VASIL'YEV, I.N.

1. TRAVIN, A. V. and VASIL'YEV, I. N. and KAZARINOV, V. P.

2. USSR (600)

4. Quartz-Tugan District

7. Tugan deposits of quartz sands. [Abstract.] Izv.Glav.upr.geol.fon. no. 3, 1947.

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

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S/089/60/009/005/011/020
B006/B070

11.4100

AUTHORS: Trelin, Yu. S., Vasil'yev, I. N., Roshchupkin, V. V.

TITLE: Measurement of Ultrasonic Velocity in Molten Alkali Metals

PERIODICAL: Atomnaya energiya, 1960, Vol. 9, No. 5, pp. 410 - 411

TEXT: The ultrasonic velocity in, and the compressibility and sound absorption of, sodium and sodium-potassium eutectics (25% Na+75% K) were measured by an interference method described in the introduction. Square pulses of negative polarity from a 26-И (26-I) generator start a radio-pulse generator and excite a pulse oscilloscope of the type ИО-3В (IO-3V). Radio pulses of a duration of τ = 10 μsec are transmitted at a carrier frequency of 2 Mc/sec to a quartz X-cut plate. The plate is placed in the upper acoustic delay line which can be moved in the vertical direction. The ultrasonic wave trains traverse the upper delay line, the molten metal, and the lower delay line where they are received by a quartz plate and transformed. The signals of the quartz plate go into the receiver which is connected to a superheterodyne circuit

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Measurement of Ultrasonic Velocity in Molten Alkali Metals

S/089/60/009/005/011/020
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(intermediate frequency, 16 Mc/sec). The pulses are detected in the channel going to the amplifier and the amplified video-pulses go on to the pulse oscilloscope. By displacing the movable acoustic delay line the wavelength can be varied, which enables a determination of the acoustic wavelength λ. The carrier frequency f of the radio pulses is measured with a heterodyne wavemeter of the type 526. The ultrasonic velocity is determined from the formula $c = f\lambda$. This method is free from systematic errors. The results of measurement are shown in diagrams. Fig.2 shows the sonic velocity and the compressibility β of Na and Na-K as functions of temperature. The curves obtained can be analytically represented by the following: $c^{Na} = 2594-0.577.(t - 100)$; $c^{Na-K} = 2070 - 0.543t$. Fig.3 shows the ratio of specific heat and C_V as a function of temperature. Fig.4 shows the temperature dependence of the sound absorption coefficient. The individual curves are almost linear. Only the absorption coefficient in the eutectic shows a weak exponential increase with temperature. There are 4 figures and 3 references: 1 Soviet and 2 US.

SUBMITTED: June 22, 1960

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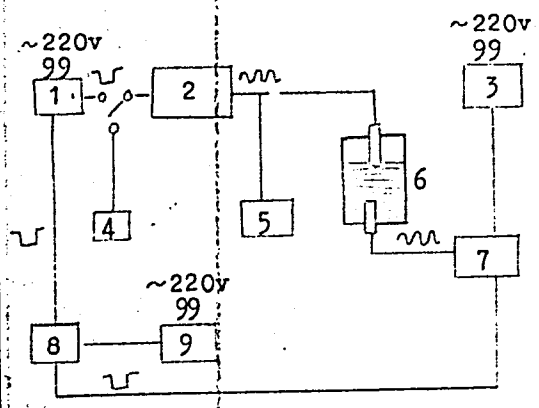

Fig.1

Legend to Fig.1:

1) Generator (26-I)
2) Generator of sinusoidal oscillations
3) Feeding block
4) Feeding battery
5) Frequency meter
6) Measuring chamber
7) Receiver
8) Oscilloscope (IO-3V)
9) Feeding block

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Fig. 2

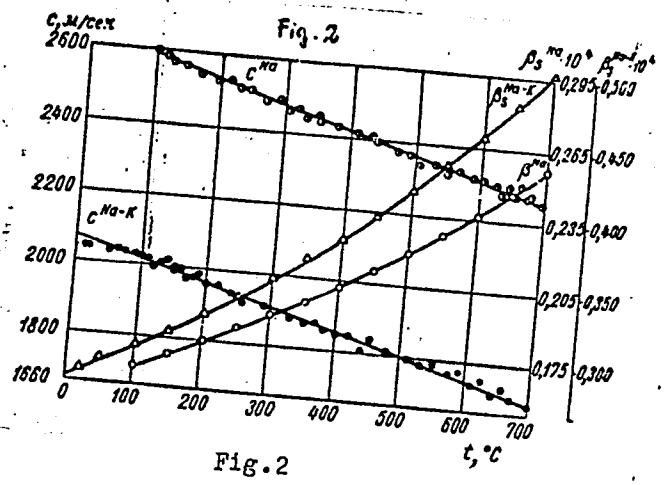

Fig. 2

Card 4/4

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858830001-7"

S/263/62/000/007/006/014
I007/I207

AUTHORS: Trelin, Yu. S. and Vasilyev, I. N.

TITLE: Measurement of ultrasound speed in molten alkaline metals heated to 700°C

PERIODICAL: Referativnyy zhurnal, otdel'nyy vypusk. Ismeritel'naya tekhnika, no. 7, 1962, 19, abstract 32.7.133. Collection "Primeneniye ul'traakust. k. issled. veshchestva". M., no. 13, 1961, 3–13

TEXT: Description is given of a method for measuring the speed of ultrasonic waves in molten metals at elevated temperatures. Two variants of the pulse method were tried: the method of fixed distances, and the pulse-interferometer method. Since the ultrasonic generator (X-cut quartz crystal) with a Curie point of 576°C does not operate when in contact with alkaline metals, use was made of stainless-steel delay lines permitting an almost distortion-free passage of radiosignals. Particular attention was paid to the problem of the wettability of stainless steel by molten metals, in view of the strong absorption of ultrasonic energy by the "surface barrier" formed between steel and the alkaline metal. Wetting could be improved by coating the sound-generating surface with a thin Sn–Pb alloy layer. The method of two fixed distances gives rise to systematic errors in the measurement of ultrasonic speed, which nevertheless do not exceed 1.5%. It was found that in terms of accuracy, the pulse-interferometer method comes close to that of the two fixed-distance method, and may be used for measuring the ultrasonic speed in fluids and molten metals at elevated temperatures. There are 9 figures and 6 references.

[Abstracter's note: Complete translation.]

Card 1/1

ACCESSION NR: AT4013176 S/3059/63/000/000/0263/0269

AUTHOR: Trelin, Yu. S.; Vasil'yev, I. N.

TITLE: Investigation of thermal contact resistance at the "stainless steel - melted alkali metal" boundary by the ultrasonic method

SOURCE: Zhidkiye metally*. Sbornik statey. Moscow, Gosatomizdat, 1963, 263-269

TOPIC TAGS: thermal contact resistance, alkali metal, stainless steel, ultrasonic wave test, contact resistance, steel alkali metal boundary

ABSTRACT: It has been found that thermal emission from melted alkali metals during the initial period of operation has a much lower heat-transfer coefficient than the calculated theoretical value. This is explained by the lack of reliable thermal contact between the wall of the working part and the heat transfer medium. The authors propose an ultrasonic method for investigating this complex phenomenon. It involves sounding of the melted metal and adjoining acoustic lines made of EYa1T stainless steel by low-power ultrasonic impulses. This method allows visual observation of the changes in thermal contact on a cathode ray tube, so that the melted metal can be studied under both static and dynamic conditions, depending on the purity of the melted metal, surface roughness of the acoustic

Card 1/3

ACCESSION NR: AT4013176

lines, temperature, method of filling the unit, etc. Fig. 1 in the Enclosure shows the design of the section used for measurements under dynamic conditions. Wiring diagrams of the generator and receiver are also presented. The acoustic resistance is determined by the degree of interaction of the molecules of the melted metal with the molecules of the wall; this also determines the degree of thermal contact. Analysis of the first test series shows that in order to obtain consistent results it is very important to ensure a uniform initial degree of surface roughness at the faces of the acoustic lines and a similar chemical composition of the alkali metal used for each cycle. Orig. art. has: 5 figures.

ASSOCIATION: None

SUBMITTED: 00 DATE ACQ: 20Feb64 ENCL: 01

SUB CODE: ML NO REF SOV: 004 OTHER: 000

Card 2/8

S/195/63/004/001/004/009
E075/E436

AUTHORS: Krongauz, V.A., Vasil'yev, I.N.

TITLE: An investigation of the processes of energy transfer by the methods of luminescence and radiation chemistry

PERIODICAL: Kinetika i kataliz, v.4, no.1, 1963, 67-75

TEXT: The work was carried out to verify the postulate that for irradiated three component systems, consisting of two acceptors dissolved in benzene, the protective action of acceptors, such as benzoyl peroxide, is due to energy transfer from the second acceptor to the peroxide, apart from energy transfer from the solvent molecules to each of the acceptors. The mechanism of energy transfer was investigated in the system consisting of p-terphenyl, 2,5 diphenyloxazol (luminophors) and benzoyl peroxide dissolved in toluene. The system was irradiated with ultraviolet light (λ = 265 mμ) and γ-rays from a Co^{60} source. On irradiation with γ-rays the decomposition yield of benzoyl peroxide increased rapidly for concentrations up to 0.01 mole/litre. The high initial radiation yields were due to energy transfer from the solvent. The yield for solutions containing $\sim$0.05 mole/litre of luminophor remained constant after reaching a maximum. Similar

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results were obtained on irradiation with ultraviolet light. The authors also investigated the luminescence of luminophors induced by γ-rays and ultraviolet light (λ = 290 and 300 mμ) and quenched by benzoyl peroxide. As the radiation with $\lambda > 290$ mμ was absorbed only by the luminophors, the quenching effect of the peroxide can be explained by the interaction of the benzoyl peroxide with the excited molecules of the luminophors. The efficiency of energy transfer from the solvent molecules (A) to benzoyl peroxide molecules (B) - F_{AB} and that for the transfer from the luminophor molecules (C) - F_{AC} were: F_{AB} = 380 ± 50 litres/mol for B < 0.01 mole/litre, F_{AC} = 1200 ± 600 litres/mole for γ-ray irradiation and 1150 ± 70 litres/mole for the ultraviolet irradiation. The energy transfer values F_{CB} were 80 ± 20 litres/mole for the irradiation with γ-rays and 45 ± 4 litres/mole for the ultraviolet irradiation. These values obtained by different methods were consistent, which confirmed the postulated mechanism of energy transfer. Comparison of various calculated and experimental values for the energy transfer from toluene to benzoyl peroxide and the luminophors showed that the transfer takes place

as a result of long-range interaction between the molecules, diffusion effects also being important. The energy transfer from the luminophors to benzoyl peroxide proceeds by a diffusion process via the formation of a transition complex between the excited luminophor molecules and those of benzoyl peroxide. There are 5 figures and 1 table.

