikh nauk; SIGOLAYEV, S.Ya., kandidat tekhnicheskikh nauk; SMIRYAGIN, A.P., kandidat tekhnicheskikh nauk, SUL'KIN, A.G., inzhener; TUTOV, I.Ye., kandidat tekhnicheskikh nauk, KHRUSHCHOV, M.M., professor, doktor tekhnicheskikh nauk; TSYPIN, I.O., kandidat tekhnicheskikh nauk; SHAROV, M.Ya., inzhener; SHERMAN, Ya.I., dotsent; SHMELEV, B.A., kandidat tekhnicheskikh nauk; YUGANOVA, S.A., kandidat fiziko-matematicheskikh nauk; SATEL', E.A., doktor tekhnicheskikh nauk, redaktor; SOKOLOVA, T.F., tekhnicheskiy redaktor

[Machine builder's reference book] Spravochnik mashinostroitelia; v shesti tomakh. izd-vo mashinostroit. lit-ry. Vol.6. (Glav. red.toma E.A.Satel'. Izd. 2-oe, ispr. i dop.) 1956. 500 p. (MLRA 9:8)
(Machinery--Construction)

KROTKOV, D.V., inzhener.

New engineering standards. Transp.strei. 6 no.3:30 Mr '56.
(Standards, Engineering) (MLRA 9:7)

KROTKOV, D.V., inzh.

New standard for designating welded joints. Transp.stroi. 7 no.6:23 Je '57. (MIRA 10:11)
(Welding--Terminology--Standards)

L 7870-66 EWT(d)/FBD/EWT(1)/EEC(k)-2 RB/GW/WS-2

ACC NR: AP5026722 SOURCE CODE: UR/0141/65/008/005/1044/1044

AUTHOR: Krotikov, V. D.; Lastochkin, V. P.; Stankevich, K. S.

ORG: Scientific Research Institute of Radio Physics at Gorky University (Nauchno-issledovatel'skiy radiofizicheskiy institut pri Gor'kovskom universitete)

TITLE: Measurement of the absorption of decimeter radio waves in the atmosphere

SOURCE: IVUZ. Radiofizika, v. 8, no. 5, 1965, 1044

TOPIC TAGS: radio astronomy, atmospheric radiation, radio wave absorption, decimeter wave

ABSTRACT: The vertical distribution of the temperature of the intrinsic radiation of the atmosphere was measured at wavelengths 16.3, 18.9, 21, and 30.6 cm in the altitude range from 5 to 30°. The directivity patterns of the antenna system at half-power level were 24', 30', 35', and 40'. The brightness temperatures of the atmosphere were determined by comparing the antenna temperatures for signals from the atmosphere with the discrete source Cassiopaeia-A. The total absorption at the zenith could be determined from the measured and theoretical values of the antenna temperature as a function of the altitude angle. The total absorption in the zenith direction was found to be 0.66 db ±15% for all temperatures, corres-

Card 1/2 UDC: 621.371.166

L 7870-66

ACC NR: AP5026722

ponding to a zenith temperature of 4.1K for the radio emission from the atmosphere. Orig. art. has: 2 formulas. [02]

SUB CODE: 03,17/ SUBM DATE: 23Apr65/ ORIG REF: 002/ ATD PRESS: 4145

Card 2/2

KROTKOV, I.N.

Sensitivity of electric measuring networks. Trudy VNIIM no.6: 28-44 '49. (MIRA 11:11)
(Electric networks) (Electric measurements)

USSR/Engineering - Circuits, Electric Oct 49
Measurements, Electrical

"Sensitivity of Electrical Measuring Circuits," I. N. Krotkov, Cand Tech Sci, All-Union Sci Res Inst of Metrol imeni Mendeleyev, 4 pp

"Elektrichestvo" No 10

Formulas obtained express sensitivity of any linear electrical circuit relative to a change in one of its impedances in dependence upon (1) general parameters of the given circuit (coefficients of aggregate matrices) and (2) one of the quantities characterizing the action of the current source (emf,

150T22

USSR/Engineering - Circuits, Electric Oct 49
(Contd)

voltage, current, power in the regulated element). Gives examples of sensitivity calculations when electrical measuring circuit is considered a six-terminal network.

150T22

KROTKOV, I. N.

USSR/Electricity - Measuring Instruments Sensitivity — Oct 51

"Calculation of the Maximum Sensivity of Electric Measuring Circuits," I. N. Krotkov, All-Union Sci Res Inst of Metrol imeni Mendeleyev

"Elektrichestvo" No 10, pp 59-66

Considers a balanced bridge circuit and calculates its sensitivity to a relative change of resistance in one of the arms. Given a

201T47

USSR/Electricity - Measuring Instruments (Contd) — Oct 51

number of bridge elements, determines the necessary and sufficient conditions for obtaining max sensitivity. Submitted 30 Aug 50.

201T47

KROTKOV, I. N.

231T27

USSR/Electricity - Bridge Circuits Oct 52

"Classification of DC and AC Bridge Circuits," I. N. Krotkov, Cand Tech Sci, All-Union Sci Res Inst imeni Mendeleyev

"Elekrichestvo" No 10, pp 60-67

Discusses some general facts on bridges composed of linear elements and used for the measurement of the elec circuit parameters (R, L, M, and C). Gives a new classification and system of symbols of these circuits which makes possible their analysis. Submitted 24 May 52.

231T29

KROTKOV, I.N.

Calculating the maximum sensitivity of certain electric measuring circuits. Trudy VNIIM no.14:62-83 '53. (MIRA 11:6)
(Electric measurements)

KROTKOV, I.N.

Inductance-unit primary standard of the U.S.S.R. Trudy VNIIM no.31:19-20 '57. (MIRA 11:11)
(Inductance--Standards)

KHOTKOV, I.N.

Reproducing the electric resistance unit by means of the standards of inductance and frequency units. Trudy VNIIM no.31:21-31 '57. (MIRA 11:11)
(Electric capacitance--Standards)

KHOTKOV, I.N.

