MELZER, J.

Psychological tests on Czechoslovak railroads.   p. 174

ZELEZNICAR.   Praha, Czechoslovakia.   No. 7, July 1959

Monthly List of East European Accessions (EEAI), IC. Vol. 8, No. 9, September 1959
Uncl.

MELZER, Jaroslav, inz.

Color bleeding of paper tubes. Papir a cleulosa 19 no. 3: 87-89 Mr '64.

1. Vychodoceske papirny, Lanskroun.

MELZER, Jiri, PhDr.; NEMECEK, Jan, inz.; ROKOS, Ludek, MUDr.

Equipment of the engineer's cabin with regard to hygiene and comfortableness. Zelez dop tech 10 no.12:360-361 '62.

MELZER. L.

Sectional floating pumping stations. p. 17

CZECHOSLOVAK HEAVY INDUSTRY. (Ceskoslovenska obchodni komora) Prague,
Czechoslovakia. No. 5, 1959

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 7, July 1959
Uncl.

MELZER, Victor,; MELZER, Mariana.

Efimov-Buscaino-Kimbarovski reaction. Probl. reumat., Bucur. Vol. II.:275-279 1954.

(RHEUMATISM, urine in
    Buscaino's test, results)
(URINE, in various diseases
    rheum., Buscaino's test, results)

MELZER, V.; MELZER, M.

Changes in the skin and its adnexa in following gastric resection.
Vest. derm. i ven. 34 no.7:18-21 '60.   (MIRA 13:12)
          (STOMACH—SURGERY)   (SKIN—DISEASES)

MELZER, O.

Czechoslovakia /Chemical Technology. Chemical Products   H-5
                 and Their Application
                 Water treatment. Sewage water.

Abs Jour: Referat Zhur - Khimiya, No 1, 1958, 1671

Author : Melzer O.

Title   : Nomograph for Tentative Determination of Water
          Stability

Orig Pub: Voda, 1957, 36, No 2, 36

Abstract: No abstract.

Card 1/1

MELZER, O.

Estimating the carbonate effect of water. o. 5`. (Voda, Vol. 36, No. 2, Feb 1957, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EAL) LC, Vol. 6, No. 8, Aug 1957. Uncl.

MELZER, O., inz. CSc.

Contribution to the design of semioperational experimental
waste water purification plants. Vodni hosp 14 no.4:141-
142 '64.

HOLZER, V.; MERDLER, E.

Rheumatism in raftsmen. Probl. reumat., Bucur. Vol. II.:269-274
1954

    (RHEUMATISM
       in raftsmen in Rumania)
    (OCCUPATIONAL DISEASES
       rheum. in raftsmen, in Rumania)

MELZER, Victor,; MELZER, Mariana.

    Efimov-Buscaino-Kimbarovski reaction. Probl. reumat., Bucur. Vol.
II.:275-279 1954.

        (RHEUMATISM, urine in
           Buscaino's test, results)
        (URINE, in various diseases
           rheum., Buscaino's test, results)

MELZER, Victor

The clinical aspect of edematous forms of the deficiency syndrome in the gastrectomized. Med.int.,Bucur. 8 no.6:836-840 Oct 56.

1. Lucrare efectuata in Clinica a II-2 medicala, director prof. S. Iagnov, membru corespondent al Academiei R.P.R.
   (GASTRECTOMY, complications
        defic. synd., edematous forms, case reports)

MELEER, V-

Rumania/Pharmacologh. Toxicology. Hormones.   V-8

Abs Jour : Ref Zhur-Biol., No 6, 1958, 28202.

Author   : Melzer V., Farchi A., Botescu Ileonora.

Inst   : Not given.

Title   : Intravenous Administration of Adranocorticotro-
            pic Hormone.

Orig Pub : Viata med., 1957, 4, No 4, 72-75.

Abstract : No abstract.

Card 1/1

MELZER, Y

MICU, D.; SIMIONOVICI, B.; FISCHER, P.S.; MELZER, Y.

