USSR   UDC: 537.312..62

VASINA, N. T.,, RASHETSOVA, B. Ye,, KOLMAKOVA, G. Ya.

"A Method of Photoengraving Lead Films"

USSR Author's Certificate No 261498, filed 15 Jul 68, published 27 May 70
(from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11D643 P)

Translation: This Author's Certificate introduces a method of photoengraving
lead films deposited on a dielectric substrate. The procedure is based on
coating the lead film with acid resist, forming the copy layer and subsequent
etching. As a distinguishing feature of the patent, packing density is in-
creased and circuit quality is improved by placing the substrate in an
etchant comprised of a formic acid solution at a distance of 3-4 mm from the
etchant reflector and blowing compressed air on the surface of the substrate
through a layer of etchant, alternating the action of the compressed air
with the action of the etchant.

1/1

USSR

UDC 911.3:616.9:576.895.771(47+57)

SHIPITSINA, N. K., ANUFRIYEVA, V. N., BANDIN, A. I., VINOGRADSKAYA, O. N., GORNOSTAYEVA, R. M., KUPRIYANOVA, Y. S., MARKOVICH, N. Ya., RASNITSYN S. P., and TIMOFEYEVA, L. V.

"Study of the Biology of Blood-Sucking Diptera as Basis for Combating Vectors of Infection and Blood-Sucking Insects in the Soviet Union"

V sb. Materialy Nauchn. konferentsii posvyashch. 50-letiyu In-ta Med. parazitol. i tropich. Med. 1970 (Proceedings of the Scientific Conference Devoted to the 50th Anniversary of the Institute of Medical Parasitology and Tropical Medicine 1970 -- collection of works), Moscow, 1970, pp 48-49 (from RZh-Meditsinskaya Geografiya, No 2, Feb 71, Abstract No 2.36.48)

[No abstract]

1/1

3

USSR   UDC 911.3.616.9.576.895.771(571.56)

TIMOFEYEVA, L. V., MITROFANOV, A. M., VINOGRADSKAYA, O. N., RASNITSYN, S. P., PETRUCHUK, O. Ye., RYAZANTSEV, V. A., and YERMISHEV, Yu. V.

"Organizational Principles in the Struggle Against Blood-Sucking Midges and Aedes Mosquitoes on the Basis of Their Biological Characteristics"

V sb. Materialy Nauchn. konferentsii, posvyashch. 50-letiyu In-ta med. parazitol. i tropich. med., 1970 (Proceedings on the Conference Commemorating the 50th Anniversary of the Institute of Medical Parasitology and Tropical Medicine 1970 -- collection of works), Moscow, 1970, pp 50-51 (from RZh-36. Meditsinskaya Geografiya, No 1, Jan 71, Abstract No 1.36.75)

[No abstract]

1/1

1/2   059   UNCLASSIFIED   PROCESSING DATE--20NOV70
TITLE--THE HEART MADE OF TITANIUM -U-

AUTHOR--RASPEVIN, K.

COUNTRY OF INFO--USSR

SOURCE--PRAVDA, AUGUST 7, 1970, P 3, COLS 2-7

DATE PUBLISHED--07AUG70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES, MATERIALS, MECH., IND.,
  CIVIL AND MARINE ENGR
TOPIC TAGS--TITANIUM ALLOY, STATE PRIZE, METALLURGIC PERSONNEL, AERONAUTIC
  PERSONNEL, TURBOFAN ENGINE, AVIATION INSTITUTE, METAL UTILIZATION,
  AIRCRAFT ENGINE, AIRCRAFT MATERIAL/(U)IL62 AIRCRAFT ENGINE, (U)NK8
  TURBOFAN ENGINE, (U)NK04 TURBOFAN ENGINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1872   STEP NO--UR/9012/70/000/000/0003/0003

CIRC ACCESSION NO--AN0125482
                            UNCLASSIFIED

CIRC ACCESSICN NO--AN0125482
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. N. D. KUZNETSOV, M. T. VASILISHIN,
V. A. KURGANCV, P. M. MARKIN, V. D. RADCHENKO, P. A. SUKHOV, A. A.
MUKHIN, V. G. SHITOV, G. I. MUSHENKO, L. A. SKHUDO, AND G. P.
DOLGOLENKO, A TEAM OF DESIGNERS, ENGINEERS AND TECHNOLOGISTS, HAVE BEEN
NOMINATED BY THE MINISTRY OF AVIATICN INDUSTRY FOR THE STATE PRIZE OF
1970. THEY HAVE DEVELOPED TURBOFAN ENGINES NK,8 AND NK,8,4, AND
PRODUCTICN TECHNIQUES WHICH HAVE MADE POSSIBLE THE USE OF TITANIUM
ALLOYS. NIKOLAY DMITRIYEVICH KUZNETSOV AND LYUDVIG ADOL, FOVICH SKHODO
ARE IDENTIFIED AS GENERAL DESIGNER AND LEADING DESIGNER OF THE CENTRAL
INSTITUTE OF AVIATION CCNSTRUCTION, RESPECTIVELY. GEURGIY PAVLOVIDH
DOLGOLENKO IS REFERRED TO AS AN ENGINEER. CLAIM IS MADE FOR THE USE OF
TITANIUM CCMPCNENTS IN THE "IL,62" ENGINE FOR THE FIRST TIME IN THE
WORLD'S PRACTICE.

UNCLASSIFIED

AN 0029535

AUTHOR-- RASPEVIN, K.

TITLE-- THE FLAGSHIP OF THE AEROFLOT

NEWSPAPER-- PRAVDA, MARCH 3, 1970, P 6, COLS 2-8

ABSTRACT-- G. V. NOVOZHILOV, YA. A. KUTEPOV, V. I. SMIRNOV, D. V. LESHCHINER, V. M. SHEYNIN, AND A. A. OVCHAROV, A TEAM OF DESIGNERS WITH THE IL YUSHIN DESIGN BUREAU, HAVE BEEN NOMINATED FOR THE LENIN PRIZE BY THE MINISTRY OF THE AVIATION INDUSTRY FOR DEVELOPING THE "IL-62". THE NOMINATION HAS BEEN SUPPORTED BY YE. F. LOGINOV, MINISTER OF CIVIL AVIATION, AND G. P. SVISHCHEV, CORRESPONDING MEMBER OF THE ACADEMY OF SCIENCES, U.S.S.R., HEAD OF TSAGI.

19681143

USSR

Beryllium

USSR

UDC 669.725'794-541.134

BUTOROV, V. P., NICHKOV, I. F., NOVIKOV, YE. A., RASPOPIN, S. P., and
SHTOL'TS, A. K., Ural Polytechnic Institute, Department of the Metallurgy of
Rare Metals

"Thermodynamics of Beryllium-Yttrium Alloys"

Abstract: Tests on determining the thermodynamic magnitudes of Y-Be alloys was
reduced to a study of the electromotive force of the galvanic element which was
determined as the difference

$$\mathcal{E} = \mathcal{G}_{alloy} - \mathcal{G}_Y,$$

where $\mathcal{G}_{alloy}$ and $\mathcal{G}_Y$ are the equilibrium potentials of the alloy and metallic
equilibrium, respectively, relative to the chlorine electrode of comparison.
From measurements of the emf of Y-Be alloys containing from 4.1 to 40.8 wt% Y,
it was found that there is a direct relationship of alloy emf to Kelvin tempera-
ture. Tables were compiled from experimental data which showed the activity
and coefficients of activity of yttrium and Be-Y alloys and thermodynamic
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USSR

BUTOROV, V. P., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy--Chernaya
Metallurgiya, No 4, 1973, pp 86-89

properties of alloy YBe_{13}. From x-ray phase analysis of the studied alloys it
was established that they consist of two phases: the intermetallic compound
YBe_{12} and pure beryllium. 1 figure, 3 tables, 4 bibliographic references.

2/2

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USSR   UDC 669.24.411(088.8)

NICHKOV, I. F., RASPOPIN, S. P.

"Synthetic Slag"

USSR Author's Certificate No 309060, filed 3 Mar 70, published 20 Sep 71 (from
RZh--Metallurgiya, No 4, Apr 72, Abstract No 4G316P)

Translation: Synthetic slag based on Ca and Na fluorides for refining of
liquid metals (for example, Ni) is introduced. This slag is distinguished by
the fact that in order to purify the Ni of metallic impurities such as Al, Mg,
Zn, Cd, the rare earth elements, Be, Zr, Th, U and Pu, Ni fluoride is introduced.
The slag ingredients occur in the following proportions (% by weight): 89-93%
CaF_2, 5-7% NaF, 2-4% NiF_2. The utilization of the slag is most efficient at
1,550-1,600°.

1/1

SEREBRYAKOV, G. A., NICHKOV, I. F., RASPOPIN, S. P., NOVIKOV, Ye. A.

"Cathode Processes in Electrolytic Separation of Aluminum From Halide Salt Melts"

Abstract: The polarization of liquid zinc and solid tantalum cathodes was studied during electrolytic separation of aluminum from chloride-fluoride melts. It is demonstrated that at low current densities, the separation of aluminum on zinc involves some depolarization due to the formation of liquid metal solutions. It is impossible to establish the magnitude of depolarization, since the sector corresponding to melt formation on the curves cannot be separated. The cathode yield per current during separation of aluminum on zinc may reach 81-100%, depending on electrolysis conditions.

1/1

1/2   012   UNCLASSIFIED   PROCESSING DATE--23OCT7
TITLE--FUSIBILITY OF SALT SYSTEMS CONTAINING URANIUM TRICHLORIDE -U-

AUTHOR-(05)-DESYATNIK, V.N., MELNIKOV, YU.T., NICHKOV, I.F., RASPOPIN,
   S.P., MAKOSOV, V.V.
COUNTRY OF INFO--USSR

SOURCE--AT. ENERG. 1970, 28(3), 247-9

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--URANIUM COMPOUND, CHLORIDE, MOLTEN CHLORIDE, FUSED SALT, LEAD
   COMPOUND, EUTELTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1577   STEP NO--UR/0089/70/028/003/0247/0249

CIRC ACCESSION NO--AP0120356
                        UNCLASSIFIED

CIRC ACCESSION NO--AP0120356
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PHASE DIAGRAM OF THE UCL
 SUB3-PBCL SUB2-UCL SUB4 SYSTEM, WITH POLYTHERMAL SECTIONS FOR
 100-800DEGREES IS PRESENTED. THE UCL SUB3-PBCL SUB2 SYSTEM ALWAYS
 CONTAINS UCL SUB4 AS A RESULT OF ITS FORMATION (TOGETHER WITH PB) IN TI
 INTERACTION OF UCL SUB3 AND PBCL SUB2; HENCE, IT SHOULD BE REGARDED AS
 TERNARY SYSTEM, WITH 2 EUTECTICS CONTG. 11 AND 25PERCENT UCL SUB3 AND \
 AT 473 AND 473DEGREES, RESP., AND WITH A COMPD. 4PBCL SUB2. UCL SUB3, \
 AT 512DEGREES.

