

Uvarov, G. A.

AID P - 3989

Subject : USSR/Engineering

Card 1/2 Pub. 28 - 7/11

Authors : Kudryashev, L. I., Uvarov, G. A. and Erlikhman, A. M.

Title : Arrangement of two-stage evaporation with auxiliary cylinders for boilers of small capacity.

Periodical : Energ. byul., 12, 21-23, D 1955

Abstract : To improve the quality of steam and to reduce the number of blowing-outs in small-size boilers, a two-stage evaporation arrangement with auxiliary cylinders, consisting of a system of tubing attached to the upper and lower collectors and installed in the combustion chamber, was designed. The authors describe the construction, operation, and testing of the ShB A7 and ShB A3 (Shukhov-Berlin) boilers with this double-sided baffle as the second stage of evaporation. Steam production was reportedly improved by 25 to 30%. Two drawings.

Energ. byul., 12, 21-23, D 1955

AID P - 3989

Card 2/2 Pub. 28 - 7/11

Institution : None

Submitted : No date

UVAROV, G.F.

7

Entrainment of liquids by gases or vapors. G. F. Uvarov  
 (Ukr. Inst. of Chemistry, Chernobyl, U.S.S.R.)  
 Dokl. Akad. Nauk SSSR, 1967, No. 5, 198-203.  
 A method was sought for the estim. of the quantity of  
 liquid entrained by a freely moving gas or vapor. The  
 movement of an ascending gas bubble in a large liquid vol.  
 can be expressed by the equation  $R_0 = R_b + m(dv/dt)$ ,  
 where  $R_0$  = force due to buoyancy,  $R_b$  = force opposing the  
 movement = mass of the bubble, and  $d^2v/dt^2$  = accelera-  
 tion of the bubble. Since the velocity of the bubble is quite  
 const., the acceleration is zero and  $R_0 = R_b$ . By equating  
 the equations for the buoyancy force, Stokes' law and the  
 square law of resistance for movement in liquids, the follow-  
 ing expression is obtained for the velocity of a rising bubble:  
 $W_0 = \sqrt{4/3g d^3 / (1 + \gamma_0/\gamma_1)}$ , where  $d$  = diam. of the bubble,  
 $\gamma_0$  = dimensionless coef. of resistance,  $\gamma_0$  and  $\gamma_1$  = sp. gr. of  
 gas and liquid, resp. By pursuing a rigorous math. analysis a  
 complicated expression is obtained for the vol. of entrained  
 liquid, and this expression cannot be integrated. A no. of  
 simplifying assumptions are then made which yield an ex-  
 pression stating that the mass of liquid entrained by a unit  
 mass of gas is inversely proportional to a term const. the  
 radius of the gas bubble to the  $1/2$  and  $1/3$  power.  
 A. Schneider

4  
4E4-1

PM

ZHUKOV, A.M., inzh.; KUCHUGURENKO, A.P., dotsent, kand. tekhn. nauk;  
MURAV'YEV, V.D., inzh.; UVAROV, G.A., dotsent, kand. tekhn. nauk;  
FEDOROV, V.N., inzh.; SHESTAKOV, B.I., dotsent

Investigating combusting pulsations during burning of Kashpir shale  
in furnaces with shaft-type impact mills. Izv. vys. ucheb. zav.: energ.  
2. no.10:53-59 O '59. (MIRA 13:3)

1. Kuybyshevskiy industrial'nyy institut imeni V.V. Kuybysheva.  
Predstavlena sektsiyey prikladnoy teplotekhniki.  
(Oil shales)

DOYNIKOV, B.D., kand. tekhn. nauk, dots. Prinimali uchastiye: ODEL'SKIY, E.Kh., prof., zasl. deyatel' nauki i tekhniki BSSR, doktor tekhn. nauk; KUDRYASHOV, L.I., prof.; ERLIKMAN, A.M., dots., UVAROV, G.A., dots.; BLYUM, A.G., red.; KUZ'MENOK, P.T., tekhn. red.

[Studying the heat-exchange processes in the water systems of small capacity steam boilers] Issledovanie teploobmennykh protsessov vodnogo rezhima parovykh kotlov maloi moshchnosti. Minsk, Redaktsionno-izd. otdel BPI im. I.V.Stalina, 1961. 170 p. (MIRA 14:11)  
(Boilers) (Heat--Transmission)

UVAROV, G.A., dotsent, kand. tekhn. nauk

Boiler units with combined circulation. Sbor. nauch. trud. Kuib.  
indus. inst. no. 8:259-264 '61. (MIRA 14:7)  
(Boilers)

BELOUSOV, V.M., inzh.; VIDMANOV Yu.I., inzh.; STEPANYAN, A.A., inzh.  
UYAROV, G.A., kand.tekhn.nauk; FEDOROV, V.N., inzh.; SHESTAKOV,  
B.I., kand.tekhn.nauk

Measuring devices and methods for measuring pulsations in boiler  
furnace systems. Izv. vys. ucheb. zav.; energ. 4 no.3:49-52  
Mr '61. (MIRA 14:3)

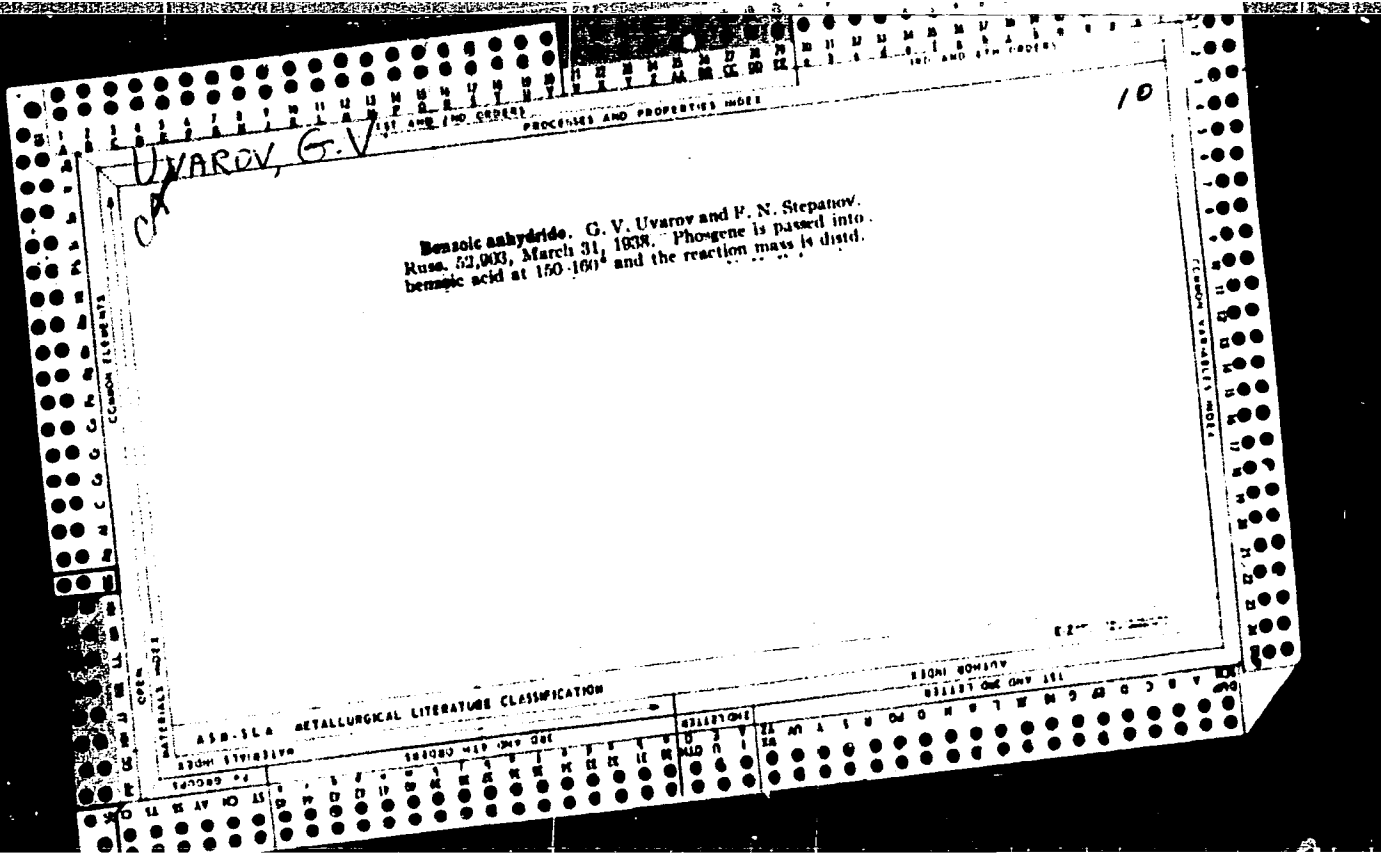
1. Kuybyshevskiy industrial'nyy institut imeni V. V. Kuybysheva.  
Predstavlena kafedroy teploenergeticheskikh ustanovok.  
(Transducers) (Boilers)

UVAROV, G.A., kand.tekhn.nauk; SHESTAKOV, B.I., kand.tekhn.nauk;  
FEDOROV, V.N., inzh.; GOFKO, M.K., inzh.; ANDREYEV, G.B., inzh.  
ORLOV, A.V., inzh.

