PRESSMAN, A.Ya.; YATSENKO, S.P.

Possibility of measuring the temperature of upper atmospheric layers by the use of a narrow tube. Geomag. i aer. 1 no.1:49-53 Ja-F '61. (MIRA 14:7)

1. Institut prikladnoy geofiziki AN SSSR.
(Atmospheric temperature)

25661
S/560/61/000/007/005/010
E032/E114

3.2300

AUTHOR: Yatsenko, S.P.

TITLE: Ionization of gases carried by a satellite into the upper layers of the atmosphere

PERIODICAL: Akademiya nauk SSSR. Iskusstvennyye sputniki Zemli, No.7, Moscow, 1961, pp.60-63 + 1 plate

TEXT: V.G. Istomin (Ref.1: this journal, No. 2, izd-vo AN SSSR, 1958, p. 32) has reported that during the first few hours after the launching of the third Soviet artificial Earth satellite the radio frequency mass spectrometer in the satellite recorded ions with mass number 18, which were identified with H_2O^+. It was concluded that these ions are associated with contamination of the satellite. The present paper is concerned with the problem as to what was the reason for the ionization of the molecules emitted from the surface of the satellite. To begin with, photo-ionization can be excluded because the mass spectrometer tube of the particular part of the orbit was in the shadow of the satellite. Other mechanisms, such as ionization by fast electrons and protons, have also been explored, without positive results. The present

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Ionization of gases carried by .....

author considers the main reason for the ionization is charge transfer. During this process the newly formed ions are, at least to some extent, scattered. This means that the instrument records only those particles which have been scattered by collision with atmospheric ions. Since the change in the ion concentration with altitude was by less than one order of magnitude (K.I. Gringauz, Ref.4: Dokl. AN SSSR, V.120, 1234, 1958; this journal, No. 1, izd-vo AN SSSR, 1958, p. 62; K.I. Gringauz, V.V. Bezrukikh, V.D. Ozerov, this journal, No. 6, 1961, p. 63) it follows that the ion current associated with the outgassing should also change by less than one order of magnitude. Detailed consideration of the geometrical and dynamical factors involved has led the present author to the conclusion that the charge transfer mechanism is in fact the correct one since the ion current maxima predicted on the basis of this mechanism are in good agreement with the observed maxima.
There are 6 figures and 5 Soviet references.

Card 2/2

42139

S/203/32/002/002/015/017
I046/1246

3.1550

AUTHORS: Danilov, A. D. and Yatsenko, S. P.

TITLE: On the possibility of existence of high electron concentrations in the night atmosphere of Venus

PERIODICAL: Geomagnetizm i aeronomiya, v. 2, no. 2, 1962, 363-364

TEXT: The 10-cm radio emission of Venus, suggestive of a powerful ionosphere (high electron concentrations), is explained by analogy with the nocturnal ionization in the terrestrial F-region, namely be introducing streams of soft electrons as an ionizing agent supplementary to solar radiation. The most important English references are: C. H. Mayer, T. P. McCulloug h, R. M. Sloanaker, Aph. J., 1958, 127, no. 1, 1 Report to the XIII General Assembly URSI, London, 1960; D. E. Johnes, Planet. Space Sci., 1961, 5, no. 2, 166.

ASSOCIATION: Institut prikladnoy geofiziki (Institute of Applied Geophysics)

SUBMITTED: February 13, 1962

Card 1/1

S/203/62/002/005/004/010
I046/I246

AUTHOR: Yatsenko, S.P.

TITLE: Altitude distribution of ion concentrations in the atmosphere

PERIODICAL: Geomagnetizm i aeronomiya, v.2, no.5, 1962, 873-877

TEXT: The ions in a planetary atmosphere are divided into two ideal classes, viz., M^+-ions neutralized by recombination with electrons, and A^+-ions neutralized in ion-exchange processes involving neutral particles. Applying Chapman's conventional simple-layer treatment to individual components of an isothermic atmosphere of constant chemical composition, subjected to monochromatic ionizing radiation, the author obtains the following altitude distribution for the two classes of ions:

$$\frac{[M^+][e]}{([M^+][e])_{max}} = \exp\left[1 - \frac{z}{H} - \exp\left(-\frac{z}{H}\right)\right] \qquad (13)$$

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SUB

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YATSENKO, S.P.

Ionosphere of Venus (USSR)

Report submitted for the 4th International Space Symposium (COSPAR)
Warsaw, 2-12 June 63

ACCESSION NR: AP4034799 S/0293/64/002/002/0276/0279

AUTHOR: Danilov, A. D.; Yatsenko, S. P.

TITLE: Experimental investigation of constants of ionic exchange processes in the ionosphere

SOURCE: Kosmicheskiye issledovaniya, v. 2, no. 2, 1964, 276-279

TOPIC TAGS: geophysical rocket, mass spectrometer, radio frequency, VV device, ion reaction, gas molecule, mass spectrum, ion stream, ion formation

ABSTRACT: On 18 October 1962 a geophysical rocket rose to a height of 500 km over the territory of the USSR. This rocket carried a mass spectrometer of radio frequencies and a VV device (air outlet) from which air escaped at a definite time near the mass spectrometer. The VV device consisted of many capsules which were opened gradually. The reason for launching such a rocket was to check the reaction between the ions O+ and N+ and the gas molecules O_2 and N_2 discharged from the capsules of the VV device. Three kinds of reactions were

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ACCESSION NR: AP4034799

assumed. Spectra obtained by the mass spectrometer recorded O_2+ and some traces of NO+ ions. Ions of mass 30(NO+) could be recorded at the sensitivity limit of the mass spectrometer, but ions of mass 28(N_2+) were not recorded at all. An attempt has been made to evaluate the ratios of ion streams of 30 and 28 masses 28 and 30 and the velocities at which the reactions proceed. The formation of NO+ ions proceeds slower than the formation of O_2+, and the formation N_2+ ions occurs with about the same speed as that of O_2+. Comparison of the results obtained with those of Western scientists and those of the authors obtainad by laboratory experiments shows considerable disagreement. Orig. art. has: 6 formulas and 1 figure.

ASSOCIATION: none

SUBMITTED: 020ct63	DATE ACQ: 20May64	ENCL: 00
SUB CODE: AS	NO REF SOV: 008	OTHER: 005

Card 2/2

SOV/78-4-4-27/44

5(4)

AUTHORS: Yatsenko, S. P., Demenev, N. V.

TITLE: Investigation of the Precipitation of Gallium Hydroxide From Alkaline Solutions During Carbonization (Issledovaniye osazhdeniya gidrata okisi galliya iz shchelochnykh rastvorov pri karbonizatsii)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 4, pp 869-876 (USSR)

ABSTRACT: The authors investigated the variation of the pH value of alkaline gallate solutions during the precipitation of gallium hydroxide with carbonic acid at 60°. Gallium hydroxide precipitated from an alkaline gallate solution according to the following reaction:

$$2GaO_2^- + 2H_3O^+ \rightarrow Ga_2O_3 \cdot 3H_2O \qquad (1)$$

The reaction rate is expressed by the following equation:

$$-\frac{dc_{GaO_2^-}}{dt} = K' \cdot c^2_{GaO_2^-} \cdot c^2_{H_3O^+} \qquad (2)$$

At a constant pH value of the solution the equation (2) adopts

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Investigation of the Precipitation of Gallic Hydroxide From Alkaline Solutions During Carbonization

this form: $$-\frac{dc_{GaO_2^-}}{dt} = (K' \cdot c^2_{H_3O^+})c^2_{GaO_2^-} = K.c^2_{GaO_2^-} \quad (3)$$

The solubility of gallium hydroxide in a sodium gallate solution of an ionic strength of 1.1-1.2 at a pH value of 9.45-9.65 is intensified with increasing sodium carbonate content. The dependence of the activity coefficient of bicarbonate and carbonate ions on the ionic strength of the solution was investigated at 25°; the results are given in figure 1. With the introduction of carbon dioxide into the gallate solution only the pH value decreases at the beginning. At a certain pH value the hitherto clear solution begins to grow turbid. This pH value during the occurrence of turbidity is a linear function of the absolute temperature, which in the temperature range of 20-60° follows the empirical equation:

$$pH = \frac{2524}{T} + 2.32 \quad (16)$$

Card 2/3 The course of titration of the gallate solution with carbonic

Investigation of the Precipitation of Gallium Hydroxide From Alkaline Solution During Carbonization

acid is represented in figure 4. Figure 5 contains the precipitation of gallium oxide hydrate from the gallate solution at a constant pH value. The results of chemical analysis of gallium oxide hydrate obtained from gallate solutions with carbonic acid are given in a table. Another table shows the reproducibility of the precipitation of gallium oxide hydrate; a third table gives the differences between the experimental values of gallate ion concentration as well as the values computed from the amount of absorbed CO_2. There are 6 figures, 3 tables, and 22 references, 8 of which are Soviet.

ASSOCIATION: Ural'skiy filial Akademii nauk SSSR Institut khimii (Ural Branch of the Academy of Sciences USSR, Chemical Institute)

SUBMITTED: January 30, 1958

SOV/78-4-6-37/44

5(2)

AUTHORS: Yatsenko, S. P., Demenev, N. V.