Hematological investigations in cardiac insufficiency. Probl. ter.,
Bucur. no.7:41-61 1957.
        (CONGESTIVE HEART FAILURE, pathology
              bone marrow hypoplasia, hypocythemia, erythropoietic
              hypofunct. & other hematol. disord.)
        (BONE MARROW, in various dis.
              hypoplasia in congestive heart failure)
        (HEMOPOIESIS
              disord. in congestive heart failure)

MELZER, Victor

The clinical picture of protein deficiency. Med. int., Bucur. 9 no.11:
1671-1682 Nov 57.

1. Lucrare facuta in Clinica a II-a medicala I.M.F. a Spitalului "I.C.
Frimu".
(PROTEINS, deficiency
classif., clin. aspects & diag.)
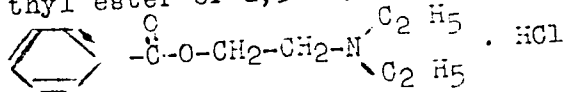
MELZER, V.; MELZER, M.

Changes in the skin and its adnexa in following gastric resection.
Vest. derm. i ven. 34 no.7:18-21 '60.   (MIRA 13:12)
           (STOMACH—SURGERY)   (SKIN—DISEASES)

MELZER, Zdenek

Tent and trailer. Tech praca is no. : :804-806 0 '64.

USSR / Pharmacology. Toxicology. Local Anesthetics.

Abs Jour   : Ref. Zhur - Biologiya, No. 3, 1959, 13808

Author   : Melzobs, M. Ya.
Inst   : Riga Medical Institute
Title   : Pharmacologic Characterization of Some Complex
              Esters of Diethylaminethanols and Aromatic Acids.

Orig Pub   : Sb. nauchn. rabot Rizhsk. med. in-t, 1956, vyp.
              5, 5-22

Abstract   : A quantitative comparative study was conducted
              of the anesthetic, cholinolytic, antihistaminic
              and myotropic spasmolytic action of novocaine,
              spasmolytine, E-22 (diethylaminoethyl ester of
              diphenylglucocolic acid), E-96 (diethylaminoe-
              thyl ester of 2,3-diphenyl-succinic acid) and E-78

$$\text{C}_6\text{H}_5 - \overset{\text{O}}{\underset{}{\text{C}}} - \text{O} - \text{CH}_2 - \text{CH}_2 - \text{N} \begin{smallmatrix} \text{C}_2\text{H}_5 \\ \text{C}_2\text{H}_5 \end{smallmatrix} \cdot \text{HCl}$$

Card 1/3

USSR / Pharmacology. Toxicology. Local Anesthetics.   V

Abs Jour   : Ref. Zhur - Biologiya, No. 3, 1959, 13808

According to various types of pharmacologic ac-
tion, the studied preparations are placed in the
following sequence (according to decreasing ac-
tivity): surface anesthesia: E-22, E-96, spas-
molyt in, novocaine, E-78; conduction anesthesia;
E-22, spasmolytin, E-96, novocaine, E-78; H-
cholinolytic action: spasmolytin, E-96, E-22,
novocain, E-78; M-cholinolytic action: E-22,
spasmolytin, E-96, novocaine, E-78; antihistamin-
ic action: E-22, spasmolytin, E-78, novocain,
E-96; myotropic spasmolytic action: E-22, spas-
molytin, E-96, novocain, E-78; toxicity: E-22,
E-96, novocain, spasmolytin, E-78.

It is felt that the anesthetic activity of

Card 2/3

MELZOBS, M. Ya. Cand Med Sci -- (diss) "Pharmcological description of certain

complex ethers of diethylaminoethanol and aromatic acids." Riga, 1957. 19 pp

21 cm. (Min of Health Latvian USSR. Riga Med Inst), 250 copies. (KL, 15-57, 107)

-44-

VITOLIN', M. [Vitolins, M.]; MELZOBS, M.

Mechanism of the sensibilizing influence of ganglion blocks on the effect of noradrenaline and adrenaline. Vestis Latv ak no.7:97-101 '61.

(NERVOUS SYSTEM, SYMPATHETIC)
(NORADRENALINE)   (ADRENALINE)

ANSHELEVICH, Yu. [Anselevics, J.]; AMELIN, A. [Amelins, A.]; MELZOBS, M.
[Melzobs, M.]