Capacitance-unit primary standard of the U.S.S.R. Trudy VNIIM no.31:36-43 '57. (MIRA 11:11)
(Electric capacitance--Standards)

KROTKOV, I.N.; GUSHCHINA, T.M.

Method for precise checking of condensers with different initial capacitance ratings. Trudy inst. Kom. stand., mer i izm. prob. no.39:93-104 '60. (MIRA 14:3)

(Electric capacitors--Testing)

KROTKOV, I.N.; GUSHCHINA, T.M.

Determination of condenser parameters by means of decade comparisons. Trudy inst. Kom. stand., mer i izm. prib. no.39:105-118 '60. (MIRA 14:3)

(Electric capacitors—Testing)

KROTKOV, I. N.

Doc Tech Sci - (diss) "New methods and apparatus for precision measurements of inductivity, resistance, and capacity." Leningrad, 1961. 27 pp with diagrams; (Leningrad Polytechnic Inst imeni M. I. Kalinin); 250 copies; free; bibliography at end of text (23 entries); (KL, 7-61 sup, 229)

KROTKOV, I.N.

[New equipment and techniques for precise measurement of inductance, resistance,and capacitance; author's abstract of his dissertation for the degree of doctor of technical sciences]Novye metody i apparatura dlia tochnykh izmerenii induktivnosti, soprotivleniia i emkosti; avtoreferat dissertatsii na soiskanie uchenoi stepeni doktora tekhnicheskikh nauk. Leningrad, Leningradskii politekhnicheskii in-t im. M.I.Kalinina, 1961. 26 p. (MIRA 15:12)

(Electric measurements)

S/196/62/000/007/001/007
E194/E435

AUTHOR: Krotkov, I.N.

TITLE: Accurate methods of measuring the admittance component of elements of linear electric circuits

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.7, 1962, 7, abstract7A29. (Tr. Konferentsii po avtomat. kontrolyu i metodam elektr. izmeriniy, 1959 (Proceedings of the Conference for Automatic Control and Methods of Electrical Measurements, 1959) Novosibirsk, Sib. otd. AN SSSR, 1961, 53-62)

TEXT: New methods are proposed for: 1 - preliminary balancing of a T-circuit consisting of L and C by the simultaneous application of short circuit and no-load conditions to individual sections of the circuit; 2 - the connection and balancing of an X-circuit of a capacitance bridge. After simultaneous solution of the equations obtained for the different processes of circuit balancing the first method may be used to obtain a simple relationship between the measured impedances, the main bridge parameters and a single "residual" parameter which is

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easily calculated from the dimensions of the conductors. The new X-circuit capacitance bridge differs from usual capacitance bridges in the method of connecting the object to be measured, in the system of screening the bridge and the balancing arms, in the balancing sequence and in the use of conductivity decades using elements of special construction (not wire wound). The bridge can be balanced rapidly and can measure all three parameters in the frequency range up to some megacycles to an accuracy of 0.01 to 1%. In addition, double X- and T-circuits were investigated. The double X-circuit bridge can be used to determine the parameters of a measured object in the form of a quadripole circuit.

[Abstracter's note: Complete translation.]

GRUZKOV, I.N.

Methods and equipment for accurate measurements of basic characteristics of dielectrics in radiobroadcasting frequency range. Izm.tekh.no. 4:54-59 Ap '64. (MIRA 17:7)

EWP(k)/EWT(d)/EWP(h)/T/EWP(1)/EWP(v) RH

ACC NR: AP6019570 SOURCE CODE: UR/0115/66/000/004/0003/0006

AUTHOR: Arutyunov, V. O. (Doctor of technical sciences); Babakiy, Ye. V.; Dzharak'yan, T. K; Krotkov, I. N.; Tishchenko, M. I.

ORG: none

TITLE: Role and problems of metrology in biology and medicine

SOURCE: Izmeritel'naya tekhnika, no. 4, 1966, 3-6

TOPIC TAGS: ~~medical~~ metrology, biological ~~metrology~~, medical equipment standards, biological equipment standards, ~~medical instrumentation~~ specifications, ~~biological instrumentation~~ specifications

ABSTRACT: Particular need is felt for standardizing medical equipment used for the automatic control, registration, and regulation of biological functions, as well as for designing artificial organs. The importance of standard criteria in diagnosing, treating, and preventing disease requires that physical parameters be measured with maximum accuracy which is difficult to achieve without universally accepted standards. The ever-expanding mass and use of quantitatively evaluated, stored, and processed data calls for the development and establishment of a system of standard measurement units functionally related to units of physical and chemical measurement, as well as the consolidation of

UDC: 389.0 : 61

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of units ... which can be ... on the basis of whi... and built. [SP]

SUB CODE: 06/ SUBM DATE: none/

Card 2/2 af

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000826630010-5"

KROTKOV, N. [illegible] MCHEDLOV,-PETROSYAN, O, doktor tekhnicheskikh nauk (g.Khar'kov)
VOROB'YEV, Yu., inzhener (g.Khar'kov)

Letters and suggestions. Stroi.mat. 3 no.1:31 Ja '57. (MLRA 10:3)

1. Predsedatel' zavodskogo komiteta zavoda im. Boykova (for Krotkov)
(Serpentinites) (Rewards (Prizes,etc.))

S/196/63/000/001/034/035
E194/E155

AUTHORS: Krotov, P.V., Boldov, M.Ye., and Shvionov, I.V.

