NOVIKOVA, L.A.; RUSSINOV, V.S., SEMIOKHINA A.F.

Electrophysiological analysis of shunting function in the cerebral cortex in rabbit in the presence of dominant focus. Zh. vysshei nerv. deiat. 2 no. 6:844-861 Nov-Dec 1952. (CLML 24:1)

1. Physiological Laboratory of the Institute of Neurosurgery imeni Academician N. N. Burdenko of the Academy of Medical Sciences USSR.

SEMIOKHINA, A.F.; IVANOV, D.D.; GOLUBITSA, A.N.

Study of the psychotropic preparation VL-2 on a model of audiogenic epilepsy. Nauch.dokl.vys.shkoly; biol.nauki no.4:71-73 '65. (MIRA 18:10)

1. Rekomendovana kafedroy fiziologii vysshey nervnoy deyatel'nosti Moskovskogo gosudarstvennogo universiteta im. M.V.Lomonosova.

SEMIOKHINA, A. F., Cand Biol Sci -- (diss) "Bioelectrical activity of the cerebral cortex and subcortical formations during epileptiform convulsive seizure and in experimental motor neurosis." Mos, 1958. 11 pp (Mos State Univ im M. V. Lomonosov, Biol-Soil Faculty), 110 copies (KL, 18-58, 97)

SEMIOKHINA, A.F.

Electrophysiological investigations of the auditory and motor analysors in experimental motor neurosis. Zhur.vys.nerv.deizt. 8 no.2:278-285 '58. (MIRA 13:1)

1. Laboratory of Pathophysiology, Chair of Physiology of Higher Nervous Activity, Moscow University.
(NEUROSES, experimental,
electrophysiol. activity of cortical & subcortical auditory & motor areas in motor neuroses in animals (Rus))
(BRAIN, physiology,
same)

SEMICHINA, A.F.

Study of the effect of ionizing radiation on a model of reflex epilepsy. Radiobiologiia 2 no.1:69-74 Ja '62 (MIRA 18:1)

VIKOL'NIRSKIY, V.N., kand. ist. nauk, red.; GRANCHAK, I.M., red.; IVANOV, S.D., red.; KLIMPOTYUK, M.V., red.; KUCHERUK, V.M., red.; SEMION, I.V., red.

[Soviet Transcarpathia; a reference book] Sovetskoe Zakarpat'e; spravochnik. Uzhgorod, Karpaty, 1965. 221 p. (MIRA 18:9)

SEMION, I. Z.

360

Synthesis of homologs of taurine by the Leuckart reaction. A. E. Terent'ev, V. M. Potapov, and I. Z. Semion (State Univ., Moscow). *Zhur. Obshchei Khim.* 25, 2334–7 (1955). —$BzCH_2SO_3H$ (from 0.4 m. AcPh with dioxane-SO_3) neutralized with NH_4OH, evapd., and the crude NH_4 salt heated 6 hrs. to 165° with 1 mole $HCONH_2$ gave on cooling and stirring with 60 ml. EtOH 62.4% *PhCH(NHCHO)CH₂SO₃NH₄*, decomp. 231° (from H_2O). Heated briefly with aq. H_2SO_4 it gave a ppt. of *PhCH(NH₂)CH₂SO₃H*, decomp. 314° (purified by pptn. from NH_4OH with HCl), sparingly sol. in hot H_2O, giving PhCH:$CHSO_3NH_4$ on treatment with $NaNO_2$-HCl and PCl_5, then NH_3, thus confirming its structure. The NH_4 salt in the above synthesis can be replaced by the Fe salt, while $HCONH_2$ may be replaced by HCO_2NH_4 (heating in this case should be 5 hrs. at 200°, and the best yield (64%) is obtained with 2 moles formate to 1 mole sulfo deriv.; some H_2S is evolved during the reaction, indicating a reduction of the sulfo group, which accounts for the reduced yield). Similarly *p*-$MeC_6H_4COCH_2SO_3H$ heated with 3 moles HCO_2NH_4 2 hrs. to 220° (final temp.) gave 29% *p-MeC₆H₄CH(NH₂)CH₂SO₃H*, decomp. 347°. 2,4-$Me_2C_6H_3Ac$ (0.4 mole) with dioxane-SO_3 in $(CH_2Cl)_2$ 2 hrs. at 5–15° pptd. 80% *2,4-Me₂C₆H₃COCH₂SO₃H*, decomp. 178–9° (from Me_2CO); *NH_4 salt*, decomp. 170–1°; *S-benzylisothuronium salt*, m. 156°. The NH_4 salt (0.05 mole) heated with 6 g. urea and 15 ml. HCO_2H 6 hrs., finally to 150°, then refluxed 0.5 hr. with 40 ml. 1:1 HCl, gave 47% *2,4-$Me_2C_6H_3CH(NH_2)CH_2SO_3H$*, m. 312°. G. M. Kosolapoff

32225

S/[illegible]/61/000/004/020/025
E073/[illegible]

18.8200 2408

AUTHORS: Moskutov, A. I., Kuznetsov, V. I. and Semion, L. A.

TITLE: Influence of the parameters of cyclic heat treatment on the irreversible changes in the dimensions of aluminium specimens

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika, no. 4, 1961, 151-156

TEXT: Cyclic heat-treatment changes the shape and dimensions of the specimens. The changes in the dimensions depend on a number of factors: nature of the material, its structure and properties, the chemical composition, the character of the preliminary heat treatment, the shape and dimensions of the specimens and the parameters of the cyclic heat-treatment. Some authors have found that materials with body centred cubic lattices tend to assume after cyclic heat-treatment a spherical shape, whilst materials with a face-centred cubic lattice or with anisotropic properties tend to change their shape in such a way that the maximum dimensions increase and the minimum dimensions decrease. However, metals appear to have a more complicated behaviour pattern. The shape and

Card 1/5

Influence of the parameters of ...

maximum and minimum temperatures of the cycle were 500°C and 20°C. During the experiments the speed of heating and cooling was varied by using differing heating and cooling media, as follows:
1. Heating in an electric furnace in air, cooling in running water;
2. Heating under similar conditions and cooling by a jet of air at room temperature, using a blower;
3. Heating in a saltpetre bath, cooling with a jet of air from a blower; and
4. Heating in a saltpetre bath, cooling in alcohol at room temperature.
In addition to measuring the dimensions, tensile tests were made to determine the strength and elongation. Fig.1 shows the relative percentual changes in the dimensions as a function of the number of thermal cycles, whilst Fig.2 shows the mechanical properties (σ_B, kg/mm^2 and $\Delta\ell$ k/ℓ_o,%) versus number of thermal cycles. The numbers on the curves indicate the respective heat-treatments as listed above. It can be seen from Fig.1 that the magnitude and sign of the dimensional changes during cyclic heat-treatment are determined by the combination of the speeds of

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heating and cooling. The greatest change is observed during slow heating and fast cooling; rapid heating and slow cooling has an opposite effect and thus leads to a shortening of cylindrical specimens. If in both cases the rate of heating is the same, the effect will increase with decreasing cooling speed. If slow heating is combined with slow cooling, there will be no residual change in the length of the specimens. The results show that earlier evidence of a deep in the maximum dimensions of aluminium specimens was not accidental. It was found that for materials with both cubic face-centred as well as body-centred crystal lattices the sign of the change in the dimensions is determined by the conditions of carrying out the cyclic heat-treatment. Residual changes in the dimensions are explained by stress relaxation produced during heating and cooling. If the conditions of heating and cooling are changed, the temperature distribution, the thermal stresses and the strength properties along the cross-section change. Any thermal cycling will lead to elastic-plastic deformations, unless the temperature range is very narrow. Hence there will be residual changes in the dimensions of the specimen

KOGAN, V.A.; SEMIONOV, A.A. (Moscow)

Phase diagram of alloys of the lead-enriched system lead - antimony - tin. Zhur. fiz. khim. 37 no.4:802-809 Ap '63. (MIRA 17:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut poligraficheskoy promyshlennosti.

ALEKSAKHIN, I.A., inzh.; SEMIONOV, A.A., kand.tekhn.nauk

Zinc angle of the system Zn - Al - Mg. Metalloved.i term.obr. met. no.4:41-45 Ap '62. (MIRA 15:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut poligraficheskoy promyshlennosti.
(Zinc-aluminum-magnesium alloys--Thermal properties)

KOGAN, V.A.; SEMIONOV, A.A.

Fluidity of ternary alloys in the system Pb - Sb - Sn. Lit.proizv. no.9:32-34 S '62. (MIRA 15:11)
(lead-antimony-tin alloys--Thermal properties)
(Liquid metals)

KOGAN, V.A., kand.tekhn.nauk; SEMIONOV, A.A., kand.tekhn.nauk

Shrinkage of alloys in the lead corner of the system lead - antimony - tin. Metalloved. i term. obr. met. no.11:31-36 N '62. (MIRA 15:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut poligraficheskoy promyshlennosti.
(Lead alloys—Testing)

SEMIONOV, L.

On the road toward the shortest working day in the world.
Przegl techn no.44:3 2 N '60.

L 11012-66

ACC NR: AP6004615 SOURCE CODE: CZ/0083/65/000/001/0008/0012

AUTHOR: Semionov, S.F.

ORG: Central Scientific and Research Institute of Forensic Psychiatry, Moscow

TITLE: Basis of the neuroallergic hypothesis of pathogenesis of schizophrenia

SOURCE: Ceskoslovenska psychiatrie, no.1, 1965, 8-12

TOPIC TAGS: psychoneurotic disorder, pathogenesis, immunology, allergic disease, infective disease, drug treatment, blood

ABSTRACT: Immunological irregularities in the development of schizophrenia are discussed; deterioration of schizophrenia and allergic diseases as a result of infectious diseases is evaluated. Adaptation processes developing defensive substances are described. Circulation of the decomposition products of the brain in the blood system is discussed; the presence of brain antigens in the blood is evaluated. Skin tests for the determination of allergy are described. Treatment of allergies by drugs is discussed. Allergy as a component of pathogenesis of schizophrenia is evaluated. Influence of alcohol upon these factors is discussed.
[JPRS]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 015 / OTH REF: 003

Card 1/1 HW

L 30079-65 EWT(m)/EWA(d)/T/EWP(t)/EWP(k)/EWP(b) IJP(c) JD/HW

ACCESSION NR: AT5002021 S/2910/64/004/003/0389/0397

AUTHOR: Barshauskas, K. M. (Barsauskas, K.); Bendoryus, R. A. (Bendorius, R.); Semenov, Ya. A. (Semionovas, J.); Shileyka, A. Yu. (Sileika, A.)

TITLE: Effect of hydrostatic pressure on the transmission spectrum of lead sulfide

SOURCE: AN LitSSR. Litovskiy fizicheskiy sbornik, v. 4, no. 3, 1964, 389-397

TOPIC TAGS: lead sulfide, transmission spectrum, forbidden zone, semiconductor, temperature coefficient, hydrostatic pressure

ABSTRACT: The authors investigated the effect of pressure (change of the lattice constant) on the width of the forbidden zone in PbS as well as the change in the width of the forbidden zone as a function of temperature $(\partial \varepsilon_g / \partial T)_p$. The investigation was carried out by a study of the transmission spectra of PbS at different pressures. Knowing $(\partial \varepsilon / \partial P)_T$ it is possible to calculate the role of the width of the forbidden zone. The article also describes a high pressure chamber for optical measurements (see Fig. 1 of the Enclosure). The pressure in the chamber was measured with a manganin manometer and optical measurements were carried out by means of an IKS-12 infrared spectrometer. The samples were 0.17 - 0.50 mm thick plates of natural galena. The investigated single crystal specimens were the p-type. The transmission spectrum for a natural PbS single crystal at differ-

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L 30079-65

ACCESSION NR: AT5002021

3

ent pressures is shown in Figure 2 of the Enclosure. The pressures were as high as 3000 kg/cm^2. From the rate of change in the edge of the transmission spectrum with pressure toward longer wavelengths, the coefficient of change of the forbidden zone with pressure was found to be $(\partial E_g/\partial P)_T = (9.5\pm0.8)\cdot10^{-6}$ ev·cm^2/kg. On the basis of the results obtained, the possible causes for the positive temperature coefficient of the forbidden zone are outlined. With increasing pressure, an increased absorption was observed which is due to free carriers. "The authors are grateful to V. B. Toluta for furnishing the natural ZnO single crystals for the optical measurements." Orig. art. has: 3 formulas, 3 figures and 1 table.

