1. BLOK, G.

2. USSR (600)

4. Dairying

7. Raising production level is the most important condition for improving production quality, Mol. prom., 13, No. 11, 1952.

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

BLOK, Georgiy

Fate of Black Mold
Ogonek 30 ,no. 27, (1952)

BLOK, G.

The twelfth "giant." Znan.sila no.12:21 D '53. (MLRA 6:12)
(Vitamins)

BLOK, G.; GEIMBERG, S.

Use of yeast culture in making of butter. Molochnaya Prom. 14, No.6, 17-21 '53. (MLRA 6:5)
(CA 47 no.16:8278 '53)

1. Dairy Inst., Vologda.

BLOK, G. G., Dr Tech Sci — (diss) "Study of yeasts in butter and the use of speical species of them to increase the stability of butter," Moscow, 1960, 46 pp (Moscow Technological Institute of the Food Industry) (KL, 40-60, 122)

BLOK, Georgiy Ernestovich; FAYNBOYM, I.B., red.; RAKITIN, I.T., tekhn. red.

[Glass crystals] Sitally. Moskva, Izd-vo "Znanie," 1963. 40 p. (Novoe v zhizni, nauke, tekhnike. IX Seriia: Fizika i khimiia, no.24) (MIRA 17:1)
(Glass research) (Ceramic materials)

BLOKH, G., kand.tekhn.nauk; LITVINOV, A., inzh.

How to build an asbestos cement roof. Stroitel' no.7:29-30 Jl '61. (MIRA 14:8)

(Asbestos cement)
(Roofs)

BLOK, G.P., sostavitel'; KRUTIKOVA, M.V., sostavitel'; BONCHKOVSKIY, V.F. [redaktor]; GORSHKOV, G.P. [redaktor].

[Manuscripts of B.B.Golitsyn in the archives of the Academy of Sciences of the U.S.S.R.] Rukopisi B.B.Golitsyna v arkhive Akademii nauk SSSR. Sostavili G.P.Blok i M.V.Krutikova. Pod red. V.F.Bonchkovskogo i G.P.Gorshkova. Moskva, Izd-vo Akademii nauk SSSR, 1952. 139 p. (MLRA 6:7)

1. Arkhiv Akademii nauk SSSR.
(Golitsyn, Boris Borisovich, 1862-1916) (Bibliography--Physics)
(Physics--Bibliography)

BLOK, G.P.

LOMONOSOV, M.V.; VAVILOV, S.I., akademik, redaktor; KRAVETS, T.P., redaktor; VINOGRADOV, V.V., adademik, redaktor; TOPCHIYEV, A.V., akademik, redaktor; BARKHUDAROV, S.G., redaktor; ANDREYEV, A.I., redaktor; BLOK, G.P., redaktor; YELISEYEV, A.A., redaktor; KNYAZEV, G.A., redaktor; CHENAKAL, V.L.; PEVZNER, R.S., tekhnicheskiy redaktor

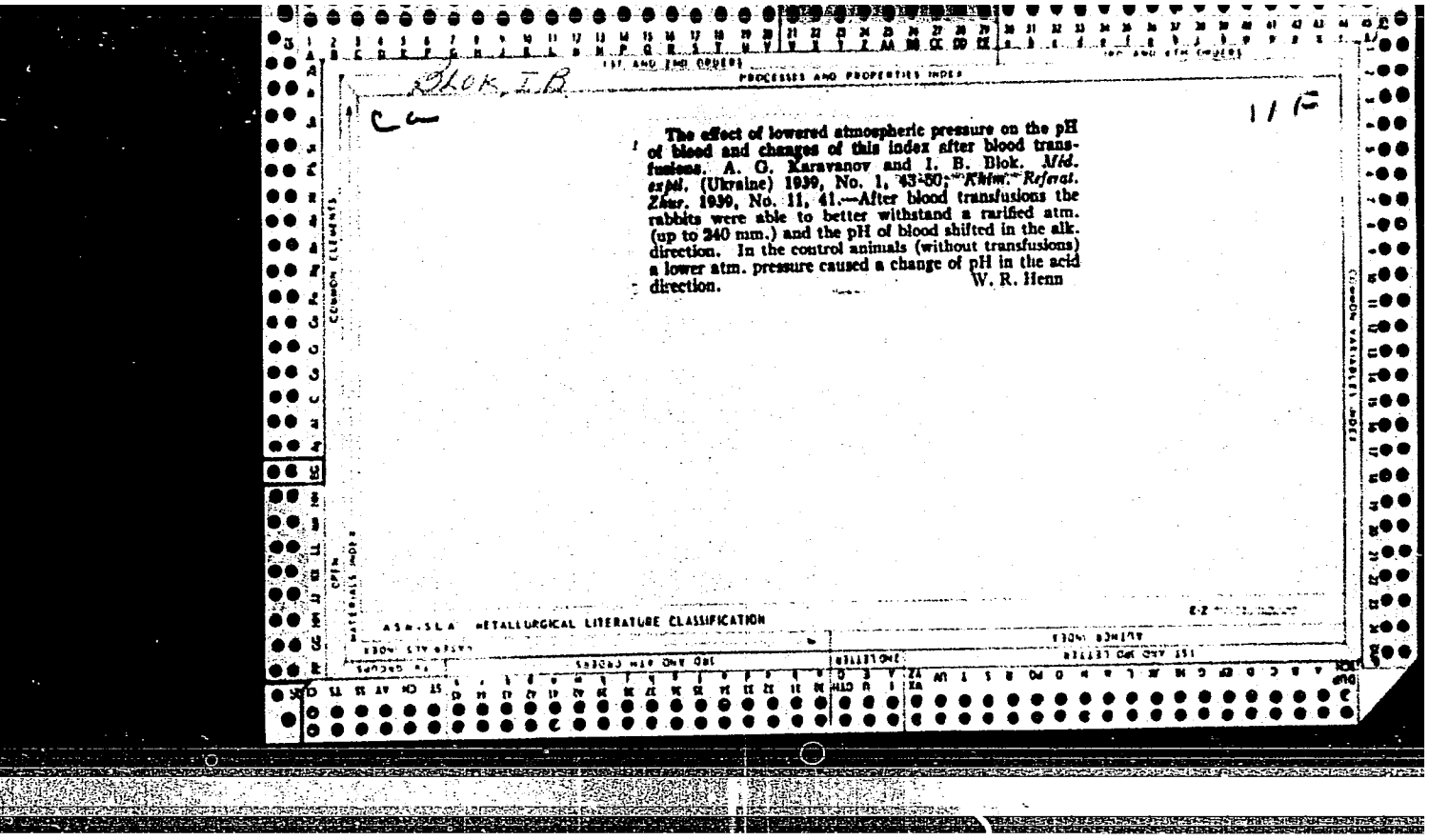
[Complete collected works] Polnoe sobranie sochinenii. Moskva, Izd-vo Akademii nauk SSSR. Vol.4.[Works on physics, astronomy, and instrument construction, 1744-1765] Trudy po fizike, astronomii i priborostroeniiu 1744-1765 gg. 1955. 830 p. (MLRA 8:6)

1. Chlen-korrespondent Akademii nauk SSSR (for Kravets, Barkhudarov). (Physics) (Astronomy) (Instruments)

BLOK, I.

Good people are the life of a plant. Izobr. i rats. no. 4:12-14 Ap '61. (MIRA 14:4)

1. Predsedatel' soveta Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov zavoda avtomaticheskikh liniy, Minsk.
(Minsk—Machinery industry)



Blok, I.R.

The effect of lowered atmospheric pressure on the pH of blood and changes of this index after blood transfusions. A. G. Karavanov and I. B. Blok. *Mid. zaput.* (Ukraine) 1939, No. 1, 43-50; *Khim. Referat. Zhur.* 1939, No. 11, 41.—After blood transfusions the rabbits were able to better withstand a rarified atm. (up to 240 mm.) and the pH of blood shifted in the alk. direction. In the control animals (without transfusions) a lower atm. pressure caused a change of pH in the acid direction.

W. R. Henn

1. BLOK, I. B.

2. USSR (600)

4. Ultraviolet Rays

7. Disinfection of the seed of the oak silkworm with ultra-violet light. Visnyk AN URSR, 23, No. 3, 1951.

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

BLOK, I.B., kand.biologicheskikh nauk

Parasitological confirmation of congenital toxoplasmosis. Vrach. delo no.9:109-111 S '60. (MIRA 13:9)

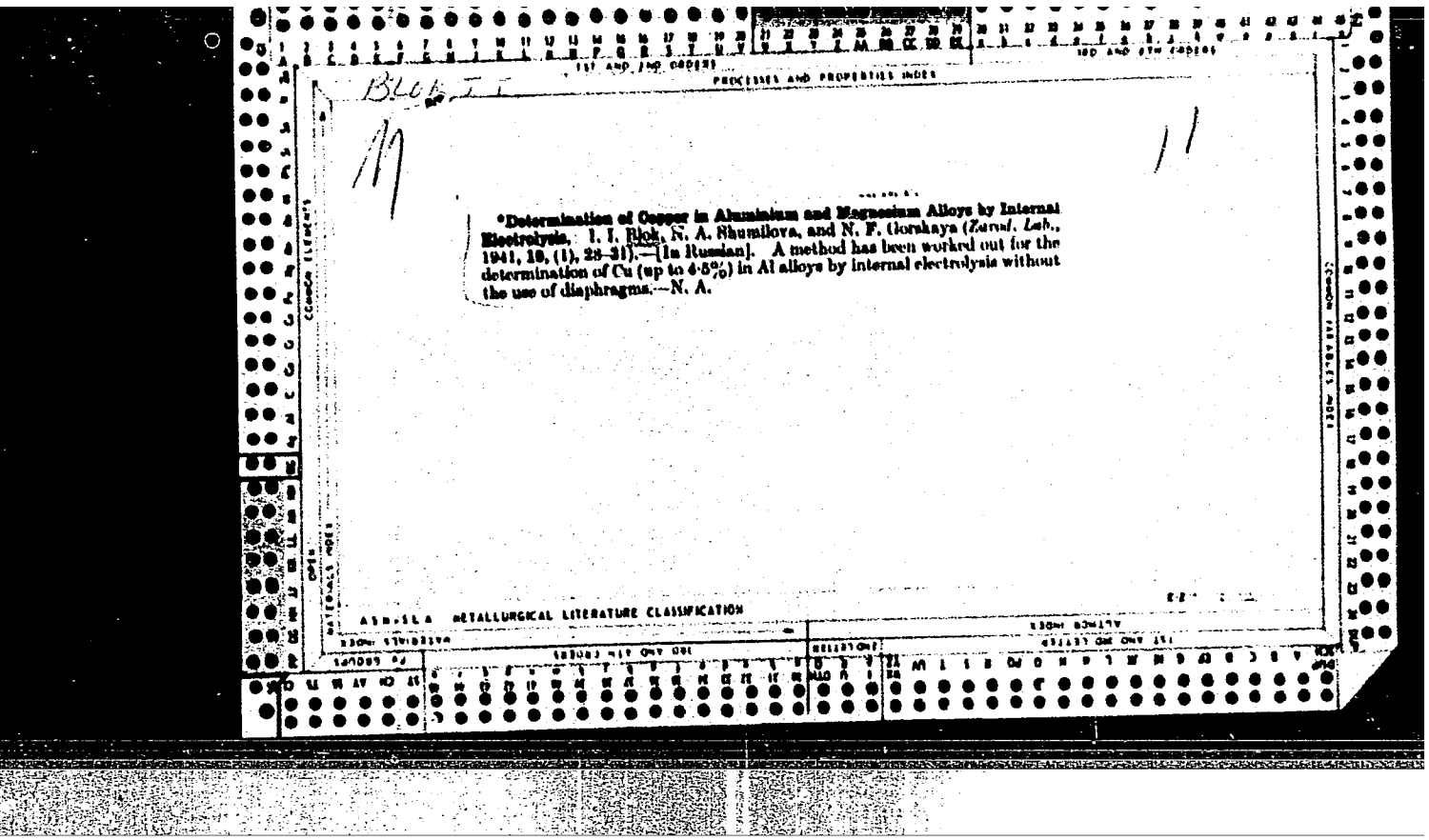
1. Bakteriologicheskaya laboratoriya Kiyevskoy psikhonevrologicheskoy bol'nitsy im. akad. I.P. Pavlova.
(TOXOPLASMOSIS)

LAKHTUNOVA, L.V.; BLOK, I.B.