TITLE: Investigation of the System Gallate - Carbon Dioxide - Water (Issledovaniye sistemy gallat-uglekislota-voda)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 6, pp 1437 - 1442 (USSR)

ABSTRACT: The solubility in the systems Ga_2O_3-Na_2O-H_2O and Ga_2O_3-Na_2O-H_2O was investigated at room temperature ($20\pm0.5^\circ$). The system Ga_2O_3-Na_2O-H_2O was investigated in the concentration region of 15.5 - 155 g/l sodium oxide. The results of the solubility determinations are given in table 1 and in figures 2 and 3. The solid phase in the system has the composition $Ga_2O_3 \cdot 3H_2O$.

The solubility of gallium oxide trihydrate was investigated in soda and the results are given in figure 4. The concentration equilibrium in the system gallate - carbon dioxide - water was investigated at room temperature and the results are summarized in tables 2 and 3. The solid phase of this system has the composition $NaGa(OH)_2CO_3 \cdot H_2O$. The radiographs of gallium

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oxide trihydrate and basic gallium carbonates were taken and compared with the corresponding aluminum compounds (Fig 5 a - e). The conditions for the production of double-basic sodium-gallium carbonate were detected. The sodium gallate solution is added at room temperature to the sodium bicarbonate solution in order to produce basic sodium-gallium carbonate in crystalline state. The formation of basic gallium carbonate proceeds probably according to the reaction: $NaGa(OH)_4+2NaHCO_3= NaGa(OH)_2CO_3.H_2O+Na_2CO_3+H_2O$. A volumetric method for the determination of the free alkalis and bicarbonate ions in gallate-soda solutions was suggested. There are 5 figures, 3 tables, and 8 references, 2 of which are Soviet.

ASSOCIATION: Ural'skiy filial Akademii nauk SSSR institut khimii (Ural Branch of the Academy of Sciences, USSR, Institute of Chemistry)

SUBMITTED: March 29, 1958

YATSENKO, S.P.; DEMENEV, N.V.

Isomorphous coprecipitation of gallium with aluminum hydroxide from alkaline solutions. Zhur.neorg.khim. 5 no.7:1618-1625 Jl '60. (MIRA 13:7)

1. Ural'skiy filial Akademii nauk SSSR. Institut khimii. Laboratoriya redkikh elementov.
(Gallium) (Aluminum hydroxide)

YATSENKO, S.P.; DEMENEV, N.V.

Coprecipitation of gallium with aluminum hydroxide during the carbonization of an alkaline solution. Zhur.neorg. khim. 5 no.7:1626-1630 Jl '60. (MIRA 13:7)

1. Ural'skiy filial Akademii nauk SSSR. Institut khimii. Laboratoriya redkikh elementov.
(Gallium) (Alumimum hydroxide)

YATSENKO, S.P.

Precipitation of gallium with basic aluminum sodium carbonate. Zhur. neorg. khim. 5 no.8:1882-1885 Ag '60. (MIRA 13:9)

1. Ural'skiy filial Akademii nauk SSSR, Institut khimii.
(Gallium--Analysis) (Aluminum sodium carbonate)

YATSENKO, S.P.; DRUZHININA, Ye.P.

Reciprocal dissolubility of mercury and gallium. Zhur.neorg.khim. 6 no.8:1902-1904 Ag '61. (MIRA 14:8)
(Solubility) (Mercury) (Gallium)

YATSENKO, S.P.

Solubility isotherm of the system gallium oxide - sulfuric anhydride - water at 20°. Zhur.neorg.khim. 6 no.8:1922-1925 Ag '61. (MIRA 14:8)

(Gallium oxide) (Sulfur trioxide)

DANILOV, A.D.; YATSENKO, S.P.

Ionospheric interpretation of the results of radio astronomical observations of Venus. Part 1. Geomag. i aer. 3 no.4:585-593 Jl-Ag '63.

Ionospheric interpretation of the results of radio astronomical observations of Venus. Part 2. 594-597 (MIRA 16:11)

1. Institut prikladnoy geofiziki AN SSSR.

YATSENKO, S.P.; DRUZHININA, Ye.P.

Density and viscosity of sodium-gallate solutions. TSvet. met. 36 no.7:61-63 Jl '63. (MIRA 16:8)
(Solutions (Chemistry)--Testing) (Gallate)

ACCESSION NR: AT4042100

AUTHOR: Yatsenko, S. P.

S/2768/63/000/007/0147/0150

TITLE: The problem of removing impurities from metallic gallium

SOURCE: AN SSSR. Ural'skiy filial. Institut khimii. Trudy*, no. 2, 1963. Khimiya i tekhnologiya redkikh metallov (Chemistry and technology of rare metals), 147-150

TOPIC TAGS: gallium, gallium purification, electrolytic gallium metal filtration, molten gallium filtration, gallium recrystallization

ABSTRACT: A method of purification of highly contaminated metallic gallium produced by alkaline electrolysis in the aluminum industry is proposed which consists of treating with hydrochloric acid, melting and subsequent filtration and recrystallization of the molten metal. By repeating treatment with 0.5 - 1.0 N acid four times in a laboratory process, 99.9% metallic gallium was obtained from a material originally containing 85% gallium, 3.1% zinc, 5.6% aluminum, 0.2% manganese, 0.02% titanium, 1.5% magnesium, 0.7% calcium, 0.04% chromium, 1.1% vanadium, and 1.9% silicon. Metals which are more

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ACCESSION NR: AT4042100

negative than gallium are removed fairly well by the process while those which are more positive, such as lead, tin, copper, nickel and iron, are almost not removed at all. The technical details of purification by filtration, which removes insoluble mechanical impurities, consist essentially of heating the metal with water to 40C, filtering the watery melt through a glass filter (30 - 50 μ pores) with suction and recrystallizing the gallium at room temperature under water. Orig. art. has: 3 tables.

ASSOCIATION: Institut khimii, Ural'skiy filial AN SSSR (Chemical Institute, Urals Branch of the AN SSSR)

SUBMITTED: 00

SUB CODE: IC, MM / NO REF SOV: 003

ENCL: 00

OTHER: 004

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L 47046-66 EWT(1)/EWT(m)/FCC GW

ACC NR: AT6023725 SOURCE CODE: UR/2831/65/000/014/0021/0025

36
35
Brl

AUTHOR: Yatsenko, S. P.

ORG: none

TITLE: Chemical processes in the ionosphere

SOURCE: AN SSSR. Mezhduvedomstvennyy geofizicheskiy komitet. V razdel programmy MGG: Ionosfera. Sbornik statey, no. 14, 1965. Ionosfernyye issledovaniya, 21-25

TOPIC TAGS: ionosphere, chemical composition, chemical process, atmospheric ion concentration

ABSTRACT: This article discusses various theoretically possible investigations of the chemical processes occurring in the ionosphere. If the basic chemical reactions determining the composition of the ionosphere are known, it is possible to find such relationships between low concentrations which should remain constant with a change of altitude, geomagnetic or geographic latitude, time of day, and other parameters. An investigation of such chemical invariants will yield valuable information on the properties of the ionosphere. Therefore, the present author examines the system of reactions proposed by A. D. Danilov (Molekulyarnyye iony v verkhney atmosfere, Dokl. AN SSSR, 1961, 137, No. 5, 1098). From this system of