ASSOCIATION: Institut fiziki i matematiki Akademii nauk Litovskoy SSR (Physics and mathematics institute, Academy of sciences, Lithuanian SSR); Kaunasskiy politekhnicheskiy institut (Kaunas polytechnic institute)

L 30079-65

ACCESSION NR: AT5002021 ENCLOSURE: 01

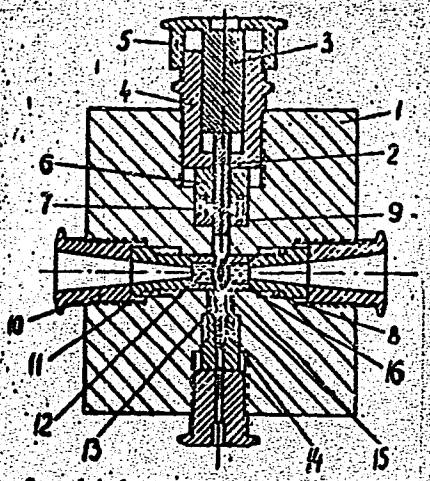

Figure 1. Schematic view of a high pressure chamber: 1 - housing; 2-piston; 3- guide; 4, 10-grip nut; 5- lock nut; 6, 11- pressure rings; 7,8- gaskets; 9- carrier ring; 12- fuzed quartz window; 13- manganin; 14- electric input; 15- crystal holder; 16- crystal.

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L 30079-65

ACCESSION NR: AT5002021 ENCLOSURE: 02

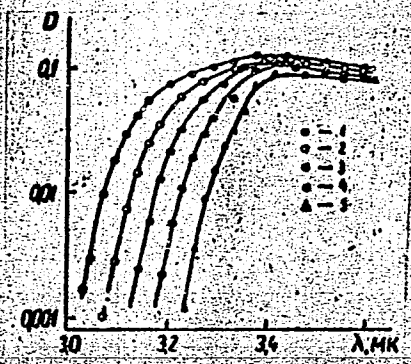

Figure 2. Transmission spectrum of natural PbS single crystals at different pressures:
1- 1, 2- 700, 3- 1400, 4- 2000 and 5- 2750 kg/cm^2.

Card 4/4

MUSATOV, A.,slesar'; KHOMYAKOV, S.,brigadir elektrikov; ZHELAGIN, G.,tokar';
SEMIOSHIN, M.,slesar';

Tool for straightening and cutting steel wire up to 6 mm. in diameter. Na stroi.Mosk. no.1:28 Ja '59. (MIRA 12:1)

1. Trest Mosstroy No.4 (for all). 2. Stroitel'nyy uchastok-21 (for Musatov, Khomyakov). 3. Stroitel'nyy uchastok-19 (for Semioshin, Zhelagin).
(Wire) (Cutting machinery)

SEMIOSHKO, V.M., gornyy inzh.; GOL'DBERG, Yu.S., gornyy inzh.

Complete treatment by flotation of 2d- and 3d- class manganese concentrates. Gor. zhur. no.10:58-61 O '63. (MIRA 16:11)

1. Mekhanobrchermet, Krivoy Rog.

OSTAPENKO, Pavel Yefimovich; SEMIOSHKO, Vasiliy Markovich; MARGULIS, V.S.; SHINKORENKO, S.F.; SHUPOV, L.P.; KUCHER, A.M.; KOSOY, G.M.; LIBEFORT, Yu.I.; GEDZ', N.M.; KRUTIY, V.V.; BELONOZHKO, I.F.; GUBIN, G.V.; KHERSONETS, L.N.; BARANOV, V.G.; PODKOSOV, L.G., otv. red.

[New developments in the dressing of ferrous metal ores] Novoe v obogashchenii rud chernykh metallov.[By] P.E. Ostapenko i dr. Moskva, Nedra, 1965. 169 p. (MIRA 19:1)

SEMIOTROCHEV, V.L.; BARAK, TS.M.; SPITSIN, M.P.; POPINYAN, I.O.; YERUSHEVA, L.F.; MISALEVA, O.S.

Pasteurellosis in man in Kazalinskiy District of Kzyl-Orda Province. Zhur. mikrobiol., epid. i immun. 42 no.8:143-144 Ag '65.
(MIRA 18:9)

1. Sredneaziatskiy nauchno-issledovatel'skiy protivochumnyy institut, Alma-Ata.

VASIL'YEVA, A.N.; GAMAYUNOVA, A.P.; GOLOSKOKOV, V.P., kand. biol. nauk; OBAZOVA, A.; ROLDUGIN, I.I.; SEMIOTROCHEVA, N.L.; FISYUN, V.V.; MENZHULINA, N.A., red.; ALFEROVA, P.P., tekhn. red.

[Illustrated guide to plants of the family Leguminosae of Kazakhstan] Illiustrirovannyi opredelitel' rastenii semeistva bobovykh Kazakhstana. Alma-Ata, Izd-vo Akad. nauk Kazakhskoi SSR, 1962. 357 p. (MIRA 15:6)

1. Akademiya nauk Kazakhskoy SSR, Alma-Ata. Institut botaniki.
(Kazakhstan—Leguminosae)

SEMICHROCHEVA, N.L.

Chemical Abst.
Vol. 48 No. 9
May 10, 1954
Biological Chemistry

(2)

Absorption of water by the living plant cells as an active physiological process. B. I. Shcherbakov and N. L. Semichrocheva. *Doklady Akad. Nauk S.S.S.R.* 93, 721-4 (1953).—Wheat leaves exposed to $CHCl_3$ vapors suffer a drop in water absorption capacity and in total H_2O content. Similarly, the wheat plants grown in an atm. contg. $CHCl_3$ vapors show a decline in the dynamics of H_2O uptake. Water content of leaves [illegible] time of wilting is far below normal and replenishment of H_2O supply does not bring it up to normal levels. Water absorption capacity, however, at wilting is high. G. M. Kosolapoff

Institut introduktsii rasteniy i osvoyeniya pustyn' Akademii nauk Kazakhskoy SSR
(Plants--Absorption of water)

GOLOSKOKOV, V.P.; SEMIOTROCHEVA, N.L.

New caltrop from Bet-Pak-Dala. Izv.AN Kazakh.SSR.Ser.bot.i pochv. no.1:73-76 '60. (MIRA 13:6)
(Bet-Pak-Dala--Caltrop)

SEMIOTROCHEVA, N.L.

Mineral supplements as a means of increasing the growth energy of tree and shrub seedlings and plants in Dzhezkazgan. Trudy Inst.bot.AN Kazakh.SSR 14:185-190 '62. (MIRA 16:4)
(Dzhezkazgan—Woody plants—Fertilizers and manures)

VASIL'YEVA, A.N.; GAMAYUNOVA, A.P.; GOLOSKOKOV, V.P., kand. biol. nauk; KARMYSHEVA, N.Kh.; KOROVIN, Ye.P.; OBRAZOVA, A.; ROLDUGIN, I.I.; SEMIOTROCHEVA, N.L.; FISYUN, V.V.; PAVLOV, N.V., akademik, glav. red.; SUVOROVA, R.I., red.; ALFEROVA, P.F., tekhn. red.

[Flora of Kazakhstan] Flora Kazakhstana. Glav. red. N.V.Pavlov. Sost. A.N.Vasil'eva i dr. Alma-Ata, Izd-vo Akad. nauk Kazakhskoi SSR. Vol.6. 1963. 462 p. (MIRA 16:6)

1. Akademiya nauk Kazakhskoy SSR(for Pavlov).
(Kazakhstan--Botany)

VASIL'YEVA, A.N.; GAMAYUNOVA, A.P.; DMITRIYEVA, A.A.; GOLOSKOV, V.P., kand. biol. nauk; ZAYTSEVA, L.G.; KARMYSHEVA, N.Kh. ORAZOVA, A.; PAVLOV, N.V., akademik; ROLDUGIN, I.I.; SEMICTROCHEVA, N.L.; TEREKHOVA, V.I.; FISYUN, V.V.; TSAGALOVA, V.G.; SUVOROVA, R.I., red.

[Flora of Kazakhstan] Flora Kazakhstana. Glav. red. N.V. Pavlov. Alma-Ata, Nauka. Vol.8. 1965. 444 p. (MIRA 18:5)

1. Akademiya nauk Kaz.SSR (for Pavlov).

SEMIPUDOV, S., prepodavatel'

Stand for checking the work of the "SKGN-6" sower. Prof.-tekh. obr. 21 no.9:21 S '64. (MIRA 17:11)

1. Bakalinskoye sel'skoye professional'no-tekhnicheskoye uchilishche No.2, Bashkirskaya ASSR.

BOYTSOV, Aleksandr Yevgen'yevich; CHETVERIKOVA, Yevdokiya Aleksandrovna; SEMIRENKO, B.E., inzh., retsenzent; FOMICHEV, Ye.A., inzh., retsenzent; MARENKOVA, G.I., inzh., red.; NOVIKAS, M.N., inzh., red.; BOBROVA, Ye.N., tekhn. red.

[Electric power supply to automatic control and remote control devices] Energosnabzhenie ustroistv avtomatiki i telemekhaniki. Izd.2., perer.i dop. Moskva, Vses.izdatel'sko-poligr.ob"edinenie M-va putei soobshcheniia, 1961. 215 p. (MIRA 14:12)
(Automatic control) (Remote control)
(Electric power supply to apparatus)

L 34111-66 EWP(e)/EWT(m)/EWP(t)/ETI LJP(c) JD/JG/AT/WH

ACC NR: AP6012844 (A) SOURCE CODE: UR/0080/66/ 039/004/0803/0809

AUTHOR: Loshkarev, B. A.; Semirikov, I. S.

ORG: Ural Polytechnic Institute imeni S. M. Kirov (Ural'skiy politekhnicheskiy institut)

TITLE: Conditions of preparation and certain properties of materials of the Zn_2TiO_4-$CaTiO_3$ system of dielectrics

SOURCE: Zhurnal prikladnoy khimii, v. 39, no. 4, 1966, 803-809

TOPIC TAGS: titanate, zinc compound, calcium compound, dielectric material, SINTERING, SINTERED METAL

ABSTRACT: The sintering conditions and properties of the sintered products were studied in the system Zn_2TiO_4-$CaTiO_3$. The degree of sintering increases with the zinc orthotitanate content. Charges with 5-60% $CaTiO_3$ sinter most completely; charges with a higher content of this component and those corresponding to the composition of zinc orthotitanate do not sinter under the conditions employed. Small admixtures of components mutually improve each other's sintering and can be used as mineralizers in the production of articles based on $CaTiO_3$ or Zn_2TiO_4. The electric and physical properties of the materials of this system depend on the composition and degree of sintering. The dielectric constant (ϵ) increases from 16-18 in the orthotitanate to 120-130 in materials containing 90-95% $CaTiO_3$.