Induction of necroses in the myocardium of rabbits by isadrine
(isopropylnoradrenaline) [with summary in English].
Vestis Latv ak no.12:91-94, '61.

MELZOBS, M.Ya.; SHUSTER, Ya.; KIMENIS, A.A.

Simple apparatus for artificial respiration for laboratory animals.
Biul. eksp. biol. i med. 52 no.8:124-125 Ag '61.   (MIRA 15:1)

1. Iz kafedry farmakologii (zav. - chlen-korrespondent AMN SSSR
prof. M.L.Belen'kiy) Rizhskogo meditsinskogo instituta. Predstavlena
deystvitel'nym chlenom AMN SSSR S.V.Anichkovym.
          (ARTIFICIAL RESPIRATION--EQUIPMENT AND SUPPLIES)

AMELIN, A.Z.; ANSHELEVICH, Yu.V.; MELZOBS, M.Ya. (Riga)

> Experimental infarct-like changes in the myocardium under the
> influence of isadrine (isopropylnoradrenaline). Arkh. pat.
> no.1:25-29 '63.   (MIRA 17:10)

> 1. Iz patologoanatomicheskoy laboratorii (zav.- doktor
> meditsinskikh nauk A.Z. Amelin) Rizhskogo instituta travmatologii
> i ortopedii (dir.-kand. med. nauk V.K. Kalnberz [Kalnberzs, V.]
> i Rizhskogo meditsinskogo instituta (dir.- prof. V.A. Kal'berg).

ANSHELEVICH, Yu.V.; MELLOIR, N.Ya.

Activity of various enzymes in the blood serum in experimental kidney schemia. Biul. eksp. biol. i med. 55 no.3:42-44 Mr '63.
(MIRA 18:2)

1. Iz kafedry gospital'noy terapii (zav. - prof. B.N. Prozorovskiy) i kafedry farmakologii (zav. - chlen-korrespondent AMN SSSR prof. M.L. Belen'kiy) Rizhskogo meditsinskogo instituta. Submitted June 19, 1962.

MEIZOBS, M.Ya.

Some problems in the kinetics of primary pharmacological
reactions; review. Farm. i toks. 26 no.1:121-127 Ja-F '63.

(MIRA 17:7)

1. Kafedra farmakologii (zav. - chlen-korrespondent AMN SSSR
zasluzhennyy deyatel' nauki Latviyskoy SSR prof. M.L. Belen'kiy)
Rizhskogo meditsinskogo instituta.

BELYAYEVA, N.N.; DEMYANOVSKIY, S.Ya.; MEHEDNIYAZOV, O.H.; TUGUSHEVA, Kh.N.

Chemical composition of leaves of the khasak mulberry from Bairam-
Ali District of the Turkmen S.S.R. Izv. AN Turk. SSR no.5:46-51
'58.   (MIRA 11:12)

1.Prezidium AN Turkmenskoy SSR i Moskovskiy gosudarstvennyy peda-
gogicheskiy institut im. V.I. Lenina.
          (Bairam-Ali District--Mulberry)

MEMEDOV, A.A., veterinarnyy vrach.

Etiology of sheep anthrax in Azerbaijan. Veterinariia 32 no.7:
47-49 Jl '55.   (MIRA 8:9)
          (AZERBAIJAN--BRAXY)

AGABEKOV, M.G.; MEMEDOV, A.V.

New data on recent tectonic movements in western Azerbaijan and
eastern Georgia. Izv. AN SSSR. Ser. geol. 26 no.5:88-92 My '61.
                                                (MIRA 14:5)

1. Institut geologii AN AzerbSSR, Baku.
                (Azerbaijan--Geology, Structural)
                (Georgia--Geology, Structural)

AGAMALIYEVA, N.Sh.; MAMEDOV, G.A.

Hydrochemical characteristics of the formation waters of the Buzovny-Mashtagi field. Azerb. neft. khoz. 40 no.4:6-8 Ap '61. (MIRA 15:7)
(Apsheron Peninsula—Oil field brines—Analysis)

MEMEDOV, Shamkhal; DZHALILOV, T.N.

