L 65182-65 EWT(m)/EPF(c)/EWP(t)/EWP(b) [illegible] JD

ACCESSION NR: AP5021271 UR/0020/65/163/005/1113/1114

AUTHOR: Vul'fson, K. S.; Libin, I. Sh.; Chernyak, A. Sh.

TITLE: The mechanism responsible for secondary emission peaks during a pulse discharge in neon

SOURCE: AN SSSR. Doklady, v. 163, no. 5, 1965, 1113-1114

TOPIC TAGS: neon, gas discharge, pulse amplitude, plasma physics

ABSTRACT: Using a low-resistance discharger to bypass a neon gas discharge results in an additional emission pulse with an amplitude which may be twice the maximum emission of the discharge without bypassing. In a recently published paper (P. D. Johnson, T. H. Rautenberg, Jr., M. Harris, J. Appl. Phys., 35, No 4, 1128, 1964), two possible mechanisms for this phenomenon were considered: 1) population inversion in excited levels; 2) disruption of recombination conditions due to a change in the behavior of the reduction in electron temperature of the discharge. The experimental examination of these hypotheses given by Johnson et al. definitely refuted the first mechanism and did not give any evidence in favor of the second. The authors of the present work propose that the effect is due to eddy currents which

Card 1/2

L 65182-65

ACCESSION NR: AP5021271

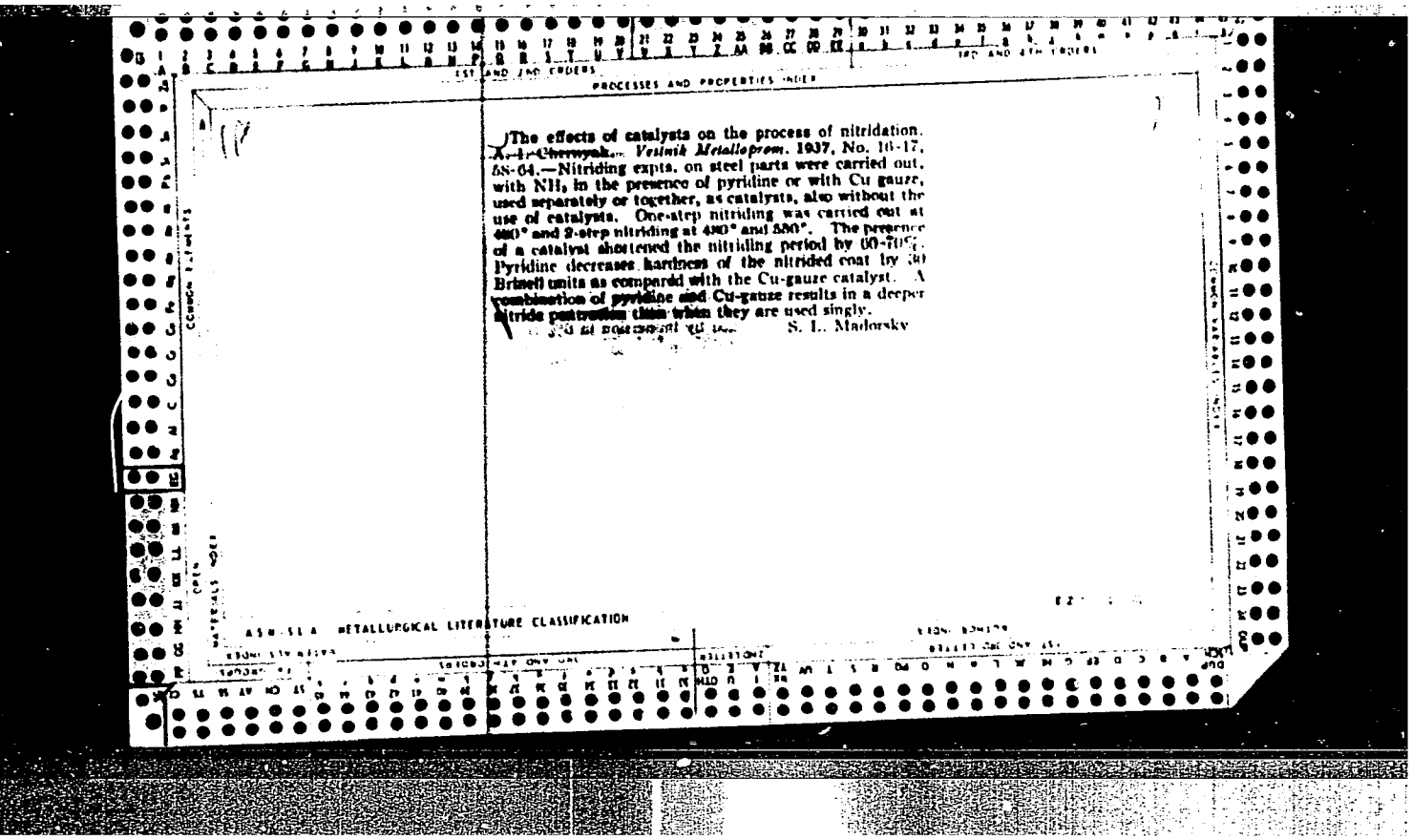
arise in the discharge plasma when there is a sharp change in the discharge current. This hypothesis was experimentally checked by the oscillograph method. It was found that any sharp change in the discharge current, [illegible] change, is always accompanied by secondary [illegible]. The amplitude of these peaks is directly related to the [illegible] change in the [illegible] current, and in certain cases is 8-10 times greater than that of the fundamental radiation peak. An inductance connected in series with the neon tube or with the bypass discharger always reduced the amplitude [illegible]. Analysis of the distribution of illumination [illegible] section of the [illegible] also confirms the new hypothesis on the [illegible] responsible for the [illegible]. This effect could possibly be used for producing extremely intense light pulses with a steep front. Orig. art. has: 2 figures.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy svetotekhnicheskiy institut (All-Union Scientific Research Institute of Lighting Engineering)

SUBMITTED: 22Jan65 ENCL: 00 SUB CODE: EM, ME

NO REF SOV: 002 OTHER: 002

Card 2/2



The effects of catalysts on the process of nitridation. A. I. Cherepak. *Vestnik Metalloprom.* 1937, No. 16-17, 58-64.—Nitriding expts. on steel parts were carried out, with NH_3 in the presence of pyridine or with Cu gauze, used separately or together, as catalysts, also without the use of catalysts. One-step nitriding was carried out at 480° and 2-step nitriding at 480° and 550°. The presence of a catalyst shortened the nitriding period by 60-70%. Pyridine decreases hardness of the nitrided coat by 30 Brinell units as compared with the Cu-gauze catalyst. A combination of pyridine and Cu-gauze results in a deeper nitride penetration than when they are used singly.

S. L. Madorsky

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

m

***The Comparative Heat Resistances of Manganese Nickel and Nickel Brasses and Their Corrosion Resistance.** A. I. Chernyak (*Metallurg*, 1940, (8), 53-55; *Khim. Referat. Zhur.*, 1941, 4, (3), 122; C.A., 1943, 37, 4673). [In Russian.] To determine the suitability of manganese nickel and nickel brasses for turbine nozzles, their tensile strength was determined at normal and at higher temperatures (up to 500° C.), and also their corrosion resistance in spray, in distilled water, and in sea water. On the basis of these experiments and of the performance of the Bergmann turbine nozzles made from a material similar in composition to nickel brass, C. concludes that these brasses can be used for turbine nozzles. Nickel brass is considerably more heat-resistant than are manganese nickel brasses.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

ZONNENBERG, S.M.; LEBEDEV, A.S.; CHERNIAK, A.Ya., inzhener, retsenzent; VVEDENSKIY, T.A., redaktor.

[Pneumatic gripping devices] Pnevmaticheskie zazhimnye prisposobleniia. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry, 1953. 159 p. (MLRA 7:6)
(Pneumatic tools) (Machinery)

CHERNYAK, A.Ya.

Book about a great Russian metallurgist ("P.P. Anosov and the secret of damask steel." I.N. Bogachev. Reviewed by A. Ya. Cherniak). Vest.mash. 33 no.5:88-89 My '53. (MLRA 6:5)

(Anosov, P.P., 1799-?) (Bogachev, I.N.)

CHERNYAK, A. YA.

BUCHENKOV, Aleksey Nikolayevich; IVANOVA, L.M., redaktor; CHERNYAK, A.Ya., redaktor; KHELEMSKAYA, L.M., tekhnicheskiy redaktor

[Soviet metallurgy; on the 40th anniversary of the Great October Socialist Revolution. A bibliography] Metallurgiia SSSR; k 40-letiiu Velikoi Oktiabr'skoi sotsialisticheskoi revoliutsii. Rekomendatel'nyi ukazatel' literatury. Moskva, 1957. 39 p. (MLRA 10:10)

1. Moscow. Publichnaya biblioteka
(Bibliography--Metallurgy)

CHERNYAK, A. YA.

PHASE I BOOK EXPLOITATION 501

Moscow. Publichnaya Biblioteka

Mashinostroyeniye SSSR; rekomendatel'nyy ukazatel' literatury (Machine Building in the USSR; Recommended Reading List) Moscow, 1957. 61 p. 8,000 copies printed.

Additional Sponsoring Agency: Moscow. Tsentral'naya politekhnicheskaya biblioteka

Compiler: Reshetinskiy, I.I.; Eds.: Kaufman, I.M., Molchanova, N.S., and Chernyak, A. Ya.; Tech. Ed.: Khelemskaya, L.M.

PURPOSE: This bibliographic guide is published to acquaint Soviet readers with important stages in the development of socialist machine building during the 40 years of Soviet rule as reflected in the literature. The guide may be of use to propagandists and lecturers.

COVERAGE: The first chapter enumerates V.I. Lenin's works and the documents and materials of the Communist Party and the Soviet government containing important resolutions on the role

Card 1/4

Machine Building in the USSR; Recommended Reading List 501

and importance of heavy industry, including machine building, in the building up of socialism and communism. Subsequent chapters enumerate literature on technical progress in machine building, mechanization and automation of production processes, and new methods in machine building technology. The last chapter lists literature on the most important achievements of different branches of the machine building industry.