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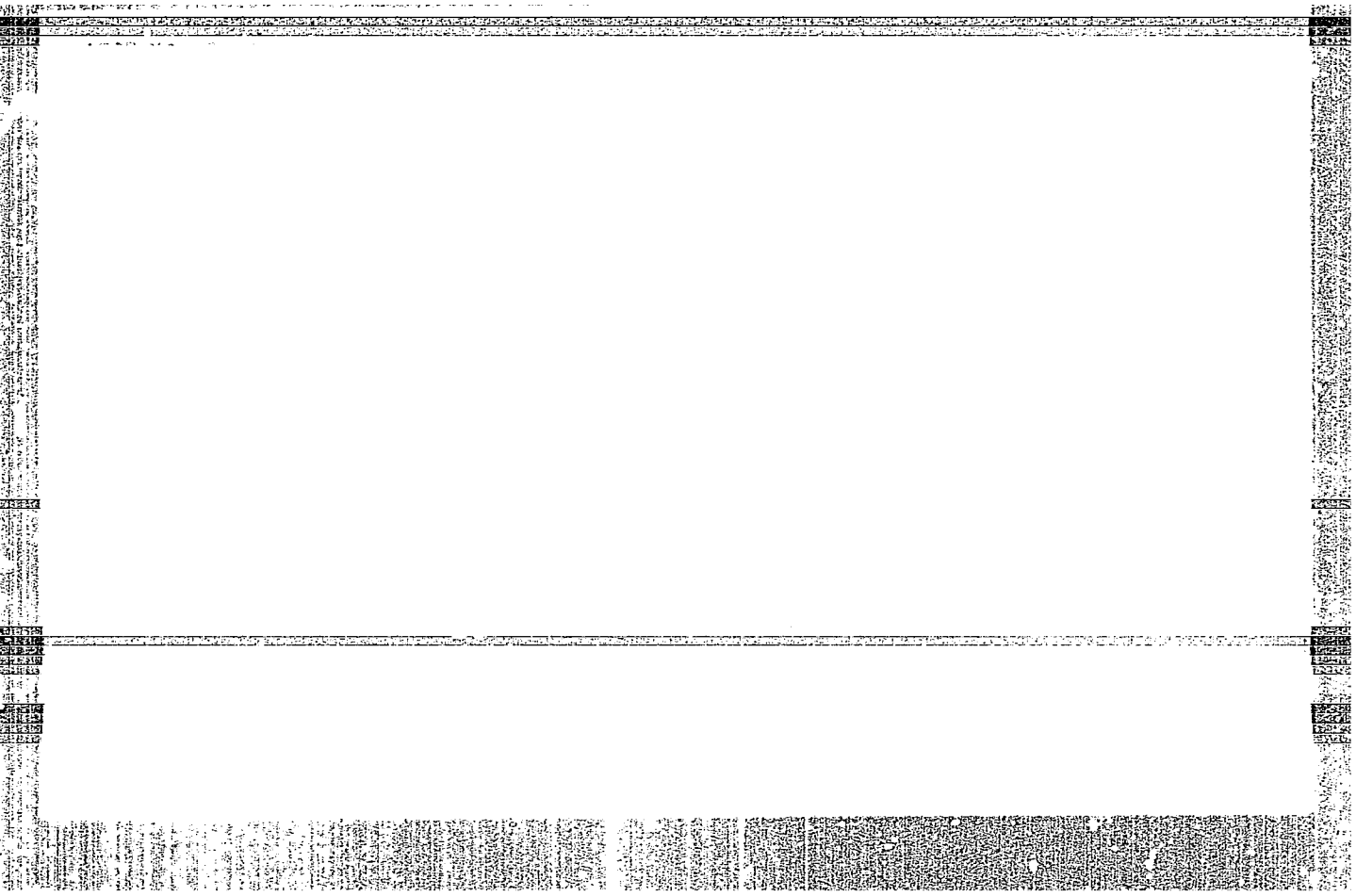
ACC NR: AT6023725

reactions the author derives three equalities from which three invariants are obtained: $[O_2^+]/[NO^+]$, $[O_2^+][N^+]/[O^+][N_2^+]$, and $[NO^+][N^+]/[O^+][N_2^+]$. The latitude variation of these invariants obtained from the data of measurements on Sputnik 3 are presented in figures. Counter to expectations, the first two invariants do not remain constant but have a maximum at about 55°N. Consequently, the processes determining the concentration of molecular ions involve more than the examined system of chemical reactions. The maximum found coincides geographically with one of the local anomalies of the outer radiation belt. This indicates that the experimentally measured chemical composition changes with a change of intensity of the radiation of the outer radiation belt. Unfortunately, the experimental data were insufficient to make well-founded conclusions. The indicated results are mainly given to illustrate the possibilities of using a radio-frequency mass-spectrometer to study the chemical composition of the ionosphere. The realization of these possibilities could substantially broaden the knowledge about elementary chemical processes and about the properties of the ionosphere. Orig. art. has: 3 figures.

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 013/ OTH REF: 002

Card 2/2 ULR



APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001962310004-5"

AUTHORS: Yakhontov, L. N., Yatsenko, S. V., Rubtsov, M. V. 79-28-5-9/69

TITLE: Synthesis of Substituted Quinuclidyl-2-Carbinol (Sintez zameshchennykh khinuklidil-2-karbinolov)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 5, pp. 1177-1181 (USSR)

ABSTRACT: P. Rabe, in 1911 was the first to realize the synthesis of the substituted quinuclidyl-2-carbinols of the quinine-alkaloidal type (Reference 1). This method consists of the condensation of the ethylesters of β[N-benzoyl-piperidyl-(4)]-proprionic acid and any other acid (e. g. cinchoninic acid or quininic acid) with subsequent closing of the quinuclidine cycle, and by reduction of the obtained ketone with the corresponding substituted quinuclidyl-2-carbinol resulting as final product (see scheme 1). Until our time this scheme was the only one for the synthesis of substituted quinuclidyl-2-carbinols. According to this scheme quinine (Reference 2), hydroquinine (Reference 3) as well as a series of analogs and isomers

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of quinine alkaloids (References 4-6) were synthetized. In the present work another method for the synthesis of substituted quinuclidyl-2-carbinols is described (see scheme 2). As initial product serves 2-formylquinuclidine (Reference 7) which in the conversion with different organomagnesium compounds forms the corresponding substituents of quinuclidyl-2-carbinol. This way the following carbinols were synthetized: (quinuclidyl-2)-methylcarbinol (I), (quinuclidyl-2)-ethylcarbinol (II) and (quinuclidyl-2)-(naphthyl-1-)-carbinol (III). The compound (I) was also obtained by reduction of the 2-acetylquinuclidine (Reference 8) (IV) in the presence of a platinum catalyst (scheme 3), on which occasion also a mixture of diastereoisomeric (quinuclidyl-2)-methylcarbinols formed in crystalline and oily state.
There are 8 references, 5 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze (All-Union Scientific Chemical and Pharmaceutical Research Institute imeni Ordzhonikidze)

SUBMITTED: April 15, 1957

AUTHORS: Yakhontov.L.N., Yatsenko,S.V., Rubtsov,M.V. SOV/79-28-11-47/55

TITLE: Synthesis of 4-Aminopiperidine (Sintez 4-aminopiperidina)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 11, pp 3115-3119 (USSR)

ABSTRACT: The 4-aminopiperidine is a semiproduct for the production of biologically active compounds. According to reference 1 some N-substituted 4-aminopiperidines have spasmolitic activity (Ref 1). There is, however, no convenient synthesis of this compound mentioned in publications. Its two described syntheses by the reduction from 4-aminopyridine and from acyclic compounds give only small yields. In this paper a convenient preparative synthesis of the dichloro hydrate of 4-aminopiperidine from isonicotinic acid in two steps with a yield of 66 % is described. In its elaboration various ways of synthesizing the 4-aminopiperidine from isonicotinic acid were checked, which is now used as industrial raw material (Scheme). The reactions by Hofmann, Curtius,and Schmidt (Gofman,Kurtsius,Shmidt) were used for the transformation of the carboxyl group. According to the first method the isonicotinic acid according to reference 4 was converted by way of the ester into the amide and further on according to Hofmann into the aminopiperidine. Basing on the second method the isonicotinic acid was converted into hydrazide according to reference 6 by way of the

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ester. This was reduced by way of platinum to the hydrazide of the isonipecotic acid, which according to Curtius was converted to the 4-aminopiperidine. The synthesis by the reduction of the isonicotinic acid to the isonipecotic acid with subsequent substitution of the carboxyl group by the amino group according to Schmidt turned out to be the most convenient method. The Schmidt reaction takes place best with sodium azide in the presence of H_2SO_4, as it is convenient in preparative respect and is not connected with a previous development of poisenous vapours of hydrazoic acids (yield 66 %) as is the case in using hydrazoic acid. In the checking of the first method according to Hofmann the catalytic reduction of the aminopyridine to the 4-aminopiperidine was realized.- There are 8 references, 1 of which is Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze (All-Union Scientific Chemo-Pharmaceutical Research Institute imeni S.Ordzhonikidze)

BERENFEL'D, V.M.; YAKHONTOV, L.N.; YANDUKHTIN, N.A.; KRASNOKUTSKAYA, D.M.; YATSENKO, S.V.; RUBTSOV, M.V.

Synthesis of substituted 4-(δ-diethylamino-α-methylbutylamino) 2-styrylquinolines. Zhur.ob.khim. 32 no.7:2169-2177 Jl '62. (MIRA 15:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.
(Quinoline)

SVISHCHUK, A.A.; GRINBERG, F.L.; YATSENKO, S.V.

Synthesis of acetylenic glycols C_{20}. Ukr. khim. zhur. 28 no.1:84-87 '62. (MIRA 16:8)

1. Institut organicheskoy khimii AN UkrSSR.

YATSENKO, T. E.

YATSENKO, T. E. - "Restorative processes in the kidneys of white rats under conditions of partial removal and chronic stimulation of the cerebral cortex." Moscow, 1955. Min Health USSR. First Moscow Order of Lenin Medical Inst. (Dissertations for degree of Candidate of Medical Sciences.)

SO: Knizhnaya letopis', No 48. 26 November 1955. Moscow.

YATSENKO, T. B.

"Effect of Partial Removal and Chronic Stimulation of the Cerebral Cortex on the Processes of Post-Traumatic Inflammation and Regeneration of the Kidney," p. 114

"Effect of Partial Removal and Chronic Stimulation of the Cerebral Cortex on Vital Staining of the Epithelium of Uriniferous Tubules of the Kidney," p. 225

from the book "Effect of Higher Divisions of the Nervous System on Processes of Inflammation and Regeneration," Trudy 1-go Moskovskogo Ordena Lenina Meditsinskogo Institute im. I. M. Sechenova, 1957, 249 pp.

YATSENKO, T.B.