UNCLASSIFIED

UNCLASSIFIED   PROCESSING DATE--04DEC70

1/2   020
TITLE--PHASE DIAGRAM OF THORIUM TETRACHLORIDE URANIUM TRICHLORIDE AND
   PLUTONIUM TRICHLORIDE URANIUM TRICHLORIDE SYSTEMS -U-
AUTHOR-(05)-DESYATNIK, V.N., NICHKOV, I.F., PORODNOV, P.T., RASPOPIN,
   S.P., SKIBA, O.V.
COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., TSVET. MET. 1970, 13(1), 101-3

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--PHASE DIAGRAM, EUTECTIC MIXTURE, THORIUM COMPOUND, URANIUM
   COMPOUND, PLUTONIUM COMPOUND, CHLORIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/0628   STEP NO--UR/0149/70/013/001/0101/0103

CIRC ACCESSION NO--AT0137713
                    UNCLASSIFIED

UNCLASSIFIED   PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AT0137713
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PHASE DIAGRAMS OF THE BINARY
SYSTEMS THCL SUB4 UCL SUB3 AND PUCL SUB3-UCL SUB3 WERE INVESTIGATED.
THCL SUB4-UCL SUB3 FORMS THE COMPD. 3UCL SUB3. THCL SUB4 UNSTABLE AT
GREATER THAN 750DEGREES WHICH FORMS A CUTECTIC MIXT. WITH THCL SUB4.
THE ONLY EUTECTIC IN THE THCL SUB4-UCL SUB3 SYSTEM IS AT 50 MOLE PERCENT
UCL SUB3 AND 632DEGREES. IN THE PUCL SUB3-UCL SUB3 SYSTEM A COMPD.
UNSTABLE AT GREATER THAN 700DEGREES (3UCL SUB3. PUCL SUB3) FORMS A
EUTECTIC MIXT. WITH PUCL SUB3. THE EUTECTIC IN THE PUCL SUB3-UCL SUB3
SYSTEM IS AT 44 MOLE PERCENT UCL SUB3 AND 496DEGREES.   FACILITY:
URAL POLITEKH. INST., SVERDLOVSK, USSR.

UNCLASSIFIED

USSR   UDC 541.123.2

DESYATNIK, V. N., KURBATOV, N. N., RASPONIN, S. P., and CHERVINSKIY, YU. F.,
Ural Polytechnical Institute, Sverdlovsk

"Phase Diagrams of Binary Systems Containing Uranium Tetrachloride and Alkali
Metal Chlorides""

Translation. The phase diagrams of uranium tetrachloride and alkali metal
chlorides were studied by differential thermal analysis. It was demonstrated
that uranium tetrachloride forms the following compounds with alkali metal
chlorides: $2MeCl \cdot UCl_4$ (where Me = Li, Na, K, Rb, Cs), $MeCl \cdot UCl_4$, and $3MeCl \cdot
UCl_4$ (where Me = Rb, Cs). Two eutectic points were found for the $LiCl-UCl_4$
system, corresponding to 31 and 43 mol % UCl_4 content at 415 ± 2 and $400 \pm
2^{\circ}C$. In the $NaCl-UCl_4$ system the eutectic mixture melts at $368 \pm 2^{\circ}C$ and
corresponds to a 50 mol % UCl_4 content. The eutectic points of the $KCl-UCl_4$
system correspond to 26 and 51 mol % UCl_4 concentrations at 562 ± 2 and 335
$\pm 2^{\circ}C$ respectively. In the $RbCl-UCl_4$ system, two eutectic points were deter-
mined for 22 and 36 mol % UCl_4 concentrations at melting points 535 ± 2 and

1/2

USSR

DESYATNIK, V. N., et al., Zhurnal Fizicheskoy Khimii, Vol 46, Vyp 8, 1972, p 2159

$345 \pm 2°C$. In the $CsCl-UCl_4$ system, the eutectic mixtures melt at 522 ± 2 and $356 \pm 2°$ C, and correspond to 17 and 63 mol % concentrations of UCl_4 respectively.

2/2

USSR   UDC 669.295

DENISOV, S. I., RASPOPIN, V. G., and DEGTYAREV, V. S.

"The Role of the Briquetting Stage in Processing Charge During the Smelting
of Titanium Concentrates"

Translation: On the basis of results from research on smelting powder and
briquetted charges from iron-titanium concentrate from the Samotkanskoye
deposit (64% TiO_2, 24% FeO), conducted on an open-type industrial furnace
with a capacity of 10,500 kilovolt-amperes, it was established that as a
result of decreasing periods of idle time between smeltings, the time that
the furnace is live in processing pwoder charge is considerably greater
(95.5%) than in smelting briquets (90.5%). It was also shown that furnace
productivity for slag in smelting powder charge is higher than in smelting
briquets (3.40 as against 3.27 tons per hour). However, in smelting this
charge, increased losses of concentrate with the dust of escaping gasses
(more than 3.6%) takes place. This can be reduced by covering the furnace
with a crown and setting up a system of capturing the dust. Technical-
1/2

USSR

economic calculations show that the several advantages gained in smelting
briquetted charge do not justify the high costs of the briquetting stage,
as a result of which smelting powder charge is more profitable. Two tables
and two bibliographic entries.

2/2

USSR   UDC 669.295.112

RASPOPIN, V. G., and DENISOV, S. I.

"Efficient Operating Conditions and Calculating the Parameters of Thermal
Ore Furnaces for Smelting Titanium Slags"

Moscow, Metallurgiya i Khimiya Titana (Institut Titana), Metallurgiya
Publishing House, Vol 6, 1970, pp 29-33

Translation: Generalized results are presented from research on the
selection of efficient electrical conditions for smelting titanium slags
and the operation of thermal ore furnaces. On the basis of generalized
research results, the dependencies of usable voltage and the diameter of
the furnace bath on the transformer capacity supplied are presented.
One table and ten bibliographic entries.

1/1

TITLE--PULSATING AURORAE IN CONJUGATE POINTS -U-

AUTHOR-(05)-GOKHBERG, M.B., KAZAK, B.N., RASPOPOV, O.M., REDLUGIN, V.K.,
  TROYTSKAYA, V.A.
COUNTRY OF INFO--USSR

SOURCE--GEOMAGNETIZM I AERONOMIIA, VOL. 10, NO. 2, 1970, P. 367-370

DATE PUBLISHED------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--AURORA, PULSATION, GEOMAGNETIC FIELD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0156   STEP NO--UR/0203/70/010/002/0367/0370

CIRC ACCESSION NO--AP0119152
                    UNCLASSIFIED

CIRC ACCESSION NO--AP0119152
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INVESTIGATION OF THE FEATURES
ACCOMPANYING (IN MAGNETICALLY CONJUGATE POINTS) THE ONSET OF PULSATING
AURORAE CONSISTING OF INDIVIDUAL SPOTS ABOUT 10 KM IN EXTENT AND SEVERAL
SECONDS IN DURATION. SIMULTANEOUS FIELD RECORDINGS AND PHOTOGRAPHIC
OBSERVATIONS CONDUCTED IN 1968 IN SOGRA AND KERGUELEN SHOW THAT
INDIVIDUAL FLARES OF PULSATING AURORAE ARISE WITHIN ONE SECOND OF EACH
OTHER AT THESE POINTS. HOWEVER, EVEN IN THE CASE OF A SIMULTANEOUS
ONSET THESE PULSATIONS ARE NOT MUTUALLY CORRELATED, AND IT IS CONCLUDED
THAT THEIR SOURCES HAVE A LOCAL NATURE.   FACILITY: AKADEMIIA
NAUK SSSR, INSTITUT FIZIKI SEMLI, MOSCOW.   FACILITY: AKADEMIIA
NAUK SSSR, POLIARNYI GEOFIZICHESKII INSTITUT, MURMANSK.
FACILITY: LENINGRADSKII GOSUDARSTVENNYI UNIVERSITET, LENINGRAD, USSR.

UNCLASSIFIED

GLORIA

RASPOPOV, V. Ya.

GYROSCOPES

MOTION OF A GYROSCOPE WITH A HOOK'S JOINT AND EXTRA ROTOR

The motion of a gyroscope whose flywheel is driven through a Hook's joint, equipped with an extra kinetic moment carrier, is examined in this article within the framework of precession theory.

The motion of a gyroscope whose flywheel (rotor) is driven by a Hook's joint (Arnold-Mender gyroscope) is investigated in [1, 2]. It is shown that such a gyroscope, installed on a rotating platform, the angular velocity of which is perpendicular to the input axis of the Hook's joint, possesses the property of being a high-speed gyroscope and can be classified as a rotor vibration gyroscope [2]. It is shown [2] that an extra rotor (extra kinetic moment carrier) built into the gyroscope changes the coordinates of the position of equilibrium of the gyroscope.

In connection with some of the uses to which a gyroscope with a Hook's joint is put, the character of its motion to the equilibrium position is important. This problem is solved below for such a gyroscope, installed on a fixed platform (Figure 1).

The flywheel (rotor) 2 is driven through a Hook's joint, the entrance shaft of which is denoted by the index 1, and the exit by the index 3. If we draw an analogy between the kinematics of the Hook's joint and kinematics of the free gyroscope, the frame of which rotates around the axis perpendicular to the axis of rotation of the outer frame of the suspension, we see that they are quite identical, i.e., part 1 in Figure 1 corresponds to the frame of the ordinary free gyroscope, part 4 to the outer gimbal frame, and part 3 is obviously the analog of the inner gimbal frame. Extra rotor 5 is fixed in exit shaft 3 of the Hook's hinge. That the angular rate of rotation of the rotor of the additional gyromotor (the term "extra rotor" is

- 1 -

[I - USSR - G]

RASPOPOV, V. Ya., SHAYDENKO, A. Ya., GORIN, V. I., CHEKALIN, Ye. B., Tula
Polytechnical Institute

"Concerning the Problem of Motion of a Gyroscope Based on a Universal
Joint With Additional Rotor"

Abstract: Motion of the gyroscope shown in the figure to its equilibrium
position is considered. The flywheel mass (rotor) 2 is rotated through a
universal joint with input axle 1 and output axle 3. If an analogy is
drawn between a kinematic universal joint and a kinematic three-degree
gyroscope whose body rotates about an axis perpendicular to the axis of
rotation of the outer frame of the suspension, then it can be stated that
their kinematics are completely identical, i. e. part 1 in the figure cor-
responds to the body of a conventional three-degree gyroscope, part 4 cor-
responds to the frame of the Cardan suspension on the outside, and part
3 is the analog of the inner frame of the Cardan suspension. An additional
rotor 5 is fastened on the output axle 3 of the universal joint. It is
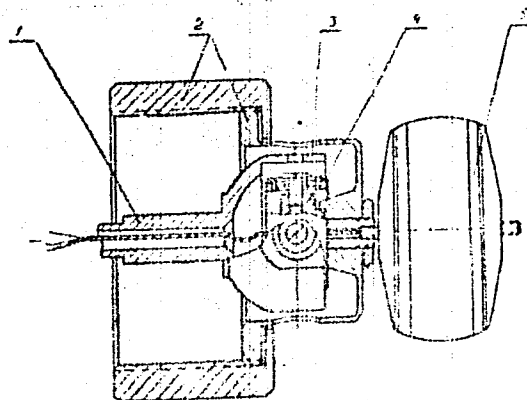found that an increase in the kinetic moment of the additional rotor in-

1/2

- 135 -

USSR

creases the time constant of the gyroscope. If the vector of the angular rotational velocity of the additional rotor does not coincide with that of the input axle of the universal joint, motion of the gyroscope is unstable, and is a divergent oscillatory process.