ASSOCIATION: Fiziko-khimicheskiy institut im. L.Ya.Karpova
(Physico-chemical Institute imeni L.Ya.Karpov)

SUBMITTED: December 21, 1961

L 10592-63 EPR/EPF(c)/EWT(m)/BDS Ps-4/Pr-4 RM/WW

ACCESSION NR: AP3001486 S/0195/63/004/002/0204/0207

64
62

AUTHOR: Vasil'yev, I. N.; Krongauz, V. A.

TITLE: The transfer of energy during the sensitized photolysis of benzoyl peroxide solutions

SOURCE: Kinetika i kataliz, v. 4, no. 2, 1963, 204-207

TOPIC TAGS: photo-decomposition of benzoyl peroxide, toluol, 2,5-diphenyloxazol, influence of light, radiolysis, aromatic compounds, photolysis

ABSTRACT: The sensitizing of the photodecomposition of benzoyl peroxide in toluol with the inductive light which is absorbed by the toluol has been studied. Investigation was also made with the tricomponent system benzoyl peroxide-toluol-2,5-diphenyloxazol under the influence of light absorbed by the luminophore. In the previous work it was found that during the radiolysis of aromatic compounds in dilute benzene and toluol solutions, a sensitized decomposition of these compounds caused by the energy transfer from the solvent to the solute takes place. The results obtained by photolysis for the system toluol-benzoyl peroxide where the energy transfer effect is 450 ℓ or - 80 l/mole and the transfer of energy from the luminophore to the benzoyl is 40 ℓ or - 10 l/mole are in good agreement

Card 1/2

with the previously obtained results with radiation. This confirms the mechanism suggested earlier for the energy distribution during the radiolysis of tricomponent system of toluol-benzoyl peroxide-luminophor. "The authors express their deepest gratitude to Kh. S. Bagdasap'yan for taking part in the organization of this work and for evaluating the results." Orig. art. has: 1 table and 3 graphs.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-Chemical Institute)

SUBMITTED: 06Jun63 DATE ACQD: 10Jun63 ENCL: 00

SUB CODE: 00 NO REF SOV: 006 OTHER: 001

EPA(e)-2/EWT(m)/EPF(c)/EPF(n)-2/EWG(v)/EPR/EWP(j)/T/EPA(bb)-2/

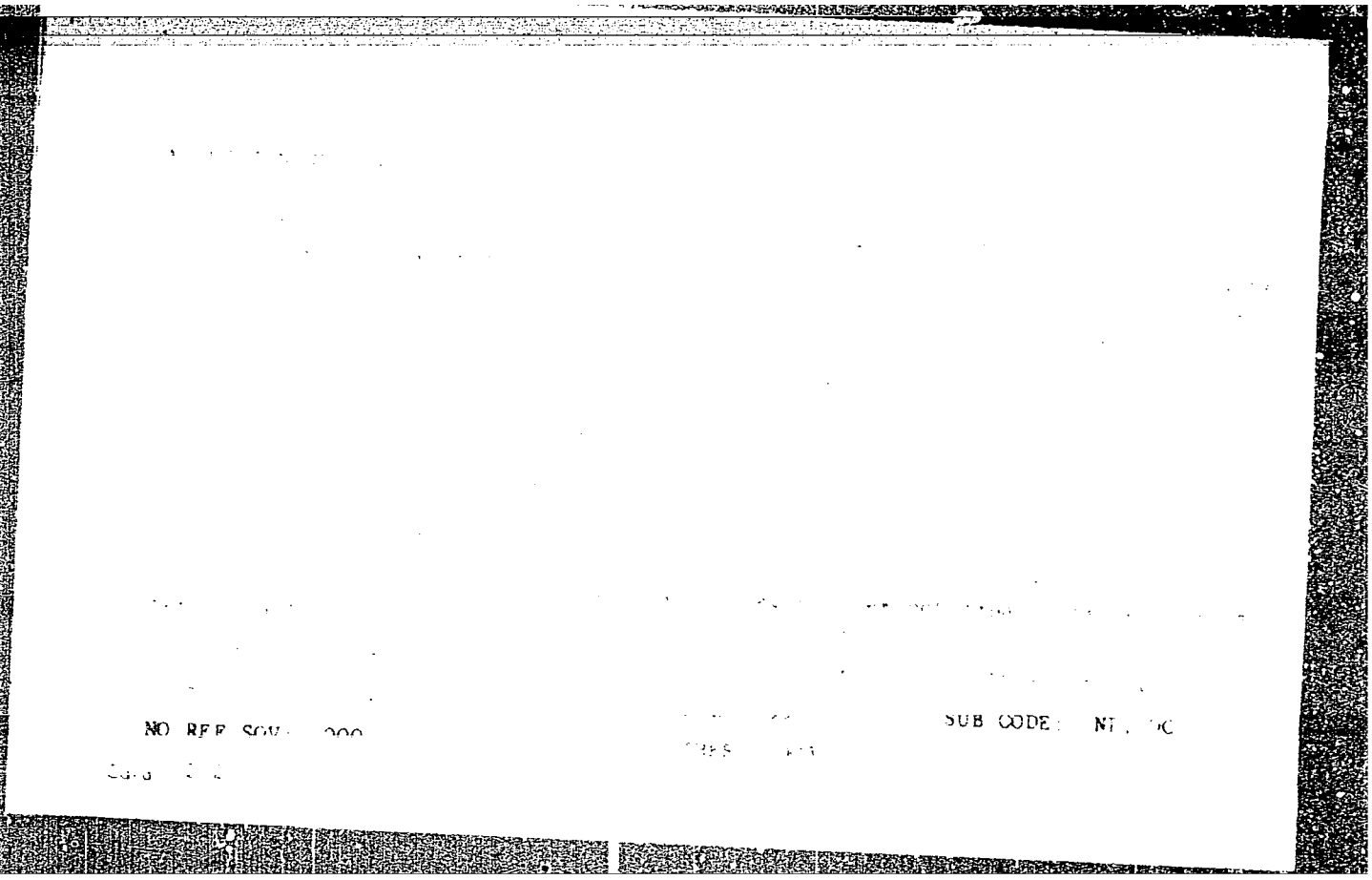
S/0000/64/000/000/0078/0094

[illegible] of monoisopropyl-

[illegible]

SOURCE: Moscow. Institut atomnoy energii. Issledovaniya po primeneniyu organicheskikh teplonositeley-zamedliteley v energeticheskikh reaktorakh (Reorganic coolants and moderators in power re-

ABSTRACT: The dependence of the thermophysical characteristics on radiolysis was [illegible]



L 16923-65 [illegible]

ACCESSION NR: AP[illegible] [illegible]/64/005/005/[illegible]

AUTHOR: [illegible] [illegible]ngauz, V. A.

TITLE: A study of the energy transfer mechanism in liquid organic scintillators. The influence of diffusion

SOURCE: Kinetika i kataliz, v. 5, no. 5, 1964, 792-801

TOPIC TAGS: energy transfer, luminescence, organic scintillator, diffusion, aromatic hydrocarbon, diphenyloxazole, inductive resonance

ABSTRACT: An attempt is made to calculate the radius of the effective section of energy transfer in the diffusion convergence of molecules which interact on the [illegible] account. This is part of a general experimental study by the authors into the influence of diffusion on sensitized luminescence in solutions. This investigation led to the derivation of an expression which permits the computation of the energy transfer rate constant provided the "critical distance" of mole[illegible] [illegible]

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L 10715-65

ACCESSION NR: AP4047834

7

[illegible] studied the sensitized luminescence of 2,5-diphenyloxazole in toluene, cumene, isopropyldiphenyl [illegible] and in mixtures of isopropyldiphenyl [illegible]

[illegible]

[illegible] Ya. Karpova

[illegible] Physics and Chemistry [illegible]

SUBMITTED: 18Mar63 ENCL: 00 SUB CODE: OP, GP

NO REF SOV: 012 OTHER: [illegible]

Card 2/2

L 10841-66 EWT(1)/EWT(m)/EWP(j)/EWA(c)/ T IJP(c) AT/GS/RM

ACC NR: AT5023436 SOURCE CODE: UR/0000/65/000/000/0110/0113

AUTHOR: Krongauz, V. A.; Vasil'yev, I. N.; Kirsanov, B. P.

ORG: none

TITLE: Investigation of the mechanism of intermolecular energy transfer in organic solutions. Effect of diffusion

SOURCE: Simpozium po elementarnym protsessam khimii vysokikh energiy. Moscow, 1963. Elementarnyye protsessyy khimii vysokikh energiy (Elementary processes of the chemistry of high energies); trudy simpoziuma. Moscow, 1965, 110-113

TOPIC TAGS: excited state, particle interaction, molecular interaction, particle collision, luminescence

ABSTRACT: The transfer of excitation energy between benzene and toluene, 2,5-diphenyloxazole, and 2,5-diphenyloxazole and isopropyldiphenyl and cyclohexane was studied. The dependence of the relative intensity (I) of luminescence of a diphenyloxazole solution (0.005 moles/l) in isopropyldiphenylcyclohexane mixture upon the reciprocal viscosity of the solvent is shown in figure 1. For all three systems, the experimentally determined rate constants of energy transfer k_{AB} are lower than those calculated from the formula

$$k_{AB} = 4\pi D r_1 N \left(1 + \frac{r_1}{\sqrt{D\tau_0}}\right).$$

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L 10841-66

ACC NR: AT5023436

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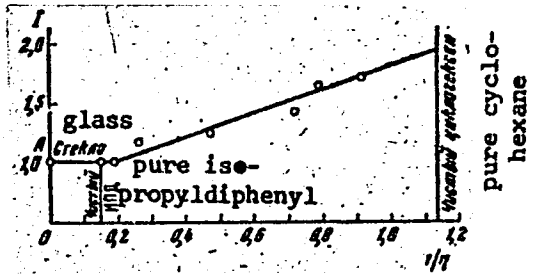

Fig. 1. Diphenyloxazole in a glassy isopropyldiphenyl solvent at -78°C.

where D is diffusion coefficient, r is critical radius for instantaneous intermolecular energy transfer by exchange mechanism, τ_0 is life of excited molecules. This discrepancy is probably due to deviation from the probability of resonance interaction $W(r)$ between molecules A and B as calculated from the formula

$$W(r) = \frac{1}{\tau_0}\left(\frac{r_0}{r}\right)^6,$$

where r is intermolecular distance. Orig. art. has: 1 figure, 1 table, 7 formulas.