TABLE OF CONTENTS:

Card 2/4

Card 3/4

AVAILABLE: Library of Congress

VK/ksv
8-15-58

Card 4/4

CHERNYAK A. YA.

~~ITENBERG, ILYA SAMUILOVICH~~

N/5
917
.U11R

Aleksandr Ul'yanov, 1866-1887, by B. S. Itenberg & A. Ya. Chernyak. Kadkva, Gospolitizdat, 1957.
70 p. Illus., Ports.

SOV/137-58-9-18218

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 1 (USSR)

AUTHOR: Chernyak, A. Ya.

TITLE: New Documentation on P. P. Anosov (Novyye dokumenty o P. P. Anosove)

PERIODICAL: V sb.: Vopr. istoriii yestestvozn. i tekhn. Nr 4. Moscow, AN SSSR, 1957, pp 184-186

ABSTRACT: In the Central State Historical Archive in Leningrad new documents were discovered which broaden the information available on the work of the outstanding Russian scientist, directed at the solution of a number of the most important problems of metallurgy. P. P. Anasov had briliantly solved the problem of obtaining high-quality steel on an industrial scale. While in England and in other countries cast steel was produced by a lengthy and work-consuming method of remelting cemented Fe ingots, Anosov combined the melting process with the process of carburizing Fe in a gaseous medium. Also solved was the problem of substitution of cast steel in cannon for cast iron and bronze. In 1836, for the first time in the world, P.P. Anosov conducted experiments on the rolling of steel ingots, instead of forging. S. G.

Card 1/1

1. Metallurgy--USSR 2. Scientific personnel

KRASTING, N.I.; CHERNYAK, A.Ya., red.; VASIL'YEVA, L.P., tekhn.red.

[Atomic ships and ships with underwater fins; bibliography] Krylatye i atomnye suda; rekomendatel'nyi obzor literatury. Moskva, Tsentr. politekhn. biblioteka, 1958. 19 p. (Novosti tekhniki, no.15) (MIRA 11:12)
(Bibliography--Atomic ships) (Bibliography--Ships)

CHERNYAK, A.YA.

30(4) PHASE I BOOK EXPLOITATION SOV/2799

Moscow. Publichnaya biblioteka. Nauchno-metodicheskiy kabinet vedeniya

Nauchno-tekhnicheskiye znaniya-v massy; sbornik materialov v pomoshch' massovym bibliotekam (Scientific and Technical Knowledge for Everyone; Collection of Materials for the Aid of Public Libraries) Moscow, 1958. 196 p. Errata slip inserted. 15,000 copies printed.

Compilers: G. S. Multanovskaya and V. V. Neyman; Ed.: D. Yagodina, Candidate of Pedagogical Sciences; Tech. Ed.: L. M. Khelemskaya.

PURPOSE: This book is intended for librarians.

COVERAGE: This collection of articles reviews popular scientific and technical literature to aid public library workers in disseminating science information to the reading public. The role and significance of principal industries

Card 1/4

in the technological development of the USSR are covered. The last two articles describe the experience of individual libraries in promoting popular-science books. The appendix gives a list of bibliographic aids for popular-science literature. No personalities are mentioned.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress (Z7911 .M58)

Card 4/4

JG/mmh
1-6-60

LEVSHINA, Ol'ga Nikolayevna; RZHONSNITSKIY, B.N., kand.tekhn.nauk, nauchnyy red.; CHERNYAK, A.Ya., red.; VASIL'YEVA, L.P., tekhn.red.

[Automation of production is the main trend in technological progress; review of recommended literature] Avtomatizatsiia proizvodstva - glavnoe napravlenie tekhnicheskogo progressa; rekomendatel'nyi obzor literatury. Moskva, Gos.biblioteka im. V.I.Lenina, 1960. 34 p. (MIRA 13:6)
(Bibliography--Automation) (Automation--Bibliography)

BUYKO, Iya Dmitriyevna; CHZHAO, Aleksandr Yevgen'yevich; CHERNYAK, A.Ya., red.; VASIL'YEVA, L.P., tekhn. red.

[New machinery and equipment in agriculture; recommended literature] Novaia tekhnika v sel'skom khoziaistve; rekomendatel'nyi obzor literatury. Moskva, Gos. biblioteka SSSR im. V.I.Lenina, 1961. 38 p. (Novosti nauki i tekhniki, no.26) (MIRA 14:8)
(Bibliography—Farm mechanization)

SAMOKHVALOVA, Lidiya Sergeyevna; CHERNYAK, A.Ya., red.; VASIL'YEVA, L.P., tekhn. red.

[New equipment in medicine; recommended review of the literature] Novaia tekhnika v meditsine; rekomendatel'nyi obzor literatury. Moskva, Gos. biblioteka SSSR im. V.I.Lenina, 1961. 33 p. (Novosti nauki i tekhniki, no.20) (MIRA 14:11)
(BIBLIOGRAPHY--MEDICAL INSTRUMENTS AND APPARATUS)
(BIBLIOGRAPHY--MEDICINE) (BIBLIOGRAPHY--PUBLIC HEALTH)

SAMOKHVALOVA, Lidiya Sergeyevna; CHERNYAK, A.Ya., red.; VASIL'YEVA, L.P., tekhn.red.

[Accomplishments of Soviet power engineering] Dostizheniia sovetskoi energetiki; rekomendatel'nyi ukazatel' literatury. Moskva, Gos.biblioteka SSSR im. V.I.Lenina, 1961. 39 p. (MIRA 14:4)

(Bibliography--Electric power)

MOLCHANOVA, Nina Sergeyevna; CHERNYAK, Aron Yakovlevich; SHALASHOVA, Zoya Petrovna; VASIL'YEVA, L.P., tekhn. red.

[Soviet people are conquerors of space; survey of recommended literature] Sovetskii narod - pobeditel' kosmosa; rekomendatel'nyi obzor literatury. Moskva, Gos. biblioteka SSSR im. V.I.Lenina, 1961. 28 p. (MIRA 15:7)
(Bibliography--Space flight)

LEVSHINA, O.N.; MOLCHANOVA, N.S.; CHERNYAK, A.Ya., red.; MAMONTOVA, N.N., tekhn. red.

[Building the material and technical basis of communism; bibliography of recommended literature] Za sozdanie material'no-tekhnicheskoi bazy kommunizma; rekomendatel'nyi ukazatel' literatury. Moskva, 1963. 179 p. (MIRA 16:11)

1. Moscow. Publichnaya biblioteka.
(Russia--Industries--Bibliography)
(Bibliography--Russia--Industries)

CHERNYAK A.Ya. (Moskva)

New documents on a great crystallographer: Academician E.S.Fedorov and Granat's "Encyclopedical dictionary." Priroda 53 no.7:103-104 '64. (MIRA 17:7)

L 40955-66 EWT(m)/EWP(k)/T/EWP(v)/EWP(t)/ETI IJP(c) JH/JD HM/HW

ACC NR: AT6024927 SOURCE CODE: UR/2981/66/000/004/0175/0186

52

48

AUTHOR: Pospelov, K. S.; Chernyak, A. Ya.; Sverdlin, A. V.

B+1

ORG: none

TITLE: Mechanical properties of V92Ts high-strength aluminum alloy semi-products and welds

SOURCE: Alyuminiyevyye splavy, no. 4, 1966. Zharoprochnyye i vysokoprochnyye splavy (Heat resistant and high-strength alloys), 175-186

TOPIC TAGS: aluminum alloy, zirconium containing alloy, metal property, metal weld, metal welding, weld property /V92Ts aluminum alloy

ABSTRACT: The mechanical properties of V92Ts-alloy extruded shapes, forgings, and welds were tested. All articles tested were made under production conditions, solution annealed at 450C for 6 hr, water-quenched, and aged either naturally or artificially. It was found that artificial aging at 100C for 96 hr produced the highest strength (tensile strength, 47.8—53.1 kg/mm^2; yield strength, 34.8—45.6 kg/mm^2; at elongation, 10.8—17.6%). Articles artificially aged at 60C for 24 hr and then at 200C for 2 hr had the lowest strength (tensile strength, 38.5—43.7 kg/mm^2; yield strength, 23.8—30.9 kg/mm^2; at elongation, 11.4—16.4%). The optimum welding conditions were determined as follows: welding current, 140—160 amp (alternating current); tungsten electrode diameter, 3 mm; filler

Card 1/2

L 40955-66
ACC NR: AT6024927

4

wire diameter, 3—3.5 mm. Joints welded with V92 sv wire had a tensile strength of 32.7—34.8 kg/mm^2, a yield strength of 32.7—34.2 kg/mm^2, and an elongation of 10.7—14.7%. The joints welded with AMg6 and AMg4 wires (the latter containing zirconium and chromium) had a low tensile strength of 27.1—31.2 kg/mm^2, a yield of 26.6—30.6 kg/mm^2, but a high elongation of 20.0—24.7%. Orig. art. has: 2 figures and 7 tables.

[TD]

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 002/ ATD PRESS: 5056

Card 2/2

VAL'BERG, G.S.; CHERNYAK, A.Ye.; Prinimala uchastiye PIVEN', N.I.

Making a clinker roasting plant with a productive capacity of 75 tons per hour for the dry method of preparing raw material. Trudy IUzhgiprotsementa no.4:3-19 '63. (MIRA 17:11)

VAL'BERG, G.S.; LEVITOVA, S.L.; CHERNYAK, A.Ye.; SATARIN, V.I.; Prinimali uchastiye: AFANASENKO, G.T., inzh.; MISHULOVICH, A.L., inzh.; PIVEN', N.I., inzh.

Principal dimensions, profile, and heat engineering parameters for a rotary kiln with a productive capacity of 3000 tons per day. Trudy IUzhgiprotsementa no.4:20-39 '63.