2/2

UDC 669.715:539.26

USSR

KLESHCHEV, G. V., TOLDIN, V. A., SHEYNKMAN, A. I., RASPOPOV, Yu. G.,
SHUMILOV, D. V., and TROFIMOV, V. G., Chelyabinsk Pedagogical Institute

"X-Ray and Electron-Microscopic Investigation of the Decay of Supersaturated
Solid Solution in AlZn Alloys"

Abstract: A study was made of the decay of the supersaturated solid solu-
tion in AlZn alloys with 40, 50, and 60 wt. % zinc using the X-ray and
electron-microscopic methods. The process of decay at tempering tempera-
tures above 200 (but below 275°) depends on the rate of quenching of the
specimen from the homogenizing temperature to the tempering temperature.
During slow quenching a metastable α'-phase develops, while during fast
quenching a stable α-phase develops. The possible reasons for such a
dependence are considered. The role of the effect of foil thickness is
noted.

1/1

- 81 -

105118j Effect of pressure on the electrical and photoelectric properties of amorphous and single-crystal arsenic sesquisele-nide. Koiomiets, B. T.; Raspopo a, E. M. (Fiz.-Tekh. Inst. im. Ioffe, Leningrad, USSR). Fiz. Tekh. Poluprov. 1970, 4(1), 157-61 (Russ). Results of the study of the effect of pressure on the cond. and spectral photocond. of amorphous and single-crystal As_2Se_3 are given. The coeffs. of change in the width of the forbidden band with pressure $(dE/dP) = -18 \times 10^{-6}$ eV/ atm. for the amorphous and $(dE_g/dP) = -17 \times 10^{-6}$ eV/atm. for the single-crystal materials, and the deformation potential for amorphous As_2Se_3, $(D_g) = 1.6$ eV. The change in width of the forbidden band during the transition from the cryst. to the amorphous state was due to the fact that the disorder capacity of the amorphous As_2Se_3 was the same as that of the cryst. material close to the m.p.   S. B. Radding

REEL/FRAME
19791900

UDC: 621.315.592

USSR

KOLOMIYETS, B. T. and RASPOPOVA, Ye. M.
"Shift of the Optical Absorption Limit of Vitreous As_2Se_3 Under Pressure"

Leningrad, Fizika i tekhnika poluprovodnikov, vol 6, No 6, 1972, pp 1103-1107

Abstract: This paper is based on an earlier work by the same authors, published in the same journal (4, 1970, p 157) named above. The earlier article computed the shift in the optical absorption limit from the shift in photoconductivity spectra; in the experiments described by the present paper, direct measurements of the shift in the optical absorption limit under pressure were made. These measurements were conducted in a hydrostatic compression device with sapphire windows, and the medium for the transmission of the pressure was oil. The IKS-12 spectrometer with replica was used for the research, with the infrared photomultiplier FEU-22 as the optically sensitive device. As_2Se_3 specimens were cleaned and polished to a thickness of from 3 mm to 40 μ, and were made in the authors' laboratory at the A. F. Ioffe Physico-Technical Institute in Leningrad. The results of the computation of the absorption coefficient for vitreous As_2Se_3 are given. The authors thank

1/2

V. P. Shilo and V. N. Knyazevskiy for synthesizing the glass and
the crystal, and T. F. Mazets and K. D. Tsendin for their useful
comments.

2/2

UDC: 621.315.592

USSR

KOLOMIYETS, B. T. and RASPOPOVA, Ye. M.

"Photoconductivity Spectra of Vitreous As$_2$Se$_3$ in Modulated and Unmodulated Light"

Leningrad, Fizika i tekhnika poluprovodnikov, vol 6, No 6, 1972, pp 1050-1053

Abstract: This paper is the continuation of an earlier article by the same authors in the same journal (4, 1970, p 157) which presented the spectrum of the unmodulated photoconductivity of As$_2$Se$_3$ specimens. Comparison of this spectrum with the optical absorption curve showed some inconsistencies due to observation of the photoconductivity at photon energies of an essentially lower level than the optical width of the forbidden zone. The purpose of the present paper, therefore, is to give results of further investigations into this situation. In the experiments of the present paper the photoconductivity with modulated as well as unmodulated light was investigated in As$_2$Se$_3$ specimens developed by a special technique invented in the authors' laboratory at the A. F. Ioffe Physico-Technical Institute in Leningrad. Further details of the equipment, including the IKS-12 monochromator for obtaining the spectra and the Vakutronik VA-J-51 electrometer for measuring the

1/2

unmodulated photoconductivity, are given together with sample
spectra. The authors conclude by expressing their gratitude to
Ye. B. Ivkin, B. V. Pavlov, and V. M. Lyubin.

2/2

Acc. Nr.   Abstracting Service: Ref. Code
   AP0036346   CHEMICAL ABST.   UR 0007

69222c Distribution of rare earth elements in coexisting
minerals of alkaline-ultrabasic rocks. Rass, I. T. (Inst. Geol.
Ore Deposits, Petrogr., Mineral., Geochem., Moscow, USSR).
Geokhimiya 1970, (1), 96-103 (Russ). From the distribution of
rare earth elements and Y in coexisting pyroxenes and apatites of
alkaline-ultrabasic rocks of the Great Sayany massif common
features of the acidity regime of mineral-forming solns. of mag-
matic and postmagmatic stages of metasomatism have been
established. The dependence of the coeff. of rare earth distribu-
tion among the coexisting pyroxene and apatite on the established
acidity regime is shown. The conjugated change of the indicator
ratio Nd/La in pyroxene and apatite of the Great Sayany and
Kondor massifs is considered and the impossibility of using it as a
geothermometer is revealed.   BLJR

REEL/FRAME
19721184

USSR

ASSADINA, I. D.

"Acoustical Design of Devices for Sound Control of Test Stations"

Translation: A method is presented for the acoustical design of silencers of air noise from test stations for turbojet engines. The calculations were made in the following order: 1) identify the sources of noise and determine their spectra of noise intensity emitted in the atmosphere; 2) select computational points in the area of the building and determine for them L_{perm} on the basis of health norms; 3) at each computational point determine L_i from each noise source; 4) determine the required drop in noise ΔL for each computational point; 5) select the design and parameters of the noise control devices. A basic source of turbojet noise is the exhaust jet, and the sound intensity is

1/2

- 25 -

USSR

RASSADINA, I. E., Tr. Giproniiaviaproma, 1970, No. 7, pp 34-64

calculated on the basis of gasdynamic and geometric parameters of the jet with
a cross section of the nozzle. Graphs are given showing the relationship of
the sound intensity spectra in terms of the gasdynamic and geometric parameters
of the stream on a cross cut of the jet. Graphs are given showing the relative
parameters of the sound intensity spectra of the jet stream and the noise emitted
into the box, and also a technique is presented for calculating the
noise intensity spectra from the exhaust and for intake and inflow
shafts. The sound pressure spectrum is determined at the calcu-
lation points on the basis of the sound intensity spectrum for
known relationships, taking into account the distance to the
calculation point and the attenuation of sound in the atmosphere. The type and
dimensions of the noise absorbers are determined by starting from the required
ΔL and considering the required transmission capability of the absorber, the
permissible air temperature and velocity, and also the minimum hydraulic re-
sistance of the intake and exhaust portions. Diagrams and the effectiveness
of the sound absorption of typical structures of the sound absorbers of turbojet
boxes at the exhaust and for the intake and inflow shafts are given. 13
references. E. I. Denisov.

USSR   UDC 633+632.938

SMIRNOVA, L. A., ANPILOGOVA, L. K., SOLOV'YEVA, A. I. (Deceased), RUDAMOVSKAYA,
Ye. A., RASSADINA, Ye. G., CHUMAKOV, A. Ye., and MOSTOVOY, V. A., All-Union
Scientific Institute of Plant Protection, Leningrad, North Caucasian Scientific
Research Institute of Plant Pathology, Krasnodar, and Central Asian Scientific
Research Institute of Plant Pathology, Tashkentskaya Oblast

"Face Formation in Puccinia graminis Pers. f. sp. tritici in the USSR"

Abstract: Besides discussing the current status of the problem of the race
composition of stem rust of wheat, the article synthesizes the latest data
embodied in reports sent to the journal Mikologiya i Fitopatologiya for pub-
lication. More than 100 races are now known, many discovered in the last 10
years. During this time the main races of P. graminis were fairly stable,
with changes occurring only in their quantitative correlations in different
years and geographic zones. Despite their great variety, only a few are found
in almost all zones, i.e., 11, 17, 21, and 34. The sexual process, heterok-
aryosis, and mutations play a major role in the origin of new races of the
agent of stem rust of wheat. The factor most responsible for the formation
of new virulent races is the presence of resistant wheat varieties grown for
a long time over large areas.
1/1

RASSEYKIN, D.

REVIEW OF NEW FORENSIC PSYCHOLOGY TEACHING AID

[Book review by Prof. D. Rasseykin, Doctor of Juridical Sciences, V. Kozlov, lecturer, and N. Khaylukov, instructor at the Saratov Juridical Institute; Moscow, Sotsialisticheskaya Zakonnost', Russian, No 12, 1971, signed to press 12 November 1971, pp 85-86]

During the last decade interest in psychology has noticeably grown. And forensic psychology, the elaboration and development of which began relatively recently, is attracting attention. The development of forensic psychology and the timely introduction of its achievements into practice are directly connected with teaching it in the higher juridical education institutes. Therefore, texts and teaching aids for this discipline are extremely needed.

The work of A. Dulov* being reviewed is one of the first attempts to create a teaching aid for forensic psychology. The role of psychological regularities and the psychological characteristics in implementing the tasks of socialist justice is shown in it. The author gives special attention to studying the activity of implementing justice and investigates the psychological sides and special features. The aid contains a general and a special part.

The first section (the general part) is an introduction to forensic psychology. Here its significance for the activity of implementing justice, its subject, method, tasks, and place in the system of other sciences are shown. The author exhaustively argues for the theoretical basis of making forensic psychology an independent science. He says that the use of psychological laws and characteristics by themselves in any form of human activity still cannot create the basis for making it an

*A. Dulov, Sudebnaya psikhologiya (uchebnoye posobiye) [Forensic Psychology (Teaching Aid)], Vysshaya Shkola Publishing House, Minsk, 1970, 363 pp.

- 65 -

USSR

UDC 62.52

GONCHAROV, R.V., RASSHCHEPLYAYEV, YU.S.

"Pulse Correcting Filter"

Izv. VUZ: Elektromekhanika, No 3, Mar 1972, pp 317-323

Abstract: The proposed pulse correcting filter can be used for correction of automatic control systems operating on a carrier frequency, and also those using nonmodulated signals. In the range of the ratios of the frequencies of the carrier and envelope significant in practice, the filter has phase-leading properties. During its use for conversion on nonmodulated signals, the filter performs the function of a modulator. Furthermore, the additional possibility appears of obtaining more complex laws of conversion by control of the frequency of the switching voltage. 4 fig. 2 ref. Received, 27 Oct 1970.

1/1

USSR   UDC: 621.317.619(088.8)

RASSHCHEPLYAYEV, Yu. S., BATYREV, V. A.

"A Device for Observing Stress Curves on an Oscilloscope Screen"

USSR Author's Certificate No 282458, filed 5 May 68, published 17 Dec 70
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A313 P)

Translation: A device is proposed for observing stress curves on an oscil-
loscope screen. The device contains pickups and a system of electronic
switches with noncontact ring-type pulse distributor. As a distinguishing
feature of the patent, the device is designed for producing stress ampli-
tude curves with arbitrary lengthwise placement of the pickups on the
object being studied. In addition, precision is improved and the frequency
range is extended by including series-connected OR logic circuits with a
second electronic switch circuit.