    Glycol ethers and their derivatives. Part 53: Dimethylene
    glycol ethers. Zhur.ob.khim. 33 no.3:846-851 Mr '63.
                                      (MIRA 16:3)
    1. Institut neftekhimicheskikh protsessov AN
    Azerbaydzhanskoy SSR.
                      (Methanediol)
                        (Ethers)

file me pov, v.m.

KULIYEV, A.M.; MEMEDOVA, R.K.; SADYKHOV, K.I.

Interaction of phosphorus pentasulfide with unsaturated
hydrocarbons. Azerb. khim. zhur. no.1:17-21 '64.

MIRA 17:5)

MEMELIGE, XENIA

Rumania/Physical Chemistry - Electrochemistry, B-12

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61189

Author: Memelia, Xenia

Institution: None

Title: Polarographic Investigation of Surface Activity of Some Quaternary Ammonium Salts

Original Periodical: Cercetarea polarografica a activitatii interfaciale a unor sar[illegible] cuaternare de amoniu., Comun. Acad. R. P. R., 1955, 5, No 11, 1583- 1591; Rumanian; French and Russian resumés

Abstract: Studied was the surface activity (SA) of hydrochlorides of N-cetyl pyridine (I), 3-carboxy-N-cetyl pyridine (II), 3-amido-N-cetyl pyridine (III), N-octyl pyridine (IV), 3-carboxy-N-octyl pyridine (V), and 3-amido-N-octyl pyridine (VI), on the basis of their effects on polarographic maximum of O_2 reduction wave. I-III [illegible], similar SA depressing the O_2 maximum by 50% at almost identical concentrations. IV-VI show different SA. In the opinion of the

Card 1/2

Rumania/Physical Chemistry - Electrochemistry, B-12

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61189

Abstract: author the cetyl radical, in contrast with the octyl radical, practically paralyzes the effect of the groups -- COOH and $CONH_2$ -- on the SA of corresponding compounds.

Card 2/2

L 27870-66   EWT(m)/EPF(c)/T/EWP(t)/EWP(b)/EWA(m)-2   IJP(c)   JD

ACCESSION NR: AP5021097   UR/0056/65/049/002/0389/0392

AUTHOR: Kukavadze, G. M.; Memelova, L. Ya.; Suvorov, L. Ya.

TITLE: Search for anomalous hydrogen

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 2, 1965,
389-392

TOPIC TAGS: hydrogen, deuterium, isotope, mass spectrometry/ MI 1311-04

ABSTRACT: An attempt was made to detect with the aid of a mass spectrometer elementary particles of mass greater than that of the proton. The MI 1311-04 mass spectrometer was subjected for this purpose to additional tests, to ascertain its maximum sensitivity and best resolution. By using an electron multiplier as both ion collector and first amplification stage, ion currents as low as 10^{-18} amp could be measured. In a vacuum of 2×10^{-7} mm Hg and at a background current of 2×10^{-18} amp, the resolution of the mass spectrometer at 5% mass-spectrum line intensity was found to be 500. After establishing the exact characteristics of the instrument, the authors undertook a search for anomalous stable hydrogen in atmospheric air, hydrogen, and deuterium. The results have established that if the mass of the wild hydrogen is larger than the mass of deuterium, then its concentration in the earth's atmosphere can be less than 1.5×10^{-12}, and if the mass

Card 1/2

0901 /078

L 27870-66

ACCESSION NR: AP5021097   6

of the wild hydrogen lies between that of ordinary hydrogen and deuterium, its maximum concentration should range from 1×10^{-8} to 1.5×10^{-12}. The lines corresponding to mass-5 in concentrated water, which might be ascribed to anomalous hydrogen, are shown to be due to HD_2^+ ions. It is recommended that earlier mass spectrograms be reviewed to search for lines which at that time were not identified with definite masses. "The authors thank L. B. Okun' for providing the initiative for this work, B. V. Ershler, B. Z. Torlin, and R. L. Serdyuk for useful discussions, and A. A. Belonozhenko for help with the measurements." Orig. art. has: 1 table.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki (Institute of Theoretical and Experimental Physics)

SUBMITTED: 01Mar65   ENCL: 00   SUB CODE: NP, GP

NR REF SOV: 002   OTHER: 002

Card 2/2

MEMELOV, V. L .