Acid and alkaline phosphatase of the human placenta under normal and certain pathological conditions. Akush. i gin. 34 no.6:95-97 N-D '58. (MIRA 12:1)

1. Iz kafedry gistologii i embriologii (zav. - prof. M.Ya. Subbotin) Novosibriskogo meditsinskogo instituta.

(PLACENTA, metab.
phosphatases, acid & alkaline, in normal & pathol. cond. (Rus))
(PHOSPHATASES
acid & alkaline in placenta in normal & pathol. cond. (Rus))

USSR / Human and Animal Morphology (Normal and Pathological). Excretory System. S

Abs Jour : Ref Zhur - Biologiya, No 4, 1959, No. 16990

Author : Yatsenko, T. B.
Inst : First Moscow Medical Institute
Title : Influence of Partial Removal and Chronic Stimulation of the Cortex of Large Hemispheres on the Vital Staining of the Epithelium of Renal Tubuli

Orig Pub : Tr. 1-y Mosk. med. in-ta, 1957, 2, 225-229

Abstract : It was established that the removal of the cortex in rats leads to intensification of the accumulation of trypan blue during the first hours after introduction of the stain into the organism; the ability to accumulate the stain is also acquired by the cells of

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USSR / Human and Animal Morphology (Normal and Pathological). Excretory System. S

Abs Jour : Ref Zhur - Biologiya, No 4, 1959, No. 16990

visceral and parietal leaflets of the Shumlyanskiy capsule. The excretion of the stain from the epithelial cells of the uriniferous tubuli is slowed down. Chronic stimulation of the cerebral cortex induces slow accumulation of the stain in the epithelium of uriniferous tubuli and, later on, also its slow removal. -- E. N. Popova

Card 2/2

YATSENKO, T.B.

Experimental inflammation of hemochorial placentae. Biul. eksp. biol. i med. 50 no.7:103-107 Jl '60. (MIRA 14:5)

1. Iz kafedry gistologii i embriologii (zav. - prof. M.Ya. Subbotin) Novosibirskogo meditsinskogo instituta (dir. - prof. G.D.Zalesskiy). Predstavlena deystvitel'nym chlenom AMN SSSR V.N.Ternovskim.
(PLACENTA--DISEASES)

YATSENKO, T.B. (Novosibirsk, ul. Sem'i Shamshinykh, 83a, kv.9)

Alkaline phosphatase in the placenta of white rats with experimental inflammation. Arkh. anat. gist. i embr. 42 no.1:60-64 Ja '62. (MIRA 15:4)

1. Kafedra gistologii i embriologii (zav. - prof. M.Ya.Subbotin) Novosibirskogo meditsinskogo instituta.
(PLACENTA--INFLAMMATION) (PHOSPHATASES)

YATSENKO, T. K.

YATSENKO, T. K. : "The effect of admixtures on the autodiffusion of silver." Acad Sci Ukrainian SSR. Inst of Metallophysica. Kiev, 1956. (Dissertation for the Degree of Candidate in Physicomathematical in Sciences).

SO: Knizhaya letopis', No 23, 1956

YATSENKO, T. K.

SOV/137-58-7-15605

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 241 (USSR)

AUTHORS: Gertsriken, S. D., Yatsenko, T. K.

TITLE: Investigation of Diffusion in Alloys of Silver with Admixtures (Issledovaniye diffuzii v splavakh serebra s primesyami)

PERIODICAL: Sb. nauchn. rabot In-ta metallofiz. AN UkrSSR, 1957, Nr 8, pp 101-104

ABSTRACT: Using the radioactive isotope Ag^{110} the effect of the valence and the concentration of the second element on the parameters of self-diffusion of Ag in the binary alloys Ag-Cd (0.9 - 22 atom % Cd), Ag-Sn (0.97-7.45 atom % Sn), Ag-Sb (0.6-5.2 atom % Sb), Ag-In (0.98 atom % In), was studied. The mean error in determining the coefficient of diffusion constituted 13%, and the error in the determination of the energy of activation Q was 1 kcal/g-atom. As a rule, Q decreases during the transition from pure silver to the alloy. With an increase in the admixture content Q tends towards a constant value, whereas with 1 atom % of admixture Q decreases proportionally to the valence of the atoms of the admixture. The laws governing this change are analogous to those obtained by S. D. Gertsriken and I. Ya. Dekhtyar'

Card 1/2

SOV/137-58-7-15605

Investigation of Diffusion in Alloys of Silver with Admixtures

(Voprosy fiziki metallov i metallovedeniya, Nr 2, 1950) on the effect of the valence and the size of the atoms of the third component on the diffusion parameters in ternary alloys. The data obtained are related to the effect of the valence of the admixture on the distortion of the lattice.

I. D.

1. Silver alloys--Diffusion 2. Silver isotopes (Radioactive)--Applications
3. Mathematics--Applications

Card 2/2

GERTSRIKEN, S.D.; DEKHTYAR, I.Ya.; PLOTNIKOVA, N.P.; SLASTNIKOVA, L.F.; YATSENKO, T.K.

Investigating diffusion in the iron - aluminum system in a wide concentration range. Issl. po zharopr. splav. 3:68-76 '58. (MIRA 11:11)

(Iron-aluminum alloys) (Diffusion)

GERTSRIKEN, S.D.; YATSENKO, T.K.; SLASTNIKOVA, L.F.

Investigating the diffusion of cobalt and iron along grain boundaries. Issl.po zharopr.splav. 4:152-157 '59.
(MIRA 13:5)

(Diffusion) (Metal crystals)

YAKIMENKO, I.K.

18(4,7); 25(1) PHASE I BOOK EXPLOITATION SOV/2306

Akademiya nauk Ukrainskoy SSR. Institut metallofiziki

Voprosy fiziki metallov i metallovedeniya (Problems in the Physics of Metals and Metallography) Kiyev, Izd-vo AN Ukrainskoy SSR, 1959. (Series: Its: Sbornik nauchnykh rabot, Nr 9) Errata slip inserted. 3,000 copies printed.

Ed. of Publishing House: V.L. Shkurko; Tech. Ed.: N.I. Yefimova; Editorial Board: V.N. Svechnikov, Academician, Academy of Sciences Ukrainian SSR (Resp. Ed.); S.D. Gertsriken, Doctor of Physical and Mathematical Sciences; and I.Ya. Dekhtyar, Doctor of Technical Sciences.

PURPOSE: This collection of articles is intended for scientific workers, aspirants, and engineers in the fields of the physics of metals, metallography, and metallurgy. It may also be useful to students of advanced courses in metallurgical and physical faculties.

COVERAGE: This collection of articles deals with the following topics: effect of high-speed heating, heat treatment, deformations, and crystallization conditions on phase transformations, structures, and properties of metals and alloys; the effect of additional alloying components on volumetric and intercrystalline diffusion in alloys; and the effect of repeated quench hardening and radioactive and ultrasonic treatment on the physical properties of alloys. No personalities are mentioned. References follow several of the articles.

Svechnikov, V.N., and A.Th. Spector. Investigation of Transformations in the Solid State of Cobalt-rich Co-Cr Alloys 105

Changes in cobalt-base solid solutions and a more precise determination of phase ranges in equilibrium diagrams of the Co-Cr system are investigated. The microstructure of alloy samples is discussed.

Svechnikov, V.N., Yu.A. Kocherzhinskiy, Ye.Ye. Mayatrenko, V.M. Pan, and A.K. Shurin. Investigation of the Cr-Mo-V Alloy System 120

Constitution diagrams and microstructures of various binary and ternary alloys were investigated. Changes of hardness with changes of temperature are shown.

Lesnik, A.G., and G.V. Kharitonov. Displacement of Equilibrium Curves of α- and β- phases in the Fe-Cr Alloy System Due to Prolonged High-temperature Heating of the γ- phase 133

Electrolytic chromium and iron were used for making the alloys. Spiral samples, 20mm. long, were heated in a vacuum (10^{-4} mm. Hg), and electrical resistivity was measured. The drop of resistivity at the α-γ transformation is discussed.

Tikhonova, Ye. A. Anisotropy in the Diffusion in Cu-Au Alloys Undergoing Ordering 139

The calculation of diffusion coefficients for alloys undergoing ordering is made analytically by the method of seam energies and by the "configuration method."

Gertsriken, S.D., and N.P. Franishkov. Investigation of Volumetric Diffusion of Iron in Alloys 147

Alloys composed of Fe + 0.27 percent Al, and Fe + 0.39 percent Al, were investigated. Samples, 10 x 15 x 2.5mm., were deformed and annealed. The mean grain size (0.5 to 1mm.) did not change after diffusion annealing (770 to 1250°C). The polished surfaces of the samples were coated with radioactive iron (1 to 2 microns thick). The depth of the diffusion layer (300 to 350 microns) varied with temperature and time of annealing.

Gertsriken, S.D., T.K. Yarovenko, and L.P. Slastnikova. Investigation of Diffusion of Cobalt and Iron Along Grain Boundaries of Cobalt, Nickel, and Iron 154

The absolute values of diffusion coefficients for Co—Co, Co—Ni, Co—Fe, Fe—Fe, and Fe—Ni, i.e., diffusion with regard to the grain and temperature of annealing, were obtained for grain-boundary diffusion and volumetric diffusion. The relationship between coefficients for both diffusions is discussed.