Case of severe oligophrenia in connection with congenital toxoplasmosis. Zhur. nevr. i psikh. 61 no.7:1063-1064 '61. (MIRA 15:6)

1. Kiyevskaya psikhonevrologicheskaya bol'nitsa imeni Pavlova (glavnyy vrach P.N. Lepekhov, nauchnyy rukovoditel' - prof. I.A. Polishchuk).

(TOXOPLASMOSIS)
(MENTAL DEFICIENCY)



*Determination of Copper in Aluminium and Magnesium Alloys by Internal Electrolysis. I. I. Blok, N. A. Nhumilova, and N. F. Gorshaya (*Zavod. Lab.*, 1941, 10, (1), 28–31).—[In Russian]. A method has been worked out for the determination of Cu (up to 6·5%) in Al alloys by internal electrolysis without the use of diaphragms.—N. A.

BLOK, J.

Carrying out the slogan of saving a million trees for People's Poland. p. 1

LAS POLSKI. (Ministerstwo Lesnictwa oraz Stowarzyszenie Naukowo-Techniczne In Inzynierow i Technikow Lesnictwa i Drzewnictwa) Warszawa, Poland. Vol. 29 no. 1, Jan. 1955

Monthly list of East European Accessions (EEAI) LC, Vol. 9, no. 2, Feb. 1960

Uncl.

BLOK,J.

Tasks of this year's campaign "National Forest and Afforestation Day." p.3

LAS POLSKI. (Ministerstwo Lesnictwa oraz Stowarzyszenie Naukowo-Techiczne Inzynierow i Technikow Lesnictwa i Drzewnictwa) Warszawa, Poland
Vol.29, no.4 Apr.1955

Monthly list of East European Accessions (EEAI) LC, Vol.9, no.2 Feb. 1960

Uncl.

TODOROV, I.N. [Todorov, I.M.]; BLOK, L.N. [Blok, L.M.]

Effect of ribonucleic acid from the bovine hypophysis on some aspects of hormone production in the adenohypophysis of white rats. Dop. AN URSR no.10:1331-1334 '64. (MIRA 17:12)

1. Institut radiofiziki i elektroniki AN UkrSSR i Khar'kovskiy institut meditsinskoy radiologii. Predstavleno akademikom AN UkrSSR R.Ye. Kavetskim [Kavets'kyi, R.IE.].

L 12111-66 EWP(e)/EWT(m)/EWP(b)

ACC NR: AT6000514 SOURCE CODE: UR/0000/65/000/000/0423/0425

AUTHOR: Blokh, K.I.

ORG: none

TITLE: Relaxation theory of vitrification and strength of glass fibers

SOURCE: Vsesoyuznoye soveshchaniye po stekloobraznomu sostoyaniyu. 4th, Leningrad, 1964. Stekloobraznoye sostoyaniye (Vitreous state); trudy soveshchaniya, Leningrad, Izd-vo Nauka, 1965, 423-425

TOPIC TAGS: glass property, optic glass, glass fiber

ABSTRACT: A study of the temperature field in the bulb of a glass fiber being drawn from a melt (the bulb being the region of the fiber extending from the spinneret to the cross section where a constant fiber diameter is established) has shown that the cooling time τ of the glass mass in the bulb from temperature t_1 to temperature t_2 is given by the formula

$$\tau = \frac{D_\phi^2}{ad_0^2 v_0}\left(e^{bt_1} - e^{bt_2}\right),$$

where a and b are constants dependent on the cooling conditions of the bulb, $a \simeq 10^{22}\ \frac{1}{mm}$; $b \simeq 0.06\ \frac{1}{deg}$; D_ϕ is the spinneret diameter; d_0 and v_0 are the fiber diameter and drawing

Card 1/2

BLOK, L.N.

USSR/Human and Animal Physiology. Neuromuscular Physiology. T

Abs Jour: Ref Zhur-Biol., No 8, 1958, 36814.

Author : Nikitin, V.N., Golubitskaya, R.I., Silin, O.P. Likhushina, L.G., Blok, L.N.

Inst : Kharkov University.

Title : Changes in Biochemistry of Denervated Organs Occuring During Growth Periods. I. Changes of Some Biochemical Indices of Striated Muscles Following Denervation and Tenotomy During Growth.

Orig Pub: Uch. Zap. Kharkovsk un-t. 1956, 68, 79-99.

Abstract: Experiments were carried out on rats aged 1.4 months to 1.4 years. On the 21st day following removal of the Achilles tendon a decrease was noted in the muscles of the foot of the ATP, creatinephosphate, glycogen, acid soluble P, Lipoid P.P. PNC and DNC

Card : 1/2

NIKITIN, V.N.; BLOK, L.N.

Materials on the ontogenetic physiology of the Chinese tussah moth (Antheraea pernyi G.-M.) Report No.1: Changes in the amount of phosporus fractions. Uch.zap.KHGU 68:117-136 '56 (MIRA 11:11)

1. Kafedra fiziologii cheloveka i zhivotnykh Nauchno-issledovatel'skogo instituta biologii i biologicheskogo fakul'teta Khar'kovskogo ordena trudovogo krasnogo znameni gosudarstvennogo universiteta imeni A.M. Gor'kogo.
(SILKWORMS) (PHOSPHORUS IN THE BODY) (INSECTS--DEVELOPMENT)

USSR/Human and Animal Physiology (Normal and Pathological). T-4
Blood. Hematogenesis.

Abs Jour : Ref Zhur - Biol., No 11, 1958, 50658

Author : Nikitin, V.N., Blok, L.N., Zhukova, S.V., Suvarova, G.A.

Inst : Khar'kov University.

Orig Pub : Age Determined Changes of the Reticulocyte Content and of the Erythrocyte Osmotic Resistability.

Orig Pub : Uch. zap. Khar'kovsk. un-t, 1956, 68, 215-220.

Abstract : The changes of erythrocyte hematogenesis in the ontogenesis of white rats were studied by establishing the reticulocyte content of blood and the osmotic resistability of erythrocytes (E). With advancing age the amount of reticulocytes decreases, at first rapidly and then slower (reticulocytes amount to 46.16 percent in newborn rats, to 11.4 percent in one-month old rats, to 3.93 percent in

Card 1/2

MAKHIN'KO, V.I.; BLOK, L.N.

Materials on the physiology of embryonic development of domestic fowl. Report No.7: Changes in the phosphorus: pentose ratio of ribonucleic acid in the liver of a duck embryo during incubation. Uch. zap KHGU 108:337-343 '60. (MIRA 14:3)

1. Kafedra fiziologii cheloveka i zhivotnykh Khar'kovskogo gosudarstvennogo universiteta.
(EMBRYOLOGY--BIRDS) (NUCLEIC ACIDS)
(PHOSPHORYLATION)

BLOK, L. N., MAKHINKO, V. I. (USSR)

"Nucleotide Composition of the RNA of Certain Organs during the Embryonic Development of Birds."

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

MAKHIN'KO, V.I.; BLOK, L.N.

Nucleotide composition of ribonucleic acid of the liver during the embryogenesis of the duck. Biokhimiia 26 no.6:993-1000 N-D '61. (MIRA 15:6)

1. Chair of Human and Animal Physiology, State University, Kharkov.

(LIVER) (NUCLEIC ACIDS)
(EMBRYOLOGY--BIRDS)

BLOK, L.N.

Content of the adrenocroticotrophic hormone in the hypophysis of rats of different ages. Biul.eksp.biol.i med. 54 no.11:26-29 N '62. (MIRA 15:12)

1. Iz kafedry fiziologii cheloveka i zhivotnykh Khar'kovskogo gosudarstvennogo universiteta. Predstavlena deystvitel'nym chlenom AMN SSSR A.V.Lebedinskim.
(ACTH) (PITUITARY BODY)

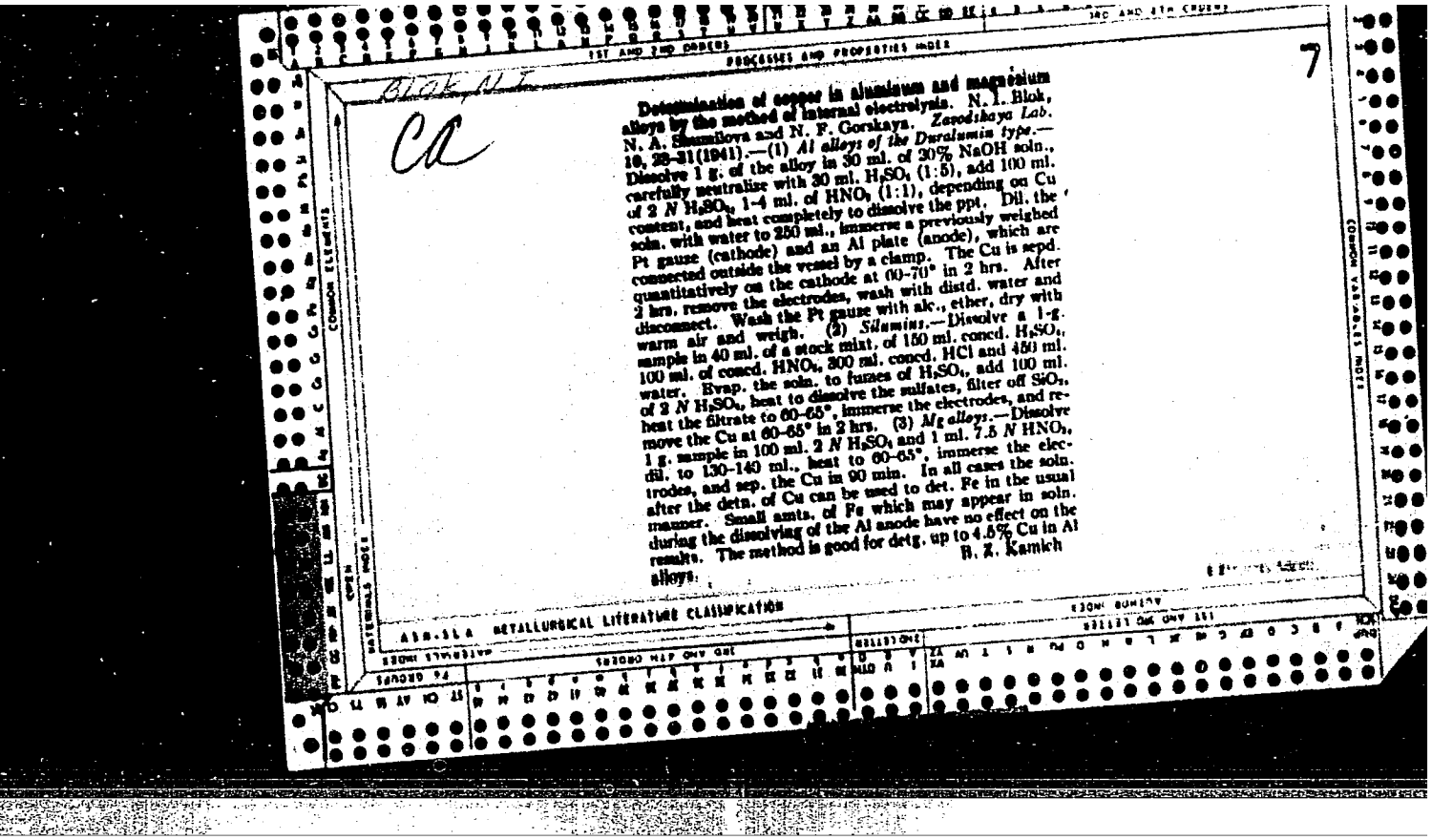
USSR

DIL'MAN, V.M.; BLOK, L.P.

Anahormones. Report No.2: Hormonally nonactive pituitary gonadotropins on the frequency of appearance of hyperplasia of ovarian tissue transplanted into the spleen. Vop.onk. 8 no.6:115-116 '62. (MIRA 15:11)

1. Iz kabineta endokrinologii laboratorii eksperimental'noy onkologii (zav. laboratoriyey - zasl. deyat. nauki, prof. N.V. Lazarev) Instituta onkologii AMN SSSR (dir. - deystv. chlen AMN SSSR, prof. A.I. Serebrov). Adres avtorov: Leningrad, P-129, 2-ya Berezovaya al. 3, Institut onkologii AMN SSSR.