538.221 : 621.318.22

7149. Relations between the magnetic characteristics of macroheterogeneous magnetically-hard systems. ALTMAN, A. B., KAZARNOVSKII, L. Sh., AND MEMELOV, V. L. J. Tech. Phys., USSR, 19, 560-6 (May, 1949) In Russian.—The investigation was connected with the Fe-Ni-Al alloy permanent magnets produced by powder metallurgy. Systems of this kind, consisting of (1) a magnetically hard and a non-magnetic phase, (2) a hard and soft phase, (3) two different hard phases, were investigated. Remanent flux density B_r and coercive force H_c were measured as functions of the phase composition (quantity ratio of phases). It was found that the increase of the concentration of the non-magnetic phase, while reducing the remanent-magnetism, does not alter the coercive force, whereas in the hard-soft mixed system the increase of the soft phase reduces both B_r and H_c. A direct proportionality between phase-relation and B_r was found to exist in the mixture of 2 hard materials; the coercive force decreases with the increasing content of the phase of lower H_c, but does not follow a linear law. B. F. K

78.1142
18.6100

67285

SOV/180-59-4-17/48

AUTHORS: Gladyshev, P.A. and Memelov, V.L.   (Moscow)

TITLE: Production and Properties of Cermet Iron-Nickel-Aluminium Magnets

ABSTRACT: The authors survey briefly the advantages and disadvantages of powder metallurgy relative to casting for making iron-nickel-aluminium magnets. They give a brief account of the mixing of the powder components, their properties, pressing and sintering (including the use of various protective atmospheres) and the heat treatment of the magnets. Fig 1 shows microstructures of alnico-alloy cermet and cast magnets; the greater porosity of the former being evident. Electron-microscopic and X-ray investigations were carried out with the participation of F.B.Nikishova and A.A.Katsnel'son. The electron-microscopic work showed the similarity of cermet and cast magnet structures and the effect of 2 hours tempering at 850°C on the grain size of the precipitating phase (Fig 2 shows structures before and after the tempering). No difficulties in preparing oxide replicas of the surfaces were encountered. X-ray analysis

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SOV/180-59-4-17/48
Production and Properties of Cermet Iron-Nickel-Aluminium Magnets

(with powder having particle diameters under 0.15 mm)
showed that the cermet and cast magnets have the same
compositions and lattice parameters. Fig 3 gives powder
diagrams for the two types and for a mixture of the
initial powders. Increasing titanium content to 1% in
the cermet magnet caused an increase in the lattice
constants; with 5% Ti, lines of two cubic body-centred
phases appear. Similar changes were observed on specimens
after thermo-magnetic treatment but the diffuse nature of
the lines prevented exact determination of the changes.
Tests at NIIEP showed that cermet magnets are as stable
as cast ones. Fig 4 gives demagnetization and magnetic-
energy curves for various cermet-alloy magnets; compared
with cast magnets their coercive force is equal and their
residual magnetic-energy induction is 10 to 20% less. The
authors state that supply of cermet magnets is not keeping
pace with demand and suggest that they are best used on
the mass-production scale in electrical instruments and
small machines and also in the construction of new
instruments: cermet magnets are particularly advantageous
Card 2/3   for small magnets of complicated shape. Their comparative

67285
SOV/180-59-4-17/48

Production and Properties of Cermet Iron-Nickel-Aluminium Magnets

high-strength enables them to be used for rotors with
speeds of revolution up to 15000 to 20000 rpm. There are
5 figures, 1 table and 8 references. 5 of which are Soviet,
2 English and 1 German.

