NOVIK, Isaak Osipovich, prof.; MARCHENKO, Aleksey Ivanovich, kand. med. nauk; PROKOPOVICH, N.N., red.; BYKOV, N.M., tekhn. red.

[Short prescription handbook for the stomatologist]Kratkii retsepturnyi spravochnik vracha-stomatologa. Kiev, Gosmedizdat USSR, 1961. 87 p. (MIRA 15:11)
(STOMATOLOGY) (PRESCRIPTION WRITING)

BURCHINSKIY, G.I., prof.; NOVIK, I.O., prof.; FLIS, S.A.; MAKLAKOVA, P.N.

Significance of focal infection of the oral cavity in the development of cardiovascular diseases. Vrach. delo no.10:26-33 O '61. (MIRA 14:12)

1. Kafedra terapii (zav. - prof. G.I.Burchinskiy) i terapevticheskoy stomatologii (zav. - prof. I.O.Novik) stomatologicheskogo fakul'teta Kiyevskogo meditsinskogo instituta imeni akademika A.A.Bogomol'tsa.
(MOUTH--SEPSIS) (CARDIOVASCULAR SYSTEM--DISEASES)

NOVIK, I.O. (Kiyev); SMOLYANOVA, R.I. [deceased] (Kiyev); URBANOVICH, L.I. (Kiyev); SHCHERBINA, L.G. (Kiyev)

Histologic picture of the paradentium in paradentosis in animals. Probl.stom. 6:11-24 '62. (MIRA 16:3)
(GUMS—DISEASES) (VETERINARY PATHOLOGY)

NOVIK, I.O. (Kiyev); LEVITSKAYA, Ye.V. (Kiyev); UDOVITSKAYA, Ye.V. (Kiyev)

Use of diatermocoagulation in the treatment of hypertrophic gingivitis in paradentosis. Probl.stom. 6:99-102 '62. (MIRA 16:3)

(GUMS—DISEASES) (ELECTROSURGERY)

NOVIK, I.O.; EPEL'BEYM, Z.M.

Vacuum massage in the compound treatment of paradentosis.
Stomatologiia 41 no.5:3-5 S-O '62. (MIRA 16:4)

1. Iz kafedry terapevticheskoy stomatologii (zav. - prof. I.O. Novik) Kiyevskogo ordena Trudovogo Krasnogo Znameni meditsinskogo instituta imeni A.A.Bogomol'tsa.
(GUMS--DISEASES) (MASSAGE)

NOVIK, Isaak Osipovich, prof.; GINZBURG, I.S., red.

[Periodontosis; pathogenesis, clinical aspects and treatment] Parodontoz; patogenez, klinika i lechenie. 2., ispr. i dop. izd. Kiev, Zdorov'ia, 1964. 325 p. (MIRA 17:12)

VOL'F, I.V., (Novosibirsk-Leningrad); MOISEYEV, A.S.(Novosibirsk-Leningrad); KORYSTIN, P.V., (Novosibirsk-Leningrad); NOVIK, I.V.(Novosibirsk-Leningrad)

Distilling water with a portable ionite filter. Vod. i san.tekh. no.12:8-10 D '56. (MLRA 10:3)
(Water--Purification) (Ion exchange)

KHRISTOFOROV, B.S.; KONDRAT'YEV, V.M., kand. khim. nauk, retsenzent; MISHCHENKO, M.A., retsenzent; TIMERBULATOVA, M.I., retsenzent; NOVIK, I.V., retsenzent; PETRENKO, A.G., retsenzent; MAR'YEVA, N.N., retsenzent; LEVIN, I.S., retsenzent; BUSEV, A.I., prof., otv. red.; KRAVCHENKO, L.S., red.

[Selective solvents in mineral phase analysis] Izbiratel'nye rastvoriteli v veshchestvennom analize. Novosibirsk, Red.-izd. otdel Sibirskogo otd-niia AN SSSR, 1964. 95 p. (MIRA 17:12)

1. Moskovskiy gosudarstvennyy universitet (for Busev).

NOVIK, I.E.

The character of accumulation of phosphorus-32 in rooster sperm. I. E. Novik. *Doklady Akad. Nauk S.S.S.R.* 107, 597–9(1956).—Introduction of $Na_2HP^{32}O_4$ into the food and its subcutaneous and intravenous injection into a rooster results in gradual accumulation of P^{32} in the sperm over 6 days; the accumulation is mainly in the spermatozoa.
G. M. Kosolapoff

1

GINTOVT, V.Ye.; NOVIK, I.Ye.

Use of immunological reactions in poultry breeding. Trudy Inst. gen. no.31:282-288 '64. (MIRA 17:9)

USSR/General Biology. Individual Development, Sex 11[illegible] 4

Abs Jour : Ref Zhur-Biol., No 16, 1958, 71578

Author : Novik, I. Ye.
Inst : AS USSR Institute of Genetics.
Title : Use of P32 in the Study of Spermatogenesis in Roosters.

Orig Pub : Tr. In-ta genet. AN SSSR, 1956, No 23, 247-251

Abstract : To establish the duration of spermatogenesis, isotopes of phosphorus P32 in the form of $Na_2HP^{32}O_4$ was introduced with food into seven roosters aged 6-12 years (total activity, 19 curies), subcutaneously (total activity up to 50 curies), or intravenously (total activity, 250-500 curies). In the course of 15-20 days after the introduction of the isotopes, the sperms were collected with a rubber sperm-

Card : 1/3

collector. The activity of each sperm sample was determined by a Geiger-Mueller counter in a Type AC-2 aluminum tube with a ground of 25-30 impulses/second. The sperm of the same roosters obtained before the introduction of P^{32} served as the control. Marked sperm was obtained successfully only through the intravenous introduction of the isotope. After the introduction of P^{32} into the blood, the accumulation of it in the sperm increased gradually up to the 6th day (117 impulses/second), and then decreased. Toward the 16th day, the activity of P^{32} comprises 40 impulses/second. The maximum accumulation of P^{32} in the sperm on the 5th-6th day is explained, in the opinion

NOVIK, I.Ye.

The process of fertilization in hens [with summary in English]
Zhur. ob. biol. 18 no.1:75-80 Ja-F '57 (MLRA 10:4)

1. Institut genetiki AN SSSR.
(POULTRY) (FERTILIZATION (BIOLOGY))

KUSHNER, Kh.F., prof.; NOVIK, I.Ye.

Experimental data on the fertilization process in chickens.
Zhivotnovodstvo 20 no.8:55-61 Ag '58. (MIRA 11:10)

1.Institut genetiki AN SSSR.
(Fertilization (Biology))

NOVIK, I.Ye.; KOPYLOVSKAYA, G.Ya.

Ovulation and fertilization in hens. Trudy Inst. gen. no.24:359-365 '58. (MIRA 11:9)
(Poultry) (Fertilization (Biology))

KUSHNER, Kh.F.; NOVIK, I.Ye. (Moskva)

Studies on sexual processes in plants and animals by the use of radioactive isotopes. Usp.sovr.biol. 48 no.3:343-355 N-D '59. (MIRA 13:5)

(SEX physiol.)
(ISOTOPES)

NOVIK, I.Ye; KOPYLOVSKAYA, G.Ya.

Fertilization ability of hen ova at different intervals after irradiation. Trudy Inst. gen. no.28:371-374 '61. (MIRA 14:11)
(POULTRY) (FERTILIZATION (BIOLOGY))

KUSHNER, Kh.F.; NOVIK, I.Ye. (Moskva)

Transplantation of ova and embryos in mammals and birds. Usp. sovr. biol. 51 no. 2 232-249 Mr-Ap '61. (MIRA 14:4)
(OVUM IMPLANTATION)

KUSHNER, Kh.F., doktor biologicheskikh nauk, prof.; NOVIK, I.Ye.

Experiments the transplantation of egg cells and embryos in animals. Biol. v shkole no.1:70-77 Ja-F '62. (MIRA 15:1)

1. Institut genetiki AN SSSR.
(EMBRYOLOGY) (TRANSPLANTATION OF ORGANS, TISSUES, ETC.)

KUSHNER, Kh.F.; NOVIK, I.Ye.

Using the seminal fluid to dilute the sperm of cocks. Zhur.ob. biol. 23 no.4:320 Jl-Ag '62. (MIRA 15:9)

1. Institut genetiki AN SSSR.
(SEMEN)

KUSHNER, Kh.F.; KOPYLOVSKAYA, G.Ya.; NOVIK, I.Ye.; SOLONINA, M.L.

Artificial fertilization of hens and turkeys. Trudy Inst. gen. no.29:305-331 '62. (MIRA 16:7)

(Artificial insemination)
(Poultry breeding)

NOVIK, [redacted] I. Ye.

Dissertation defended at the Institute of Animal Morphology imeni A. N. Severtsov for the academic degree of Candidate of Biological Sciences:

"Experimental Study of Biological Characteristics of Reproduction in Chickens."

Vestnik Akad Nauk, No. 4, 1963, pp. 119-145

KUSHNER, K.F.; KOPYLOVSKAYA, G.Ya.; NOVIK, I.Ye.

Efficient evaluation of breeding roosters based on offspring. Trudy Inst. gen. no.30:237-246 '63. (MIRA 17:1)

NOVIK, I.Ye.; KUSHNER, Kh.F., doktor biol. nauk, otv. red.; KOLPAKOVA, Ye.A., red.