Card 1/2 UDC: 621.3.011.5+546.47'41'824

SEMIROG-ORLIK, V. N.

Semirog-Orlik, V. N. "Adaptations for reducing the pressure of the machine carriage on patterns in testing abrasion on Amsler machines," Inform. materialy (Akad. nauk Ukr. SSR, In-t stroit. mekhaniki), No 2, 1949, p. 51-53.

SO: U-5392, 19 August 53, (Letopis 'Zhurnal 'nykh Statey, No 21, 1949).

HROZIN, B.D., chlen-korrespondent; DRAYHOR, D.A.; SEMYRON-ORLYK, V.M.

Investigation of cause of lowered wear resistance in the crankshafts of S-80 tractors. Dop.AN URSR no.4:334-341 '52. (MLRA 6:10)

1. Akademiya nauk Ukrayins'koyi RSR (for Hrozin). 2. Instytut budivel'noyi mekhaniky Akademiyi nauk Ukrayins'koyi RSR.
(Cranks and crankshafts) (Tractors)

GROZIN, B.D.; SEMIROG-ORLIK, V.N.; GORB, M.L.

Electron microscopic examination of steels subjected to plastic deformations. Sbor.trud.Inst.stroi.mekh.AN URSR no.22:5-24 '56. (MLRA 10:5)

(Steel--Metallography)

SEMIROG-ORLIK, V.N.

137-58-3-6155

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 244 (USSR)

AUTHORS: Grozin, B.D., Semirog-Orlik, V.N.

TITLE: Investigating the State of Upper Layers of Metal by Means of the Electron Microscope (Issledovaniye sostoyaniya poverkhnostnykh sloyev metalla s pomoshch'yu elektronnogo mikroskopa)

PERIODICAL: Sb. tr. In-ta stroit. mekhan. AN UkrSSR, 1956, Nr 22, pp 25-34

ABSTRACT: A description of methods employed when investigating the condition of outer working surfaces (S) of machine parts by means of a universal electron microscope (EM). The S's of the following parts were studied: 1) races of rolling contact bearings Nrs 1, 2, and 3, made of a hot-rolled steel (ShKh15) pipe; 2) journals of a crankshaft from a model DT-54 tractor which has failed because of seizure of the shaft against the bushing of the bearing; 3) a groove in a specially designed specimen (20 mm in diameter) used in fatigue tests in the course of which a specially fitted insert is pressed against the groove. S's to be investigated by means of the EM were coated with a 1 percent solution of collodium in isoamyl-acetate. Before being removed from the part, the collodium film was fixated by a 15 percent solution of gelatin in water. In order

Card 1/2

SEMIROG-ORLIK, V. N.

124-11-13596

Translation from: Referativnyy Zhurnal, Mekhanika, 1957, Nr 11, p 176 (USSR)

AUTHOR: Semirog-Orlik, V. N.

TITLE: The Mechanical Properties of Case-Hardened Samples, Determined by the Method of Non-Uniform All-Round Compression, as Affected by the Character of the Heat Treatment and the Structural Condition (Mekhanicheskiye svoystva tsementirovannykh obraztsov, opredelennyye metodom vsestoronnego neravnomernogo szhatiya v zavisimosti ot usloviy termicheskoy obrabotki i strukturnogo sostoyaniya)

PERIODICAL: Sb. tr. in-ta stroit. mekhan. A N USSR, 1956, Nr 22, pp 56-69

ABSTRACT: The paper presents the results of an investigation of the mechanical properties of case-hardened samples with relation to their carbon content near the surface and the structural characteristics obtained through specific case-hardening and heat-treating processes. The mechanical properties are determined through the use of the method of all-round non-uniform compression.

(Resume)

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SEMIROG - ORLIK, V. N.

25(1) PHASE I BOOK EXPLOITATION SOV/1613

Akademiya nauk Ukr SSR, Kiyev. Institut stroitel'noy mekhaniki

Issledovaniya v oblasti metallovedeniya i kontaktnoy prochnosti metallov; sbornik dokladov (Investigations in the Field of Physical Metallurgy and Contact Strength of Metals; Collection of Reports) Kiyev, Mashgiz, 1958. 127 p. 4,000 copies printed.

Additional Sponsoring Agency: Nauchno-tekhnicheskoy obshchestvo mashinostroitel'noy promyshlennosti. Kiyevskoye oblastnoye pravleniye.

Reviewers: V.G. Chudnovskiy, Doctor of Technical Sciences; D.V. Vaynberg, Doctor of Technical Sciences; M. Barabash, D.A. Draygor, I.I. Ishchenko, L.P. Reva, V. Ye. Salion, and V.A. Shevchuk, all Candidates of Technical Sciences; Ed.: B.D. Grozin, Doctor of Technical Sciences, Corresponding Member, USSR Academy of Sciences, Professor; Ed. of Publishing House: M.S. Soroka; Tech. Ed.: Ya. V. Rudenskiy; Chief Ed. (Ukrainian Division, Mashgiz): V.K. Serdyuk, Engineer.

Card 1/5

Investigations in the Field (Cont.)

effect of friction on metal fatigue, depending on the nature of the friction surfaces. Three papers by M.A. Puzanov discuss the wear resistance of certain steels in relation to the nature of contact, wear of heavy duty components of crane hoists subjected to cyclic loads, and a machine used for testing the wear resistance of cylindrical test samples subjected to sliding friction. Two papers by V.N. Semirog-Orlik deal with the application of the Grozin method of testing steel samples and with the determination of machinability of cast iron according to the factor of octahedral tangential stress. A.I. Kuyun describes the design and the use of a miniaturized thermocouple used to study thermal phenomena in the surface layers of metals. The article by M.L. Gorb deals with the method of processing experimental data and results of studies of test samples subjected to omnidirectional and nonuniform compression. The text contains numerous diagrams, charts, and illustrations.

TABLE OF CONTENTS:

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conference sponsored by the Academy of Sciences, UkrSSR, and the Nauchno-tekhnicheskoye obshchestvo priborostroitel'noy promyshlennosti, Ukrainskoye pravleniye (Ukrainian Branch, Scientific and Technical Society of the Instrument-manufacturing Industry). The papers deal with modern methods of inspection and flaw detection used in the machinery- and instrument-manufacturing industries. The subjects discussed include the use of electron microscopes in the investigation of metal surfaces; X-ray, gamma-ray, luminescense, magnetic, and ultrasonic methods of flaw detection; use of radioactive isotopes; X-ray diffraction methods of metal analysis; and the use of interferometers for measuring length and thickness and determining the coefficient of linear thermal expansion. No personalities are mentioned. References follow several of the papers.

TABLE OF CONTENTS:

GROZIN, B.D.; SEMIROG-ORLIK, V.N.

Investigating conditions of metal surface layers on electron microscopes. Tren. i izn. mash. no. 12:64-77 '58. (MIRA 11:8)

1. Chlen-korrespondent AN USSR (for Grozin).
(Electron microscope)
(Metallography)

S/123/61/000/015/017/032
A004/A101

AUTHORS: Grozin, B. D., Panchenko, N. P., Semirog-Orlik, V. N., Sprishevskiy, A. I.

TITLE: The effect of mechanical operations on the state of the outer layers of antifriction bearings

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 15, 1961, 19, abstract 15B111 (V sb. "Povysheniye iznosostoykosti i sroka sluzhby mashin. v. 1". Kiyev, AN UkrSSR, 1960, 61-76)

TEXT: The authors present the results of comprehensive investigations of the effect of mechanical working on the physical state of the outer layers of the antifriction surfaces of antifriction bearing races. Four groups of specimens of bearing races were investigated, the manufacturing technology and processing conditions of which were different. The specimens were subjected to metallographic, electronic microscopic, X-ray structure and spectral analyses; their microhardness was also investigated. During some grinding conditions and other operations carried out after hardening, high temperatures and local pressures are arising, the interaction of which causes structural transformations in the surface

Card 1/2

The effect of mechanical operations ...

layer. The thermal effect during grinding is different in the field of surface projections and cavities. The projections may undergo a second hardening, while the cavities mainly experience a tempering. The non-homogeneity of the outer layer produces structural stress raisers owing to which micro-destructions are possible in the surface layer. The thermal effect arising during the process of after-hardening operations contributes to the concentration of chromium and carbon at the surface. The initial microgeometry and the shape of the surface being machined affect the temperature gradient of the outer layer. The defective layer originating during the preceding operations cannot always be eliminated by technological finishing operations. The investigation shows the way of developing dependable processing conditions. There are 21 figures.

M. Borts

[Abstracter's note: Complete translation]

Card 2/2

SEMIROG-ORLIK, V.M.

18000 2607

28695
S/021/60/000/012/003/006
D251/D302

AUTHORS: Hrozin, B.D. (Corresponding Member AS UkrSSR); Semyroh-Orlyk, V.M.; and Yaroshek, A.D.

TITLE: Investigating the quality of the outer layers of roller ball-bearing races without destruction

PERIODICAL: Akademiya nauk Ukrayins'kyoi RSR. Dopovidi, no. 12, 1960, 1598-1602

TEXT: The authors state that the possibility of controlling the outer layers of machine elements without destruction is of great significance in determining their reliability and working life. The authors investigated this possibility by means of eddy currents. The method used was that described by A.D. Yaroshek (Ref. 1: DAN URSR, 1369, (1960)) using a sensor of the plated-coil type, with a sensitive element, consisting of am iron-clad carbonyl coating of type СБ-1 (SB-1), and a coil of 30 turns of ПЭЛ (PEL) 0.1 wire. Part of the coating of the sensor which touches the element is ground to the form of the upper track,

Card 1/2

Investigating the quality ...

and during the investigation, the sensor moves along this track. The magnitude of the resonance stress U and the resonance capacity C for various frequencies ($2 \cdot 10^6$, 10^6, $0.5 \cdot 10^6$ and $0.2 \cdot 10^6$) which correspond to different depths δ of the penetration of the eddy current into the steel (20, 40, 60 and 100 mk) were measured. The obtained results are represented in graphical form. By means of this method various kinds of defects such as sections of different structure, fissures, the presence of non-metallic foreign bodies, etc., may be detected in the outer layers of the element. There are 4 figures and 1 Soviet-bloc reference.

ASSOCIATION: Instytut mekhaniky AN URSR (Institute of Mechanics AS UkrSSR)

SUBMITTED: July 30, 1960

Card 2/2

SEMIROG-ORLIK, V.N.

PHASE I BOOK EXPLOITATION SOV/5029

Grozin, Boris Dmitriyevich, David Abramovich Draygor, Vsevolod Nikolayevich Semirog-Orlik, Mikhail Apollonovich Puzanov, Matvey L'vovich Gorb, Vil'yam Fedoseyevich Yankevich, Mariya Dmitriyevna Sinyavskaya, and Georgiy Iosifovich Val'chuk

Povysheniye ekspluatatsionnoy nadezhnosti detaley mashin (Increasing the Operational Reliability of Machine Parts) Moscow, Mashgiz, 1960. 292 p. Errata slip inserted. 10,000 copies printed.

Reviewer: V. S. Kramarov, Doctor of Technical Sciences, Professor; Ed.: D. A. Draygor, Doctor of Technical Sciences; Ed.: G. D. Tynyanyy; Tech. Ed.: M. S. Gornostaypol'skaya; Chief Ed., Mashgiz (Southern Dept.): V. K. Serdyuk, Engineer.

PURPOSE: This book is intended for scientific workers and technical personnel in machine building.