Simultaneous burning of anthracite culm and gas with different  
methods for supplying the gas to the furnace. Teploenergetika  
8 no.4:52-57 Ap '61. (MIRA 14:8)

1. Kuybyshevskiy industrial'nyy institut i Kuybyshevenergo.  
(Furnaces)





**UVAROV, G. V.**  
*ca*

**PROCESSING AND PREPARATION INDEX**  
 Russian chloride. G. V. Uvarov and F. N. Stepanov.  
 Russ. 60,603, March 31, 1940. Fused BrOH is treated  
 with phosgene at 140-200°.

**ASM-A.S.A. METALLURGICAL LITERATURE CLASSIFICATION**

GROUP #1	GROUP #2	GROUP #3	GROUP #4	GROUP #5	GROUP #6	GROUP #7	GROUP #8	GROUP #9	GROUP #10	GROUP #11	GROUP #12	GROUP #13	GROUP #14	GROUP #15	GROUP #16	GROUP #17	GROUP #18	GROUP #19	GROUP #20

SOV/64-58-4-1/20

AUTHOR:

Uvarov, G. V.

TITLE:

~~The Chemical Industry Must Develop Quicker (Razvivat'~~  
khimicheskuyu promyshlennost' uskorennymi tempami)

PERIODICAL:

Khimicheskaya promyshlennost', 1958, Nr 4, pp. 197 - 200(USSR)

ABSTRACT:

The May Plenary Session of the TsK KPSS (Central Committee of the Communist Party of the Soviet Union) passed a historical program that mainly concerns the industry of natural and artificial fibers, plastics and other synthetics as well as products made of them. In order to show the great scale of this plan also some data on the planned development are given and the provinces concerned are mentioned. Among others also the insufficiencies to be removed at the MKhP (Ministry of Chemical Industry) are mentioned and it is noticed that for a successful development of chemical industry the corresponding equipment and apparatus must be designed and produced by the industry for machine building, apparatus building and mechanization. The publication of projection documentations is regarded one of the most important problems;

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The Chemical Industry Must Develop Quicker

the projecting institutes had to be assisted in this work; some of them are mentioned. The work of the scientific research institutes is criticized by some examples; a more directed and quicker work is demanded. The working out of new, and the improvement of existing methods for the production of initial materials for polymerization products of mineral oil and natural gases is mentioned as an example. Besides the perfection of already existing processes special interest has to be paid to the development of especially resistive and heat-resistive polymers for plastics and artificial fibers. In order to promote scientific research work some institutes and branches are being organized, which are mentioned by the author. The production of acetic acid by the Vladimir Chemical Plant is mentioned as example for a successful complex automation. A cooperation among the socialist countries is recommended, the cooperation among the chemists of the USSR (SSSR) and Czechoslovakia (Chekhoslovatskaya respublika) being mentioned as an example. The expenditure for scientific-technical literature should be increased and the technical information service on foreign and domestic science and technique is to be extended. An

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The Chemical Industry Must Develop Quicker

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improvement of working methods is recommended to the Laboratory for Technical-Scientific Investigations and Informations Institute imeni L. Ya. Karpov (Institut im. L. Ya. Karpova). Finally it is mentioned that the decisions by the plenary session met with international agreement.

ASSOCIATION: Gosudarstvennyy komitet Soveta Ministrov SSSR po khimii (State Committee for Chemistry of the Council of Ministers of the USSR).

1. Chemical industry--USSR

Card 3/3

5(1)

PHASE I BOOK EXPLOITATION

SOV/2997

Uvarov, Georgiy Vasil'yevich, Deputy Chairman of the State Committee on Chemistry of the USSR Council of Ministers

Razvitiye khimicheskoy promyshlennosti v 1959-1965 godakh (Development of the Chemical Industry Between 1959 and 1965) Moscow, Izd-vo "Znaniye," 1959. 15 p. (Series: Vsesoyuznoye obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy. Seriya IV, 1959, no. 26) 47,500 copies printed.

Sponsoring Agency: Vsesoyuznoye obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy.

Ed.: T. F. Islankina; Tech. Ed.: L. Ye. Atroshchenko.

**PURPOSE:** This booklet is intended for the general reader interested in the chemical industry.

**COVERAGE:** The booklet emphasizes the growing importance of chemistry for different branches of industry and states that the rapid progress in aviation, rocket construction, electronics, and atomic energy has, to a great extent, been made possible by new synthetics and plastics manufactured by the chemical industry.

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Development of the Chemical Industry (Cont.)

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As illustration it points out that the TU-104 aircraft has 120,000 parts made of synthetic rubber or plastics. Raw materials needed to manufacture chemical and petrochemicals are enumerated and the quantity of these materials now available in the Soviet Union indicated as well as the location of newly built chemical plants. No personalities are mentioned. No references are given.

TABLE OF CONTENTS:

Raw Material Resources	5
Distribution of New Enterprises	10
Development of Different Branches of the Chemical Industry	11

AVAILABLE: Library of Congress

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2/1/60

SOV/29-59-4-1/26

5(0)  
AUTHOR:

Uvarov, G. <sup>V.</sup> Deputy Chairman of the  
State Committee for Chemistry at the  
Council of Ministers of the USSR

TITLE:

Komsomol, Let Us Fight for the "Great Chemistry"  
(Komsomol, v pokhod za bol'shuyu khimiyu !)

PERIODICAL:

Tekhnika molodezhi, 1959, Nr 4, p 1 (USSR)

ABSTRACT:

The Central Committee of the CPSS decided in May 1958, to speed up the development of the chemical industry. The characteristic feature of the modern chemical industry is its capability of creating entirely new materials, which have no correspondence in nature, from cheap and abundantly available raw materials. During the next seven years principal care will be directed towards the production of synthetics, especially chemical fibers and plastics. Production of chemical fibers is to be increased by the 4-fold within the end of the Seven-Year Plan. In particular, the production of specially high-quality synthetic fibers is to rise by the 12 - 13-fold and that of plastics and synthetic rubbers by more than 7-fold. As much as 450 million meters of textiles will be produced by the end of the Seven-Year Plan with the use of synthetic fibers. The consumer will be

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Komsomol, Let Us Fight for the "Great Chemistry"

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offered large stocks of synthetic furs, footwear and household wares, all made of synthetic materials. To secure a surplus in goods, the government has appropriated investments of 100 - 105 billion rubles for the development of the chemical industry. This money is to be employed for the construction of 140 new plants, 35 of which are to produce synthetic fibers, and for the transformation of more than 130 existing plants. The creation of the "great chemistry" is impossible without the contribution of youth. The Lenin Komsomol has taken over the sponsorship of 27 new chemical plants. Youth is working with great enthusiasm at the construction of chemical fiber factories at Barnaul, Ryazan', Engel's, Krasnoyarsk, Kiyev and Mogilev. The Central Committee of the LVKSM in conjunction with the State Committee for Chemistry at the Council of Ministers has invited entries for a contest among youth collectives participating in the construction of chemical plants. As a means of encouraging the best collectives a challenge prize, the Red Banner of the TsK VLKSM and of the Goskhimkomitet, as well as three money prizes in the amounts of 15,000, 10,000 and 5,000 rubles are contributed. Furthermore an All-Union youth contest has been announced for the best rationalization suggestions in

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the field of chemistry. The following prizes will be assigned to the contest participants for the best inventions, technical improvements and rationalization suggestions in the field of chemistry, that have so far been adopted in the works with technical and economic benefits: 15 first prizes (motor scooters "Tula-200", pianettes, motorcycles "IZh-56"); 25 second prizes (accordeons, hunting rifles, television sets); 50 third prizes ("Zorkiy" cameras, radio sets, record players and tape recorders "El'fa"). There is 1 figure.

ASSOCIATION: Gosudarstvennyy komitet Soveta Ministrov SSSR po khimii  
(State Committee for Chemistry at the Council of Ministers, USSR)

Card 3/3

BARDIN, I.P., akademik, glavnyy red. [deceased]; VOL'PKOVICH, S.I., akademik, otv.red.toma; UVAROV, G.V., red.toma; KOMAROV, V.P., detsent, red.toma; LAVRENT'YEV, M.A., akademik, red.; DIKUSHIN, V.I., akademik, red.; NEMCHINOV, V.S., akademik, red.; VEYTS, V.I., red.; LEVITSKIY, O.D., red.; NEKRASOV, N.N., red.; PUSTOVALOV, L.B., red.; KHACHATUROV, T.S., red.; ROSTOVTSSEV, N.P., akademik, red.; POPOV, A.N., red.; GRAFOV, L.Ye., red.; GASHEV, A.D., red.; PROBST, A.Ye., prof., red.; VASYUTIN, V.F., prof., red.; KROTOV, V.A., prof., red.; VASIL'YEV, P.V., doktor ekonom.nauk, red.; LYUDOGOVSKIY, G.I., kand.tekhn.nauk, red.; LETUNOV, P.A., kand.geol.-mineral.nauk, red.; SHKOL'NIKOV, M.G., kand.ekonom.nauk, red.; BANKVITSER, A.L., red. izd-va; BRUZGUL', V.V., tekhn.red.