SUB CODE: 20/ SUBM DATE: 23Feb65/ ORIG REF: 004/ OTH REF: 002

jw

Card 2/2

L 45673-66 EWT(l)/EWT(m)/EWP(w)/T/EWP(t)/ETI IJP(c) JD/WW/JG

ACC NR: AP6021214 SOURCE CODE: UR/0294/66/004/003/0364/0368

AUTHOR: Trelin, Yu. S. (Moscow); Vasil'yev, I. N. (Moscow); Proskurin, V. B. (Moscow); Tsyganova, T. A. (Moscow)

ORG: none

TITLE: Experimental data on the speed of sound in alkaline metals at temperatures up to 800°C

SOURCE: Teplofizika vysokikh temperatur, v. 4, no. 3, 1966, 364-368

TOPIC TAGS: acoustic waveguide, sound transmission, ~~alkali metal~~, sodium, potassium

ABSTRACT: The present work discusses the method and results of measuring the speed of sound in sodium and potassium and three mixtures of these metals (69.4%, 53.1%, 28.5% of sodium in each mixture) at temperatures up to 800°C. The speed of sound was determined by an acoustic interferometer adapted to high temperature work and in chemically active substances by using steel acoustic waveguides. In all cases under investigation, the speed of sound was found to be a linear function of the temperature. The greatest speed was observed in pure sodium. The authors also computed the following quantities on the basis of the acoustic data and density: adiabatic and isothermal compressibilities, ratio of heat capacities at constant pressure to that at constant volume. These quantities were derived from the thermodynamic relations given in a seri-

UDC: 534.2.22:532.12

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ACC NR: AP6021214

es of equations. For the three alloys of Na and K, density relationship in terms of relative concentrations was derived from the empirical data. The measurement errors of these quantities are also given. This work was stimulated by the need of thermodynamic data for liquid metals needed in the design of the atomic energy power generators. Orig. art. has: 3 figures, 1 table, 5 formulas.

SUB CODE: 20/ SUBM DATE: 25Apr65/ ORIG REF: 005/ OTH REF: 003

Card 2/2 fv

VASIL'YEV, Ivan Prokhorovich; LEL'YANOV, Vladimir Alekseyevich; GOL'DBERG, M.M., kandidat tekhnicheskikh nauk, retsenzent; DROZDIN, K.A., inzhener, redaktor; POPOVA, S.M., tekhnicheskiy redaktor

[Mechanization of painting and drying in machine building] Mekhanizatsiia okrashivaniia i sushki v mashinostroenii. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 277 p. (Painting, Industrial) (MLRA 9:10)

VASIL'YEV, I.P., inzhener; LELYANOV, V.A., inzhener, redaktor; DROMDIN, K.A., inzhener, redaktor; KHITROV, P.A., tekhnicheskiy redaktor

[Painting railroad cars] Okraska vagonov zheleznodorozhnogo transporta. Moskva, Gos.transp.zhel-dor. izd-vo, 1951. 306 p. (MLRA 10:9)
(Railroad--Cars--Painting)

KHAMZIN, R.G.; VASIL'YEV, I.P.; OSHITKO, V.M.

Exploitation of nonuniform producing layers of horizon D_1 in the Zay-Karatay area of the Romashkino oil field. Geol. nefti i gaza 9 no.4:10-13 Ap '65. (MIRA 18:8)

1. Leninogorskneft'.

KOMAROV, S.G.; SAMOKHVALOV, S.F.; BELAVENTSEV, N.V.; BOMBARDIROV, P.P.; AMELINA, A.A.; BLIZHYUK, V.F.; LADYGIN, V.I.; PEROV, A.N.; VASIL'YEV, I.P.; BRODOVICH, N.B.; RABINOV, A.M.; ALEKSEYEV, V.D.; YEGOROV, V.A., inzh., red.; ARSHINOV, I.M., inzh., red.; VERINA, G.P., tekhn. red.

[Handbook on the repair of freight cars] Spravochnik po remontu gruzovykh vagonov. Moskva, Gos. transp. zhel-dor. izd-vo, 1958. 503 p. (MIRA 11:12)

(Railroads--Freight cars--Maintenance and repair)

VASIL'YEV, Ivan Prokhorovich; KHAKHALIN, Nikolay Samsonovich; BOCHARNIKOVA, K.N., redaktor; inzhener, KHITROV, P.A. tekhnicheskiy redaktor.

[Economizing on wood in reparing freight cars] Ekonomiia lesomaterialov pri remonte vagonov. Moskva, Gos.transp. zhel-dor.izd-vo, 1955. 93 p. (MLRA 8:11)
(Railroads--Freight cars)

MEL'NIK, A.L., inzh.; VASIL'YEV, I.P., inzh.

Organization of train movement on Italian railrods. Zhel. dor. transp. 40 no.2:86-90 F '58. (MIRA 11:2)

(Italy--Railrods--Traffic)

VASILIEV, I.S.; YUROVITSKIY, Yu.G.;

Oxygen conditions in the development of Amur chum salmon and pink salmon in connection with methods of artificial propagation. Zool.zhur.33 no. 6:1344-1348 N-D '54. (MIRA 8:2)

1. Laboratoriya ikhtiologii MGU im. M.V.Lomonosova.
(Salmon)

VASIL'YEV, I.S.

Water supply to the redds of humpback salmon and summer keta. Nauch.dokl.vys.shkoly;biol.nauki no.3:26-31 '58. (MIRA 11:12)

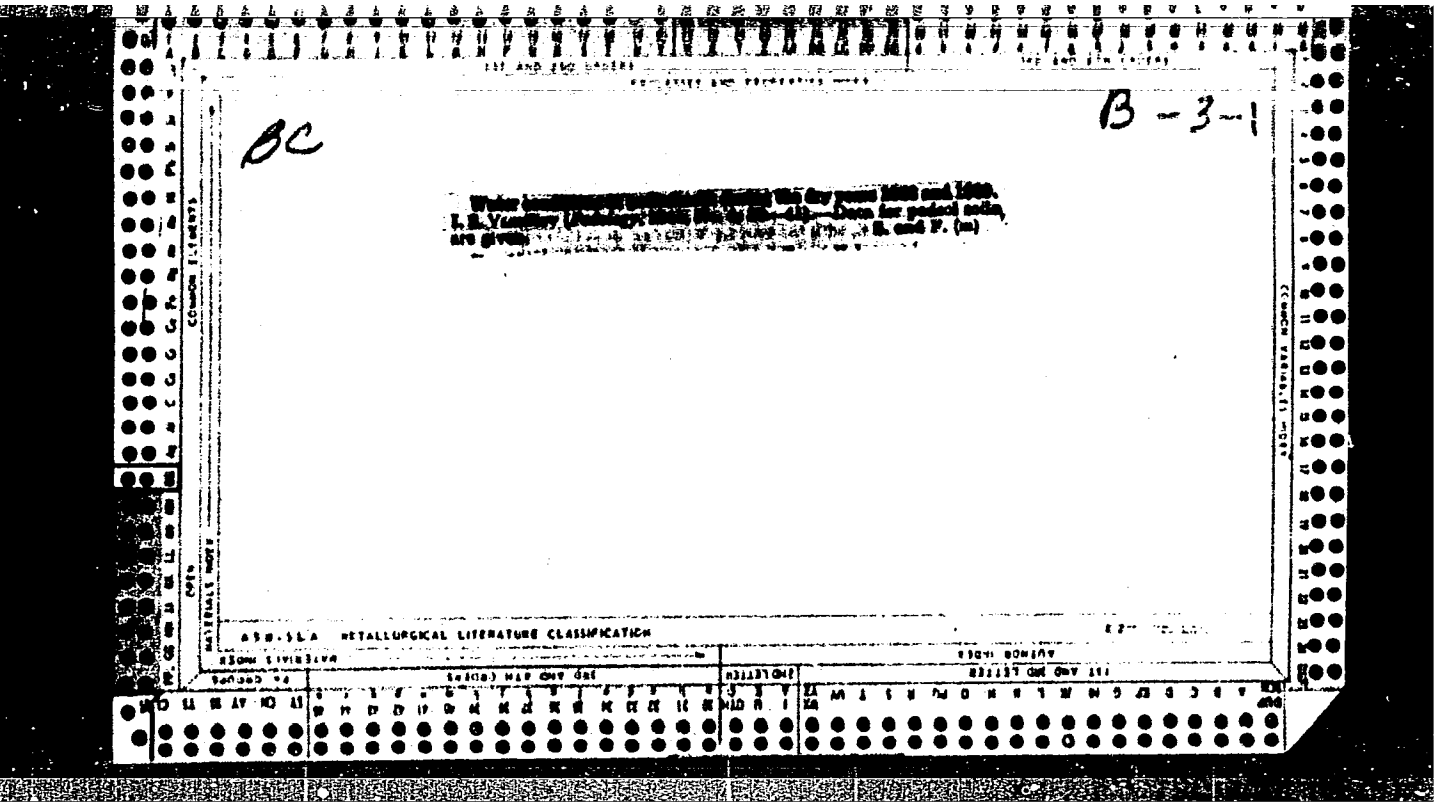
1. Predstavlena kafedroy ikhtiologii Moskovskogo gosudarstvennogo universiteta imeni M.V.Lomonosova.
(Soviet Far East--Salmon)

VASIL'YEV, I. S., Cand Biol Sci (diss) -- "The ecological-morphological characteristics of the summer Siberian Salmon and the gorbuscha salmon in the embryonic and fingerling stages of life". Moscow, 1959. 16 pp (Moscow Order of Lenin and Order of Labor Red Banner State U im M. V. Lomonosov, Soil-Biol Faculty), 110 copies (KL, No 10, 1960, 128)

VASIL'YEV, I.S.

Adaptive significance of the structure of spawning redds of salmons of the genus Oncorhynchus. Zhur.ob.biol. 20 no.2: 155-160 Mr-Ap '59. (MIRA 12:5)

1. Kafedra ikhtiologii Moskovskogo gosudarstvennogo universiteta im. M.V.Lomonosova.
(SALMON) (FISHES--HABITS AND BEHAVIOR)



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"Changes in Podsolic soil's fertility as influenced by cultivation"

Pochvovedeniye, No. 4, 1946

VASIL'YEV, I.S.

Soil Moisture

Metholology of determining the evaporation magnitude in soils, Met. i gidrol., No.5,1949.