(MIRA 17:11)

CHERNYAK, A.Z. . . .

CHERNYAK, A.Z.

Variations in the course of Pick's disease [with summary in French]. Zhur.nevr. i psikh. 57 no.4:524-532 '57. (MLRA 10:7)

1. Moskovskaya psikhonevrologicheskaya gorodskaya bol'nitsa No.3: (glavnyy vrach N.N.Krylova)
(PSYCHOSES, PRESENILE, case reports, Pick dis., variations of course (Rus))

VAL'DGARD, Sergey Leonidovich; CHERNYAK, B.A., nauchnyy red.; DEMINA, G.A., red.; PERSON, M.N., tekhn. red.

[Electric engineering made interesting] Zanimatel'naia elektrotekhnika. Moskva, Vses. uchebno-pedagog. izd-vo Proftekhizdat, 1961. 273 p. (MIRA 14:5)
(Electric engineering)

CHERNYAK, B. I.

GOLOVKIN, N.A., doktor tekhnicheskikh nauk; CHERNYAK, B.I., inzhener.

Ultraviolet irradiation of milk. Trudy LTIKHP 7:29-34 '55.
(MLRA 10:9)

1. Kafedra kholodil'noy tekhnologii i kafedra fizicheskoy i kolloidnoy khimii.
(Ultraviolet rays) (Milk--Sterilization)

GOLOVKIN, N.A., prof., doktor tekhn.nauk; CHERNYAK, B.I., inzh.

Effect of irradiated milk as a medium upon the activity of lactice bacteria. Trudy LTIKHP 13:3-6 '57.
(MIRA 13:6)

1. Kafedra kholodil'noy tekhnologii i fizicheskoy i kolloidnoy khimii Leningradskogo tekhnologicheskogo instituta kholodil'noy promyshlennosti.
(MILK--BACTERIOLOGY)

CHERNYAK, B. I., CHERVINSKAYA, N. S., KNYAGINICHEV, M. I., and LYAPUNOVA, G. M. (USSR)

"The Change in the Properties of Starch under the Influence of Humidity and Temperature."

Report presented at the 5th International Biochemistry Congress, Moscow, 10-16 Aug 1961

CHERNYAK, B.I.; KUCHER, R.V.; NIKOLAYEVSKIY, A.N.

Liquid-phase oxidation of butene-1. Neftekhimia 4 no.3:452-457 My-Je '64. (MIRA 18:2)

L 36475-65 EPF(c)/EWT(m) Pr-4 MM

ACCESSION NR: AP5010005 UR/0204/64/004/004/0576/0583

AUTHOR: Chernyak, B. I.; Kucher, R. V.

TITLE: Mechanism of the liquid phase oxidation of butene-1

SOURCE: Neftekhimiya, v. 4, no. 4, 1964, 576-583

TOPIC TAGS: hydrocarbon, oxidation, reaction mechanism, organic oxide, chemical mechanics, activation energy

Abstract: The liquid phase oxidation of butene-1 was investigated with inhibition by beta-naphthol. The liquid phase oxidation was found to be a degenerate-branched chain reaction, autocatalysis of which was due to accumulation of peroxide compounds, readily inhibiting new reaction chains. Activation energies were calculated: initiation of the process of the initial stage (39.3 kcal/mole), in the developed reaction (25.3 kcal/mole), and activation energy of chain propagation (9.2 kcal/mole). The formation and consumption of peroxides and oxides proceeded according to a chain mechanism; methylvinylcarbinol was formed by a chain mechanism and partially consumed by a molecule mechanism (esterification reaction). Acid formation proceeded through ketohydroperoxides. The basic reaction of chain consumption of butene-1 during its liquid phase oxidation consisted of interaction of the

Card 1/2

L 36475-65

ACCESSION NR: AP5010005

peroxy radical with the double bond of the olefin, producing an alkylalkene peroxide radical, and leading to the formation of an alphaoxide. A general scheme is proposed for the liquid phase oxidation of butene-1. Orig. art. has 12 formulas, 8 graphs, and 3 tables.

ASSOCIATION: none

SUBMITTED: 05Nov63 ENCL: 00 SUB CODE: GC, OC

NO REF SOV: 015 OTHER: 009 JPRS

Card 2/2

KUCHER, R.V.; CHERNYAK, B.I.

Some characteristics of the mechanism underlying a liquid-phase oxidation of butene in the presence of alkalies. Dokl. AN SSSR 160 no.4:835-836 F '65. (MIRA 18:2)

1. Submitted July 23, 1964.

CHERNYAK, B.S.; ROZENBLAT, E.Z.

Improving the technology of making forged pieces of pipe billets from Kh18N10T and OKh18N10T stainless steels. Kuz.-shtam.proizv. 7 no.2:43 F '65. (MIRA 18:4)

CHERNYAK, B.

Repairing pipelines by the use of epoxy resins. Mor. flot 25 no.11:29-30 N '65. (MIRA 18:11)

1. Starshiy mekhanik teplokhoda "Gyurgyan".

S/113/60/000/002/005/009
D207/D306

AUTHORS: Zolotarevskiy, V. S., Candidate of Technical Sciences, Chernyak, B. Ya., Sharapov, K. A., Zolotarevskiy, L. S. and Dmitriyev, A. A.

TITLE: A new piezoelectric crystal pickup

PERIODICAL: Avtomobil'naya promyshlennost', no. 2, 1960, 32-33

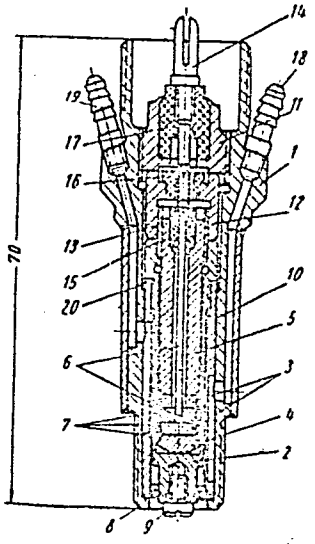
TEXT: The Laboratoriya dvigateley AN SSSR (Engines Laboratory, AS USSR) has developed the ЛДК-03 (LDK-03) piezoelectric crystal pickup for use with a cathode-ray oscillograph in studying the working process of piston engines.(illustrated below). The case 1 contains a thin-walled brass socket 2, inside which are contained the crystal plates 3, the lower spherical support 4, the upper support 5 and the charge tapping system 6. The crystal plates are centered by rings 7. At the bottom of the pickup is fixed a corrugated steel membrane 8 fastened to the socket 2 by a screw 9. The membrane is packed down by an intermediate pressure bush 10 and a female screw 11. The latter also serves as a tapping contact and

Card 1/4

A new piezoelectric crystal pickup

S/113/60/000/002/005/009
D207/D306

secures the pickup parts in the case. The nut 12 fixes the upper support 5 in the socket 2 and transmits the pressure of the screw 11 via the thick part of the socket to the pressure bush 10. The electric charge developed by the crystals is led off via the tapping system 6, the spring 13 and the contact rod 14. Insulation is effected by three amber collars 15, 16 and 17. The pickup is cooled by running water which enters by the inlet tube 18 and proceeds via channels in the case and pressure bush directly to the membrane and hence to the outlet tube 19. A rubber ring 20 prevents the water from penetrating to the electrical tapping system. The pickup is not affected by cyclic temperature changes in the engine cylinder since the corrugated form of the steel membrane compensates linear changes due to temper-



Card 2/4

ature. The pickup can pass oscillations up to a limit of 8,000 - 10,000 cycles. No characteristic distortion of the indicator diagram due to the pickup's relatively high frequency of natural oscillations in a transverse direction (25,000 - 30,000 cycles) could be observed even at engine revolutions of 4,500 rpm. To ensure linear indicating characteristics the crystal elements are compressed beforehand with the help of the brass socket. The pickup's high degree of sensitivity depends on: 1) the high coefficient of the membrane which reaches 0.7; 2) the low degree of membrane rigidity due to its thinness (0.15-0.20 mm) and corrugation; 3) the low relation between the longitudinal rigidity of the socket walls and that of the central power line (supports and crystal elements) due to the thinness of the socket walls (0.2 mm). The pickup's dimensions are: length 70 mm maximum, diameter of the threaded insert end 14 mm, case diameter 18 mm. The pickup has proved highly reliable, stable and accurate. Used in conjunction with the Engines Laboratory's indicator calibration method it ensures accurate indication with an error of no more than 2-3%. The pickup is presently used in all engine indication work at the Laboratory and can be

S/113/60/000/002/005/009
D207/D306

A new piezoelectric crystal pickup

recommended for commercial series production. There is 1 figure and 1 Soviet-bloc reference.

ASSOCIATION: Laboratoriya dvigateley, AN SSSR (Engines Laboratory, AS USSR)

Card 4/4

SHIKUNINA, N.M.; ZOLOTAREVSKIY, V.S., kand.tekhn.nauk; CHERNYAK, B.Ya.

Increasing the economic efficiency of a carburetor engine operating on partial loads. Avt.prom. no.12:9-12 D '60. (MIRA 13:12)

1. Laboratoriya dvigateley AN SSSR.
(Automobiles--Engines)

CHERNYAK, B.Ya.; ANDREYEV, V.I.; MARKOV, V.P.

Nonuniform mixture distribution in the cylinders of carburetor engines. Avt. prom. no. 1:29-31 Ja '61. (MIRA 14:4)

1. Laboratoriya dvigateley AN SSSR.
(Automobiles--Engines--Combustion)

CHERNYAK, B.Ya.; KAREL'SKIY, V.I.