32032
S/601/60/000/011/011/014
D207/D304

18.7510

AUTHORS: Gertsriken, S. D., and Yatsenko, T. K.

TITLE: Determining the parameters of diffusion of iron along cobalt grain boundaries and of cobalt along copper grain boundaries

SOURCE: Akademiya nauk Ukrayins'koyi RSR. Instytut metalofyzyky. Sbornik metallov i metallovedeniya, 117-120 No. 11, 1960

TEXT: The authors studied diffusion of iron (Fe^{59}) along grain boundaries in cobalt and diffusion of cobalt (Co^{60}) along grain boundaries in copper. Massive cobalt had the following composition (in weight %): 99.24 Co, 0.3 Ni, 0.2 Fe, 0.05 Cu, 0.005 S, 0.002 Mn, 0.15 As. Copper was of electrolytic grade (99.99% purity). The samples were fine-grained (70 - 80 μ grains in cobalt and 20 μ grains in copper). The diffusion

Card 1/3

Determining the parameters...

parameters were found by heating in argon at 500 - 700°C and determining the distribution of Fe^{59} or Co^{60} diffusing from thin films (1 - 2μ) deposited on the sample ends. Temperature was controlled to within ± 2 deg. C by an instrument designated ЭПД-17 (EPD-17). After diffusion annealing, the samples were sectioned by electrolysis in dilute sulphuric acid. Gamma rays were counted using a Б-2 (B-2) counter. It was assumed that diffusion proceeded mainly along grain boundaries and not across grains; this is true at relatively low temperatures. The following equations summarize the results obtained for iron diffusing in cobalt:

$$D = 8 \times 10^{-2} \exp\left(-\frac{36000 \pm 200}{RT}\right) \left[\mathrm{cm}^2/\mathrm{sec.}\right],$$

and for cobalt diffusing in copper:

Card 2/3

Determining the parameters...

$$D = 2 \times 10^{-6} \exp\left(-\frac{22000 \pm 300}{RT}\right) \left[\text{cm}^2/\text{sec.}\right] .$$

Here, D is the diffusion coefficient, R is the gas constant, and T is the absolute temperature. These results were in agreement with an earlier finding that the energy of activation is proportional to the atomic number Z of the metal, in which grain-boundary diffusion takes place: For Fe diffusing in Fe, Co and Ni (Z = 26, 27, and 28 respectively), the activation energy rises with Z; for Co diffusing in Fe, Co and Cu (Z = 26, 27, and 29 respectively), the energy falls with Z. The thicknesses of grain boundaries were estimated to be 3500 - 4700 Å in cobalt and 800 - 1300 Å in copper. There are 2 figures, 2 tables and 2 Soviet-bloc references.

SUBMITTED: September 5, 1959

Card 3/3

35176
S/601/61/000/013/008/017
D207/D302

18.1780

AUTHORS: Gertsriken, S. D. (deceased), Yatsenko, T. K. and Slastnikova, L. F.

TITLE: Diffusion in silver-zinc alloys

SOURCE: Akademiya nauk Ukrayins'koyi RSR. Instytut metalofyzyky. Sbornik nauchnykh rabot, n. 13, 1961. Voprosy fiziki metallov i metallovedeniya, 93-99

TEXT: The authors investigated diffusion of Zn^{65} at 250 - 650°C in the Ag + 33 at.% Zn alloy (f.c.c., α-phase), diffusion of Zn^{65} at 300 - 650°C in the Ag + 48 at.% Zn alloy (b.c.c., ß-phase), and diffusion of Ag^{110} at 400 - 650°C in the Ag + 49 at.% Zn alloy (b.c.c., ß-phase). Diffusion annealing was carried out in an atmosphere of argon and the temperature was controlled with the ЭПД-17 (EPD-17) apparatus. For the 33% Zn alloy a γ-counter and apparatus Б-2 (B-2) were used to determine the distribution of Zn^{65}. For the 48 -

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S/601/61/000/013/008/017
D207/D302

Diffusion in silver-zinc alloys

49% Zn alloys the tracer distributions were found by autoradiography: The sample was placed in contact with a photographic film and the optical density of the resultant image was measured. Diffusion coefficients D were deduced from $D = 0.1086/t.\tan\alpha$, where t is the duration of the diffusion annealing and $\tan\alpha$ is the slope of the tracer concentration plotted against the square of the distance along a sample. The values of D in the ß-phase alloys were 2 - 3 orders of magnitude greater than in the α-phase alloy. This was primarily due to the fact that the ß-phase has b.c.c. structure which is a less tightly packed lattice and therefore diffusion through it is easier. Other, less important reasons for the difference between the rates of diffusion in the α- and ß-phase are: D increases with concentration of zinc, and there are more interstitial atoms in the ß-phase. There are 2 figures, 1 table and 12 references: 5 Soviet-bloc and 7 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: A. B. Kuper, D. Lazarus et al., Phys. Rev., 104, 6, 1936; D. Lazarus and C. Tomiruka, Phys. Rev., 103, no. 5, 1155, (1956); C.

X

Card 2/3

Diffusion in silver-zinc alloys

S/601/61/000/013/008/017
D207/D302

Meechan, Phys. Rev., 4, no. 6, 284, (1960); A. Mortlock and D. Tomlin, Phil. Mag., 4, no. 41, 628, (1959).

SUBMITTED: January 20, 1960

X

Card 3/3

S/137/62/000/008/019/065
A006/A101

AUTHORS: Gertsriken, S. D., Yatsenko, T. K.

TITLE: Determining the parameters of nickel diffusion along grain boundaries of nickel and cobalt

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 8, 1962, 9, abstract 8I58 ("Sb. nauchn. rabot In-ta metallofiz. AN UkrSSR", 1961, no. 112, 135 - 141)

TEXT: Electrolytically pure Ni (99.99%) and Co (99.24%) were used as investigation materials. Fine-grained specimens of 10 - 20 μ size for Ni and 70 - 80 μ for C were produced by cold deformation and subsequent annealing. During subsequent diffusion annealing the grain size did practically not change. Thin radioactive Ni^{63} layers (0.5 - 1 μ) were applied electrolytically onto the polished surface of specimens 1 x 1.5 x 0.3 cm in size. Diffusion annealing was performed in a quartz tube in argon atmosphere within a range of 580 - 750°C. After diffusion annealing the lateral surfaces of the specimens were machined and the laminar distribution of the integral intensity of the diffused substance was

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S/137/62/000/008/019/065
A006/A101

investigated. The layers were taken-off electrolytically or mechanically (with fine polishing paper). The coefficient of diffusion along the grain boundaries D_{gr} was calculated by a method that was developed at the Institut metallofiziki AN SSSR (Institute of Metal Physics of the AS USSR). It was established that the temperature dependence of the coefficient of Ni selfdiffusion along the grain boundaries is $D_{gr} = 1.6 \cdot 10^{-5} \exp(-26,600 \pm 1,000)/RT$ cm^2/sec and the diffusion coefficient along Co grain boundaries is $D_{gr} = 0.19 \exp(-45,600 \pm 1,000)/RT$ cm^2/sec. The width of boundary in Ni and Co is estimated to be equal to 2,100 - 4,000 Å (for different temperatures). A linear dependence was established between changes in the activation energy of diffusion along the grain boundaries and a difference in valences of the dissolved atom of the solvent.

A. Rusakov

[Abstracter's note: Complete translation]

40976

18.1250

S/659/62/009/000/006/030
I003/I203

AUTHORS: Gertsriken, S. D., Slastnikova, L. F., Yatsenko, T. K., Volkova, T. I., and Mirkin, I. L.

TITLE: The relationship regularities in the diffusion of nickel in nickel-base alloys and the refractory properties of these alloys

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Issledovaniya po zharoprochnym splavam. v. 9. 1962. Materialy Nauchnoy sessii po zharoprochnym splavam (1961 g.), 42–46

TEXT: Data on the mobility of atoms at elevated temperatures are necessary for the investigation of heat resistant alloys. Such data were obtained here for different grades of nickel and of nickel-base alloys containing Cr, W, Mo and Co. A layer of radioactive Ni^{63} was electrolytically deposited on polished samples, which were heated to a temperature range from 970°C to 1170°C. The diffusion coefficient of nickel was calculated from the difference in the radioactiveity of the surface before and after heating. The self-diffusion coefficients were calculated: for refined nickel: $D = 0.36 \exp(-64700/RT)$ cm^2/sec; for commercial nickel: $D = 0.25 \exp(-63006/RT) cm^2/sec$. Diffusion coefficients of nickel into both refined and commercial grade alloys were calculated, and the mechanical properties as well as the melting points of the alloys were determined. The conclusion reached are that the long-time strength and the resistance to relaxation of nickel-base alloys

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at 800°C is due chiefly to the structure and to the dislocations in the alloy, and that the thermal mobility of atoms of the chief components is of lesser importance. In the discussion, E. M. Pivnik expressed the opinion that the relationship between the diffusion in nickel-base alloys and their heat-resistance may be more complex than suggested by the authors, while, A. Ya. Shinyaev believed that may be premature to draw conclusions on the relationship between the heat-resistance of alloys and the diffusion at low temperatures. There are 2 figures and 2 tables.