[Biology of the multiplication and artificial insemination of poultry] Biologiia razmnozheniia i iskusstvennoe osemenenie sel'skokhoziaistvennoi ptitsy. Moskva, Izd-vo "Nauka," 1964. 140 p. (MIRA 17:4)

KUSHNER, Kh. F.; NOVIK, I. Ye.

"Fertilization and artificial insemination in poultry."

report submitted to the Intl Symp, Animal Reproduction & Artificial Insemination, Trent, Italy, [illegible] Sep [illegible].

KUSHNER, Kh.F.; NOVIK, I.Ye.; GINTOVT, V.Ye.

Experimental study on various diluters of chicken semen. Trudy Inst. gen. no.31:276-281 '64. (MIRA 17:9)

GINTOVT, V.Ye.; [illegible]OVIK, I.Ye.

Some results of using the serological method in poultry breeding. Trudy Inst. gen. no.33:97-108 '65.
(MIRA 18:12)

NOVIK, I.Ye.; GINTOVT, V.Ye.

New experiment data on diluters of cock semen. Trudy Inst. gen. no.33:129-136 '65. (MIRA 18:12)

NOVIK, I.Z. (Kherson)

Treatment of odontogenic highmoritis. Probl.stom. 6:231-232 '62. (MIRA 16:3)

(MAXILLARY SINUS—DISEASES) (TEETH—DISEASES)

NOVIK, KM.

48-12-2/15

AUTHORS: Bobykin, B.V., Novik, K.M.

TITLE: An Investigation of the Spectrum of Electrons of Inner Conversion of the Long-Lived Eu^{152}- and Eu^{154}-Isotopes (Issledovaniye spektra elektronov vnutrenney konversii dolgozhivushchikh izotopov Eu^{152} i Eu^{154}).

PERIODICAL: Izvestiya AN SSSR, Seriya Fizicheskaya, 1957, Vol. 21, Nr 12, pp. 1556-1572 (USSR)

ABSTRACT: The results of the present paper show that some earlier published data on the decay-characteristics of Eu^{152} and Eu^{154} require a completion and precise determination. The spectrum of inner conversion of a mixture of the long-lived isotopes Eu^{152} and Eu^{154} was investigated in the β-spectrometer with double focusing. The electromagnet was analogous to that in reference 8. The spectroscope was tuned up for the work within the range of electron-energies with the densest distribution of conversion-lines - 100 to 700 keV. The monoenergetic electrons of the F-line of ThB were used for tuning. The character of the instrument-line in dependence on the angular distance source-detector was investigated at a solid angle of 0,002.4π. An angle of 258° proved to be the optimal one. It was found that

Card 1/4

An Investigation of the Spectrum of Electrons of Inner Conversion 48-12-2/15
of the Long-Lived Eu^{152}- and Eu^{154}-Isotopes.

the radius of the electron-optical axis is no critical one. The electron-lines noticed in the decay of the long-lived Eu^{152}- and Eu^{154}-isotopes are here given in diagrams. For determining the energies in the γ-transitions only the K-conversion-lines were used here. The relative intensities of the conversion-lines are given in a table. The investigation of the spectrum was done in two stages. During the first stage at an age of the source of 2 years the fundamental measurements were made. These made it possible to identify the larger part of the conversion-lines. After 28o days control-measurements were made for determining the belonging of the doubtful lines to the long-lived isotopes. Thus it was found that the conversion-lines Nr 5 (21,15 keV), Nr 11 (48,90 keV), Nr 14 (54,66 keV), Nr 21 (95,25 keV) and Nr 24 (1o1,4 keV) possess a decrease in intensity of more than 5o % as compared to the intensities of the Eu^{152}, ^{154}-line. The same speed of intensity-modification gives rise to the idea that the above-mentioned lines belong to the decay of one and the same isotope (whose half-decay period amounts to about 23o days). This fact that the lines Nr 14, 21, and 24 convert in Europium (Z-63) indicates that the γ-transitions accompany the decay of Gd^{155} with an energy of 69,7 keV, 97,4 keV, and 1o3,2 keV.

Card 2/4

An Investigation of the Spectrum of Electrons of Inner Conversion of the Long-Lived Eu^{152}- and Eu^{154}-Isotopes.

Eu^{153} (N=90) is the product of this decay and belongs to the type of deformed nuclei. The transition-energy and the relative intensities of the conversion-lines are not in contradiction to the results published in reference 12. Some doubts exist regarding the belonging of the lines Nr 12 (51,59 keV) and Nr 13 (52,09 keV) to $Eu^{152, 154}$, as a great uncertainty exists concerning the evaluation of the intensity of these lines. Some interesting cases where the K-lines of some γ-transitions almost or very accurately coincide were observed. Thus in: 244,66 (Z=62) and 248,04 keV (Z=64), 689,1 (Z=62) and 692,5 keV (Z=64), 868,5 (Z=62) and 873,7 keV (Z=64), 720,2 (Z=62) and 723,6 keV (Z=64). The intensity (720 keV) of the γ-transition proved highly superelevated in comparison with its position, determined long ago, in the scheme of the Sm^{152}-levels. The results of the last investigations show that the line Nr 46 (629 keV) cannot be classed with the short-lived activity. Conversion-lines belonging to the γ-transition 1272,6 keV (Z=62) or 1276,0 (Z=64) are represented by the lines Nr 70 and 71. Some data on the relative intensities of the conversion-lines can be used for finding the experimental relations of the conversion-coefficients,

An Investigation of the Spectrum of Electrons of Inner Conversion of the Long-Lived Eu^{152}- and Eu^{154}-Isotopes. 48-12-2/15

as well as for a comparison of those with the theoretical relations. Such a comparison is here given in a table. The absolute values of the K-conversion coefficients are given in another table. Their values were obtained on the basis of the data of this work on the relative intensities of the K-lines and the data on the relative intensities of the γ-rays from reference 5. It is further shown here that in the case of the given quantum-characteristics of the original states of Eu^{152} and Sm^{152} it is to be expected that the K-capture-branch in the original position of Sm^{152} is very weak or absent (cf. also Gd^{152} and Gd^{154}). In such a case the ratio of the sum of the intensities in the transitions with an energy of 121,77 and 1086,6 keV to the intensity of the transition 344,32 keV is equal to the ratio of the (K+L)-capture-branches to the β-decay. V.M.Kel'man assisted in the work. There are 7 figures, 3 tables, and 20 references, 5 of which are Slavic.

ASSOCIATION: Physical-Technical Institute AN USSR Leningrad (Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR)

AVAILABLE: Library of Congress

Card 4/4

Novik, K.M.

20-2-18/62

AUTHORS: Bobykin, B.V., Novik, K.M.

TITLE: The Identification of the Internal Conversion Spectrum of the Long-Lived Isotopes Eu^{152} and Eu^{154} (Identifikatsiya spektra vnutrenney konversii dolgozhivushchikh izotopov Eu^{152} i Eu^{154})

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol. 115, Nr 2, pp. 263 - 266 (USSR)

ABSTRACT: Reference is made to some relevant preliminary works. The authors made their investigations with a β-spectrometer with double focusing. The properties of this spectrometer are enumerated. The β-sources were produced by electrolysis of europium chloride which was dissolved in ethyl alcohol. From 1 milligram of the initial radioactive substance about 50 sources of different thickness and different dimensions were produced. The spectrum of the internal conversion of Eu^{152}, 154 was taken on two years old sources. This permits the exact determination of the element in which the γ-transition takes place. 73 lines of the internal conversion and 13 of Ozhe's electron lines were observed. The identified γ-transitions are summarized in a table. By an additional series of measurements

Card 1/2

ACC NR: AP6018727 SOURCE CODE: UR/0057/66/036/006/1027/1033

AUTHOR: Golant, V. Ye.; D'yachenko, V.V.; Novik, K.M.; Podushnikova, K. A.

ORG: Physicotechnical Institute im. A.F.Ioffe, AN SSSR, Leningrad (Fiziko-tekhnicheskiy institut AN SSSR)

TITLE: Investigation of electron cyclotron heating of plasma

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 6, 1966, 1027-1033

TOPIC TAGS: plasma heating, cyclotron resonance, hydrogen plasma, magnetic mirror, plasma electron temperature

ABSTRACT: The authors' experiments on heating plasmas in a magnetic mirror system by supplying energy at the electron cyclotron resonance differed from other such experiments in that separate oscillators were employed to produce the plasmas and to heat them. The plasmas were produced in 9 cm diameter, 18.5 or 30 cm long copper resonators containing hydrogen at from 5×10^{-6} to 10^{-3} mm Hg. The shorter resonator communicated via a 3.5 cm diameter hole in an end wall with a glass tube. The resonator in use was mounted between magnetic mirrors (mirror ratio, 1.8) 30 cm apart. When the shorter resonator was employed, the glass tube was in the region of one of the magnetic mirrors; in all cases the copper resonator was between the mirrors. Approximately 100 W of rf power at 9.3-9.5 kMHz was continuously supplied to the