(CONADOTROPIN) (OVARIES—TRANSPLANTATION) (SPLEEN—SURGERY)



Blok, N. I.

Cu

7

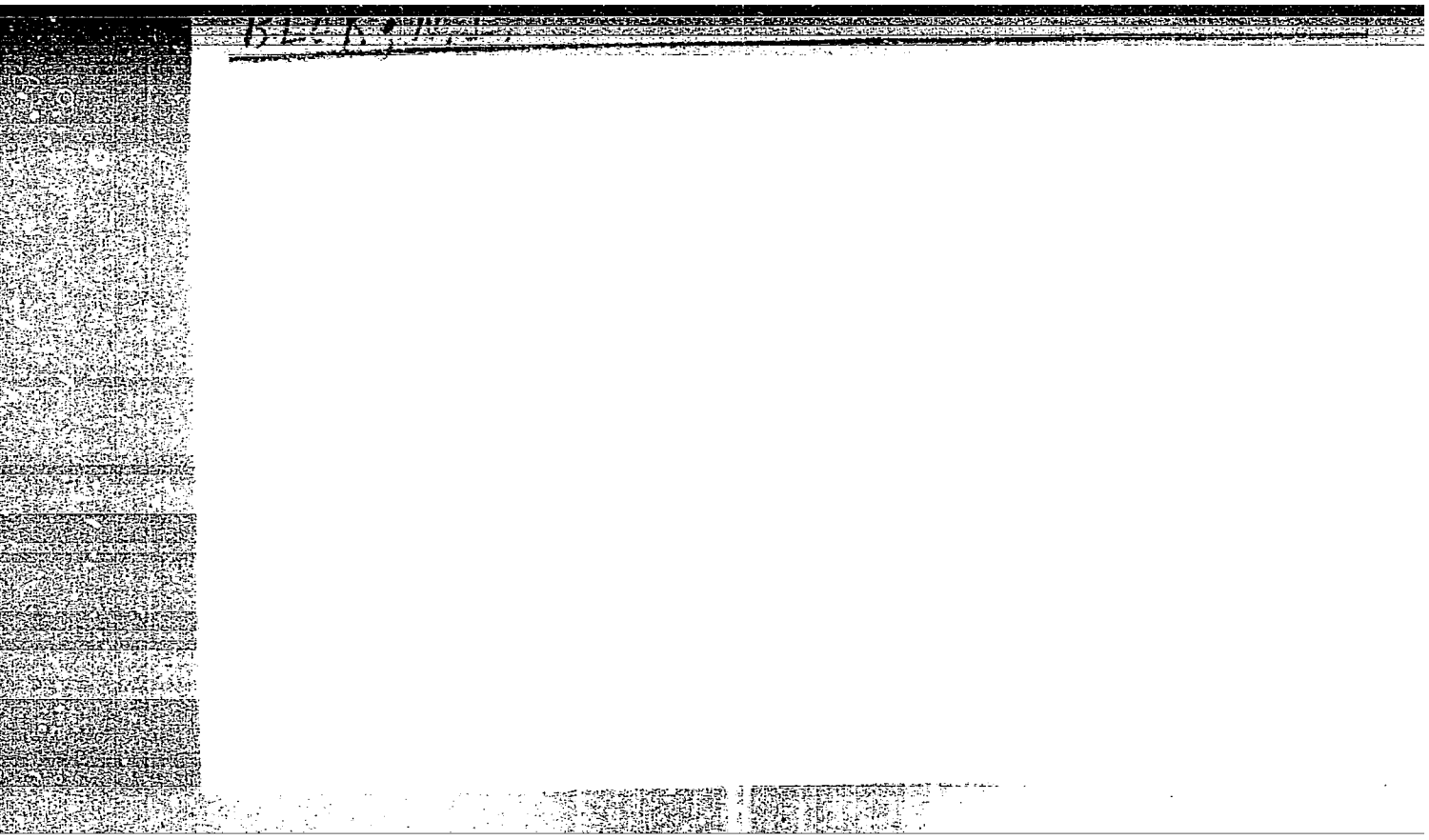
Determination of copper in aluminum and magnesium alloys by the method of internal electrolysis. N. I. Blok, N. A. Shumilova and N. F. Gorskaya. *Zavodskaya Lab.* 10, 28–31 (1941).—(1) *Al alloys of the Duralumin type.*—Dissolve 1 g. of the alloy in 30 ml. of 30% NaOH soln., carefully neutralize with 30 ml. H_2SO_4 (1:5), add 100 ml. of 2 *N* H_2SO_4, 1–4 ml. of HNO_3 (1:1), depending on Cu content, and heat completely to dissolve the ppt. Dil. the soln. with water to 250 ml., immerse a previously weighed Pt gauze (cathode) and an Al plate (anode), which are connected outside the vessel by a clamp. The Cu is sepd. quantitatively on the cathode at 60–70° in 2 hrs. After 2 hrs. remove the electrodes, wash with distd. water and disconnect. Wash the Pt gauze with alc., ether, dry with warm air and weigh. (2) *Silumins.*—Dissolve a 1-g. sample in 40 ml. of a stock mixt. of 150 ml. concd. H_2SO_4, 100 ml. of concd. HNO_3, 300 ml. concd. HCl and 450 ml. water. Evap. the soln. to fumes of H_2SO_4, add 100 ml. of 2 *N* H_2SO_4, heat to dissolve the sulfates, filter off SiO_2, heat the filtrate to 60–65°, immerse the electrodes, and remove the Cu at 60–65° in 2 hrs. (3) *Mg alloys.*—Dissolve 1 g. sample in 100 ml. 2 *N* H_2SO_4 and 1 ml. 7.5 *N* HNO_3, dil. to 130–140 ml., heat to 60–65°, immerse the electrodes, and sep. the Cu in 90 min. In all cases the soln. after the detn. of Cu can be used to det. Fe in the usual manner. Small amts. of Fe which may appear in soln. during the dissolving of the Al anode have no effect on the results. The method is good for detg. up to 4.8% Cu in Al alloys.

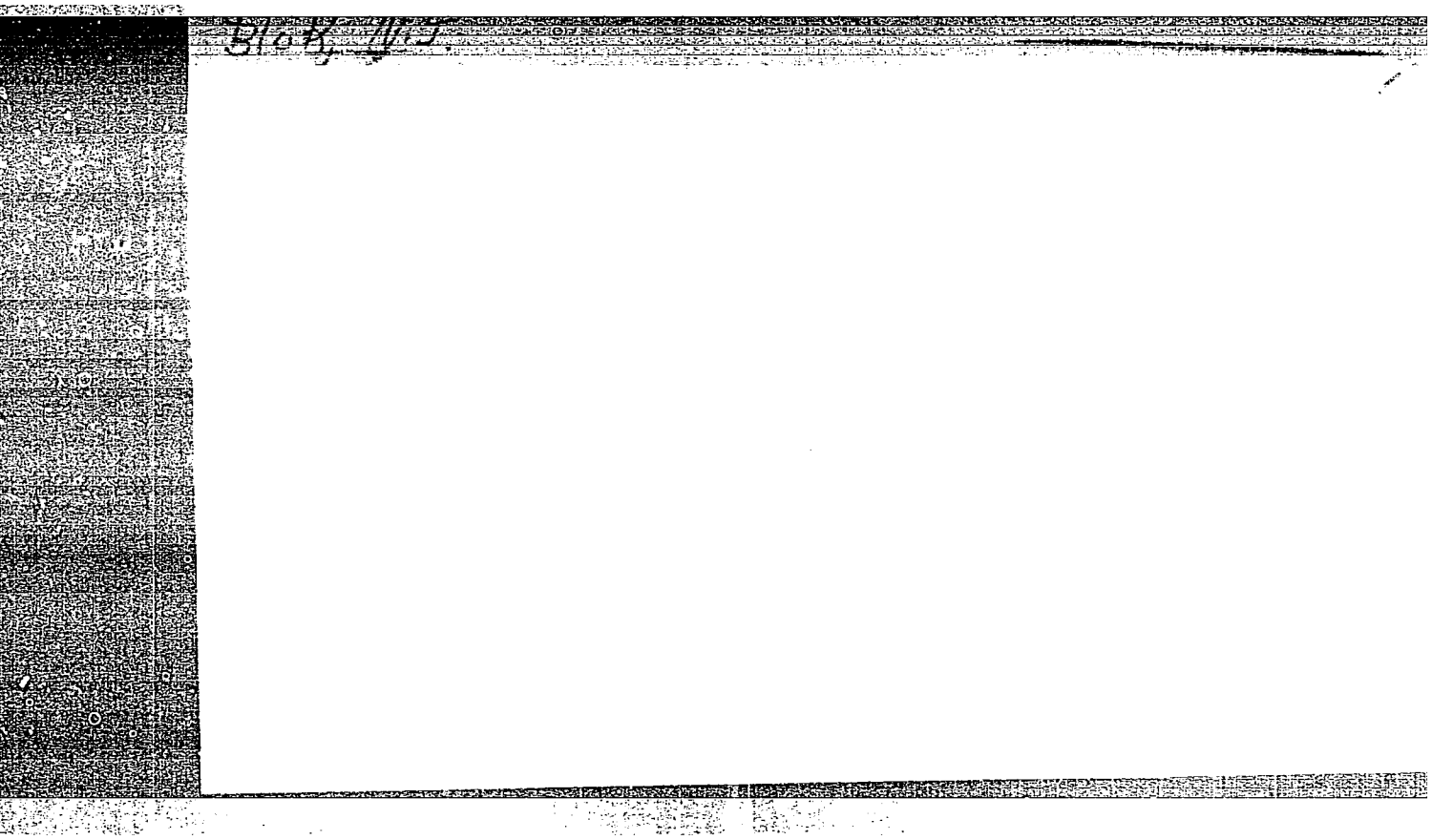
B. Z. Kamich

BLOK, N.I. [author]; RUDNEV, N.A. [reviewer].

About N.I.Blok's book "Qualitative chemical analysis." N.I.Blok. Reviewed by N.A.Rudnev. Zhur.anal.khim. 8 no.4:238-239 Jl-Ag '53. (MLRA 6:8)

(Chemistry, Analytical--Qualitative) (Blok, N.I.)





The Phase Analysis of Chromium-Nickel-Titanium Steels with Intermetallic Binding.

temperature in the tank has to be kept at 0°C. In the given case it was found out that in the above-mentioned steel sample the following is to recommended for the phase analysis: an electrolyte of 50 g $CuSO_4$, 80 g triply substituted ammonium citrate, 100 ml methanol per 1 liter water, current density D = 0,05 % a/cm^2, pH = 4-4,5, temperature of the tank 0-5°C, duration of the electrolysis 2-3 hours. For the chemical analysis the anode deposits are quantitatively separated. Their X-ray structure analysis is performed according to the method by Pulver in Kα-radiation. In the case of most steel alloys the phase β-Ni_3Ti remains metastable and upon alloy formation it is converted into the α-Ni_3Ti stable modification. In the aging process the phase may partially alter. The high quality properties of the steel alloy are due to the dispersive ability of the β-Ni_3Ti phase. Due to aging within the temperature interval 650-875°C β-Ni_3Ti phase is separated and converted into melt. (5 illustrations and 2 tables)

ASSOCIATION: None given.
AVAILABLE: Library of Congress.
CARD 2/2

BLOKH, M.I.

AUTHOR: BLOK, N.I., KOZLOVA, M.N., LASHKO, N.F., and SHPUNT, K.YA. PA - 2743
TITLE: On the Ni_3B Compound in Nickel-Boron Alloys.
(O soyedinenii Ni_3B v splavakh nikel-bor, Russian).
PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol 113, Nr 4, pp 811 - 812 (U.S.S.R.)
Received: 6 / 1957 Reviewed: 6 / 1957

ABSTRACT: The double diagram of the state Ni-B (up to 20 % B) was constructed for the first time by GIEBELSHAUSEN, who found that the compound with the highest content of nickel is Ni_2B. KIESSLING mentiones also the high content of nickel of the alloy Ni_3B without giving its characteristics. The authors investigated the structure and the phase composition of Ni-B alloys, which contain 0,01 - 2,5 % B. Metallographically they found that a uniformly etchable zone is separated at the boundaries of granulation which forms an eutectic with nickel. The alloy with 2,5 B is pre-eutectic. This phase was insulated chemically as well as electrolytically in aqueous (10 g $(NH_4)_2SO_4$ and 30 g hydrochloric hydroxylamin per 1200 ml water) and non-aqueous (50 ml HCl per 1150 ml methanol) electrolyt. From the data contained in tables 1 - 3 it may be seen that on the occasion of the electrolytic separation of phases a considerable part of nickel is dissolved borically. The major part is conserved when the alloy is treated with sulphuric acid. In any caseprecipitation shown one and the same phase, i.e. Ni_3B.