Methods of determining the nonuniform composition of mixtures in various cylinders of carburetor engines. Trudy Inst. dvig. no.6: 140-152 '62. (MIRA 16:5)

(Automobiles—Engines—Carburators)
(Automobile exhaust gases—Testing)

L 44220-66 EWT(d)/EWT(m)/EWP(f)/T-2
ACC NR: AP6019753 (A) SOURCE CODE: UR/0113/66/000/006/0001/0004

AUTHOR: Morozov, K. A. (Candidate of technical sciences); Chernyak, B. Ya. (Candidate of technical sciences)

ORG: Moscow Automobile and Highway Institute (Moskovskiy avtomobil'no-dorozhnyy institut)

TITLE: Power-characteristics improvement in carburetor engines by tuning the exhaust systems

SOURCE: Avtomobil'naya promyshlennost', no. 6, 1966, 1-4

TOPIC TAGS: engine exhaust system, ~~vehicle engineering, automotive industry~~ piston engine

ABSTRACT: Exhaust systems as a factor affecting the power of automobile engines are discussed. Exhaust-system tests on serial-production engines of the Fiat 1500, BMW 1500, on experimental four-cylinder engines from the Gorkiy Automobile Plant, and on engines from the Moscow Compact Automobile Plant showed that the use of vibratory processes in exhaust systems improve gas exchange and increase volumetric efficiency. A paired exhaust system increases engine power 5 to 6%. Power increase depends upon the length of the divided exhaust line. In compact automobiles the divided exhaust system will improve economy even without a muffler. Orig. art. has: 6 figures. [WH]

SUB CODE: 21/ SUBM DATE: none/ ORIG REF: 001/ OTH REF: 001

Card 1/1 MT

CHERNYAK, B.Z.

ACHERKAN, N.S., doktor tekhnicheskikh nauk, professor, redaktor;
BELYAYEV, V.N., kandidat tekhnicheskikh nauk, dotsent;
BIDERMAN, V.L., kandidat tekhnicheskikh nauk; BOROVICH, L.S., kandidat tekhnicheskikh nauk; GASHINSKIY, A.G., inzhener; GORODETSKIY, I.Ye., doktor tekhnicheskikh nauk, professor; IVANOV, B.A., doktor tekhnicheskikh nauk, professor; KOLOMIYTSEV, A.A., kandidat tekhnicheskikh nauk, dotsent; KRAGEL'SKIY, I.V., doktor tekhnicheskikh nauk, professor; MAZYRIN, I.V., inzhener; NIKOLAYEV, G.A., doktor tekhnicheskikh nauk, professor; PETRUSEVICH, A.I., doktor tekhnicheskikh nauk; POZDNYAKOV, S.N., dotsent; PONOMAREV, S.D., doktor tekhnicheskikh nauk, professor; PORTUGALOVA, A.A., kandidat tekhnicheskikh nauk; PRONIN, B.A., kandidat tekhnicheskikh nauk; RESHETOV, D.I., doktor tekhnicheskikh nauk, professor; RESHETOV, L.N., doktor tekhnicheskikh nauk, professor; SAVERIN, M.A., doktor tekhnicheskikh nauk, professor; SAVERIN, M.M., kandidat tekhnicheskikh nauk; SLOBODKIN, M.S., inzhener; SPITSYN, N.A., doktor tekhnicheskikh nauk, professor; STOLBIN, G.B., kandidat tekhnicheskikh nauk, dotsent; UMNOV, V.A., inzhener; CHERNYAK, B.Z., kandidat tekhnicheskikh nauk; SHCHEDROV, V.S., kandidat tekhnicheskikh nauk, dotsent.

[Machine parts; collection of materials on calculation and design in two volumes] Detali mashin; sbornik materialov po raschetu i konstruirovaniiu v dvukh knigakh. Izd.2. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit.i sudostroit.lit-ry. Vol. 2. 1953. 560 p. (MLRA 6:12)

(Machinery--Design)

CHERNYAK, B.Z.

DAVLETBAYEV, G.G., kandidat tekhnicheskikh nauk; CHERNYAK, B.Z., kandidat tekhnicheskikh nauk.

Investigating rubber packings used as bearing joints. [Trudy] TSNIITMASH no.78:173-207 '56. (MLRA 10:1)
(Packing (Mechanical engineering)) (Friction)

CHERNYAK, B.Z.

25(1) PHASE I BOOK EXPLOITATION SOV/3284

Butenko, N. L., Engineer, L. D. Ginzburg-Shik, Engineer, K. S. Yevtyukhov, Engineer, V. A. Krylov, Engineer, I. I. Mikheyev, L. M. Khinkis, Engineer, B. Z. Chernyak, Candidate of Technical Sciences, and V. N. Yakovlev, Engineer.

Spravochnik po montazhu zavodskogo oborudovaniya (Handbook on Assembling and Installation of Plant Equipment) Moscow, Mashgiz, 1959. 828 p. Errata slip inserted. 20,000 copies printed.

Ed. (Title page): V. N. Yakovlev, Engineer; Ed. (Inside book): O.A. Molyukov, Engineer; Tech. Ed.: A. Ya. Tikhanov; Managing Ed. for Handbook Literature (Mashgiz): I. N. Monastyrskiy, Engineer.

PURPOSE: This book is intended for technical personnel engaged in the installation and erection of industrial equipment.

COVERAGE: The book contains a set of instructions and engineering data on equipment, devices, and tools used in the installation and erection of industrial equipment and machinery. Installation

Card 1/4

CHERNYAK, B.Z.

GOROZHANKIN, A.N., kand.tekhn.nauk; NOVITSKIY, V.K., kand.tekhn.nauk; KRYANIN, I.R., doktor tekhn.nauk; IODKOVSKIY, S.A., kand.tekhn. nauk; LADYZHENSKIY, B.N., kand.tekhn.nauk; MIL'MAN, B.S., kand.tekhn. nauk; KLOCHNEV, N.I., kand.tekhn.nauk; TSYPIN, I.O., kand.tekhn. nauk; LEVIN, M.M., kand.tekhn.nauk; BALDOV, A.L., inzh.; LYASS, A.M., kand.tekhn.nauk; CHERNYAK, B.Z., kand.tekhn.nauk; ASTAF'YEV, A.A., kand.tekhn.nauk; YERMAKOV, K.A., inzh.; GRIBOYEDOV, Yu.N., kand.tekhn.nauk; MYASOYEDOV, A.N., inzh.; BOGATYREV, Yu.M., kand. tekhn.nauk; UNKSOV, Ye.P., doktor.tekhn.nauk, prof.; SHOFMAN, L.A., kand.tekhn.nauk; PERLIN, P.I., inzh.; MOSHNIN, Ye.N., kand.tekhn. nauk; PROZOROV, L.V., doktor tekhn.nauk; CHERNOVA, Z.I., tekhn. red.

[Some technological problems in the manufacture of heavy machinery] Nekotorye voprosy tekhnologii tiazhelogo mashinostroeniia. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry. Part 1. [Steel smelting and casting; founding, heat treatment; shaping metals by pressure] Vyplavka i razlivka stali; liteinoe proizvodstvo, termicheskaia obrabotka, obrabotka metallov davleniem. 1960. 266 p. (Moscow. Tsentral'nyi nauchno-issledovatel'skii institut tekhnologii i mashinostroeniia. [Trudy] no. 98). (MIRA 13:7)
(Steel) (Founding) (Forging)

CHERNYAK, B.Z.

"Mechanization and automatization of casting in metal molds" by N.P. Dubinin. Reviewed by B.Z. Cherniak. Lit. proizv. no. 8:48 Ag '60. (MIRA 14:2)

(Foundries—Equipment and supplies)
(Dubinin, N.P.)

CHERNYAK, D. A.

USSR /Chemical Technology. Chemical Products and Their Application I-15

Treatment of solid mineral fuels

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31820

Author : Chernyak D. A.

Title : Industrial Coking of Transcaucasian Coal

Orig Pub: Koks i khimiya, 1956, No 4, 3-8

Abstract: Report of the results of coking of mixtures of Tkvarchel'skiy and Tkibul'skiy coal, and also of their mixtures with Donets coal, in Dinas brick furnaces of PVR-51 type. The high ash content of coke obtained from Transcaucasian coal varieties is noted (A^c = 19.0-19.9%); addition of Donets coal to the batch lowers the ash content of coke but increases (by almost twice) its

Card 1/2

USSR /Chemical Technology. Chemical Products and Their Application

Treatment of solid mineral fuels

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31820

sulfur content. It is reported that notwithstanding its high ash content coke from Transcaucasian coal can be utilized as metallurgical coke, but it is necessary to resort to a more thorough concentration of these coal varieties, and to study the conditions of coking in order to eliminate sponge formation.

CHERNYAK, D.A.; BURSHTEYN, M.D.; LIKHOGUB, Ye.P.

Distribution of burners in ovens of the PVR type. Koks i khim. no. 8:25-27 '56. (MIRA 10:1)

1. Teplotekhnstantsiya.
(Coke ovens)

Chernyak, D.A.

68-8-9/23

AUTHORS: Chernyak, D.A., Labutin-Gorskiy, Yu.V., and Kaufman, A.A.

TITLE: From the Experience of Replacing Brick Checkers by Shaped Checkers on Coke Ovens of the Kaliningrad Coke Oven Works. (Opyt zameny bruskovoy nasadki na fasonnuyu na koksovykh pechakh Kaliningradskogo Koksogazovogo Zavoda).

PERIODICAL: Koks i Khimiya, 1957, No.8, pp. 27-28 (USSR)

ABSTRACT: In view of insufficient draught, brick checker work in regenerators of the above coke ovens was replaced by shaped checkers. This was done without stopping the oven operation and without any decrease in the output. The procedure adopted is described. There are 2 tables and 1 figure.

ASSOCIATIONS: Kaliningrad Coke Oven Works (Kaliningradskiy Koksogazovyy Zavod) and Teplotekhstantsiya.

AVAILABLE: Library of Congress

Card 1/1

AUTHOR: Chernyak, D.A.