COVERAGE: The authors discuss new methods of investigating the physical state of machine-part surface layers, important for determining the reliability of parts in operation. Information is

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M. A. Puzanov, Candidate of Technical Sciences, wrote Sections 1-4 and 7 of Ch. IV; Section 5 of Ch. IV was written by B. D. Grozin and M. D. Sinyavskaya, Engineer; Section 6 of Ch. IV was the work of D. A. Draygor, and G. I. Val'chuk, Engineer. Sections 1 and 2 of Ch. V were written by M. D. Sinyavskaya; Section 3 of Ch. V was written by V. F. Yankevich. No personalities are mentioned. References accompany each chapter. There are 185 references: 175 Soviet, 3 German, 3 French, and 4 English.

TABLE OF CONTENTS:

GROZIN, B.D., otv.red.; DRAYGOR, D.A., zam.otv.red.; BARABASH, M.L., red.toma; KRAGEL'SKIY, I.V., red.; SERENSEN, S.V., red.; FAYNERMAN, I.D., red.; ZASLAVSKIY, S.S., red. Prinimali uchastiye: BRAUN, M.P., prof.; VAYNBERG, D.V., prof.; PETRENKO, I.P., kand.tekhn.nauk; SINYAVSKAYA, M.D., inzh.; SHEVCHUK, V.A., kand.tekhn.nauk; SEMIROG-ORLIK, V.N., kand.tekhn.nauk; YANKEVICH, V.F., inzh.; GORB, M.L., kand.tekhn.nauk; RAKHLINA, N.P., tekhn.red.

[Increasing the wear resistance and useful life of machinery in two volumes] Povyshenie iznosostoikosti i sroka sluzhby mashin v dvukh tomakh. Kiev, Izd-vo Akad.nauk USSR. Vol.1. 1960. 486 p. (MIRA 13:12)

1. Vsesoyuznoye nauchno-tekhnicheskoye obshchestvo mashinostroitel'noy promyshlennosti. Kiyevskoye oblastnoye pravleniye. (Mechanical wear) (Mechanical engineering)

33714
S/686/61/000/000/006/012
D207/D303

18.7500 1454

AUTHORS: Grozin, B. D., Semirog-Orlik, V. N., Golovinskaya, T.M., Nizhnik, S. B. and Yankevich, V. F.

TITLE: Phase and structural changes in steel under conditions of temperature and pressure shocks

SOURCE: Soveshchaniye po voprosam teorii sukhogo treniya i obrazovaniya chastits iznosa pri sukhom trenii. Riga, 1959, 97-105

TEXT: The authors investigated the crystal structure and composition of "white" layers formed on steel by high pressures and temperatures. For x-ray diffraction work an instrument УРС-50 И (URS-50I) was used; electron-microscopic and spectroscopic techniques were also employed. The authors studied the effects of (1) grinding roller-bearing parts with an abrasive disc rotating at various speeds and subjected to various loads; (2) normal working conditions on transmission gear teeth from a ГАЗ-63 (GAZ-63) automobile, and (3) hot-gas blasts (1200 kg/cm^2 for 0.0025 sec) on steels 45

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and Y10 (U10). In all three cases similar changes occurred: (1) Well above their critical temperatures both austenite and martensite were formed in hypereutectoid steel and martensite only in hypoeutectoid steel; (2) austenite, martensite and ferrite were formed in all steels just above the lower critical temperature; (3) below the critical temperature ferrite was formed, by thermoplastic annealing, in all steels; (4) austenite, martensite and ferrite formed in these processes differed considerably in carbon content and lattice parameters from those obtained by the usual heat treatments. There are 9 figures.

ASSOCIATION: Institut stroitel'noy mekhaniki AN USSR (Institute of Building Mechanics AS UkrSSR)

S/514/61/000/005/010/014
I007/I207

AUTHORS: Grozin, B.D., Semirot-Orlik, V.N., and Golovinskaya, T.M., Nizhnik, S.B., Yankevich, S.F.

TITLE: Structural transformations during grinding

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 mashinostroeniya, 277-282

TEXT: Results are reported of investigations carried out to aid in selecting suitable grinding technology taking into account the structural transformations connected with different machining conditions. Steel specimens were subjected to varying machining conditions rough grinding with a peripheral velocity of the grinding disc, — 46 m/sec and a transversal feed — 1.2/m/min; fine grinding on the same disc but with manual feed; final lapping by means of cast-iron laps. After machining the test specimens were subjected to electron microscope examinations, which revealed the existence of four distinct zones caused by varying machining conditions.

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GROZIN, B.D. [Hrozin, B.D.] [deceased]; PANCHENKO, N.P. [Panchenko, M.P.]; SEMIROG-ORLIK, V.N. [Semyroh-Orlyk, V.M.]; CHERNENKO, V.S.

Effect of the mass of the manufactured object on the physical state of the surface layers of the metal in repeated grinding. Dop. AN URSR no.6:769-773 '63 (MIRA 17:7)

1. Institut mekhaniki AN UkrSSR. 2. Chlen-korrespondent AN UkrSSR (for Grozin).

GOLUBEV, N.I., prof.; MALYUKOV, Ye.I., assistent; SEMIROTOVA, O.N., vrach

Visceral reflexes of the stomach and duodenum. Sbor. nauch. rab. Sar. gos. med. inst. 44:177-181 '64. (MIRA 18:7)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. N.I. Golubev) pediatricheskogo fakul'teta Saratovskogo meditsinskogo instituta (rektor - dotsent N.R. Ivanov) na baze dorozhnoy klinicheskoy bol'nitsy Privolzhskoy zheleznoy dorogi (nachal'nik - R.F. Nazarenko).

STILYA[illegible], Ye. [illegible], [illegible], [illegible], vrach

Treatment of [illegible] fistulas. Sbor. nauch. rab. Sar. gos. [illegible]. inst. 44.215-219 '64. (MIRA [illegible]:7)

1. Iz fakul'tetskoy khirurgicheskoy kliniki pediatricheskogo fakul'teta (zav. - prof. N.I. Golubev) Saratovskogo meditsinskogo instituta (rektor - dotsent N.A. Ivanov) na baze khirurgicheskogo otdeleniya dorozhnoy klinicheskoy bol'nitsy Privolzhskoy zheleznoy dorogi (nachal'nik - I.F. [illegible]).

NEDOCHETOV, L.S., dotsent; GERAS'KIN, P.V., kand. med. nauk; SOROKIN, A.P., vrach; SEMIROTOVA, O.N., vrach

Surgical treatment of gastric cancer based on materials of the surgical ward of the Railroad Clinical Hospital for 20 years. Sbor. nauch. rab. Sar. gos. med. inst. 44:108-119 '64.
(MIRA 18:7)

1. Iz kafedry fakul'tetskoy khirurgii pediatricheskogo fakul'teta (zav. kafedroy - N.I. Goluvev) Saratovskogo meditsinskogo instituta (rektor - dotsent N.R. Ivanov) na baze dorozhnoy klinicheskoy bol'nitsy Privolzhskoy zheleznoy dorogi (nachal'nik - R.F. Nazarenko).

SEMIRYAGA,M.I.; TOKAREV,S.A., redaktor; GRIBAKIN,D.V., redaktor; KIRNARSKAYA,A.A., tekhnicheskiy redaktor

[Lusations] Luzhichane. Moskva, Izd-vo Akademii nauk SSSR, 1955. 190 p. (MLRA 9:1)

(Wends)

SEMISALOV, L.P.

Technological evaluation of coke samplers. Koks i khim. no.6: 31-34 '63. (MIRA 16:9)

1. Ukrainskiy uglekhimicheskiy institut.
(Coke industry--Equipment and supplies) (Coke--Testing)

SEMISALOV, L.P.; LOBOV, A.A.; AMSTISLAVSKIY, D.M.; VEKSEL'MAN, Z.N.; CHEBOTAREV, A.V.

Effect of the shape of coke pieces on some indices of size. Koks i khim. no.9:33-37 '63. (MIRA 16:9)

1. Ukrainskiy uglekhimicheskiy institut (for Semisalov, Lobov).
2. Zhdanovskiy koksokhimicheskiy zavod (for Amstislavskiy).
3. Koksokhimstantsiya (for Veksel'man, Chebotarev).

(Coke--Testing)

PETRENKO, V.G.; SEMISALOVA, V.N.; Prinimala uchastiye Il'minskaya, V.I.

Coking blended coal charges with petroleum residue additions and coal tar. Koks i khim. no.16:14-17 '61. (MIRA 15:2)

1. Orsko-Khalilovskiy metallurgicheskiy kombinat.
(Coke industry)

Sov/68-59-10-8/24

AUTHORS: Semisalov, Ya.D., Chumak, Ye.M., and Romanovskiy, V.A.

TITLE: Some Experience in Operating Coke Ovens Fired with a Rich Gas

PERIODICAL: Koks i khimiya, 1959, Nr 10, pp30-31 (USSR)

ABSTRACT: Gorlovka coke ovens were designed for firing with a mixture of coke oven and a rich gas (15-20%). The nature of the rich gas is not specified. There were individual periods during which the proportion of rich gas amounted to 90%, which, however, has no deleterious effect on the uniformity of temperature distribution in the ovens, and the temperature of the under roof space was maintained on a required level (table 1). Ovens were fired with an excess air coefficient of 1.3-1.5 at a suction in the regenerator on the ascending stream 3 - 3.2mm H_2O. During 1956-1958 an increased proportion of gas coal (from 14% to 26%) was incorporated into the blend. For this reason the temperature in the heating flues was raised.

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Some Experience in Operating Coke Ovens Fired with a Rich Gas

The above measures had no noticeable effect on the quality of the coke (table 2). There are 3 tables.

ASSOCIATION: Gorlovskiy koksokhimicheskiy zavod (Gorlovka Coking Works)

SEMISAZHENNOVA, A.A., inzh.

Using electromechanical analogies for the investigation of vertical vibrations of rolling stock. Vest.TSNII MPS 18 no.8: 53-56 D '59. (MIRA 13:9)
(Railroads--Rolling stock)
(Vibration--Electromechanical analogies)

SEMISAZHKOVA, A.A., inzh.

Electrical equivalent circuits of diesel locomotives with spring-mounted parts. Vest. TSNII MPS 17[i.e. 19] no.7:52-54 '60. (MIRA 13:11)

(Diesel locomotives)
(Oscillations--Electromechanical analogies)

NASYROV, R.A., kand.tekhn.nauk; SEMISAZHENOVA, A.A., inzh.;
ZAKHAROV, S.M., inzh.