GERTSRIKEN, S.D. [deceased]; YATSENKO, T.K.; SLASTNIKOVA, L.F.

Diffusion in silver-zinc alloys. Sbor. nauch. rab. Inst. metallofiz. AN URSR no.13:93-99 '61. (MIRA 14:12)
(Silver-zinc alloys--Testing)
(Diffusion)

GERTSRIKEN, S.D. [deceased]; SLASTNIKOVA, L.F.; YATSENKO, T.K.

Diffusion of nickel and chromium. Sbor. nauch. rab. Inst. metallofiz. AN URSR no.14:31-36 '62. (MIRA 15:6)
(Nickel) (Chromium) (Diffusion)

S/601/62/000/016/022/029
E193/E383

AUTHORS: Gertsriken, S.D. (Deceased), Yatsenko, T.K. and Slastnikova, L.F.

TITLE: Diffusion of iron in iron-hafnium alloys

SOURCE: Akademiya nauk Ukrayins'koyi RSR. Instytut metalofyzyky. Sbornik nauchnykh rabot. no. 16. Kiyev, 1962. Voprosy fiziki metallov i metallovedeniya. 158 - 167

TEXT: The radioactive tracer technique was used to study the effect of small (0.02 - 0.53%) Hf additions on the diffusion of Fe in dilute Fe-Hf solutions containing about 0.008% C in both the γ and α ranges. Conclusions - 1) The coefficient of diffusion of Fe in both γ and α modifications is practically unaffected by Hf addition in the concentration range studied. The same applies to the pre-exponential factors and activation-energy for volume-diffusion of Fe in Fe-Hf alloys. 2) The conditions of diffusion in the α and β phases are different for both pure Fe and Fe-Hf alloys. Transition from the body-centered to face-centered cubic crystal structure brings about

Card 1/2

Diffusion of iron ....

a sharp decrease in the atomic mobility and a decrease in the activation energy for diffusion. The ratio of the activation energy in the α and γ phases has been found to be 1.4 - 1.7, which is in agreement with published data. 3) The calculated values of the pre-exponential factors approach unity for the γ-range and are of the order of 10^{-3} to 10^{-4} cm for the α-range. The latter figure indicates the four-atom ring mechanism of diffusion of Fe in the α-range of the Fe-Hf alloys. There are 3 figures and 5 tables.

SUBMITTED: January 19, 1962

Card 2/2

S/601/62/000/016/023/029
E193/E383

AUTHORS: Gertsriken, S.D. (Deceased), Yatsenko, T.K. and Slastnikova, L.F.

TITLE: Diffusion of nickel in nickel-base alloys

SOURCE: Akademiya nauk Ukrayinskoyi RSR. Instytut metalofyzyky. Sbornik nauchnykh rabot. no. 16. Kiyev, 1962. Voprosy fiziki metallov i metallovedeniya. 168 - 177

TEXT: The radioactive-tracer technique was used in this investigation concerned with the effect of the constitution and impurity level on the diffusion of Ni in refractory, Ni-base alloys. Two experimental alloys were used: 1) a single-phase solid solution Ni-Cr-W-Mo-Co alloy, prepared from pure metals and vacuum-melted, or melted in air and prepared from technical-grade materials; 2) a heterogeneous Ni-Cr-W-Mo-Ti-Al alloy, also either vacuum-melted and prepared from pure metals, or melted in air and made from technical-grade metals contaminated with B. The diffusion-annealing tests were carried out at 700, 750 and 800 °C. Conclusions - A) The coefficient of volume diffusion of

Card 1/2

Diffusion of nickel ....

nickel in the alloys studied at 700 - 800 °C is not significantly affected by the degree of purity. B) The coefficient of grain-boundary diffusion of Ni in alloys of technical-grade purity is almost twice as low as that for the high-purity materials, demonstrating clearly the effect of impurities on the diffusion permeability of grain boundaries. C) The coefficients of volume and grain-boundary diffusion of Ni in heterogeneous alloys at 750 - 800 °C are also twice as low as those for single-phase (solid solution-type) alloys. D) Contrary to the view held by many workers, the width of the grain boundaries in the single-phase Ni-base alloy has been found to be 5.5×10^{-6} cm. There are 3 figures and 3 tables.

SUBMITTED: January 21, 1962

Card 2/2

GERTSTRIKEN, S.D. [deceased]; POLOTSKIY, I.G.; BENIYEVA, T.Ya.; YATSENKO, T.K.

Effect of ultrasonic waves on the self-diffusion of cadmium. Sbor. nauch. rab. Inst. metallofiz. AN URSR no.17:83-88 '63. (MIRA 17:3)

L 15654-65 EWT(1)/EWT(m)/T/EEC(b)-2/EWP(b)/EWP(t) Pad ASD-3/AFFTC/
ESD-3/RADC/IJP(c)/ESD(gs)/AFWL/ASD(a)-5/ASD(m)-3/AFETR JD/HW/MLK

ACCESSION NR: AT4046813 S/0000/64/000/000/0038/0043

ACCESSION NR: AT4046813

Gertsriken's method had close values in the α and γ-phases. From this data, the temperature dependence of the diffusion coefficients of cobalt along the grain boundaries of Co-Fe was plotted, and parameters were calculated. The methods of [illegible] were [illegible] and the activation energy of the grain diffusion was determined. Experimental results confirm that the boundary diffusion coefficients depend less on the crystal lattice type than on the mobility of atoms. The speed of certain weakening processes connected with atom-mobility in the body and along the grain boundary was studied in the cobalt alloys with different crystal lattices. The kinetics of recrystallization and of the contraction of X-ray interference lines was also followed. The differences noted in the properties are explained by the fact that the rate of growth of the recrystallization

SUBMITTED: 16Jun64 ENCL: 00 SUB CODE: MM

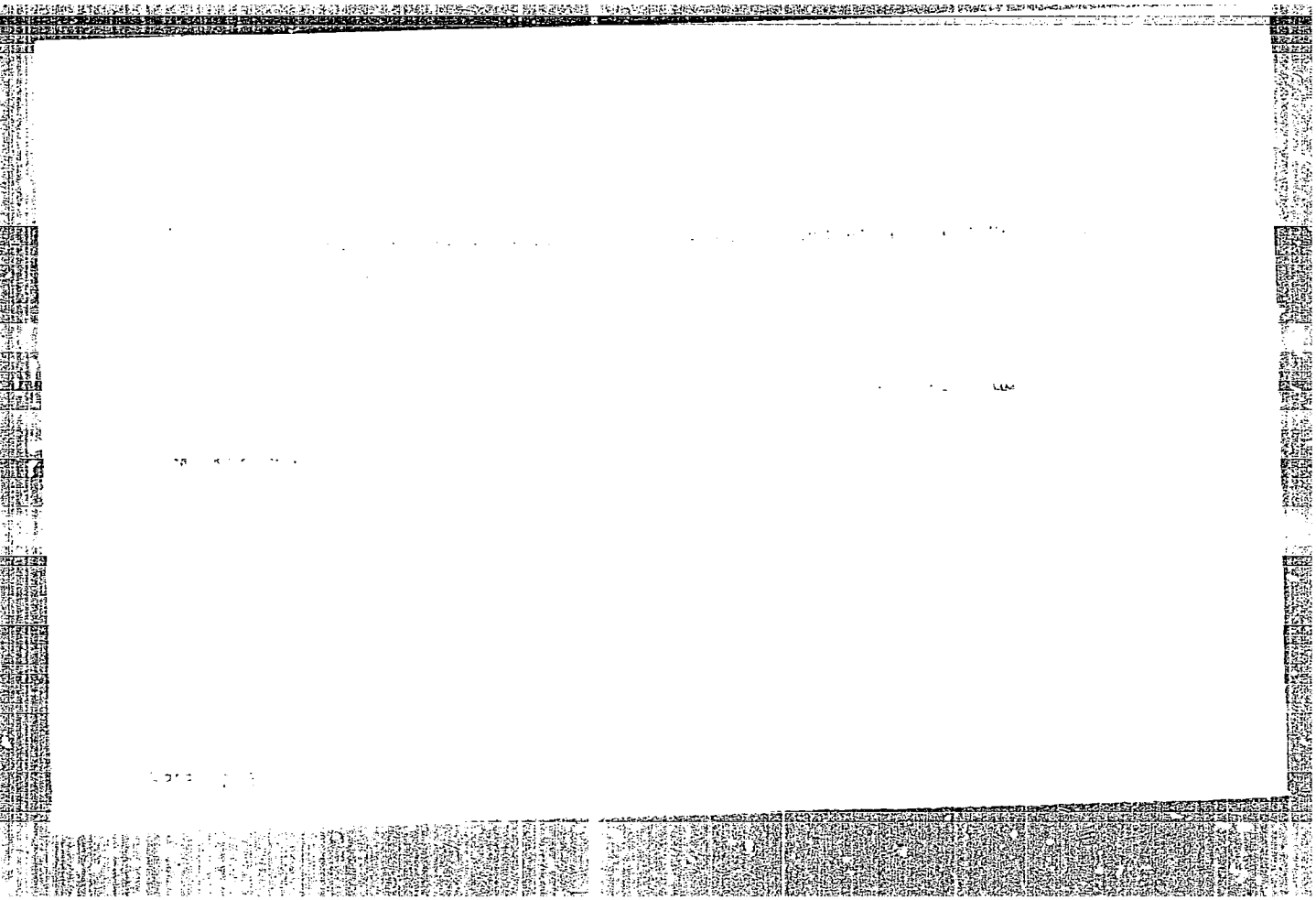
NO REF SOV: 007 OTHER: 003

AUTHOR: Yatsenko, T. K.; Chernaya, L. F.