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On the Ni_3B Compound in Nickel-Boron Alloys. PA - 2743

It is a black, solid substance, insoluble in sulphoric acid (1:2 solution) and solvable after prolonged heating in concentrated sulphuric acid (1,84). Thus it may be said that in the double system Ni-B there exists a chemical compound Ni_2B which forms an eutectic with a solid solution on a nickel basis.
(2 illustrations and 3 tables)

ASSOCIATION: All-Union Scientific Research Institute for Aircraft Material
PRESENTED BY: S.I.VOLFKOVICH, Member of the Academy
SUBMITTED:
AVAILABLE: Library of Congress

Card 2/2

SOV/24-58-12-15/27

AUTHORS: Blok, N.I., Glazova, A.I., Lashko, N.F. and Yakimova, A.M. (Moscow)

TITLE: Influence of Hydrogen on Structural Transformations in Titanium Alloys (Vliyaniye vodoroda na strukturnyye prevrashcheniya v titanovykh splavakh)

PERIODICAL: Izvestiya Akademii Nauk, Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 12, pp 96-99 (USSR)

ABSTRACT: The influence of hydrogen on the plastic properties of titanium alloys, which has recently been widely studied, varies with the form of the titanium in the alloy. The object of the work described was to investigate the influence of hydrogen on structural transformations in alloys with an $\alpha + \beta$ solid solution structure. Alloys VT3 and VT3-1, were studied, their respective compositions being: 0.04, 0.04% C; 2.78, 11.93% Cr; 4.9, 4.6% Al; - , 1.5% Mo; 0.20, 0.24% Fe; 0.04, 0.027% Si; 0.10, 0.11% O; 0.028, 0.042% N. The method used consisted of the non-aqueous electrolytic separation of phases, whose structures were then investigated with X-rays. The alloys were also studied metallographically. Saturation with hydrogen was effected by sealing the

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Influence of Hydrogen on Structural Transformations in Titanium Alloys

cylindrical specimen and titanium hydride in an evacuated quartz tube and heating to 700°C for 10 hours. Specimens with 0.005, 0.015, 0.025, 0.035, 0.05 and 0.12 wt.% hydrogen were obtained. They were subjected to differing heat treatments. It was found that in the VT3 alloy containing 0.015-0.035% hydrogen the eutectoidal reaction $\beta \rightarrow \alpha + TiC_{\gamma 2}$ is faster than in the hydrogen-free alloy; with 0.05-0.06% hydrogen the β-phase forms titanium hydride on heating; with 0.12% hydrogen the residual β-phase is stabilized and there is no eutectoidal reaction either on cooling after annealing or on heating for 100 hours at 400-450°C. In the VT3-1 alloy containing molybdenum the residual β-phase did not decompose after annealing and heating at 400 and 450°C for 100 hours irrespective of the hydrogen content in the range studied. In both types of alloy the β-phase unit cell parameter increases with hydrogen content (Fig.1 shows this effect for the VT3-1 alloy heat-treated in various ways). During the heating

Influence of Hydrogen on Structural Transformations in Titanium Alloys

of both alloys at 400-450°C the residual β-phase is enriched in chromium and molybdenum and, possibly, loses hydrogen. There are 3 figures, 3 tables and 6 references of which 5 are English and 1 Soviet.

SUBMITTED: 8th August 1957.

Card 3/3

BLOK, N. I.

AUTHORS: Blok, N. I., Glazova, A. I., Kokhova, G. M. 32-2-6/60
Lashko, N. F.

TITLE: The Phase Analysis of Complex Titanium Alloys
(Fazovyy analiz slozhnolegirovannykh titanovykh splavov)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 2, pp. 141-145
(USSR)

ABSTRACT: In an earlier work various technical titanium alloys containing aluminium, chromium, molybdenum and changing amounts of hydrogen were already investigated, as was the phase composition of azoticized titanium. For the separation of phases a method of the anodic decomposition of alloys was developed. The authors worked with potassium rhodanide, citric acid, glycerin and methanol, at a current density of 0,013 A/cm^2, a terminal voltage of 30 V, at from -7° - -10°C. After the electrolysis the anode precipitates were investigated chemically as well as radiographically. In earlier works the Ti-alloys had been smelted in graphite crucibles, the carbon disturbing further investigations; therefore the authors smelted two-to threetimes in arc

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furnaces (till homogenization occured). The radiograms of heat after-treated (1, 10, 50 hours at 500°C) anode deposits showed the metal stable α-phase while the ω -phase was not observed. The changes in the aging process of the β-phase of two technical alloys (5,08% Al, 3,06% Cr and 4.7% Al, 1.86% Cr, 1.55 % Mo) were put down in a table and the authors noted that after an aging at 450°C only the β-phase is observed while the eutectoid reaction $\beta - \alpha + Cr_2Ti$ did not take place. Titanium hydride was isolated for the first time and the authors found that hydrogen dissolves mainly in the β-phase (this was found in collaboration with A. T. Yakimova), if, however, there is no such phase the excess hydrogen then forms the titanium hydrides. According to radiographic structural analyses the Ti-hydride was of crystalline structure of the NaCl-type, while the neutron-diffraction showed a tetragonal structure. The analyses of the anode precipitates treated in a nitrogen current at high temperatu showed that they consist of one or two phases, the wellknown finely grained TiN and in lower layers the second nitride Ti_nN. The latter is of tetragonal structure. The investigati

of Palty, Margolin and Nielsen concerning the Ti-N system in the ε -phase showed a similar structure, the difference however, between the radiograms found by them and the radiograms of the present work, is considerable.
There are 5 tables, and 3 references, 1 of which is Slavic

AVAILABLE: Library of Congress

1. Titanium alloys-Phase studies

Card 3/3

18(3), 5(4)
AUTHORS: Blok, N. I., Kozlova, M. N., Lashko, N. F., SOV/32-24-11-4/37
Andreyeva, A. G.

TITLE: Phase Analysis of Nitrided Steels (Fazovyy analiz azotirovannykh staley)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol 24, Nr 11, pp 1315 - 1319 (USSR)

ABSTRACT: To study the many kinds of corrosion resistance of nitrided surfaces of rust-resistant steels an analytical method was developed, and the phases and the distribution of the alloyed elements were investigated. The experiments were carried out on 25Kh18N8V2 steel, with the participation of N.M.Rudneva, chief engineer. X-ray structural analysis showed two phases on the surface of the nitrided layers: the Fe_2N type with a hexagonal crystal lattice and the CrN type with a cubic lattice. The phases could best be separated with an electrolyte consisting of 50 ml. HCl (d= 1.19) and 1150 ml methanol, at a current density of 0,025 Ampere/cm^2, a temperature of -5° to -10°, and over a duration

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of 20-30 minutes. The anodic deposition consisted of iron carbon nitride, chromium nitride, and chromium carbide. The separation of the chromium nitride from the iron carbon nitride was carried out using the method of N.M.Popova (Ref 2). The nitrided samples dissolved in the anodic dissolution up to 0,035 mm deep. Up to a depth of 0,17 mm the nitrided layer consisted of three phases: the carbon nitride of the iron and chromium $(Fe,Cr)_2(N,C)$, the chromium nitride CrN, and the solid solution enriched with nitrogen and nickel. This layer possessed a positive electrode potential and was highly resistant to corrosion. The nitrides occurred at a depth of 0,17 to 0,22 mm and the layer consisted of Fe_4N, CrN, $Cr_{23}C_6$, and the solid solution. The nitrogen concentration was 0,3 - 0,4%, the electrode potential negative, and the corrosion resistance decreased. In the still deeper layers the chromium content was 15% with only 3% present as the $Cr_{23}C_6$. It showed a

 positive electrode potential and a high resistance to

corrosion. Investigations on nitrided Armco iron showed that the nitride phase up to a depth of 0,025 mm consists of Fe_2N and up to a depth of 0,06 mm of Fe_4N. The general content in the nitride phase was 18-36%, while the rest was a solid solution. There are 1 figure, 5 tables, and 1 reference, which is Soviet.

SOV/32-25-6-5/53

18(7)

AUTHORS: Sorokina, K. P., Blok, N. I., Lashko, N. F.

TITLE: Phase Analysis of Chromium-Nickel-Titanium Steels With Intermetallide Hardening (Fazovyy analiz khromonikel'titanovykh staley s intermetallidnym uprochneniyem)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 6, pp 659 - 661 (USSR

ABSTRACT: It had already been shown (Ref 1) that the hardening phase in the steel type EI-696 is the phase β-Ni_3Ti which exhibits a face-centered crystal lattice. Further phase analyses of this steel revealed that the two intermetallide phases Fe_2Ti and α-Ni_3Ti with a hexagonal crystal lattice occur after heating up to 800-950°. Since also titanium carbide and titanium boride are present as primary phases, this steel exhibits as much as 6 phases. An electrolytic phase separation in the electrolyte Nr 5 (50 g copper sulphate, 80 g triammonium citrate and 100 ml methanol per 1 l of water) was carried out, and a quantitative separation of the phases β-Ni_3Ti and TiC was obtained. The content of elements in the phase β-Ni_3Ti was obtained from the difference after a second dissolution

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in the electrolyte 81 (50 ml HCl, 100 ml glycerin and 1050 ml methanol) (Ref 2). Satisfactory results were also obtained with the method TsNIIChM (Ref 3) (Table 1, results from both methods). The electrolytic dissolution of the steel EI-696 heated for 100 hours over 800°, yielded titanium carbide and -diboride and the intermetallide phases Fe_2Ti and α-Ni_3Ti at the anode (Table 2). A prolongation of the duration of treatment of the anode precipitate with the electrolyte 81 showed no influence on the result of the X-ray structural analysis (Table 3) and the phases Fe_2Ti and α-Ni_3Ti could not be separated chemically. The steel EI-696 thus represents a six-phase system: the hardening fundamental phase β-Ni_3Ti, the phases Fe_2Ti and α-Ni_3Ti, the two primary phases TiC and TiB_2, and the solid solution. There are 1 figure, 3 tables and 3 Soviet references.

SOV/32-25-9-10/53

16(7)

AUTHORS: Blok, N. I., Kozlova, M. N., Lashko, N. F., Sorokina, K. P.

TITLE: Boride Phases in Alloys on the Nickel - Chromium Basis

PERIODICAL: Zavodskaya laboratoriya, 1959, Vol 25, Nr 9, pp 1059-1064 (USSR)

ABSTRACT: It was ascertained by experiment that the heat-resistivity of the alloys (A) on nickel-chromium basis increases greatly with a small content of boron. Metallographic investigations showed that at 0.01 - 0.5% of B, eutectic deposits of the boride phase occur at the grain boundaries. A method for the phase analysis of such (A) was elaborated, in which the boride phases are separated electrolytically. The phases separated were subjected to X-ray structural investigations and chemical analyses. N. M. Rudneva, Ye. A. Vinogradova, and K. V. Smirnova took part in the experimental part of the work. (A) of the type EI473 (up to 0.23% B) (I), cast alloys ZhSZ (up to 0.22% B)(II), EI617 (up to 0.5% B) (III), and the combined (A) ZhSZ (IV)(Table 1) were used. For the quantitative separation of the boride phases the following anhydrous electrolyte was the most suitable; 50 ml HCl (1.19), 100 ml glycerin and 1050 ml methanol (Ref 2). Electrolysis took

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place for 60-90 minutes at a current density of 0.06 a/cm^2 under ice-cooling. The chemical and X-ray structural analyses of the anode precipitates showed (Table 2) that practically the entire B occurs in the (A) as a compound. Besides, the boride phase, titanium nitride was found in (I), and separated from chromium boride (Table 3) according to the method (Ref 4). Formula $(Cr, Ni)_5B_4$, or $(Cr, Ni)_4B_3$ corresponds approximately to the boride phase (phase X) from (I), which shows a tetragonal crystalline structure. A combined boride (phase Y) of the incidental formula $(Mo,Cr,W,Ni)_4B_3$, or $(Mo,Cr,W,Ni)_5B_4$ is formed by an increase of the borium content in (II), (III), and (IV). The crystalline structure of this phase could not be ascertained. It is assumed that this phase is a ternary, or more complicated compound. Data of X-ray structural analysis according to the powder method for the two phases X and Y are given (Table 4). There are 2 figures, 4 tables, and 3 references, 2 of which are Soviet.