Monthly List of Russian Accessions, Library of Congress, October, 1952. UNCLASSIFIED.

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25785

Opyt opredeleniya belichiny desuktsii drevesnoi rastitel' nost'yu. Voprosy geografii, sb. 13, 1949, s. 167-80 - Bibliogr: 6 nazv.

SO: Letopis' No. 34

VASIL'EV, I.G.

25784

Neskolko dannykh o vodoudershivaynshchey sposobnosti peskov. Voprosy geografii, SB. 13, 1949, s. 181-90.

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CA VASIL'YEV, I. S.

2

Water cycle of podzolic soils. I. S. Vasil'ev. *Trudy Pochvennogo Inst. im. V. V. Dokuchaeva* 32, 71-200(1950). —A discussion is given of field tests. M. Hosch

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From the model charter of an agricultural artel. Saratov Saratovskoe obl. gos. izd-vo, 1951. 29 p. (V pomoshch' slushateliam trekhgodichnykh agrotekhnicheskikh kursov)

DA

VASIL'YEV, I. S.

Frozen Ground - Dmitrov District (Moscow Province)

Freezing and thawing of soil in the Moscow area. Pochvovedenie No. 9, 1952.

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

VASIL'YEV, I. S.

Soil Moisture

Method of determining the quantity of soil moisture consumed by forest trees. Biul. MOIP. Otd. biol. 57, no. 4, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

VASIL'YEV, I.S.

Optimal soil moisture for farm crops [with German summary in insert] Pochvovedenie no.10:13-23 O '56. (MLRA 10:1)

1. Pochvennyy institut imeni V.V. Dokuchayeva.
(Soil moisture)

ACC NR: AT6036519 SOURCE CODE: UR/0000/66/000/000/0097/0098

AUTHOR: Vasil'yev, I. S.; Ryzhov, N. I.; Derbeneva, N. N.; Portman, A. I.; Dorofeyeva, N. Zh.; Khlaponina, V. F.; Kabachenko, A. S.

ORG: none

TITLE: Effect of proton and gamma irradiation on the mitotic activity of transplanted human cell cultures /Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24 to 27 May 1966./

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 97-98

TOPIC TAGS: proton radiation biologic effect, ionizing radiation biologic effect, relative biologic efficiency, human cell culture, radiation tissue effect, mitosis

ABSTRACT: Transplanted cell cultures are a valuable object of radiobiological study because of their high radiosensitivity. They are sometimes the only biological objects available for study of low-energy radiation effects. This series of experiments was conducted to determine the comparative effect of proton and gamma irradiation on the mitotic activity of human amniotic cells. Two-day-old cultures of amniotic cells, in single layer or in suspension, were irradiated with 630-Mev protons from an OIYAI

Card 1/3

ACC NR: AT6036519

synchrocyclotron or with Co^{60} gamma rays. The dose power of protons was 35 rad/sec and of gamma rays, 3 rad/sec. The activation and luminescent methods of proton dosimetry were used. Ionization chambers were used to monitor the beam. Mitotic activity was determined immediately after gamma irradiation, and then at intervals of 12, 24, 36, and 48 hr: Similar determinations were made 10, 20, 40, and 60 hr after proton irradiation.

A definite change in mitotic activity due to gamma and proton irradiation was observed in these experiments. Immediately after gamma irradiation with all doses the mitotic index decreased, reaching 1.6—1.3 with a 1000—1500 rad dose, as compared with 5.5 in the control. With doses of gamma rays from 750 to 1500 rad the mitotic index fell to 0.5—0.6 within 12 hr. A different pattern was observed following proton irradiation: within 10 hr of irradiation with 40—450 rad the mitotic index increased approximately 50% as compared with the control. Only with large proton doses did mitotic activity decrease. Twenty hr after proton irradiation with 40—1000 rad, the mitotic index reached a low of 1.4—0.07 (1.9 in the control).

Intensive recovery of the mitotic index in the postradiation period was

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observed with both types of radiation: the index had reached initial levels within 36—40 hr for almost all doses. Two days after gamma irradiation the mitotic index was 2—3 times higher than the initial level, whereas after proton irradiation the mitotic index recovered in three days.

Comparison of changes in mitotic activity after both proton and gamma irradiation showed the clear dose dependence of depression of mitotic activity. The same pattern of changes was observed after both types of irradiation, and quantitative relationships in observed processes were identical in both cases. [W. A. No. 22; ATD Report 66-116]

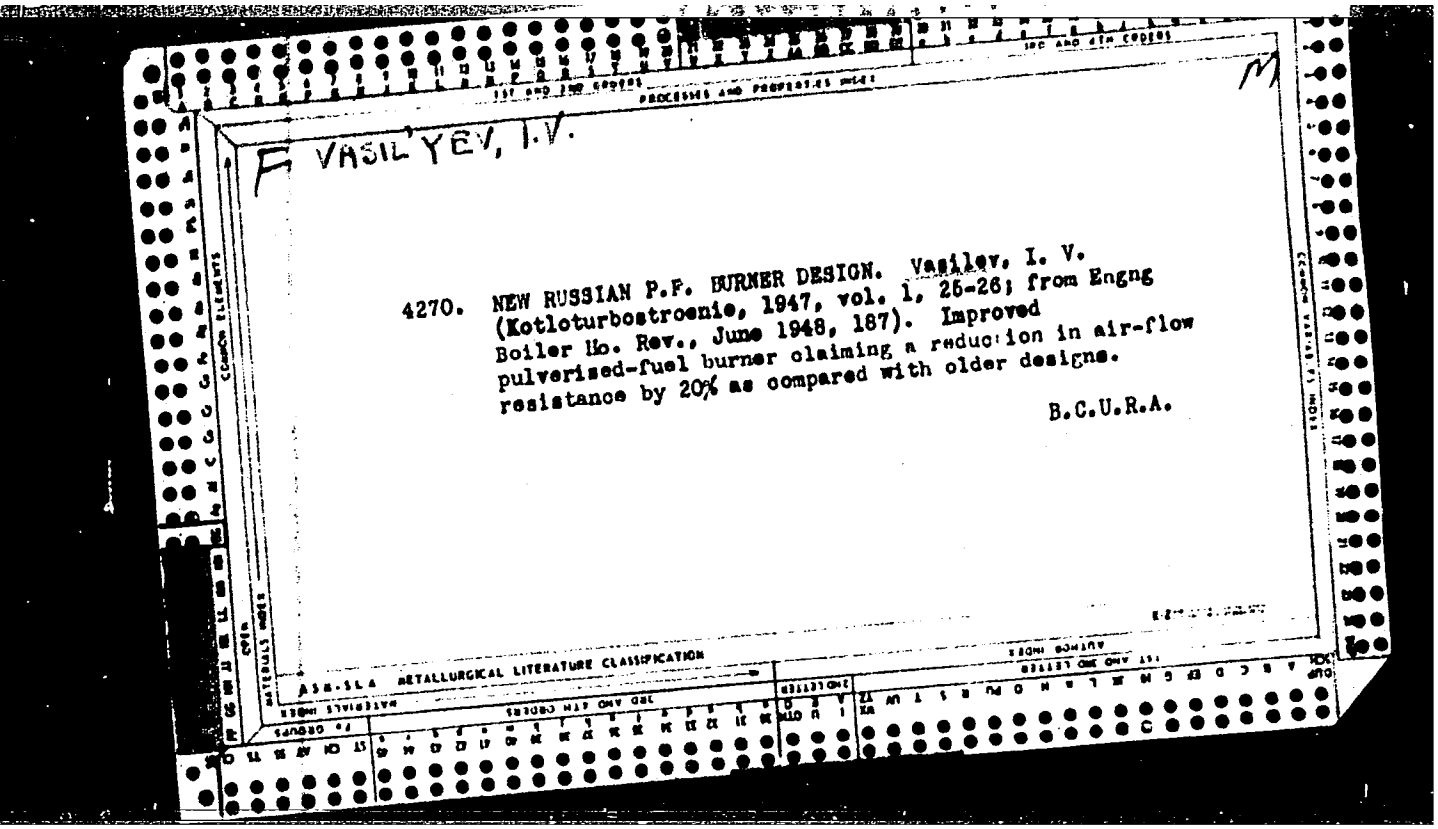
SUB CODE: 06 / SUBM DATE: 00May66

VASIL'YEV, I.U.

Filling chamber for hydraulic presses. Suggestion by I.U.Vasil'ev. (MIRA 9:7)
Prom.energ.11 no.4:25 Ap '56.
(Hydraulic presses)

VASIL'YEV, I.V., inzhener

Machines for cutting off pieces of fabric spread out on the cutting table. Leg. prom. 15 no.4:51 Ap '55. (MLRA 8:7)
(Garment cutting)



F VASIL'YEV, I.V.

4270. NEW RUSSIAN P.F. BURNER DESIGN. Vasilev, I. V. (Kotloturbostroenie, 1947, vol. 1, 25-26; from Engng Boiler Ho. Rev., June 1948, 187). Improved pulverised-fuel burner claiming a reduction in air-flow resistance by 20% as compared with older designs.

B.C.U.R.A.

S/883/62/000/000/019/020
E194/E155

AUTHOR: Vasil'yev, I.V.

TITLE: Wear testing of materials in friction in aqueous solutions of electrolytes

SOURCE: Metody ispytaniya na iznashivaniye; trudy soveshchaniya, sostoyavshegosya 7-10 dek. 1960. Ed. by M.M. Khrushchov. Moscow, Izd-vo AN SSSR, 1962, 205-211

TEXT: NIIMASh has developed a series of wear test procedures for assessing cases of combined mechanical and chemical wear. In machine X 2M (Kh2M) a rotating steel disc of 50 mm dia. driven at 540 r.p.m. rubs against a steel specimen (10 x 10 x 40 mm) loaded to 3 kg. The test pieces were immersed in aqueous solutions of NaOH. The disc or test piece potential against a calomel electrode was measured by a potentiometer. On raising the NaOH concentration up to 1% there was substantial increase in the wear rate, but with higher concentrations of NaOH the wear rate is lower and becomes slower as the test continues; at the same time the electrode potential diminishes. The same machine was used to make tests in a 15% solution of sulphuric acid. The disc was made of

Card 1/2

acid-resisting steel and the samples were made of various grades of graphite and of 'Ftoroplast' 4. With some of the materials the wear rate remained constant with testing time but in others it slowed down with time. Graphite grade ПК-О (PK-O) displayed the greatest resistance to wear. Ftoroplast 4 did not alter the disc potential, so that the film formed on the disc surface was not worn. However, graphite grade Е (Ye) and particularly grade PK-O rapidly removed the protective film from the disc. In this case it was found that the wear resistance of the materials was associated with their ability to remove protective film from the disc, and there is a need for graphitic materials less damaging to the films.
Materials for plain bearings were tested in the friction machine MT-2 of NIIKhIMMASh design. Immersed specimens can be tested at temperatures up to 80 °C. Test results in NaOH and H_2SO_4 were very similar to those obtained on machine Kh2M. In the MT-3 NIIKhIMMASh machine the frictional elements are hollow cylinders rubbing end to end and immersed in a test medium. Electrode potentials can also be measured. Test results with 40% H_2SO_4 solution have already been published.
Card 2/2 There are 5 figures and 2 tables.