TITLE: An investigation of silicon rectifiers

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.1, 1963, 11-12, abstract 1 L 46. (Tr. Tsentr. n.-i. in-ta mekhaniz. i energ. lesn. prom-sti, v.34, 1962, 53-69)

TEXT: In addition to their known advantages, silicon rectifiers have good resistance to shock and vibration so that they are particularly suitable for narrow-gauge rectifier locomotives for timber haulage. In 1960 TsNIIME developed and made a narrow-gauge electric locomotive type ЭКоу -4-01 (EKou-4-01) having silicon rectifiers and meeting the requirements stipulated for the timber and peat industries. The locomotive power is 150 kW, the coupled weight 18 tons. In developing the locomotive the silicon rectifiers were tested and recommendations were made to the factory manufacturing the rectifiers. The following conclusions are drawn from tests on silicon rectifiers type ПВК-100 (PVK-100):

Card 1/2

An investigation of silicon rectifiers S/196/63/000/001/034/035
E194/E155

The most effective of the aluminium radiators is one with a cooling surface of 800 cm^2. With a cooling air speed of 8 - 10 m/sec and an aluminium radiator the rectifier withstands 120% load for 30 min and 150% load for 3 min. The rectifier withstands 5 times rated load for 0.42 sec., and at these overloads can be protected by high-speed fuses type ПНБ-2/300 (PNB-2/300). To ensure satisfactory load distribution between parallel rectifiers in bridge arms, they must have matched voltage drop to within 0.01 - 0.02 V.
7 figures.

[Abstractor's note: Complete translation.]

Card 2/2

1. [illegible]OV, S.

2. USSR (600)

4. Folk Songs, Russian

7. Come to Vologda ! Klub 2 no. 4, 1953.

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

KROTKOV, V.A., insh.

Using soil-cements for floor underlayers. Biul. stroi. tekh. 15 no.2: 20-21 F '58. (MIRA 11:2)

1. Stroytrest No.49, Omskaya oblast'.
(Floors, Concrete)

KHOTKOV, V.I. (g. Kuybyshev).

Chemical experiments with an electric arc. Khim. v shkole 12 no.3: 31-32 My-Je '57. (MLRA 10:6)

(Electric arc)

1. KHOTKOV, V. I.

2. USSR (600)

4. Acetylene

7. Apparatus for the demonstration of principal experiments with acetylene, Khim. v shkole, No. 5, 1952.

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

GOGOLINA, T.V., inzh.; KROTKOV, V.N., inzh.; SOKOLOV, O.A., inzh.

Gas-driven refrigerator compressor for the petroleum processing and chemical industry. Khol.tekh. 41 no.1:7-11 Ja-F '64. (MIRA 17:3)

1. TSentral'noye konstruktorskoye byuro kholodil'nogo mashinostroyeniya (for Gogolina, Krotkov). 2. Gosudarstvennyy proyektnyy i nauchno-issledovatel'skiy institut promyshlennosti sinteticheskogo kauchuka (for Sokolov).

MINEYEV, P.A., inzh.; GUREVICH, Ye.S., inzh.; SHINKA, V.Ya., inzh.; BUKHTER, Ye.Z., inzh.; SHCHERBAKOV, V.S., inzh.; IL'INA, N.I., inzh.; GLUKHOV, V.V., inzh.; GOGOLINA, T.V., inzh.; KROTKOV, V.M., inzh.; STASHIN, Ye.A., inzh.; KUSHNER, A.P., inzh.; YERMAKOVA, P.I., inzh.; PAVLOV, R.V., inzh., red.; KASPEROVICH, N.S., red.izd-va; UVAROVA, A., tekhn. red.

[Catalog of refrigeration equipment] Katalog kholodil'nogo oborudovaniia. Moskva, Mashgiz, 1963. 186 p.
(MIRA 16:7)

1. Russia (1923- U.S.S.R.) TSentral'noye konstruktorskoye byuro kholodil'nogo mashinostroyeniya.2. TSentral'noye konstruktorskoye byuro kholodil'nogo mashinostroyeniya (for all except Kasperovich, Uvarova).
(Refrigeration and refrigerating machinery--Catalogs)

KROTKOV, V.V.; POLOSIN, V.S.

Forms of relation between teacher's words and students' activities during the experiments for the reinforcement and improvement of chemical knowledge. Uch.zap.MGPI no.225:89-94 '64.

(MIRA 18:12)

KROTKOV, V.V.; POLOSIN, V.S.

Using the combined experiments and problems in reinforcing and improving students' knowledge of chemistry. Uch.zap.MGPI no.225:128-135 '64.

Demonstration experiments on the topic "Hydrogen." Ibid.:136-139

Demonstration experiments for the reinforcement and improvement of students' knowledge of the topic "Water. Solutions" in eight-year schools. Ibid.:140-151

Experiment proving the formation of water during the neutralization reaction. Ibid.:152-155

(MIRA 18:12)

KHOTKOV, V.V. (g.Kuybyshev).

Obtaining nitric oxide from potassium nitrate and chromic oxide. Khim.v shkole no.5:64 S-O '53. (MLRA 6:9)
(Nitration)

KROTKOV, V.V. (Kuybyshev)

Automatic gas meter. Khim.v shkole 11 no.1:54-55 Ja-F '56. (Gas meters) (MLRA 9:2)

SHELINSKIY, G.I, kand.ped.nauk(Leningrad); KROTKOV, V.V.; PLETNER, Yu.V.

Useful, but poorly written book ("Chemistry made interesting" by I.I.Zaikovskii. Reviewed by G.I.Shelinskii, V.V.Krotkov, IU.V.Pletner). Khim.v shkole 14 no.5:84-87 S-O '59. (MIRA 12:12)

1. Mariyskiy pedagogicheskiy institut, g.Yoshkar-Ola (for Krotkov). 2. Kalininskiy pedagogicheskiy institut (for Pletner).

(Chemistry--Study and teaching)
(Zaikovskii, I.I.)

ROMANOV, D., kand.tekhn.nauk; KROTKOV, Ye., inzh.

Using prefabricated supports in construction in the German Democratic Republic. Sel'.stroi. 15 no.6:23 Je '60. (MIRA 13:8)

(Germany, East--Farm buildings)

NOVRUZOV, G.M.; KROTKOV, Yu.I.