1/1

USSR   UDC: 681.335.5

RASSHCHEPLYAYEV, Yu. S.

"Multiplier-Divider"

USSR Author's Certificate No 249070, Filed 30 Oct 67, Published 9 Jan 70
(from RZh-Avtomatika, Telemekhanika i Vychislitelnaya Tekhnika, No 8, Aug
70, Abstract No 8B113P)

Translation: This Author's Certificate contains a brief description of the
structure of a multiplier-divider which varies the differential resistance of
the diode to execute the multiplication and division operation when there is
a variation of the constant component proportional to one of the input vol-
tages. Formation of DC input voltages is carried out by an AC input voltage
rectifier. The distinguishing feature of the proposed circuit is application
of a transistorized, full-wave, phase-sensitive switching circuit for demod-
ulation of the input voltage for the rectifier. This expands the functional
possibilities of the circuit and improves its accuracy and speed. There is
one illustration.

1/1

TITLE--EXPERIMENTAL ANALYTICAL OPTIMIZATION OF PARAMETERS OF THE SERVO
   ELECTRIC DRIVE ACCORDING TO STATISTICAL CRITERIA --U-

AUTHOR-(02)-RASSHCHEPLYAYEV, YU.S., FANDIYENKO, V.N.

CCUNTRY OF INFO--USSR

SOURCE--NOVOCHERKASSK, IZVESTIYA VYSSHIKH UCHEBNYKH ZAVEDENIY,
   ELEKTROMEKHANIKA, NO 3, 1970, PP 321-328
DATE PUBLISHED--------70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--SERVOSYSTEM, NONLINEAR SYSTEM, ANALYTIC FUNCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1651   STEP NO--UR/0144/70/000/003/0321/0328

CIRC ACCESSION NO--AT0123489
                        UNCLASSIFIED

CIRC ACCESSION NO--AT0123489

ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT.   THE OPTIMIZATION OF PARAMETERS OF
THE SYSTEMS WITH A PRESET STRUCTURE IS OF GREAT IMPORTANCE.   HOWEVER,
WHEN INVESTIGATING STATISTICALLY THE SERVO SYSTEM, ESPECIALLY THE
NONLINEAR ONES, IT IS PRACTICALLY IMPOSSIBLE TO ESTABLISH THE ANALYTICAL
DEPENDENCE BETWEEN THE CRITERION OF QUALITY AND THE VALUES OF
PARAMETERS, WHICH RULES OUT ANALYTICAL OPTIMIZATION.   THE ARTICLE
PRESENTS AN EXPERIMENTAL ANALYTICAL METHOD OF THE OPTIMIZATION OF
PARAMETERS OF A DYNAMIC SYSTEM ACCORDING TO STATISTICAL CRITERIA, BASED
ON FACTOR EXPERIMENT.   AN EXAMPLE IS GIVEN OF THE DETERMINATION OF
OPTIMAL PARAMETERS OF A NONLINEAR SERVO ELECTRIC DRIVE FOR THE CASE OF
RANDOM STATIONARY CONTROLLING AND PERTURBING ACTIONS ACCORDING TO A
CRITERION OF THE MAXIMUM PROBABILITY OF THE NONOCCURRENCE OF THE
TRACKING ERROR BEYOND PERMISSIBLE LIMITS.   EVALUATION OF ERRORS IS MADE
IN DETERMINING PARAMETERS, AND CONFIDENCE LIMITS ARE ESTABLISHED OF THE
PROBABILITY OF A NONOCCURRENCE OF THE TRACKING ERROR BEYOND PERMISSIBLE
LIMITS.

UNCLASSIFIED

1/2   023   UNCLASSIFIED   PROCESSING DATE--30OCT70

TITLE--SIMULATOR -U-

AUTHOR-(03)-RASSHCHEPLYAYEV, YU.S., SOLOVYEV, V.M., DEMIDENKO, A.V.

CCUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 243277
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI NR 16
DATE PUBLISHED--12SEP70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--LINEAR CONTROL SYSTEM, ANALCG COMPTER, RC CIRCUIT, ELECTRONIC
    FEEDBACK, PATENT, SIMULATION

CCNTRCL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/1510   STEP NO--UR/0482/69/000/000/0000/0000

CIRC ACCESSICN NO--AA0127019
                         UNCLASSIFIED

CIRC ACCESSION NO--AA0127019
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MICROFICHE GF ABSTRACT CONTAINS
    GRAPHIC INFORMATION. SIMULATOR TO REPRODUCE DYNAMIC PROPERTIES OF
    LINEAR CCNTROL SYSTEMS FROM THEIR EXPERIMENTAL FREQUENCY CHARACTERISTIC,
    FOR ANALOG COMPUTER SYSTEMS, IS ASSEMBLED FROM TWO TYPES OF MODULES.
    ONE MODULE CONTAINS AN OPERATIONAL AMPLIFIER AND ON ITS INPUT A DOUBLE T
    SECTION RC CIRCUIT, WITH ANOTHER RESISTOR IN A FEEDBACK CIRCUIT. THE
    SECOND MODULE IS AN OPERATIONAL AMPLIFIER WITH A RESISTOR AND A
    CAPACITOR IN ITS FEEDBACK CIRCUIT, AND AN L SECTION DIVIDER WITH A
    RESISTOR AND CAPACITOR IN PARALLEL, AND A RESISTOR ON ITS INPUT.
    FACILITY: ROSTOVSKOYE VYSSHEYE KOMANDNC-INZHENERNOYE UCHILISHECHE IM.
    GLAVNCGO MARSHALA ARTILLERII M. I. NEDELINA.

UNCLASSIFIED

1/2   007   UNCLASSIFIED   PROCESSING DATE--18SEP70
TITLE--GENERAL FEATURES OF THE GEOLOGICAL HISTORY OF THE WEST OF AFRICAN
  AND SIBERIAN PLATFORMS -U-
AUTHOR-(04)-VLADIMIROV, B.M., ODINTSOV, M.M., RASSKAZCHIKOV, A.N.,
  TVERDOKHLEBOV, V.A.
COUNTRY OF INFO--USSR

SOURCE--GEOLOGIYA I GEOFIZIKA, 1970, NR 1 (121) PP 50-56

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--STRUCTURAL GEOLOGY, MAGMA, OROGENY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1986/1318   STEP NO--UR/0210/70/000/001/0050/0056

CIRC ACCESSION NO--AP0103200
                    UNCLASSIFIED

CIRC ACCESSION NO--AP0103200

ABSTRACT/EXTRACT--(U) GP-0-- ABSTRACT. THE MAIN FEATURES OF GEOLOGICAL
STRUCTURE OF THE BASEMENT, SEDIMENTARY COVER AND MAGMATISM OF THE WEST
AFRICAN CRATON AND LIBYAN NIGERIAN OROGENIC BELT ARE CONSIDERED. THEIR
BELONGING TO THE SINGLE WEST AFRICAN COMPLICATED EPIBAIKALIAN PLATFORM
STRUCTURE WITH DIFFERENT AGE OF HETEROGENE BASEMENT IS ESTABLISHED.
THE ANALOGOUS FEATURES OF GEOLOGICAL DEVELOPMENT OF THE WEST AFRICA AND
SIBERIAN PLATFORM WITH INCLUDED BAIKALIDES ARE ESTABLISHED BY
COMPARATIVE ANALYSIS.

UNCLASSIFIED

1

USSR

BARZHIN, V.YA., BAKLANOV, O.D., KOSHARNOVSKIY, G.V., RASSKAZOV, I.E.,
VERBITSKAYA, T.N.

"Small-Size Crystal Oscillators, Efficient In A Wide Range Of Temperatures"

Translation: Problems are considered of thermostabilization of crystal oscillat-
ors by ferroelectric materials which possess the effect of temperature auto-
stabilization. The results are presented of an experimental investigation of a
crystal oscillator at 25 MHz, thermostabilized by Type VK-2 ferroelectrics. The
possibility is shown of the construction of such an oscillator with a buffer
stage, with the dimensions of a bantam tube. 5 ill. 3 ref. Summary.

1/1

103085x Experimental study of the pressing of powdery materials. Meerson, G. A.; Rasskazov, N. I.; Chulkov, V. P. (Mosk. Inst. Stali Splavov, Moscow, USSR). *Porosh. Met.* 1970, 10(1), 21-9 (Russ). The powders of Cu, Fe, W, and WC were studied. The coeffs. of lateral pressure and internal friction of the powder during pressing were detd. by elec. resistivity tensometric measurements. The coeff. of the lateral pressure for plastic metals increases with increasing pressing pressure, although slower than according to the proportionality curve from the relative d. of the briquet. For low-plastic metals (W) and for brittle materials (WC), the coeff. of the lateral pressure somewhat increases within the low-pressure region, but at > ~ 2 ton/cm^2 it becomes practically const. The coeff. of the lateral pressure decreases somewhat for the fine-grained or the oxidized powder of the given metal as compared to the non-oxidized and coarser powder, which is due to the increased inter-particle friction. The use of an inactive binder has no effect on the coeff. of lateral pressure, thus interlocking is the fundamental interaction between such powders. The internal friction coeff. decreases with increasing pressure at low pressing pressures and it remains const. at high pressing pressures.

S. A. Mersol

REEL/FRAME
19801124

Pharmacology and Toxicology

USSR   UDC 577.155

GAFUROV, N. N., and RASSKAZOV, V. A., Institute of Biologically Active Sub-
stances, Far Eastern Science Center, Academy of Sciences USSR, Vladivostok

"Some Properties of Mamushi Venom 5'-Nucleotidase"

Moscow, Biokhimiya, No 1, 1972, pp 184-187

Abstract: Preliminary study of phosphatase activity in venom from the eastern
mamushi (Ancistrodon blomhiffi) revealed the presence of 5'-nucleotidase,
3'nucleotidase, and nonspecific phosphatase. Purified 5-nucleotidase was
most active at pH 6.8 to 6.9. It was stable in storage, remaining active for
6 months at -4°C. Incubation at 60° for 15 minutes had little effect, but
heating to 70°C for 15 minutes completely inactivated the enzyme. It was
activated by Mg^{2+} ions and inhibited by Zn^{2+} ions. The enzyme specifically
split nucleotide-5' phosphates but did not act on 3'-phosphatenucleotides,
ATP, glucose-6-phosphate, or para-nitrophenylphosphate. It hydrolyzed
5'-ribo- and deoxyribonucleotides at approximately the same rate.
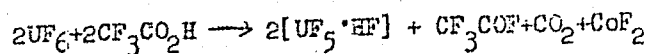
1/1

USSR

UDC 546.791.6-386

SADIKOVA, A. I., NIKOLAYEV, N. S., RASSKAZOVA, I. A., Institute of General and
Inorganic Chemistry imeni N. S. Kurnakov, Moscow, USSR Academy of Sciences

"Reaction of Uranium Hexafluoride with Trifluoroacetic Acid"

Abstract: The study examines the behavior of uranium hexafluoride in trifluoro-
acetic acid. Experiments showed that initially the hexafluoride dissolves readily
in the acid (15 gm UF_6 in 100 ml CF_3CO_2H), forming a weakly colored solution, but
then, upon standing, green crystals of composition $UF_5 \cdot HF$ are formed according to
the following scheme:

$$2UF_6 + 2CF_3CO_2H \longrightarrow 2[UF_5 \cdot HF] + CF_3COF + CO_2 + CoF_2$$

After precipitation of crystals, reaction products and excess trifluoroacetic
acid were removed from the reaction vessel by vacuum evacuation and collected in
two traps at -72 and -196°C (temperature of liquid nitrogen). It was found that
uranylfluoride dissolves poorly in trifluoroacetic acid: its solubility at 20°C
is less than 0.01 percent.