Card 1/3 UDC: 533.9

resonator to ionize the gas and 4.12 to 30 microsec pulses of rf power at the same frequency with pulse powers up to 100 kW were employed to heat the plasma. The visible radiation from the plasma was recorded with a photomultiplier, the x radiation from the plasma was recorded with a 0.1 x 3 or a 3 x 3 cm NaI scintillator shielded with 1 cm of lead, and the plasma was probed with 10, 3.3-4, and 0.8 cm wavelength microwave beams. The continuous 100 W excitation at 9.3-9.5 kMHz produced plasmas with electron densities of the order of 10^{12} cm^{-3} when both magnetic mirrors were operating, and part of the plasma produced in the shorter copper resonator appeared in the portion of the glass side tube that was between the magnetic mirrors. The uhf pulses were strongly absorbed by the plasma; under favorable conditions 30% of the pulse power was absorbed. The maximum energy thus injected into the plasma was 0.2 J. X radiation was observed when the plasma was excited by the powerful uhf pulses. From the absorption curve of the x radiation it was concluded that electrons with energies up to 100 keV were present with a concentration (estimated from the total absorbed energy and the volume of the plasma) of the order of 10^{10} cm^{-3}. The x-ray pulse was delayed by some 4-5 microsec with respect to the exciting uhf pulse, and when the uhf pulse duration was less than 5 microsec the x rays did not appear. In view of the fact that plasmas produced during the experiments within the shorter metallic resonator appeared outside the resonator in the glass tube, it is suggested that it may be possible simultaneously to heat both the ions and the electrons of the same plasma

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ACC NR: AP6018727

within a single magnetic mirror system by supplying energy at both the electron and the ion cyclotron frequencies. The authors thank A.D.Piliya and V.Ya.Fronkol' for fruitful discussions. Orig. art. has: 1 formula and 9 figures.

SUB CODE: 20/ SUBM DATE: 02Jul65/ ORIG. REF: 004/ OTH REF: 004/

Card 3/3

Novik, L. M.

Vacuum installation for degassing and removal of undesirable impurities from liquid metal. L. M. Novik and A. M. Samarin. U.S.S.R. 102,585, Apr. 30, 1956. Adds. to U.S.S.R. 81,873. Further improvements in the design of the vacuum app. are described. M. H.

3
1-RG
1-AE2c

SAMARIN, A.M.; NOVIK, L.M., kandidat tekhnicheskikh nauk; GONCHARENKO, N.I., kandidat tekhnicheskikh nauk; TREGUBENKO, A.F., inzhener.

Vacuum treatment of molten metal. Stal' 16 no.8:700-707 Ag '56. (MLRA 9:10)

1.Chlen-korrespondent Akademii nauk SSSR (for Samarin).
(Steel--Metallurgy)

NOVIK, L.M.

"Vacuum Treatment of Steel in Ladles,"
lecture given at the Fourth Conference on Steelmaking, A.A. Baikov Institute of Metallurgy, Moscow, July 1-6, 1957

SAMARIN, Aleksandr Mikhaylovich; POLYAKOV, Aleksandr Yul'yevich; NOVIK, Lev Moiseyevich; GARNYK, Galina Antonovna; ROZENTSVEYG, Ya.D., redaktor izdatel'stva; VAYNSHTEYN, Ye.B., tekhnicheskiy redaktor

[Use of vaccum in steel smelting] Primenenie vakuuma v staleplavil'nykh protsessakh. Pod red. A.M.Samarina. Moskva, Gos. nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1957. 104 p. (MLRA 10:7)

1. Chlen-korrespondent Akademii nauk SSSR (for Samarin)
(Smelting)

137-58-6-11808

Translation from Referativnyy zhurnal, Metallurgiya, 1957 Nr 6, p 87 (USSR)

AUTHOR Novik, L M

TITLE Improving the Quality of Steel by Vacuum Treatment of the Molten Metal and Pouring in a Shielding Atmosphere (Povyshenıye kachestva stalı metodom vakuumnoy obrabotkı zhidkogo metalla ı razlivkı v zashchitnoy atmosfere)

PERIODICAL V sb. Primeneniye vakuuma v staleplav. protsessakh. Moscow, Metallurgizdat, 1957, pp 34-80

ABSTRACT: Vacuum treatment (VT) makes possible solution of the problem of producing well deoxydized M with low C, H, N, and O content. At the Yenakiyevo plant, Bessemer rail and rimmed steel is treated in 16-t ladles and in molds for 4-t ingots. The result of VT is that the [O] in rimmed steel was diminished by 75-90%, [C] by 0.04-0.06%, and [N] by 30-50%. The resultant ingots are dense and chemically homogeneous. At the Dneprospetsstal' plant, transformer steel (TS) and structural Cr-Ni steel are subjected to VT. VT in the ladle made possible the production of TS with [S] as low as 0.02 and [S] of as little as 0.005%. [O] was reduced to 0.004-0.005%, and [H] to

Card 1/2

Improving the Quality of (cont.)

0.77-1.33 cm^3/100g. Melts run with abbreviated boil and subsequent VT show no reduction in TS quality. Reduction in C, S, O, and H contents in TS as a result of VT cut power losses and improved the plastic properties in cold rolling. The yields of the highest grade increased accordingly from 40-60 to 94%. As the result of VT at a residual pressure of 35 mm Hg there was a reduction by a factor of 33-50% in hair-line fissures found in the inspection of stepped samples of Cr-Ni steel. Reoxidation of metal results in the formation of flake, fine cracks, and other defects. The design of an installation permitting elimination of the effect of this factor has been developed. It causes the feed trumpet and the mold to be filled with a shielding gas, and the flow of metal from the ladle is protected from the air. The pouring of 38KhMYuA steel and of high-alloy scale-resistant steel in Ar atmosphere results in good ingot surfaces.

Ye.K.

1. Steel--Production 2. Steel--Quality control 3. Vacuum apparatus--Applications
4. Inert gases--Applications

Card 2/2

.37 1957 12-23409

Translation from: Referativnyy zhurnal Metallurgiya 1957 Nr 12, p 83 (USSR)

AUTHORS: Samarin, A. M., Novik, L. M.

TITLE: The Treatment of Liquid Steel Under Vacuum in Ladles and Molds (Obrabotka zhidkoy stali pod vakuumom v kovshe i v izlozhnitse)

PERIODICAL: Tr. In-ta metallurgii AN SSSR 1957, Nr 1, pp 39-50

ABSTRACT: A description of industrial experiments, conducted in 1952-1954, on the process of treating liquid steel in a ladle or a mold under vacuum. Steel, placed into a 16 t ladle covered by a vacuum hood, was kept in the ladle for 12-14 minutes under a vacuum of 70-140 mm; metal placed into molds was kept there for 25-30 minutes. Rimming bessemer steel was subjected to working in vacuum (VW). After VW the O decreased 4-10 fold, i.e., down to 0.0044-0.0053 percent, and the N was reduced by 30-50 percent. The treatment in vacuum ensured uniformity in the chemical composition of the ingot, particularly with respect to S and O. After a period of exposure in a vacuum-furnace the bessemer steel acquires a high a_k and preserves it down to a temperature of -60°. The welding seams retain their strength down to -40 - 60°. The a_k of the bessemer steel, after it has been treated

Card 1/2

The Working of Liquid Steel Under Vacuum in Ladles and Molds

in vacuum, is in the range of 12-30 kg/cm^2. The threshold of cold-shortness for steel which has been treated under vacuum in a ladle is about -30° to -50° and 0-30° after exposure in a vacuum furnace, whereas the threshold of cold-shortness for plain steel lies around 0-20°. After aging, the a_k of the vacuum treated steel is small; this is attributed to a large content of O (0.013-0.015 percent).* The system developed by the authors is capable of servicing 5-7 furnaces.

B. L.

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* Translator's Note: The meaning of this sentence in the Russian original, is obscured by a discontinuity of one or more lines in the type form.

1. Liquid steel treatment-Vacuum processes

Card 2/2

DANIKHELKA, A., doktor, inzh.; MIKHAYLOV, O.A., kand. tekhn. nauk; GONCHARENKO, N.I.; KLIMASENKO, L.S.; OYKS, G.N., prof., doktor tekhn. nauk; SEMENENKO, P.P.; MOROZOV, A.N., prof., doktor tekhn. nauk; GLINKOV, M.A., prof., doktor tekhn. nauk; KAZANTSEV, I.G., prof., doktor tekhn. nauk; KOCHO, V.S., prof., doktor tekhn. nauk; KNEKESH, Sh., kand. tekhn. nauk; MOROZENSKIY, L.I., kand. tekhn. nauk; GUBSKIY, G.V.; SPERANSKIY, V.G.; NOVIK, L.M., kand. tekhn. nauk, starshiy nauchnyy sotrudnik; SHNEYEROV, Ya.A., kand. tekhn. nauk; PAPUSH, A.G., kand. tekhr. nauk; MAZOV, V.F.; SAMARIN, A.M.

