

ATAMALYAN, E.G.; KONSTANTINOV, V.I.; KOMAROV, V.I.; LAPSHIN, N.S.;  
SIMONOV, A.F.; TOVSTOLES, V.Ya.; EMDINA, S.M.; PONOMARENKO,  
V.K., prof., red.; KHRUSTALEVA, N.I., red.; GOROKHOVA, S.S.,  
tekhn. red.

[Methodology for solving general electrical engineering  
problems] Metodika reshenia zadach po obshchei elektrotekh-  
nike. [By] E.G. Atamalian i dr. Pod red. V.K. Ponomarenko.  
Moskva, Vysshaya shkola, 1962. 167 p. (MIRA 15:12)  
(Electric engineering)

KONSTANTINOV, Vasilii Ivanovich; SIMONOV, Anton Fedorovich. Primal  
uchastiye ANOSOV, Yu.I.; KHRUSTALEVA, N.I., red.; GARINA, T.D.,  
tekhn. red.

[A collection of practical problems and exercises in electrical  
engineering]Sbornik prakticheskikh primerov i zadach po ob-  
shchei elektrotekhnike. Moskva, Vysshaya shkola, 1962. 269 p.  
(MIRA 15:10)

(Electric engineering--Problems, exercises, etc.)

KONSTANTINOV, V.I.; AMOSOV, V.M.

Production of electrolytic tantalum, niobium, and their alloys.  
TSvet.met. 35 no.8:72-76 Ag '62. (MIRA 15:8)  
(Tantalum—Electrometallurgy)  
(Niobium—Electrometallurgy)

KONSTANTINOV, Vasilii Ivanovich; MANSUROV, Nikolay Nikolayevich;  
SIMONOV, Anton Fedorovich; FEDOROV-KOROLEV, Anatoliy Alekseyevich;  
ZHUKHOVITSKIY, B.Ya., dots., kand. tekhn. nauk, red.; BULGAKOV,  
V.A., red.; BORUNOV, N.I., tekhn. red.

[Problems on theoretical electrical engineering]Sbornik zadach po  
teoreticheskoi elektromekhanike. [By]V.I.Konstantinov i dr. Izd.3.,  
dop. Moskva, Gosenergoizdat, 1962. 191 p. (MIRA 16:3)  
(Electric engineering)

ACCESSION NR: AP4029251

S/0125/64/000/004/0005/0009

AUTHOR: Rabkin, D. M. (Doctor of technical sciences); Ivanova, O. N. (Engineer); Ipatova, S. I. (Engineer); Romanova, V. N. (Engineer); Konstantinov, V. I. (Engineer)

TITLE: Effect of the addition of oxides of some rare and rare-earth metals upon the characteristics of tungsten electrodes

SOURCE: Avtomaticheskaya svarka, no. 4, 1964, 5-9

TOPIC TAGS: welding, welding electrode, tungsten welding electrode, argon arc welding, lanthanated tungsten welding electrode

ABSTRACT: Despite the fact that information regarding the harmful effects of naturally-radioactive thorium in thoriated-W electrodes on human beings had been "contradictory," the possibility of replacing Th was investigated. A 4-mm tungsten wire was prepared by powder-metallurgy methods with the addition of La, Gd, Y, Nd, Ce, Er, Sm, Dy, or Hf. Depending on the mechanical characteristics of the processed electrode, the addition was introduced either into the

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W anhydride or into the W powder. It was found that W electrodes with oxides of Er, Dy, and Sm, in their processing characteristics, are inferior to thoriated-W electrodes but superior to pure-W electrodes. The electrodes with 1-2% of  $La_2O_3$  were found to have the best technological characteristics; they are similar to thoriated-W electrodes and are characterized by the lowest consumption and highest current density. The welding current was 250 amp, at 65 v, with a 3-mm arc. Orig. art. has: 4 figures and 1 table.

ASSOCIATION: Institut elektrosvariki im. Ye. O. Patona AN UkrSSR (Institute of Electric Welding, AN UkrSSR); Moskovskiy elektrolampovy\*y zavod (Moscow Electric-Bulb Plant)

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NO REF SOV: 005

OTHER: 002

Card 2/2

KONSTANTINOV, V.I.

Investigating the process of the high-temperature sintering  
of tungsten. Porosh. met. 5 no.10:27-37 O '65.

(MIRA 18:11)

1. Institut khimii i tekhnologii redkikh elementov i  
mineral'nogo syr'ya, gorod Apatity.

KONSTANTINOV, Vasily Ivanovich; SIMONOV, Anton Fedorovich;  
MIKHAYEV, Yu.A., преподаvatel', rensent; BASAVINA,  
Ye.V., red.

[Collection of practical examples and problems in general  
electrical engineering] Sbornik prakticheskikh primerov i  
zadach po obshchei elektrotekhnike. Moskva, Vysshaya  
shkola, 1965. 226 p. (MIRA 18:8)

1. Tsentral'nyy zaachnyy lesotekhnicheskiiy tekhnikum (for  
Mikheyev).



KONSTANTIN LINDY, YU

Alloys of tantalum and niobium. Y. L. Lindy, S. I. Shklyarskiy, and S. I. Shklyarskiy  
May 23, 1967. The alloys are  
a fixed mixt. of pentoxides of the elements  
Ta<sub>2</sub>O<sub>5</sub>, Nb<sub>2</sub>O<sub>5</sub>, and K<sub>2</sub>O.

KONSTANTINOV, V. I. (Mekhanobr)

"Layout as some of the largest Soviet beneficitation works"

report presented at the 4th Scientific and Technical Session of the Mekhanobr  
Inst, Leningrad, 15-18 July 1958

18(0) PHASE I BOOK EXPLOITATION SOV/3212

Samsonov, Grigoriy Valentinovich, and Vladimir Ivanovich Konstantinov

Tantal i niobiy (Tantalum and Niobium) Moscow, Metallurgizdat, 1959.  
264 p. Errata slip inserted. 3,150 copies printed.

Reviewers: N. S. Nikolayev, Doctor of Chemical Sciences; A. I. Vaysenberg, Candidate of Technical Sciences; and O. P. Kolchin, Candidate of Technical Sciences; Eds.: A. I. Vaysenberg and O. P. Kolchin; Ed. of Publishing House: M. S. Arkhangel'skaya; Tech. Ed.: Ye. B. Vaynshteyn.

PURPOSE: This book is intended for engineers and research workers in the metallurgical, chemical, electrical, electronics, and other industries engaged in the production or use of tantalum, niobium, and their alloys. It may also be used as a textbook by students at metallurgical schools of higher education.

COVERAGE: The book deals very generally with tantalum and niobium. The properties, applications, geochemistry, minerals and ores, processing, metallurgy, forming, and machining of these elements are discussed. Their alloys, including metallic and nonmetallic components, are also dealt with, the information being based on experimental work conducted by the authors and on published material. Aspects of ore beneficiation, analytical chemistry,

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## Tantalum and Niobium

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and the chemistry of the principal compounds of tantalum and niobium are discussed to a lesser extent. The following personalities are mentioned: O. A. Songina, A. N. Zelikman, O. Ye. Kreyn, and G. A. Meyerson. There are 556 references: 163 Soviet, 264 English, 105 German, 14 Swedish, 7 French, 2 Belgian, and 1 Czech.

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18(5)

SOV/135-59-8-2/24

AUTHORS:

Tret'yakov, F.Ye., Candidate of Technical Sciences,  
Rogozhkina, I.K., Technician, Konstantinov, V.I.,  
Candidate of Technical Sciences, and Polyakov, Ya.  
M., Engineer

TITLE:

Argon Shielded Arc Welding of Tantalum

PERIODICAL:

Svarochnoye proizvodstvo, 1959, Nr 8, pp 5-7 (USSR)

ABSTRACT:

The acceleration in the development in the chemical industry, which was urged by the plenary session of the Central Committee of the Communist Party of the Soviet Union in May 1958, depends to a considerable degree on the use of new, highly effective alloys and metals. Especially important in this connection is tantalum, which is very refractory and extremely resistant to corrosion, mainly in regard to acids. In the following part of the article the main physical and mechanical qualities of tantalum are compared with those of titanium, aluminum, and iron (Tables 1 and 2). In spite of its relatively low strength tantalum is used in a number of industrial branches.

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Argon Shielded Arc Welding of Tantalum

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Especially in the chemical industry it is used because of its high resistance to corrosion. In the following part the authors speak about the use of tantalum in the USA and about the different ways the metal is used. The wide application of tantalum made it necessary to work out methods for welding this metal. The foreign literature discusses some aspects of arc welding of tantalum. There are, however, no data given about the technology employed in producing the welds, and the welding equipment is not described. In Soviet literature, there are no publications about argon-shielded arc-welding of tantalum. Therefore, the authors give some data for the welding of Soviet tantalum. Tantalum plates (lamellas) of 75x150 mm with a thickness of 1.0, 1.5, 2.0 and 2.5 mm were used for the experiments. Before the welding the plates were ungreased. Argon was used to shield the arc and the welding. The electrodes were made of wolfram. In setting up the working data for the welding, the directions given in the literature and the experiences acquired in welding titanium, which is similar to tan-

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Argon Shielded Arc Welding of Tantalum

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talum, were utilized. The welding current, the arc voltage, and the diameter of the wolfram electrode were determined by the strength of the welding samples. The shielding of the front and back side of the seam was attained by using burners, welding heads and fixtures, which are usually taken in welding titanium. The working data of the welding are given in table 3. The quality of the welded joints was controlled by surface tests and X-ray photography, which was used for a strength up to 2.0 mm. If the plates were thicker than 2 mm, they were radiographed with gamma-rays of the radioactive material thulium 170. The best results were obtained with argon which contained 0.01% of nitrogen and carbon. The mechanical qualities of the weldings were determined on standardized samples. Breaking and bending tests were carried out and the corrosive qualities of the welds determined. The tests showed, that the durability and the bending angle of the weld were equal to the durability and the bending angle of the basic metal in non-chilled condition. The plasticity of the welds was tested by

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Argon Shielded Arc Welding of Tantalum

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hammering on the welding seams. The metallographic inspection of the welded joints and of the adjacent zones showed that a coarse crystalline structure is formed in the seam. The size of the grain decreases with the distance from the joint. At a distance of 3-5 mm from the seam the metal is finely granulated. The resistance to corrosion of the basic material and of the tantalum welds was determined with samples which were put into tightly soldered glass ampoules filled with nitric acid of 32% and sulphuric acid of 20% concentration. The results of the corrosion tests showed that the welds resisted corrosion in this solution. The corrosion in the welds did not exceed that of the whole sample, and the mechanical qualities practically do not change at all. The investigation permits the following conclusions: it is well possible to weld tantalum with an unmeltable electrode of argon within direct current and with negative poling of the electrode. Welding with tantalum it is necessary to shield the weld from influences of the atmosphere on front and back side. The

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Argon Shielded Arc Welding of Tantalum

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outside is shielded by pure argon of 99.98% concentration, which comes out of the welding head. The backside of the welded joint is shielded by admitting argon over a grooved shim. There are 6 tables, 4 photographs and 6 references, 3 of which are Soviet and 3 English.