BLOK, N.I.

PHASE I BOOK EXPLOITATION SOV/4508

Akademiya nauk SSSR. Institut metallurgii

Titan i yego splavy, vyp. 3: Metallovedeniye titana (Titanium and Its Alloys, No. 3: Metal Science of Titanium) Moscow, Izd-vo AN SSSR, 1960, 161 p. Errata slip inserted. 2,700 copies printed.

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

Resp. Ed.: N.V. Ageyev, Corresponding Member, Academy of Sciences USSR; Ed. of Publishing House: M.L. Podgoyetskiy; Tech. Ed.: Ye. V. Makuni.

PURPOSE: This collection of articles is intended for scientific research workers and metallurgical engineers.

COVERAGE: The articles summarize results of experimental studies of titanium-base alloys. The microstructure and mechanical properties of titanium-base alloys containing aluminum, chromium or other metals are analyzed along with the effect of oxygen, hydrogen and heat treatment on alloy structure and properties. The tendency of titanium alloys to embrittlement as a result of strain aging is emphasized, and the nitriding of titanium, carried out to increase the surface strength and wear resistance of titanium alloys, is described. Transformations occuring in commercial titanium under conditions of electric heating are examined. Attempts to develop titanium-base alloys capable of withstanding temperatures over 400°C are discussed as are problems of titanium-powder metallurgy and weldability of certain titanium-base alloys. No personalities are mentioned. Most of the articles have bibliographic references, the majority of which are Soviet.

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S/593/60/000/000/005/007
D204/D302

AUTHORS: Blok, N.I., and Lashko, N.F.

TITLE: Phase analysis of certain multicomponent alloys

SOURCE: Soveshchaniye po khimicheskomu kontrolyu proizvodstva v metallurgicheskoy i metalloobrabatyvayushchey promyshlennosti. Dnepropetrovsk, 1958. Khimicheskiy kontrol' proizvodstva i metallurgicheskoy i metalloobrabatyvayushchey promyshlennosti; [doklady soveshchaniya] [Dnepropetrovsk] 1960, 246 - 250

TEXT: A description of phase analysis of a number of refractory alloys based on Ni-Cr, among them ЭИ-437 (EI-437), EI-617, ЖС3 (ZhS3), EI-698, EI-598 and EI-765. The highly dispersed α'-phase was separated electrolytically, using electrolyte no. 18 (10 g $(NH_4)_2SO_4$, 10 g citric acid, 1200 ml H_2O); the carbide and boride phases with electrolyte 81 (50 ml conc. HCl, 10 ml glycerine, 1050 ml methanol). Chemical, X-ray and metallographic methods were used to study the composition, structure and extent of the various pha-

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ses, in relation to the alloying elements and to the thermal treatment to which the alloys were subjected. Distribution of the alloying elements between the separate phases and the solid solution was also determined. The α'-phase was formed in all the alloys studied and approximated to Ni_3 (Al, Ti), with admixtures of other elements which diffused out at high temperatures. The data are presented in tabular form. Three types of carbides were found, depending on the alloy composition and the thermal treatment: $Me_{23}C_6$ (Me = metal) stable up to 1050°C, and $Me_nMe'_mC$ and MeC stable at higher temperatures (1300°C). Tetragonal Cr_3B_2 formed when W and Mo were absent; otherwise a complex boride $(Mo, W)_n Cr_mB_2$ (nm = 3), of unknown structure, was observed. No Ni boride was found. B dissolves to the extent of 0.05 - 0.06 % in alloys of the EI-437 and ZhS3 types at 11200 - 1150°C, but separates out as a boride phase on ageing at 700 - 800°C. There are 3 tables.

ASSOCIATION: Vsesoyuznyy institut aviatsionnykh materialov (All-Union Institute of Aviation Materials)

19 9200 1418, 1045
18 1250 1496, 1454

S/032/61/027/003/001/025
B118/B203

AUTHORS: Blok, N. I., Lashko, N. F., and Khromova, O. A.

TITLE: Phase analysis of nickel beryllium alloys

PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 3, 1961, 251-252

TEXT: Ni-Be-alloys with 2% of Be are aging systems. Aging is conducted under essential changes distorting the original crystal lattice and determining the mechanical properties of the alloy. It is the purpose of the present paper to clarify this relationship as far as possible. Investigations were made on three alloys of the following compositions: 1) 1.93% Be, residue Ni; 2) 2.20% Be, 5.0% Mo, residue Ni; 3) 2.66% Be, 1.18% W, residue Ni. The alloys were heated to 1080°C, and hardened in water. The individual specimens were aged at certain temperatures between 300 and 800°C for 6 hr. The phases of the pretreated alloys were separated by electrolysis (electrolyte: 10 g of triammonium citrate dissolved in 1200 ml of 12% NH_4OH; current density 0.06 a/cm^2; room temperature). The resulting anodic precipitates were subjected to chemical and X-ray structural analyses. One NiBe phase and one solid solution poor in Be each were obtained from alloys (1)

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Phase analysis ...

and (3) (from (1) at an aging temperature of 300°C, from (3) at 500°C and over). Only one NiBe phase was isolated from alloy (2). The content of NiBe in the alloy changes with the aging temperature (in (1), increase of 1.08% at 300°C to 2.83% at 800°C; in (3), increase of 3.36% at 300°C to 5.47% at 800°C; in (2), decrease from 5.10% at 300°C to 4.13% at 800°C). The NiBe compound has a regular cubic crystal lattice of the CsCl type. The stoichiometric ratio is not strictly maintained. NiBe particles which are coarse after hardening become very fine in aging at 300°C, and are enlarged again at higher aging temperatures. The strongly blurred lines of X-ray patterns of specimens treated at 300-500°C indicate an intense distortion of the crystal lattice of two solid solutions. On the basis of these findings, the authors consider the interaction of the following independent processes to be decisive for the mechanical characteristics of the alloys studied: block formation within the solid solution; distortion of crystal lattices of solid solutions; separation of a NiBe phase of different dispersion degrees (according to aging conditions). Maximum strength of the Ni-Be-Mo alloy was attained at an aging temperature between 400 and 500°C. A. A. Burmistrova, Ye. A. Vinogradova, and K. V. Smirnova assisted in the experiments. There are 3 tables.

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18-9200

27832
S/032/61/027/010/002/022
B110/B101

AUTHORS: Blok, N. I., Kishkin, S. T., Kozlova, M. N., and Lashko, N. F.

TITLE: Phase analysis of surface layers of heat-resistant nickel alloys

PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 10, 1961, 1185-1189

TEXT: The methods based on a total determination of the chemical composition of the test layer used so far for investigating surface layers of alloys heated in air are insufficient for studying the processes taking place. For this purpose, the authors elaborated a method of phase analysis in layers, and were able to determine the distribution of alloying elements among the individual phases, their nature and content in each layer. 8 - 10 anode deposits taken by layers and the corresponding portions of electrolyte were analyzed chemically. From another sample anode deposits are separated in layers for X-ray structural analysis. By micrometer and calculation by weight of the metal dissolved, the layer depth was determined as being ~0.005 to 0.05-0.06 mm. Uniform dissolution on the entire sample surface is necessary. A crystallizer holding ~350 ml

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Phase analysis of surface layers of ...

served as electrolyte vessel. The 45-50 mm long cylindrical sample (diameter 10-12 mm) served as anode. The cylindrical cathode from stainless steel reached like the anode to the bottom of the vessel. The level of the electrolyte was not higher than the anode height. The following materials were investigated: Alloys of the type ЭИ437 (EI437) after 8 hr heating at 1080°C, 16 hr aging at 700°C, and cooling in air; and of the type ЭИ617 (EI617) after 2 hr heating at 1190°C, 4 hr heating at 1050°C, 16 hr aging at 800°C, and cooling in air. Oxidation of surface layers (A) occurs frontally. In deeper layers (B), oxygen diffusion takes place along grain boundaries. Dissolution on the surface is sufficient for A; dissolution must penetrate deeper for B in order to obtain satisfactory results of analysis. The dissolution was performed with electrolytes 18 (10 g $(NH_4)_2SO_4$ and 10 g citric acid in 1200 ml H_2O) and 81 (5% solution of hydrochloric acid in CH_3OH). In 18, the γ'-phase, oxides and carbides, in 81 oxides and carbides are separated. Phase separation in layer I takes place by means of 0.05 a/cm^2 and 18. Layer II (oxides and solid solution

Phase analysis of surface layers of ...

poor in alloying elements) is not dissolved at EI617, and only selectively at EI437. When operating with 18, the boundary between layers II and III may be determined owing to the appearance of the α'-phase in the anode deposit. Layer II of EI617 is dissolved in 81 under continuous control of the solubility in 18. For this purpose, the analytically weighed sample is immersed in 18 and, unless it dissolves here, it is dissolved for ~10 min in 81, the deposit is removed, dried, weighed, and the cycle is repeated up to dissolution and separation of the α'-phase in 18. Layer III consisting of solid solution (poor in alloying elements) and α'-phase on the basis of $Ni_3(Al,Ti)$, as well as layer IV of initial alloying composition, are dissolved in 18. The anode deposit separated in 18 and 81 (layer II, EI617) is filtered off and washed out with 0.2% electrolyte solution up to negative Ni^{2+} reaction. Electrolyte and rinsing water are united, evaporated, filled up to 200-250 ml; 50 ml of it is mixed with 10 ml H_2SO_4 (1.84) and heated. H_2O_2 is added to the dark-brown liquid obtained. It is heated up to destruction of H_2O_2, filled up to 100 ml, and the elements are determined. Anode deposit I is molten with $KHSO_4$, the

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melt is dissolved in 5% H_2SO_4, and filled up to 200-250 ml. According to X-ray structural and chemical analyses, layer I (up to 0.005 mm depth) is strongly enriched with Cr, Al, and Ti. It consists of Me_2O_3 (Cr_2O_3, Al_2O_3, $NiO \cdot TiO_2$) with trigonal crystal structure, the parameters of which are similar to those of Cr_2O_3. In layer II (in ~0,027 mm depth of EI 437 and in ~0.40 mm depth of EI617), as in layer I, α'- and carbide phases are destroyed through Cr-, Al-, Ti and C diffusion to the periphery, and the oxides are formed. Layer III is ~0.10 mm depth in EI437 and ~0.15 mm in EI617. In EI437, the Me_2O_3 are enriched with Cr in peripheral layers, and with Al in deeper ones. In EI617, Al_2O_3 already exists at small depth, which suggests a missing equilibrium state. Gas turbine blades of ЭИ437А (EI437A) operating at $\leqslant$700°C, where uniform dissolution was difficult, were tested in this way. Layer I was missing (mechanical wear). Impoverishment in chronium was found down to 0.075 mm. The Ti content of the surface layer was constant. The Al enrichment at a certain depth cannot be explained. Destruction processes on the surface starting at the grain

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Phase analysis of surface layers of ...

boundaries are explained by deep oxygen diffusion along the grain boundaries. N. M. Rudneva, N. A. Shumilina, K. V. Smirnova, and A. N. Sokolov assisted in the experiments. There are 3 figures, 2 tables, and 4 references: 3 Soviet and 1 non-Soviet.

Card 5/5

21392
S/032/61/027/012/002/015
B119/B147

18.1285

AUTHORS: Blok, N. I., Glazova, A. I., Lashko, N. F., Kurayeva, V. P. Molchanova, Ye. K.