TITLE: Comments on the Paper of R.Z. Lerner "On Changes in the Composition of the Coke Oven Department for a Considerable Increase in the Number of Coke Ovens in a Battery". (Otkliki na statyu R.Z. Lernera "Ob izmenenii komponovki koksovogo tsekha dlya znachitel'nogo uvelicheniya chisla pechey v batareye".) 68-1-11/21

PERIODICAL: Koks i Khimiya, 1957, No.1, pp. 36 - 37 (USSR)

ABSTRACT: The original paper proposing building of coke oven batteries each containing 100 ovens was published in Koks i Khimiya, 1956, No.4. The present author agrees with the postulates stated in the paper and criticises S.G. Grebshteyn who, in his remarks on Lerner's paper (published in Koks i Khimiya, 1956, No.4), disagreed with those postulates.

ASSOCIATION: Teplotekhstantsiya.

AVAILABLE: Library of Congress

Card 1/1

68-58-5-14/25

AUTHORS: Belinskiy, S.B., Chernyak, D.A., Labutin-Gorskiy, Yu.V., Kaufman, A.A. and Torchitsa, A.B.

TITLE: Group Repairs of Coke Ovens (Gruppovoy remont kamer koksovykh pechey)

PERIODICAL: Koks i Khimiya, 1958, Nr 5, pp 49 - 52 (USSR).

ABSTRACT: A partial rebuilding of coke ovens in groups without interrupting the production of remaining ovens is described in some detail. There are 2 figures.

ASSOCIATION: Kaliningradskiy koksogazovyy zavod (Kaliningrad Coke and Gas Works), Teplotekhstantsiya and Koksokhimmontazh

Card 1/1

SUDAKOVA, I.M.; PETROVSKAYA, E.S.; CHERNYAK, E.K.

Reproduction of nematodes representing the cotton nematode fauna in laboratories and the study of possible reproduction of nematodes of various taxonomic groups on fungi and plant seedlings. Trudy Gel'm. lab. 16:131-136 '65.
(MIRA 19:2)

CHERNYAK, E.N.

Organizing the control of fungous diseases in rural area.
Sbor.nauch.rab.Bel.nauch.-issl.kozhno-ven. inst. 4:299-304 '54
(MIRA 11:7)

(WHITE RUSSIA--MEDICAL MYCOLOGY)

CHERNYAK, E.N., ROMANOVSKAYA, N.Yu.

Fungous diseases in White Russia. Sbor.nauch.rab.Bel.nauch.-issl. kozhno-ven. inst. 4:305-308 '54 (MIRA 11:7)
(WHITE RUSSIA--MEDICAL MYCOLOGY)

DYLO, P.V., CHERNYAK, E.N., BASHMAKOVA, S.M., ROMANOVSKAYA, N.Yu., KLADNITSKAYA, T.L., GRINGAUZ, M.Ya.

Some causes for the unsatisfactory decline in the incidence of gonorrhea and ways in which they may be eliminated. Sbor.nauch. rab.Bel.nauch.-issl.kozhno-ven. inst. 4:309-314 '54 (MIRA 11:7)
(GONORRHEA)

GORBULVE, S.S., CHERNYAK, E.N.

Results of treating syphilis patients according to the systems used in 1948 and 1949-1951. Sbor.nauch.rab.Bel.nauch.-issl. kozhno-ven.inst. 4:315-319 '54 (MIRA 11:7)
(SYPHILIS)

CHERNYAK, E.N.; GOMBULEV, S.S.; GRINGAUZ, M.Ya.

Prophylaxis of congenital syphilis. Zdrav.Belor. 5 no.6:50-51 Je '59. (MIRA 12:9)

1. Iz belorusskogo nauchno-issledovatel'skogo kozhno-venerologicheskogo instituta (direktor - akademik AN BSSR A.Ya.Prokopchuk).
(SYPHILIS, CONGENITAL, HEREDITARY, AND INFANTILE)

CHERNYAK, E.N., kand.med.nauk

Sulfanol action on the skin of workers who manufacture it. Zdrav. Turk. 5 no.3:44-45 My-Je '61. (MIRA 14:10)

1. Iz Turkmenskogo nauchno-issledovatel'skogo kozhno-venerologicheskogo instituta (dir. - prof. N.F.Rodyakin).
(SULFANOL--PHYSIOLOGICAL EFFECT)

CHERNYAK, E.N.; SHABASHKEVICH, P.G.

Ambulant treatment of patients with fungus diseases. Zdrav. Turk. 7 no.1:36-37 Ja 163. (MIRA 16:3)

1. Iz Turkmenskogo nauchno-issledovatel'skogo instituta kozhnykh bolezney (dir. M.E. Kreshev) i kozhno-venerologicheskogo dispansera (glavnyy vrach I.D. Leyvi).

(MYCOSIS)

RODYAKIN, N.F.; CHERNYAK, E.N.; ABRAMYAN, A.A.; AMIYANTS, A.G.

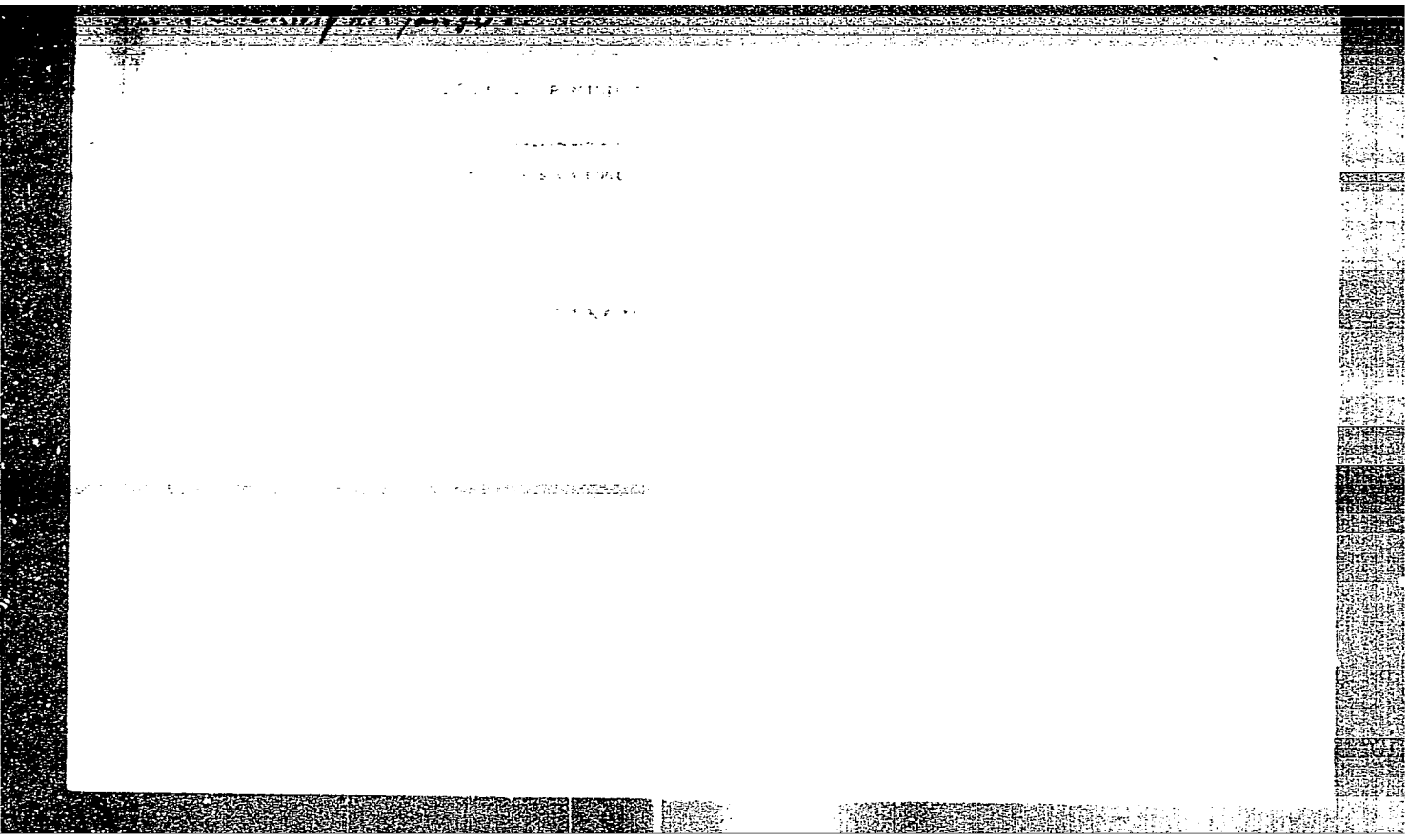
Vitiligo treatment with meladinin. Zdrav. Turk. 7 no.3:24-30 Mr. '63. (MIRA 16:6)

1. Iz Turkmenskogo nauchno-issledovatel'skogo kozhno-venerologicheskogo instituta (dir. M.E.Ereshev, nauchnyy rukovoditel'- prof. N.F.Rodyakin).
(VITILIGO) (IMPERATORIN) (XANTHOTOXIN)

RODYAKIN, N.F.; CHERNYAK, E.N.; IZMAILOV, A.M.; ABRAMYAN, A.A.

Possible poisoning by toxic chemicals used in agriculture.
Zdrav. Turk. 8 no.2:28-30 F'64 (MIRA 17:4)

1. Iz Turkmenskogo nauchno-issledovatel'skogo instituta kozhnykh bolezney (direktor - M.E. Ereshov, nauchnyy rukovoditel' prof. N.F. Rodyakin).



CHERNYAK, E.Yu.

AL'TSHULER, M.M.; LESHCHINER, R.Ye.; CHERNYAK, E.Yu.

Outlook for the development of underground gasification of coal in the Turgay Basin. Podzem.gaz.ugl. no.3:45-46 '57. (MIRA 10:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy i proyektnyy institut podzemnoy gazifikatsii ugley.
(Turgay Gates--Coal gasification, Underground)

AL'TSHULER, M.M.; KALMANOVA, Yu.D.; MIKHAYLOVA, O.N.; CHERNYAK, E.Yu.