[Chemical industry] Khimicheskaya promyshlennost'. Moskva, 1960.  
(MIRA 13:7)  
202 p.

1. Akademiya nauk SSSR. Sovet po izucheniyu proizvoditel'nykh sil. Sibirskoye otdeleniye. 2. Chleny-korrespondenty AN SSSR (for Veyts, Levitskiy, Nekrasov, Pustovalov, Khachaturov). 3. Vse-soyuznaya akademiya sel'skokhozyaystvennykh nauk imeni V.I.Lenina (for Rostovtsev). 4. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Popov). 5. Zamestitel' predsedatelya Gosplana RSFSR (for Grafov). 6. Chlen Gosplana RSFSR (for Gashev). 7. Zamestitel' predsedatelya Gosudarstvennogo komiteta Soveta Ministrov SSSR po khimii (for Uvarov).  
(Chemical industries)

UVAROV, G.V.

Chemicals and synthetic dyes for the industry. Kozh.-obuv.prom. 3  
no.11:14-17 N '61. (MIRA 15:1)

1. Zamestitel' predsedatelya Gosudarstvennogo komiteta po khimii  
Soveta Ministrov SSSR.  
(Chemistry, Technical) (Dyes and dyeing--Leather)

UVAROV, G.V.

We shall carry out the decisions of the historical 22d Congress of  
the CPSU. Zhur. VKhO 6 no.6:602-603 '61. (MIRA 14:12)  
(Chemical industries)

BUSHUYEV, Viktor Mikhaylovich; UVAROV, Georgiy Vasil'yevich; OSADA, P.A.,  
red.; GERASIMOVA, Ye.S., tekhn. red.

[Soviet chemical industry during the current seven-year plan]  
Sovetskaia khimicheskaiia promyshlennost' v tekushchem semiletii.  
Moskva, Izd-vo ekon. lit-ry, 1962. 197 p. (MIRA 15:4)  
(Chemical industries)

UVAROV, G.V.

Application of chemistry to agriculture and industry. Nauka i zhizn'  
29 no.3:4-7 Mr '62. (MIRA 15:7)

1. Zamestitel predsedatelya Gosudarstvennogo komiteta Soveta Ministrov  
SSR po khimii. (Agricultural chemistry) (Chemistry, Technical)

UVAROV, G.V.; SALAMATOV, I.I.

Increase in the variety of output and the improvement of the quality of construction materials should be the main objective of the chemical machinery manufacture. Zhur.  
VKHO 8 no.3:242-244 '63. (MIRA 16:8)



UVAROV, G.V.

Carrying out the decisions of the December Plenum of the Central  
Committee of the CPSU is a concern of all Soviet people. Zhur.  
VKHO 8 no.6:601-604 '63. (MIRA 17:2)

1. Zamestitel' predsedatelya Gosudarstvennogo komiteta khimicheskoy i neftyanoy promyshlennosti pri Gosplane SSSR.

UVAROV, G.V.

Ideas in the fields of engineering and chemistry and problems in the development of chemistry. Vest.AN SSSR 35 no.6:48-53 Je '65.  
(MIRA 18:8)

1. Zamestitel' predsedatelya Gosudarstvennogo komiteta khimicheskoy promyshlennosti pri Gosplane SSSR.

IA 242T34

UVAROV, I. B.

USSR/Electricity - Literature

Dec 52

"New Books on Electricity, Electrical Engineering,  
and Electric Power Engineering, Published in 1952"

"Elektrichestvo" No 12, p 89

Lists 17 titles published in 1952, including the  
following: "Electronic Semiconductors and Their  
Applications" (Elektronnyye poluprovodniki i ikh  
primeneniye"), 56 pp, by G. M. Abdullayev; and  
"Synchronization of Induction Motors by the DAG  
System" ("Sinkhronizatsiya asinkhronnykh dvigate-  
ley po skheme DAG"), 84 pp, a short manual by  
I. B. Uvarov and L. N. Afanas'yev.

242T34

UVAROV, I.B.; SHISHKIN, O.P.

Consumption of electric energy in turbine and rotary boring. Energ.biul. no.  
12:22-26 D '53. (MIRA 6:11)  
(Petroleum--Well boring)

82713  
S/188/60/000/03/03/008  
B019/B056

16.7300

AUTHORS:

Romanovskiy, Yu. M., Uvarov, I. I.

TITLE:

An Experimental Investigation of the Parametric Excitation of a String With Fluctuating Tensions

PERIODICAL:

Vestnik Moskovskogo universiteta. Seriya 3, fizika, astronomiya, 1960, No. 3, pp. 24 - 27

TEXT: An investigation of parametric stability in an oscillation system consisting of two strings with one bead in the middle is dealt with. The fluctuation parameters are given by the tensions of the strings. By means of the experimental arrangement schematically shown in Fig. 1, the excitation of the parametric oscillation of the strings by random signals was investigated. A noise was applied to the input of the generator of mechanical oscillations, which set a vibrator in motion. The string oscillations were measured by means of a transmitter. By variation of the noise at the generator input, the strings were excited to random vibrations. The condition (2) for the paramagnetic excitation of the oscillation system is given, and the important parts played here by the

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An Experimental Investigation of the Parametric Excitation of a String With Fluctuating Tensions S/188/60/000/03/03/008  
B019/B056

spectral density of the random processes in the parametric excitation of the system is pointed out. From the experiments described here it follows that even a high-quality oscillation system becomes unstable under certain conditions. This is in qualitative agreement with theory. The authors thank Professor S. P. Strelkov for his valuable advice and L. A. Shenyavskiy for his help in carrying out the experiments. There are 2 figures and 1 non-Soviet reference.

ASSOCIATION: Kafedra obshchey fiziki dlya mekhmata (Chair of the General Physics of Mechanical Mathematics) X

SUBMITTED: October 20, 1959

Card 2/2

KAMARDINKIN, N.P.; SHUVAYEV, A.S.; PALKIN, V.I.; NERKOVA, A.S.; TARABAN'KO,  
P.I.; KHOLMSKIY, R.V.; GNIPP, L.V.; DOBASHIN, G.S.; FLEPOVA, L.I.;  
MAKSIMOV, N.H.; RAFIYENKO, I.I.; PAL'MOV, I.I.; UVAROV, I.M.;  
DUBROVIN, P.Ye.; LIKHACHEVA, O.A.; UVAROVA, I.I.

Conference of the Teaching Staff and Students of the Moscow  
Geological Prospecting Institute. Izv. vys. ucheb. zav.; geol.  
i razv. 6 no.12:143-148 D '63 (NIRA 18:2)

KAMARDINKIN, N.F.; SHUVAYEV, A.S.; PALKIN, V.I.; NEMKOVA, A.G.; TARABAN'KO,  
P.I.; KHOLMSKIY, R.V.; GNIPP, L.V.; DOBASHIN, G.S.; FLEROVA, L.I.;  
MAKSIMOV, N.M.; RAFTYENKO, I.I.; PAL'MOV, I.I.; UVAROV, I.M.;  
DUBROVIN, P.Ye.; LIKHACHEVA, O.A.; UVAROVA, I.I.

Conference of the Teaching Staff and Students of the Moscow  
Geological Prospecting Institute. Izv. vys.ucheb.zav.; geol. i  
razv. 6 no.12:143-148 D '63. (MIRA 18:2)



TISHCHENKO, D.; UVAROV, I.

New type of terpene conversions. Part 16. Structure and certain conversions of camphene dichloride. *Zhur.ob.khim.* 23 no.8:1407-1414 Ag '53.

(MLRA 6:8)

1. Kafedra organicheskoy khimii Lesotekhnicheskoy akademii im. S.M.Kirova.  
(GA 47 no.22:12312 '53) (Camphene dichloride)

*Draft of I.P.*

UVAROV, I.P.

USSR/Chemical Technology - Chemical Products and Their I-9  
Application. Wood Chemistry Products. Hydrolysis Industry

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2659

Author : Uvarov, I.P., Gordon, L.V., Gusekov, V.N.