Discussions. Biul. TSNIICHM no.18/19:17-35 '57. (MIRA 11:4)

1. Glavnyy staleplavil'shchik Ministerstva metallurgicheskoy promyshlennosti i rudnikov Chekhoslovatskoy respubliki (for Danikhelka). 2. Direktor TSentral'nogo instituta informatsii chernoy metallurgii (for Mikhaylov). 3. Direktor Ukrainskogo instituta metallov (for Goncharenko). 4. Glavnyy staleplavil'shchik Kuznetskogo metallurgicheskogo kombinata (for Klimasenko). 5. Zaveduyushchiy kafedroy metallurgii stali Moskovskogo instituta stali (for Oyks). 6. Zamestitel' glavnogo inzhenera zavoda im. Serova (for Semenenko). 7. Zaveduyushchiy kafedroy metallurgii stali Chelyabinskogo politekhnicheskogo instituta (for Morozov). 8. Zaveduyushchiy kafedroy metallurgicheskikh pechey Moskovskogo instituta stali (for Glinkov). 9. Zaveduyushchiy kafedroy metallurgii stali Zhdanovskogo metallurgicheskogo instituta (for Kazantsev). 10. Zaveduyushchiy kafedroy metallurgii stali Kiyevskogo politekhnicheskogo instituta (for Kocho). (Continued on next card)

DANIKHELKA, A.---(continued) Card 2.
11. Nachal'nik tekhnicheskogo otdela Ministerstva chernoy metallurgii Vengerskoy Narodnoy Respubliki (for Kneksh). 12. Zamestitel' direktora Novotul'skogo metallurgicheskogo zavoda (for Gurskiy). 13. Nachal'nik tekhnicheskogo otdela zavoda "Dneprospetsstal'" (for Speranskiy). 14. Institut metallurgii im. Baykova AN SSSR (for Novik). 15. Nachal'nik staleplavil'noy laboratorii Ukrainskogo Instituta metallov (for Shneyerov). 16. Nachal'nik laboratorii po nepreryvnoy razlivke stali Zhdanovskogo filiala TSentral'nogo nauchno-issledovatel'skogo instituta Ministerstva stroitel'noy promyshlennosti (for Papush). 17. Nachal'nik martenovskogo tsekha zavoda "Zaporozhstal'" (for Mazov). 18. Zemestitel' direktora Instituta metallurgii im. Baykova AN SSSR, chlen-korrespondent AN SSSR (for Samarin).
(Steel--Metallurgy)

DUBROV, N.F., kand. tekhn. nauk; MIKHAYLOV, O.A., kand. tekhn. nauk; FEL'DMAN, I.A.; DANILOV, A.M.; SOROKIN, P.Ya., kand. tekhn. nauk, starshiy nauchnyy sotrudnik; BUTAKOV, D.K., kand. tekhn. nauk, dots.; SOYFER, V.M.; LATASH, Yu.V., mladshiy nauchnyy sotrudnik; ZAMOTAYEV, S.P.; BEYTEL'MAN, A.I.; SAPKO, A.I.; PETUKHOV, G.K., kand. tekhn. nauk; YEDNERAL, F.P., kand. tekhn. nauk, dots.; LAPOTYSHKIN, N.M., kand. tekhn. nauk, starshiy nauchnyy sotrudnik; ROZIN, R.M.; NOVIK, L.M., kand. tekhn. nauk, starshiy nauchnyy sotrudnik; LAVRENT'YEV, B.A.; SHILYAYEV, B.A.; SHUTKIN, N.I.; GNUCHEV, S.A., kand. tekhn. nauk, starshiy nauchnyy sotrudnik; LYUDEMAN, K.F., doktor-inzh., prof.; GRUZIN, V.G., kand. tekhn. nauk; BARIN, S.Ya.; POLYAKOV, A.Yu., kand. tekhn. nauk; FEDCHENKO, A.I.; AGEYEV, P.Ya., prof., doktor; SAMARIN, A.M.; BOKSHITSKIY, Ya.M., kand. tekhn. nauk; GARNYK, G.A., kand. tekhn. nauk; MARKARYANTS, A.A., kand. tekhn. nauk; KRAMAROV, A.D., prof., doktor tekhn. nauk; TEDER, L.I.; DANILOV, P.M.

Discussions. Biul. TSNIICHM no.18/19:69-105 '57. (MIRA 11:4)

1. Direktor Ural'skogo instituta chernykh metallov (for Dubrov). 2. Direktor TSentral'nogo instituta informatsii chernoy metallurgii (for Mikhaylov). 3. Nachal'nik nauchno-issledovatel'skogo otdela osobogo konstruktorskogo byuro tresta "Elektropech'" (for Fel'dman). 4. Nachal'nik martenovskoy laboratorii Zlatoustovskogo metallurgicheskogo zavoda (for Danilov, A.M.). 5. Laboratoriya protsessov stalevareniya Instituta metallurgii Ural'skogo filiala AN SSSR (for Sorokin).

(Continued on next card)

DUBROV, N.F.---(continued) Card 2.
6. Ural'skiy politekhnicheskiy institut (for Butakov). 7. Starshiy inzhener Bryanskogo mashinostroitel'nogo zavoda (for Soyfer). 8. Institut elektrosvarki im. Patona AN URRS (for Latash). 9. Nachal'nik TSentral'noy zavodskoy laboratorii "Uralmashzavoda" (for Zamotayev). 10. Dnepropetrovskiy metallurgicheskiy institut (for Sapko). 11. Moskovskiy institut stali (for Yedneral). 12. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii (for Gnuchev, Lapotyshkin). 13. Starshiy master Leningradskogo zavoda im. Kirova (for Rozin). 14. Institut metallurgii im. Baykova AN SSSR (for Novik, Polyakov, Garnyk). 15. Nachal'nik tekhnicheskogo otdela zavoda "Bol'shevik" (for Lavrent'yev). 16. Starshiy inzhener tekhnicheskogo otdela Glavspetsstali Ministerstva chernoy metallurgii (for Shilyayev). 17. Zamestitel' nachal'nika tekhnicheskogo otdela zaveda "Elektrostal'" (for Shutkin). 18. Freybergskaya gornaya akademiya, Germanskaya Demokraticheskaya Respublika (for Lyudeman). 19. Zaveduyushchiy laboratoriyey stal'nogo lit'va TSentral'nogo nauchno-issledovatel'skogo instituta tekhnologii i mashinostroyeniya (for Gruzin). 20. Starshiy master elektrostaleplavil'nykh pechey Uralvagonzavoda (for Barin). 21. Zamestitel' nachal'nika elektrostaleplavil'nogo tsekha zavoda "Sibelektrostal'" (for Fedchenko). 22. Zaveduyushchiy kafedroy metallurgii stali i elektrometallurgii chernykh metallov Leningradskogo politekhnicheskogo instituta (for Ageyev). 23. Zamestitel' direktora Instituta metallurgii im. Baykova AN SSSR, chlen-korrespondent AN SSSR (for Samarin).

(Continued on next card)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420008-5"

DUBROV, M.F.---(continued) Card 3.
24. Nachal'nik laboratorii TSentral'nogo nauchno-issledovatel'skogo instituta chernoy metallurgii (for Bokshitskiy). 25. Zaveduyushchiy kafedroy elektrometallurgii Sibirskogo metallurgicheskogo instituta (for Kramarov). 26. Nachal'nik elektrostaleplavil'nogo tsekha Kuznetskogo metallurgicheskogo kombinata (for Tedor). 27. Nachal'nik elektrometallurgicheskoy laboratorii Kuznetskogo metallurgicheskogo kombinata (for Danilov, P.M.).
(Steel--Metallurgy)

NOVIK, L. M. Moscow, Izd-vo AN SSSR, 1958, 165p.

Use of Vacuum in Metallurgy (Cont.) 533

Trans of a Conf. on Use of Vacuum in Ferrous Metallurgy (ed. SAMARIN, A.M.)

78

Osminkin, A.A. (Address)

A brief account is given of reserarch conducted at the Ural'skiy institut chernykh metallov (Urals Institute of Ferrous Metals) and at the Serov Metallurgical Plant on the vacuum treatment of open-hearth and induction-furnace steel in the ladle after tapping.

79

Shevtsov, M.A. (Address)

Shevtsov states that before 1954 only two experimental high-vacuum electric furnaces, with certain imperfections, were in operation in the USSR. He takes exception to Samarin's statement that Soviet vacuum furnaces are of inferior design, pointing out that industrial furnaces of this type were not in production at all because of the lack of demand for them. A number of such furnaces, however, were manufactured "last year" (apparently 1955). Production of pumps and other equipment lags. Shevtsov gives suggestions for improving vacuum equipment.

II. VACUUM TREATMENT OF MOLTEN STEEL AND FERROALLOYS IN THE LADLE AND IN THE INGOT MOLD

Novik, L.M. Vacuum Treatment of Molten Steel in the Ladle and Teeming in a Protective Atmosphere

81

The article is divided into the following sections: Design of vacuum installations; Vacuum pumps; Vacuum treatment of Bessemer steel in the ladle and in the ingot mold at the Yenakiyevo Metal-

Card 8/16

NOVIK, L. M.

ДЕГАЗАЦИЯ СТАЛИ И СПЛАВОВ

[illegible]	[illegible]
Р.А.[illegible] П.В.[illegible]	[illegible]
Г.Н.[illegible] А.Ю.[illegible] А.М.Самарин	Особенности [illegible] стали при дуговом вакуумном [illegible].
А.М.Самарин М.П.[illegible] Д.П.[illegible] Л.М.Новик А.М.[illegible]	Повышение качества [illegible] методом вакуумной обработки в [illegible].
Г.Н.Ойкс [illegible]	[illegible]
[illegible]	Влияние [illegible]
[illegible]	Влияние [illegible] стали.
[illegible]	[illegible] стали ЭИ[illegible].