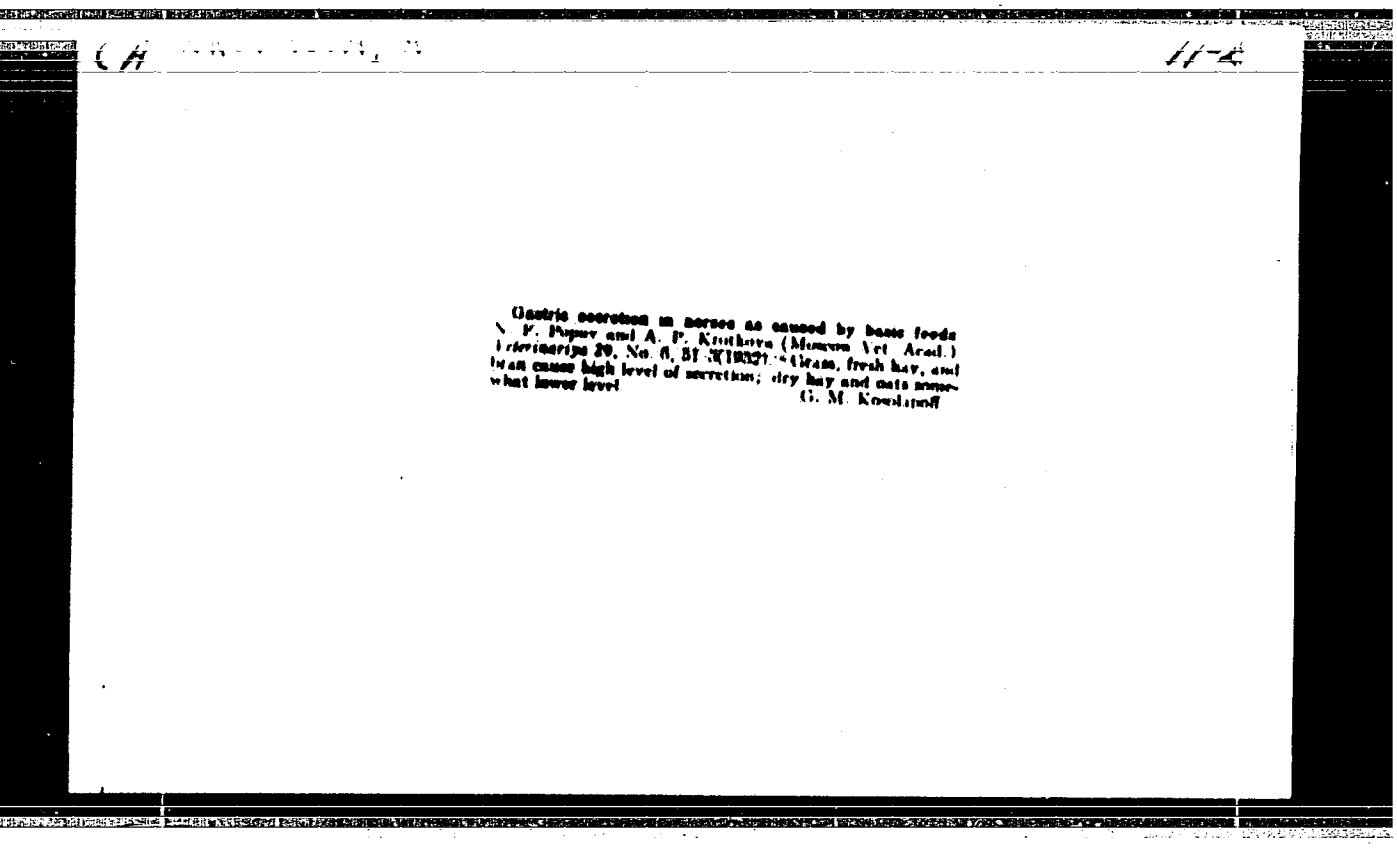
Teledynamometering of beam wells. Azerb. neft. khoz. 40 no.6:30-31 Je '61. (MIRA 14:8)

(Oil wells) (Dynamometer) (Telemetering)

KROTOV, Yu.V., kand.tekhn.nauk, dotsent (Stalinsk, Kuznetskiy basseyn)

Lateral stability of coupled arches with dual curvature. Rasch.-prostr.konstr. no.6:139-148 61. (MIRA 15:3)
(Arches)

POPOV, N. F., KROTKOVA, A. P.
"Secretory function of gastric glands of horse in feeding of animals."
SO: Vet. 25 (10) 1948, p. 32



Gastric secretion in horses as caused by basic feeds
V. Rapov and A. P. Krutkova (Moscow Vet. Acad.)
Veterinariya 29, No. 6, 31-3(1952).—Grass, fresh hay, and bran cause high level of secretion; dry hay and oats somewhat lower level
G. M. Kosolapoff

KROTKOVA, A.P.

EXCERPTA MEDICA Sec.2 Vol.10/2 Physiology, etc Feb57

734. KROTKOVA A. P. and KURILOV N. V. Dept. of Animal Physiology, Vet. Acad., Moscow. *Changes of cardiac rhythm FIZIOL. Z. 1956, 42/8 (648-652) Graphs 3 Illus. 1 (Russian text)

Morphine (1 ml. of 1% solution) decreases the heart rate of norma. dogs to 40-50 beats p.m. but after removal of the cerebral hemispheres it decreases the rate to 24-30 p.m. Two to 5 weeks after bilateral vagosection atropine (1 ml. of 0.1% solution) increases the heart rate by 82-155 p.m., as compared to an average increase of 73 beats in normal condition. Complete cardiac denervation abolishes the effect of morphine, atropine and exercise on the heart rate, and causes drastic reduction of capacity for physical work. Simonson - Minneapolis, Minn. (II,18*)

1. Kafedra fiziologii sel'skokhozyaystvennykh zhivotnykh Moskovkkoy veterinarnoy akademii.

USSR / Human and Animal Physiology. Nervous System. T-10

Abs Jour : Ref Zhur - Biologiya, No 1, 1959, No. 3874

Author : Kurilov, N. V.; Krotkova, A. P.
Inst : Moscow Institute of Veterinary Medicine
Title : Conditioned Gastric Secretion Reflex in Horses

Orig Pub : Tr. Mosk. vet. akad., 1957, 20, 150-154

Abstract : In 2 foals, an increase in gastric secretion was observed at the usual time of feeding (time reflex) in response to a mechanical distention of the stomach walls (introduction of 1.5 l of air) and as the result of showing food to hungry animals (manipulations connected with preparation for feeding). According to the author, the contradictory data in literature with respect to the presence of a conditioned gastric secretion reflex in horses should be attributed to errors in the methods of investigation. -- K. S. Ratner

Card 1/1

KROTKOVA, A. P.