TITLE: Nickel diffusion in niobium

TOPIC TAGS: nickel diffusion, grain size, fragmentary structure, dislocation structure, niobium, body centered metal, [illegible]

where N_n is the activity of the specimen after the removal of an x_n thick layer



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L 34107-65

ACCESSION NR: AT5005122 ENCLOSURE: 01

L 29790-66 EWT(m)/T/EWP(t)/ETI IJP(c) JD/HW/GD

ACC NR: AT6016345 (N) SOURCE CODE: UR/0000/65/000/000/0075/0079

AUTHORS: Larikov, L. N.; Yatsenko, T. K.; Chernaya, L. F.; Kumok, L. M. 37 B+1

ORG: Institute for Metal Physics, AN UkrSSR (Institut metallofiziki AN UkrSSR)

TITLE: Investigation of the diffusion of nickel in the system Ni_3Al—Ni_3Ti

SOURCE: AN UkrSSR. Podvizhnost' atomov v kristallicheskoy reshetke (Mobility of atoms in crystal lattice). Kiev, Izd-vo Naukova dumka, 1965, 75-79

TOPIC TAGS: nickel alloy, aluminum alloy, titanium alloy, metal diffusion, nickel

ABSTRACT: The rate of diffusion of Ni^{63} in the system γ-Ni_3Al—η-Ni_3Ti was studied. The alloys were prepared in an induction furnace. The composition of the alloys, determined by means of chemical and x-ray analysis, was found to be in good agreement with the results of A. Taylor and R. W. Floyd (J. Inst. Metals, 1952, 80, 577). The diffusion coefficient was determined with the formula of P. L. Gruzin (DAN SSSR, 1952, 66, 289),

$$D = \frac{1}{4 \lg \alpha},$$

where D is the diffusion coefficient, tg α is the slope of the curve log N vs x^2 of the residual activity N at a depth x. The experimental results are presented in graphs and tables (see Fig. 1). The degree of order in γ-Ni_3Al was also determined

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L 29790-66

ACC NR: AT6016345

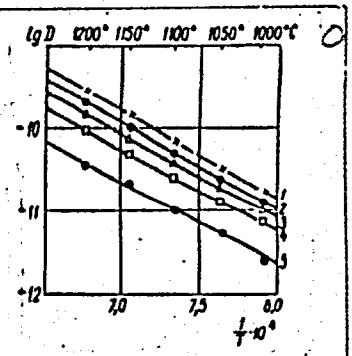

Fig. 1. Temperature dependence of the alloy diffusion coefficients.
1 - Ni_3Ti; 2 - Ni_3Al; 3 - 5% Ti;
4 - 15% Ti; 5 - 10% Ti.

by x-ray methods. From a comparison of diffusion and x-ray data for the system γ-Ni_3Al, it is concluded that there exists a qualitative correspondence between the mobility and long-range order of the atoms of the principal metal. Orig. art. has: 1 table, 2 figures, and 1 equation.

SUB CODE: 11/ SUBM DATE: 04Jan65/ ORIG REF: 008/ OTH REF: 006

Card 2/2

ACC NR: AT6036279 (A) SOURCE CODE: UR/0000/66/000/000/0099/0104

AUTHOR: Kumok, L. M.; Larikov, L. N.; Maksimenko, Ye. A.; Yatsenko, T. K.

ORG: Institute of Metal Physics AN UkrSSR (Institut metallofiziki AN UkrSSR)

TITLE: Structural changes produced by oxidation of chromium-yttrium alloys

SOURCE: AN UkrSSR. Struktura metallicheskikh splavov (Structure of metal alloys). Kiev, Izd-vo Naukova dumka, 1966, 99-104

TOPIC TAGS: chromium yttrium alloy, metal oxidation, alloy structure, alloy oxidation rate, oxidation kinetics

ABSTRACT: The oxidation behavior at 1100--1450C of 99.9%-pure chromium and chromium-yttrium alloys containing 0.5, 1.0 or 2.0% yttrium has been studied. It was found that yttrium improves the oxidation resistance of chromium and the oxidation rate of all the alloys tested, especially that of the alloy containing 0.5% yttrium (see Fig. 1), was much lower than that of pure chromium. On all the alloys tested, a dense tightly adhering oxide layer was formed, while the oxide layer on pure chromium easily peeled off. In pure chromium, a certain quantity of chromium oxides and nitrides was formed to a depth of 650 μ in a metal oxidized at 1450C for 9 hr. In chromium-yttrium alloys, the amount of chromium oxides was much smaller

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ACC NR: AP6036279

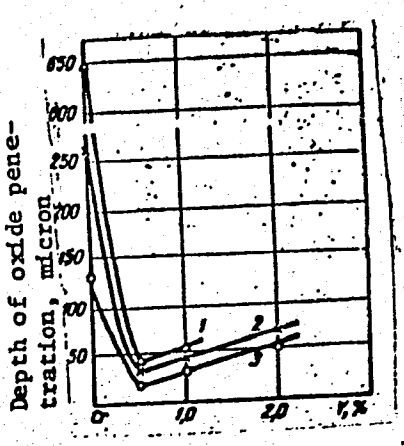

Fig. 1. Dependence of the penetration depth of oxides upon the yttrium concentration

1 —1450C for 9 hr; 2 —1400C for 20 hr; 3 —1350C for 30 hr.

and the nitrides were absent altogether. The penetration of oxygen and nitrogen into pure chromium proceeds mostly along the grain boundaries. This was not observed in the chromium-yttrium alloys. It is believed that yttrium improves the oxidation resistance of chromium primarily by a refining effect. Orig. art. has: 5 figures.

SUB CODE: 13, 11/ SUBM DATE: 11Jun65/ ORIG REF: 005/ OTH REF: 002/ ATD PRESS: 5107

Card 2/2

ACC NR: AT6034434 (A) SOURCE CODE: UR/0000/66/000/000/0028/0030

AUTHOR: Larikov, L. N.; Chernaya, L. F.; Yatsenko, T. K.

ORG: none

TITLE: Autodiffusion in mono- and polycrystalline tungsten

SOURCE: AN SSSR. Institut metallurgii. Svoystva i primeneniye zharoprochnykh splavov (Properties and application of heat resistant alloys). Moscow, Izd-vo Nauka, 1966, 28-30

TOPIC TAGS: metal diffusion, tungsten, electron radiation

ABSTRACT: The article reports an investigation of the volumetric and boundary autodiffusion of tungsten, using the radioactive isotope W^{185}. The study of volumetric autodiffusion was carried out on monocrystalline tungsten obtained by the electron radiation method. Diffusion annealing was done in the temperature interval 2430-2000°C in a Type TVV-4 furnace in an argon atmosphere. The diffusion coefficients were measured by the layer method, by measurement of the surface activity of the sample. A figure shows the temperature dependence of log D. This dependence can be described by the equation

$$D_{tot} = 25.12 \exp(151{,}000/RT)$$

The experimental data are also shown in detail in tabular form. Diffusion annealing

Card 1/2

ACC NR: AT6034434

was carried out in a Type TVV-2m furnace in an argon atmosphere in the temperature interval from 1730-1900°C. The authors' data is compared in a satisfactory manner with data from previously published work. Orig. art. has: 1 figure and 1 table.

SUB CODE: 11/ SUBM DATE: 10Jun66/ ORIG REF: 004/ OTH REF: 003

Card 2/2

YATSENKO, T.K.; CHERNAYA, L.F.

Nickel diffusion in niobium. Sbor.nauch.trud. Inst. metallofiz. AN URSR no.19:183-186 '64. (MIRA 18:5)

YATSENKO, T.K.

Effect of cadmium on the intercrystalline self-diffusion of silver. Sbor. nauch. trud. Inst. metallofiz. AN URSR n.o.20: 165-170 '64. (MIRA 18:5)

YATSENKO, V.

USSR/ Electronics - Radio

Card 1/1 Pub. 89 - 27/27

Authors : Mikhlevskiy, A., and Yatsenko, V.

Title : The "PURK-24" commutator for radio classes

Periodical : Radio 1, 62-63, Jan 1955

Abstract : The PURK-24 switching-control panel put on the market up to 1954 is found to possess such shortcomings as the lack of provision for interference in the sending and receiving of signals; besides being unwieldy and inconvenient to use. A new PURK-24 is now being produced which is free from these defects. A technical explanation is given of the working of this new apparatus with indications of the possibilities in its use. Illustration, schematic drawings.

Institution : .....

Submitted : .....

YATSENKO, V.