17

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

SOV/133-59-3-14/32

AUTHORS: Samarin, A.M., Novik, L.M., Tsukanov, G.E., Kuznetsov, ..P. and Lukutin, A.I.

TITLE: Vacuum Treatment of Bessemer Steel (Vakuumnaya obrabotka bessemerovskoy stali)

PERIODICAL: Stal', 1959, Nr 3, pp 231-238 (USSR)

ABSTRACT: The application of vacuum treatment of Bessemer steel in a 22-ton ladle before teeming in order to improve the quality of steel was introduced at the Dzerzhinskiy Works in 1957. The design of the installation is outlined and the lay-out shown in Figure 1. Main point - the evacuation is effected by two parallel pairs of pumps, RVN60 and RVN-30, connected in series. The dependence of the output of pumps operating separately and connected in series on pressure is shown in Figure 2 and the change of pressure in the vacuo chamber with time in Figure 3. At the 8th minute of treatment the pressure in the chamber falls to 2 mm Hg. The gases pumped out of the chamber are cooled in a cooler and purified from dust in a cyclone and a filter. The investigation of the vacuo treatment on the quality of steel was carried out on 38 heats of rail steel and 17 heats of rimming steel. The duration of the treatment of

Card1/5

Vacuum Treatment of Bessemer Steel

rail steel varied between 12-15 minutes during which the metal was boiling violently - its level was rising up to 500 mm. In all cases, the metal was deoxidised with ferromanganese and ferrosilicon during tapping into the ladle; aluminium (150 - 500 g/t) was introduced after the treatment when the steel was already well deoxidised. A number of heats were carried out in which vanadium (0.1 - 0.15%) or boron (0.005%) were introduced under vacuum through a special charging arrangement 3-4 minutes before the end of the treatment. The chemical composition of the metal remains practically unchanged during the vacuo treatment; the content of iron oxides in slag decreases by 20-30% and of silicon by 5-6% due to deoxidation with carbon. Changes in the content of oxygen in rail steel during the treatment and teeming are shown in Figure 4 and of hydrogen in Figure 5. Changes in the content of hydrogen in the treated steel along the depth of the ladle are shown in Figure 6; sulphur of a cross-section of rail from vacuo-treated and ordinary steel - Figure 7; the dependence of the tensile strength, relative elongation and relative necking of rails from ordinary and vacuo-

Card2/5 treated steel with additions of aluminium and vanadium

Vacuum Treatment of Bessemer Steel

before and after normalisation on the sum of [C + G. ...] - Figures 8, 9 and 10, respectively; the dependence of the impact strength of rails from vacuo-treated and ordinary steel on Σ[C + 0.25 Mn] at 20 °C - Figure 11 at - 40 °C - Figure 12, after deformation ageing - Figure 13. The mean duration of the vacuo treatment of rimming steel was 14.5 minutes at a minimum pressure of 16 mm Hg. The process is accompanied by a violent boiling (the level of the metal rises by 600 - 700 mm). As the pumping capacity was insufficient to decrease sharply the content of nitrogen, it was combined into stable nitrides by additions to some heats of aluminium (300 - 1 000 g/t) or vanadium (0.1%). The additions were made through the charging installation 4-5 minutes before the end of the treatment. The content of carbon decreases by 0.03 - 0.06% during the treatment. Changes in the content of oxygen and hydrogen during the treatment - Figures 14 and 15, respectively; indices of impact strength of the ordinary and treated metal are shown in Figure 16 and the table. On the basis of the results obtained, the following conclusions are drawn: a) vacuo treatment of liquid metal

in the ladle increases the quality of Bessemer steel t[illegible] a level of the open-hearth steel; b) with the duration of the treatment of 14-15 minutes and a pressure in the chamber of 5-10 mm Hg for killed metal and of 15-20 mm Hg for rimming metal a deep degassing of the whole volume of the metal is obtained (the content of oxygen decreases 4.4 - 6 times, on average to 0.0013% in rail steel and to 0.0041 in rimming steel; the content of hydrogen decreases by a factor of more than 2, approximately to 2.4 $cm^3/100$ g in rail and to 2.4 $cm^3/100$ g in rimming steel; the conten of nitrogen in rimming steel decreases by 38.5%)
c) This decrease in the content of hydrogen in rail steel makes it flake insensitive without an application of slow cooling or isothermal treatment of the rolled product.
d) Vacuo treatment makes the deoxidation of aluminium unnecessary which, if needed, can be introduced after the treatment into the metal already well deoxidised by carbon Alloying additions can be also introduced into already deoxidised metal at the end of the treatment through special charging installation in the top of the vacuo chamber.
e) Bessemer rails from vacuo-treated metal possess higher plastic properties and impact strength at positive and

negative temperatures as well as after deformation ageing than rails made by the usual technology. On increasing carbon content to 0,8% and alloying with a small amount vanadium (0.1 - 0.2%) or boron (0.003 - 0.005) or titanium (1-2 kg/t) and normalisation non-ageing rails can be obtained with higher physico-mechanical properties than those of rails from open-hearth steel f) By vacuo treatment a good structural Bessemer steel can be obtained in which the zone of thermal influence of welded seam is not subjected to thermal ageing (decreased sensitivity of vacuo-treated metal to mechanical ageing is completely removed during normalisation of rolled products). There are 16 figures, 1 table and 2 Soviet references.

ASSOCIATIONS: Institut metallurgii AN SSSR (Institute of Metallurgy of the Ac.Sc.USSR) and Zavod im. Dzerzhinskogo (im. Dzerzhinskiy Works)

PHASE I BOOK EXPLOITATION SOV/4548

Akademiya nauk SSSR. Komissiya po fiziko-khimicheskim osnovam proizvodstva stali

Primeneniye vakuuma v metallurgii (Use of Vacuum in Metallurgy) Moscow, Izd-vo AN SSSR, 1960. 334 p. Errata slip inserted. 4,500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni A.A. Baykova. Komissiya po fiziko-khimicheskim osnovam proizvodstva stali.

Resp. Ed.: A.M. Samarin, Corresponding Member, Academy of Sciences USSR; Ed. of Publishing House: G.M. Makovskiy; Tech. Ed.: S.G. Markovich.

PURPOSE: This collection of articles is intended for technical personnel interested in recent studies and developments of vacuum steelmaking practice and equipment.

COVERAGE: The book contains information on steel melting in vacuum induction furnaces, and vacuum arc furnaces, reduction processes in vacuum, and degassing of steel and alloys. The functioning of apparatus and equipment, especially vacuum furnaces and vacuum booster pumps is also analyzed. Personalities are mentioned in connection with some of the articles and will appear in the Table of Contents. Three articles have been translated from English. Some of the

N: VIK, L. M.

PHASE I BOOK EXPLOITATION SOV/5411

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

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

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

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

Card 1/16

115

SOV/5411

Physicochemical Bases of (Cont.)

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

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

Card 2/16

PART IV. THE APPLICATION OF VACUUM AND THE GAS CONTENT IN STEEL

NOVIK, L., kand.tekhn.nauk

Vacuum treatment. IUn.tekh. 5 no.8:8-9 Ag '61. (MIRA 14:12)
(Vacuum metallurgy)

NOVIK, L. M.

PHASE I BOOK EXPLOITATION SOV/6270

Samarin, A. M., ed., Corresponding Member, Academy of Sciences USSR.

Vakuumnaya metallurgiya (Vacuum Metallurgy). Moscow, Metallurgizdat, 1962. 515 p. Errata slip inserted. 3200 copies printed.

Ed. of Publishing House: V. I. Ptitsyna; Tech. Ed.: L. V. Dobuzhinskaya.

PURPOSE: This book is intended for engineering personnel of metallurgical and machine-building plants, scientific research workers and teachers, and aspirants and students at schools of higher technical education.

COVERAGE: Thermoydnamic fundamentals of vacuum application in various metallurgical processes and problems of melting in vacuum induction and arc furnaces are discussed. Procedures of casting large ingots and vacuum degassing of steel in ladles are described, along with designs of metallurgical vacuum equipment. Problems connected with the use of mechanical and steam-ejector vacuum pumps, and with the

Card 1/7

designing, calculation, and operation of vacuum systems, are reviewed in detail, along with vacuum-measuring techniques. No personalities are mentioned. Each article is accompanied by references, mostly Soviet.

TABLE OF CONTENTS:

NOVIK, M.A.

N.I. Kharin. Zdrav. Bel. 8 no.4:76 Ap '62. (MIRA 15:6)
(KHARIN, NIKOLAI IVANOV, 1901-)

NOVIK, M.G. (Novosibirsk, Akademicheskaya ul., d.2-b, kv.2); FEOFILOV, G.L.; SHERDUKALOVA, L.F.; AZBEL', D.I.

Clinical aspects of anesthesia in bronchial examinations. Vest. khir. 92 no.3:116-121 Mr '64. (MIRA 17:12)

1. Iz anesteziologicheskogo otdeleniya (zav. - Ye.I.Stadnikova), legochnogo otdeleniya (zav. - dotsent M.I.Perel'man) i laboratorii klinicheskoy fiziologii (zav. - T.S.Vinogradova) Instituta eksperimental'noy biologii i meditsiny (dir. - prof. Ye.N.Meshalkin) Sibirskogo otdeleniya AN SSSR.

FEOFILOV, G.L.; NOVIK, M.G.; NOVINA, A.K.; IVANOVA, S.V.