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82445

S/149/60/000/004/009/009

18.1200

AUTHORS: Babkin, Yu.A., Tomashov, N.D., Titov, V.A., Konstantinov, V.I.TITLE: Corrosion Resistance<sup>6</sup> of Tantalum-Niobium<sup>7</sup> Alloys in Sulfurous AcidPERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya,  
1960/No. 4, pp. 153-156  
3

TEXT: The authors investigated the corrosion resistance of tantalum-niobium alloys in sulfurous acid at various temperatures. The alloys were prepared of electrolytic powders by the metalloceramic method and subsequently rolled into sheets. Specimens were cut out of the unannealed sheets. The tests were performed with specimens of pure tantalum and niobium and their alloys with a Ta content of 21.6; 34; 48.9; 51.1; 67.3 and 70.8 atomic %. The amount of admixture in the alloys did not exceed 0.1%. Prior to the tests the specimens were polished, washed and degreased. Corrosion tests were performed at 20 and 60°C with flasks with ground stoppers. At 110 and 150°C the experiments were carried out with soldered glass ampoules placed in metal cylinders with screwed-on stoppers. To prevent the destruction of ampoules by internal pressure, the cylinders were filled with water whose vapors produced the necessary counter-pressure. The flasks and cylinders were kept in a thermostat for 20 hours. During the tests, measurements

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S/149/60/000/004/009/009

## Corrosion Resistance of Tantalum-Niobium Alloys in Sulfurous Acid

were taken of the corrosion rate (in  $\text{g}/\text{m}^2 \text{ hr}$ ); proneness to crystallite corrosion; changes in the mechanical properties, and electrode potential. The irreversible electrode potential was measured every 5-10 minutes during 3-4 hours by the conventional potentiometric circuit. A calomel electrode served as a comparison electrode. The following results were obtained: Corrosion of pure niobium and niobium alloys with 21.6; 34 and 48.9 atomic % Ta was observed in 90%  $\text{H}_2\text{SO}_4$  at  $110^\circ\text{C}$ . An increased Ta content made the alloys corrosion resistant in the same degree as pure Ta. Proneness to crystallite corrosion was not observed. During the corrosion process changes in the mechanical properties of niobium and the alloy with 21.6% Ta took place as a result of hydrogenization. In 90%  $\text{H}_2\text{SO}_4$  at  $60^\circ\text{C}$ , niobium corrosion depended linearly on the holding time at a mean rate of  $0.354 \text{ g}/\text{m}^2 \text{ hour}$ . The niobium alloy with 21.6% Ta corroded noticeably after 100 hrs. Maximum hydrogenization of niobium at  $110^\circ\text{C}$  was observed in 60%  $\text{H}_2\text{SO}_4$ . Niobium and its alloy with 21.6% Ta corroded, depending on the temperature, according to the exponential equation

$$K = A e^{-\frac{Q}{RT}},$$

where A is the constant; Q is the activation energy of the process in cal/mole;

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68591

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EO91/E255

125100

AUTHORS: Konyushenko, A. T., Golovkin, R. V., Konstantinov, V. I.,  
and Polyakov, Ya. M.

TITLE: Manufacture of Tantalum Tubes

PERIODICAL: Tsvetnyye metally, 1960, <sup>3</sup>Nr 1, pp 60-67 (USSR)

ABSTRACT: The authors have developed a new and efficient technique for fabricating metal tubes, among them tantalum tubes. The process consists in butt-welding strip and forming it into tubes; these are welded by argon arc in an existing reconstructed automatic electric welding tube mill and subsequently passed through rolling mills (Fig 1). The dimensions of the original strip are determined by the size of the tube required and the possibility of its manufacture in a given plant. The application of clamps and directing instruments in rolling prevents scrap due to strip coming out in a crescent-shaped form. Cutting of the strip edges is carried out with disc shears. Pieces of strip were butt-welded by argon arc welding in the modernized automatic machine "ADS-1000-2" by constant direct current (experiments on the welding of tantalum strip with alternating current have not given

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Manufacture of Tantalum Tubes

satisfactory results). Tungsten rods (VT-15) containing 1.5% thorium oxide were used as electrodes. Saturation of tantalum with nitrogen and oxygen increases the hardness and brittleness of the metal. To prevent this effect the welding zone (the pool of molten metal and the joint both sides of the strip along a length of 50 to 70 mm) was protected by inert gas (argon containing 0.23% nitrogen and 0.05% oxygen) (see Table 1). The strip can be annealed either before butt-welding or after welding and cleaning of the joint. Annealing was carried out by soaking for 1.1/2 hours in an electric vacuum furnace of the TsEP-273 type, at a temperature of 1200°C with a residual pressure of  $10^{-4}$  mm Hg. The weight of the charge was 30 to 40 kg. Prior to being charged into the furnace the strip was thoroughly washed with acetone. The annealed strip had a UTS ( $\sigma_b$ ) of 51 kg/mm<sup>2</sup>, a percentage elongation ( $\delta$ ) of 24.8% and a Rockwell hardness (HRB) of 75; the above mechanical properties show that although not fully annealed, the strip was annealed sufficiently to be formed into tube billets (Table 2). In the continuous forming of the tantalum strip the shaping

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E091/E255

Manufacture of Tantalum Tubes

rolls used were graduated and had groove profiles as shown in Fig 2. Argon was applied to the internal surface of the joint through the end of a hollow rod which was fixed between the fifth and sixth shaping stands. Argon was also applied to the external surface of the joint, by a supplementary nozzle (Fig 3). The best results in the welding of tantalum tubes were obtained when the welding procedures indicated in Table 3 were applied. Table 4 shows the test results on welded tube specimens at various annealing temperatures. In Table 5 the best rolling method for tantalum tubes is given. Tubes of niobium, tantalum, cobalt and their alloys have been fabricated by the new technique. There are 3 figures, 5 tables and 3 Soviet references.

ASSOCIATIONS: Moskovskiy trubnyy zavod (Moscow Tube Works (first two authors)) Moskovskiy elektrolampovyy zavod (Moscow Electric Lamp Works (last two authors))

Card 3/3

AUTHOR:

Konstantinov, V.I.S/136/61/000/004/002/006  
E021/E135

TITLE:

The Production of a Mixture of Tantalum and Niobium Pentoxide by Decomposition of Tantalite-Columbite by Fusing with Caustic Potash

PERIODICAL:

Tsvetnyye metally, 1961, No. 4, pp. 35-38

TEXT:

The usual decomposition of tantalite-columbite concentrates is by fusion with caustic soda (Ref.1). The main disadvantage of this method is that the extraction of the main metals is not sufficiently high. Experiments were therefore carried out using caustic potash. The chemical composition of the concentrates used was as follows: Ta<sub>2</sub>O<sub>5</sub> - 44.4%; Nb<sub>2</sub>O<sub>5</sub> - 16.1%; TiO<sub>2</sub> - 6.5%; SiO<sub>2</sub> - 9.9%; Fe<sub>2</sub>O<sub>3</sub> - 6.7%; MnO - 5.3%; SnO<sub>2</sub> - 4.4%; Al<sub>2</sub>O<sub>3</sub> - 3.7%; Na<sub>2</sub>O - 1.7%; WO<sub>3</sub> - 0.2%; MgO - 0.7% and CaO - trace. The effect of temperature on the decomposition is shown in Fig.1, residue of undecomposed mineral, %, vs. temperature, °C: curve 1 - concentrate:KOH = 1:2; curve 2 - concentrate:KOH = 1:3. Fusion is practically complete at 700-750 °C. Tests on the cold fused product showed that leaching without boiling gave an

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S/136/61/000/004/002/006  
E021/E135

The Production of a Mixture of Tantalum and Niobium Pentoxide by Decomposition of Tantalite-Columbite by Fusing with Caustic Potash extraction of Ta<sub>2</sub>O<sub>5</sub> + Nb<sub>2</sub>O<sub>5</sub> of 69.1%, and with boiling, 73.3%.

The optimum solid:liquid ratio was 1:4. After filtration, a precipitate remained which consisted largely of iron and manganese hydroxide. It was found to be sufficient to wash this precipitate twice using a 5% caustic potash solution. The precipitate, which contains some niobium and tantalum pentoxide, is roasted and can be added directly to the concentrate or treated with hydrochloric acid and fused potash. Investigations on the precipitation of sodium tantalate and niobate by addition of saturated sodium hydroxide to the solution obtained after leaching were carried out. Various quantities were tried and in all cases a fine-grained precipitate was obtained. The relation between the quantity of Ta<sub>2</sub>O<sub>5</sub> + Nb<sub>2</sub>O<sub>5</sub> extracted in this process and the quantity of sodium hydroxide added is shown in Fig.2. It was found that addition of dilute hydrochloric acid (1:1), with a solid:liquid ratio of 1:6 and roasting at 800 °C gave an extremely pure mixture with a

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S/137/62/000/007/020/072  
A052/A101

AUTHORS: Konstantinov, V. I., Amosov, V. M., Kholobes, Ye. A.