Analysis of the operation of working "Podzemgaz" plants in 1962.
Trudy VNIIPodzemgaza no.12:151-165 '64. (MIRA 18:9)

1. Sektor tekhniko-ekonomicheskikh Vsesoyuznogo nauchno-issledovatel'skogo instituta podzemnoy gazifikatsii ugley.

AL'TSHULER, M.M.; MIKHAYLOVA, G.N.; OVSYANNIKOV, V.I.; CHERNYAK, E.Yu.; UTKINA, L.D.

Technical and economic analysis of operations in the "Podzemgaz" plants of Angren, Yuzhno-Abinskaya, and Lisichansk. Trudy VNIIPodzemgaza no.13:107-116 '65. (MIRA 18:8)

1. Laboratoriya tekhniko-ekonomicheskikh issledovaniy Vsesoyuznogo nauchno-issledovatel'skogo instituta podzemnoy gazifikatsii ugley.

AL'TSHULER, M.M.; KALMANOVA, Yu.D.; MIKHAYLOVA, G.N.; CHERNYAK, E.Yu.

Technical and economic analysis of the work of the underground gasification stations in 1961. Nauch. trudy VNIIPodzemgaza no.8:80-87 '62. (MIRA 16:6)

1. Sektor tekhniko-ekonomicheskiy Vsesoyuznogo nauchno-issledovatel'skogo instituta podzemnoy gazifikatsii ugley.
(Coal gasification, Underground—Accounting)

CHERNYAK, E.N., kand.med.nauk

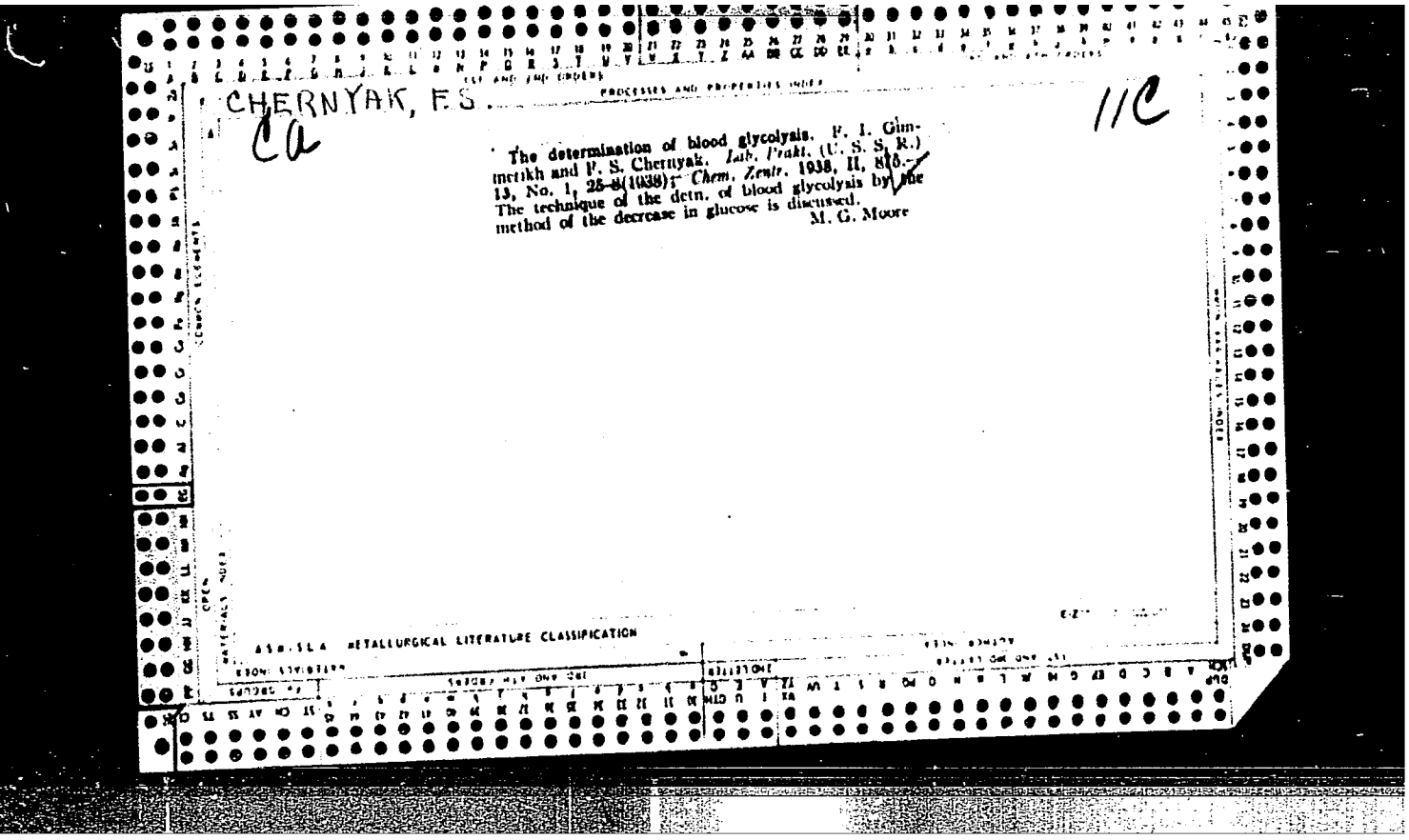
Skin paronychia of the hands in silk reelers and measures for eliminating it. Zdrav.Turk. 6 no.2:26-28 Mr-Ap '62.
(MIRA 15:11)

1. Iz Turkmenskogo nauchno-issledovatel'skogo kozhno-venerologicheskogo instituta (dir. - M.E.Ereshev, nauchnyy rukovoditel' - prof. N.F.Rodyakin).
(ASHKHABAD--SILK MANUFACTURE AND TRADE--HYGIENIC ASPECTS)
(FELON (DISEASE))

AL'TSHULER, M.M.; MIKHAYLOVA, G.N.; CHERNYAK, E.Yu.

Technical and economic analysis of the operations of "Podzemgaz" plants located in coal deposits during 1960. Nauch. trudy VNII Podzemgaza no.6:108-114 '62. (MIRA 15:11)

1. Sektor tekhniko-ekonomicheskiy Vsesoyuznogo nauchno-issledovatel'skogo instituta podzemnoy gazifikatsii ugley.
(Coal gasification, Underground)



CHERNYAK, F.S.

Ca

11C

The determination of blood glycolysis. F. I. Gimmelikh and F. S. Chernyak. *Lab. Prakt.* (U. S. S. R.) 13, No. 1, 25-8(1938); *Chem. Zentr.* 1938, II, 816.— The technique of the detn. of blood glycolysis by the method of the decrease in glucose is discussed.
M. G. Moore

A58.SLA METALLURGICAL LITERATURE CLASSIFICATION

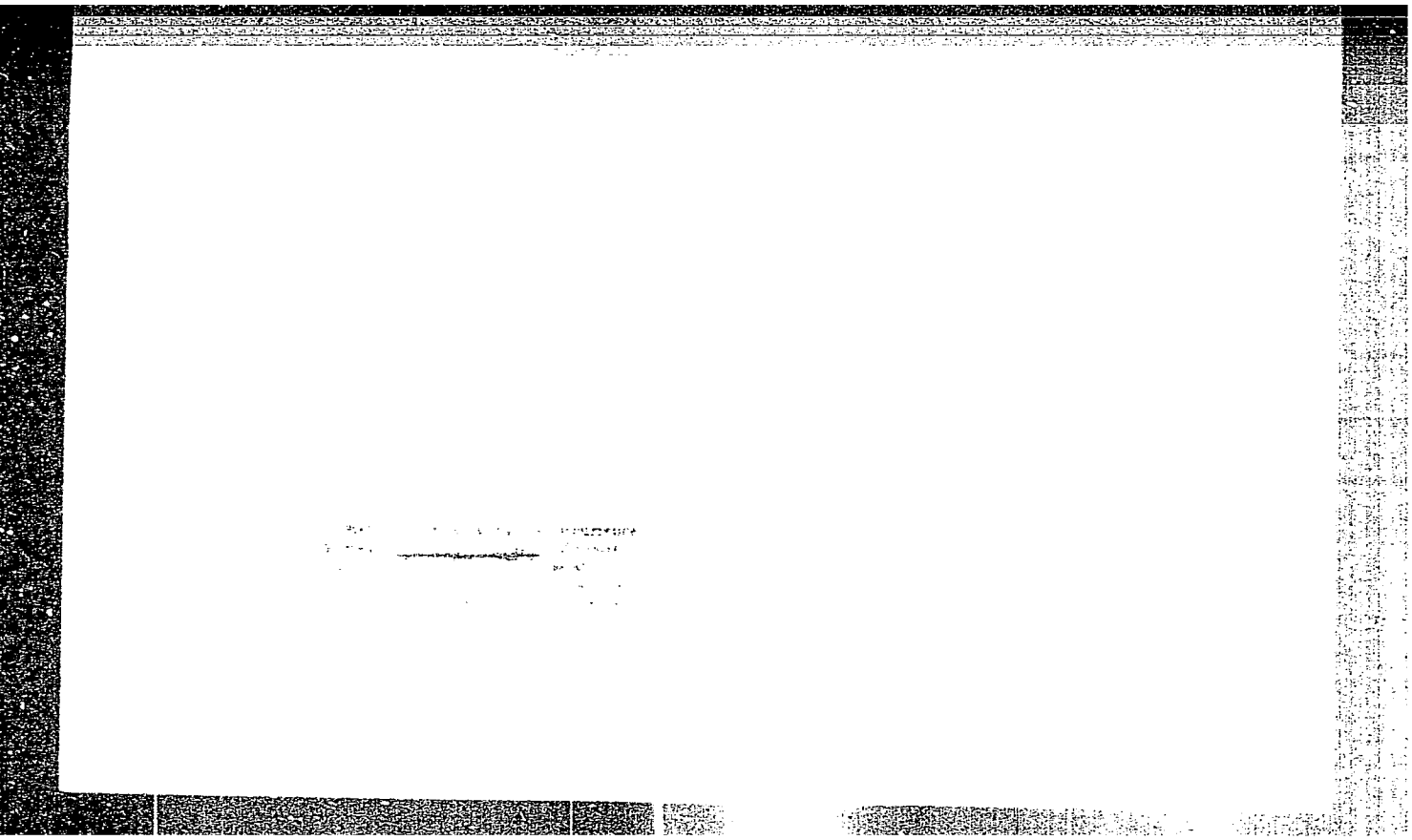
RUBINSHTEYN, A., inzh.; CHERNYAK, G., kand.tekhn.nauk

Using electric capacitors for determining soil moisture. Na stroi. Mosk. 1 no.8:23 Ag '58. (MIRA 11:10)
(Soil moisture) (Electric capacitors)

CHERNYAK, G.S., inzhener.