Inst :                     

Title : Wood-Tar Pitch as Binder in the Production of Wood-Coal  
Briquettes

Orig Pub : Gidroliznaya i lesokhim. prom-st', 1957, No 4, 10-11

Abstract : Description of experiments on making of briquettes from birch wood coal (moisture content 1%) and wood-tar pitch (softening point, Maken [transliterated] block method, 90°). Strength to crushing (in kg/cm<sup>2</sup>) of briquettes (unbaked) containing 10, 15, 20% pitch and produced with low pressure, is respectively, 4.4, 7.4, 17.3; that of baked briquettes is 16.3, 23.3, 26.8. With a press-working pressure of 65 kg/cm<sup>2</sup> the average strength of baked briquettes was of about 40 kg/cm<sup>2</sup>; increase in pressure

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USSR/Chemical Technology ... Chemical Products and Their Application. Wood Chemistry Products. Hydrolysis Industry I-9

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2659

to 150 kg/cm<sup>2</sup> increases the strength to 100 kg/cm<sup>2</sup>.  
Strength of unbaked briquettes could be increased to 50-80 kg/cm<sup>2</sup>, by raising the pressure. Strength of briquettes on attrition is low.

Card 2/2

GORDON, L.V.; UVAROV, I.P.

Removal of phenols from industrial waste waters. *Gidroliz. i  
lesekhiy.prom.* 10 no.1:16 '57. (MLRA 10:4)

1. TSentral'nyy nauchno-issledovatel'skiy institut lesnogo kho-  
zyaystva.

(Water--Purification) (Phenols)

UVAROV, I. P.

Possibility of synthesizing thermosetting resins based on phenols  
obtained from tars produced in the thermolysis of wood. Sbor. trud.  
TSNIIKHI no.12:39-55 '57. (MIRA 13:10)  
(Phenol condensation products) (Wood--Chemistry)

Uvarov, I.

Distr: 4E20(1)

15

V Synthesis of tanning agents from sulphonated novolaks. I. Tishchenko and I. Uvarov (*Zh. Prikl. Khim.*, 1957, 30, 104-114).  
 Synthesis of novolaks of determined structure and mol. wt. is achieved by introduction of acid groups. The method is a development on that used in former experiments by Kochner (*Angew. Chem.*, 1953, 66, 118, 281). To aq suspensions of 2 g mol of either phenol or phenol mixtures (having not less than two free positions) are added acid catalysts and then aq solutions or suspensions of single or mixed dimethylolphenols there being always an excess of phenols in the reaction mixture. Three-ringed novolaks were synthesized from dimethylolpropanes with phenol, cresol, guaiacol and catechol. 4-, 5-, 6- and 7-ringed novolaks were also obtained. Condensation of phenols with dimethylolphenols led to thermal separation of three-ringed novolaks with dimethylolpropanemethane at 50-60° to four-ringed, and with oxydiphenylmethane and dimethylolphenol at 80-100° to five-ringed novolaks. Seven-ringed products were obtained by condensation of three-ringed with dimethylolphenol at 110-115°. Condensation of linear multi-ringed novolaks with dimethylolphenols into trimeric structures commences at 125-130°. Model syntans were prepared by introduction of one acid group into the novolaks. Strong H<sub>2</sub>SO<sub>4</sub> is added to cold novolak solutions in AcOH, then an equal vol. of water is added, the water and AcOH are separated in vac. and the residue diluted with an equal vol. of water and pptd. The introduction of one sulpho-group was achieved. Water-sol. phenols were transformed into water-sol. deriv. by heating with solutions containing Na<sub>2</sub>SO<sub>3</sub> and formaldehyde. Novolaks thus converted into synthetic tanning agents exhibited a lowered pH. Phenols derived from wood were also used satisfactorily for the prep. of high-quality syntans.  
 A. I. B.

2  
x Me.

Forestry Acid Leningrad

gaj 11

UVAROV, I.P.

Directed synthesis of phenol-formaldehyde resins. Giroliz. i  
lesokhim. prom. 11 no.5:5-7 '58. (MIRA 11:9)

1. Tsentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut.  
(Resins, Synthetic)



GORDON, L.V.; UVAROV, I.P.; KATUNIN, V.Kh.; SHUTOV, A.F.; KAMINER, B.B.;  
FOMENKO, L.A.

Distillation and coking of wood tars with a solid heat  
carrier. *Gidroliz.i lesokhim.prom.* 13 no.3:3-4 '60.  
(MIRA 13:7)

1. Tsentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy  
institut (for Katunin). 2. Gosudarstvennyy nauchno-tekhnicheskiy  
komitet Soveta ministrov RSFSR (for Shutov). 3. Vsesoyuznyy  
nauchno-issledovatel'skiy institut po pererabotke nefi i gaza  
(for Fomenko).  
(Wood tar) (Distillation)

UVAROV, I.P.; GUSAKOV, V.N.

PFLKh-1 viscosity reducer. Gidroliz. i lesokhim.prom. 13 no.7:7-9  
'60. (MIRA 13:10)

1. Tsentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut.  
(Wood---Chemistry) (Viscosity)

BEZMOZGIN, E.S.; UVAROV, L.P.; KIPRIANOV, A.I.; NEMCHENKO, A.G.; YUDKEVICH,  
Yu.D.

Vapor phase thermal demethylation of wood-tar oils in a contact  
pyrolysis reactor. Trudy VNIIT no.10:59-63 '61. (MIRA 15:3)  
(Wood tar)(Methyl group)(Pyrolysis)

UVAROV, I.P.

Saponification of vovolaks obtained from methoxyphenols of wood  
chemical origin. Sbor.trud.TSNILKHI no.14:32-35 '61.

(MIRA 16:4)

(Phenol condensation products) (Saponification)

S/081/62/000/019/032/053  
B101/B180

AUTHOR: Uvarov, I. I.

TITLE: Condensation of complete methyl ethers of phenols with formaldehyde

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 19, 1962, 511, abstract 1961 (Sb. tr. Tsentr. n.-i. i proyekt. in-t lesokhim. prom-sti, no. 14, 1961, 35 - 38).

TEXT: The condensation reactions of complete methyl ethers of pyrocatechol and resorcinol with formaldehyde (I) in acid medium were studied to determine the possibilities of condensing complete methyl ethers with I to form high-molecular condensates. If the reaction is conducted with an excess of I, up to 100°C a linear polymer will be formed; at 150°C, it becomes a three-dimensional one. An infusible resin was obtained by condensing the resorcinol dimethyl ether with dimethylol-p-cresol at a molar ratio of 1:1 and at 150°C, using phosphoric acid as catalyst. A novolac resin, which did not go over into the infusible state, was obtained by condensing veratrole with dimethylol-p-cresol at a molar

Card 1/2

Condensation of complete methyl ...

S/081/62/000/019/032/053  
B101/B180

ratio of 1:1 and at 150°C with phosphoric acid. The resin darkens on further heating to 160°C. [Distractor's note: Complete translation.]

Card 2/2

UVAROV, I.P.; GORDON, L.V.

Vapor phase pyrolysis of phenols and oils. *Gidroliz. i lesokhim.*  
prom. 14 no. 1:12-14 '61. (MIRA 14:1)

1. Tsentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy  
institut.

(Phenols) (Oils and fats)

UVAROV, I.P.; PARSHUTKIN, Yu.A.; BALASHOV, N.N.; DOGDANOV, G.A.; BEZMOZGIN, E.S.;  
NEMCHENKO, A.G.; YUDKEVICH, Yu.D.; KIPRIANOV, A.I.

Vapor-phase pyrolysis of wood-tar oils. Gidroliz. i lesokhim.  
prom. 14 no.8:5-6 '61. (MIRA 16:11)

1. Tsentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut  
(for Uvarov, Parshutkin, Balashov, Bogdanov).
2. Vsesoyuznyy  
nauchno-issledovatel'skiy institut po pererabotke i ispol'-  
zovaniyu topliva (for Bezmozgin, Nemchenko, Yudkevich).
3. Leningradskaya lesotekhnicheskaya akademiya im. S.M. Kirova  
(for Kiprianov).



UVAROV, Ivan Petrovich; GORDON, Lev Vladimirovich; KOPYLOV, V.I.,  
red.; YEPISHKINA, A.V., red.izd-va; GRECHISHCHEVA, G.L.,  
tekhn. red.