TITLE: The production of electrolytic tantalum, niobium and their alloys.  
2nd report

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 7, 1962, 46 - 47, abstract  
7G323 ("Poroshk. metallurgiya", no. 5, 1961, 42 - 52; English  
summary)

TEXT: Three types of electrolyzer designs with different methods of heating were tested. As a result of experiments, an optimum electrolyzer design has been developed in which the electrolyzer itself (made of Ni or nichrome) serves as a cathode, without additional heating, with a hole in the conical bottom and with a mobile graphite anode. Furthermore, the effect of the following factors was studied: the method of feeding the electrolyzer, the degree of filling the bath with the cathode deposit, the composition of electrolyte, the temperature of the process, the cathode, anode and volume current density. The purification of electrolytic Ta and Nb powders from electrolyte salts was realized by heating

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S/078/63/008/001/004/026  
B101/B186

AUTHORS: Konstantinov, V. I., Ts'ui Ping-hsing

TITLE: Melting point and thermal stability of potassium tantalum fluoride

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 8, no. 1, 1963, 47-51

TEXT: Strongly differing publication data on the behavior of potassium tantalum fluoride and its importance for the electrolytic production of tantalum were the reason for determining melting point and point of polymorphous conversion of  $K_2TaF_7$  in argon, and for recording the cooling curve.  $K_2TaF_7$  was synthesized by dissolving metallic Ta in HF in a platinum crucible and precipitation with KF. Moreover, commercial specimens were also compared with each other. Result: m.p.  $775 \pm 2^\circ C$ , polymorphous conversion at  $741 \pm 2^\circ C$ . In conformity with the cooling curve, visual observation showed that quick crystallization sets in when the m.p. is reached, and the melt is already completely solidified at  $2-4^\circ C$  below the m.p. The melt remains transparent up to the temperature of

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Melting point and thermal...

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polymorphous conversion; at this point it turns opaque white. Experiments in air showed that liquid  $K_2TaF_7$  is stable in air, which was confirmed by chemical and X-ray analysis. The  $K_2TaF_7$  vapor, however, decomposes in air and an oxygen containing compound melting at higher temperature is formed, which condenses to colorless crystals, but above  $1150^\circ C$  to dark blue crystals. The data by P. Drossbach, P. Petrick (Z. Electrochem. Ber. Bunsenges. phys. chem., 61, 410 (1957)) on the formation of potassium oxy-tantalum fluorides in the melt were not confirmed. Repeated melting of  $K_2TaF_7$  produced unchanged X-ray patterns. There are 3 figures and 3 tables.

SUBMITTED: February 20, 1962

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S/078/63/008/002/007/012  
B101/B186

AUTHORS: Ts'ui Ping-hsin, Luzhnaya, N. P., Konstantinov, V. I.

TITLE: Investigation of the ternary reciprocal system of potassium and tantalum fluorides and chlorides

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 8, no. 2, 1963, 389 - 395

TEXT: Both the system  $\text{KF} - \text{KCl} - \text{K}_2\text{TaF}_7$ , which is important for the electrolytic production of tantalum, and the systems  $\text{K}_2\text{TaF}_7 - \text{KCl}$  and  $\text{K}_2\text{TaF}_7$  were investigated. Differing from T. Juchi et al. (Bull. Res. Inst. Mineral Dress. and Metallurgy Tohoku Univ., 15, 87 (1959)) it was found in the binary systems that the compounds  $\text{K}_2\text{TaF}_7 \cdot \text{KCl}$  ( $N = 1.434$ ) and  $\text{K}_2\text{TaF}_7 \cdot \text{KF}$  ( $N_g = 1.423$ ,  $N_m = 1.420$ ,  $N_p = 1.416$ ) melt congruently at  $776^\circ\text{C}$  and undergo a polymorphic transformation at  $741^\circ\text{C}$ . In the system containing  $\text{KCl}$  two eutectics exist; the one, m.p.  $712^\circ\text{C}$ , at 16 mole%  $\text{KCl}$ , the other, m.p.  $700^\circ\text{C}$ , at 82.4 mole%. In the system with  $\text{KF}$ , the eutectic containing 21.5 mole%  $\text{KF}$  melts at  $717^\circ\text{C}$ , the one containing 74.5 mole%  $\text{KF}$  at  $727^\circ\text{C}$ . The system  $\text{KF} - \text{KCl} - \text{K}_2\text{TaF}_7$  may

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Investigation of the ternary...

S/078/63/008/002/007/012  
B101/B186

be subdivided into two independent secondary systems: The ternary system  $K_2TaF_7 \cdot KF - K_2TaF_7 \cdot KCl - K_2TaF_7$  and the system corresponding to the exchange reaction  $KCl + K_2TaF_7 \cdot KF \rightleftharpoons KF + K_2TaF_7 \cdot KCl$ . For  $KCl$ ,  $KF$ ,  $K_2TaF_7 \cdot KCl$ ,  $K_2TaF_7 \cdot KF$ ,  $\alpha-K_2TaF_7$ ,  $\beta-K_2TaF_7$  the primary crystallization regions were determined. The invariant points have the following position:  $E_1$  at  $580^\circ C$  and 41.5 mole%  $KF$ , 51.5 mole%  $KCl$ , 7.0 mole%  $K_2TaF_7$ ;  $E_2$  at  $710^\circ C$ , 11.6 mole%  $KF$ , 8.7 mole%  $KCl$ , 79.7 mole%  $K_2TaF_7$ ;  $P$  at  $678^\circ C$ , 62.0 mole%  $KF$ , 19.0 mole%  $KCl$ , 19.0 mole%  $K_2TaF_7$ . From the partially plotted phase diagram of the system  $K, Ta \parallel Cl, F$  it follows that the compound  $KCl \cdot 2KF \cdot TaF_5$  (or  $K_2TaF_7 \cdot KCl$ ), melting congruently at  $776^\circ C$ , exists and that the cross section  $(KCl)_5 - K_2TaF_7$  is a stable binary system. From the investigation of the melting-point diagram of  $KF - KCl - K_2TaF_7$ , it followed that in the usual electrolyte used for the production of tantalum or Ta-Nb alloys only  $KCl, KF$  and  $K_2TaF_7 \cdot KCl$  exist before  $Ta_2O_5$  or  $Nb_2O_5$  are added, and that no free  $K_2TaF_7$  or  $K_2TaF_7 \cdot KF$  are

Card 2/3

S/078/63/008/002/008/012  
B101/B186

AUTHORS: Tsui Ping-hsin, Konstantinov, V. I., Luzhnaya, N. P.

TITLE: Phase solubility and interaction in systems containing  $Ta_2O_5$ , potassium and tantalum fluorides and chlorides

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 8, no. 2, 1963, 396 - 402

TEXT: To clarify the electrochemical processes used for producing tantalum the following partial systems belonging to the quaternary reciprocal system  $K, Ta || F, Cl, O$  were investigated: All binary systems of the tetrahedron  $(KCl)_{10} - Ta_2O_5 - K_2TaF_7 - (KF)_{10}$ , except  $KCl - KF$ , partially the systems  $K, Ta || F, Cl$  and  $K, Ta || F, O$  and the cross sections  $K_2TaF_7 \cdot KCl - Ta_2O_5$  and  $KCl - Ta_2O_5 \cdot 2K_2TaF_7$ . It was found that the solubility of  $Ta_2O_5$  in  $KCl$  at  $950^\circ C$  is only 0.04% by weight, whereas the solubility of  $Ta_2O_5$  in  $KF$  at  $1122^\circ C$  is 35% by weight. In the system  $KF - Ta_2O_5$  an eutectic was found at  $853^\circ C$  and 1.8% by weight  $Ta_2O_5$ . Above this concentration of  $Ta_2O_5$  there occurs a

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Phase solubility and interaction...

S/078/63/008/002/008/012  
B101/B186

compounds  $K_3TaO_2F_4$  and  $K_2TaO_2F_3$  was proved by the shape of the liquidus isotherm. These were formed as a result of the reactions  $2(Ta_2O_5 \cdot 2K_2TaF_7) + 16KF = 4(K_2TaF_7 \cdot KF) + 5K_3TaO_2F_4$  (3) and  $K_3TaO_2F_4 = KF + K_2TaO_2F_3$  (4). Accordingly,  $Ta_2O_5$  and  $Ta_2O_5 \cdot 2K_2TaF_7$  are decomposed by KF and form the potassium oxyfluorotantalates  $K_nTaO_2F_m$  ( $n = 1, 2, 3; m = 3, 4$ ). As a result of the reaction (4) the solubility of  $Ta_2O_5 \cdot K_2TaF_7$  in the electrolyte reaches 60 mole% at 868°C. Final conclusion: Within the temperature range 750 - 850°C of the electrolysis, the compounds  $K_2TaF_7 \cdot KCl$ ,  $K_3TaO_2F_4$  or  $K_2TaO_2F_3$  exist in the usual electrolyte besides KF and KCl, playing an important role in the electrolytical process. There are 5 figures and 3 tables.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry imeni N. S. Kurnakov of the Academy of Sciences USSR); Moskovskiy elektrolampovyy zavod (Moscow Electric Lamp Plant)

SUBMITTED: July 4, 1962  
Card 3/3

RABKIN, D.M.; IVANOVA, O.N.; IPATOVA, S.I.; ROMANOVA, V.N.; KONSTANTINOV, V.I.

Effect of the addition of certain rare and rare-earth metal oxides  
on the properties of tungsten electrodes. Avtom. svar.17 no.4:  
5-9 Ap '64 (MIRA 18:1)

1. Institut elektrosvariki imeni Ye.O. Patona AN UkrSSR (for  
Rabkin, Ivanova). 2. Moskovskiy elektrolampovyy zavod (for  
Ipatova, Romanova, Konstantinov).