USSR/Farm Animals - General Problems. G-1

Abs Jour : Ref Zhur - Biol., No 13, 1958, 59281

Author : Krotkova, A.P.

Inst : Moscow Academy of Veterinary Sciences.

Title : Effects of Feeding Sugar Beets upon the Course of Experimental Acidosis in Ruminants.

Orig Pub : Tr. Mosc. vet. akad., 1957, 20, 172-175.

Abstract : No abstract.

Card 1/1

[illegible] A.P., kand.biolog.nauk

Effect of sugar beets on acidosis in ruminants. Zhivotnovodstvo 21 no.7:63-64 Jl '59. (MIRA 12:9)

1. Moskovskaya veterinarnaya akademiya.
(Acidosis) (Sugar beets as feed) (Ruminantia)

KROTKOVA, A.P.

Method for the application of a salivary cannula in ruminating animals. Fiziol. zhur. 46 no. 5:634-635 My '60. (MIRA 13:12)

1. From the Physiology Chair of the Veterinary Academy, Moscow.
(VETERINARY SURGERY) (FISTULA)

KROTKOVA, A.P., dotsent; GOREYEV, G., aspirant

Effect of feed preparation on the course of processes in the rumen of ruminants; preliminary report. Zhivotnovodstvo 23 no.2:77-78 F '61. (MIRA 15:11)

1. Moskovskaya veterinarnaya akademiya.
(Rumen)

SHALASHOVA, Ye.S.; KROTKOVA, B.I.

Objective methods for qualitative analysis of water. Vod.i san.tekh. no.8:18-22 Ag '60. (MIRA 13:7)
(Water--Analysis)

KROTKOVA, B.I.

Effect of amidosulfonic acid on the bactericidal action of chlorine. Nauch. trudy AKKH no.22:71-80 '63. (MIRA 18:5)

BROVKOVA, E.I.

A set of master curves for calculating the effect of neighboring zones on the quasi-geoidal height and plumb line deflection in determining the effect of distant zones from Molodenskii's formulae. Trudy TSNIIGAIK no.157:109-115 '65. (MIRA 18:10)

KROTKOVA, F.G.

[Problems in rural health protection; transactions of the scientific session of the Academy of Medical Sciences of the U.S.S.R. held in Krasnodar on March 23-25, 1954.] Voprosy zdravookhraneniia na sele; trudy nauchnoi sessii Akademii meditsinskikh nauk SSSR v krasnodare 23-25 marta 1954 g. Moskva, Medgiz, 1955. 137 p. (MLRA 8:6)
(Public health, Rural)

GRISHUK, I. K.; KROTKOVA, M. A., Eng.

2. USSR (600)

4. Feed Water Purification

7. Deaerating feed water with increased pressure. Izv. VTI 21 no. 11, 1952.

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

GRISHUK, I.K., kandidat tekhnicheskikh nauk; KROTKOVA, M.A., inzhener.

Purifying feed water in a storage tank by bubbling. Elek.sta. 24 no.4: 12-16 Ap '53. (MLRA 6:5)

(Feed-water purification)

ACC NR: AP7004719 (A,N) SOURCE CODE: UR/0016/66/000/008/0151/0151

AUTHOR: Krotkova, M. R.

ORG: First Leningrad Medical Institute im. Pavlov (Leningradskiy meditsinskiy institut)

TITLE: The immunological reactivity of the organism during decreased atmospheric pressure in a pressure chamber. Report 1. Effect of decreased atmospheric pressure on the immunological condition of mice infected with typhoid and staphylococcus

SOURCE: Zh mikrobiol, epidemiol i immunobiol, no. 8, 1966, 151

TOPIC TAGS: mouse, immunology, hypoxia, staphylococcus, typhoid, bacterial disease, high pressure chamber, atmospheric pressure, infective disease

ABSTRACT: The resistance of mice to typhoid bacteria and staphylococcus was studied under conditions of decreased atmospheric pressure in a pressure chamber. The animals were vaccinated with a chemical typhoid monovaccine (0.3 ml; 30 µg of pure antigen). Infection took place on the 10—12th day after vaccination. Pressure parameters were: "altitude"—4000 m (75 m/sec) for 30 min; recovery—5 m/sec. It was found that resistance to typhoid and staphylococcus increased under these conditions; the viability of typhoid-infected mice was 1.99 times higher, while that of staphylococcus-infected mice was 2.22 times higher than that of the control group (t = 3.1 and 5.5, respectively). The postvaccination immunity index (anti-typhoid) increased to 1.99 times that of the control group (t = 4.1). To test the effects of O_2 partial

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UDC: 616.927+616.981.25]-097.3-092.9-001.12

ACC NR: AP7004719

pressure on this phenomenon, 16 mice were placed in a ten-liter jar, through which humidified O_2 was circulated at 0.4 liters/min for 15 min. Unvaccinated mice received O_2 only after infection, while vaccinated mice were exposed after vaccination and infection. Oxygen saturation took place prior to "ascent." This series showed that during O_2 inhalation, the resistance of the animals increased by 2.00—2.03 ($t = 6.0—8.9$). Postvaccination typhoid immunity was 1.99 times greater than that of the control group. The data showed that the immunological reactivity of mice increased during decreased atmospheric pressure as well as during increased oxygen saturation. However, exposure to oxygen prior to "ascent" apparently eliminated the favorable effect of decreased atmospheric pressure on the immunological condition of the organism.