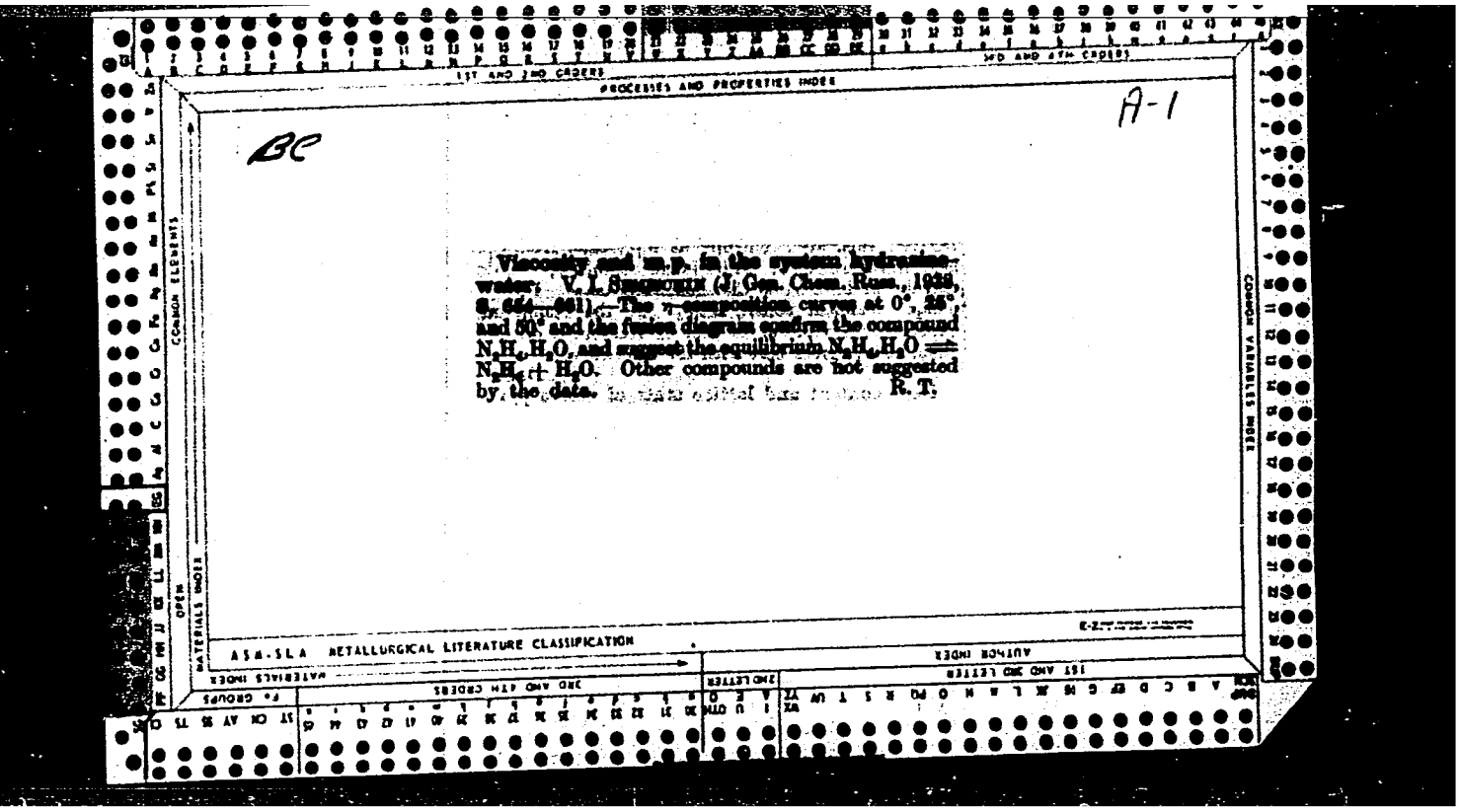
Results of the study of oil coolers for the pistons of 2D100 diesel engines. Vest. TSNII MPS 20 no.6:21-24 '61. (MIRA 14:10)
(Diesel engines--Cooling)

NASYROV, R.A., kand.tekhn.nauk; SEMISAZHENOVA, A.A., kand.tekhn.nauk;
ZAKHAROV, S.M., inzh.

Investigating the cooling of pistons and lubricant distribution in the 2D100 diesel engine. Trudy TSNII MPS no.262:21-35 '63. (MIRA 16:10)

YEGUNOV, P.M., kand. tekhn. nauk; ZELENETSKAYA, I.S., kand. tekhn.; NASYROV, R.A., kand. tekhn. nauk; SEMISAZHENOVA, A.A., kand. tekhn. nauk; ZAKHAROV, S.M., inzh.

Effect of the lubricant viscosity on the basic characteristics of the performance of 2D100 diesel locomotives. Vest. TSNII MPS 23 no.8:26-30 '64 (MIRA 18:2)



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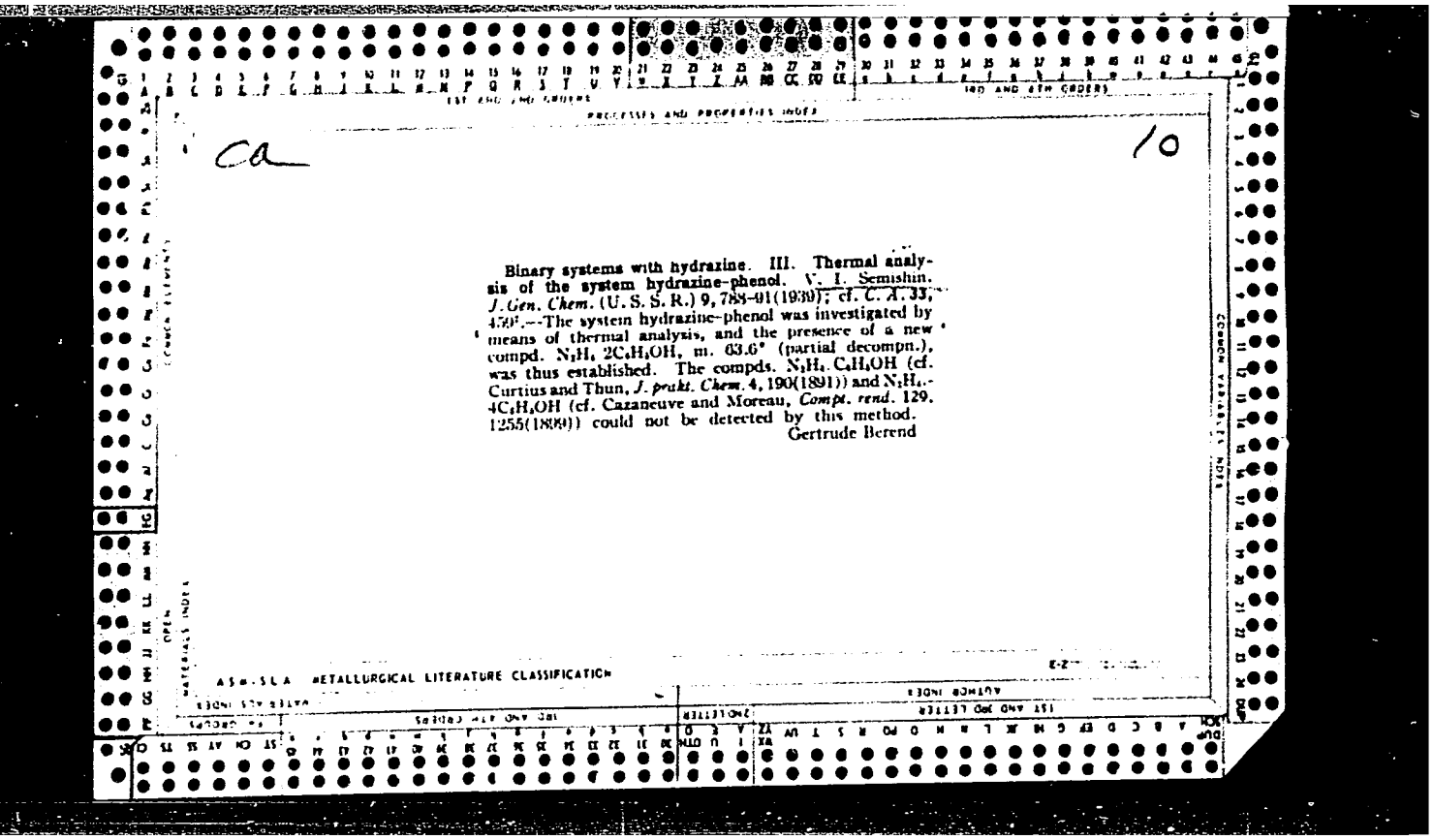
A-1

Viscosity and m.p. in the system hydrazine-water. V. L. Sheverdin (J. Gen. Chem. Russ., 1938, 8, 654—661).—The η–composition curves at 0°, 25°, and 50°, and the fusion diagram confirm the compound $N_2H_4.H_2O$, and suggest the equilibrium $N_2H_4.H_2O \rightleftharpoons N_2H_4 + H_2O$. Other compounds are not suggested by the data. R. T.

SEMENOV, N. N.

"Thermal Analysis of the System Hydrazine --Urea," Zhur. Obshch. Khim, 9, No. 1 1939. Laboratory of General and Inorganic Chemistry, Moscow Chemico-Technological Institute imeni Mendelyev. Received 12 May 1938.

Report U-1717, 22 Oct 1951.



CA

10

Binary systems with hydrazine. III. Thermal analysis of the system hydrazine–phenol. V. I. Semishin. *J. Gen. Chem.* (U. S. S. R.) 9, 789–91(1939); cf. *C. A.* 33, 4590.—The system hydrazine–phenol was investigated by means of thermal analysis, and the presence of a new compd. $N_2H_4\ 2C_6H_5OH$, m. 63.6° (partial decompn.), was thus established. The compds. $N_2H_4\ C_6H_5OH$ (cf. Curtius and Thun, *J. prakt. Chem.* 4, 190(1891)) and N_2H_4·$4C_6H_5OH$ (cf. Cazaneuve and Moreau, *Compt. rend.* 129, 1255(1889)) could not be detected by this method.

Gertrude Berend

SMIRNOV, V. I.

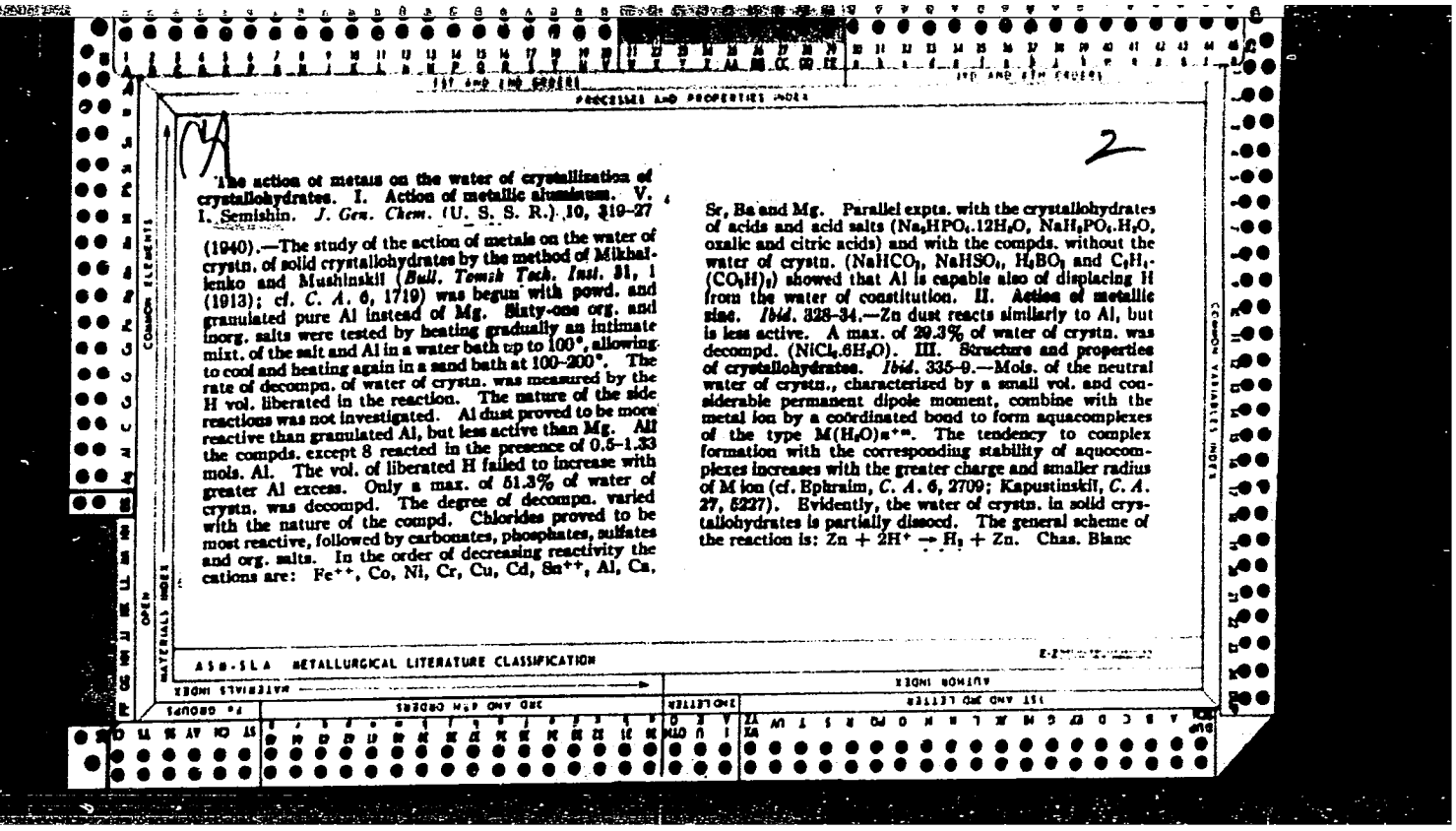
"The Action of Metals on the Water of Crystallination of Crystal Hydrates" Part II. The Action of Metallic Zinc on the Water of Crystallization." Zhur. Obshch. Khim., 10, No. 4, 1940, Laboratory of General and Inorganic Chemistry, Moscow Chemico-Technological Inst. imeni Mendelyev. Received 23 July 1939.