SUBMITTED: April 1, 1959

Card 3/3

88490

18.6100

S/110/60/000/009/001/008
E021/E455

AUTHORS: Al'tman, A.B., Candidate of Technical Sciences,
             Memelov, V.L., Engineer and Karpova, V.P., Engineer

TITLE: Study of Commutator Bars and Slip Rings Made From
             Powders

PERIODICAL: Vestnik elektropromyshlennosti, 1960, No.9, pp 1-5

TEXT.   Copper commutator bars and slip rings were made by
pressing from the powder, sintering in a protective atmosphere and
pressing in a die to give increased strength and more accurate
dimensions.   Copper-iron alloys and copper-iron bimetals were also
made in this way.   In its specific electrical resistance, strength
and coefficient of linear expansion, copper made by this method
was practically the same as that made by the usual rolling process
Table 1 shows the comparison.   The rolled copper was somewhat
harder (at 20°C).   The properties of cermet copper-iron alloy
changed in an additive way with increase in iron content.   The
density increased and the specific resistance and hardness

Card 1/2

88490
S/110/60/000/009/001/008
E021/E455

Study of Commutator Bars and Slip Rings Made From Powders

decreased   The tensile strength was practically independent of composition.   The coefficient of linear expansion of copper-iron bimetals was similar to that of steel, a fact which offers constructional advantages.   With increase in temperature, the tensile strength and hardness of metallurgical copper, and of cermets of copper and copper-50% iron alloys all decreased.   The biggest decrease was observed in metallurgical copper.   Microstructures of cermet copper, copper-50% iron and copper-iron bimetals are shown The cermet copper-iron consists of a mixture of copper and iron particles   In the bimetal, the good bond between the iron and copper can be seen.   Commutator bars made by powder metallurgy were tested in starter motors   After 50000 cycles, the brush wear was 3 to 4.5 mm. the wear on the copper and the copper-iron bars was 0.1 mm. compared with 0.5 mm for normal copper   Copper-iron bimetals also gave good results   There are 2 figures and 3 tables

SUBMITTED   March 5 1960
Card 2/2

AL'TMAN, A.B.; MEMELOV, V.L.

Investigating the sintering of Cu-Sn-C ceramic metal alloys.
Porosh.met. 1 no.6:44-54 N-D '61.
                                                                    (MIRA 15:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut elektromekhaniki.
        (Sintering)   (Ceramic metals)

/ 1600.

AUTHORS: Al'tman, A. B., Memelov, V. L

TITLE: Investigation of the sintering process of Cu-Sn-C powdered-metal alloy

TEXT: The change of properties (density ρ, hardness δ_6) was studied in the process of sintering the 90% Cu - 9% Sn - 1% C alloy whose initial components were taken both in the form of Cu-Sn and Cu-Sn-C alloys and in the form of Cu, Sn and C powders. Also the results are given of dilatometric, mictrodurometric and microscopic analyses which helped to establish the laws of homogenization, formation and disappearance of liquid phase. The best properties were found with the samples prepared from alloy powders.

R. Andriyevskiy

[Abstracter's note: Complete translation]

Card 1/1

BORISOVA, M.I., nauchnyy sotrudnik; VLADIMIROV, B.M., nauchnyy sotrudnik; AL'TMAN, A.B.; VALAKINA, V.M.;MEMELOV, V.L.

Self-lubricating ceramic metal rollers made with graphitic iron.
Tekst.prom.22 no.3:80-82 Mr '62.

(MIRA 15:3)

1. TSentral'nyy nauchno-issledovatel'skiy institut khlopchatobu-mazhnoy promyshlennosti (TsNIKhBI) (for Borisova, Vladimirov).
2. Vsesoyuznyy nauchno-issledovatel'skiy institut elektromekhaniki (VNIIEM) (for Al'tman, Valakina, Memelov).
(Spinning machinery)

VAYNSHTEYN, V.E. (Moskva); SUCHKOVA, C.A. (Moskva), MEMELOV, V.I. (Moskva)

Effect of friction conditions on friction characteristics of molybdenum disulfide. Mashinovedenie no.4:108-114 '65.

(MIRA 18:8)

L 11544-66   EWT(d)/EWP(e)/EWT(m)/EWP(v)/T/EWP(k)/EWP(h)/EWP(l)   DJ/WH

ACC NR: AP6000186

SOURCE CODE: UR/0032/65/031/012/1528/1530

AUTHOR: Memelov, V. L.; Khasin, L. A.; Khasin, E. I.