TITLE: Phase analysis of alloys on titanium basis

PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 12, 1961, 1470 - 1472

TEXT: α+β-alloys with stabilized β-phase, and α-alloys with intermetallic hardening were examined. The individual phases were isolated by anodic solution of the alloy in anhydrous electrolyte (3 g of KCNS or 2 g of LiCl, 10 g of citric acid, and 1200 milliliters of methanol). Thereafter, they were subjected to X-ray structural and chemical analysis. Mo, V, Nb, and Ta were identified as stabilizers for the β-phase, the effect of which decreases in the sequence mentioned. (In the presence of 4% Mo the content of the β-phase in the alloy is 11%; at 4% V, it is 9%, and at 4% Nb or Ta, only 3%). After forging, the anodic deposit of these alloys consists entirely of β-phase. In the presence of 4% Ta, alloys aged for 100 hr at 500°C show only small quantities of β-phase, whereas 4% Mo or V completely prevent the β-phase from decomposing. Ti-Cu alloys containing up to 5% Cu have one phase of the composition Ti_3Cu

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with tetragonal face-centered lattice. A phase of the type Ti_3Cu of different composition was also observed in Ti-Al-Cu-Sn alloys (containing up to 3.5% Cu). An increase of the Cu content of these alloys from 2 to 3.5% results in a rise of the content of $(Ti,Al,Sn)_3Cu$ phase from 5.75 - 6.25 to 8.02 - 8.34%. Thus, strength increases from 95 - 100 to 104 - 110 kg/mm^2. In this case, specific elongation decreases from 35 to 30 - 22%. Ye. A. Vinogradova, Ye. V. Zvontsova, and L. V. Polyakova assisted in the experiments. There are 1 figure, 3 tables, and 5 references: 2 Soviet and 3 non-Soviet. The two references to English-language publications read as follows: N. Karlsson, J. of the Institute of Metals, 79, 391 (1951); A. Gaukainen, N. J. Grant, C. F. Floe, J. of Metals, 4, no 7, 766 (1952).

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S/032/62/028/007/011/011
B117/B101

AUTHORS: Blok, N. I., Lashko, N. F.

TITLE: Conference on the phase analysis of metals and alloys

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 7, 1962, 893

TEXT: A conference on methods of phase analysis and the application of this to metallography was held in Moscow from November 28 to December 1, 1961 attended by 350 representatives of institutes and industrial laboratories in various fields. 36 reports were presented. In one on the importance of phase analysis in metallography, I. I. Kornilov described the historical development of this method. I. Ye. Lev, A. F. Platonova, N. G. Roslyakova, O. S. Spiridonova, and M. N. Obraztsova reported on carbide analysis of high-carbon iron alloys, transition and heat-resistant steels. Among other reports were the following: L. V. Zaslavskaya, N. Ya. Karasik, N. Ye. Shlepyanova, and E. I. Belikova on the analysis of intermetallic phases in steels. N. L. Belyakov and V. S. Mal'tseva on the analysis of austenite-ferrite steels. O. A. Khromova, K. P. Sorokina, M. N. Kozlova, and M. M. Shapiro on the phase analysis of

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nickel alloys. A. I. Glazova and N. F. Lashko on the phase analysis of titanium alloys. O. A. Khromova on the methods of phase separation in aluminum alloys. I. Ye. Lev and V. S. Mal'tseva on general problems of the electrochemical theory of phase separation in steels. K. P. Sorokina on experimental data on the study of $Ni_3(Al,Ti)$ and carbide phases. Reports on analytic methods without phase separation included those by L. S. Palatnik on the electronographic investigation of thin layers, by S. Z. Bokshteyn on radiographic methods; by V. Ye. Rudnichenko on local X-ray structural analyses; by L. L. Kunin on thermal extraction. It was resolved to organize and coordinate further studies on the phase analysis of various alloys.

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000205520019-7"

S/762/61/000/000/013/029

AUTHORS: Blok, N.I., Glazova, A.I., Yakimova, A.M., Lashko, N.F.

TITLE: Investigation of the β phase of the two-phase alloys BT3-1 (VT3-1) and BT8 (VT8).

SOURCE: Titan v promyshlennosti; sbornik statey. Ed. by S. G. Glazunov. Moscow, 1961, 135-141.

TEXT: The paper describes an experimental investigation of the mechanism of H embrittlement of two-phase Ti alloys in which residual β-phase decomposition with separation of chemical compounds does not occur. Whereas in the Ti-Al-Cr alloy BT3 (VT3) the residual β phase decomposes and segregates $TiCr_2$ and TiH, and thus becomes embrittled, the Ti-Al-Cr-Mo alloy VT3-1 and the Ti-Al-Mo alloy VT8 do not incur such process. X-ray metallography of anode precipitates of these alloys reveals the existence of a β phase alone, in which the elementary-lattice parameter increases with increasing H content in the alloy. The particular objective of the present test is the investigation of the enrichment of the β phase with heavier elements, such as Cr and Mo, the atomic radii of which are smaller than the atomic radius of Ti, during 100-hr aging at 450-500°C. The method employed comprises the electrolytical phase separation (Blok, N.I., et al.,

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Zavodskaya laboratoriya, no.1, 1956) and X-ray metallography. The electrolytical phase separation was performed by an improved method of anodic dissolution of metals in a waterless electrolyte (2-3 g KSCN, 10 g citric acid, 100 ml glycerol, and 1,200 ml methanol), a current density of 0.01 a/cm^2, a terminal voltage of 30 v, and a bath temperature of -7 to -10°C. Maximum time 45 min. Introduction and withdrawal of the sylindrical specimen was performed under current; the specimen was then washed twice in methanol at -7° and was air-dried. The anodic precipitate was scraped off the specimen and preserved at sub-0°C temperature. The Ti, Cr, and Mo contents in the β phase were determined by the usual methods. The H content therein was determined in the universal equipment of A.M.Yakimova (In Trudy komissii po analiticheskoy khimii, "Analiz gazov v metalle," Akad.n.SSSR, v.X, 1960) according to the method described by Yakimova in her paper on pp.131-134 of the present compendium (Abstract S/762/61/000/000/012/029); chemical analysis is possible only when a single phase is present. Test results are summarized in a full-page table and are graphed. Results: (1) The Cr and Mo content in the β phase of VT3-1 and the Mo content in the β phase of VT8 are considerably greater than their mean content in the alloys. The Al content in the β phases is lower than its mean content in either alloy. For example, the β phase of VT3-1 alloy contains 9.24% Cr, 10.44% Mo, and 2.05% Al, as against 1.93% Cr, 1.5% Mo, and 4.6% Al mean content in the alloy. The β phase of the VT8 alloy contains 25.38% Mo and -

Investigation of the β phase of the two-phase alloys... S/762/61/000/000/013/029

2.44% Al, as against 3.45% Mo and 6.33% Al mean content. (2) Aging of VT3-1 and VT8 alloys entails β-phase enrichment with alloying elements; this is an indication of the occurrence of transformations toward phase equilibrium. (3) The H content of the β phase depends on its total content in the alloy and on the alloying-element enrichment in the β phase. (4) The residual β-phase content of VT3-1 and VT8 alloys increases with increasing H content therein. There are 2 figures, 3 tables, and 4 Russian-language Soviet references cited in the text. The participation of Ye.A. Vinogradova and Ye.I. Zvontsova in the experimental work is acknowledged.

ASSOCIATION: None given.

Card 3/3

S/762/61/000/000/010/029

AUTHORS: Blok, N.I., Glazova, A.I., Lashko, N.F., Solonina, O.P.

TITLE: Phase composition of the BT3-1 (VT3-1) titanium alloy as a function of the aluminum, chromium, molybdenum, and iron content and of its heat treatment.

SOURCE: Titan v promyshlennosti; sbornik statey. Ed. by S.G. Glazunov. Moscow, 1961, 112-120.

TEXT: Ths is a report of an experimental investigation occasioned by a recent decrease in the strength of several Ti alloys, including the BT3-1 (VT3-1), as a result of the introduction of higher-quality sponge Ti. The investigation studied the effect of the basic alloying elements Al, Cr, and Mo on the phase composition and the properties of the resulting alloy. The additional consideration of Fe addition was intended primarily to explore the consequence of its introduction as an unavoidable part of cheaper alloying charges. Heat-treatment methods designed to attain maximum strength and adequate ductility (to replace currently used isothermal anneal) were also explored. It was found that: (1) All of the alloying elements of the VT3-1 alloy stimulate the formation therein of a residual or retained β phase; Cr and Mo enter directly into the β phase; with an increase of their content in the

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Phase composition of the BT3-1 (VT3-1) titanium alloy. .S/762/61/000/000/010/029

alloy the amount of β phase and the concentration of these elements in it increases; Mo appears to be a more powerful β-phase stabilizer than Cr; (b) Al enters the β phase solely as an addition and affects the increase of the amount of that phase only indirectly by reducing the solubility of Cr and Mo in the α-Ti solid solution. (2) With increasing Al and Mo content in the VT3-1 alloy the stability of the β phase is enhanced after prolonged aging at 450°C. (3) Isothermal heat treatment leads to the formation of a relatively small amount of β phase; this explains its impaired strength as compared with that of alloys subjected to a two-stage heat treatment consisting of a quenching and a tempering operation (details tabulated). (4) The difference in the mechanical properties of the two specimen rods of one and the same melt (brittle rupture of one, failure with distinctly plastic deformation of the other) can be explained by the state of the α phase, primarily its form and distribution, and also the size of the primary β-phase particles. There are 2 figures and 4 tables; no references.

ASSOCIATION: None given. 2/2

S/762/61/000/000/021/029

AUTHORS: Blok, N.I., Glazova, A.I., Kurayeva, V.P., Lashko, N.F.

TITLE: Phase analysis of the BT10 (VT10) titanium alloy.

SOURCE: Titan v promyshlennosti; sbornik statey. Ed. by S. G. Glazunov. Moscow, 1961, 227-231.

TEXT: This paper describes an experimental X-ray and chemical analysis of electrolytically precipitated VT10 alloy (after 1-hr 800°C anneal in vacuum), performed by a method described in Zavodskaya laboratoriya, no.2, 1958, 141. The investigation was motivated by a desire to determine whether the age hardening of this creep-resistant Ti-Al-Cu-Sn alloy is produced by the separation of some intermetallic-compound phase, since this alloy, like the two-phase Ti-Cu alloys, has no residual β phase that could be fixed by quenching. Reference is made to the phase diagram of A. Joukainen, et al. (J. Metals, v.4, no.7, 1952, 766), according to which Ti_2O is the intermetallic phase richest in Ti. The present investigation identified an intermetallic phase of variable composition with a tetragonal face-centered crystal lattice of the Ti_3Cu type, namely $(Ti,Al,Sn)_3Cu$. The phase compositions of VT10 alloy with slightly variable Cu and Al contents and after cooling at various rates, as obtained by the X-ray and the chemical method, are tabulated. All findings support the conclusion that the (Ti,Al,Sn)-to-Cu ratio is extremely close to 3. The Ti_3Cu-type phase thus identified is a solid solution in which some nodes of the

Card 1/2

Phase analysis of the BT10 (VT10) titanium alloy. S/762/61/000/000/021/029

crystalline lattice, ordinarily occupied by Ti, are occupied by Al and Sn atoms. An increase in Cu content from 2 to 3% increases the quantity of $(Ti,Al,Sn)_3Cu$ continuously from 5.75 to 8.35%. No comparable change occurs upon increase of the Al content from 5 to 6%. It is concluded that the VT10 alloy gives rise to highly dispersive products of a eutectoid reaction $\beta \rightarrow \alpha + (Ti,Al,Sn)_3Cu$. X-ray analysis indicates that the fundamental phase in VT10 is an α phase, both primary and transformational (α'). No residual β phase can be found in the alloy. It is known that in Ti-Cu alloys the eutectoid decomposition upon cooling from elevated T occurs very rapidly. It proceeds even more speedily in alloys of the Ti-Al-Cu-Sn system, and the β phase decomposes in toto into an α phase and an intermetallic compound. The effects of the temperature levels and rates of cooling on the phase composition are tabulated in detail. The structural changes in the VT10 alloys apparently are determined by three factors: (1) Change in the size of the primary grains; (2) change in the shape of the particles of transformed β phase (α' phase); and (3) change in the shape of the particles of the intermetallic phase $(TiAlSn)_3Cu$ and the character of its distribution. There are 1 figure, 5 tables, and 4 references (1 Russian-language Soviet, 2 English-language, and 1 German). The participation of Zh.D. Afanas'yeva, Ye.A.Vinogradova, Ye.I.Zvontsova, and L.V. Polyakova in the experimental portion of the investigation is acknowledged.

ASSOCIATION: None given.