Report U-1526, 24 Oct. 1951.

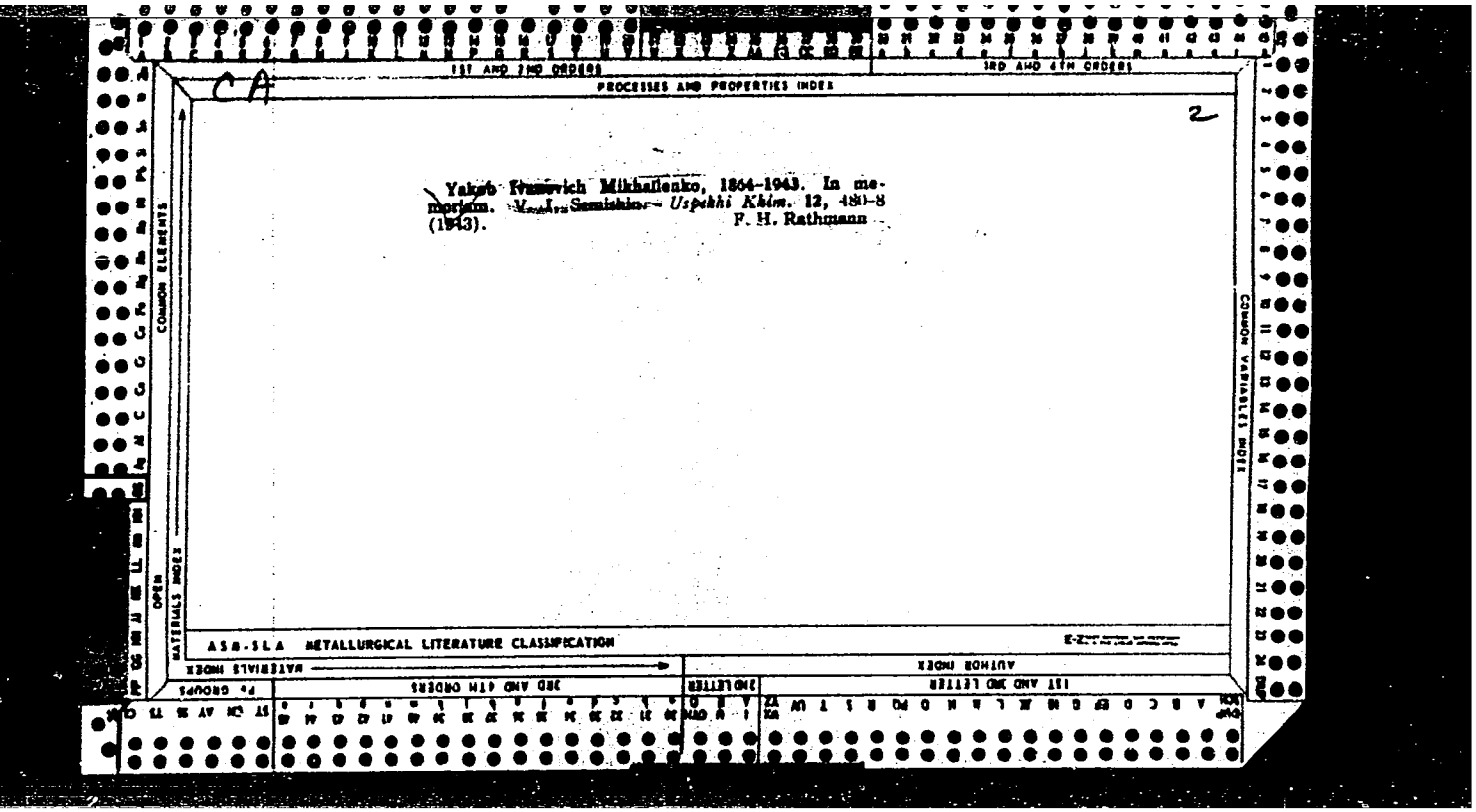
SE[illegible], V. I.

"The Action of Metals on the Water of Crystalization of Crystal Hydrates." Part III. " Some General Problems of the Structure of Crystal Hydrates and Their Properties", Zhur. Obshch. Khim. 10, No. 4, 1940. Laboratory of General and Inorganic Chemistry Moscow Chemico-Technological Inst. imeni. Mendeleyev, Received 25 August 1939.

Report U1526, 8 Oct. 1951.



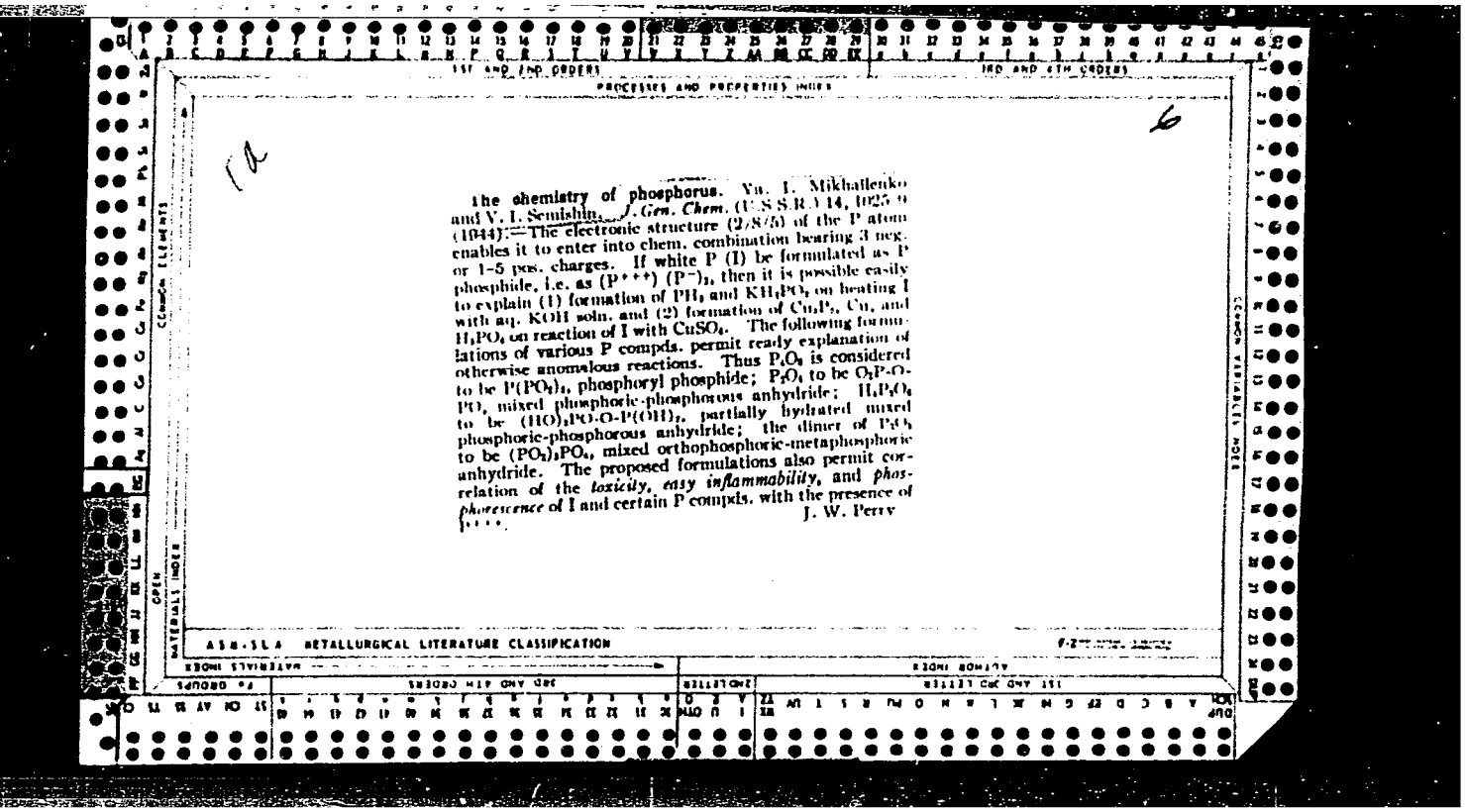
The action of metals on the water of crystallization of crystallohydrates. I. Action of metallic aluminum. V. I. Semishin. *J. Gen. Chem.* (U. S. S. R.) 10, 319–27 (1940).—The study of the action of metals on the water of crystn. of solid crystallohydrates by the method of Mikhailenko and Mushinskii (*Bull. Tomsk Tech. Inst.* 31, 1 (1913); cf. *C. A.* 6, 1719) was begun with powd. and granulated pure Al instead of Mg. Sixty-one org. and inorg. salts were tested by heating gradually an intimate mixt. of the salt and Al in a water bath up to 100°, allowing to cool and heating again in a sand bath at 100–200°. The rate of decompn. of water of crystn. was measured by the H vol. liberated in the reaction. The nature of the side reactions was not investigated. Al dust proved to be more reactive than granulated Al, but less active than Mg. All the compds. except 8 reacted in the presence of 0.5–1.33 mols. Al. The vol. of liberated H failed to increase with greater Al excess. Only a max. of 51.3% of water of crystn. was decompd. The degree of decompn. varied with the nature of the compd. Chlorides proved to be most reactive, followed by carbonates, phosphates, sulfates and org. salts. In the order of decreasing reactivity the cations are: Fe^{++}, Co, Ni, Cr, Cu, Cd, Sn^{++}, Al, Ca, Sr, Ba and Mg. Parallel expts. with the crystallohydrates of acids and acid salts ($Na_2HPO_4.12H_2O$, $NaH_2PO_4.H_2O$, oxalic and citric acids) and with the compds. without the water of crystn. ($NaHCO_3$, $NaHSO_4$, H_3BO_3 and $C_3H_4(CO_2H)_2$) showed that Al is capable also of displacing H from the water of constitution. II. Action of metallic zinc. *Ibid.* 328–34.—Zn dust reacts similarly to Al, but is less active. A max. of 29.3% of water of crystn. was decompd. ($NiCl_2.6H_2O$). III. Structure and properties of crystallohydrates. *Ibid.* 335–9.—Mols. of the neutral water of crystn., characterised by a small vol. and considerable permanent dipole moment, combine with the metal ion by a coördinated bond to form aquacomplexes of the type $M(H_2O)_n^{+m}$. The tendency to complex formation with the corresponding stability of aquocomplexes increases with the greater charge and smaller radius of M ion (cf. Ephraim, *C. A.* 6, 2709; Kapustinskii, *C. A.* 27, 5227). Evidently, the water of crystn. in solid crystallohydrates is partially dissocd. The general scheme of the reaction is: $Zn + 2H^+ \rightarrow H_2 + Zn$. Chas. Blanc



Yakov Fromovich Mikhailenko, 1864–1943. In memoriam. V. I. Semishin. *Uspekhi Khim.* 12, 481–8 (1943).
F. H. Rathmann

SEMISHIN, V. I.