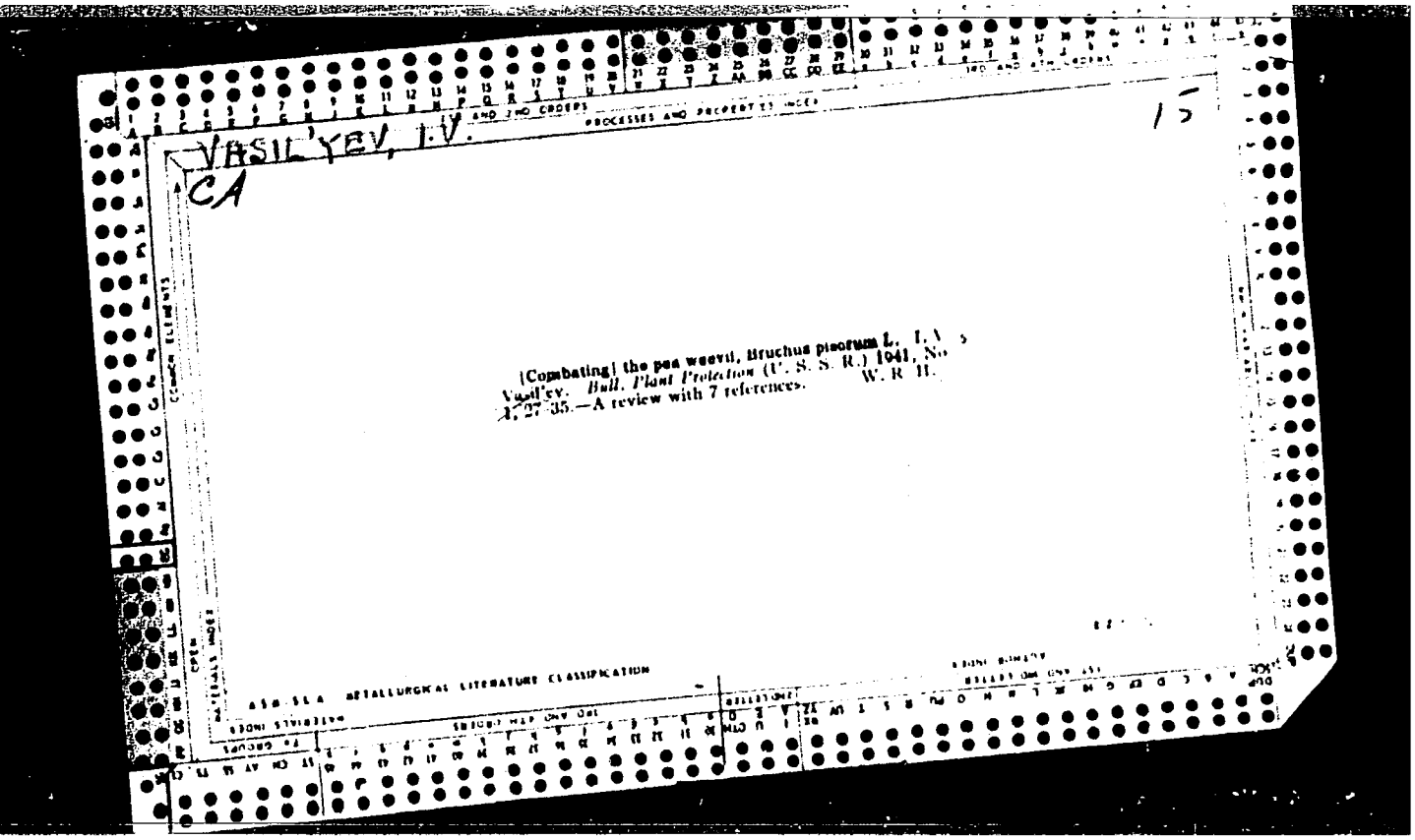
VASIL'YEV, I.V.

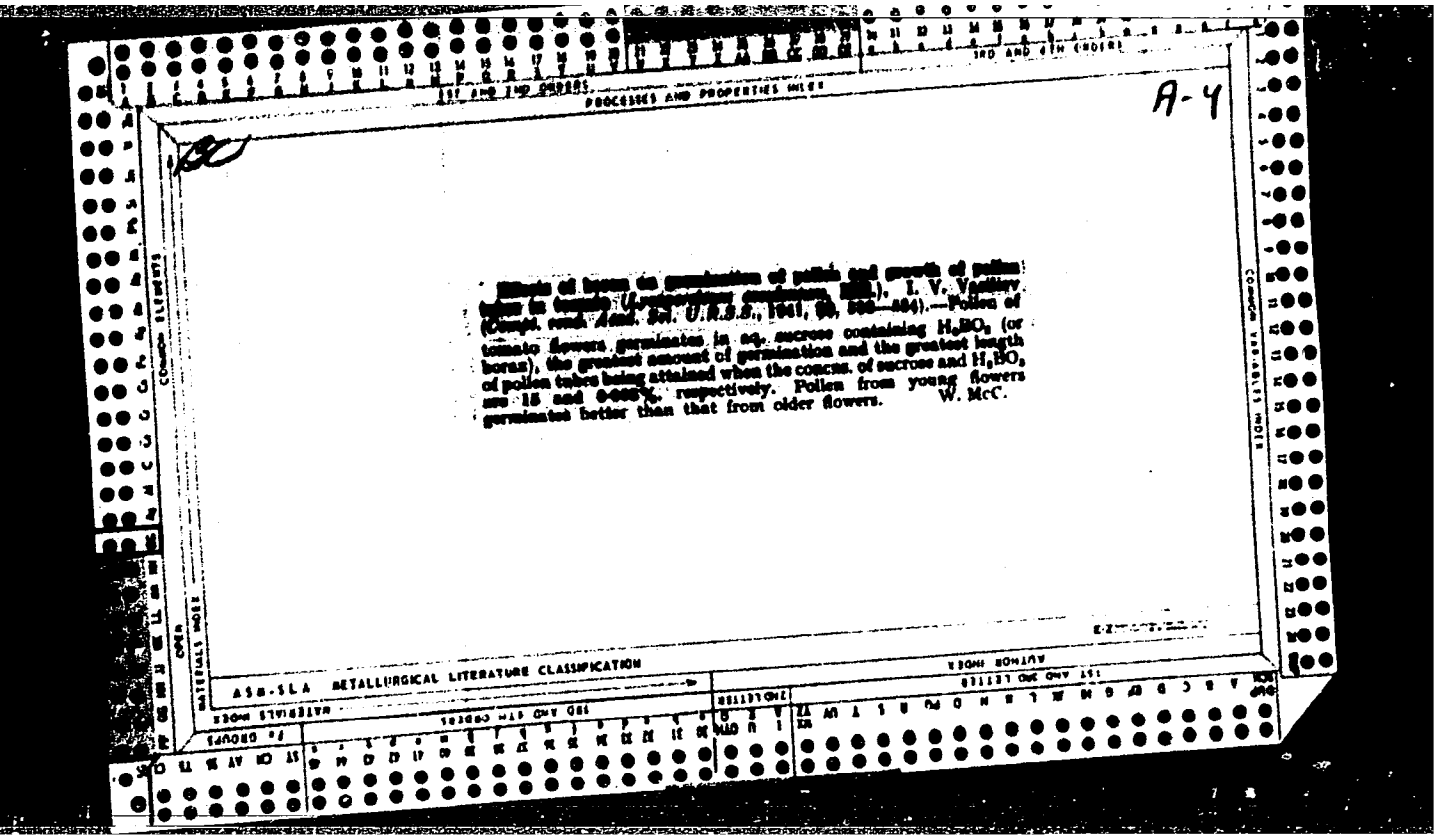
Measuring the smoothness of rubbing surfaces in alkaline and sulfate solutions and the effect of the stressed state on the wear resistance of steel. Trudy Sem.po kach.poverkh.no.5:271-276 '61. (MIRA 15:10)
(Steel—Testing) (Surfaces (Technology))

VASIL'YEV, I. V.

Beet and lupine pests Mensk, 1933. 41 p.