[Wood tar; synthetic products based on wood chemical phenols]  
Drevesnye smoly; sinteticheskie produkty na osnove lesokhimi-  
cheskikh fenolov. Moskva, Goslesbumizdat, 1962. 84 p.  
(MIRA 16:5)

(Wood tar) (Phenol condensations products)

И 63862-65 EWT(m)/EPF(c)/EWP(v)/ENP(j)/T WW/WM

ACCESSION NR: AP5020385

UR/0328/65/000/005/0007/0007  
634.0.85:547.562:674.815-4228

AUTHORS: Vinogradov, L. N.; Ul'zutuyeva, Ye. G.; Gol'dshmidt, Yu. N.; Uvarov, <sup>15</sup><sub>25</sub>

I. P. <sup>44</sup>

TITLE: Phenols derived from wood processing as raw materials for binders for wood chip panels <sup>15</sup>

SOURCE: Gidroliznaya i lesokhimicheskaya promyshlennost', no. 5, 1965, 7

TOPIC TAGS: wood chemical product, phenol, pyrolysis, resin, <sup>44</sup>structure panel

ABSTRACT: Vapor-phase pyrolysis of phenolic components of resins obtained from thermolysis of wood pulp is recommended as a process for the preparation of free phenols used as a basis for wood chip binders. The resins were subjected to a combination of distillation and vapor-phase pyrolysis, using the following mixture of products: phenols 89.2, neutral materials 5.2, acids 1.8, water 3.8%. The binders were prepared by mixing this material (100 parts) with 34% formaldehyde (80-100 parts), and 50% KOH or NaOH (4-12 parts) at 40-50C for 1-2 hours, until the viscosity of 50-60<sup>0</sup> (according to FE-36) was reached. The density of the product was 1.12-1.14, and its polymerization rate at 150C was 50-70 sec. The dried and sieved shavings from wood processing plants were mixed with phenolic  
Card 1/2

L. 63862-65

ACCESSION NR: AP5020385

binders. They were then shaped and pressed into panels 10, 15, and 30 mm thick, by the process developed at the wood chip division of the Pyatigorskiy zavod zhelezobetonnykh izdeliy i konstruksii tresta "Kavminpromstroy" (Pyatigorskiy Plant for Reinforced Concrete). The bending strength of panels made with phenolic binders was 146 kg/cm<sup>2</sup> as compared with 88 kg/cm<sup>2</sup> shown by panels made with urea-formaldehyde resins. No special plant equipment was necessary in changing to the new type of binding compound. The wood chip panels so produced have no specific odor and are stronger and more water resistant. Orig. art. has: 1 table.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: MT, GC

NO REF SOV: 000

OTHER: 000

*File*  
Card 2/2

SOLOV'YEVVA, Z.A.; UVAROV, L.A.; VAGRAMYAN, A.T.

Rate of exchange between cobalt and its ions in solution. Zhur.  
neorg.khim. 5 no.6:1185-1188 Je '60. (MI. 13:7)  
(Cobalt)  
(Reduction, Electrolytic)  
(Ion exchange)

S/076/61/035/007/001/019  
B127/B208

AUTHORS: Kuznetsova V. N., Popkov A. P., Uvarov L. A., Vagramyan A. T.

TITLE: Polarization during electrodeposition of iron group metals.  
I. Steady-state potential and overvoltage of iron deposition

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 7, 1961, 1406 - 1410

TEXT: The authors studied deposition and dissolution of iron in 1 N FeSO<sub>4</sub> solution at 25°C. The electrodeposited iron was found to dissolve in these solutions in the absence of polarizing current, particularly in a more acid solution. In this case (pH 1.5-2.5) the rate  $i_c$  of the spontaneous dissolution rapidly decreases with increasing pH ( $i_c = 0.4\text{ma/cm}^2$  at pH 1.5). On further change of the pH from 2.5 to 3.5 the rate of spontaneous dissolution is reduced more slowly ( $i_c = 0.065\text{ma/cm}^2$  at pH = 3). The following reactions take place at the electrode surface:  $\text{H}^+ + e \rightarrow \frac{1}{2} \text{H}_2$ ,  $\frac{1}{2} \text{H}_2 \rightarrow \text{H}^+ + e$ ,  $\text{Fe}^{2+} + 2e \rightarrow \text{Fe}$ ,  $\text{Fe} \rightarrow \text{Fe}^{2+} + 2e$ . The reaction rates are denoted by  $F_1, F_2, F_3$ ,  
Card 1/3

S/076/61/035/007/001/019  
B127/B208

Polarization during ...

$F_4$ . The equation for the steady state is then:  $F_1 + F_3 = F_2 + F_4$ . The potential of the Fe electrode being more negative than that of hydrogen, the ionization rate  $F_2$  of  $H_2$  may be neglected. Assuming that the discharge rate  $F_3$  of the Fe ions be much less than that of the  $H^+$ ,  $F_1$ , one may write  $F_1 = F_4$ , i.e., the charge of the electrode is compensated by the discharge of the  $H^+$  ions. The change of dissolution in the presence of 1N  $Al_2(SO_4)_3$  was also studied. At pH = 1.5-3.5 the rate of dissolution increases in this case. (pH = 1.5,  $i_c = 0.52 \text{ ma/cm}^2$ , pH = 3,  $i_c = 0.31 \text{ ma/cm}^2$ ). This is due to  $SO_4^{--}$  absorption on the electrode which accelerates the ionization of the metal atoms. In the presence of aluminum sulfate the polarization of the anode is decreased by 35mv. With rising temperature of the electrolyte the rate of spontaneous dissolution increases, particularly in the presence of aluminum sulfate. At a temperature rise from 25 to 60°C at pH = 1.5 the rate increases to the 7.5-fold, in the presence of aluminum sulfate to the 22-fold. At low pH the steady-state potential changes quickly with a

Card 2/3

Polarization during ...

S/O76/61/035/007/001/019  
B127/B208

change in pH, at a higher pH this change is less significant. At low pH the dependence may be expressed by the following formula:

$$\varphi_{st} = A + \frac{RT}{(\alpha + \beta) F} \ln [H^+]$$

At higher pH the potential is shifted more to the negative side. In an oxygen-free inert atmosphere the deviation of the steady-state potential from the rule, expressed by the formula, decreases. At higher pH the steady-state potential is shifted toward the positive side under the influence of aluminum sulfate. The potential of the Fe electrode is irreversible in sulfuric acid solution and is determined by a number of processes. It is therefore impossible to determine the overvoltage by the steady-state potential. The deposition potential was determined relative to a saturated calomel electrode. With increasing pH the deposition potential of Fe is shifted toward the negative side. At a given current density and increasing pH the overvoltage of the deposition has more positive values, except in very acid solutions. The determination of overvoltage by the steady-state potential thus seems to be incorrect and gives contradictory results. There are 5 figures and 6 Soviet references.

Card 3/3

S/076/61/035/007/002/019  
B127/B208

AUTHORS: Vagramyan, A. T., Kuznetsova, V. N., Popkov, A. P., Savostin, V. A., Uvarov, L. A.

TITLE: Polarization during electrodeposition of iron group metals  
II. Electrodeposition of iron

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 7, 1961, 1411 - 1415

TEXT: The authors investigated the electrolytic deposition of iron from solutions of 1 N  $\text{FeSO}_4$ , and 1 N  $\text{FeSO}_4$  + 1 N  $\text{Al}_2(\text{SO}_4)_3$  at a current density of 20 ma/cm<sup>2</sup>. The yield of metal relative to the current changes only little with a change in current density, and increases rapidly with increasing pH in the range 1.5-2.5. By changing the pH by one unit the yield increases from 20 to 90%. At a further pH increase the yield increases but slightly. On aluminum sulfate addition the yield is only 45% at the optimum pH. All curves showing the dependence of the potential of the iron electrode on the pH pass a maximum at pH 2.0-2.2. The maximum of the polarization curves is 60 - 65% of the maximum metal yield. At low pH the current is consumed for hydrogen reduction and liberation. In the descending branch of the curve  
Card 1/3



S/076/61/035/007/002/019  
B127/B208

Polarization during ....

the current is consumed for the metal deposition. The discharge of hydrogen ions is promoted in that part of the curve which corresponds to hydrogen liberation, the reduction of the metal ions in that part of the curve which corresponds to metal deposition. The curves are exactly explained in the papers by A. N. Frumkin, Zh. fiz. khimii, 31, 1875, 1957, Z. Phys. Chim., 207, 321, 1957, and I. A. Bagotskaya, Dokl. AN SSSR, 107, 343, 1956. 110, 397, 1956. Apparently hydrogen deposition is facilitated on an electrode coated by hydrogen. This is confirmed by the paper by M. Smyalovskiy saying that there is a relationship between the hydrogen overvoltage and the tendency of the cathode metal toward supersaturation with hydrogen. The following reactions are assumed to take place at the hydrogen-coated electrode:  $H_3O^+ + H_{ads} + e \rightarrow H_2 + H_2O$  and  $H_3O^+ + e \rightarrow H_{ads} + H_2O$ .

The rate of the first is higher than that of the latter. The increased metal reduction with decreased rate of hydrogen deposition is probably due to the fact that the metal deposition at a surface saturated with hydrogen is far more difficult than at a hydrogen-free electrode surface. pH 3.0-3.5 is most suitable for the metal deposition. The retardation of the metal ion reduction is probably related to an adsorption of foreign particles, hydroxides and others, which are deposited on the surface of the

Card 2/3

Polarization during ...

S/076/61/035/007/002/019  
B127/B208

iron electrode after breaking the contact, and passivate the electrode. A potential jump is observed at the moment of connection. By adding aluminum, polarization of the cathode increases only at pH 2-2.5. Aluminum sulfate inhibits the deposition of the metal, but does not affect H<sub>2</sub> deposition.

There are 6 figures and 5 references: 4 Soviet-bloc and 1 non-Soviet-bloc. The most important references to English-language publications read as follows: Foerster F., J. Electrochem., 22, 85, 1916.- Glasstone S. J. Chem. Soc., 2, 2887, 1926. (given as 1 reference).