Binary system of hydrazine. IV. Thermal analysis of binary systems with hydrazine. V. I. Semishin. *J. Gen. Chem.* (U. S. S. R.) 13, 625-31 (1943) (English summary).--The following systems were studied by the method of thermal analysis: hydrazine nitrate-water, hydrazine-thymol, hydrazine-acetamide and hydrazine-diphenylamine. $N_2H_4.HNO_3$ forms no hydrates; there is formed with H_2O a eutectic, m. −9.1°, at 9 mol. % $N_2H_4.HNO_3$. The hydrazine-thymol system forms glasses in the range 32-65% thymol. Neither acetamide nor diphenylamine forms addn. compds. with hydrazine; the former forms a eutectic, m. −7.2°, at 74.2% N_2H_4; Ph_2NH forms a two-layer system in which the crit. soln. temp. could not be detd. at normal pressures. V. Thermal analysis of systems of hydrazine with organic acids. *Ibid.* 632-42.—By the method of thermal analysis the binary systems of N_2H_4 with acetic, butyric, valeric, benzoic and salicylic acids were studied; a partial study was made of systems with lauric and palmitic acids. The following compds. exist: $N_2H_4.C_3H_7CO_2H$, m. 50.4°, $N_2H_4.C_4H_9CO_2H$, m. 49.5°, $N_2H_4.2C_4H_9CO_2H$, m. 12° (decompn.), $N_2H_4.2PhCO_2H$, m. 92.5°, $N_2H_4.C_2H_4(OH)CO_2H$, m. 110.8° (decompn.), $N_2H_4.AcOH$, m. 87.5° and $N_2H_4.PhCO_2H$, m. 114.5°. Formic, chloroacetic, phenylacetic and cinnamic acids do not form reciprocal systems with N_2H_4. G. M. Kosolapoff



1st AND 2nd ORDERS

PROCESSES AND PROPERTIES INDEX

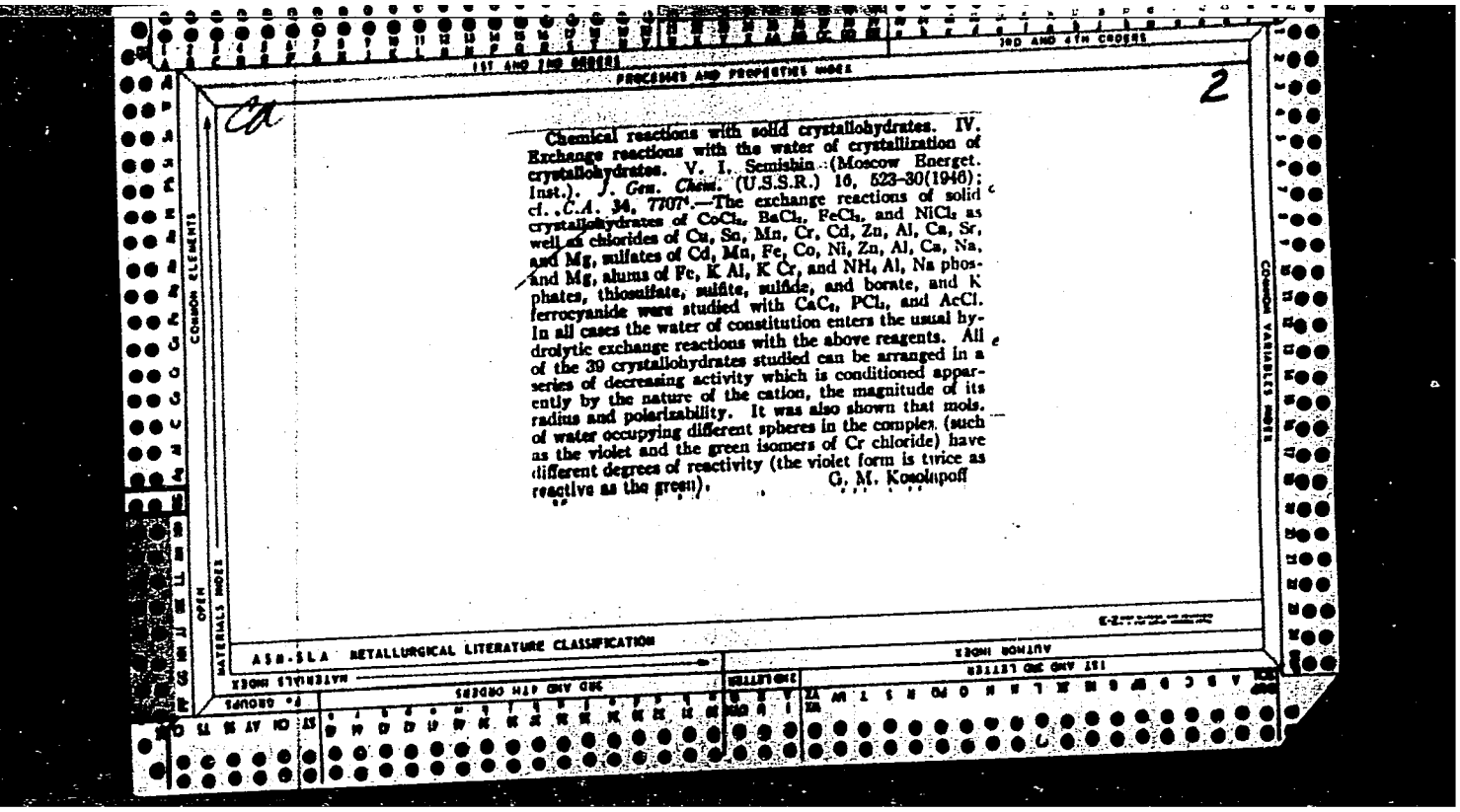
3rd AND 4th ORDERS

6

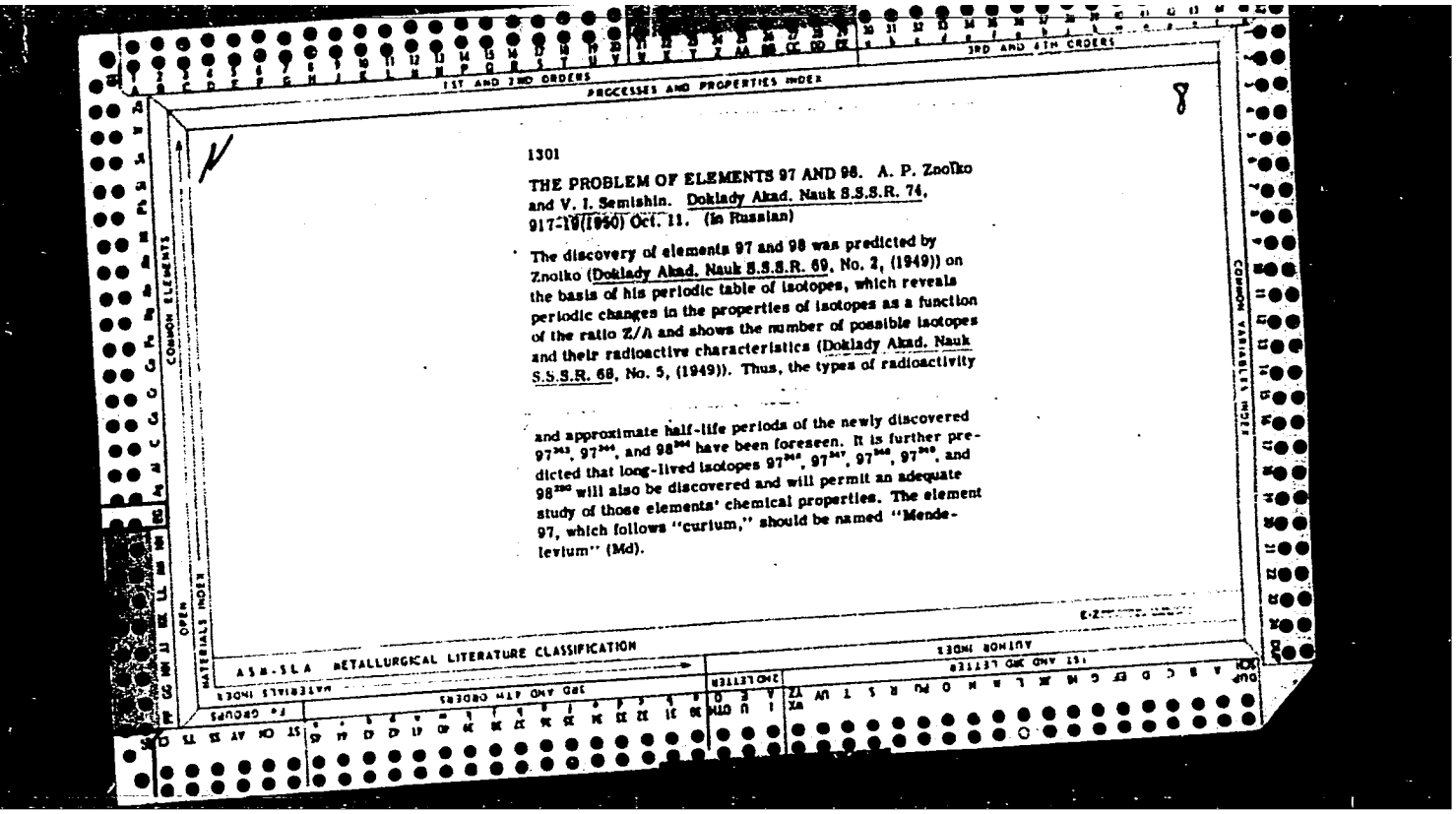
The chemistry of phosphorus. Yu. I. Mikhailenko and V. I. Semishin. *J. Gen. Chem.* (U.S.S.R.) 14, 1025-9 (1944).—The electronic structure (2/8/5) of the P atom enables it to enter into chem. combination bearing 3 neg. or 1–5 pos. charges. If white P (I) be formulated as P phosphide, i.e. as $(P^{+++})(P^{-})_3$, then it is possible easily to explain (1) formation of PH_3 and KH_2PO_2 on heating I with aq. KOH soln. and (2) formation of Cu_3P_2, Cu, and H_3PO_4 on reaction of I with $CuSO_4$. The following formulations of various P compds. permit ready explanation of otherwise anomalous reactions. Thus P_4O_6 is considered to be $P(PO_2)_3$, phosphoryl phosphide; P_2O_3 to be O_2P-O-PO, mixed phosphoric-phosphorous anhydride; $H_4P_2O_5$ to be $(HO)_2PO$-O-$P(OH)_2$, partially hydrated mixed phosphoric-phosphorous anhydride; the dimer of P_2O_5 to be $(PO_2)_3PO_4$, mixed orthophosphoric-metaphosphoric anhydride. The proposed formulations also permit correlation of the *toxicity*, *easy inflammability*, and *phosphorescence* of I and certain P compds. with the presence of [illegible].