Cyr. 4 SB112

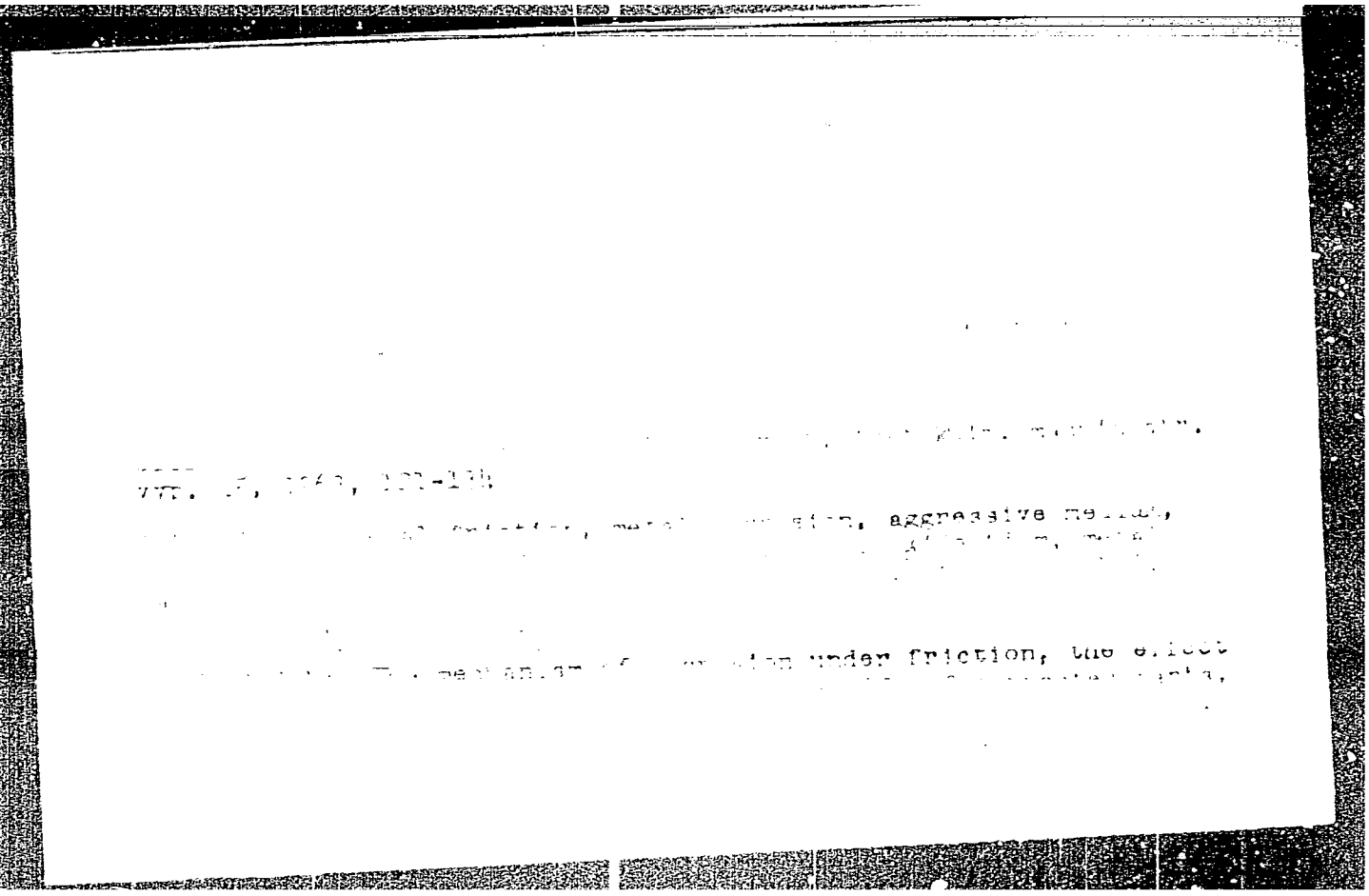


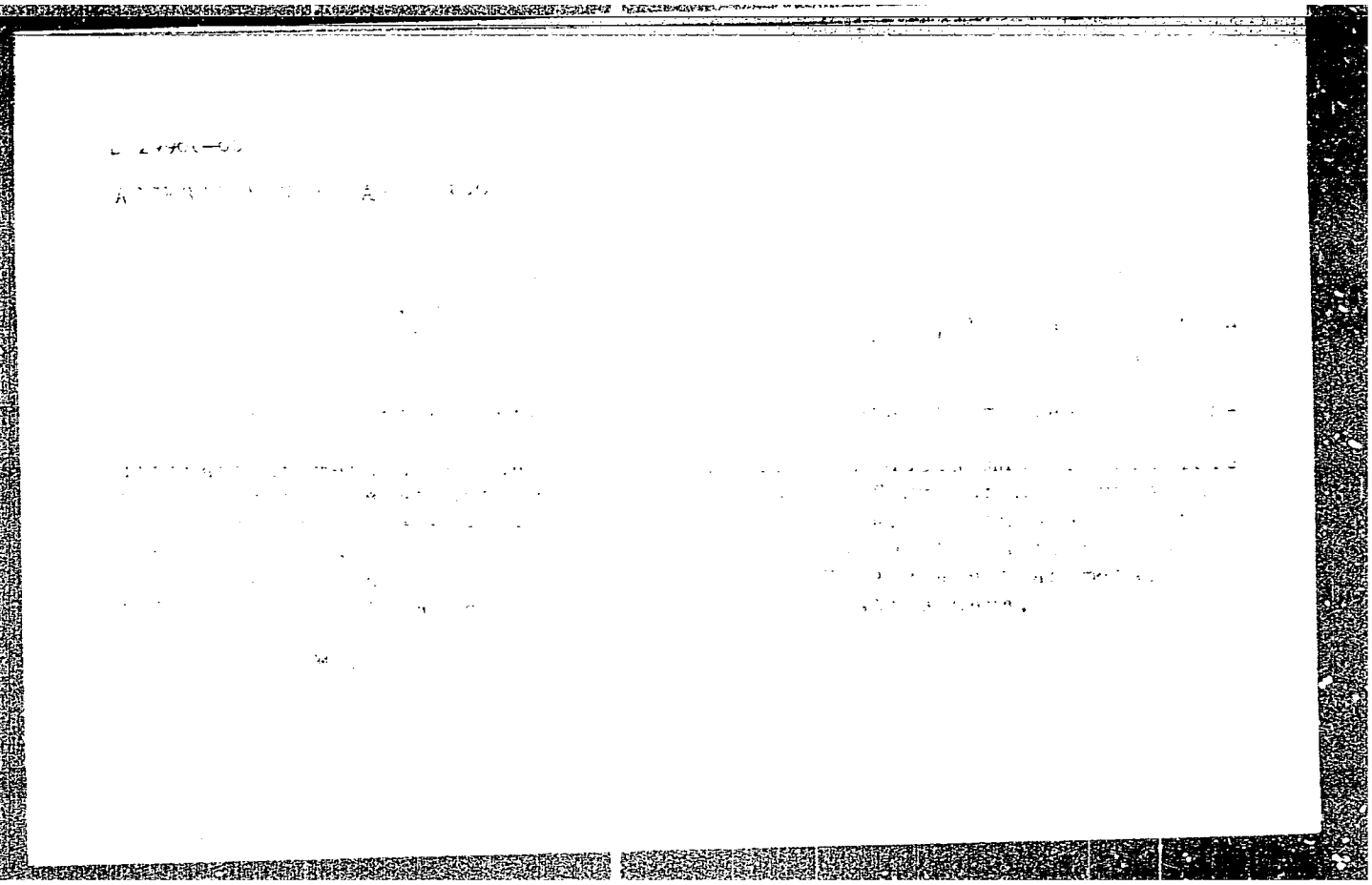


[Illegible] of boron on germination of pollen and growth of pollen tubes in tomato. (Preliminary communication.) I. V. Vasiliev. (Compt. rend. Acad. Sci. U.R.S.S., 1941, 30, 582—584).—Pollen of tomato flowers germinates in aq. sucrose containing H_3BO_3 (or borax), the greatest amount of germination and the greatest length of pollen tubes being attained when the concns. of sucrose and H_3BO_3 are 15 and 0·005%, respectively. Pollen from young flowers germinated better than that from older flowers. W. McC.

RAYKHEL'SON, Yefim Ruvimovich; VASIL'YEV, I.V., red.

[Effect of deviations of geometrical helical cylindrical springs on their manufacture and testing] Vliianie otklonenii geometricheskikh vintovykh tsilindricheskikh pruzhin na ikh izgotovlenie i ispytaniia. Leningrad, 1964. 17 p. (MIRA 18:1)





PA 34T59

VASIL'YEV, I. V.

USSR/Medicine - Insects Mar 1947
Medicine - Agriculture

"Lathromeris Bruchicida to Combat Bruchus Pisorum," Prof I. V. Vasil'yev, ¼ p

"Priroda" No 2

In 1939, it was discovered that the most effective means of combatting Bruchus pisorum L was the use of the Lathromeris bruchicida Vas. This insect was found in the vicinity of Kursk. Its practical use is being studied in more detail in keeping with the new Five-Year Plan for the increase of agricultural products.

ID 34T59

VASIL'EV, I.V.

25829

Biologicheskiy metod bor'by s tutovoy shchitovkoy, Trudy Vsesoyuz in-ta zashchity rasteniy, vyp. 2, 1949, s. 84-89.

SO: Letopis' No. 34

VASIL'YEV, I...

25821. VASIL'YEV, I.V. Novyy parazit-yaytseed lyutsernovogo klopa. Trudy Vsesoyuz. In-Ta zashchity rasteniy, Vyp. 2, 1949, S. 109-10

SO: Letopis' Zhurnal'nykh Statey Vol. 34, Moskva 1949

VASIL'YEV, I. V.

36305 Novyy vreditel' grechikh-grechishnaya listoblosh-KA. Priroda, 1949, No. 11, S. 66

SO: Letopis' Zhurnal'nykh Statey, No. 49, 1949

VASIL'YEV, I. V.

Dissertation: "Lindens of the USSR." Cand Biol Sci, Inst of Botany imeni V. L. Komarov, Acad Sci USSR, Moscow, Oct-Dec 53. (Vestnik Akademii Nauk, Moscow, Jun 54)

SO: SUM 318, 23 Dec 1954

VASIL'EV, I. V.

Floriculture and Landscape gardening pavilion; guide-book Moskva, Goskul't-prosvetizdat, 1954 69 p.

1. Flower shows
2. Plants, Ornamental-Exhibitions. I. Moscow. Vsesoiuznaia sel'skokhoziaistvennaia vystavka, 1954-

BORSUK, Mariya Osipovna; VASIL'YEV, I.V., redaktor; KRASNOVA, N.E., redaktor; POPOV, M.D., tekhnicheskiy redaktor.

[Paleocene flora of Sakhalin (of the conglomerate and lower Dui series)] Paleogenovaia flora Sakhalina (konglomeratnoi i nizhneduiskoi svit). Moskva, Gos. nauchn.-tekhn. izd-vo lit-ry po geologii i okhrane nedr, 1956. 131 p. (Leningrad. Vsesoiuznyi geologicheskii institut. Trudy, vol. 12). (MLRA 9:8)
(Sakhalin--Paleobotany)

L 24863-66 EWP(e)/EWT(m)/EWP(j)/T/ETC(m)-6 IJP(c) WW/DJ/GS/RM/WH

ACC NR: AT6008950 (9) SOURCE CODE: UR/0000/65/000/000/0107/0112

AUTHORS: Vinogradov, Yu. M.; Vasil'yev, I. V.; Gopius, A. D.; Brusnichkin, N. S.