ASSOCIATION: Akademiya nauk SSSR Institut fizicheskoy khimii (AS USSR Physico-chemical Institute)

SUBMITTED: August 18, 1958

Card 3/3

40727

S/062/62/000/009/001/009  
B101/B186

5 4700

AUTHORS: Vagramyan, A. T., and Uvarov, L. A.

TITLE: Determination of the reversible potential of a nickel electrode at high temperatures

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 9, 1962, 1520-1524

TEXT: The potential in the system Ni - Ni<sup>2+</sup> was measured within the range 18 - 250°C. Its temperature dependence was compared with the values related to a sulfate-mercury standard electrode as calculated from the equation:  $\varphi = \varphi_0 + (RT/nF)\ln a + k_1(T - T_0) + k_2(T - T_0)^2$ , where  $k_1$  and  $k_2$  are respectively the temperature coefficients at  $T_0 = 298^\circ\text{K}$  of the investigated and of the standard electrodes, respectively. Results: With increasing temperature, the potential of the nickel electrode becomes more and more negative; it reaches a maximum at 180 - 200°C and then gradually becomes more positive again. At low temperatures the values  
Card 1/3

Determination of the reversible ...

S/062/62/000/009/001/009  
B101/B186

determined are widely scattered and not reproducible, but above  $\sim 120^{\circ}\text{C}$  reproducible values are obtained and above  $200^{\circ}\text{C}$  the potential agrees with the calculated value to an accuracy of  $\sim 0.02$  v. It is concluded that above  $200^{\circ}\text{C}$  there is no adsorption of impurities and no irreversible adsorption of hydrogen and that owing to the absence of adsorption the deposit is free of internal stress. Therefore nickel at high temperatures behaves like a reversible electrode. This is also confirmed by the absence of polarization at high temperatures. The temperature coefficient of the potential agreed with the data by A. J. de Bethune, T. S. Licht and N. Swendeman (J. Electrochem. Soc., 106, 616 (1959)). From this, the standard potential of the nickel electrode at  $25^{\circ}\text{C}$  was calculated as being  $-0.270 \pm 0.005$  v in relation to a standard hydrogen electrode, which deviates by  $0.015 - 0.025$  v from the value calculated on the basis of the thermodynamic data. There are 4 figures.

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk SSSR  
(Institute of Physical Chemistry of the Academy of Sciences  
USSR)

Card 2/3

Determination of the reversible ...

S/062/62/000/009/001/009  
B101/B186

SUBMITTED: March 3, 1962

Card 3/3

UVAROV, L.A.

Galvanostatic method of determining diffusion coefficients.  
Zhur.fiz.khim. 36 no.5:981-985 My '62. (MIRA 15:8)

1. Institut fizicheskoy khimii, AN SSSR.  
(Diffusion) (Electrochemistry)

S/020/62/146/003/015/019  
B101/B144AUTHORS: Vagramyan, A. T., Uvarov, L. A.

TITLE: Mechanism of electrodeposition of nickel from sulfate solutions

PERIODICAL: Akademiya nauk SSSR.. Doklady, v. 146, no. 3, 1962, 635-637

TEXT: The effect of passivation on the electrodeposition of nickel was studied by a method already described (Izv. AN SSSR, OKhN, 1962, no. 9). Results: The overvoltage of nickel referred to a steady potential at low temperature is much greater than when referred to an equilibrium potential. Above 180°C this difference disappears as the electrode becomes reversible. Between 20 and 120°C, the temperature coefficient of overvoltage is 2 mv/deg, whereas above 150°C it becomes zero. At low temperature, the overvoltage-versus-current density function shows two sections: first, the overvoltage increases rapidly with increasing current density and H<sub>2</sub> is liberated; then the increase becomes flatter, the current yield for Ni being 60-80%. Above 150°C the current yield is 100%. If the polarization curves are plotted slowly, no dependence of polarization

Card 1/3

S/O20/62/146/003/015/019  
B101/B144

Mechanism of electrodeposition ...

on current density is observed at high temperatures. Ni deposition at high temperatures does not cover the entire electrode surface but occurs only in spots; hence the overvoltage as measured refers to much higher current densities than those calculated from the electrode area. Conclusions: The slight dependence of polarization on current density at high temperatures is due to the area of deposition becoming larger as current density increases, and in fact the current density remains nearly unchanged. The deposition area adapts itself to the polarization current just as is the case with metals deposited at low overvoltage. When the polarization curve is plotted quickly, this self-adaptation is not given time to occur. There is no essential difference in the mechanism of metal deposition as between high and low overvoltages. The transition from coarse-crystalline deposits at high temperature to fine-crystalline at low temperature is due to the quicker passivation in the latter, which also results in higher overvoltage. At high temperature, a diffusion zone impoverished in nickel appears near the growing deposit of nickel. The concentration overvoltage of Ni at 180°C is calculated from the thickness of the diffusion layer: it is about 15 mv at a current density of 10 ma/cm<sup>2</sup>. There are 2 figures.

Card 2/3



Mechanism of electrodeposition ...

S/020/62/146/003/015/019  
B101/B144

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk SSSR (Institute  
of Physical Chemistry of the Academy of Sciences USSR)

PRESENTED: May 18, 1962, by V. I. Spitsyn, Academician

SUBMITTED: May 10, 1962

Card 3/3

VAGRAMYAN, A.T.; ZHAMAGORTSYAN, M.A.; UVAROV, L.A.

Effect of temperature on the kinetics of nickel ion discharge.  
Izv. AN SSSR. Ser. khim. no. 2: 301-304 F '64. (MIRA 17:3)

1. Institut fizicheskoy khimii AN SSSR.

UVAROV, L. A.; ZAMAGORTSYANTS, M. A.; VAGRAMYAN, A. T.      MOSCOW

"Die elektrolytische Abscheidung von Nickel aus waßrigen Lösungen bei Temperaturen über 100° C."

paper submitted for 2nd Intl Symp on Hyperpure Materials in Science and Technology, Dresden, GDR, 28 Sep-2 Oct 65.

Institut für physikalische Chemie der Akademie der Wissenschaften der UdSSR, Moscow.

ZHAKHAROV, M.A.; LEVYANOV, L.A.; KRYZHAN, V.I.

Reversibility of a cobalt electrode at high temperatures. Dokl.  
Akad. Nauk SSSR 20:22-23, 1965. (MIRA 12:5)

1. Institut fizicheskoy khimii AN SSSR.

VAGRAMYAN, A.T.; ZHAMAGORTSYAN, M.A.; UVAROV, L.A.

Effect of temperature on the kinetics of cobalt ion reduction. Elektro-  
khimiia 1 no.6:633-639 Je '65. (MIRA 18:7)

1. Institut fizicheskoy khimii AN SSSR.

L 23890-66 EWT(m)/ETC(f)/ENG(m)/I/ENP(t) IJP(c) DS/JD/HW/NB/JAJ

ACC NR: AP6008618

SOURCE CODE: UR/0365/65/001/006/0636/0642

AUTHORS: Savchenkov, G. P.; Uvarov, L. A.

ORG: Institute for Physical Chemistry, Academy of Sciences, SSSR (Institut fizicheskoy khimii Akademiyaya nauk SSSR)

TITLE: Study of the anodic behavior of the iron group metals over a wide range of temperatures. I. Temperature influence on the critical current in the passivation of nickel

SOURCE: Zashchita metallov, v. 1, no. 6, 1965, 636-642

TOPIC TAGS: nickel, iron, electrochemistry, electrode, teflon, mercury, mercury compound, temperature dependence

ABSTRACT: This investigation was conducted to determine the effect of temperature on the rate of anodic dissolution of nickel. The experiments were carried out with a 1N solution of NiSO<sub>4</sub> at pH = 1.5. The nickel electrode consisted of a nickel wire embedded in teflon. The electrode potential was measured relative to a 1N mercury-mercury sulfate electrode. The critical current-inducing passivity was determined over a temperature interval of 25 to 160C. The experimental results are presented in graphs and tables (see Fig. 1). They agree well with the theory of T. Ishikawa and G. Okamoto (Electrochimica Acta, 1964, 9, 1259) and can be represented by the

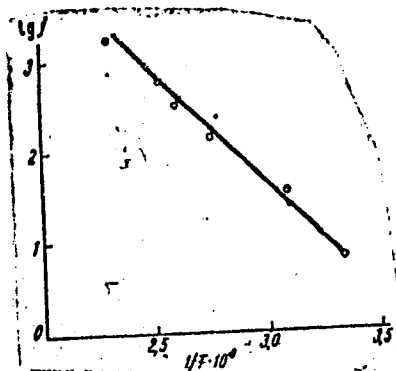
UDC: 541.138.2

Card 1/2

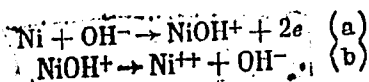
L 23890-66

ACC NR: AP6008618

Fig. 1. Dependence of the critical current and passivation of nickel on the temperature in 1N NiSO<sub>4</sub> at 1.5 pH.



two-stage process:



It was found that the energy of activation for anodic nickel dissolution was 10.5 kcal/mole. It is suggested that, at high temperatures, the passivation process depends on the diffusion rate of nickel ions into the solution. The authors thank Professor G. Okamoto of Hokkaido University for his interest in the present work and Professor W. Lorenz of Leipzig University for valuable advice. Thanks are also given to A. T. Vagramyan for his help in evaluating the experimental results. Orig. art. has: 1 table and 3 graphs.