Card 2/2

S/032/63/029/003/003/020
B117/B186

AUTHORS: Blok, N. I., Kozlova, M. N., and Lashko, N. F.

TITLE: Phase analysis of chromium-plated nickel alloys

PERIODICAL: Zavodskaya laboratoriya, v. 29, no. 3, 1963, 272-276

TEXT: The method of phase analysis by layers was used to study the phase composition and the general chemical composition of the surface layer of heat-resistant chrome nickel alloys. It consists in the successive anodic dissolution of thin layers whose composition differs by reason of the weakening of diffusion processes with increasing depth as well as in the chemical analysis of the anode slime and the corresponding amount of electrolyte. An alloy of the type ЭИ437Б (EI437B) (Ti-Al-Cr) and a composite alloy of higher aluminum content were studied. Electrolytes with ferrochrome or with metallic chromium were used at 1100°C for 10 hrs. The composition of the surface layer growing on the specimen depended considerably on the composition of the electrolyte. In both cases the surface layer was enriched with bound nitrogen in the form of nitrides and in solid solution due to the effect of atmospheric nitrogen, the chromium

acting as catalyst. An analysis of the thin layers showed: In the chromium-plating of EI437B with ferrochrome, Fe_2O_3 and Cr_2O_3 are formed in the thin top layer and nitrides, mainly titanium nitride, in those following. The nitride shows a high content of chromium in the layers near the surface. Using metallic chromium, Cr_2N and CrN are formed in the top layers and titanium nitrides mixed with chromium in those below. The chromium content decreases with increasing depth; only pure titanium nitrides occur in the lower layers. The content of nitrides decreases at a depth of $> 150\mu$, and the initial composition and structure of the alloy appear at $\sim 280\mu$. In the chromium-plating of the composite alloy, aluminum nitride is formed besides chromium and titanium nitrides. The original composition of the alloy is only found at a considerable depth. There are 1 figure and 3 tables.

TUMANOV, A.T.; KISHKIN, S.T.; BOKSHTEYN, S.Z.; BLOK, N.I.; PLATONOVA, A.F.; SOROKINA, K.P.; ZASLAVSKAYA, L.V.; GLAZOVA, A.I.

Nina Mikhailovna Popova. Zav.lab. 29 no.1:103-104 '63. (MIRA 16:2)

(Popova, Nina Mikhailovna, 1914-1962)

L 14969-65 EWT(m)/EWA(d)/EWP(t)/EWP(b) Pad ASD(m)-3/AFETR MJW/JD/EW/JG/MLK

ACCESSION NR: AT4048094 S/0000/64/000/000/0078/0083

AUTHOR: Blok, N.I., Glazova, A.I., Kozlova, M.N., Lashko, N.V., Morozova, G.I., Sorokina, A.P., Khromova, O.A.

TITLE: Comparison of methods for the phase separation of nickel chromium alloys

SOURCE: Spektral'ny*ye i khimicheskiye metody* analiza materialov (Spectral and chemical methods of materials analysis); sbornik metodik M[illegible] Metallurgiya 1964, 78-83

TOPIC TAGS: nickel alloy, chromium alloy, phase separation, Alpha phase, carbide phase, electrolysis

ABSTRACT: The most widely used methods of electrolytic phase separation for heat-stable Ni-Cr alloys were investigated and compared. The baths proposed by different organizations for isolating the α-phase and carbide phase are as follows: 1. 10 g $(NH_4)_2SO_4$, 10 g citric acid, 1200 ml H_2O; 2. 5 g $(NH_4)_2SO_4$, 15 ml HNO_3, 95 g citric acid, 1000 ml H_2O; 3. 3% $FeSO_4 \cdot 7H_2O$, 3.5% NaCl, 5% H_2SO_4; 4. [illegible] sodium citrate, 5 ml H_2SO_4, 1000 ml H_2O; 5. anolyte: [illegible] 250 ml C_2H_5OH, 1000 ml H_2O; catholyte: 10 g $CuSO_4$, [illegible]

Card 1/3

ACCESSION NR: AT4048094

1000 ml H_2O; 6. 100 ml H_3PO_4, 1000 ml H_2O. The current density in all cases was 0.05-0.07 amps/cm^2, for 60 minutes at room temperature. The chemical analysis of the χ-phase and anode residues is described in detail. Two heat-stable Ni-Cr alloys were used: EI437B (0.037 % C, 20.57% Cr, 2.75% Ti, 0.70% Al) and EI617 (0.05% C, 15.17% Cr, 3.37% Mo, 2.00% Ti, 5.30% W, 0.21% V, 1.70 % Al) under different conditions of tempering. As shown by tabulated data, the electrolytes used are suitable for the separation of the χ-phase. The electrolyte with a smaller amount of ethyl alcohol gives a slightly decreased amount of χ-phase. Variation in the pH from 0.8 to 2.6 does not affect the total amount of χ-phase. The phase separation proceeds most favorably in electrolytes containing 30 g of citric acid during electrolysis. X-ray data show that for EI437B, a carbide of the type Ti(C, N) and $Me_{23}C_6$, and for EI617 TiC, $Me_{23}C_6$ and $Ni_n(W, Mo, Cr)_mC$ are obtained. The best separation is obtained in the VIAM bath (50 ml HCl 100 ml glycerol, 1000 ml CH_3OH, current density 0.05 amps/cm^2 1 hr.) Orig. art. has: 4 tables and 1 figure.

ASSOCIATION: none

L 14969-65
ACCESSION NR: AT4048094

SUBMITTED: 12Feb64 ENCL: 00 SUB CODE: MM, IC

NO REF SOV: 007 OTHER: 001

Card 3/3

EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(z)/EWP(b)/EWA(c) MJW/JD/GS

UR/0000/65/000/000/0039/0047

...stav, struktura i svoystva ...

... structure, and properties of alloys

... 1965, 39-47

... alloy, heat resistant ...

... alloy, alloy structure ...

... formation

$Cr_{23}C_6$; titanium carbonitride ...

Card 1/2

L 45448-65
ACCESSION NR: AT5011338

with the phenomenon of recovery. Alternate loading of alloy EI617 at 800-1018C has no appreciable effect on the oxidation rate or on the migration of the alloy- [illegible] away from the surface layers as compared to [illegible] The effect of stress on EI617 is manifested to a lesser extent [illegible] of EI617 at 900C is accompanied [illegible] native testing and during heat [illegible] application of [illegible] Orig. art. has [illegible]

ENCL: 00

L 52058-65 EPA(s)-2/EWT(m)/EWP(w)/EPF(n)-2/EWA(d)/T/EWP(t)/EWP(z)/EWP(b)/ Pu-4 IJP(c) JD/WW/HW/JG

Lashko, N. F.; Sokolova,

TITLE: Phase composition and high-temperature ... all... containing tungsten and molybdenum

SOURCE: Fazovyy sostav, struktura i svoystva legirovan... (Phase composition, structure, and properties of alloy steels and alloys). Moscow, Izd-vo Mashinostroyeniye, 1965, 48-54

TOPIC TAGS: alloy phase composition, alloy heat resista... nickel ... beryllium alloy, ... containing alloy ... alloy, overaging zone

ABSTRACT: To elucidate the characteristics of molybdenum and tungsten as alloving ... nickel-beryllium alloys, three melts were studied having the following composition: (1) 1.93% Be, bal. Ni; (2) 2.65% Be, ... (3) 2.20% ... bal. Ni. Forged bars quenched from ... The phase comp... of anod... results of phase and microstructural analyses of ... the causes of the greater high-temperature strength of ... the retardation and depression of the discontinuous decomposition ... bdenum is

Card 1/2

L 52058-65
ACCESSION NR: AT5011339

observed in the alloy containing tungsten. The discon[illegible] [illegible] a rapid precipitation of particles [illegible] phase [illegible] depletion in the so-called zones [illegible] [illegible] separate boundary regions [illegible] [illegible] ing at high temperatures and [illegible] resistance [illegible] art. has: 4 figures and 3 tables.

ASSOCIATION: none

SUBMITTED: 17Dec64 ENCL: 00

NO REF SOV: 003 OTHER: 000

Card 2/2

L 45435-65 EWT(m)/EPF(c)/EWA(d)/T/EWP(t)/EWP(z)/EWP(b)/EWA(c) Pad IJP(c)
MJW/JD/HW/JG/WB/GS

UR/0000/65/000/000/0170/0183

ACCESSION NR: AT5011350

AUTHOR: Andreyeva, A.G.; Blok, N.I.; Kozlova, M.N.; Lashko, N.F.

TITLE: Some aspects of the phase analysis of nitrided steel

..., struktura i svoystva legirovannykh staley i splavov ...

... and properties of alloy steel and alloys ...

Mashinostroyeniye, 1965, 170-183

TOPIC TAGS: steel phase analysis, nitrided steel, stainless steel ... steel corrosion resistance, chromium carbide

... consists of the ...

... and chromium nitride ...

martensitic steels. The hard, wear-resistant ...

Cord 1/2

L 45435-65

ACCESSION NR: AT5011350

... of the two phases (Fe, Cr)$_2$N and CrN, and also a solid solution rich ... of chromium. ... CrN ...

... the former ...

atoms, and ... contains up to 1.5% W and ... participated in the experimental ... 2 figures and 10 tables.

ASSOCIATION: none

SUBMITTED: ... Dec64 ENCL: ... SUB CODE: ... SS

NO REF SOV: ... OTHER: ...

Card 2/2

L 45427-65 EWT(m)/EWA(d)/EPR/T/EWP(t)/EWP(z)/EWP(b)/EWA(c) Ps-4/Pad IJP(c) 36

ACCESSION NR: AT5011352 UR/0000/65/000/000/0191/0201

AUTHOR: Blok, N.I.; Kozlova, M.N.; Laahko, N.F.

[illegible] secondary processes in solid diffusion chromizing

[illegible]

[illegible] solid diffusion, nickel alloy, heat [illegible]

[illegible] The authors studied the processes involved [illegible]

[illegible] data show that the composition of the [illegible]

Card 1/2

L 45027-65
ACCESSION NR: AT5011352

...chromizing. No chromizing occurred with the first mixture. The ...
...treatment of the surface layers with chr...
... Nitrogen enters the ...
... and titanium in ...

...strength of the ...

SUBMITTED: ...Dec64 ENCL: ...

NO REF SOV: 011 OTHER: 001

Card 2/2

L 45430-65 EWT(m)/EWP(w)/EWA(d)/EPR/T/EWP(t)/EWP(z)/EWP(b)/EWA(c) Pz-4 40
TJP(c) MJW/JD/JG/GS UR/0000/65/000/000/0216/0222 p+1
ACCESSION NR: AT5011355

AUTHOR: Blok, N.I.; Vinogradova, Ye. A.; Glazova, A.I.; N.F. Sopunna, G.F.

TITLE: Influence of tungsten on the phase composition of Ti-Al [illegible]

Mashinostroyeniye, 1965, 216-222

TOPIC TAGS: TiAlS alloy phase composition, tungsten admixture, [illegible] aluminum solution, alloy mechanical property

Card 1/2

L 45430-65

ACCESSION NR: AT5011355

α phase, most of which is dissolved in the electrolyte. At 20C, as the tungsten content of the alloys increases, the strength characteristics also increase [illegible] declines until brittle failure occurs at [illegible] W. Hardening of the [illegible] of titanium in tungsten. The solubility containing 6% Al was found to be less than [illegible] W. replaced by tungsten in VT3-1 alloys, the diffusional mobility [illegible] giving rise to a satisfactory thermal stability at [illegible] V.R. [illegible] and V.A. Koroleva participated in the exp[illegible]
Orig. art has: 3 figures and 2 tables.

ASSOCIATION: none

SUBMITTED: 17Dec64 ENCL: 00 SUB CODE: MM, SS

NO REF SOV: 005 OTHER: 000

Card 2/2

BLOK, P.L.; PANTELEYEV, V.V.; BEZSONOV, N.V., inzh.-ekonomist

Consultations. Izobr.i rats. no.5:29-30 My '62. (MIRA 15:5)

1. Glavnyy inzh. proyekta instituta "Gipropromtransstroy" (for Blok). 2. Sovetnik predsedatelya Gosstroya SSSR po voprosam izobretatel'stva i ratsionalizatsii (for Panteleyev). 3. Starshiy inzh. Komiteta po delam izobreteniy i otkrytiy (for Bezsonov).