L 5323-66 EWP(e)/EWT(m)/EWA(d)/EWP(t)/EWP(k)/EWP(z)/EWP(b) IJP(c)

ACC NR: AP5026271 MJW/JD/JG

UR/0226/65/000/010/0027/0037

78  
74  
B

AUTHOR: Konstantinov, V. I. 44.57

TITLE: Investigation of the process of the high-temperature sintering of tungsten 16 44.57 27

SOURCE: Poroshkovaya metallurgiya, no. 10, 1965, 27-37

TOPIC TAGS: sintering, tungsten, sintering furnace, metal powder, porosity, electric conductivity

ABSTRACT: The high-temperature (2800-3200°C) sintering of tungsten is a major stage in the production of this metal by the powder-metallurgical method. The sintered rods are heated to such high temperatures chiefly by passing electric current directly through them. In this connection the authors investigated the attendant changes in the properties of VA tungsten (0.45% SiO<sub>2</sub> + 0.45% KCl and 0.03-0.05 Al<sub>2</sub>O<sub>3</sub>) as well as of pure tungsten. The metal powders were first pressed into rods measuring 9x9x400 mm. And, prior to their high-temperature sintering, the rods underwent preliminary sintering at 1150-1200°C in hydrogen muffle furnaces for 30 min (VA tungsten) and at 900-1000°C for 20 min and, subsequently, 1250-1300°C for 40 min (pure tungsten). The high-temperature sintering itself was performed in a special hydrogen furnace with current of 2300-2400 a (VA tungsten) and 2500-2600 a (pure tungsten). After this, the change in density was determined gravimetrically and the shrinkage, by the change in the length of the rods. Findings: for VA tungsten, marked shrinkage begins

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ACC NR: AP5026271

4

at 1450-1500°C, whereas for pure tungsten it begins at 1800 and at a slower rate. The density of VA rods is correspondingly greater than that of the rods of pure tungsten. This is apparently attributable to the greater dispersity of the powder of VA tungsten compared with that of pure tungsten. This has a corresponding effect on porosity, which is greater in pure-tungsten rods. As for the changes in chemical composition, high-temperature sintering leads to the gradual evaporation of the additives, such that the sintered VA tungsten rods contains only an average of 0.22%  $K_2O$ , 0.35%  $SiO_2$ , and 0.045%  $Al_2O_3$ . The changes in grain structure were determined by examination of microsections of rods sintered at different temperatures. It was established that grain growth commences at 1800°C and becomes particularly marked above 2700°C; this process is more pronounced in pure-tungsten rods than in VA-tungsten rods, which accounts for the smaller shrinkage, lower density and, correspondingly, higher porosity of the former. It is further established that, beginning with 1600°C, pure-tungsten rods have a smaller electric conductivity than VA-tungsten rods, which also is in agreement with the findings on density and porosity of the rods. Similarly, above 1600°C, the hardness of pure-tungsten rods becomes smaller than that of VA-tungsten rods, owing to the greater shrinkage of the latter. Orig. art. has: 8 figures, 1 table.

ASSOCIATION: Institut khimii i tekhnologii redkikh elementov i mineral'nogo syr'ya, Apatity (Institute of the Chemistry and Technology of Rare Elements and Mineral

Card 2/3

44,55

Card 3/3 *md*

Author: *Antonov, A. A.*      Classification: *unclassified*

INVENTORS: Antonov, A. A.; Konstantinov, V. I.; Saralov, Yu. K.; Antonov, A. A.; Logunov, V. A.

ORG: none

TITLE: An automatic compensation refractometer. Class 42, No. 18479

SOURCE: Izobret prom obrab tov zn, no. 15, 1966, 96

TOPIC TAGS: refractometer, optic measurement, measuring instrument, automatic control design

ABSTRACT: This Author Certificate presents an automatic compensation refractometer with a differential photoreceiver, an optical compensator, and a cell (see Fig. 1). The design increases the precision of the measurement. The compensator in the refractometer is a lens compensator, consisting of an objective lens, two negative lenses, and a positive lens which moves in a plane perpendicular to the optical axis

Card 1/2

UDC: 535.322.4



7. 1965-67

ACC NR: AP6029938

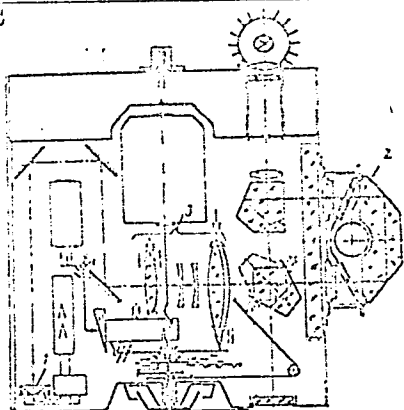


Fig. 1. 1 - photoreceiver;  
2 - cell; 3 - compensator

of the compensator. Orig. art. has: 1 figure.

SUB CODE: 14, 20/

SUBM DATE: 26Apr65

Card 2/2

ANTONOV, M.A.; KONSTANTINOV, V.L., elektromekhanik

Device for checking the fields of step-by-step switches.

Avtom., telem. i svyaz' 7 no.6:29-31 Je '63.

(MIRA 17:3)

1. Rizhskaya distantsiya signalizatsii i svyazi Pribaltiyskoy dorogi.

KONSTANTINOV, V.M.

The All-Union Construction Exhibition. Sel'.stroil. 10 no.1:6-7  
Ja '55. (MIRA 8:4)

1. Nachal'nik otdela "Zhilishchnogo i sel'skokhozyaystvennogo stroi-  
tel'stva" Vsesoyuznoy stroitel'noy vystavki.  
(Moscow—Construction industry—Exhibitions)

YANISHEVSKIY, Ye. M. ; KONSTANTINOV, V.M.

Effect of tectonic and lithological factors on the localization  
of hydrothermal uranium ores in the Erzgebirge. Geol.rud.  
mestorozh. no.6:38-45 N-D '60. (MIRA 14:3)  
(Erzgebirge—Uranium ores)

KONSTANTINOV, V.M.

Possibility of using the biogeochemical method in prospecting for uranium in an arid climate. Sov.geol. 6 no.3:151-155 Mr '63.  
(MIRA 16:3)  
(Geochemical prospecting) (Uranium ores)

KONSTANTINOV, V.M.; YANISHEVSKIY, Ye.M.

Using primary halos of dispersion for the estimation of the  
ore potential of disjunctive dislocations. Geol. rud. mestersh.  
5 no.2:126-127 Mr-Ap '63. (MIRA 16:6)

(Geochemical prospecting)  
(Ore deposits)

DM/DM  
ACCESSION NR: AP50 22499

UR/0089/65/018/006/0657/0659

AUTHOR: Konstantinov, V. M.

TITLE: Use of tracer elements in the evaluation of radioactive anomalies in arid climate regions

SOURCE: Atomnaya energiya, v. 18, no. 6, 1965, 657-659

TOPIC TAGS: geochemistry, uranium, fissionable metal ore

<sup>12,85</sup>  
~~ABSTRACT: Geochemical studies of arid climate regions found that in the areas bearing radioactive ore anomalies the mellow soils showed the presence of dispersion halos of uranium, lead, zinc, cobalt, molybdenum and arsenic which are the elements forming the endogenic dispersion halos around uranium ore bodies. In places where uranium anomalies were absent only uranium and lead traces were present. It was suggested that in arid climate areas the tracer elements of uranium deposit dispersion halos can be used in prospecting for radioactive ore-bearing anomalies. Orig. art. has 2 figures and 1 table.~~

ASSOCIATION: none

SUBMITTED: 01Apr64

NO REF SOV: 000

ENCL: 00

OTHER: 000

SUB CODE: MM, ES

NA

782  
Card 1/1

**KONSTANTINOV V. M.**  
*co* 114

1ST AND 2ND COLUMNS  
 3RD AND 4TH COLUMNS

COMMON ELEMENTS  
 COMMON 1ST-4TH COLUMNS

THE ADSORPTION BY THE LIVER OF COLLOIDAL DYES AND SUSPENSIONS INJECTED INTO THE PORTAL CIRCULATION. V. M. KONSTANTINOV. *Arkh. biol. Nauk* 30, (29-37) (in French 637-8) (1950).—Colloidal dyes (trypan blue, Li carmine, collargol) and suspensions of India ink and of staphylococci were injected into the mesenteric veins and ear veins of rabbits, and the results on the retention of these substances by the liver were studied histologically. The more highly dispersed colloids, trypan blue and Li carmine, when injected into the portal circulation, were not adsorbed to any greater extent by the liver than by the other tissues, just as is the case when these substances are introduced into the general circulation. Under the same conditions the more coarsely dispersed India ink and staphylococci are almost entirely retained by the reticulo-endothelial system of the liver (Kupffer cells). Collargol behaves in an intermediate manner in this regard. The relation of the degree of dispersion of substances from the portal circulation to liver function is discussed in detail in regard to the action of drugs, poisons, etc.

W. A. PRZELWITZ

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

GROUPS  
 1ST AND 2ND COLUMNS  
 3RD AND 4TH COLUMNS



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200

PROCESS AND APPROPRIATE INDEX

CO

114

**The effect of temporary compression of arteries upon the deposition of intravenously administered trypan blue and India ink.** V. M. KONSTANTIDOV. *Arkh. biol. Nauk* 30, 430-49 (in French 650) (1930).—Trypan blue and India ink were injected into the ear vein of rabbits after compression with clamps, varying from 15 min. to 12 hrs. of the veins of the lower extremities of the liver and of the spleen. The distribution of the foreign substances in the tissues of the organs which had been rendered anemic by the above procedure and in the other organs was detd. The tissues which had been deprived of blood retained the foreign colloidal substances in much greater quantities than did the normal tissues. The retention was particularly pronounced in the reticulo-endothelial cells. This is explained by the hyperemia which normally follows after the temporary anemia

W. A. PERLEWHIG

CONVEX ELEMENTS

CONVEX ELEMENTS

OPEN ELEMENTS

OPEN ELEMENTS

MATERIALS INDEX

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z AA BB CC DD EE FF GG HH II JJ KK LL MM NN OO PP QQ RR SS TT UU VV WW XX YY ZZ

1ST AND 2ND ORDERS PROCESSES AND PROPERTIES UNIT 1ST AND 2ND ORDERS

*ca* *114*

The effect of local inflammatory processes on the vital absorption of trypan blue in the reticulo-endothelial systems. V. M. KONSTANTINOV. *Arkh. Biol. Nauk* 30, 651-9 (in French 650-660) (1930).—Local subcutaneous abscesses were produced in rabbits by implantation of pieces of sponge and by injection of infusorial earth, of turpentine and of virulent cultures of staphylococci. Several injections of 0.5-2 cc. of 0.1% trypan blue were made into the ear vein for 5-25 days. The animals were sacrificed and sections of various tissues made, stained and studied microscopically. A somewhat increased absorption of the dye was observed in certain parts of the reticulo-endothelial system, especially in the bone marrow. The results were not regular or consistent throughout, and no parallelism was found between dye absorption and hematogenic function. W. A. PERLEWIG

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

GROUPS 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

BREGADZE, I.L., KONSTANTINOV, V.M.