SUB CODE: 06/ SUBM DATE: 17Jan66 [WA-22]

Card 2/2

KROTKOVA, N.A.

Intraorganic lymphatic system of the human stomach in polyposis. Sbor. nauch. trud. Iva. gos. med. inst. no.25:7-11 '62. (MIRA 17:5)

1. Iz kafedry normal'noy anatomii (zav. - prof. Ye.Ya. Vyrenkov) Ivanovskogo gosudarstvennogo meditsinskogo instituta (rektor - dotsent Ya.M. Romanov).

VITKOVICH, M.E.; KROTKOVA, O.O., redaktor; GRIBOVA, O.I., tekhnicheskiy redaktor

[Geography; textbook for class 4 of the elementary school. Translated from 4.ed. of Uchpedgiz of the R.S.F.S.R.) Heografiia; pidruchnyk dlia 4-ho klasu pochatkovoi shkoly. Pereklad z chetvertoho vydaniia p'ate. Kyiv, Derzhavne uchbovo-pedagog. vyd-vo "Radians'ka shkola," 1953. 151 p.
(Geography) (MLRA 8:9)

KROTKOVA, O.A.; PUZIK, K.A.

Industrial significance of finely-dispersed gold in evaluating the prospects for finding gold on the Chukchi Peninsula. Razved. i okh. nedr. 30 no.6:15-17 Je '64. (MIRA 17:10)

1. Bilibinskoye gornopromyshlennoye upravleniye.

BYELOZOROV, S.T.; KROTKOVA, O.O., redaktor; KALASHNIKOVA, O.O., tekhnichniy redaktor

[Askaniya-Nova; a manual for leaders of school excursions] Askaniia-Nova; posibnyk dlia kerivnykiv shkil'nykh ekskursii. Kyiv, Dersh.uchbovo-pedagog. vyd-vo "Radians'ka shkola," 1956. 97 p. (MLRA 10:6)

(Askaniya-Nova--Zoological gardens)

BONDARCHUK, Vladimir Gavrilovich, akademik; KROTKOVA, O.O., redaktor; LUKASH, M.M., tekhnicheskiy redaktor

[Soviet Carpathians; an outline of their geology and geography] Radians'ki Karpaty; geologo-geografichnyi narys. Kyiv, Derzh. uchbovo-pedagog. vyd-vo "Radians'ka shkola," 1957. 176 p. (MLRA 10:5)

(Carpathian Mountains--Physical geography)

KROTKOVA, V.S.

Radiation regime of the city of Kuybyshev. Sbor. rab. Kuib. gidromet. obser. no.2:5-17 '65. (MIRA 18:10)

KOCHKOVA, Ye. Ye. and [illegible]

"The Effect of Preliminary Artificial Aging on the Natural Aging Process of Low-Carbon Steel," page 50 of the book "Problems on Strength and Deformation of Metals and Alloys," released by the Moscow Engineer-Physics Inst., Mashgiz, 1954

TABCON D-342613, 24 Oct 1955

POGODINA-ALEKSEYEVA, K.M., kandidat tekhnicheskikh nauk, dotsent;
KHOTKOVA, Ye.Ye., inzhener.

Effect of preliminary artificial aging on the process of natural aging in low-carbon steel. Sbor.nauch.rab. MIFI no.8:50-58 '54. (MLRA 9:3)

(Steel--Hardening)

KHOTKOVA, Ye.Ye.

On hardness control with the aid of files. Zav.lab. 21 no.10:1270 '55. (Metals--Testing) (MLRA 9:1)

KROTKOVA, YE. YE.

Krotkova, Ye. Ye. "Investigation of the tendency of steel to aging following deformation." Min Higher Education USSR. Moscow Order of Lenin and Order of Labor Red Banner Higher Technical School imeni Bauman. Moscow, 1956. (Dissertation for the Degree of Candidate in Technical Science)

So: Knizhnaya letopis', No. 27, 1956. Moscow. Pages 94-109; 111.

KROTKOVA, YE. YE.

Category : USSR/Solid State Physics - Phase Transformation in Solid Bodies E-5

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3853

Author : Krotkova Ye. Ye., Pogodina-Alekseyeva, K.M.
Title : On a Procedure for Testing Carbon Structural Steel for Tendency to Deformation Aging

Orig Pub : Termicheskaya obrabotka metallov (MVTU, 70). M., Mashgiz, 1956, 64-76

Abstract : The conditions under which the tendency of carbon structural steel to deformation aging manifests itself most clearly are explained. These conditions are brought about by the following combination of treatments: 1) cutting specimens from the head portion of the ingot along the rolling length in a direction perpendicular to the direction of the rolling; 2) prior compression of the specimens by 10%; 3) artificial aging at 250° for 1 hour and 4) testing for impact at the temperature of the upper threshold of cold-brittleness of the steel. The authors deem it advisable to use the ratio of impact viscosity before and after aging as a measure of brittleness produced by the aging.

Card : 1/1

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 11, p 219 (USSR) SOV/137-58-11-23378

AUTHORS: Pogodina-Alekseyeva, K. M., Krotkova, Ye. Ye.

TITLE: The Effect of Actual Grain Size on Processes of Aging in MST.3 Structural Steel (Vliyaniye velichiny deystvitel'nogo zerna na stareniye stroitel'noy stali MSt.3)

PERIODICAL: V sb.: Term. obrabotka i prochnost' metallov i splavov. Moscow, Mashgiz, 1958, pp 5-18

ABSTRACT: The hardness and the a_k (resilience) of killed open-hearth MSt.3 steel of standard composition were investigated after the steel had been subjected to various forms of treatment while in a state of preliminary overheating (normalization at 1350°C for a period of 7 min), as well as after normalization at 920° which was carried out in order to obtain different grain sizes. It was established that overheating reduces the quantity of work required to fracture a specimen in an impact test to a value of 19 kgm, the difference in properties of overheated and normal steel remaining practically unaffected by various forms of heat treatment. Although, unlike fine-grained steel, the coarse-grained steel is less susceptible to brittleness resulting from

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The Effect of Actual Grain Size on Processes of Aging (cont.) SOV/137-58-11-21378

tempering, work hardening, and thermal aging, its mechanical properties are affected by strain aging to a greater degree. However, the displacement of the upper threshold of cold shortness is identical in both cases. The effects of strain aging are connected with processes of cold hardening: As the ductility diminishes during cold working, the tendency toward brittleness during subsequent aging increases.