ORG: none

TITLE: The use of antifriction plastics for slip bearings in chemical machine building

SOURCE: Moscow. Institut mashinovedeniya. Plastmassy v podshipnikakh skol'zheniya; issledovaniya, opyt primeneniya (Plastics in friction bearings; research and experiment in application). Moscow, Izd-vo Nauka, 1965, 107-112

TOPIC TAGS: friction coefficient, wear resistance, antifriction material, antifriction bearing, steel, teflon, polyamide / Kh23N27M2T steel

ABSTRACT: Teflon-4 and teflon-40 (with and without fillers), pyroceramic plastics, polyamides, textolites, fiber plastics, and graphite plastics are examined as the currently most promising antifriction materials for chemical machine building. The use of the Kh2M, MT-2, MT2M, and MT-8M friction machines is discussed. The Kh2M is very convenient for laboratory research in aqueous solutions of bases, acids, and salts. The other machines permit the determination of the

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ACC NR: AT6008950

dependence of wear resistance and the friction coefficient upon various factors studied. The life of a bearing assembly was increased to 8000--10 000 hrs by the use of teflon-40. Teflon-4 is found to be unsuitable for use in certain media. In view of the higher chemical stability of teflon-4 and of its good antifriction qualities, work should be continued in creating its compositions with other materials. Orig. art. has: 1 table and 1 diagram.

SUB CODE: 11/ SUBM DATE: 31Jul65

Card 2/2 dda

VASIL'YEV, I.V.; MIROSHNICHENKO, G.A.

Return of the ether-aldehyde fraction to the beer still. Spirt. prom. 28 no.6:16-20 '62. (MIRA 16:10)

1. Lokhvitskiy spirtokombinat.

VASIL'YEV, I.V.

Communist labor competition in the Lokhvitsa Distilling Combine. (MIRA 18:5)
Ferm. i spirt. prom. 31 no.4:4-5 '65.

L 23031-65 EPA(s)-2/EWT(m)/EWP(w)/EPF(c)/EWA(d)/EPR/EWP(j)/T/EWP(t)/

solutions of 65 and 78% sulfuric and hydrochloric

CITED SOURCE: Tr. Vses. n.-i. i konstrukt. in-t khim. mashinostr., vyp. 45, 1963, 135-145

TOPIC TAGS: corrosion, friction, sulfuric acid, hydrochloric acid, aggressive medium, wear resistant alloy, wear resistance/ alloy N65M28, teflon 40 D

TRANSLATION: A method for the investigation of friction and wear of materials for [illegible] for sealing and regulating equipment used in aggressive media is described. Tests were conducted on materials with satisfactory corrosion resistance and on

Card 1/2

L 23031-65

ACCESSION NR: AR4047538

5

metallic samples [illegible] by flame spraying or [illegible] suspension, [illegible] and the solutions of H_2SO_4 with a [illegible]

The foregoing seven words are [illegible] that does not make sense in the original/ fulfills the conditions of boundary friction are based on boundary friction. The conditions for boundary friction on the friction surface, the speed of formation of protective films on the friction [illegible]

Card 2/2

KORNEYEV, M.I., VASIL'YEV, I.V., kand. tekh. nauk; [illegible], Ye.A., inzh.

Block of a 150 Mw. central heating steam-gas power unit. Teploenergetika 12 no.2:12-15 F '65. (MIRA 18:3)

1. TSentral'nyy kotloturbinnyy institut.

VASIL'YEV, Igor' Vladimirovich; MIRONOV, Mstislav Petrovich

[Burma; its economy and foreign trade] Birma; ekonomika i vneshniaia torgovlia. Moskva, Vneshtorgizdat, 1964. 159 p. (MIRA 17:5)

L 1554-66 EWT(d)/EWP(e)/EWT(m)/EWP(w)/EPF(c)/EWP(i)/EWA(d)/EWP(v)/EWP(j)/T/EWP(t)/EWP(k)/EWP(h)/EWP(z)/EWP(b)/EWP(l)/ETC(m) IJP(c) MJW/BW/JD/WW/HW/JG/DJ/GS/RM

ACCESSION NR: AT5020442 UR/0000/65/000/000/0188/0194

AUTHORS: Vasil'yev, I. V.; Yemets, L. F.

TITLE: New sintered metal antifriction materials for friction junctions

SOURCE: AN SSSR. Nauchnyy sovet po treniyu i smazkam. Teoriya smazochnogo deystviya i novyye materialy (Theory of lubricating action and new materials). Moscow, Izd-vo Nauka, 1965, 188-194

TOPIC TAGS: sintered metal material, solid lubricant, teflon/ MT 7 friction apparatus, 1Kh18N9T steel

ABSTRACT: The wear and antifriction properties of sintered metal materials consisting of matrices of low-carbon steel (0.1-0.2 mm spherical powder, compressed at 2 t/cm^2, baked at 1200C), stainless steel 1Kh18N9T (powder pressed at 2 t/cm^2, baked at 1000, 1100, 1200C for 1.3 and 5 hours), bronze (0.2-0.3 mm powder mixed with filler pressed at 1.5, 3.4 and 5 t/cm^2, baked at 850C for 5 minutes) and nickel (0.4-0.2, 0.3-0.4, 0.16-0.2 mm powder pressed at 1, 1.5 and 3 t/cm^2, baked at 1100 C for 1 hour), unsaturated and vacuum saturated with teflon, were investigated on friction apparatus MT-7 at a load of 20 kg/cm^2 and 0.03 m/sec.

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L 1554-66
ACCESSION NR: AT5020442

4

It was found that the wear of low carbon steel and nickel-based materials was very high, while bronze and stainless steel materials gave similar wear and friction results with teflon saturated matrices giving vastly improved characteristics: bronze-wear - 0.0001-0.0035 gm/hr, coefficient of friction 0.01-0.05 for teflon saturated vs 0.18-0.22 and 0.28-0.32 for unsaturated; steel-- 6×10^{-5}-0.08 and 0.01-0.09 saturated vs 0.09-0.22 and 0.22 unsaturated. Bearing tests conducted in 30 and 60% nitric acid and in 1% caustic soda solution showed that saturated 1Kh18N9T material on chrome-plated 1Kh18N9T surface and saturated bronze on 1Kh18N9T gave best results respectively. End seals operating in 30% nitric acid showed least wear and friction when made of saturated 1Kh18N9T material rubbing against a chrome surface. Orig. art. has: 4 tables.

ASSOCIATION: none

SUBMITTED: 22May65 ENCL: 00 SUB CODE: FP, MM

NO REF SOV: 000 OTHER: 000

Card 2/2 SD

MAGULA, Valentin Emmanuilovich, kand. tekhn. nauk; DRUZ', Boris Ivanovich, kand. tekhn. nauk; KULAGIN, Vitaliy Dmitriyevich, kand. tekhn. nauk; Prinimal uchastiye LUKIN, G.Ya., kand. tekhn. nauk; GORYANSKIY, Yu.V., dots., retsenzent; GULIYEV, Yu.M., dots., retsenzent; KOKHANOVSKIY, K.V., dots., retsenzent; LEBEDEV, A.M., dots., retsenzent; SPITKOVSKIY, M.I., dots., retsenzent; VASIL'YEV, I.V., dots., retsenzent; SERKO, G.S., red.; TIKHONOVA, Ye.A., tekhn.red.

[Theory and the structural arrangement of ships] Teoriia i ustroistvo sudov. Moskva, Izd-vo "Morskoi transport," 1963. 494 p. (MIRA 17:3)

VASIL'YEV, I.V., red.; SOKOL'SKIY, I.F., red. izd-va; PETROVSKAYA, Ye., tekhn. red.

[Housing and community facilities in the R.S.F.S.R.] Zhilishchno-kommunal'noe khoziaĭstvo RSFSR; sbornik statei. Moskva, Izd-vo M-va kommun.khoz. RSFSR, 1954. 255 p. (MIRA 16:7)

(Housing) (Public service)

S/277/63/000/004/001/013
A004/A127

AUTHORS: Vasil'yev, I.V., Kireyeva, Z.P.

TITLE: Selection of materials for face seals operating in 25% sulfuric acid solution

PERIODICAL: Referativnyy zhurnal, Otdel'nyy vypusk. 48. Mashinostroitel'nyye materialy, konstruktsii i raschet detaley mashin, no. 4, 1963, 2, abstract 4.48.3. (Tr. Vses. n.-i. i konstrukt. in-t khim. mashinostr., 1961, no. 37, 122 - 130)

TEXT: The steel grades Х18Н12М3Т (Kh18N12M3T) and Х23Н28М3Д3 (Kh23N28M3D3), Castalloy D, ПК-О (PK-O) carbon graphite, 15Д (15D) carbon graphite, 15Е (15Ye) graphite impregnated with resin, were tested for friction and wear in a 25% H_2SO_4 solution for choosing material for face seals. The best friction couple with regard to wear resistance and magnitude of friction coefficient is Kh18N12M3T grade steel and PK-O carbon graphite impregnated with resin. In choosing metals for friction couples operating in a 25 % H_2SO_4 solution it is necessary to pay special attention to their corrosion resistance, since all the other metal properties (hardness, workhardening

Card 1/2

Selection of materials for face seals... S/277/63/000/004/001/013
A004/A127

properties) at the given conditions affect the steel wear processes to a lesser extent.

[Abstracter's note: Complete translation.]

Card 2/2

9

S/514/61/000/005/009/014
I/001/I207

AUTHOR: Vasil'yev, I.V.

TITLE: Changes in the surface finish of conjugated surfaces during friction in alkaline and sulfate solutions and the effect of stressed state on the wear resistance of steel

SOURCE: Akademiya nauk SSSR. Komissiya po tekhnologii mashinostroyeniya. Seminar po kachestvu poverkhnosti Trudy. no.5,1961. Kachestvo poverkhnosti detaley mashin; metody i pribory, uprochneniye metallov, tekhnologiya mashinostroyeniya, 271-276.

TEXT: Detailed results are reported on investigations carried out to establish the action of corrosive media during friction on the wear resistance of metals, in dependence on the metal and testing or field conditions. The following problems were studied: 1). Changes in the surface finish U8A (U8A) and Ch.3 (St.3) steel specimens during metal-to-metal friction in a 5 percent NaOH solutions: tests were carried out on the MI-1 (MI-1) friction machine; 2). Changes in the surface finish of X23H27M2T (Kh23N27M2T) steel specimens during metal-to-non-metal friction

Card 1/2

·/514/61/000/005/009/014
I/001/1207

Changes in the surface...

in a 15 percent H_2SO_4 solution; test were conducted on a MT-2 fruction machine. The test results confirm the fact that the combined action of friction and corrosive media causes mechanical-corrosive wear, basically differing from wear in non-agressive media. As it was found, during mechanical-corrosive wear changes occur in the surface finish of the metal, both in direction of increasing or decreasing the surface irregularities roughness. If the surface layer of metal components subjected to friction, only changes under the action of corrosive processes, the corrosion resistance of the conjugated components should be increased in order to increase wear resistance. Stresses applied to components working in corrosive media modify the wear resistance. Plastic tensile stresses increase wear resistance since they counteract compressive stresses appearing in the thin surface-layer during friction. However, increase in tensile stresses until the yield strength is attained is liable to increase wear. On the other hand elastic tensile stresses increase wear of metals. There are 3 figures, 1 table and 3 references. Abstractor's note: The reader is particularly referred to the works by P.A. Rebinder mentioned in reference no.2, one of the leading Soviet scientists in the field

Card 2/2

VASIL'YEV, I.V.