~~Echinococcus cysticus.~~ Fel'd. i akush. 23 no.11:8-10 N'58  
(MIRA 11:11)

(LIVER-HYDATIDS)

BREGADZE, I.L., prof.; KONSTANTINOV, V.M., prof.

Errors in determining the type of larval forms of echinococcus in  
man. Sov.med. 25 no.8:77-80 Ag '60. (MIRA 13:9)

1. Iz kafedry gospital'noy khirurgii (zav. - prof. I.L. Bregadze)  
i kafedry patologicheskoy anatomii (zav. - prof. V.M. Konstantinov)  
Novosibirskogo meditsinskogo instituta (dir. - prof. G.D. Zalesskiy).  
(ECHINOCOCCOSIS)

BREGADZE, Iosif Lavrent'yevich, prof.; KONSTANTINOV, Vitaliy  
Mikhaylovich, prof.; SIMONYAN, K.S., red.; MAIYEVAYA,  
M.M., tekhn. red.

[Alveolar echinococcosis (alveococcosis)] Al'veoliarnyi  
ekhinokokkoz (al'veokokkoz). Moskva, Medgiz, 1963. 222 p.  
(MIRA 16:12)

(HYDATIDS)

KONSTANTINOV, V.M., prof.

Histology and histochemistry of the connective tissue in alveolar  
echinococcosis in man (mucopolysaccharides, enzymes). Vop. pat. i  
reg. org. krov. i dykh. no.1:185-190 '61. (MIRA 18:7)

SHAKHUNYANTS, Georgiy Mikhaylovich, doktor tekhn. nauk; AMELIN, S.V., prof.,  
 retsenzent; KONSTANTINOV, V.N., dots., retsenzent; SMIRNOV, M.P.,  
 retsenzent; YAKOVLEV, V.F., retsenzent; BOCHENKOV, M.S., kand.tekhn.  
 nauk, retsenzent; BROMBERG, Ye.M., retsenzent; YERSHKOV, O.P., re-  
 tsenzent; ZVEREV, B.N., retsenzent; ZOLOTARSKIY, A.F., retsenzent;  
 IVASHCHENKO, G.I., retsenzent; LINEV, S.A., retsenzent; MARKAR'YAN, M.A.,  
 retsenzent; POPOV, V.V., retsenzent; POPOV, S.N., retsenzent; SEREBRENNIKOV, V.V.  
 retsenzent; SHAFRANOVSKIY, A.K., retsenzent; NOVITSKIY, G.I., inzh., retsen-  
 zent; VIKTOROV, I.I., kand.tekhn.nauk, retsenzent; VYSOTSKIY, A.F.,  
 kand.tekhn.nauk, retsenzent; SAATCHYAN, G.G., kand.tekhn.nauk, re-  
 tsenzent; YAKOVLEVA, Ye.A., kand.tekhn.nauk, retsenzent; TITOV, V.P.,  
 kand.tekhn.nauk, retsenzent; GRUSHEVOY, N.G., inzh., red.; BROMBERG,  
 Ye.M., kand.tekhn.nauk, red.; KHITROV, P.A., tekhn. red.

[Railroad tracks] Zheleznodorozhnyi put'. Moskva, Vses.izdatel'sko-  
 poligr.ob"edinenie M-va putei soobshchenia, 1961. 615 p.  
 (MIRA 14:12)

1. Kafedra "Zheleznodorozhnyy put'" Leningradskogo instituta inshene-  
 rov zheleznodorozhnogo transporta (for Amelin, Konstantinov, Smirnov,  
 Yakovlev). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut zhelezn-  
 dorozhnogo transporta (for Bochenkov, Bromberg, Yershkov, Zverev, Zo-  
 lotarskiy, Ivashchenko, Linev, Markar'yan, Popov, V.V., Popov, S.N.,  
 Serebrennikov, Shafranovskiy, Novitakiy). 3. Vsesoyuznyy nauchno-issledo-  
 vatel'skiy institut transportnogo stroitel'stva (for Viktorov, Vysotskiy,  
 Saatchyan, Yakovleva, Titov)  
 (Railroads—Track) (Railroad engineering)

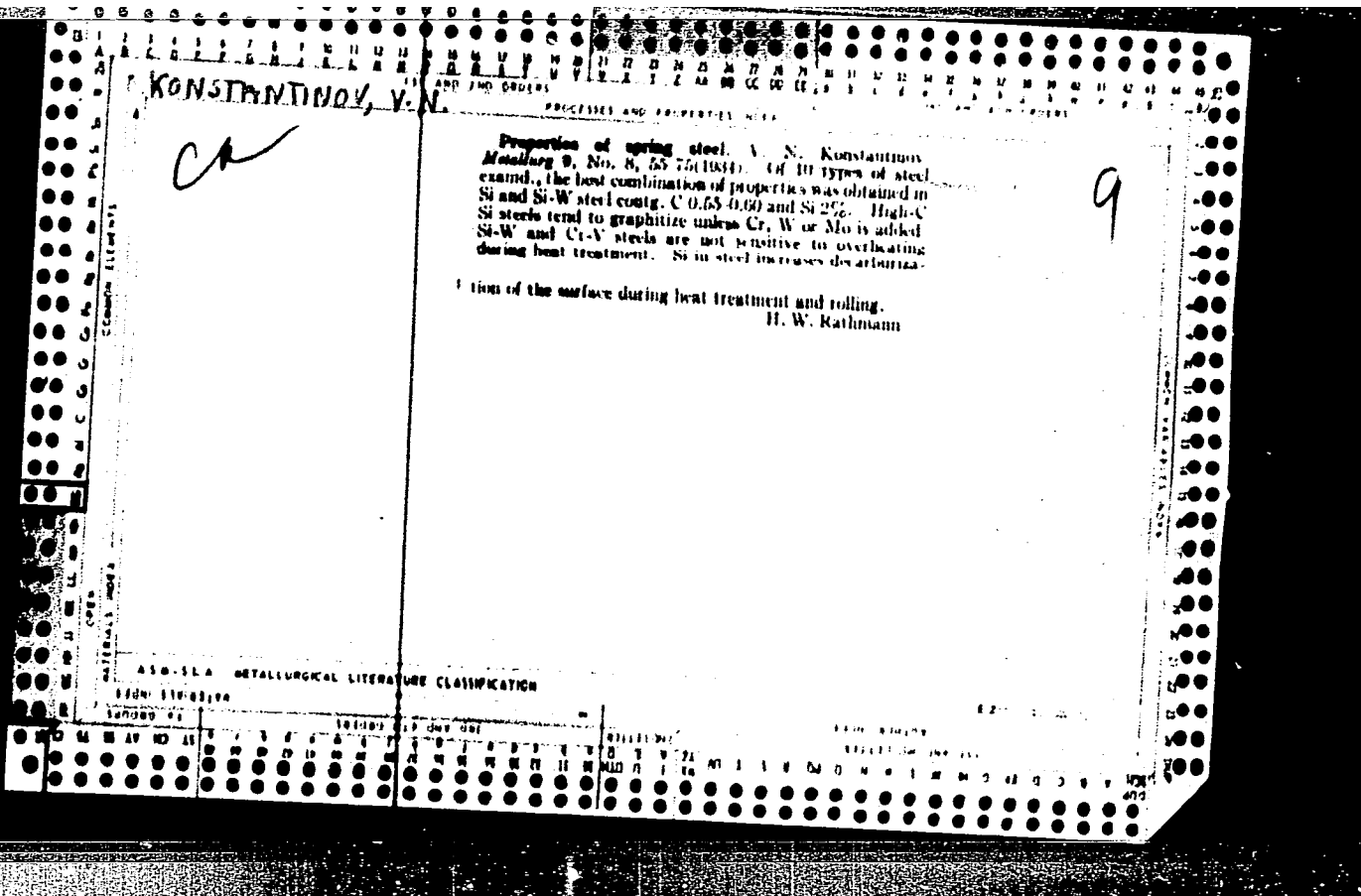
AMELIN, Stepan Vasil'yevich, zasl. deyatel' nauki i tekhniki RSFSR,  
doktor tekhn.nauk, prof.; DANOVSKIY, Leopol'd Mechislavovich,  
dotsent; KONSTANTINOV, Vasiliy Nikolayevich, dotsent;  
ANGELEYKO, V.I., prof., retsenzent; BASILOV, V.V., inzh.,  
retsenzent; LIDERS, G.V., dots., red.; BOEROVA, Ye.N.,  
tekhn. red.