Bronchoscopic study under anesthesia using muscle relaxants.
Sov.med. 25 no.1:93-99 Ja '62. (MIRA 15:1)

1. Iz legochnogo (zav. - dotsent M.I.Perel'man) i anesteziologiche-skogo otdeleniy (zav. Ye.I.Stadnikova) Instituta eksperimental'noy biologii i meditsiny sibirskogo otdeleniya AN SSSR (dir. - prof. Ye.N.Meshalkin).
(MUSCLE RELAXANTS) (BRONCHOSCOPY)
(ANESTHESIA)

NOVIK, M.G.

Changes in pulmonary resistance [illegible] a lung operation. Ak[illegible]

NOVIK, M.G.; FEDOROV, L.N.; SHERDUKALOVA, L.F.

Immediate method of determining the tension of oxygen and carbon dioxide in arterial blood. Zhur. eksp. i klin. med. 3 no.2: 71-76'63. (MIRA 16:10)

1. Institut eksperimental'noy biologii i meditsiny Sibirskogo otdeleniya AN SSSR.
(BLOOD, GASES IN)

TETEKEVA, V.F. (Murmansk); MALYSHEV, Yu.I. (Leningrad); GREBENNIKOVA, A.T. (Leningrad); BAZHENOV, V.S.; IVASHKEVICH, E.I.; SAFRONOVA, A.I. (Vitebsk); KOVIK, M.G.; OKUNEVA, G.N. (Novosibirsk); NEDVETSKAYA, L.M. (Moskva); SENT-UMEROV, S.M. (Vladivostok); PELYAVSKIY, I.P. (Odessa); LIPSKIY, L.I.; NUTRIKHIN, N.A. (Arkhangel'sk); KERIMOV, G.M. (Baku); BARAKOV, V.Ya. (Samarkand)

Abstracts. Grud. khir. 6 no.1:118-126 Ja-F '64. (MIRA 18:11)

NOVIK, M.S., dotsent

Abductive fractures of the femoral neck and their complications. Vest. khir. 94 no.1:50-55 Ja '65. (MIRA 18:7)

1. Iz Ukrainskogo nauchno-issledovatel'skogo instituta ortopedii i travmatologii (dir. - dotsent I.P.Alekseyenko).

FEDOROV, V.S.; RYABCHIKOV, V.R.; POLYAKOV, I.S.; SOROKIN, N.I.; RYABYKH, P.M.; NOVIK, N.G.; SLEPUKHA, T.F.; DRASHKOVSKIY, K.M.; LALABEKOV, S.K.; AREF'YEV, A.P.; YEVSTAF'YEV, V.V.; ZVEREV, A.P.; MERSESOV, L.G.; GROSSMAN, E.I.; HERMAN, A.O.

Petr Aleksandrovich Smirnov, 1902-1958; obituary. Khim. i tekh. topl. i masel. 3 no.12:68 D '58. (MIRA 11:12)
(Smirnov, Petr Aleksandrovich, 1902-1958)

Novik, N.P.

Country : USSR
Category: Cultivated Plants Commercial. Oil-Bearing. Sugar-Bearing

Abs Jour: RZhBiol., No 11, 1958, No 49046

Author : Kasmev, I. Ye.; Zakiyan, M. Kh.; Dutkova, O.D.; [illegible]

Inst : Rostov-on-Don University

Title : Viability Changes in the Seeds of Sunflowers and Castor Oil Plants During Storage

Orig Pub: Uch. zap. Rostovsk.-n.-D. un-t, 1956, 26, 85-92

Abstract: Two methods have been tested for the purpose of quickly determining the viability of the seeds. One method, using live staining, is based on the fact that the dyestuff (methylene blue) penetrates into normal living cells and concentrates in the form of

Card : 1/3

M-121

separate granules while the protoplasm and the nucleus are not stained. In aged cells the intensity of granule formation is reduced. In dead cells, no granules are formed, the protoplasm and nucleus stain diffusely. The second method, using microscopic cell observations against a dark ground, is based on the fact that in the absence of light, the nucleus and protoplasm of normal cells are invisible. If a cell is subjected to unfavorable conditions, a radiance is seen in the nuclear membrane and granules of protoplasm. Live staining may be used as a quick and safe method for

Card : 2/3

the determination of seed vitality, while the method of observing the cells against a dark ground is recommended as an auxiliary procedure. -- B.D. Vakhmistrov

Card : 3/3

M-122

NOVIK, N.Ye., inzh.

Removing dust from the exhaust gases of an asphalt concrete factory. Avt.dor. 24 no.5:22 My '61. (MIRA 14:6)
(Dust collectors) (Centrifuges)

ROVIK, N.Ye., inzh.

Attachment for smoothing slopes. Stroi. i dor. mash. 7 no.7:13 Jl '62. (MIRA 15:7)
(Road machinery)

Novik P.K.

AUTHOR: BOCHVAR,A.A., NOVIK,P.K. PA - 2337

TITLE: The Effect of the Composition of Aluminium-Zinc Alloys on the Value of Size Variation of Specimens Subjected to Cyclic Thermal Treatment. (Vliyaniye sostava splavov alyuminiya s tsinkom na velichinu izmeneniy rasmerov obrastsov pri tsiklicheskoy termicheskoy obrabotke, Russian).

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol 112, Nr 6, pp 1041 - 1042 (U.S.S.R.).

Received: 4 / 1957 Reviewed: 5 / 1957

ABSTRACT: The cyclic thermal treatment of metals and alloys causes irreversible, directioned changes of the linear dimensions of the metallic workpieces. On the occasion of the investigation of the cyclic thermal treatment of Al-Zn-alloys, the authors noticed a strong influence of the composition of the alloy on the amount and even on the sign of the changes of the linear dimensions of the workpieces. The present paper supplies the most important results obtained.

The plane samples were cut out from rolled plates. The cyclic thermal treatment of the main series of the samples consisted in a quick heating to 340° between two massive plates, and cooling in water of 13° C. Each cycle lasted for 5 minutes.

Card 1/3 On the occasion of the measuring of the dimensions after 20, 40

The Effect of the Composition of Aluminium-Zinc Alloys on the Value of Size Variation of Specimens Subjected to Cyclic Thermal Treatment.

and 40 cycles, the following results were obtained: 1) length and width of the samples of pure zinc increased and thickness decreased in the case of an increasing number of cycles. 2) In the case of an increase of the zinc content in the alloy from 0 to 30% the increase of length quickly diminished, and in the case of a zinc content of from 38 to 72 %, the dimensions of the samples practically did not change at all. 3) In the case of an increasing number of cycles the length and partly also the width of the samples with 78 to 95 % zinc decreased noticeably and thickness increased. The most important changes took place near the eutectoid concentration i.e. in alloys containing from 78 to 80 % zinc. Samples of the alloys with 98 % zinc showed the same qualitative changes as pure zinc. These data are illustrated by an attached diagram. The great differences between the changes of the dimensions of alloys and the samples of pure aluminium or zinc are obviously in connection with the fact that besides thermal tensions also phase shifting may exercise a strong influence on the deformation of the samples treated cyclically. The effects of thermal tensions and of the phase transitions superpose algebraically. Also phase transitions in connection with the reciprocal

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The Effect of the Composition of Aluminium-Zunc Alloys on the Value of Size Variation of Specimens Subjected to Cyclic Thermal Treatment.

solubility of the α - and β-phases exercises a strong influence on the modification of dimensions. (1 illustration).

ASSOCIATION: not given.
PRESENTED BY:
SUBMITTED: 10.9.1956
AVAILABLE: Library of Congress.

Card 3/3

NOVIK, P.K.; SHTEYN, V.S.

Unification of designations in the fields of binary metal systems. NTI no.5:25-28 '64. (MIRA 17:10)

SOV/24-58-11-30/42

AUTHOR: Novik, P. K. (Moscow)

TITLE: Measuring the Dimensions of Specimens in the Case of Cyclic Heat Treatment of Alloys of Aluminium with 83 to 98% Zinc (Izmeneniye razmerov obraztsov pri tsiklicheskoy termicheskoy obrabotke splavov alyuminiya s 83-98% tsinka)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 11, pp 117-118 (USSR)

ABSTRACT: In earlier work (Ref 1) a relation was established between the change in the dimensions of the specimens during cyclic heat treatment and the composition for alloys of the system Al-Zn. Study of the obtained relations has shown that for concentrations approaching the eutectic one the continuity of the curve is disturbed and a bend occurs. The work described in this paper was carried out to determine more accurately the curve of the percentual change of the length of specimens during cyclic heat treatment as a function of the composition of the alloy in the region of eutectic concentrations. The experiments were carried out according to a technique described earlier The composition of the investigated alloys is entered in

Card1/3

Measuring the Dimensions of Specimens in the Case of Cyclic Heat Treatment of Alloys of Aluminium with 83 to 98% Zinc

the table, p.117. The same table contains the measured values of the length changes. Micro-photos (magnification 140 times) of the alloys in the as-cast state are reproduced in Fig.1. As a result of the measurements after sixty cycles, the following data were obtained:
1) Specimens of the alloys containing 83 to 91% Zn decreased in length and width and increased in thickness after sixty cycles of heat treatment, whereby the magnitude of the length reduction dropped from 5.1% for an alloy containing 83% Zn to 1.55% for an alloy containing 91% Zn;
2) a further increase in the Zn content to 95% brings about an appreciable increase in the magnitude of the compression during cyclic heat treatment;
3) at a section with concentrations of 95-98% Zn the magnitude of compression decreases rapidly and for a 98% Zn content an increase in the length and the width was observed during cyclic heat treatment. The results graphed in Fig.2, indicate that the curve representing the change of the length of the specimens has a bend which corresponds to alloys of the eutectic composition. This

Measuring the Dimensions of Specimens in the Case of Cyclic Heat Treatment of Alloys of Aluminium with 83 to 98% Zinc

result shows that the magnitude of the dimensional change during cyclic heat treatment is greatly influenced by the degree of dispersion of the structural components on which the intensity of diffusion processes taking place during cyclic heating depends. The structure of the alloys after cyclic heat treatment is shown in the micro-photographs reproduced in Fig.3.
There are 3 figures and 1 table.