SUB CODE: 07/ SUBM DATE: 06Mar65/ ORIG REF: 007/ OTH REF: 017  
Card 2/2 dca

UVAROV, L.I.

11-58-3-11/14

**AUTHOR:** Uvarov, L.I.

**TITLE:** Remarks on an Article by M.N. Saidov "The Meso-Cenozoic Continental Deposits of the Dzhungary Depression (Basic Traits of Stratigraphy)" ( Po povodu stat'i M.N. Saidova "Mezokainozoiyskiye kontinental'nyye otlozheniya Dzhungarskoy vpadiyny (Osnovnyye cherty stratigrafii)"

**PERIODICAL:** Izvestiya Akademii Nauk SSSR, Seriya Geolohicheskaya, 1958, # 3, pp 113-114 (USSR)

**ABSTRACT:** This is a sharp criticism of the article published by M.N. Saidov, in the October 1956 issue of Izvestiya, AN SSSR, Seriya Geologicheskaya. The author of this article accuses Saidov of making statements which do not correspond to the truth.

**AVAILABLE:** Library of Congress  
Card 1/1



UVAROV, L.I.

Effect of recent tectonic movements on the hydrography in  
Dzungaria. Geol.sbor. [Lvov] no.7/8:349-353 '61. (MIRA 14:12)

1. Institut Vostokgiprogaz, Saratov.  
(Dzungaria—Geology, Structural)

ACC NR: AN6034953 (A,N) SOURCE CODE: UR/9008/66/000/268/0002/0002

AUTHOR: Uvarov, M. (Lieutenant general of artillery; Commander of air defense rocket forces)

ORG: none

TITLE: Rocket defense of aerial frontiers

SOURCE: Krasnaya zvezda, no. 268, 18 Nov 66, p. 2, cols 1-4

TOPIC TAGS: antiaircraft missile, missile complex, missile training

ABSTRACT: The commander of air-defense missile forces states in this article that during training involving Soviet antiaircraft and missile forces the greater part of the firing is carried out under difficult aerial and radiation conditions. Antiaircraft-missile forces have successfully mastered firing on targets flying at all altitudes and under various jamming conditions. An antiaircraft complex has been established which can detect and destroy aerial targets at any altitude, during the day or night, and in any weather.

SUB CODE: 15, 17 / SUBM DATE: none

Card 1/1

ACC NR: AP6036096

SOURCE CODE: UR/0256/66/000/011/0008/0010

AUTHOR: Uvarov, M. A. (Lieutenant general of artillery)

GRG: none

TITLE: To new levels of combat mastery [Antiaircraft artillery training]

SOURCE: Vestnik protivovozdushnoy oborony, no. 11, 1966, 8-10

TOPIC TAGS: antiaircraft defense, military training, combat training, air defense system

ABSTRACT: In this article a Lieutenant General of artillery states that target practice has shown that an antiaircraft complex is capable of destroying high-speed, small-sized targets at high and low altitudes, even under adverse conditions. He also states that during training exercises it is necessary to use different types of interference simulators and to structure a complex air situation.

SUB CODE: 15/ SUBM DATE: none/

Card 1/1

UDC: none

May 49

USSR/Medicine - Academy of Medical Sciences  
Medicine - Social and Communal Hygiene

"Joint All-Union Conference at the Institute of Social and Communal Hygiene, Academy of Medical Sciences USSR," M. M. Uvarov, 2 1/2 pp

"Gig i San" No 5

Outlines activities of the conference held 1-5 Feb 49, attended by representative groups from hygienic institutions, public health institutions, scientific schools working in related fields, and various planning organizations of USSR, RSFSR, Ukrainian SSR, Belorussian SSR, Moscow Oblast, and Moscow. Activities of the conference were in three categories: activities in

56/49748

USSR/Medicine - Academy of Medical Sciences May 49  
(Contd)

General and communal hygiene in 1948 and plans for 1949, hygiene and designs for populated areas, and purification of the air. Mentions numerous reports submitted.

56/49748

UVAROV, M. M.

UVAROV, M.M., kand.med.nauk

Discussion on the problem of improving environmental health. Gig. i  
san. 22 no.6:62-66 Je '57. (MIRA 10:10)

2. V Komitete gigiyeny Uchenogo soveta Ministerstva zdravookhraneniya  
SSSR.

(HYGIENE,  
in Russian (Rus))

UVAROV, M. M., GOROKHOV, K. S., PERSHIN, A. A.

"Postwar Residential Construction and Hygienic Standards in the  
Field of Standard Planning of Dwellings."

report submitted at the 13th All-Union Congress of Hygienists, Epidemiologists  
and Infectionists, 1959.

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and Infectionists, 1961.

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U. VAROV, MIN

Subject : USSR/Hydr. Eng. AID P - 3952  
Card 1/1 Pub. 35 - 16/19  
Authors : Bogdanov, V. Ya., N. I. Burenkova, and M. N. Uvarov, Engs.  
Title : Improving the performance of dredges by preliminary mellowing of soil.  
Periodical : Gidr. stroi., 7, 43, 1955  
Abstract : The article reports on satisfactory results achieved at the Kuybyshev Hydro Power construction project by loosening soil before starting dredge operations. A special plowshare is fastened on the cutter and used for this work. The authors claim that the hydraulic fill mass obtained has a 1:3 ratio.  
Institution : None  
Submitted : No date

UVAROV, M.F. inzhener.

Floating machinery repair shop. Mekh.stroi. 14 no.3:30 Mr '57.  
(MIRA 10:4)

(Hydraulic machinery--Maintenance and repair)

UVA, V. N.

Chain-drivers saws with internal-combustion engines. Tr. from the Russian. p. 172. *TEKHNIKA PRAMA.* (State nakladatelstvo Technike' literatury) Vol. 6, no. 3, Mar. 1954.

SOURCE: East European Accessions List, Vol. 5, no. 9, September 1956

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Use of control devices for receiving bank deposits. Den. i kred.  
18 no.3:60-61 Mr '60. (MIRA 13:2)  
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2. USSR (600)
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7. Increasing butterfat content of milk by using warm compresses on the cows' udders. Sov. zootekh. 8, No. 1, 1953.

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69031

S/120/60/000/01/019/051

9.4160

AUTHORS: Gorbachev, V.M., Usenko, L.D. and <sup>E192/E382</sup>Uvarov, N.A.

TITLE: Measurement of the Transit Time of the Electrons in Photomultipliers 25

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, Nr 1, pp 69 - 73 (USSR)

ABSTRACT: The transit time of the electrons in photomultipliers of several types was measured by the "electron-current control" method which was devised by the authors and the results were compared with the measurements obtained by the spark method (Ref 2). The current-control method permits application of a fixed light source and is based on the following principle. When the cathode of the multiplier is illuminated, a current is produced in the tube. However, if a sufficient negative voltage is applied to the diaphragm of the system the electrons can be "held" between the cathode and the diaphragm so that the tube produces no current. If a positive pulse is then applied to the diaphragm, the normal operating voltage between the electrodes of the system is restored

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and an output pulse is obtained. The time interval from the instant of the application of the control pulse to the diaphragm to the instant of the appearance of the output pulse permits the determination of the transit time  $t_d$

of the electrons. The measurement circuit based on the above principle is shown in Figure 3. The light source is situated in the vicinity of the photo cathode. Normally, the diaphragm is at a negative potential of about 100 V with respect to the cathode. The thyatron (the second tube in Figure 3) is triggered by a pulse generator and produces a pulse which is applied to the diaphragm. Simultaneously, a pulse is applied directly to the plates of a double-beam oscilloscope. The pulse from the collector of the photomultiplier is amplified and is registered by the second beam of the oscillograph. The amplifier employed in the measurements had a rise time of  $3 \times 10^{-8}$  sec and an output amplitude of 60 V. The rise time of the pulse applied to the diaphragm of the tube under test was

Card2/5  $(5-10) \times 10^{-9}$  sec. The amplitude of the control pulse was 4

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variable. The measurement of the  $t_{\phi}$  by the spark method was carried out by the circuit shown in Figure 4. A spark gap discharging the capacitor C (see Figure 4) was used as the light source. The electrical pulse produced by the condenser discharge was used as the trigger pulse of the oscillograph and was also applied to the deflection plates of the oscillograph through a delay line. The light produced by the spark resulted in an output pulse at the collector of the multiplier and this was applied to the second pair of the deflection plates. The transit time  $t_{\phi}$  as a function of the supply voltage was investigated for the photomultipliers with various dynode systems.