J. W. Perry

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Chemical reactions with solid crystallohydrates. IV. Exchange reactions with the water of crystallization of crystallohydrates. V. I. Semishin (Moscow Energet. Inst.). *J. Gen. Chem.* (U.S.S.R.) 16, 823-30(1946); cf. *C.A.* 34, 7707⁴.—The exchange reactions of solid crystallohydrates of $CoCl_2$, $BaCl_2$, $FeCl_3$, and $NiCl_2$ as well as chlorides of Cu, Sn, Mn, Cr, Cd, Zn, Al, Ca, Sr, and Mg, sulfates of Cd, Mn, Fe, Co, Ni, Zn, Al, Ca, Na, and Mg, alums of Fe, K Al, K Cr, and NH_4 Al, Na phosphates, thiosulfate, sulfite, sulfide, and borate, and K ferrocyanide were studied with CaC_2, PCl_3, and AcCl. In all cases the water of constitution enters the usual hydrolytic exchange reactions with the above reagents. All of the 39 crystallohydrates studied can be arranged in a series of decreasing activity which is conditioned apparently by the nature of the cation, the magnitude of its radius and polarizability. It was also shown that mols. of water occupying different spheres in the complex (such as the violet and the green isomers of Cr chloride) have different degrees of reactivity (the violet form is twice as reactive as the green). G. M. Kosolapoff



1301

THE PROBLEM OF ELEMENTS 97 AND 98. A. P. Znoĭko and V. I. Semishin. Doklady Akad. Nauk S.S.S.R. 74, 917-19(1950) Oct. 11. (in Russian)

The discovery of elements 97 and 98 was predicted by Znoĭko (Doklady Akad. Nauk S.S.S.R. 69, No. 2, (1949)) on the basis of his periodic table of isotopes, which reveals periodic changes in the properties of isotopes as a function of the ratio Z/A and shows the number of possible isotopes and their radioactive characteristics (Doklady Akad. Nauk S.S.S.R. 68, No. 5, (1949)). Thus, the types of radioactivity and approximate half-life periods of the newly discovered 97^{243}, 97^{244}, and 98^{244} have been foreseen. It is further predicted that long-lived isotopes 97^{245}, 97^{247}, 97^{248}, 97^{249}, and 98^{250} will also be discovered and will permit an adequate study of those elements' chemical properties. The element 97, which follows "curium," should be named "Mendelevium" (Md).

SEMISHCHIN, V. I.

Metodicheskie ukazaniia po oborudovaniiu tipovoi uchebnoi laboratorii "Obshchaia khimiia" /Methodic instructions on the equipment of a model school laboratory "General Chemistry." Moskva, "Sovetskaia nauka", 1953. 96 p

SO: Monthly List of Russian Accessions, Vol 6 No 8 November 1953

SEMISHIN, V. I.

Strugatskii, M. K.

Laboratory work in general chemistry. M. K. Strugatskii, M. M. Smirnov. Reviewed by V. I. Semishin. Sov. kniga No. 2, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Uncl.

SEMISHIN, V.I., dotsent (gorod Moskva).

Preparation of oxygen in the Kipp generator. Khim.v shkole no.6:57-58 N-D '53. (MLRA 6:11)
(Oxygen)

1984 SEMISHIN, V. I.

Praktikum po obshey khimii (ucheb. posobiye dlyakhim. - tekhnol. vuzov I fak.) Izd. zye, pererabot. M., goskhimizdat, 1954. 337 s.s. Ill. 23sm. 25.000 EKZ. (1-I zauod 1-10 tys.) 7 R. 60K. U Per. -- (54-56214)

54 (076.5)

SEMISHIN, V. I.

V 5543

MENDELEEV PERIODIC SYSTEM AND ATOMIC ELECTRON SHELL STRUCTURE. V. I. Semishin. Zhur. Obshchei Khim. 25, 2375-80(1955) Dec. (in Russian).

A long-period table is proposed for the Mendeleev periodic system, which divides all elements into four basic types or groups (s, p, d and f). In the suggested table, the elements are distributed not only according to the increasing number, but also on the basis of actual electron distributions in atomic sublevels. (R.V.J.)

SEMISHIN, Vasiliy Ivanovich; TSVETKOVA, N.F., red.; SHPAK, Ye.G., tekhn.red.; ZAZUL'SKAYA, V.F., tekhn.red.

[Practical work in general chemistry] Praktikum po obshchei khimii. Izd.3-e, dop. Moskva, Gos.nauchno-tekhn.izd-vo khim. lit-ry, 1957. 348 p. (MIRA 10:12)
(Chemistry, Inorganic--Laboratory manuals)

SEMISHIN, V.I.

3-58-4-30/34

AUTHOR: Semishin, V.I., Dotsent, Candidate of Chemical Sciences

TITLE: Bibiography (Bibliografiya) The Second Birth of a Good Book (Vtoroye rozhdeniye khoroshey knigi)

PERIODICAL: Vestnik Vysshey Shkoly, 1958, # 4, pp 86-88 (USSR)

ABSTRACT: This is a review of B.V. Nekrasov's "Textbook of General Chemistry", published in 1957 by Goskhimizdat, a revised edition of the same author's book "Course in General Chemistry", which was published in 1949.

There is one Soviet reference.

ASSOCIATION: Moskovskiy institut khimicheskogo mashinostroyeniya (The Moscow Institute of Chemical Machine Construction)

AVAILABLE: Library of Congress

Card 1/1

SEMISHIN, V.I.; ABRAMOV, I.I.; VOROTNITSKAYA, L.T.

Investigating the solubility of magnesium sulfite. Izv.vys. ucheb.zav.; khim.i khim.tekh. 2 no.6:834-839 '59. (MIRA 13:4)

1. Moskovskiy institut khimicheskogo mashinostroyeniya. Kafedra obshchey i organicheskoy khimii.
(Magnesium sulfite)

SEMISHIN, Vasiliy Ivanovich; TSVETKOVA, N.F., red.; ZAZUL'SKAYA, V.F., tekhn.red.

[Laboratory manual for general chemistry] Praktikum po obshchei khimii. Izd.4., stereotipnoe. Moskva, Gos.nauchno-tekhn.izd-vo khim.lit-ry, 1960. 351 p. (MIRA 13:12)
(Chemistry, Inorganic--Laboratory manuals)

S/079/60/030/007/020/020
B001/B067

AUTHOR: Semishin, V. I.

TITLE: The Problem of Physico-chemical Investigation of the Binary System Hydrazine - Acetic Acid

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 7, pp. 2436 - 2437

TEXT: In the present periodical a report by I. M. Bokhovkin, "Physico-chemical Investigation of the Binary System Hydrazine - Acetic Acid" (Ref. 1), has been published recently. On page 1793 this author writes: "Relatively few data on the physico-chemical analysis of the double salts which are formed by reacting hydrazine with organic acids are available in publications". He refers to Vol. 6 of the Spravochnik tekhnicheskoy entsiklopedii (Handbook of Technical Encyclopedia) published in 1931. On page 1794 the following is maintained: "No data are available in publications on the fusibility of the system hydrazine - acetic acid. Bokhovkin did not succeed in studying the fusibility of this system due to the low freezing points of the solution". He studied density,

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viscosity, surface tension, and specific electrical conductivity of the above-mentioned system. The author of the present paper says in this connection that Bokhovkin apparently does not know six reports published by the author on the physico-chemical investigation of 15 binary systems of hydrazine with various organic components ("Zhurnal obshchey khimii", 1938-1944). He does not know the monograph by Odrit and Ogg, "Hydrazine Chemistry" where numerous papers of foreign scientists are mentioned besides the papers by the author. The thermal analysis of the above system was made by the author for the first time, and the results were published in Ref. 2. The author was the first to determine the specific gravities and the viscosity of this system (Ref. 3). There are 3 Soviet references.

SUBMITTED: June 1, 1960

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AUTHORS: Shidlovskiy, A. A., Semishin, V. I., Simutin, V. I.

TITLE: Thermal Decomposition and Burning of Hydrazine Nitrate

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol. 33, No. 6, pp. 1411-1413

TEXT: The thermal stability of hydrazine nitrate and its capacity of steady burning were investigated. The formation heat of hydrazine nitrate from elements is 59.8 kcal/g-mole. At high temperatures starting from 180°C hydrazine nitrate $N_2H_4 \cdot HNO_3$ is a substance with lower thermal stability than ammonium nitrate. At 270°C its ignition is observed. The addition of potassium bichromate to hydrazine nitrate reduces its thermal stability. Under the conditions of room temperature and atmospheric pressure it cannot burn steadily in a pipe of 20 mm in diameter. In conformity with the theory of burning developed by Andreyev (Ref. 16) hydrazine nitrate acquires the ability of steady burning at atmospheric pressure in a 20mm-pipe in two cases: a) when it is heated preliminarily to a temperature of no less than 90-100°C; b) when a small quantity of a substance reducing its thermal stability and catalyzing burning is added, viz., potassium bichromate. The addition of potassium bichromate makes it possible to burn a mixture of hydrazine nitrate with

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Thermal Decomposition and Burning of Hydrazine Nitrate

ammonium nitrate at atmospheric pressure. There is 1 graph and 16 references: 3 Soviet, 4 French, 3 English, 2 German, 2 American, 1 Canadian and 1 Swiss.

ASSOCIATION: Moskovskiy institut khimicheskogo mashinostroyeniya (Moscow Institute of Chemical Machine Building)

SUBMITTED: November 12, 1959

Card 2/2

36156
S/080/62/035/004/004/022
D204/D301

11.2110

AUTHORS: Shidlovskiy, A. A., Semishin, V. I. and Shmagin, L. F.

TITLE: Thermal decomposition and combustion of hydrazine perchlorate

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 4, 1962, 756-759

TEXT: The above was studied as an extension of the authors' earlier work on NH_4^+ and N_2H_4 salts. Thermochemical and physico-chemical properties of hydrazine perchlorate were investigated and the preparation and analysis (iodometric) are described in brief. The density was found to be 1.927 g/cm^3, heat of solution at 298°K 9.77 kcal/mole for 1:1000 dilution, heat of formation 42.9 kcal/mole and m.p. 140.5 - 141.0°C. Sensitivity to impact and friction was high (greater than NH_4ClO_4). Thermal decomposition was studied by heating the samples for 6 minutes at set temperatures, between 160°C (no decomposition) and 240°C (5.4% loss in weight). Fast

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Thermal decomposition and ...

combustion took place at 250°C. Comparative studies showed NH_4ClO_4 to be more stable to heating. Addition of 5% MnO_2 decreased the flash point of $N_2H_4 \cdot ClO_4$ from 277 - 283 to 254 - 259°C and that of 5% $CuCl_2$ caused an explosion at ~170°C. Combustion measurements showed that pure $N_2H_4ClO_4$ burned only very slowly at room temperature and atm. pressure but the rate could be appreciably increased by 5% additions of MnO_2, Cu_2Cl_2 or CoO. The order of effectiveness was $Cu_2Cl_2 > CoO > MnO_2$ and combustion was 2 - 3 times faster than that of NH_4ClO_4 under the same conditions. There are 1 table and 17 references: 5 Soviet-bloc and 12 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: F. Audrieth, B. A. Ogg, The Chemistry of Hydrazine, N. Y., (1951); C. Gilbert, Cobb, J. Am. Chem. Soc., 57, 39, (1935); J. Barlot, S. Marsaule, C. r., 228, 1497, (1949); L. Medard, Mem. de l'artill. Franc. 2me fasc., 447, (1954).

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Thermal decomposition and ... D204/D301

ASSOCIATION: Moskovskiy institut khimicheskogo mashinostroyeniya (Moscow Institute of Chemical Machine Construction)

SUBMITTED: October 24, 1960

Card 3/3

SEMISHIN, V.I.

Interaction of some substances and metals with solid crystal hydrates. Zhur.neorg.khim. 8 no.1:130-134 Ja '63. (MIRA 16:5)

1. Laboratoriya obshchey khimii Moskovskogo instituta khimicheskogo mashinostroyeniya.
(Metals) (Crystals)