1/1

USSR   UDC: 624.042.7

RASSKAZOVSKIY, V. T. and ALIYEV, I. Kh.

"Application of Random Process Correlation Theory Analysis to
Seismic Stability of Buildings"

Tashkent, Izvestiya akademii nauk Uzbekskoy SSR -- Seriya tekhni-
cheskikh nauk, No. 4, 1970, pp 20-24

Abstract: The purpose of this paper is to compute the mean-square
value of linear system reactions with one degree of freedom from
accelerograms of earthquakes acting on the system. The authors
construct the correlation function for several accelerograms of
different intensity, and derive an expression for the mean-square
value of the seismic force acting on the system. Using the dif-
ferential equation for the system motion with attenuation accord-
ing to the Kelvin-Voigt hypothesis, they determine the mean-square
value of the dynamicity factor for various attenuations. Accele-
rograms as well as the correlation time and predominating frequen-
cies corresponding to them are plotted from this value.

1/1

1/2   010
UNCLASSIFIED
TITLE--CONCOMITANT PARASPINAL SHADOW AND CHANGES THEREIN IN PATIENTS WITH
MYELOSIS -U-
PROCESSING DATE--11SEP70
AUTHOR--RASSOKHIN, B.M., RYBAKOVA, N.I.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR, VOL 25, NO 2, 1970,
PAGES 43-47
DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--X RAY TECHNIQUE, RADIOLOGY, MUSKULOSKELETAL SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1986/0726
STEP NO--UR/0248/70/025/002/0043/0047
CIRC ACCESSION NO--AP0102696
UNCLASSIFIED

CIRC ACCESSION NO--AP0102696

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AFTER STUDYING X RAY FINDINGS WITH
RESPECT TO SPINAL LESION IN MYELOSIS PATIENTS, WE CONCLUDED THAT THE
CHANGES IN THE CONCOMITANT PARASPINAL SHADOW CAN BE USED AS AN
ADDITIONAL SYMPTOM OF LESION TO THE THORACIC SPINE. BUT WHAT WE BELIEVE
TO BE OF PARTICULAR VALUE IS THE FACT THAT CHANGES IN THIS SHADOW CAN
PRECEDE ROENTGENOLOGICALLY VISIBLE PATHOLOGICAL CHANGES IN THE
VERTEBRAE, AND CONSEQUENTLY IT IS THE FIRST SYMPTOM INDICATIVE OF
DEVELOPMENT OF A DESTRUCTIVE PROCESS IN THE SPINE.

UNCLASSIFIED

ЛЛШОЭ<<ЗЛЛ   .   RASSOKHIN U.Ya.
                                                        UR 0482

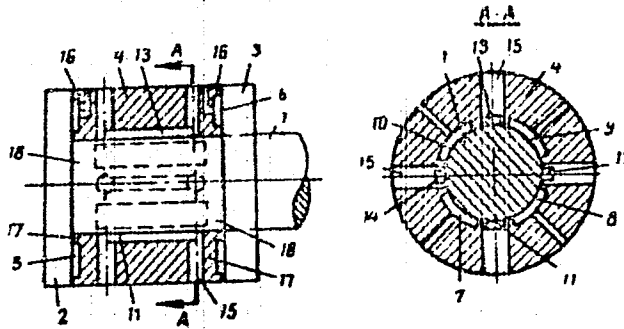Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent,/-7C

241829 HYDRAULIC BEARING requires less fluid.
        shaft 1 with the end flanges 2 and 3 is
supported in a cylindrical body 4 of a bearing.
The body has end ring channels 5 and 6 which take the
axial load and recesses 7 to 10 which take the
radial load. The channels 11 to 14 are connected
to a drain through channels 15. The channels 5
and 6 have seals 16 and 17 in the form of rings
18. Due to the absence of drain channels between
channels 5 and 6 on one side and channels 7 and
10 on the opposite side, the liquid from channels
5 and 6 is drained only between the seals 16.
No draining takes place between seals 17. In
addition, pressure in channels 7 to 10 prevent
drainage. The liquid flows only in the tangential
direction to channels 11 to 14. The pressure in
channels 5 and 6 prevents flow of liquid from
channels 7 to 10 to rings 18. This reduces the
liquid flow in the bearing.

1/2   11

19821037

AA0052411

27.5.67. as 1159759/25-27, SOKOLOV, Y.N. et al.
Experimental and Res. Inst. for Metal Cutting
plant. (29.8.69) Bul. 14/18.4.69. Class 47b, Int
Cl. F 16c.

Sokolov, Yu. N.; Shimanovich, M. A.; Rassokhin, V. Ya.; Nepomnyash-
chiy, Yu. L.
Eksperimental'nyy Nauchno-Issledovatel'skiy Institut Metallorezhush·
chikh Stankov

19821038

1/2   018

UNCLASSIFIED

TITLE--DOUBLE SALTS FORMED BY RUBIDIUM AND CESIUM SULFATES WITH MAGNESIUM
    SULFATE -U-

PROCESSING DATE--13NOV70

AUTHOR-(02)-RASSONSKAYA, I.S., SEMENDYAYEVA, N.K.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(4), 1134-8

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SULFATE, RUBIDIUM COMPOUND, CESIUM COMPOUND, MAGNESIUM
    COMPOUND, DEHYDRATION, ACTIVATION ENERGY, PHASE DIAGRAM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/1120

STEP NO--UR/0078/70/015/004/1134/1138

CIRC ACCESSION NO--AP0123112

UNCLASSIFIED

CIRC ACCESSION NO--AP0123112
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHASE TRANSITIONS IN THE RB SUB2
  SO SUB4-MGSO SUB4 AND CS SUB2 SO SUB4-MGSO SUB4 SYSTEMS WERE STUDIED BY
  DTA AND THE PHASE DIAGRAMS ARE CONSTRUCTED. THE RESP. SYSTEMS FORMED
  CONGRUENTLY MELTING RB SUB2 SO SUB4 .2MGSO SUB4 AND CS SUB2 SO SUB4
  .3MGSO SUB4 AND INCONGRUENTLY MELTING 3CS SUB2 SO SUB4 .2MGSO SUB4 AND
  3CS SUB2 SO SUB4 .MGSO SUB4. THE DOUBLE SALT M SUB2 SO SUB4 .MGSO SUB4
  .6H SUB2 O (M EQUALS RB OR CS) WAS CRYSTD. FROM AQ. SOLNS. DEHYDRATION
  OF THESE COMPDS. WAS IN 2 STEPS; THE ACTIVATION ENERGIES OF THE 1ST
  DEHYDRATION STEP WERE 27 AND 37 KCAL-MOLE, RESP.   FACILITY:
  INST OBSHCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr: Abstracting Service: Ref. Code:
AP0034101   CHEMICAL ABST. 4-70   UR 0078

R

71607a Polymorphic transformations of some rare alkali metal sulfates. Rassonskava. I. S.; Semendyaeva, N. K. (Inst. Obshch. Neorg. Khim. im. Kurnakova, Moscow, USSR). Zh. Neorg. Khim. 1970, 15(1), 52-6 (Russ). Rb_2SO_4, Cs_2SO_4, and $Rb_2SO_4.Li_2SO_4$ were studied by DTA and by high-temp. x-ray diffraction. At 700°, Rb_2SO_4 had lattice parameters a = 6.19 and c = 8.39 Å, and, at 800°, Cs_2SO_4 had a = 6.43 and c = 8.86 Å. All investigated sulfates undergo polymorphic transformations, the double salt at ~200° and Rb and Cs sulfates at 650 and 720°, resp.   HMJR

REEL/FRAME

19710744

1/2   034   UNCLASSIFIED
TITLE--IMPROVEMENT OF TECHNIQUES OF ANESTHESIA IN TRANSPLEURAL OPERATIONS   PROCESSING DATE--27NOV70
   FOR CANCER OF THE ESOPHAGUS -U-
AUTHOR-(02)-MAKARENKO, T.P., RASSTRIGIN, N.N.

COUNTRY OF INFO--USSR

SOURCE--KHIRURGIAY, 1970, NR 5, PP 14-20

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SURGERY, ANESTHESIA, CANCER, DIGESTIVE SYSTEM DISEASE,
   HYPOTHERMIA, ARTIFICIAL RESPIRATION, PNEUMONIA, CARDIOVASCULAR SYSTEM,
   LUNG, NITROGEN OXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/0054
                                     STEP NO--UR/0531/70/000/005/0014/0020
CIRC ACCESSION NO--AP0137244
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0137244

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS REPORT ON 1080
OPERATIONS ON THE ESOPHAGUS PERFORMED FOR CANCER DURING THE PERIOD
BETWEEN 1945-1969 UNDER DIFFERENT TYPES OF ANESTHESIA: LOCAL ANESTHESIA
WITH A ONE HALF PERCENT NOVOCAIN SOLUTION, 600, HYPOTHERMIA, 135,
ENDOTRACHEAL COMBINED ANESTHESIA WITH ARTIFICIAL VENTILATION OF THE
LUNGS, 365. AN ANALYSIS OF THESE OBSERVATIONS MADE IT POSSIBLE TO
CONCLUDE THAT, NOTWITHSTANDING THE ACHIEVEMENTS IN MODERN ANESTHESIOLOGY
AND REANIMATOLOGY, RADICAL OPERATIONS FOR ESOPHAGEAL CANCER ARE OFTEN
ATTENDED IN THE POSTOPERATIVE PERIOD BY SEVERE COMPLICATIONS. THE MAIN
OF THEM ARE: ACUTE CARDIOVASCULAR INSUFFICIENCY, DIFFERENT FORMS OF GAS
EXCHANGE (HYPOXIA, HYPERCAPNIA), MANIFESTED BY A SYMPTOM COMPLEX OF
RESPIRATORY INSUFFICIENCY, THROMBOEMBOLIC COMPLICATIONS, OBSTRUCTIVE AND
HYPOVENTILATION ATELECTASIS, PNEUMONIA. FOR THE PREVENTION AND
TREATMENT OF THE REFERRED TO COMPLICATIONS THE AUTHORS HAVE ELABORATED A
COMPLEX OF MEASURES: SEPARATE INTUBATION OF THE BRONCHI, WHICH ENABLES
TO INSTITUTE ANESTHESIA WITH CONTROLLED COLLAPSE OF THE LUNG ON THE SIDE
OF THE OPERATIVE APPROACH, THE INSTITUTION OF ANALGESIC CURATIVE
ANESTHESIA WITH NITROUS OXIDE IN THE POSTOPERATIVE PERIOD,
MICROTRACHEOSTOMY FOR THE STIMULATION OF COUGH AND IMPROVEMENT OF THE
DRAINAGE FUNCTION OF THE TRACHEOBRONCHIA TREE, SANATION THERAPEUTIC
BRONCHOSCOPY FOR THE ELIMINATION OF OBSTRUCTIVE ATELECTASIS. THE
EMPLOYMENT OF THESE MEASURES MADE IT POSSIBLE TO REDUCE THE NUMBER OF
COMPLICATIONS IN THE POSTOPERATIVE PERIOD IN PATIENTS WHO HAVE SUSTAINED
RADICAL OPERATIONS FOR CANCER OF THE ESOPHAGUS.   FACILITY:
KAFEDRA KHRUGII TSIU, MOSCOW.
                          UNCLASSIFIED

USSR

KIRILLOV, A. A., RASSTRIGIN, V. V.