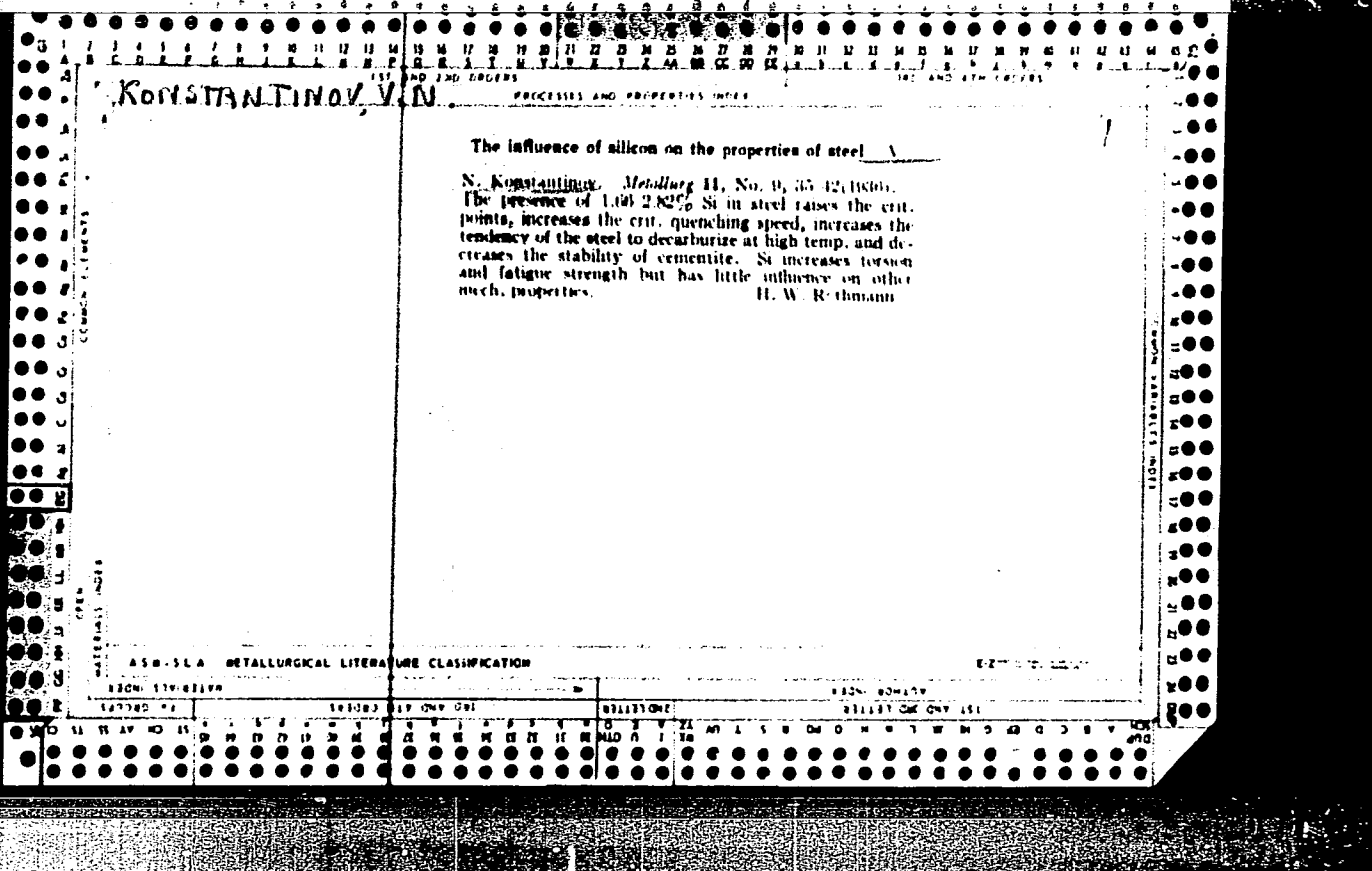
[Tracks and track design, operation and maintenance] Put' i  
putevoe khoziaistvo. Pod red.S.V.Amelina. Moskva, Transzhel-  
dorizdat, 1962. 185 p. (MIRA 15:9)  
(Railroads---Track)



KONSTANTINOV, V.E., inzi.

Effect of the design of worms on the efficiency of multiworm  
press. Khim. i neft. mashinostr. no.2:21-26 Ag '64 (MIRA 18:1)





KONSTANTINOV, V.N., kand.tekhn.nauk

Automatic synchronizers used for switching marine synchronous  
generators into parallel operation. Sudostroenie 24 no.7:41-45  
J1 '58. (MIRA 11:9)  
(Electricity on ships) (Electric generators)

85761

18.8100A

S/137/60/000/009/011/029  
A006/A001

Translation from: Referativnyy zhurnal, Metallurgiya, 1960, No. 9, p. 236,  
# 21408

AUTHORS: Konstantinov, V.N., Timofeyev, Ye.I.

TITLE: The Effect of High-Speed Deformation on the Mechanical Properties  
of a  $\beta$ -95 (V-95) Type Alloy After Aging to Various Degrees

PERIODICAL: V sb.: Nekotoryye probl. prochnosti tverdogo tela, Moscow-Lenin-  
grad, AN SSSR, 1959, pp. 230-237

TEXT: The authors investigated the effect of the deformation rate on the  
mechanical properties of a V-95 type aluminum alloy during static and dynamic  
tension. It is established that at higher deformation rates of an annealed alloy  
higher strength and ductility characteristics are observed; strength charac-  
teristics are reduced and ductility increased during high-speed deformation of  
a hardened alloy. Extended time and elevated temperature of aging reduce the  
effect of the deformation rate; this is due to the effect of the aging process,

X

Card 1/2

85761

S/137/60/000/009/011/029  
A006/A001

The Effect of High-Speed Deformation on the Mechanical Properties of a  $\beta$ -95  
(V-95) Type Alloy After Aging to Various Degrees

intensified in the deformed alloy at a higher degree of deformation and meta-  
stability. There are 8 references.

X

K.M.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

KONSTANTINOV, V.N., inzh.; LEVIN, A.N., prof., doktor tekhn.nauk

Multiscrew presses for processing plastic materials. Khim. mash.  
no. 1:3-8 Ja-F '61. (MIRA 14:1)  
(Power presses) (Plastics)

S/081/61/000/022/070/076  
B144/B138

**AUTHORS:** Golubev, B. N., Zaretskiy, B. F., Konstantinov, V. N.  
**TITLE:** Automatization of screw extruders for plastics  
**PERIODICAL:** Referativnyy zhurnal. Khimiya, no. 22, 1961, 454, abstract  
22P95 (Mekhaniz. i avtomatiz. proiz-va, no. 3, 1961, 20-24)

**TEXT:** For automatic temperature control and regulation in the extrusion process, both positional (for larger temperature intervals) and speed-proportional floating control systems are used. But owing to the high inertia of the units hitherto used (e.g., resistance thermometer as pickup, autotransformer as regulating element, control has not proved effective enough. The use of electronic relays and miniature thermocouples gives much better results. At present, electronic machines of the MAPC-200 (MARS-200) scan-checking type are still more effective. Each of these machines is able to control 20-40 extruder units. [Abstracter's note: Complete translation.]

Card 1/1

KONSTANTINOV, V.N.; LEVIN, A.N.

Performance of multiple-screw extruders with meshing worms.  
Plast.massy no.5:47-52 '62. (MIRA 15:4)  
(Extrusion (Plastics))



KONSTANTINOV, V.M., kand.tekhn.nauk

Using the self-synchronisation method for switching synchronous  
marine generators into parallel operation. Sudostroenie 25 no.2:34-38  
F '59. (MIRA 12:4)

(Electric generators)  
(Electricity on ships)

KONSTANTINOV, V.N., inzh.

Geometric compatibility of screws. Khim. mashinostr. no. 6:  
12-13 N-D '62. (MIRA 17:9)

KONSTANTINOV, V. N., kand. tekhn. nauk

Automatic control of marine electric power plants. Sudostroenie  
28 no.10:26-30 0 '62. (MIRA 16:1)

(Electricity on ships)  
(Automatic control)

L 16810-58

ACCESSION NR: AP3003263

S/0286/63/000/003/0031/0031

44

AUTHOR: Frolov, M. D.; Konstantinov, V. N.

TITLE: Equalizer for angular velocities of rotation. Class H 02j; 21d sup. 2, 42 sub 05. No. 152910

SOURCE: Byul. izobreteniy i tovarnykh znakov, no. 3, 1963, 31

TOPIC TAGS: equalizer, angular velocity, semiconductor, relay, voltage relay

ABSTRACT: Equalizer for angular velocities of rotation, in which there is applied to two voltage relays, rectified envelopes of the beat voltages, which are shifted relative to each other by an angle, the sign of which determines the sequence of relay operation; its distinguishing feature is that in order to eliminate the need for rectifying the voltages applied to the equalizer, a voltage relays based on semiconductors and employed in the latter, the interlocking circuit between the voltage relays set up with the aid of a differentiating subcircuit and a supplementary triode. Abstracter's note: complete translation. 7 Orig. art. has: 1 figure.

Card 1/3

L 16810-53  
ACCESSION NR: AP3003263

0

ASSOCIATION: none

SUBMITTED: 15May61

DATE ACQ: 23Jul63

ENCL: 01

SUB CODE: GE

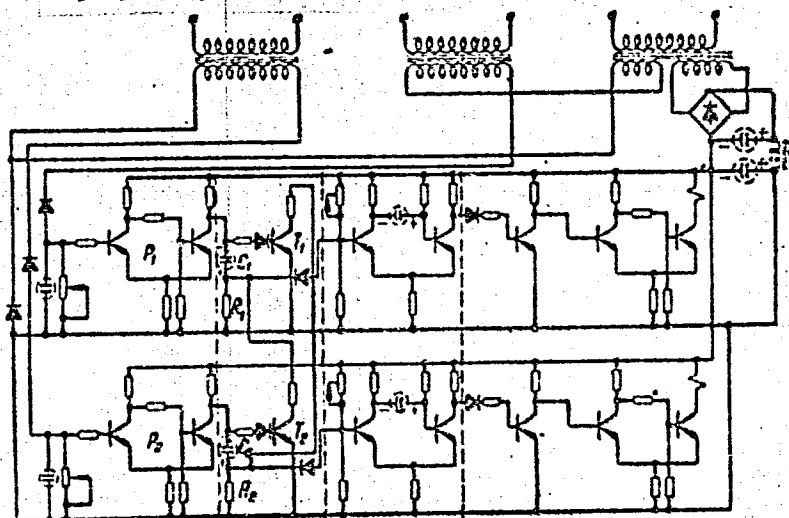
NO REF SOV: 000

OTHER: 000

Card 2/3

L 16810-53  
ACCESSION NR: AP3003263

ENCLOSURE: 1 0



$P_1$  and  $P_2$  -- voltage relays;  $R_1-C_1$  and  $R_2-C_2$  -- differentiating subcircuits;  $T_1$  and  $T_2$  -- supplementary triodes.

Card 3/3

KONSTANTINOV, V.N., kand.tekhn.nauk; MAKSIMOV, M.K., inzh.

System of remote automatic control of marine diesel generators.  
Sudostroenie 29 no.1:39-43 Ja '63. (MIRA 16:3)  
(Marine diesel engines) (Remote control)

KONSTANTINOV, V.N., kand.tekhn.nauk

Principles of the theory of automatic control. Sudostroenie 29  
no.10:77 0 '63. (MIRA 16:12)



KONSTANTINOV, V.N., kand.tekhn.nauk; VARLINSKIY, B.D., inzh.

System of remote control for the electric power plant on the lum-  
ber carrier "Vytergrales." Sudostroenie 30 no.1:28-30 Ja '64.

(MIRA 17:3)

KONSTANTINOV, V.N., kand. tekhn. nauk

Automating marine electric power systems. Sudostroenie 30 no.9:  
45-47 S '64. (MIRA 17:11)

KONSTANTINOV, Vasilii Nikolayevich: VILESOV, D.V., doktor tekhn. nauk prof., retsenzent; KUZNETSOV, N.A., Laureat Gos. premii, retsenzent; SUPRUN, G.F., doktor tekhn.nauk nauchn. red.; GHFAS, M.A., red.