Methods for hair cradk tests of steel. Standartizatsiia no.5:13-17 S-O '56. (MLRA 10:1)

(Steel--Testing)



CHERNYAK, G.S. Cand Tech Sci (diss) " Fine cracks in stainless ~~steel~~ steel 1-2X13." Mos, 1957 15 pp 22 cm. (USSR Min Higher Education Mos. Order of Labor Red Banner Steel Inst im I.V. Stalin) 100 copies (KL, 11-57, 99)

CHERNYAK, G.S.

AUTHORS: Vinograd, M.I. (Cand.Tech.Sc.), Chernyak, G.S. and Orekhov, N.D. (Engineers). 133-6-25/33

TITLE: The influence of technological factors of smelting and teeming of steel 1-2X13 on the degree to which it is affected by hair cracks. (Vliyaniye tekhnologicheskikh faktorov vyplavki i razlivki stali 1-2X13 na porazhennost' yeye volosovinami).

PERIODICAL: "Stal'" (Steel), 1957, No.6, pp.560-562 (USSR).

ABSTRACT: The influence of the following factors on the degree to which steel 1-2X13 is affected by hair cracks was investigated: a) duration of refining; b) the temperature of metal in the ladle after tapping; c) duration and method of teeming ingot moulds (bottom or top), d) the content of FeO in the tapping slag; e) the position of ingots (first and last ingots were compared); f) the position from which specimens were taken (head, middle and tail parts). Steel making practice (in 20 ton basic electric furnaces) is described. Two ingots from each heat (first and last and second and last for top poured) were tested. After rolling into square bars (90 x 90 mm) 3 templets 60-80 mm long corresponding to head, middle and tail parts of ingots were taken, cut and planed until the plane passed

Card 1/3

The influence of technological factors of smelting and teeming of steel 1-2X13 on the degree to which it is affected by hair cracks. (Cont.) 133-6-25/33

through the centre parallel to the direction of the grain. The flat surface was polished and the degree of development of hair cracks was estimated visually. This was evaluated as the relative proportion of specimens with hair cracks 1 mm and over 1 mm long (A%) or as the total length of hair cracks of 2 mm long and over (B%). Hair cracks shorter than 1 mm were not considered. The polishing of specimens and subsequent evaluation of hair cracks was repeated 4 times so that each heat was characterised by 24 estimations. For the control of metal a magnetic defectoscope (on specimens after hardening and annealing) was used in all cases except for the determination of the influence of the method of casting which was done visually on annealed specimens. The results obtained (Table) were statistically examined. It was established that the method of casting and the position of specimen along the height of the ingot have a substantial influence on the degree to which the metal was affected by hair cracks; the temperature of the metal in the ladle after tapping had a small effect. Variations in the remaining factors

Card 2/3

The influence of technological factors of smelting and teeming of steel 1-2X13 on the degree to which it is affected by hair cracks. (Cont.) 133-6-25/33

investigated (within the limits of the practice used) had no influence on the development of hair cracks. In order to decrease the development of hair cracks, bottom pouring of a comparatively hot metal (1550-1650 C) should be used, moreover, important parts should be made from bars corresponding to the head part of ingots.

There is 1 table and 2 references, both Slavic.

ASSOCIATION: "Elektrostal'" Works. (Zavod "Elektrostal'").

AVAILABLE: Library of Congress

Card 3/3

SOV/133-58-10-25/31

AUTHORS: Chernyak, G.S., Engineer and Vinograd, M.I., Candidate of Technical Sciences

TITLE: On the Problem of Control of Metal for Hair Cracks in Billets and Finished Products (K voprosu o kontrole metalla na volosoviny v zagotovkakh i gotovykh detalyakh)

PERIODICAL: Stal', 1958, Nr 10, pp 946 - 947 (USSR)

ABSTRACT: These are remarks on the previously published paper by Z.M. Kalinina (Stal', 1957, Nr 3). The present authors consider that the conclusions reached in the original paper (lack of correlation between the results of the control of 3 specimens from a given heat for hair cracks and the results of control of finished products) are incorrect. As the standard method of testing 3 specimens is inconclusive, a larger number of specimens should be tested using a magnetic defectoscope. There are 4 Soviet references.

Card1/1

18.9200

77464
SOV/133-60-2-25/30

AUTHORS: Fedorinova, Ye. G., Chernyak, G. S. (Engineers), Bystrikova, I. N. (Technician), Vinograd, M. I. (Candidate of Technical Sciences)

TITLE: Effect of Ingot Weight on the Susceptibility of 1-2Kh13-Steels to Hairline Cracking

PERIODICAL: Stal', 1960, Nr 2, pp 77-79 (USSR)

ABSTRACT: Stainless steels 1Kh13 and 2Kh13, widely used for steam turbine blades, are highly susceptible to hairline cracking. Earlier studies (see V. Speranskiy and A. Koshik, Stal', 1940, Nr 2, pp 32-38; and M. I. Vinograd, G. S. Chernyak, and N. D. Orekhov, Stal', 1957, Nr 6, pp 560-620) revealed hairline cracks to consist of elongated nonmetallic inclusions. The following methods of minimizing this defect have been suggested: deoxidation of the bath by ground ferrosilicon, use of complex deoxidizers and bottom pouring. At "Elektrostal'" Plant (zavod "Elektrostal'"), V. S. Kultygin and B. N. Popov have been studying ways of improving the

Card 1/3

Effect of Ingot Weight on the Susceptibility of 1-2Kh13-Steels to Hairline Cracking

77464
SOV/133-60-2-25/30

soundness of 1Kh13 and 2Kh13 steels over a number of years. Their composition is (%): C, $\leq$ 0.15; max Mn, 0.5; max Si, 0.7; Cr, 12.0 to 14.0; same in 2Kh13-steel except C, which is 0.15 to 0.23%. Considerable improvements were achieved by (1) oxygen-enriched blast; (2) more thorough deoxidation; and (3) bottom pouring. The authors investigated 300-, 500-, 700-, 750-, and 1,000-ton ingots. The different-weight ingots were produced from identical melts. Macrosections corresponding to the upper, center, and bottom parts of ingots were taken from 100 x 100 mm billets and studied for over 1 mm long cracks. Nonmetallic inclusions identified according to State Standards (GOST 801-47) on the same samples were found to consist of oxides and semiplastic silicates. Test results showed 500-kg ingots to be least affected by cracks; at the same time, they are least expensive under conditions of "Elektrostal'" Plant. Most susceptible to cracking were 1,000-kg ingots. Susceptibility tests according to height showed 700-,

Card 2/3

Effect of Ingot Weight on the Susceptibility of 1-2Kh13-Steels to Hairline Cracking

77464
SOV/133-60-2-25/30

750-, and 1,000-kg ingots to be most affected in the bottom part, 500-kg ingots in the center and bottom, and 300-kg ingots in the center. Ingots weighing 500 kg were found to be least affected, particularly, in the upper half. In order to enhance metal soundness the authors recommend: (1) selecting optimal ingot weight; and (2) adhering strictly to the standard optimal melting process. There are 4 tables.

ASSOCIATION: "Elektrostal'" Plant (Zavod "Elektrostal'")

Card 3/3

18.1235

33832
S/137/62/000/001/165/237
A006/A101

AUTHORS: Chernyak, G. S., Pegova, T. G., Vinograd, M. I.

TITLE: The formation of nitride inclusions during heating chrome-nickel alloys containing titanium and aluminum

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 1, 1962, 53, abstract 1I370 (V sb. "Stal'", Moscow, Metallurgizdat, 1961, 455-461)

TEXT: It was established that in alloys with Ti and (or) Al secondary TiN and AlN nitrides may be formed after extended holding (5 - 10 hours at 1,000 - 1,200°C under conditions of a possible contact with atmospheric air. These nitrides are exothermic compounds with high formation heat. The affinity of Al with N is lower and its nitride is not formed in the presence of Ti in the alloy. Nitridic inclusions in the form of fine needles and rectangles were observed near cracks, produced by strong impacts during forging, and also in the surface layer up to 0.1 mm depth (oxidation proceeded merely to 0.05 mm depth) after extended holding at $\geqslant$ 1,290°C. The shape of these nitridic inclusions is very different from isolated rounded nitridic inclusions arising in molten metal.

Ye. Bukhman

[Abstracter's note: Complete translation]

Card 1/1

S/737/61/000/000/007/010

AUTHORS: Chernyak, G.S., Engineer, Pegova, T.G., Engineer, and Vinograd, M.I., Candidate of Technical Sciences.

TITLE: Formation of nitride inclusions during the heating of CrNi alloys containing Ti and Al.

SOURCE: Stal', sbornik statey. Ed. by A.M.Yampol'skiy. Moscow. 1961, 455-461.