M. G.

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KROTKOVA, Ye. Ye.

PHASE I BOOK EXPLOITATION 650

Moscow. Moskovskoye vyssheye tekhnicheskoye uchilishche. Kafedra "Termicheskaya obrabotka metallov"

Termicheskaya obrabotka i prochnost' metallov i splavov; sbornik statey (Heat Treatment and Strength of Metals and Alloys; Collection of Articles) Moscow, Mashgiz, 1958. 177 p. 5,500 copies printed.

Ed.(title page): Pogodin-Alekseyev, G.I., Doctor of Technical Sciences, Professor; Ed. (inside book): Yegorkina, L.I.; Tech. Ed.: Tikhanov, A.Ya.

PURPOSE: This book is intended for engineers and technicians in the machine-building industry, scientific workers at research institutes and industrial laboratories, and for students taking advanced courses at higher technical institutes.

COVERAGE: This collection of articles is devoted to problems of mechanization and automation of heat-treating processes and to investigations of the mechanical properties of metals and alloys as affected by their composition and by heat-treatment conditions. The experimental work was done by researchers at the Moskovskoye vyssheye tekhnicheskoye uchilishche imeni Baumana (Moscow Higher Technical Institute imeni Bauman), the Vsesoyuznyy zaochnyy politekhnicheskiy institut (All-Union Correspondence Polytechnic Institute), The L'vovskiy politekhnicheskiy institut (L'vov Polytechnic Institute), and the Stalingradskiy mekhanicheskiy institut (Stalingrad Mechanical Institute). For references and further coverage, see Table of Contents.

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Heat Treatment and Strength of Metals and Alloys (Cont.) 650

TABLE OF CONTENTS:

Author's conclusions: 1. In MSt.3 steel with a coarse grain, obtained by superheating (normalization at 1350°C. for 7 minutes) the upper threshold of cold shortness is 80° higher than in steel normalized at 920°. The energy absorbed in the fracturing of the superheated steel in the pasty state was as low as 19 kilogram-meters, while in the case of specimens normalized at 920° it exceeded 30 kg-m. The sharp difference in the properties of superheated and normalized steel is preserved even after subsequent treatment, such as cold hardening with a reduction of 10 percent, quenching at 700°, strain aging, and quench aging, although these treatments produce effects in varying degree.

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(in the case of fine-grained steel), embrittlement with subsequent aging will be less, and conversely.

Arzamasov, B.N., Candidate of Technical Sciences; Marinchev, S.G., Engineer. Increasing the Hardenability of a Shaft by Interrupted Quenching in Water 19

Author's conclusions: 1. For purposes of analyzing the cooling process in quenching, it is possible to use the method of superimposing the cooling curves on the thermokinetic diagram. 2. The hardenability of a 40Kh-steel main shaft for the transmission of the ZIL-150 automobile can be increased by interrupted quenching in water, thus rendering oil quenching unnecessary. 3. The suggested method of quenching permits full automation of the heat-treating process. (There are 2 references, both Soviet.)

Samoshin, I.G., Candidate of Technical Sciences, Docent. Automatic Unit for Heat Treating Sewing Machine Needles 28

The author describes the unit, which was designed and built at the Moscow Higher Technical School imeni Bauman. The unit, consisting of thirteen separate sections, carries out the operations of hardening, washing, and tempering. In addition to needles, it can also handle other cylindrical objects of small diameter, such as watch axles, rollers for small bearings, etc.

Kuznetsov, I.V., Engineer. Mechanization and Automation of Heat-treating Processes at 1 GPZ (Pervyy Gosudarstvennyy podshipnikovyy zavod: First State Bearing Plant)

39

According to Kuznetsov, the output of bearings greatly increased at the plant after World War II, both in actual volume and in number of types. As a result, a special office was created at the plant for designing and putting into operation more modern, efficient heat-treating equipment. Such new equipment, now in operation at the plant, includes electric hardening furnaces with vibrating floors; conveyer-type electric and gas furnaces; rotary gas and electric furnaces; shaft-type electric furnaces for carburizing, hardening, and tempering of large-sized parts; conveyer-type electric tempering furnaces; pusher-type annealing furnaces; and high- and low-temperature electric muffle furnaces. The new equipment has made possible the complete automation of heat-treating processes. Various problems of further improving heat-treating equipment are discussed.

Siduaova, O.I., Candidate of Technical Sciences. Effect of the Diameter of Tensile-test Specimens on the Mechanical Properties of [Aluminum] Alloy AL4 in Ordinary and Isothermal Heat Treating

47

It is shown that as the diameter of the specimens is increased, the tensile strength and elongation decrease, both with ordinary and isothermal heat

treating. This seeming contradiction is explained by a favorable interaction between the cooling rate and thermal stresses in the case of the small-diameter specimens. There are 2 references, both Soviet.

Pogodin-Alekseyev, G.I., Doctor of Technical Sciences, Professor; Vasil'yeva, A.G., Candidate of Technical Sciences. Strength and Plasticity of Steel in the Recrystallization Temperature Range 53

The authors describe anomalous changes in strength and plasticity which occur during the recrystallization temperature range. There are 9 references, of which 8 are Soviet and 1 is German.