[Synchronization of marine synchronous generators] Sinkhronizatsiia sudovykh sinkhronnykh generatorov. Leningrad, Sudostroenie, 1965. 289 p. (MIRA 19:1)

BARTENEV, Prokofiy Vasil'yevich, prof. [deceased]; KONSTANTINOV,  
Vasiliy Nikolay'ich, dots.; SKALOV, K.Yu., kand. tekhn.  
nauk, red.; LOMIDZE, G.I., red.

[Arrangement of trackage and stations] Ustroistvo puti i  
stantsii. Moskva, Transport, 1965. 351 p.  
(MIRA 18:8)

KONSTANTINOV, V.N., inzh.; OZOL, Yu.R., inzh.; VAYNSHTEYN, Ye.S., inzh.;  
KLOCHKOV, V.I., inzh.

Units for the production of plane films. Khim. i neft. mashinostr.  
no.1:5-9 Ja '65. (MIRA 18:3)

L 22925-66

ACC NR: AP6007681

(A)

SOURCE CODE: UR/0413/66/000/003/0059/0059

AUTHOR: Konstantinov, V. N.; Semenov, V. G.; Voykhanskiy, P. G.; Fedoseyev, V. I.

ORG: none

TITLE: Unit for longitudinal orientation of a polymer film. Class 59, No. 176483  
[Announced by the Scientific Research Institute for the Construction of Chemical Machinery (Nauchno-issledovatel'skiy institut khimicheskogo mashinostroyeniya)]

SOURCE: Izobreteniya, promyshlennyye obrazttsy, tovarnyye znaki, no. 3, 1966, 59

TOPIC TAGS: film processing, photographic equipment

ABSTRACT: An Author Certificate has been issued describing a unit for the longitudinal orientation of polymer films. The machine is equipped with one set of retarding rolls and another set of pulling rolls. To reduce the transverse shrinkage of the film and control its deformation rate, an orientation roll, which can be heated up, is installed between both the pulling and retarding rolls and equipped with a mechanism for moving the film in the vertical plane. [LD]

SUB CODE: 14/ SUBM DATE: 07Jan65/

film processing

20

Card 1/1

UDC: 678.017.4

KONSTAN TINOV, V.P.  
P. 2

PHASE I BOOK EXPLOITATION SOV/3671

Akademiya nauk SSSR. Institut elektronnykh upravlyayushchikh mashin

Tsifrovaya tekhnika i vychislitel'nyye ustroystva; [Sbornik]  
(Digital Technique and Computing Devices; Collection of Articles)  
Moscow, Izd-vo AN SSSR, 1959. 184 p. Errata slip inserted.  
4,000 copies printed.

Ed.: N.S. Bruk, Corresponding Member, USSR Academy of Sciences;  
Ed. of Publishing House: G.Yu. Shteynbok; Tech. Ed.: V.V.  
Volkhova.

**PURPOSE:** This collection of articles is intended for persons  
specializing in computer technique.

**COVERAGE:** Most of the work in this first issue of the Collection  
of Articles of the Institute of Electronic Control Machines of  
the Academy of Sciences, USSR, was carried out during 1958-1959,  
and was dedicated to digital technique. The Institute conduc-  
ted studies aimed at creating a high-speed memory device of large  
capacity. One of the results of this work was improvement of the

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## Digital Technique (Cont.)

SOV/3671

M-2 computer by replacing its static storage device with ferrite memory cores. Other articles concern the use of transistors in digital computers, stability of analog computers equipped with d-c operational amplifiers, and the use of the M-2 computer in solving various problems. Future issues of this collection of articles will present the results of work in digital technique in mathematical investigations, and in control machines and systems of control which operate on the principle of digital technique. Some personalities are mentioned in the articles. References accompany some of the articles.

## TABLE OF CONTENTS:

From the Editor

3

Glukhov, Yu.N., V.I. Zolotarevskiy, M.A. Kartsev, V.P. Konstantinov, and R.P. Shidlovskiy. Ferrite Memory Device With 4096 Digits 5  
The authors present a general description of the ferrite core memory device. It has a 4096 word capacity, each word consisting of 36 binary bits, two of which are reserve. The access time is

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Digital Technique (Cont.)

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about 30 microsec; part of this cycle overlaps other computer operations. This memory unit is equipped with 526 electron tubes and 103 additional tubes are used in the power supply. These specifications constitute a great improvement over the previous memory device, in which the operational electrostatic storage and the reserve magnetic drum storage had a capacity of 512 binary, 34-bit words each, and in which access time was from 37.5 to 50 or more microsec. It was equipped with 644 electron tubes and 150 additional tubes were used in the power supply. The new ferrite core memory device was developed, executed, and adjusted at the Institute under the general direction of I.S. Bruk, Corresponding Member of the Academy of Sciences, USSR. Preliminary studies were made in 1955-1956 under the direction of O.V. Rosnitskiy. The essential part of the work was done under the supervision of M.A. Kartsev by engineers T.M. Aleksandridi, V.B. Borok, Yu.N. Glukhov, V.I. Zolotarevskiy, L.V. Ivanov, V.P. Konstantinov, Ye.N. Filinov, and R.P. Shidlovskiy; and technicians I.I. Gallyamova, N.S. Zhdanov, V.M. Minayev, M.Ya. Natanzon, Z.N. Sidiyakova and V.S. Sokolov. The construction group was under the supervision of A.N. Patrikeyev, and the

Card 3/11

SUKHOV, Dmitriy Konstantinovich; NECHAYEV, V.V., retsenzent; KONSTANTINOV,  
V.P., retsenzent; YEVLANOV, S.N., redaktor; KAN, P.M., redaktor  
~~izdatel'stva~~; KRASHAYA, A.K., tekhnicheskiy redaktor

[Electric engineering and telecommunication] Elektrotekhnika i  
elektrosviaz'. Izd. 2-oe, dop. i ispr. Moskva, Izd-vo "Rechnoi  
transport," 1956. 466 p. (MIRA 9:8)  
(Electric engineering) (Telecommunication)

KONSTANTINOV, V.P.

Now head for semiautomatic welding machine. Mashinostroitel'  
no.6:18 Je '60. (MIRA 13:8)  
(Electric welding)

KONSTANTINOV, V.P.

Mechanization of calking operations. Sudostroenie 26  
no.6:61-62 Je '60. (MIRA 13:7)  
(Calking--Equipment and supplies)

KONSTANTINOV, V.P.

Gluing parts on a hydraulic press with heating by high frequency  
currents. Sudostroenie no.7:60-61 J1 '60. (MIRA 13:7)  
(Gluing) (Induction heating)

KONSTANTINOV, V.P.; VESELOV, Yu.V.; YEGOROVA, L.S.

Clinical and epidemiological characteristics of Omsk hemorrhagic fever. Sov.med. 25 no.1:70-71 Ja '61. (MIRA 14:3)

1. Iz Omskogo gosudarstvennogo meditsinskogo instituta.  
(EPIDEMIC HEMORRHAGIC FEVER)

SOLOMATIN, V.M.; YAURE, A.G., inzh., retsenzent; KONSTANTINOV, V.P.,  
retsenzent; PETUKHOV, M.N., retsenzent; KRUGLIK, G.L.,  
retsenzent; TUPITSA, I.S., retsenzent; FRIK, A.O., inzh.,  
nauchn. red.

[Manual for ship engineers and electricians] Spravochnik  
elektromekhanika i elektrika sudna. Moskva, Izd-vo  
"Rechnoy transport," 1963. 713 p. (MIRA 17:2)

KONSTANTINOV, Veselin

Determining power of electric motors in large and high-speed centrifugal ventilators. Mashinostroene 12 no.6:22-25 Je'63



KONSTANTINOV, Viktor, inzh.

Experimental determination of the coefficient of resistance.  
Mashinostroene 12 no.3:16-18 Mr'63

IONOV, B.I.; PIVOVAROV, N.I., redaktor; KONSTANTINOV, V.P., redaktor; KRAS-  
NAYA, A.K., tekhnicheskij redaktor

[Practical guide for ship radio operators] Prakticheskoe rukovod-  
stvo sudovomu radistu. Izd. 2-e, perer. i dop. Moskva, Izd-vo Mini-  
sterstva rechnogo flota SSSR, 1952. 219 p. [Microfilm] (MLRA 8:7)  
(Radio in navigation)

KONSTANTINOV, V.P., inshener.

Developing electric and radio navigation techniques in inland  
water transportation during the sixth five-year plan. *Rech. transp.*  
15 no.8:12-16 Ag '56. (MLRA 9:11)  
(Inland water transportation) (Radar in navigation)  
(Sounding and soundings)

MEN'SHIKOV, Nikolay Aleksandrovich; CHERNYSHEV, I.K., retsenzent;  
MAN'KOVICH, B.Ya., retsenzent; KONSTANTINOV, V.P., red. ~~KAN~~ P.M.,  
red.izdatel'stva; TSVETKOVA, S.V., tekhn.red.

[Organization of ships' radio communication systems] Organizatsiia  
sudovoi radiosviazi. Moskva, Izd-vo "Rechnoi transport," 1957. 88 p.

(MIRA 10:12)

(Radio--Installations on ships)

107-57-2-31/56

AUTHOR: Konstantinov, V., Chief Specialist, Administration of Communications,  
~~Ministry of the River Fleet, USSR~~

TITLE: Radio Communication in the River Fleet (Radiosvyaz' na rechnom flote)

PERIODICAL: Radio, 1957, Nr 2, pp 26-27 (USSR)

ABSTRACT: Radio communication adopted on Soviet river ships has acquired great importance over the last few years. It helps in management of the shipping, and also in securing safety. Radio stations of 30 to 80 w have two bands, 25 to 120 m and 500 to 1,200 m. Radio stations "Urozhay" are widely used in roadstead communications. Operational communication in the river fleet is of the CW type and has definite intervals between the communication sessions. Each river basin is subdivided into several dispatchers' sections, from 400 to 800 km apart. As the ship goes along the river, it contacts a number of section stations in succession. In many basins the ships also establish communication with the radio centers of the shipping management. Sometimes communication is effected by means of announcements that are made three or four times a day. The announcements include the call sign of the ship for which mail is waiting and also set the schedule of communications. Twice a day a radio center of the shipping

Card 1/2

KONSTANTINOV, V.P., inzh.