The following photomultipliers were used:

- 1) FEU-1V with a circular dynode system;
- 2) FEU-12 with "shutter"-type dynode system;
- 3) FEU-19M with a linear dynode system;
- 4) FEU-33 with a linear dynode system and auxiliary electrodes.

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Measurement of the Transit Time of the Electrons in Photomultipliers

In each case the transit time was measured by both the above methods. The results obtained by those methods are in close agreement, as can be seen from Figure 7, which gives the transit time as a function of the supply voltage. The transit times of all the four photomultipliers are compared in this figure. The overall error of the measurements does not exceed  $(4-5) \times 10^{-9}$  sec. It was found that the transit time as the function of the operating voltage could be expressed by:

$$t_{\Phi}^{-1} = (a \sqrt{V} + b) 10^6 \text{ sec}^{-1} \tag{2}$$

where  $V$  is the operating voltage and  $a$  and  $b$  are the constant coefficients. The validity of this formula is corroborated by the straight line of Figure 8, where  $1/t_{\Phi}$  is plotted as a function of  $\sqrt{V}$ . The authors express their gratitude to Yu.S. Zamyatin for his constant interest in this work, Yu.A. Barashkov for participating in the

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initial stages of the investigation and V.N. Malyshkin  
and V.A. Skachkov for their help in the measurements.

There are 8 figures, 1 table and 9 references, 2 of  
which are English and 7 Soviet.

SUBMITTED: November 26, 1958

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E192/E382

AUTHORS: Gorbachev, V.M., Uvarov, N.A. and Usenko, L.D.  
TITLE: Raster Time Base Without Dead Time  
PERIODICAL: Pribory i tekhnika eksperimenta, 1961, No. 3,  
pp. 93 - 95

TEXT: Physical processes of comparatively long duration can be observed by means of a cathode-ray tube provided with a scanning (or raster) time-base system which deflects the ray both vertically and horizontally. In general, the horizontal or line deflection system is based on a symmetrical triangular waveform generator. This system suffers from the disadvantage that the end of the forward line and the start of the return line tend to overlap, so a portion of the line is lost. On the other hand, if the return line is suppressed, the system possesses a dead time during which the signal cannot be observed. A time-base system free from the above disadvantages was therefore devised. This is based on a double-beam cathode-ray tube (Ref. 1 - the authors - Authors Certificate No.127324, 4.1.1960). Continuous observation of the signal in the system  
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Raster Time Base Without Dead Time E192/E382

is ensured by applying the investigated signal successively to one or the other beam of the tube. The investigated signal is applied to both the deflection plates simultaneously but one of the beams is suppressed while the other is operative. A detailed description of the time-base system is given. The driver for the line time-base is in the form of a symmetrical multivibrator operating at a frequency of 1 Mc/s. This is followed by forming or shaping stages, which produce sawtooth pulses having a good linearity over their operating range. These pulses are amplified to about 400 V and are then applied to the horizontal deflection plates of a two-beam cathode-ray tube (type 18L047 (18L047)). During their flyback, each of the rays is suppressed while in the forward direction they form a linear scanning system where the length of a line is equal to the oscillation period of the multivibrator. The frame-scanning deflection is produced by a triggered linear voltage oscillator and the flyback suppression is effected by employing pulses from the driver multivibrator. The time difference between the end of one line and the start of the  
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next is determined by the rise time of the blanking pulses and can be very short. The overlap time, which is due to finite rise time of the pulses, can be reduced by increasing the steepness of the pulse fronts. It is possible, for this purpose, to shape the pulses by means of transmission lines or to employ secondary emission pentodes. The authors improved the shape of the pulses by diode-limiting of the multivibrator pulses so that the overlap time between the rays was  $6 \times 10^{-8}$  sec. In the experimental system used by the authors, the time base operated with three fixed lengths: 100, 500 and 1 000  $\mu$ s, corresponding to 3, 10 and 20  $\mu$ s line duration, respectively. The oscilloscope based on the above raster time base and the tube, type 18Lo47, had a writing speed of up to 0.015  $\mu$ s/mm, the number of lines being 100 and the length of line 100 mm. The maximum duration of the investigated process was 2 000  $\mu$ s. An oscillogram illustrating the recording of the pulses of a scintillation counter is shown in Fig. 2. The authors express their gratitude to Yu.S. Zamyatnin for his interest in this work.

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There are 2 figures and 2 Soviet references.

SUBMITTED: August 4, 1960

Fig. 2:



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UVAROV, N.A.

Scanning generator with a fast delay time. Prib.i tekhn.eksp. 6  
no.5:178-179 S-0 '61. (MIRA 14:10)  
(Pulse techniques (Electronics))

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E192/E382

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AUTHORS:

Gorbachev, V.M., Uvarov, N.A. and Usenko, L.D.

TITLE:

Distortion of nanosecond pulses during their transmission by cables

PERIODICAL:

Pribory i tekhnika eksperimenta, <sup>vol. 7</sup> no. 2, 1962, 92 - 94

TEXT:

The problem was investigated experimentally and analytically. Experimentally, the study of the transient response of the cables was carried out directly by taking the oscillograms of the pulses at the output of a section of a cable. A rectangular pulse with an amplitude of 100 V, a duration of  $50 \times 10^{-9}$  sec and a rise time of  $< 1 \times 10^{-9}$  sec was produced by a generator, type ГК-4А (GKI-4A). This was applied to a line 100 m long and the output pulses were recorded on an oscillograph, type ОС-6 (OS-6) having a bandwidth of 3 000 Mc/s. Analytically, the response to a unit step of a coaxial cable terminated with a matched load can be expressed as:

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$$U(\ell, t) = 1 - F(M\ell/2\sqrt{\tau}) \approx 1 - F(x) \quad (2)$$

where  $\ell$  is the length of the cable and

$$F(x) = \frac{2}{\sqrt{\pi}} \left( x - \frac{x^3}{113} + \frac{x^5}{215} - \dots \right), \quad (3)$$

where  $\tau = t - \ell/v$ ,  $v = 1/\sqrt{L_0 C_0}$ .

The attenuation coefficient in Eq. (2) is expressed as:

$$M = \frac{1}{4\pi} \frac{C_0}{L_0} \left[ \frac{k_1 \sqrt{\mu_1 \epsilon_1}}{r_1} + \frac{k_2 \sqrt{\mu_2 \epsilon_2}}{r_2} \right] \quad (4)$$

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Distortion of ....

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where  $L_0$  and  $C_0$  are the inductance and capacitance of the cable per unit length,  
 $\mu$  is the permeability,  
 $R$  is the resistance of the cable per unit length, and  
 $r$  is the radius of the conductor.



The index "1" in Eq. (4) refers to the parameters of the internal conductor, while the index "2" indicates the parameters of the external conductor. The twist factor  $k_1$  in Eq. (4) takes into account the change in the resistance of the internal conductor due to its stranded form; the coefficient  $k_2$  is the braiding factor, which takes into account the increase in the resistance of the external conductor due to its braiding. The response of a 100-m cable calculated from Eq. (2) is illustrated in Fig. 3. Curves II and III correspond to two different types of cable, while the circles represent the experimental points; it is seen that the theory is in good agreement with experiment. There are 5 figures and 1 table.

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E192/E382

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AUTHORS: Predein, B.A., Gorbachev, V.M., Sem'in, G.N.,  
Uvarov, N.A., Filimonchev, M.I. and Shevtsov, V.A.

TITLE: A wideband pulse amplifier

PERIODICAL: Pribory i tekhnika eksperimenta, no. 3, 1962,  
84 - 86

TEXT: The amplifier consists of three stages of distributed amplification, each consisting of 4 tubes. The output and middle stages are based on secondary emission tubes, type 6E17 (6V1P). It is possible (by employing these tubes) to obtain a symmetrical output and high output voltages. However, since the tube 6V1P is nonlinear at small signals, the input stage is based on tubes, type 6Zh22P (6Zh22P), whose input capacitance is almost identical with that of 6V1P, so that identical lines could be employed in all grid circuits. The distributed loads of the amplifier stages are in the form of lumped delay lines based on m-derived filters, the wave impedance of the anode, dynode and grid lines being 150Ω. The bandwidth of the amplifier is about 150 Mc/s per stage, which

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A wideband pulse amplifier

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corresponds to a rise time of about  $3 \times 10^{-9}$  sec. The output of the amplifier is applied to the plates of an oscilloscope by means of a cable, type RK-50 (RK-50), about 1 m long. The amplification of the system at the anode output is about 240 and at the dynode it is about 160, the symmetrical output giving a gain of 400. The maximum amplifier output at the anode is 140 V and at the dynode 80 V. The longest pulses applied should not exceed 3  $\mu$ s in order to avoid the fatigue effects in the secondary emission tubes. The authors express their gratitude to I.M. Cherednichenko for discussing the results and to A.V. Filatov and B.F. Krest'yaninov for preparing the experimental models of the device. There are 3 figures. X

SUBMITTED: December 2, 1961

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