(Technological innovations)

BLOK, T.

M-6

POLAND/Cultivated Plants - Fodder

Abs Jour : Ref Zhur - Biol., No 1, 1958, No 1631

Author : T. Blok, St. Paprotskiy
Inst : Not Given
Title : Mixed Sowings as a Factor in Accelerating Yellow Fodder Lupine Ripening.

Orig Pub : Postepy nauk roln., 1956, 3, No 1, 54-60

Abstract : Experiments with mixing lupine with oats and summer rye have been performed in 1952-1954 at the Posorta Farming Test Station in Ol'shtin (variety testing) (Poland). Thirty kilograms per hectare of oats and rye seeds were added to the lupine seeds. The total yield of lupine seeds with rye was 2.41 - 4.95, lupine with oats 3.76 - 5.36 c/h greater than the yield of lupine seeds in pure sowing (14.95-20.74 c/h). In spite of the fact that the lupine seed harvest itself decreased to 8.3-13.43 c/h, ripe seeds suitable for sowing were, nevertheless, obtained in the mixtures, whereas during the wet year of 1952, no ripe lupine seeds were available from the pure lupine crop. In wet years the admixing of oats has accelerated the lupine

Card : 1/2

BLOK, V. M.

"Selection of the Optimum Cross Sections of Cables Considering the Economic Indexes," "Operation of Cable Networks" (Eksploatatsiya kabeley i kabel'nykh setey), Gosenergoizdat, 1949, 384 pp.

BLOK, V.M.

SOLDATKINA, Lidiya Aleksandrovna; BLOK, V.M., redaktor; MEDVEDEV, L.Ya., tekhnicheskiy redaktor

[Electric power distribution in large cities of the U.S.A.] Elektrosnabzhenie v krupnykh gorodakh SShA. Moskva, Gos.energ.izd-vo, 1957. 45 p. (MLRA 10:4)

(United States--Electric power distribution)

BLOK, V.M.

Determining power losses in closed networks. Nauch. dokl. vys. shkoly; energ. no.1:65-74 '58. (MIRA 11:10)

1.Rekomendovano kafedroy elektricheskikh setey i sistem Vsesoyuznogo zaochnogo energeticheskogo instituta.
(Electric network analyzers)

DMOKHOVSKAYA, L.F., kand.tekhn.nauk; LARIONOV, V.P., kand.tekhn.nauk; BURGSDORF, V.V., prof., doktor tekhn.nauk, red.; BLOK, V.M., red.; VORONIN, K.P., tekhn.red.

[Overvoltage protection and standarization of insulation in the U.S.A.] Voprosy zashchity ot perenapriazhenii [i] koordinatsii izolistsii v SShA. Red.V.V.Burgsdorf. Obzor sost.L.F.Dmokhovskaia i V.P.Larionov. Moskva, Gos.energ.izd-vo, 1960. 77 p. (MIRA 13:11)

1. ORGRES, trust, Moscow.
(United States--Lightning protection)
(United States--Electric insulators and insulation)

BLOK, V.M. (Riga); ZEBERG, R.E. (Riga); GUSEVA, S.A. (Riga)

Choice of optimum wire and cable sizes taking into account economic sizing intervals. Elektrichestvo no.5:13-16 My '64. (MIRA 17:6)

BLOK, V.M., kand. tekhn. nauk, dotsent

Some thoughts in connection with N.N. Krachkovskii's report.
Izv. vys. ucheb. zav.; energ. 7 no.2:108-109 F '64.
(MIRA 17:3)

HORST, Antoni; BLOK, Wojciech; MARKOWSKI, Ryszard; SIKORSKI, Maciej

Autopsy case of cork pneumoconiosis. Polski tygod. lek. 14 no.29: 1347-1349 20 July 59.

1. (Z Osrodka Badawczo-Leczniczego Chorob Zawodowych Wewnetrznych A.M. w Poznaniu; kierownik: prof. dr med. A Horst i z Zakladu Anatomii Patologicznej A.M. W Poznaniu; kierownik: prof. dr med. J. Groniowski).
(PNEUMOCONIOSIS, pathol.)

BLOK, Ya. D.

"New Method in the Control of Peach Diseases," Sad i Ogorod, no. 8, 1949, pp. 36-38
80 Sal 3

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

BLOK, Ye.M.; UBRAGIMOV, M.; KANDALOV, S.A.; KARAKHANOV, M.; PONOMAREV, A.S.; PARAMOSHKIN, I.M.; YUSUPOV, F.; USTIMENKO, I.L., red.-sostavitel'; SULTANOV, G., red.; NADZHIMOV, G., red.; UMANSKIY, P.A., tekhn.red.

[Achievements of Uzbekistan in forty years of Soviet rule; statistical collection] Uzbekistan za 40 let Sovetskoi vlasti; statisticheskii sbornik. Tashkent, Gos.izd-vo Uzbekskoi SSR, 1958. 134 p. (MIRA 12:11)
(Uzbekistan--Statistics)

BLOK, Yu.Ye.

Tissue culture from the aorta of adult rabbits and man.
Biul. eksp. biol. i med. 57 no. 2:102-104 F '64.
(MIRA 17:9)

1. Institut terapii (dir. - deystvitel'nyy chlen AMN SSSR prof. A.L.Myasnikov) AMN SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR A.L.Myasnikovym.

BLOK, Yu.Ye.

Dynamics of fat accumulation in the cultures of a rabbit aorta under various cultivation conditions. Pat. fiziol. i eksp. terap. 8 no.6:11-14 N-D '64.

(MIRA 18:6)

1. Institut terapii (dir. - deystvitel'nyy chlen AMN SSSR prof. A.L. Myasnikov) AMN SSSR, Moskva.

BLOKH, A.

A generalization of the Lie algebra concept. Dokl. AN SSSR 165 no.3:471-473 N '65. (MIRA 18:11)

1. Moskovskiy gosudarstvennyy pedagogicheskiy institut im. V.I. Lenina. Submitted April 10, 1965.

SOV/117-58-11-14/36

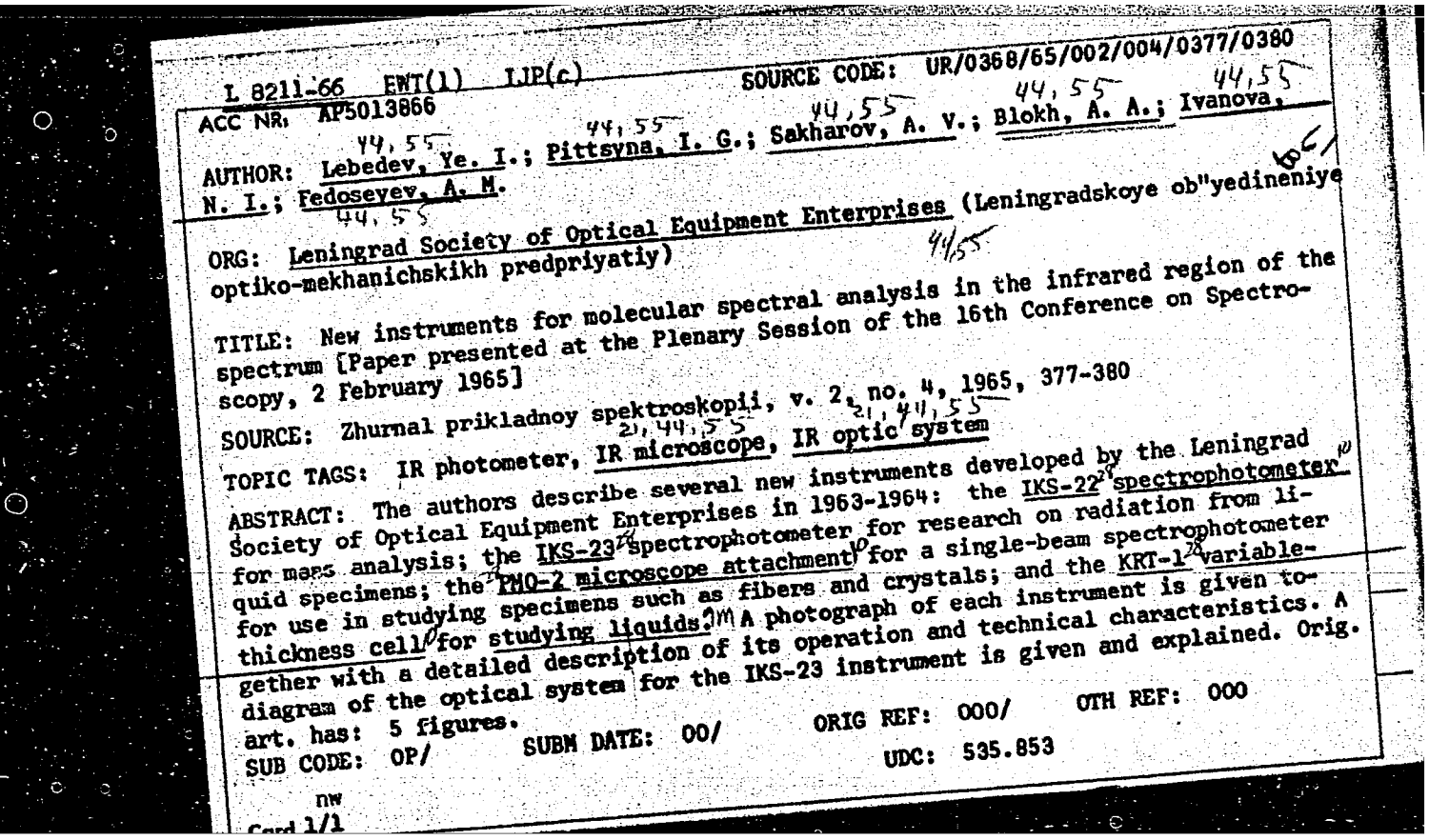
AUTHOR: Blokh, A.A., Engineer

TITLE: Helicoid Punchers for Bending Parts (Gelikoidal'nyye shtampy dlya gibki detaley)

PERIODICAL: Mashinostroitel', 1958, Nr 11, pp 15 - 18 (USSR)

ABSTRACT: Details like those in Figure 1 can be manufactured by specia. helicoidal dies on usual eccentric presses in one operation. This method is more expedient than present procedures. For bending a detail at a certain angle, it is fastened as is shown in Figure 2. Figure 3 shows a screw surface which is a ruled helicoid. It is formed by the screw movement of a line tangent to a cylinder. For the manufacture of loop-shaped details, the most rational variant of the die is shown in Figure 5. The productivity of this device is very high, since cutting and bending is done simultaneously. A pattern used for the thermal processing of such details is given in Figure 7. It is a cylinder with a two-sided rule attached to it. For milling a helicoidal surface, a univer

Card 1/2



L 8211-66 EWT(1) LJP(c) SOURCE CODE: UR/0368/65/002/004/0377/0380

ACC NR: AP5013866

AUTHOR: Lebedev, Ye. I.; Pittsyna, I. G.; Sakharov, A. V.; Blokh, A. A.; Ivanova, N. I.; Fedoseyev, A. M.

ORG: Leningrad Society of Optical Equipment Enterprises (Leningradskoye ob"yedineniye optiko-mekhanichskikh predpriyatiy)

TITLE: New instruments for molecular spectral analysis in the infrared region of the spectrum [Paper presented at the Plenary Session of the 16th Conference on Spectroscopy, 2 February 1965]

SOURCE: Zhurnal prikladnoy spektroskopii, v. 2, no. 4, 1965, 377-380

TOPIC TAGS: IR photometer, IR microscope, IR optic system

ABSTRACT: The authors describe several new instruments developed by the Leningrad Society of Optical Equipment Enterprises in 1963-1964: the IKS-22 spectrophotometer for mass analysis; the IKS-23 spectrophotometer for research on radiation from liquid specimens; the PMO-2 microscope attachment for a single-beam spectrophotometer for use in studying specimens such as fibers and crystals; and the KRT-1 variable-thickness cell for studying liquids. A photograph of each instrument is given together with a detailed description of its operation and technical characteristics. A diagram of the optical system for the IKS-23 instrument is given and explained. Orig. art. has: 5 figures.

SUB CODE: OP/ SUBM DATE: 00/ ORIG REF: 000/ OTH REF: 000

UDC: 535.853

nw

Card 1/1