UDC   621.373.421.11

"An RC Oscillator"

Translation: This Author's Certificate introduces an RC oscillator with
electronic frequency control. The device contains a source of control
voltage, an amplification stage, an emitter follower and a phase-shifting
circuit in the feedback line. As a distinguishing feature of the patent,
frequency control is provided over a wide range with simultaneous stabi-
lization of the signal generated by the device by shunting each resistor
in the phase-shifting circuit with two parallel-opposed diodes, and by
connecting the control voltage source to the collector of the transistor
in the amplification stage.

1/1

- 108 -

⑤

UDC 615.373.576.851.315.098.31].015.4:612.111

USSR

SOLOV'YEV, V. D., KOBRINSKIY, G. D., DOMARADSKIY, I. V., LAVRUSHKO, V. S., LOBANOV, V. V., BICHUL', K. G., GAL'TSEVA, PASSUDOV, and PUSHNITSA, N. P., Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR, and Rostov-on-Don Antiplague Institute

"Effect on Erythrocytes of the Receptor-Destroying Enzyme from Filtrates of Cholera Vibrio Cultures"

Abstract: Erythrocytes treated with filtrates of cholera vibrio cultures lose their capacity for agglutination by certain viruses. The authors studied this phenomenon of the "receptor-destroying enzyme" (neuraminidase) to determine the possibility of using it as an aid in diagnosing cholera. In in vitro experiments with guinea pig erythrocytes, filtrates of classic NAG, and El Tor vibrio cultures prevented the cells from being agglutinated by swine influenza virus, whereas filtrates of the control cultures (Comamonas, Pseudomonas, and E. coli) did not do so. The same effect was observed in the case of erythrocytes from the intestinal contents of suckling rabbits infected with various cholera vibrio strains. An investigation of the intestinal contents of 279 patients

1/2

(5)

USSR

SOLOV'YEV, V. D., Zhurnal Mikrobiologii, Epidemiologii i Immunob ologii, No 10, 1972, pp 42-46

suffering from gastritis, dysentery, and other gastrointestinal disorders with symptoms resembling those produced by El Tor cholera showed that the hemagglutination reaction was negative in 94% of those over 1 year of age and in 46% of the infants.

2/2

USSR

UDC 539.3

ZHELEZOVSKAYA, L. A., KRASYUKOV, V. P., PANKRATOV, N. D., RASSUDOV, V. M.

"Calculation of Hollow Shells in a Temperature Field"

Translation: A hollow shell rectangular in plan with constant major curvatures and heated according to a linear law over the thickness and according to an arbitrary law along the coordinates in the plan is discussed. For the case when the temperature changes only over the thickness and along one of the coordinates in plan the system of equations for shell equilibrium in displacements reduces to a differential equation of the eighth order relative to the displacement function. The latter is integrated for a shell in which two edges (along which the temperature is a variable) are fastened in an arbitrary manner and the two others are hinged. The general solution is given in the form of the sum of a particular solution of the nonhomogeneous equation and the solution of the corresponding homogeneous equation. The first is assumed to be known and the second is obtained in the form of a unary series. Numerical results are not given. V. M. Kulakov.

1/1

USSR

UDC: 539.3:534.1

RASSUDOV, V. M., KRASYUKOV, V. P., PANKRATOV, N. D.

"Stability of a Heated Shallow Shell of Constant Twist"

Nauch. tr. Saratov. politekhn. in-t (Scientific Works of Saratov Poly-technical Institute), 1970, vyp. 49, pp 75-79 (from RZh-Mekhanika, No 7, Jul 71, Abstract No 7V264)

Translation: The authors study the stability of a shallow shell of rectangular planform in a temperature field, assuming that the curvatures of the shell in two directions are equal to zero, and that twist is a constant quantity. The modulus of elasticity and coefficient of linear expansion depend on temperature. The initial state of the shell is taken as moment-less, and the problem is described by a differential equation of eighth order with respect to the function of displacements. Hinged support of the edges is considered. The critical temperature is found. The effect of the temperature dependence of the coefficient of linear expansion is evaluated. Ya. M. Grigorenko.

1/1

- 124 -

1/2   007   UNCLASSIFIED   PROCESSING DATE--11DEC70
TITLE--REACTION OF 1,5,DIKETONES WITH HYDROGEN SULFIDE IN ACID MEDIA --U-

AUTHOR-(05)-KHARCHENKO, V.G., KUPRANETS, N.M., KLEIMENOVA, V.I.,
   RASSUDOVA, A.A., STANKEVICH, M.E.
COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(5), 1119-20 (RUSS)

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--KETONE, HYDROGEN SULFIDE, BENZENE DERIVATIVE, THIOL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1289   STEP NO--UR/0366/70/006/005/1119/1120

CIRC ACCESSION NO--AP0134963
                        UNCLASSIFIED

2/2   007
CIRC ACCESSICN NO--AP0134963   UNCLASSIFIED   PROCESSING DATE--11DEC70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF RCOCHR PRIME1 CHR
PRIME2 CHR PRIME3 COR PRIME4 WITH H SUB2 S AND HBR, HI, OR P SUB2 J SUB5
IN INERT SOLVENTS GIVES 2,R,3,R PRIME1, 4,R PRIME2, 5,R PRIME3, 6,R
PRIME4, PENTASUBSTITUTED THIPYRANS, WHICH DISPROPORTIONATE IN ACID
MEDIUM TC GIVE ENE MOL. OF THE CORRESPONDING TETRAHYDROTHIOPYRAN (I) AND
2 MOLS. OF THE CORRESPONDING THIOPYRYLIUM CHLORIDE PROPERTIES OF THE
FOLLOWING I ARE GIVEN (R, R PRIME1, R PRIME2, R PRIME3, AND R PRIME4
GIVEN):   PH, H, H, H, PH; PH, H, PH, H, PH; PH, H, ME, H, PH; ALSO R
EQUALS PH, R PRIME1 EQUALS H, R PRIME2 EQUALS P,MEOC SUB6 H SUB4, (R
PRIME3 R PRIME4 EQUALS) (CH SUB2) SUB4; R EQUALS PH, R PRIME1 EQUALS H,
R PRIME2 EQUALS C SUB6 H SUB3 (OME) SUB2 3,4, (R PRIME3 R PRIME4 EQUALS
) (CH SUB2) SUB4; AND (R EQUALS R PRIME1 EQUALS) (CH SUB2) SUB4, (R
PRIME3 R PRIME4 EQUALS) (CH SUB2) SUB4, R PRIME2 EQUALS H OR ME.
FACILITY: SARATOV. POLITEKH. INST., SARATOV, USSR.

UNCLASSIFIED

USSR

BALOVNEV, V. I., CHIZHIK, Ye. I., DVORKOVOY, V. Ya., RASTEGAYEV, I. K.,
ZELENIN, A. N.

"Device for Studying the Effect of an Explosion in Excavation of Soils"

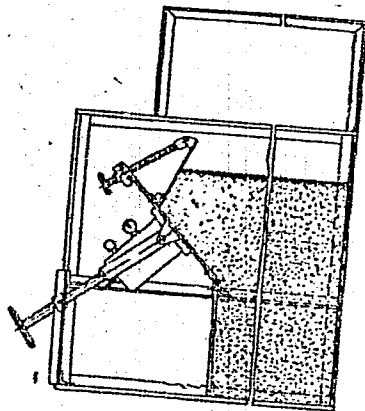Otkrytiya Izobreteniya Promyshlennye Obraztsy Tovarnyye Znaki, No 5, 1972,
Patent No 355311.

Translation: 1. Device for studying the effect of an explosion in excava-
tion of soils by the working organs of earth moving and transportation
machines including a container, an explosive device and measuring instru-
ments, differing in that in order to assure the possibility of regulation of
the energy and direction of application of the explosion, a plate is hinged
in the container, with the explosive device rigidly connected to the plate,
made with a power cylinder with a back valve, with an elastic film mounted
on the side toward the soil, interacting with the filament installed in the
power cylinder.

2. An installation according to Claim 1, differing in that the plate
is connected to the container by a screw mechanism, with a smaller plate
articulated to it, connected to the larger plate by an additional screw
mechanism.

1/2

USSR

BALOVNEV, V. I., CHIZHIK, Ye. I., ET. AL., Otkrytiya Izobreteniya Promyshlen-nye Obraztsy Tovarnyye Znaki, No 5, 1972, Patent No 355311.

2/2

- 85 -

Acc. Nr.: _AP0046777_

Ref. Code: _TIR 0113_

UDC 629.113.075.001.5

USSR

PIRKOVSKIY, YU. V., RASTEGAYEV, L. G., and KAMENEV, V. D.

"Investigation of the Turn of a Two-Axle Motor Vehicle With Different Types of Drive for the Driving Wheels"

Moscow, Avtomobil'naya Promyshlennost' (Motor Vehicle Industry), No 1, 1970, pp 22-24

Translation: The relationships determining the change of power used in turning a motor vehicle with a 4x4 wheel formula depending on type of drive for the driving wheels are analyzed. Power change is associated with the presence of lateral forces causing tire drift and redistribution of torque along motor vehicle drive bridges. (2 illustrations, 6 biblio. ref.)

Reel/Frame
19790081

USSR   UDC: 595.773.4+632.95

RASTEGAYEV, YU. M., Scientific Research Institute of Veterinary Sanitation

"Effectiveness of Organophosphorus Compounds in Treating Minor Afflictions of Animals by Warble Fly Larva"

Moscow, Khimiya v sel'skom khozyaystve, vol 9, no 8, 71, pp 54-55

Abstract: Extensive use has been made of khlorofos, trichlorometafos-3 and ruelene to combat warble fly larva. Data are available on the effectiveness of these insecticides in major afflictions (50-100%) of animals with the larva. This paper concerns the larvicide activity of these compounds in minor degrees of the affliction of cattle by hypodermatosis. The testing procedure is detailed and data are provided on the effects of organophosphorus insecticides, including test variants, overall number of test animals, number of afflicted animals, number of larva detected and percentage of effectiveness. The test results indicate ruelene and alcohol-oil solutions of khlorofos as having maximum larvicidal effectiveness in both major and minor

1/2

USSR

RASTEGAYEV, YU. M., _Khimiya v sel'skom khozyaystve_, vol 9, no 8, 71, pp 54-55

afflictions of animals by warble fly larva. Trikhlormetafos-3 and aqueous solutions of khlorofos were markedly less effective in minor afflictions, while ruelene and alcohol-oil solutions of khlorofos were slightly less effective.

2/2

- 74 -

UDC 539.3

USSR

RASTERYAEV, Yu. K., and PRUSAKOV, A. P.