(Note: This is a complete translation)

SUBMITTED: April 26, 1958

Card 3/3

PHASE I BOOK EXPLOITATION SOV/5612

Alisova, S. P., L. B. Vul'f, K. M. Markovich, P. K. Novik, L. A. Petrova, and Z. M. Rogachevskaya

Diagrammy sostoyaniya metallicheskikh sistem, opublikovannyye v 1955 godu. vyp. 1. (Equilibrium Diagrams of Metal [Alloy] Systems, Published in 1955. no. 1) Moscow, 1959. 135 p. Errata slip inserted. 1,500 copies printed.

Ed. (Title page): N. V. Ageyev; Tech. Ed.: N. M. Soboleva.

PURPOSE : This book is intended for metallurgists, scientific workers, and students engaged in the study of alloys and their properties.

COVERAGE: Equilibrium diagrams published in Soviet and non-Soviet literature in 1955 are arranged in sequence according to the number of component elements (binary, ternary, quaternary, etc.); within the groups, they are arranged in Russian alphabetical order according to the names of the components. The

Card 1/16

descriptions treat the following: 1) the alloys used in the investigations; 2) the methods of preparing and studying the alloys; 3) a description of the diagram with its points and lines; 4) description of the phase; 5) reference source; and 6) remarks. For binary systems the equilibrium diagram from the original article is given; for ternary and more complex systems, selected sections of the diagram are presented. If not otherwise indicated, the compositions are given in weight percentages and the temperatures in Centigrade. Abbreviations for the type of lattice are as follows: granetsentrirovannaya kubicheskaya (GTsK) reshetka -- face-centered cubic (FCC) lattice; ob"yemno-tsentrirovannaya kubicheskaya (OTsK) reshetka -- body-centered cubic (BCC) lattice; and geksagonal'naya plotno-upakovannaya (GPU) reshetka -- hexagonal closed-packed (HCP) lattice. No personalities are mentioned. There are 114 references: 56 English, 28 German, 28 Soviet, 1 French, and 1 Italian.

S/020/62/146/002/007/013
B101/B144

AUTHORS: Ageyev, N. V., Corresponding Member AS USSR, Grankova, L. P., Novik, P. K.

TITLE: Effect of aluminum on the stability of the β-phase in titanium - molybdenum - iron alloys

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 146, no. 2, 1962, 351-354

TEXT: Titanium alloys containing 6.7-13.5% Mo, 2.2-10% Fe, and 1-3% Al were studied radiographically and metallographically and their hardness was determined in order to explain differences in the published data. Results: (1) All alloys except those containing 6.7% Mo, 2.2% Fe, and 1-3% Al form single-phase solid β-solutions when hardened at 700°C. Alloys containing 6.7% Mo, 2.2% Fe, and 1-2% Al form the β-phase after hardening at 900°C, those containing 3% Al form it after hardening at 1000°C. (2) In alloys containing 6.7% Mo, 2.2% Fe, 1-3% Al, the β-phase decomposed within 15 min at 200°C. Between 200 and 300°C, the ω-phase was formed and remained stable for 100 hrs. The hardness increased with the ageing temperature. At 400°C, a $\beta+\omega \longrightarrow \beta+\alpha$ transition took place in

Card 1/3

Effect of aluminum on the ...

these alloys and their hardness decreased slightly. The aluminum content of 1-3% did not affect the stability of the β-phase, but the hardness increased with the aluminum content. (3) In the other alloys, the β-phase decomposed immediately into the α-phase without forming the ω-phase. At 300°C, the β-phase of all alloys remained stable for 1[illegible] hrs. At 400°C, the β-phase of alloys containing 12% Mo, 10% Fe, and 1-3% Al did not decompose even after 144 hrs. With an aluminum content [illegible] the β-phase of alloys containing 9% Mo and 10% Fe decomposed within [illegible] hrs. With 2% Al it did so within 25 hrs, and with 3% Al within 16 hrs. In alloys containing 13.5% Mo, 6% Fe, and 1% Al, and in those containing 9% Mo, 10% Fe, and 1% Al, the β-phase is stable for 1 hr, at 500°C; in alloys containing 9% Mo, 10% Fe, and 2-3% Al or 7% Mo, 9% Fe, and [illegible] it is stable for 15 min only. (4) The β-phase of alloys hardened from 800 and 900°C decomposes in a similar way. (5) The β-phase of Ti - Fe - Al alloys is more stable than that of Ti - Mo - Fe alloys. There are 3 figures and 2 tables. The English-language references are: [illegible] Kessler, M. Hansen, Trans. ASM, 46, 790 (1954); A. J. Griest, J. F. Dorn, P. D. Frost, Trans. Met. Soc. AIME, 215, 4, 627 (1959).

Card 2/3

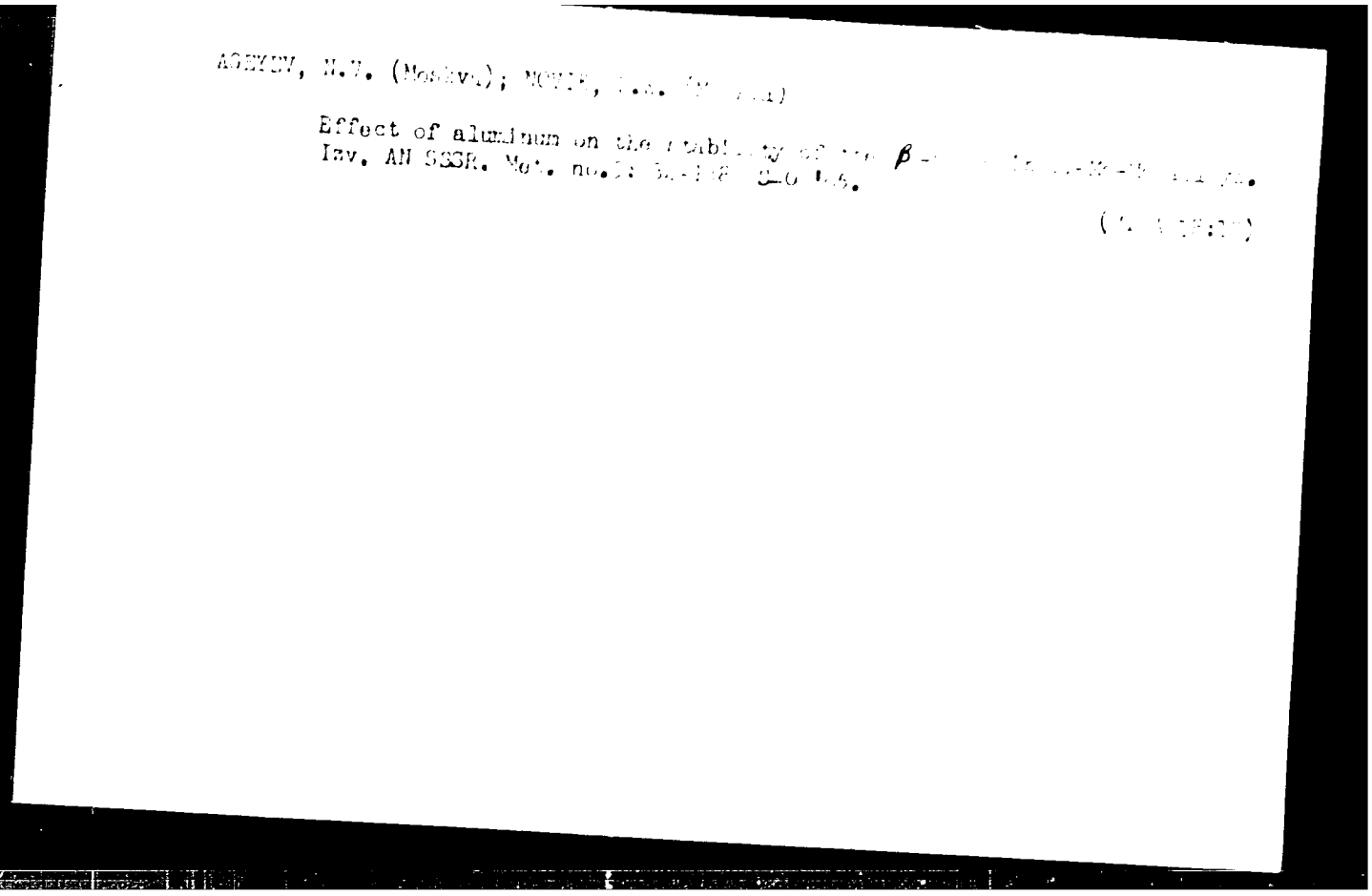
Effect of aluminum on the ...