TEXT: Nonmetallic inclusions found in fissures in NiCr-alloy bars and parts were formerly believed to result from casting defects. The present investigation shows that they may form in the course of hot working (forging, rolling, stamping) and in the resulting heating as well. Three alloys were tested: No. 1 with 5% Al only; No. 2 and No. 3 with 1.0-2.5% Ti and Al each. In No. 1 surface fissures resulting from rolling were investigated; in No. 2 internal fissures after forging were studied; in No. 3, which was free from fissures, the surface was examined after long-term heating. Fissured No. 1 specimens were heated in ordinary electric compartment kilns (T=700-1,200°C; at 100° intervals; soaking 2 and 10 hours). 2-hour and 10-hour soaking at 700-900° did not affect the microstructure of the fissures, but after 10 hours at 1000° small gray rod-shaped and polygonal inclusions (identified as Al nitrides by polarized-light examination against a dark field) appeared near the fissures, at 1100° their number increased, at 1200° they became noticeably enlarged, at 1260° they assumed a rounded shape. No comparable inclusions were evident away from the fissures. 10-hour soaking at 1100 and 1150° of the No. 2

Card 1/2

alloy with forging fissures revealed analogous phenomena with the formation of Ti nitrides and an insignificant amount of Ti carbonitrides. Ni-base alloys with Ti and Al content yielded Ti-nitride inclusions only, but no Al nitrides. This is attributed to the greater affinity of N to Ti than to Al and is consistent with the respective values of the heat of formation of TiN (+80.3± 2.0 cal/mol) and AlN (-60.0± 1.0 cal/mol). In the surface layer of alloy No. 3 fairly large TiN acicular and rectangular crystals form after prolonged soaking at 1290° and up. Oxidation of the surface layer, then, penetrates 0.05 mm; the crystal formation penetrates about 0.1 mm. Thus, nitride inclusions pertain to 2 types: (I) Inclusions formed in liquid metal, having a regular shape and singular or grouped appearance (TiN); (II) Acicular and rectangular (rarely regularly shaped) inclusions formed in fissures and on the surface of heated solid metal, attributable to diffusional introduction of atmospheric N into the metal; these inclusions grow with temperature and soaking time. Inclusions may thus be genetically classified as follows: (a) Absence of inclusions near surface-emergent fissures indicates formation due to hot or cold deformation not followed by extensive heating; (b) presence of inclusions of the second type indicates that fissures were formed previously and were then exposed to heating and reaction with atmospheric N; (c) groups of inclusions of the first type indicate that the parent fissures originated in casting defects. There are 7 figures and 4 Russian-language references (2 Soviet papers and 2 translations of Western books).

ASSOCIATION: Zavod "Elektrostal'" and TsNIIChM (The Elektrostal' Factory and the Central Scientific Research Institute for Ferrous Metals).

L 27767-65 EPF(n)-2/EPA(s)-2/EWT(m)/EPA(bb)-2/EWP(b)/T/EWP(e)/EWP(t) Pt-10/
Pu-4/Pad IJP(c) WE/JD/HW/JG
ACCESSION NR: AT5003402

AUTHOR: Cheriyak, G. S.

TITLE: Effect of the alloying elements Al, Ti and C on the amount of the boride eutectic in nickel alloys

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii. Sbornik trudov, no. 38, 1964. Novyye metody ispytaniy metallov, metallograficheskiye issledovaniya i mekhanicheskiye ispytaniya metallov (New methods in the analyses of metals; metallographic investigations and mechanical analyses of metals), 98-104

TOPIC TAGS: boride eutectic, boride solubility, electrolytic etch, color etch, nickel base alloy, aluminum alloy, titanium alloy, carbide content

ABSTRACT: The effect of 0-1.5% Ti, 0.002 - 0.20% C, 0 - 5.7% Al and 0 - 0.40% B in Ni solutions on the amount of the eutectic phase was studied by electrolytic etching and color etching. Ni specimens with 0.02% B and 1.5% Ti showed no eutectic and B formed a solid solution at solidus. The absence of a eutectic proved the solubility of B in a solid solution of Ni. However, a eutectic was observed upon the addition of 4.2% Al. The different amounts of the eutectic

Card 1/2

L 27767-65

ACCESSION NR: AT5003402

2

phase in specimens with an invariable quantity of B and various amounts of alloying elements indicate a possible change in B solubility. This change may be attributed to liquation. An increase of up to 0.20% in the carbon content was accompanied by a decrease in the amount of the eutectic phase. Coagulation of that phase set in at 1100 C and continued up to 1220 C, forming a liquid phase at the grain boundaries within the 1230-1240 C temperature range. "The collaboration of G. M. Romashova, laboratory technician, is acknowledged." Orig. art. has: 7 figures and 2 tables.

ASSOCIATION: Tsentral'nyy nauchn[illegible] institut chernoy metallurgii (Central Scientific Research Institute of Ferrous Metallurgy)

SUBMITTED: [illegible]

[illegible]

Card 2/2

L 27765-65 EPF(n)-2/EPR/EPA(s)-2/EWT(m)/EPA(bb)-2/EWP(b)/T/EWP(e)/
EWP(t) Ps-4/Pt-10/Pu-4 IJP(c) WW JG/...

ACCESSION NR: AT5003400 S/2776/64/000/038/0051/0065

E3
57
B+1

AUTHOR: Chernyak, G. S.; Smirnova, A. V.; Kostogonov, V. G.; Kokorin, G. A.; Romashov, V. M.; Grishina, N. S.; Dubrovina, A. N.; Pegova, T. G.

TITLE: Effect of titanium, aluminum, carbon and boron on the structure and phase composition of Ni base alloys

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii. Sbornik trudov, no. 38, 1964. Novyye metody ispytaniy metallov; metallograficheskiye issledovaniya i mekhanicheskiye ispythaniya metallov (New methods in the analyses of metals; metallographic investigations and mechanical analyses of metals), 51-65

TOPIC TAGS: eutectic, carbide, alloy structure, alloy phase composition, nickel base alloy, titanium alloy, aluminum alloy, boron alloy, carbon content

ABSTRACT: Ni-alloy specimens with different contents of C, Ti, Al and B were investigated with respect to structure and phase composition. The excess phases were studied by metallographic methods including film etching, microdiffraction, electron microscopy and X-rays, as well as by phase analysis of the precipitated residues. An increased addition of Al up to 8% in specimens with 1.5% Ti, 0.02%

Card 1/2

L 27765-65
ACCESSION NR: AT5003400

C and 0.02% B led to an increase in the parameters of γ - and γ'-phase lattices and to an intensive growth of γ'-phase particles which were distributed on certain crystallographic planes after hardening and prolonged aging. At the same time, a second solid solution based on an NiAl compound had formed. The same pattern was observed in cast, and hardened and aged specimens containing 5% Ti. An addition of 0.02% C to specimens with 3% Ti brought about the formation of considerable amounts of differently shaped primary carbides such as $Me_{23}C_6$, Me_6C and cubic TiC. In specimens without Ti, coagulation of the γ'-phase particles was inhibited and a carbide eutectic phase formed. With up to 0.4% B, 0.20% C, 1.5% Ti and 4.2% Al the character of the primary carbides was greatly affected but the size of the γ'-phase particles remained unchanged; in these amounts, B additions enhanced the formation of a eutectic phase which lowered the alloyability of the solid solution and of the γ'-phase. "G. M. Romashova, N. F. Poplavskaya, V. N. Makarova, Z. I. Galkina and M. I. Vlaskina also took part in the work." Orig. art. has: 16 figures and 1 table.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii, Moscow (Central ferrous metallurgy scientific research institute)

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NO REF SOV: 005 OTHER: 000

Card 2/2

CHERNYAK, G.S.

Effect of aluminum, titanium, and carbon addition elements on the amount of boride eutectics in nickel-base alloys. Sbor. trud. TSNIICHM no.38:98-104 '64.

(MIRA 18:3)

Chertak, G. Ya.

USSR/Engineering - Construction Methods Mar 53

"Capacitive Method of Determining Natural Porosity of Water-Saturated Sands," Engr G. Ya. Chernyak

Gidrotekh Stroi, No 3, pp 32-34

Presents geophysical, capacitive method of detg porosity of water-saturated sands in their natural beds. Method is based on measuring dielectric permeability of sands by measuring the capacitance of a special probe-type condenser plunged in the sand with electronic instrument "PB-6 VODGEO" (All-Union Sci-Res Inst of Water Supply, Sewerage, Hydraulic Eng Structures, and Erg Hydrogeology), which works on a frequency of 10^6--cps and measures small capacitances by means of pulsations.

270T87

270T87

AUTHOR: Aksel'rod, S.M. and Chernyak, G.Ya. SOV/138-59-1-7/18

TITLE: The Dielectric Coring of Bore Holes (Dielektricheskiy karotazh skvazhin)

PERIODICAL: Razvedka i okhrana nedr, 1959, Nr 1, pp 28-30 (USSR)

ABSTRACT: VNII of VODGEO and the Aznefftegeofizika Trust investigated the possibilities of using the dielectrical properties of rocks - dielectrical penetrability (δ) and dielectrical losses (ε) - for the coring of the bore holes. The experimental dielectrical coring equipment, designed by these organizations and built by TsNIL of the Trust, consists of a device placed in the bore hole, and of a surface installation. The device in the hole contains a measuring generator of high frequency oscillations (frequency of 10 mc) with a specially-designed capacitor attached to its oscillatory circuit. The variation of the dielectrical penetrability of the rocks changes the capacity of the capacitor, which causes the change in the frequency of the generator and in the amplitude of the voltage in the circuit. At the same time, the variation of the dielectrical losses of rocks influences

Card 1/2

The Dielectric Coring of Bore Holes

the amplitude of the voltage between the ends of the oscillatory circuit, and to a certain degree, the frequency of the generator. Thus the frequency of the generator and the amplitude of the voltage on its oscillatory circuit are functions simultaneously of the dielectrical penetrability and of the dielectrical losses of rocks in the bore hole where the capacitor was placed. The frequency of the generator and the voltage on the circuit are sent up to the surface installation and registered as two curves. The analysis showed that these curves of the dielectrical coring have considerable differentiation and divide the whole cross-section of the bore hole into separate layers. There is one diagram.

ASSOCIATION: Trest Azneftegeofizika (The Azneftegeofizika Trust) VODGEO

CHERNYAK, G.Ya.

New method of coreless well boring for water using dielectric logging. Osn., fund.i meldi.grun. no.6:12-14 '59.
(MIRA 13:4)

(Boring)