"Cross Bend of Nonsymmetrical Multilayer Sandwich Plates"

Kazan', Izvestiya VUZ, Aviatsionnaya Tekhnika, No 4, 1970, pp 49-56

Abstract: Equations describing the flexure of thin multilayer plates of nonsymmetrical construction are derived using the variational method and taking into account the deformation of the layer transverse displacement. The boundary conditions for various cases of edge fastening are obtained from the variational equation. The law of stress distribution in the case of a cylindrical plate flexure, which was found by using the hypothesis of nondeformable normals, is being applied for determining the tangential stresses τ_{xy} and τ_{yz} across the multilayer plate. By introduction of new functions of forces and displacements the initial system of five equations for the plate flexure is reduced to a system of three equations. The results of the solution of these equations for the case of a three layer plate of symmetrical construction are compared with those obtained by various other theories. 52 formulas, 2 tables.

1/1

USSR

UDC 547.294'22'13

LIN'KOVA, M. G., GREYCHUTE, D. I., RASTEYKENE, L. P., and KNUNYANTS, I. L.,
Institute of Heteroorganic Compounds, Academy of Sciences USSR

"Bis- β-chloroethyl Sulfides. 2. Derivatives of α-Chloro-β-(β-chloro-ethylthio)- and α-(β-chloroethylthio)- β-chloroisobutyric Acid"

Abstract: The article deals with the synthesis of modified yperite derivatives
and the study of their chemical and biological properties. The addition of
methyl-, phenyl- and β-chloroethylsulfonyl chloride to methacrylic acid
derivatives in CCl_4, $CHCl_3$, ether or CH_2Cl_2 at low or room temperature proceeds
preferentially to give the corresponding β-chloro- α-thioesters. For pur-
poses of comparing properties, isomeric α-chloro-β-(β-chloroethylthio)
α-methyl- β-propiothiolactone. Of the compounds obtained by the addition
of sulfenyl chlorides to methacrylic acid and its derivatives the most stable
is α-alkthio- β-chloroisobutyronitrile, which is not isomerized under normal
conditions. Least stable are amides of α-alkthio- β-chloroisobutyric acid,
1/2

- 90 -

USSR

LIN'KOVA, M. G., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya
No 11, Nov 71, pp 2522-2529

which are isomerized under normal conditions into corresponding amides of
β-alkthio- α-chloroisobutyric acid. No isomerization of β-chloro- α-
-phenylthio derivatives of isobutyric acid was observed.

2/2

TITLE--USE OF THE ADDITIVE NKA DURING NON FALSEWORK CEMENTING -U-

AUTHOR--ALIMOV, SH.S., RATINOV, V.B.

COUNTRY OF INFO--USSR

SOURCE--PROM. STROIT, 1970, (2), 11-13

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--GENERAL CONSTRUCTION, CEMENT, CHEMICAL REACTION RATE,
CATALYST, HARDNESS/(U)NKA CEMENT ADDITIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/0585   STEP NO--UR/0227/70/000/002/0011/0013

CIRC ACCESSION NO--AP0107192
                            --UNCLASSIFIED

PROCESSING DATE--11SEP70

2/2   017
CIRC ACCESSION NO--AP0107182
ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT.   ACCELERATION OF CEMENT SETTING
CALLS FOR ADDNS. LEADING TO A RAPID SOLN. OF CLINKER MATERIALS THROUGH
BINDING CA IONS INTO DIFFICULTLY SOL. COMPDS., PARTICULARLY ADDNS.
CONTG. IONS ENTERING CRYST. HYDRATES EVENTUALLY FORMED. IN THIS CASE THE
SETTING PROCESS DOES NOT DEPEND ON BINDER SOLN. AND ON SCREENING EFFECT
OF FILMS FORMED ON CEMENT GRAINS. SUCH AN ADDN. IS COMPOSED OF NA
ALUMINATE, K SUB2 CO SUB3, AND NA SUB2 SO SUB4 IN THE 1:0.6:0.8 RATIO.
THE MIXT. IS DISSOLVED IN WATER TO A 10-11PERCENT SOLN., AND 4-5PERCENT
OF THE CEMENT WT. OF THE ADDN. IS ADDED DIRECTLY TO DRY CEMENT DURING
MIXING. CEMENT, THUS TREATED, SETS IN 10-30 SEC, AND ITS PROPERTIES ARE
UNIMPAIRED.

UNCLASSIFIED   PROCESSING DATE--17JUL70
TITLE--THE USE OF PANGAMIC ACID IN CEREBRAL ATHEROSCLEROSIS WITH METAL...
   CHANGES -U-
AUTHOR--RASTOPCHIN, I.P.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL NEVROPATOLOGII I PSIKHIATRII, 1970, VOL 70, NR 2, PP
   264-267
DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PSYCHOSIS, NERVOUS SYSTEM DRUG EFFECT, ATHEROSCLEROSIS,
   HALLUCINATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1979/0671   STEP NO--UR/0246/70/070/002/0264/0267

CIRC ACCESSION NO--AP0047176
                   UNCLASSIFIED

Acc. Nr: *AP0047176*

Ref. Code: UR 0246

PRIMARY SOURCE: Zhurnal Nevropatologii i Psikhiatrii, 1970,
Vol 70, Nr 2, pp 264-267

THE USE OF PANGAMIC ACID IN CEREBRAL ATHEROSCLEROSIS WITH MENTAL CHANGES
I. P. Rastopchin

The author gives a clinical evaluation of the influence of pangamic acid (vit. B_{15}) in 78 patients with asthenical, astheno-depressive, hallucinatory-paranoid syndromes and dementia due to cerebral atherosclerosis. It was possible to note a positive influence of pangamic acid on the asthenical, astheno-depressive symptoms, irrespective of the psychopathological syndrome within which it was seen. The study displayed that pangamic acid is a rather active preparation and may not only improve, but in some cases bring on an exacerbation.

REEL/FRAME
19790671

USSR   UDC: 621.317.33(088.8)

RASTORGUYEV, A. K., ARTEM'YEV, I. A.

"A Device for Noncontact Measurement of the Value of Resistors"

USSR Author's Certificate No 257605, filed 10 Jul 67, published 17 Dec 70
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V348 P)

Translation: A device is proposed for noncontact measurement of the value
of resistors. The device contains a converter, stable frequency oscillator,
mixer and frequency meter. To improve the sensitivity of the device, the
inductive pickup of the converter is equipped with an open magnetic cir-
cuit.

1/1

UDC 669.15'295

USSR

YAVOYSKIY, V. I., KOSTEREV, L. B., AYYUB, A. A., and RASTORGUYEV, L. N., Moscow

"Activity and Concentration of Oxygen in Fe-Ti Melts"

Moscow, IAN SSSR, Metally, No 2, Mar-Apr 71, pp 50-57

Abstract: The deoxidizing capacity of titanium was studied by the method of electromotive forces and an indirect method based on study of the interaction of a melt with the walls of a crucible. The emf method allows the activity of oxygen in the melt to be determined directly. The indirect method has an advantage in the study of the deoxidizing capacity of strong deoxidizers, since the determination of very low concentrations of oxygen in the liquid ion, which is analytically difficult, is not required. The use of the two different methods increases the reliability of the results produced. The results indicate that the composition of the reaction products from the deoxidation of ion by titanium depends on the concentration of the titanium. Individual oxides of titanium exist over broad titanium concentration intervals.

1/2

- 74 -

USSR

YABOYSKIY, V. I., et al., IAN SSSR, Metally, No 2, Mar-Apr 71, pp 50-57.

The thermodynamic characteristics of equilibrium of the deoxidation reaction for titanium determined by the two methods agree well. As titanium concentration rises to over 1%, the activity of oxygen in the Fe-Ti melt increases. Based on experimental data, the interaction parameter e_0^{Ti} is calculated. The high value of e_0^{Ti} (-0.65 at 1600°C) indicates the strong influence of titanium on the activity of oxygen in liquid iron.

2/2

UDC 669.15'295

USSR

YAVOYSKIY, V. I., KOSTEREV, L. B., AYYUB, A. A., and RASTORGUYEV, L. N., Moscow

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1/2

- 74 -

USSR

YABOYSKIY, V. I., et al., IAN SSSR, Metally, No 2, Mar-Apr 71, pp 50-57

The thermodynamic characteristics of equilibrium of the deoxidation reaction for titanium determined by the two methods agree well. As titanium concentration rises to over 1%, the activity of oxygen in the Fe-Ti melt increases. Based on experimental data, the interaction parameter e_0^{Ti} is calculated. The high

value of e_0^{Ti} (-0.65 at $1600^\circ C$) indicates the strong influence

of titanium on the activity of oxygen in liquid iron.

2/2

1/2   021   UNCLASSIFIED   PROCESSING DATE--20NOV70
TITLE--EXPERIMENTAL STUDY OF THE THERMAL CONDUCTIVITY OF WATER AT HIGH
   PRESSURES -U-
AUTHOR-(02)-RASTORGUYEV, YU.L., PUGACH, V.V.

COUNTRY OF INFO--USSR

SOURCE--TEPLOENERGETIKA 1970, 17(4), 77-9

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--THERMAL CONDUCTIVITY, WATER, HIGH PRESSURE EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/0555   STEP NO--UR/0096/70/017/004/0077/0079

CIRC ACCESSION NO--AP0121227
                      UNCLASSIFIED

CIRC ACCESSION NO--AP0121227

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THERAML COND. OF WATER WAS
STUDIED AT 20-180 DEGREES AND PRESSURES OF 0.101-196 MN-M PRIME2. A
SPECIAL APP. WAS USED THE MEASURING CELL OF WHICH CONSISTS OF COZXIAL
CYLINDERS WITH PLANE ENDS. THE MAX. RELATIVE ERROR OF MEASUREMENT WAS
PLUS OR MINUS 1.6PERCENT, THE SCATTER OF THE EXPTL. POINTS FROM THE
MEDIUM VALUES 0.6PERCENT. THE EXPTL. DATA ON THE LINE OF SATN. AGREE
WELL WITH LITERATURE DATA. THE ISOBARS OF THERMAL COND. PASS THROUGH A
MAX. WITH INCREASING PRESSURE THE MAX. OF THERMAL COND. IS SHIFTED TO
THE SIDE OF HIGHER TEMP. WITH INCREASING PRESSURE THE MOL. COMPLEXES
BECOME MORE STABLE AND ARE DESTROYED ONLY AT HIGHER TEMPS. THE EFFECT
OF PRESSURE ON THERMAL COND. INCREASES WITH TEMP. WITH INCREASING D.
THE THERMAL COND. OF WATER ON THE ISOBARS 1ST INCREASES, THEN PASSES
TROUGH A MAX. THIS MAX. IS SHIFTED WITH INCREASING PRESSURE TO THE SIED
OF INCREASING D., THEN IT DROPS SHARPLY. ON THE ISOTHERMS THE THERMAL
COND. INCREASES WITH THE D.   FACILITY: GROZN. NEFT. INST.,
GROZNY, USSR.