S/020/62/146/002/007/013
B101/B144

ASSOCIATION: Institut metallurgii im. A. A. Baykova (Institute of Metallurgy imeni A. A. Baykov)

SUBMITTED: May 12, 1962

Card 3/3



L 11200-66 EWT(m)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD/JG

ACC NR: AP5026360 SOURCE CODE: UR/0370/65/000/005/0134/0138

AUTHOR: Ageyev, N. V. (Moscow); Novik, P. K. (Moscow)

ORG: none

TITLE: Effect of aluminum on the stability of the β-phase in Ti-Mo-Mn alloys

SOURCE: AN SSSR. Izvestiya. Metally, no. 5, 1965, 134-138

TOPIC TAGS: alloy, titanium base alloy, molybdenum alloy, manganese alloy, aluminum containing alloy, nonferrous metal alloy, metal test, alloy composition, alloy phase diagram

ABSTRACT: The study examined the effect of aluminum on the stability of the β-phase in Ti-Mo-Mn alloys. Prior to testing for stability of the β-phase, the alloy samples were forge worked at 1223-1023°K to thin plates, vacuum soaked for 2 hours at 1173°K and cooled. Aging tests were carried out at 573, 673, 773, and 873°K. Test duration varied from 15 minutes to 100 hours. The Mn + Mo contents in the alloys were 20-24%, 16%, and 12-13%. The study encompassed the following alloys: Ti-10Mn-12Mo-1Al, Ti-10Mn-12Mo-2Al, Ti-10Mn-3Al, Ti-7Mn-9Mo-1Al, Ti-7Mn-9Mo-2Al, Ti-7Mn-9Mo-3Al, Ti-3.2 Mn-9.5Mo-1Al, Ti-3.2Mn-9.5Mo-2Al, and Ti-3.2Mn-9.5Mo-3Al. In Ti-Mo-Mn alloys, the stability of the β-phase increased sharply in proportion to increases in the Al content (from 1 to 3%). For alloys containing 16% of Mo + Mn, the introduction of 1% Al suppressed the formation of the metastable ω-phase. In the case of alloys containing

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12-13% of Mo + Mn, the introduction of 1 or 2% Al caused a sharp reduction in the ω-phase concentration at 673°K, and the introduction of 3% Al eliminated the formation of the ω-phase at 673°K. It was found that the presence of Al in Ti-Mo-Mn alloys inhibited the diffusion processes in alloys and the decay of the β-phase, increased the length of the induction period, and prevented crystallization in the ω-phase. It was recommended that the development of commercial alloy reinforcing by means of stabilization of the β-phase center on Ti-Mo-Mn alloys containing approximately 18% (Mo + Mn) and 3% Al. Orig. art. has: 2 figures, 2 tables.

SUB CODE: 11/ SUBM DATE: 14May64/ ORIG REF: 002/ OTH REF: 001

EC

Card 2/2

NOVIK, P.S., inzh.

Perennial durable lawns. Sbor.nauch.trud.RNII AKH no.[illegible] 1963.
(MIRA 18:10)

MOVIK, R.I., inzhener.

Six hundred ton capacity loose bulk cargo diesel engine freighter.
Mech. transp. 16 no.4:22-24 Ap '57. (MLRA 10:5)
(Freighters)

TIKHOMIROV, Nikolay Alekseyevich; OBERTINSKAYA, T.V., retsenzent; NOVIK, R.I., retsenzent; KARPOV, A.B., dotsent, retsenzent, red.; KAN, P.M., red.izd-va; YEMAKOVA, T.F., tekhn.red.

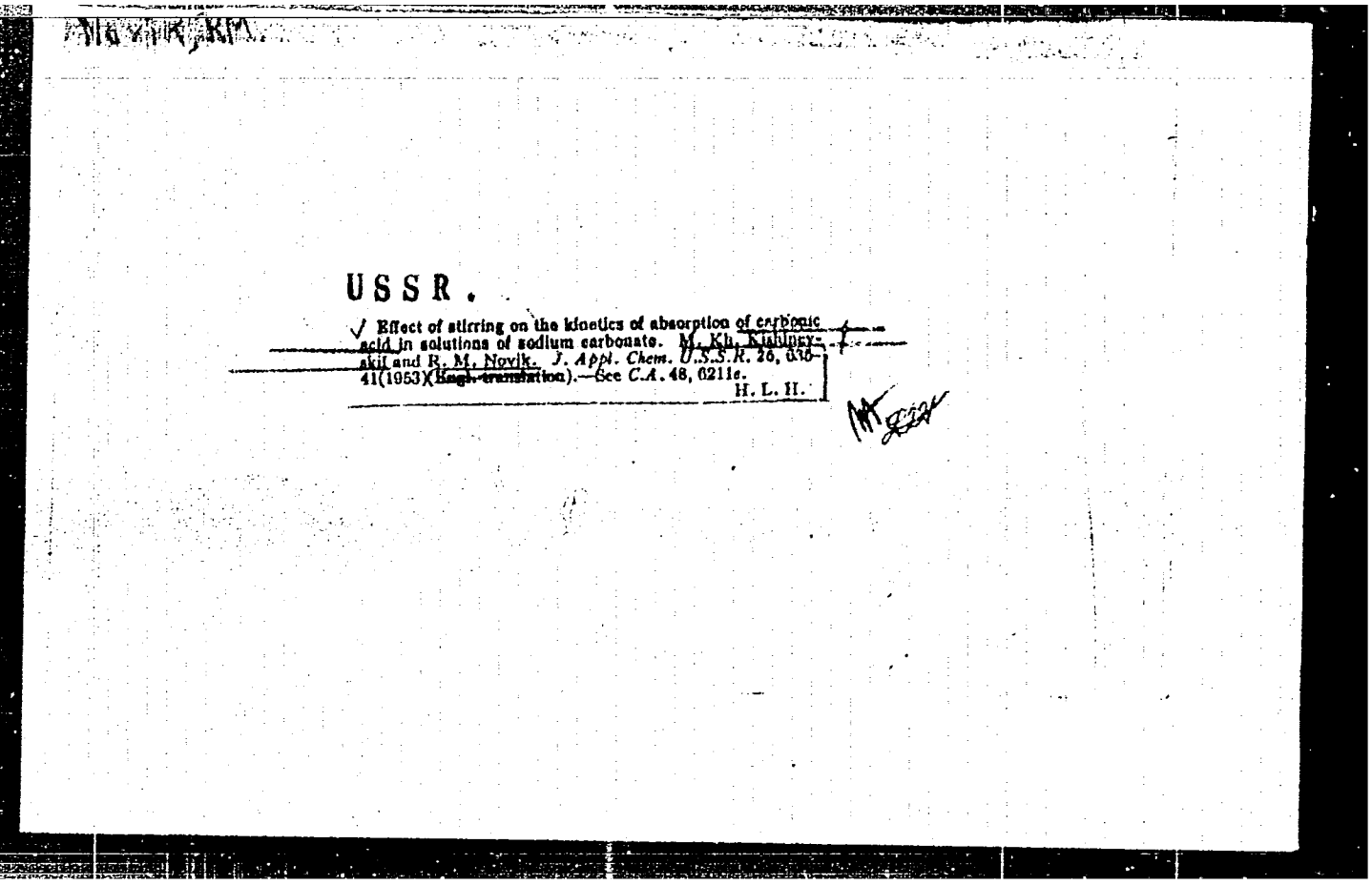
[Ship propulsion] Khodkost' sudna. Moskva, Izd-vo "Rechnoi transport," 1959. 198 p. (MIRA 13:8)
(Ship propulsion)

NOVIK, R.I., inzh.; KNYAZEV, S., inzh.

New cargo-passenger 800 hp. diesel vessel. Mech.transp. 19 no.5:17-22 My '60. (MIRA 13:7)
(Freighters--Passenger traffic)

NOVIK, R. I., inzh.

Three-hundred-horsepower self-propelled ferry. Rech.transp. 19 no.8:19 Ag '60. (MIRA 14:3)
(Ferries)



USSR.

✓ Effect of stirring on the kinetics of absorption of carbonic acid in solutions of sodium carbonate. M. Kh. Kibirev-akil and R. M. Novik. *J. Appl. Chem. U.S.S.R.* 26, 635-41(1953)(Engl. translation).—See *C.A.* 48, 6211e.

H. L. H.

NOVIK, R M

THE INFLUENCE OF AGITATION ON THE KINETICS OF ABSORPTION OF CARBON DIOXIDE BY SODIUM CARBONATE SOLUTIONS. M. Kh. Kishinevskii and R. M. Novik. Translated by V. Beak from Zhur. Prikład. Khim. 26, 673-80(1953). 9p. (AERE-Lib/Trans-463)

The kinetic regularities of the process of absorption are determined by the hydrodynamical conditions under which the process is carried out. The equation $\frac{dw}{dr} = \frac{[mC\ 1 - e^{-PlK}] + HP}{\rho}$ correctly describes the kinetics of absorption of CO_2 by Na_2CO_3 solutions and explains the apparent contradiction in results of a number of works. The activation energy of the reaction between CO_2 and Na_2CO_3 is 13000 cal. (auth)

Lab. Physical Chem, Kishinev State Univ.

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