"Nartov and the clear Sight of Machines" by V.V. Danilevskii. Reviewed by V. IAtsenko. Izobr. i rats. no.5:45 My '59. (MIRA 12:8)

1. Predsedatel' sektsii sel'skogo khozyaystva soveta Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov Moskovskoy oblasti. (Nartov, Andrei Konstantinovich, 1694-1756)

YATSENKO, V., kand.tekhn.nauk, nauchnyy sotrudnik

Engineering efficiency of ship equipment and structures in ship repairs. Mor. flot 20 no.11:31-33 N '60. (MIRA 13:11)

1. Odesskiy institut inzhenernogo morskogo flota.
(Ships--Maintenance and repair)
(Marine engineering)

YATSENKO, V., kand.tekhn.nauk; DIBENKO, G. [Dybenko, H.], inzh.

Laminated plastics. Znan.ta pratsia no.9:11-12 S '61. (MIRA 14:8)

(Laminated plastics)

Yatsenko, V. P.

YATSENKO, V.

Elasticity norms of ship shafting. Mor.flot 17 no.6:21-22 Je '57.
(MLRA 10:7)

1. Glavnyy inzhener Dal'nevostochnogo parokhodstva.
(Shafts and shafting)

YATSENKO, V., kand.tekhn.nauk, nauchnyy sotrudnik

Efficiency of ship equipment and devices for ship repairs.
Mor. flot 22 no.6:31-33 Je '62. (MIRA 15:7)

1. Odesskiy institut inzhenerov morskogo flota.
(Ships--Maintenance and repair)

KHAK, L., kand. tekhn. nauk; YATSENKO, V., kand. tekhn. nauk, starshiy nauchnyy sotrudnik

Measuring the stress acting on the shaft line thrust bearing during ship operations. Mor. flot 22 no.10:25-28 O '62. (MIRA 15:10)

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(Shafting) (Strains and stresses)

YATSENKO, V.

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1. Glavnyy tekhnolog sluzhby portov Dal'nevostochnogo parokhodstva.

(Cargo handling--Equipment and supplies)

YATSENKO, V., kand.tekhn.nauk, nauchnyy sotrudnik

Introduction of plastics and synthetic materials in ship repairs.
Mor. flot 23 no.4:32-33 Ap '63. (MIRA 16:5)

1. Odesskiy institut inzhenerov morskogo flota.
(Ships—Maintenance and repair)
(Synthetic products)

except [illegible]
the stars. The mean square error in measurement was computed on the basis of

exceed Z miles if the observer is experienced and follows the rules used in this

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001962310004-5"

YATSENKO, V.

Organizing the technical servicing of cargo handling machinery. Mor. flot. 24 no.5:11-12 My '64. (MIRA 18:12)

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YATSENKO, V., kand. tekhn. nauk

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PROSOVICH, P.A., inzh.; YATSENKO, V.A., inzh.

Automatic continuous ore discharge from bunkers. Mekh.i avtom. proizv. 18 no.2:3-6 F '64. (MIRA 17:4)

YATSENKO, V.A.; MOKSIN, S.I., inzhener, retsenzent; BOLOTNOV, P.M., [illegible]; ZHDANOV, V.V., inzhener, redaktor; POPOLOV, Ya.N., redaktor izdatel'stva; SHMEL'KINA, S.I., tekhnicheskiy redaktor

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(Agricultural machinery--Safety measures)

YATSENKO, V. [A.]

Let's use agricultural machinery in a productive way. MTS 18 no.8: 9-10 Ag '58. (MIRA 11:9)

1. Predsedatel' kolkhoza imeni Shevchenko, Yemil'chinskogo rayona, Zhitomirskoy oblasti.
(Repair and supply stations)

YATSENKO, Viktor Afanas'yevich; LENSKIY, A.Ye., inzh., retsenzent; POLUKTOV, Ye.V., inzh., red.; EL'KIND, V.D., tekhn.red.

[Safety engineering in the operation of agricultural machinery] Tekhnika bezopasnosti pri ekspluatatsii sel'skokhoziaistvennykh mashin. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 359 p. (MIRA 13:5)
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IVANOVA, A.S.; SHABALIN, S.D.1 MICHURINA, I.A.; SHLENDIK, T.Ye.; PECHEN', N.G.; YATSENKO, V.A.; USOVA, A.P.; FROLOVA, P.A., otv.red.; ROGOVSKAYA, Ye.G., red.; VOLKOV, N.V., tekhn.red.

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1. Khabarovsk. Gidrometeorologicheskaya observatoriya. 2. Khabarovskaya gidrometeorologicheskaya observatoriya (for Ivanova, Shabalin, Michurina, Shlendik, Pechen', Yatsenko, Usova). 3. Nachal'nik Otdela agrometeorologii Khabarovskoy gidrometeorologicheskoy observatorii (for Ivanova).
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KUTOVOY, Ivan Denisovich; FEDOSEYEV, Aleksandr Mikhaylovich; KALASHNIKOV, P.A., inzh., red.; YATSENKO, V.A., inzh., retsenzent; FAL'KO, O.S., red.izd-va; CHERNOVA, Z.I., tekhn.red.

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(Agricultural machinery)

S/028/61/000/007/001/002
D220/D305

AUTHOR: Yatsenko, V.A.

TITLE: Standardization in factories

PERIODICAL: Standartizatsiya, no. 7, 1961, 38 - 40

TEXT: This paper describes the way the standardization of parts was carried out in the Leningrad factory of industrial accessories "Znamya truda". This process was introduced in cooperation with the Leningrad НИИТМАШ - (NIITMaSh) institute. The parts were divided into groups according to the constructional form, e.g. parts of the shaft, spindle and rod type. Each group of parts was further subdivided according to constructional elements, e.g. rod with a thread, rod without a thread. Certain similar elements of parts associated with the manufacture of a special measuring and cutting instrument were also normalized. Prior to standardization of spindles and rods of the manufactured accessories the radius in Fig. 1 had 13 different sizes. Only 4 sizes remained after standardization.

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Standardization in factories

This resulted in a considerable reduction of the number of varieties of special radial cutters and measuring gauges. There were 8 sizes of the dimension h. This was reduced to two sizes only. In Fig. 2 the original number of varieties of dimension H was 5. This number was reduced to one. In this way the process of modifying standard cutters to machine the dimension H was eliminated. The dimension K in Fig. 3 was reduced from six varieties to two. Thus the required number of jigs was reduced. The dimension a of the spindle in Fig. 1 associated with the dimension K in Fig. 3 was standardized without greatly affecting the construction. In this way the dimension of the valve D, d, K, and the corresponding dimensions of the spindle D, d, h, a, formed a separate group of elements of two given types of parts (spindle and valve). All drawings of new articles are being passed through the normalization check which was introduced in this factory in 1959. The parts are divided into two main groups: I - parts manufactured by casting and II - those manufactured by machining. The elements of machined parts are

the same in the majority of cases and form five basic groups: outside and inside diameters; slots; plates; slits, channels, sockets; corner radii. There are 3 figures and 1 table.

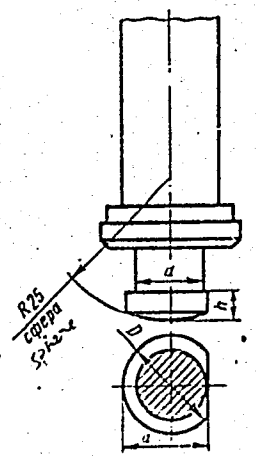

Fig. 1

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YATSENKO, Viktor Afanas'yevich; GRIN', L.P., kand. tekhn. nauk, retsenzent; PILIPENKO, Yu.P., inzh., red.; GORNOSTAYPOL'SKAYA, M.S., tekhn. red.

[Operation and repair of agricultural machinery] Ekspluatatsiia i remont sel'skokhoziaistvennykh mashin. Moskva, Mashgiz, 1961. 314 p. (MIRA 15:4)

(Agricultural machinery)

YATSENKO, V.A.

[Machine milking of cows] Mashinnoe doenie korov. Izd.2., perer. i dop. Moskva, Kolos, 1964. 245 p. (MIRA 18:5)

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ACC NR: AP6002591 (A) SOURCE CODE: UR/0286/65/000/023/0088/0088

14

AUTHOR: Yatsenko, V. A.

B

ORG: none

TITLE: A self-propelled barge for cleaning a water area of floating debris. Class 65, No. 176809

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 23, 1965, 88

TOPIC TAGS: waste disposal, water processing, barge

ABSTRACT: This Author Certificate presents a self-propelled barge for cleaning a water area of floating debris. The barge includes a gathering-transport unit, a bunker, and a take-away carriage (see Fig. 1). It is designed to increase the

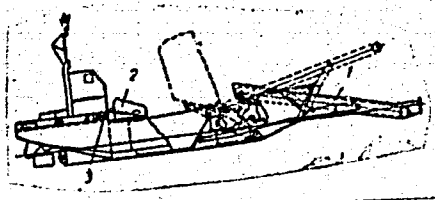

Fig. 1. 1 - reversible conveyor with mesh conveyor belt; 2 - take-away carriage; 3 - reversible winch.

UDC: 629.124.6:627.78:627.8.033:628.4

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