101205n Thermophysical properties of poly(methylsiloxane)
liquids. Rastorguev, Yu. L.; Nemzer, V. G. (Grozn. Neft. Inst.,
Grozny, USSR). Teploenergetika 1970, 17(2), 80-3 (Russ). The
d., kinematic viscosity (μ), heat capacity (C), and thermal cond.
(λ) were detd. of $(SiMe_2O)_n$ (I) of 2-1000 d.p. The changes of
d., μ, C, and λ with the temp. (t) in the 20-200° range are given
by: d. $= d_{30}[1-\beta(t-30)]$, $\mu = A/(t + a)^n$, $C = C_{30}[1 + \gamma(t-30)]$,
and $\lambda = \lambda_{26}(1.449/1.736 \beta_0 T)$ where d_{30}, C_{30}, λ_{26} are d., C, or λ at
30°, or 26°, resp.; T is abs. t, and β, β_0, A, a, and γ are consts. de-
pending on the d.p. of I. A correction was also introduced into
Vargaftik's equation (N. B. Vargaftik, 1949): the "invariant"
A changes with the mol. wt. (M) according to the relation A
$= (0.665 \times 10^{-4} M^{0.102}) - (0.0779 \times 10^{-3})$.
                                                  CPJR

REEL/FRAME
19821085

7

R

101208r Thermal physical properties of poly(ethylsilox-
anes). Nemzer, V. G.; Rastorguev, Yu. L. (USSR). Plast.
Massy 1970, (1), 14-16 (Rus). d. (at 20-200°), viscosity (at
20-260°), sp. heat (at 20-100°) and thermal cond. (λ) of 5 poly-
(ethylsiloxanes) (I), PESZh-1, PESZh-2, PESZh-3, PESZh-4, and
PESZh-5 were detd. The d. and viscosity of I were proportional
to the mol. wt. Treatment of the viscosity data in terms of the
theory of corresponding states led to the derivation of an equation
by means of which the viscosity of I could be extrapolated from
an exptl. point in a wide range of temps. The λ of I was inverse-
ly proportional to the d.p.
CKJR

REEL/FRAME
19801686

USSR

UDC 669-937:669.24

1

SOROKINA, N. A., UL'YANIN, YE. A., TASHCHILOV, V. S., RASTORGUYEVA,
I. A., KUBORSKIY, B. N.

"Structure and Properties of Nickel Alloys for Cryogenic
Temperatures"

Abstract: The use of dispersion-hardening alloys based on iron
and nickel for operation at cryogenic temperatures was experi-
mentally investigated. The results are discussed by reference
to diagrams showing 1) the effect of test temperature on plasti-
city of the experimental nickel alloys with different iron con-
tents alloyed with 2.5% Nb and 3% Ti, 2) the plasticity and
ductility of nickel alloys (18% Cr, 9% Mo, 2.5% Nb) as a function
of iron content, 3) the aging kinetics of nickel alloys, and the
effect of introduction of Nb on the strength. Nickel alloys
containing 1.5% Al and 5-15% Fe were found to meet the required
demands of strength, plasticity, ductility, and welding properties.
The KhN63M9B2Yu alloy has been developed for welded structures
operating at temperatures from -253°C to 750°C. This alloy has
1/2

USSR

SOROKINA, N. A., et al, Metallovedeniye, No 10, 1971, pp 20-23

sufficiently high resistance to crack development in welding and
subsequent heat treatment. 6 illustrations, 1 table, 2 biblio-
graphic references

2/2

- 25 -

USSR

UDC: 519.2

RASTRIGIN, L. A.

"Random Search in Processes of Adaptation"

Riga, Sluchaynyy poisk v protsessakh adaptatsii (cf. English above), "Zinatne", 1973, 130 pp, ill., 38 k. (from RZh-Kibernetika, No 7, Jul 73, abstract No 7V213 K from the author's foreword)

Translation: The paper deals with problems of convergence of random search in programmed variation of the values of sampling and working steps. Random search is set up according to a number of criteria with a known method of stochastic approximation; the limits of applicability of random search in processes of adaptation are delineated.

1/1

- 17 -

USSR

UDC: 8.74

RASTRIGIN, L. A., YAMPOL'SKAYA, T. S., RASTRIGIN, V. L.,
ABRAMOVICH, V. L.

"An Adaptive Program for Instruction in Memorizing Foreign
Words"

Riga, Adaptiv. sistemy--sbornik (Adaptive Systems--collection
of works), vyp. 2, "Zinatne", 1972, pp 66-75 (from RZh-Kiber-
netika, No 5, May 73, abstract No 5V822 by the authors)

Translation: An adaptation program is proposed for teaching
foreign words with regard to the individual peculiarities of
the pupil. A model of the teaching process was developed
which was implemented on a digital computer. The effective-
ness and convergence of the adaptation process are demon-
strated.

1/1

USSR

GRAVE, P. S., RASTRIGIN, L. A.

"One Mathematical Model of Behavior Synthesis (Subconscious Level)"

Adaptiv. Sistemy [Adaptive Systems -- Collection of Works], No 2, Riga, Zinatne Press, 1972, pp 5-15 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V724, by the authors).

Translation: A mathematical model is suggested for synthesis of behaviour at the subconscious level. The model is a system of differential equations relating the demands for realization of vitally important programs. The operation of the model is illustrated using well-known cases of nervous system pathology -- organic brain damage, neuroses and psychoses.

1/1

USSR

UDC: 519.24

RASTRIGIN, L. A.

"Continuous Statistical Estimate of the Gradient on a Finite Interval"

V sb. Zadachi Statist. optimizatsii (Problems of Statistical Optimization
--collection of works), Riga, "Zinante", 1971, pp 163-181 (from RZh-Kiber-
netika, No 12, Dec 71, Abstract No 12V408)

Translation: The paper deals with problems of synchronous detection of
multidimensional objects of optimization in the case of random search
signals and in the case of finite observation time. Wide-band and
narrow-band random search signals are studied. Author's abstract.

1/1

USSR

GLAZ, A. B., RASTRIGIN, L. A.

UDC: 519.24

"Estimate of the Probability of Formation of Optimum Structure of a Perceptron in the Case Where the Probability is Optimized by Random Search Methods"

Translation: The paper considers the methods of reducing the probability of error in recognition by an elementary perceptron in the case where the classes of objects presented intersect. Minimization of the probability of error reduces to maximizing the probability of formation of an optimum structure of S—A-bonds and may be achieved both by increasing the total number of A-elements, and by optimizing the structure of the bonds between the S- and A-elements of the perceptron by random search algorithms. The relation is found between the number of steps of the search and the number of A-elements ensuring identical probability of formation of the optimum structure of S—A-bonds in the perceptron. Authors' resumé.

1/1

- 21 -

USSR

UDC: 519.24

RASTRIGIN, L. A., RIPA, K. K.

"Representation of Random Search as a Stochastic Automaton"

V sb. Zadachi statist. optimizatsii (Problems of Statistical Optimization
--collection of works), Riga, "Zinatne", 1971, pp 3-13 (from RZh-Kiber-
netika, No 12, Dec 71, Abstract No 12V400)

Translation: The paper demonstrates the feasibility of representing
algorithms of random search as stochastic automata, which enables use of
the apparatus employed in the theory of stochastic automata in describing
and studying these algorithms. Two algorithms of random search in opti-
mization of a two-dimensional function under circumstances of normal
interference are considered as examples. Authors' abstract.

1/1

USSR

UDC 51:155.001.57:681.3.06

GLAZ, A. B., RASTRIGIN, L. A.

"Use of Random Search Algorithms for Synthesis of Optimal Perceptron Structure"

Kibernetika i Diagnostika [Cybernetics and Diagnosis -- Collection of Works], No 4, Riga, Zinatne Press, 1970, pp 109-123 (Translated from Referativnyy Zhurnal Kibernetika, No 3, 1971, Abstract No 3 V579 by the authors).

Translation: An application of the method of random search for determination of the optimal structure of S-A connections in a perceptron during its learning process is studied. It is demonstrated that during the search process, adaptation of the perceptron to a concrete task is performed, as a result of which higher quality of recognition is provided in comparison with ordinary learning algorithms.

1/1

USSR

RASTRIGIN, L. A., YAMPOL'SKAYA, T. S., RASTRIGIN, V. L.,
ABRAMOVICH, V. L.

"An Adaptive Program for Instruction in Memorizing Foreign
Words"

Translation: An adaptation program is proposed for teaching
foreign words with regard to the individual peculiarities of
the pupil. A model of the teaching process was developed
which was implemented on a digital computer. The effective-
ness and convergence of the adaptation process are demon-
strated.

1/1

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Soviet Inventions Illustrated, Section I Chemical, Derwent. /-70

241963 COLD SPOT WELDING of springy materials using
a punch (1) and die (2) having a cylindrical
recess (3) in which is a tapered rod (5). During
welding the material is pressed into the recess,
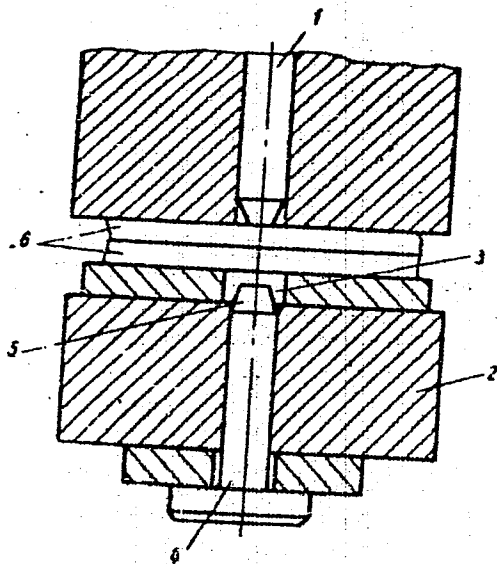forming a pear shaped weld, resulting in increased
weld strength.
6.2.63 as 818427/25-27. E.F.RASTRIGINA & V.A.MAKAROV.
(5.9.69) Bul 14/18.4.09: Class 49h. Int.Cl.B 23k.

1/2

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USSR

UDC 669.295.046.78

DENISOV, S. I., RASPOPIN, V. G., and DEGYAREV, B. S.

"Significance of the Limit of Charge Briquetting in the Melting of Titanium Concentrates"

Sb. tr. Vses. n.-i. i proyektn. in-t titana, [Collected works of All-Union Scientific-Research and Planning Institute for Titanium] 6, 1970, 12-15, (Translated from Referativnyy Zhurnal—Metallurgiya, No. 1, 1971, Abstract No. 176 by the authors).

Translation: It is established on the basis of results of studies of the melting of powdered and briquetted charges of Fe-Ti concentrate from the Samotkanskiy deposit (64% TiO_2, 24% FeO), performed in an open type commercial furnace with a power of 10,500 kva, that the time during which current is applied to the furnace is significantly higher when powdered titanium is used (95.5%) than when briquettes are melted (90.5%) due to the reduction in standing time between melting cycles. The productivity of the furnace as to slag is higher when the powdered charge is melted than when briquettes are melted (3.40 rather than 3.27 t/hr). However,

1/2

USSR

UDC 669.295.046.78

DENISOV, S. I., RASPOPIN, V. G., and DEGYAREV, B. S. Sb. tr. Vses n.i. i proyektn. in-t titana, [Collected works of All-Union Scientific-Research and Planning Institute for Titanium], 6, 1970, 12-15, (Translated from Referativnyy Zhurnal-Metallurgiya, No. 1, 1970, Abstract No. 1G176 by the authors).

when this charge is melted, increased losses in concentrate occur as dust carried away with the exhaust gases (3.6% more), which can be reduced by covering the furnace with an arch and organizing a system of dust traps. Technical-economic calculations have shown that the advantages produced in melting of a briquetted charge do not justify the high expenses involved in producing the briquettes, so that melting of a powdered charge is more profitable. 2 tables.

2/2