Testing the wear of materials caused by friction in an aggressive medium. Tren.i izn.mash. no.15:59-77 '62. (MIRA 15:4)
(Mechanical wear—Testing)

SIDAK, Rostislav Nikitovich; VASIL'YEV, Ivan Vasil'yevich; PROZOROV, S.I., red.; SEVRYUKOV, P.A., tekhn. red.

[Mechanized harvesting of peas and vetch; from the experience of the L'gov Experimental Plant-Breeding Station] Mekhanizatsiia uborki gorokha i viki: iz opyta L'govskoy opytno-selektsionnoi stantsii. Kursk, Kurskoe knizhnoe izd-vo, 1961. 34 p. (MIRA 15:7)

(Peas--Harvesting) (Vetch--Harvesting)

KRAGEL'SKIY, Igor' Viktorovich; VINOGRADOVA, Irina Ernestovna; VASIL'YEV, I.V., inzh., retsenzent; YEGORKINA, L.I., inzh., red.; SMIRNOVA, G.V., tekhn. red.

[Friction coefficients; manual] Koeffitsienty treniia; spravochnoe posobie. Izd.2., perer. i dop. Moskva, Mashgiz, 1962 217 p. (MIRA 15:7)

(Friction)

S/123/62/000/014/006/020
A004/A101

AUTHOR: Vasil'yev, I. V.

TITLE: Investigating nonmetallic materials for slide bearings used under certain friction conditions in chemical machine construction

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 14, 1962, 27, abstract 14A170 (In collection: "Plastmassy kak antifrikts. materialy". Moscow, AN SSSR, 1961, 86 - 95)

TEXT: The author presents the results of investigating various bearing materials (textolite, fluoroplastic, graphitic carbon) in a 1% NaOH solution and in a 15% H_2SO_4 solution on the X 2 M (Kh2M) friction machine and MT-2 machine of NIIKhIMMash design. Based on the investigations, the author recommends the use of fluoroplastic-4 as material for bearing bushes operating in alkali media. For operation in a 15% H_2SO_4 solution, graphitic carbon impregnated with resins is suggested.

[Abstracter's note: Complete translation]

Card 1/1

VASIL'YEV, Ig.V.

Impressions of Nelumbo leaves from Tertiary deposits of Kazakhstan. Paleont.zhur. no.1:139-143 '61. (MIRA 14:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut.
(Kazakhstan—Lotus, Fossil)

VASIL'YEV, I.V., dnzh.; GOPIUS, A.D., tekhnik

Investigating antifriction properties of materials for sliding bearings operating in chloride solutions. Trudy NIIKHIMMASH no.27:137-141 '59. (MIRA 14:8)
(Bearings (Machinery))

VASIL'YEV, I.V.

Taxonomy and geography of birches. Bot. mat. Gerb. 21:93-103 '61. (MIRA 14:10)
(Birch)

VASIL'YEV, I.V., inzh.

Some dependences of the wear process in metals subjected to friction in alkaline solutions. Trudy NIIKHIMMASH no.27:110-119 '59. (MIRA 14:8)
(Mechanical wear) (Steel--Corrosion)

VASIL'YEV, I.V., inzh.; GOPIUS, A.D., tekhnik

Investigating antifriction properties of materials for sliding bearings operating in an alkaline medium. Trudy MIKHIDMASH no.27:120-126 '59. (MIRA 14:8)
(Bearings (Machinery))

VASIL'YEV, I.V., inzh.; KHARITONOV, V.K., inzh.

Selecting materials for end face sealings for operation in a sulfuric acid medium. Trudy NIIKHIMMASH no.27:127-136 '59.
(MIRA 14:8)

(Corrosion resistant materials)

S/663/61/000/000/009/009
D040/D112

AUTHOR: Vasil'yev, I.V.

TITLE: An investigation of the behavior of nonmetallic sleeve-bearing materials under some friction conditions in chemical machinery service

SOURCE: Plastmassy kak antifriktsionnyye materialy. Inst. mashinoved. AN SSSR. Moscow, Izd-vo AN SSSR, 1961, 86-95

TEXT: The article presents the results of wear tests of some plastics working under friction in 1-% NaOH and 15-% H_2SO_4 solutions. The tests were made on two different laboratory test machines - the Kh2M (Kh2M), by a method suggested by M.M. Khrushchov and M.A. Babichev (Ref. 2: Sb. "Treniye i iznos v mashinakh" [Collection "Friction and wear in machines"], X, 1955), and on the MT-2 (MT-2) machine designed by NIIKhIMMASh, by a method developed at the latter institute. The following materials were tested: teflon, E (Ye) graphite impregnated with lead and nonimpregnated, D (D) carbographite (uglegrafit), PK-O (PK-O) carbographite impregnated with resin and nonimpregnated, and 2B (2B) textolite. The article includes the description and

Card 1/2

An investigation of the ...

schematic diagrams of both machines, and details of the test techniques. In the Kh2M machine a rotating disk wears away a groove in the test specimen, the wear being evaluated according to the volume of the groove, whilst in the MT-2 machine the specimens are in the form of a bush and a journal, the wear of the bush being determined by its loss of weight, or by micrometer measurements before and after the test. The bearing materials were tested with disks and shafts of various materials - steels 45, 20, Р18 (R18) and Х23Н27М2Т (Kh23N27M2T), СЧ18-36 (SCh 18-36) cast iron, 2B textolite and БрКМц-3-3 (BrKMts-3-3) bronze. Conclusions: (1) The dependability of antifriction plastics in friction in corrosive media depends not on their chemical stability alone, but also on the corrosion resistance of the metals with which they are coupled. (2) Teflon is recommended for bearings intended for service in an alkaline medium. As the temperature of the alkaline medium affects the wear resistance of teflon, it is recommended to use teflon for non-vital friction connections or where the friction is hydrodynamic. (3) The KhM and MT-2 machines and the described test methods are recommended for testing materials for wear resistance in corrosive media. The results, obtained in tests made on both machines, were the same. There are 8 figures, 3 tables and 4 Soviet references.

Card 2/2

BORKHVARDT, V.S.; VASIL'YEV, I.V.; KOZLOVSKAYA, N.V.; MARKOVSKAYA, L.A.; MINYAYEV, N.A.; MURAV'YEVA, O.A.; SERGIYEVSKAYA, Ye.V.; SOKOLOVSKAYA, A.P.; FLOROVSKAYA, Ye.F.; SHISHKIN, B.K.,prof.; YUZEPCHUK,S.V.,prof. [deceased]; KARPOVA, L.A., red.; ZHUKOVA, Ye.G., tekhn. red.

[Flora of Leningrad Province] Flora Leningradskoi oblasti. Otv. red. B.K.Shishkin. Leningrad, No.3. 1961. 266 p. (MIRA 14:10)

1. Leningrad. Universitet. 2. Chlen-korrespondent AN SSSR (Shishkin). 3. Kafedra botaniki Leningradskogo Ordena Lenina gosudarstvennogo universiteta im. A.A. Zhdanova (for Sergiyevskaya, Yuzepchuk).
(Leningrad Province--Dicotyledons)

S/123/60/000/02/02/015

18,8000

Translation from: Referativnyy zhurnal. Mashinostroyeniye, 1960, No. 2, p. 22, # 5179

AUTHOR: Vasil'yev, I. V.

TITLE: Investigating Wear and Jamming Processes of Materials During Friction

PERIODICAL: Sb. statey. Vses. n.-i. i konstrukt. in-t khim. mashinostr., 1958, Vol 25, pp. 163-177

TEXT: If metals are subjected to friction in active media (aqueous solutions of acids, alkalis, salts), the reaction of the chemical medium on the surface of friction causes a peculiar type of wear which is called corrosive-mechanical wear. The author gives an account of investigation results which were obtained at the NIIKhIMMASh with the selection of materials for sliding bearings of an electrolytic tinplating device, operating in an alkali medium. The abrasion tests were carried out on the X2M (Kh2M) friction machine in a 1%-alkali medium. The author cites the testing methods and the machine layout. Jamming phenomena were studied on the

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Investigating Wear and Jamming Processes of Materials During Friction

ЛТС-4 (LTS-4) friction machine. It was found that the wear of fluoroplastic-4 was by 5 times lower than that of the 20 grade steel and CЧ 18-36 (SCh 18-36) cast iron, while the wear of ПК-0 (PK-0) graphite exceeds that of fluoroplastic-4 by 7 times. All materials, excluding graphite, show an abrupt increase of volumetric wear if the temperature of the medium is raised from 20 to 80°C. The wear of fluoroplastic-4 at a temperature of 78°C is by 3.5 times higher than at 25°C. The metal tests for resistance to jamming showed that a 1% aqueous alkali solution increases the load capacity of the steel grades 20 and 45 in comparison with spindle oil. This is explained by the fact that an alkali medium prevents the seizing of metals by reducing the plastic deformation of the surface layer.

L. B. P.

Card 2/2

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ANASHKIN, I.A., kapitan 1 ranga; BARABOLYA, P.D., polkovnik yuridicheskoy sluzhby; VOLKOV, A.S., inzh.-kapitan 1 ranga; VOROB'YEV, A.P., kapitan 1 ranga; VASIL'YEV, I.V., kapitan 1 ranga zapasa; V'YUZHKO, N.P., kand.voyenno-morskikh nauk, kapitan 1 ranga; GENKIN, A.L., dotsent, kand.tekhn.nauk, inzhener-kontr-admiral; YEREMENKO, B.Ya., kapitan 1 ranga; ZVEREV, B.I., kand.istor.nauk, mayor; KAZANKOV, A.A., kapitan 1 ranga; KOZIN, K.K., kapitan 1 ranga zapasa; KOLYADA, N.I., kapitan 1 ranga zapasa; KULINICH, D.D., inzh.-kapitan 1 ranga; LOBACH-ZHUCHENKO, M.B., dotsent, inzhener-kapitan 2 ranga zapasa; MASHAROV, A.I., polkovnik zapasa; MYASISHCHEV, V.I., inzhener kontr-admiral; PETROV, L.G., kapitan 1 ranga v otstavke; PROKOF'YEV, V.M., kapitan 1 ranga; POZNAKHIRKO, A.S., kapitan 1 ranga zapasa;

(Continued on next card)

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