~~Adopting radar methods for ship handling. Rech. transp. 17 no.5:~~  
30-32 My '58. (MIRA 11:5)

(Radar in navigation)

RUL'KOV, Dmitriy Ivanovich; SARATOV, Vladimir Fadeyevich; SHUMEYKO, G.K.,  
retsensent; KONSTANTINOV, V.P., retsensent; KUSHCH, L.K., red.;  
LOBANOV, Ye.M., red.izd-vs; BOBROVA, V.A., tekhn.red.

[Nautical equipment of ships for inland navigation] Navigatsionnoe  
oborudovanie sudov vnutrennego plavanija. Moskva, Izd-vo "Rechnoi  
transport," 1959. 127 p. (MIRA 13:1)  
(Inland navigation) (Nautical instruments)

~~KONSTANTINOV, Vadim Pavlovich; SKVORTSOV, D.R., retsentsent; BOGDANOV,  
V.I., retsentsent; [deceased]; KAN, P.M., red.izd-va; BOBROVA,  
V.A., tekhn.red.~~

[Ship radio operator's manual] Posobie sudovomu radiistu.  
Moskva, Izd-vo "Rachnoi transport," 1959. 332 p. (MIRA 12:9)  
(Radio in navigation)



VLASOV, Viktor Grigor'yevich, dotsent, kand.tekhn.nauk; SVETNIKOV, Vladimir Grigor'yevich, kand.tekhn.nauk; NIKITENKO, Yu.I., dotsent, kand.tekhn.nauk, retsenzent; ZHERLAKOV, A.V., dotsent, kand.tekhn.nauk, retsenzent; KONSTANTINOV, V.P., inzh., retsenzent, red.; VITASHKINA, S.A., red.izd-va; BODROVA, V.A., tekhn.red.; POKHLEBKINA, M.I., tekhn.red.

[Fundamentals of radio engineering and electronic navigation devices] Osnovy radiotekhniki i elektroradionavigatsionnye pribory. Moskva, Izd-vo "Rachnoi transport," 1960. 279 p.  
(MIRA 14:3)

(Radio in navigation)

(Radio)

KONSTANTINOV V P

PHASE I BOOK EXPLOITATION

SOV/5712

Makiyenko, Semen Ivanovich, Nikolay Aleksandrovich Men'shikov, and  
Vadim Pavlovich Konstantinov

Organizatsiya radiosvyazi, radioveshchaniya i radionavigatsii na  
rechnom transporte (Organizing Radio Communications, Radio  
Broadcasting, and Radio Navigation in River Transportation) Moscow,  
Izd-vo "Rechnoy transport", 1960. 130 p. 2,800 copies printed.

Ed.: D. K. Sukhov; Reviewer: I. I. Pospelov; Ed. of Publishing  
House: P. M. Kan; Tech. Ed.: V. A. Bodrova.

PURPOSE: This book is intended for radio-communication personnel  
and for ship handlers and other personnel concerned with the  
operation of fleets, harbors, and maintenance bases.

COVERAGE: The book presents the principles of the organization of  
radio communications, radio broadcasting, and radio navigation in  
river transportation. Primary attention is paid to radio communi-  
cation operations aboard ships, in particular during navigation

Card 1/5

KONSTANTINOV, V., inzh.; TSYPIN, Ya., inzh.; MIROSHNICHENKO, I., inzh.

Introducing automatic control in inland navigation and prospects  
for its development. Rech. transp. 20 no. 2:12-14 F '61.

(MIRA 14:12)

(Inland navigation)

(Automatic control)

STUKUSHIN, V.I., otv. za vypusk; KONSTANTINOV, V.P., red.; ~~KAN~~, P.M.,  
red. izd-va; BEGICHEVA, M.N., tekhn. red.

[Regulations governing radio equipment on ships navigating the  
inland waters of the U.S.S.R.; rivers lakes, and canals] Pra-  
vila po radiooborudovaniu sudov vnutrennego plavaniia SSSR;  
reki, ozera, kanaly. Utverzhdeny prikazom MPF no.77 22 marta  
1956 g. Moskva, Izd-vo "Rechnoi transport," 1956. 56 p.  
(MIRA 15:3)

1. Russia (1923- U.S.S.R.) Rechnoy Registr.  
(Radio in navigation) (Radio--Installation on ships)

KONSTANTINOV, V.P., inzh.

Vacuum cleaner for ship spaces. Sudostroenie 26 no. 120-14-6  
Mr '60. (MTRA 14:11)

(Vacuum cleaning)  
(Shipbuilding)

KONSTANTINOV, Vadim Pavlovich; NITS, Yu.K., retsenzent;  
MIROSHNICHENKO, I.F., red.; KAN, P.M., red. izd-va;  
REMNEVA, T.T., tekhn. red.

[Ship radio operator's handbook] Posobie sudovomu radistu.  
2., dop. i perer. izd. Moskva, Izd-vo "Rechnoi transport,"  
1962. 262 p. (MIRA 15:12)  
(Radio in navigation—Handbooks, manuals, etc.)

BENUA, F.F.; DUKOR, Z.G.; KLYUSHENKOV, I.S.; KONSTANTINOV, V.P.;  
KATLER, A.I.; MAYKOV, N.K.; PRAYSMAN, A.D.; SERGEYEV, V.I.;  
TRUFANOV, V.G.; FEDOROV, V.F.; FRUMIN, S.R.; CHERTKOV, Kh.A.;  
SHIBANOV, B.V.; VATASHKINA, S.A., red.izd-va; CHERNOV, M.I.,  
red.; BODROVA, V.A., tekhn. red. ..

[Handbook on ship repairs in two volumes] Spravochnik po  
remontu sudov v dvukh tomakh. Pod obshchei red. M.I.Chernova.  
Moskva, Izd-vo "Rechnoi transport." Vol.2. 1963. 600 p.  
(Ships--Maintenance and repair) (MIRA 16:9)

BENUA, F.F.; DUKOR, Z.G.; KLYUSHENKOV, I.S.; KONSTANTINOV, V.P.;  
KOTLYAR, D.I.; MAYKOV, N.K.; PRAYSMAN, A.D.; SERGEYEV,  
V.I.; TRUFANOV, V.G.; FEDOROV, V.F.; PRUMIN, S.R.;  
CHERTKOV, Kh.A.; SHIBANOV, B.V.; CHERNOV, M.I., red.;  
VITASHKINA, S.A., red.izd-va; BODROVA, V.A., tekhn. red.

[Handbook on ship repairs in two volumes] Spravochnik po  
remontu sudov v dvukh tomakh. Pod obshchei red. M.I.  
Chernova. Moskva, Izd-vo "Rechnoi transport." Vol.1. 1963.  
550 p. (MIRA 16:12)

(Ships--Maintenance and repair)  
(Marine engineering--Handbooks, manuals, etc.)



PAKHOMOV, V.B., kand. tekhn. nauk; NAUMOV, A.I., inzh.; SHELMANOV, V.S., inzh.; KONSTANTINOV, V.P., inzh.; KOSTIN, A.M., inzh.; SEMENOV, YU.K., inzh.; PYATLIN, A.A., kapitan; VAGANOV, G.I., kand. tekhn. nauk; SVIRIDOV, A.A., inzh. KHODUNOV, M.Ye., kand. jurid. nauk; SAPOGOVA, A.Ye., inzh.; SOYUZOV, A.A., doktor tekhn. nauk, prof., red.; VASIL'YEV, A.V., kand. tekhn. nauk; ALEKSEYEV, V.I., red.; KUSTOV, L.I., red.; VITSINSKIY, V.V., red.; BORISOV, I.G., red.; SOLAREV, N.F., red.; ANDRIYENKO, V.I., red.; SUTYRIN, M.A., red.; GOLOVNIKOV, V.I., red.; ZOTOVA, V.V., red.

[Manual for the navigator of a river fleet] Spravochnik sudovoditelia rechnogo flota. Izd.2., dop. Moskva, Transport, (MIRA 18:2) 1965. 423 p.

1. Gor'kovskiy institut inzhenerov vodnogo transporta (for Pakhomov, Semenov, Vaganov, Vasil'yev). 2. Moskovskiy rechnoy tekhnikum (for Naumov). 3. Volzhskoye ob'yedinennoye rechnoye parokhodstvo (for Shelmanov, Sapogova). 4. Ministerstvo rechnogo flota (for Konstantinov, Sviridov). 5. Kazanskiy port (for Kostin). 6. Moskovskoye rechnoye parokhodstvo (for Pyatlin).

ACC NR: AP6031288

(N)

SOURCE CODE: UR/0399/66/000/009/0107/0111

AUTHOR: Konstantinov, V. P.; Dontsov, G. I.

ORG: Department of Infectious Diseases/Director—docent V. P. Konstantinov/, Omsk Medical Institute im. M. I. Kalinin (Kafedra infektsionnykh bolezney Omskogo meditsinskogo instituta)

TITLE: Clinical picture and treatment of tetanus

SOURCE: Sovetskaya meditsina, no. 9, 1966, 107-111

TOPIC TAGS: human ailment, tetanus, tetanus therapy, disease therapeutics, *epidemiology, infectious disease*

ABSTRACT: Clinical-epidemiological studies of tetanus in Omsk revealed that symptoms were fairly similar in all patients; the incubation period ranged from 3—30 days with an average between 5—11 days. Eight deaths were caused by asphyxia or cardiac paralysis. Complex therapy was effective for all survivors and revaccination was recommended. [WA-50; CBE No. 12]

SUB. CODE: 06/ SUBM DATE: none/ ORIG REF: 030/

Card 1/1

UDC: 616.981.551.313.13(571.13)

KOROLIV, V.G.; KONSTANTINOV, V.V., redaktor, KOGAN, F.L. tekhnicheskii  
redaktor

[Manual for an automobile dispatcher] Posobie dispetcheru avto-  
khoziaistva. Moskva, Nauchno-tekhn. izd-vo avtotransportnoi lit-  
ry. 1954. 102 p. (MLRA 8:6)  
(Radio--Transmitters and transmission)

KONSTANTINOV, V. V.

Include a device for pouring gasoline in drivers' equipment  
kits. Avt. transp. 33 no.5:33 My '55. (MIRA 8:8)  
(Automobiles--Apparatus and supplies)