Rakhshtadt, A.G., Candidate of Technical Sciences, Docent; Shur, D.M., Engineer. Properties and Heat Treatment of Alloys for Elastic Elements of Instruments 65

A highly sensitive method was developed and a device designed for testing the properties of metal diaphragms for instruments. The diaphragms tested were made of beryllium bronze, phosphor bronze, and a high-alloy steel (N36KhTYu) containing nickel, chrome, titanium, and aluminum. Tests made on the diaphragms after heat treatment showed that their properties depend strongly on the temperature and length of aging, during which a decomposition of solid solutions takes place. Aging increases hardness and the elastic limit up to a certain maximum, whose position in time depends on

the temperature of aging. Hysteresis, residual deformations, and sag are at their minimum approximately at those temperatures at which the properties associated with strength are most pronounced. Thus it is seen that these properties of the diaphragms are linked with the structure of the alloys: the higher the resistance to the development of microplastic deformations, the smaller the degree of hysteresis. On the basis of these findings, certain methods of heat treatment are recommended for diaphragms made of the alloys specified above. There are 43 references, of which 25 are Soviet, 17 English, and 1 is French.

Pogodin-Alekseyev, G.I., Doctor of Technical Sciences, Professor; Fetisova, M.M., Candidate of Technical Sciences. Change in Microstructure, Type of Fracture, Hardness, and Coercive Force of Steel in the Blue-brittle State 115

The authors' investigations led to the following conclusions:
1. The change in the type of fracture of the specimens corresponds to the change in toughness and plasticity in the blue-brittle temperature range. At testing temperatures of 100-400°C., the fracture changes from coarsely fibrous to finely fibrous. At 400° crystalline zones appear. At 525-550° the crystalline zones achieve their maximum extent, and the plane of fracture becomes "stepped", as if laminated. At higher temperatures, the fracture again becomes fibrous. 2. A microscopic study of crack distribution showed that at 525-550° the fracture ordinarily takes place along the grain boundaries, but in tough specimens it is usually transcrystalline. No substant-

ial difference in the structure of tough and brittle specimens was observed at magnifications of up to 1700 times. 3. The hardness of specimens that were impact-tested at blue-brittle temperatures and cooled to room temperature was rather high as compared with specimens tested at lower temperatures. This indicates a certain residual brittleness caused by the impact test in the 500-550° range. 4. Measurement of the coercive force of brittle and tough specimens showed no numerical difference for specimens retaining some brittleness after being heated in the blue-brittle range. Hence it is seen that the development of blue brittleness is not accompanied by a decomposition of solid solutions. 5. On the basis of the above, it would appear that the marked lowering of plasticity caused by blue brittleness is associated with a deformation process or with diffusion processes developing at elevated temperatures in the boundary layers of the grains, which processes, however, do not lead to the precipitation of dissolved constituents, but do cause embrittlement of the grain boundaries. There are 3 references, all Soviet.

Arkhipov, A.M., Candidate of Technical Sciences. Heat Treatment for Improving the Properties of Cast Iron Teemed in Metal Molds 125

Author's conclusions: 1. Temper hardening is necessary for obtaining a uniform structure along the cross section of the specimen, for increasing hardness and wear resistance, and for improving the mechanical properties of the cast iron. 2. Quenching results in an increase in hardness and a

decrease in strength. 3. Tempering at a temperature of 350-450°C. results in a uniform structure, decreased internal stresses, and mixmum possible tensile strength, together with reduced hardness. 4. Quenching of cast iron teemed in metal molds is more effective than quenching of ordinary gray iron, since in the former case the graphite inclusions, strongly affecting the mechanical properties, differ greatly in shape, size, and distribution from those in ordinary gray iron. There are 5 references, all Soviet.

Arkhipov, A.M., Candidate of Technical Sciences. Effect of Silicon Content on the Mechanical Properties of Cast Iron Teemed in Metal Molds 139

The author's investigation shows that the graphitizing action of silicon in cast iron is at its maximum when the silicon content is about 3 percent. Five heats of gray iron were studied, the specimens differing only in their silicon content (1.41%, 1.63%, 1.84%, 2.16%, and 2.37%) and in the method of casting (in permanent metal molds and in loam molds). Results showed that both tensile strength and hardness decreased as the silicon content increased, regardless of the type of mold, but that the tensile strength of the specimens cast in metal molds exceeded that of those cast in loam molds by about 1.5 percent. A linear relationship between tensile strength and silicon content was established, and an empirical formula derived for calculating the tensile strength of a specimen of known silicon content. It was established that the chilled surface

layer of castings made in permanent molds is much harder than the core of such castings, while there is much less difference in the hardness of the surface layer and core of castings made in loam molds. There are 3 references, all Soviet.

The authors studied the effects of ultrasonic vibrations on molten metal cooling in the mold. Three cases were investigated, namely, a lead-antimony alloy, a zinc-tin alloy, and pure zinc. Vibrations of 180 kc/sec were employed. In the first case a refined grain structure was produced; in the second, little effect was observed on either the macrostructure or the microstructure; and in the third case a non-dendritic macrostructure resulted, in contrast to the dendritic macrostructure of the untreated metal. There are 8 references, of which 7 are Soviet and 1 is German.

A new method is proposed for determining the energy dissipation in the vibrations of a specimen fixed at one end in a test stand designed

by S.O. Tsobkallo. The method is based on the determination of the path of motion of the specimen. The authors obtain equations that give the relationship between the elastic energy stored in the specimen, the amplitude of vibrations, the amount of energy dissipated, and the damping factor. The equations further account for the magnitude of working stresses imposed on the specimens and also determine energy dissipation per cycle, which is not obtainable ordinarily with the damping factor alone. These considerations, when applied to N36KhTYu steel, show that dissipated energy per cycle as a function of stress loading rises with increased stress, which is explained as the effect of microplastic deformation. At the same time, the higher the resistance of the metal to small plastic deformations, i.e., the higher the elastic limit, the smaller the dissipation increment. In particular, minimum values for the dissipation increment and its rate of increase are observed in specimens tested after hardening from a temperature of 950°C. and aging at 700° for 2 hours, when their elastic limit is at its maximum. There are 3 references, all Soviet.