ORG: All-Union Scientific Research Institute for Electromechanics (Vsesoyuznyy nauchno-issledovatel'skiy institut elektromekhaniki)

TITLE: Device for testing abrasive materials under vacuum

SOURCE: Zavodskaya laboratoriya, v. 31, no. 12, 1965, 1528-1530

TOPIC TAGS: friction coefficient, friction, solid mechanics, abrasive, solid mechanical property, physics laboratory instrument, vacuum

ABSTRACT: A device (see fig. 1) was developed for continuous measuring of friction coefficient and temperature (150-500°C) of samples of abrasive materials during their friction under vacuum (10^{-7} mm Hg), in air and other media. The friction coefficient f (a function of the deflection angle α) is determined from the formula

$$f = LF/P \cdot r$$

where L is a lever of the pivot axis, F is the weight of the calibration load, P is the load applied and r is the friction radius.

UDC: 620.178.16 : 1.05

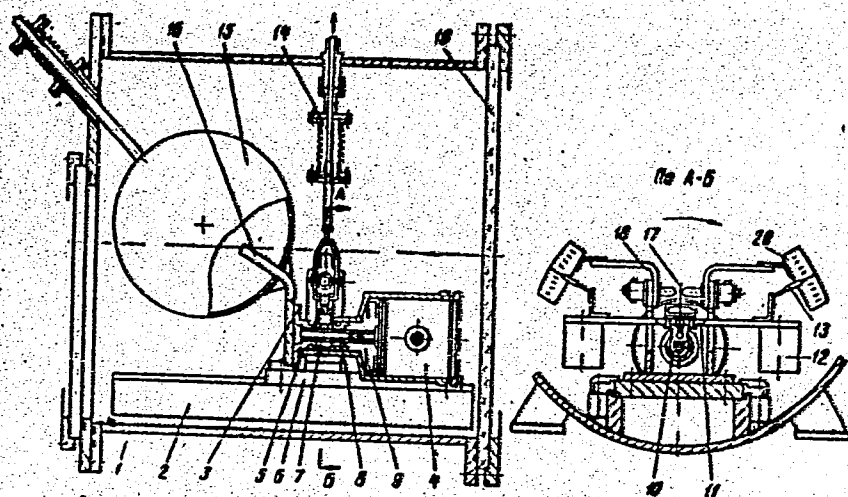Card 1/2

L 11544-66

ACC NR: AP6000186

Fig. 1. 1--vacuum box; 2--directional guide; 3--friction disc; 4--driving mechanism;
5--housing; 6--plate; 7--assay bushing; 8--shaft; 9--union; 10--race; 11--beam; 12--
load; 13--arm; 14--release device; 15--copper container; 16--copper tire; 17--spring;
18--arresting device; 19--window; 20--dial.
Orig. art. has: 2 figures.

SUB CODE: 11, 14/ SUBM DATE: 00/   ORIG REF: 000/   OTH REF: 004

Card 2/2 HW

L 37747-66   EWP(e)/EWT(m)/EWP(t)/ETI   IJP(c)   JD/WH

ACC NR: AP6017102   (N)   SOURCE CODE: UR/0226/66/000/001/0041/0045

AUTHORS: Al'tman, A. B.; Valakina, V. M.; Karpova, V. P.; Memelov, V. L.; Sorokina, V. N.

ORG: All-Union Scientific Research Institute of Electromechanics (Vsesoyuznyy nauchno-issledovatel'skiy institut elektromekhaniki)

TITLE: Dependence between total and surface porosity of sintered materials Cu--Sn--C

SOURCE: Poroshkovaya metallurgiya, no. 1, 1966, 41-45

TOPIC TAGS: copper, tin, carbon, graphite, powder metal compaction, powder metal sintering, POROSITY, SINTERED ALLOY

ABSTRACT: The effect of sintering temperature and pressure on the ratio of total (P_T) to surface porosity (P_0) of bronzographite (90% Cu, 9% Sn, 1% C) was investigated. The total porosity was determined by means of the formula

$$P_t = \frac{\gamma_0 - \gamma_1}{\gamma_0} \cdot 100,$$

where P_T is the total porosity and γ_0 and γ_1 are the densities of nonporous and porous bronzographite respectively. The surface porosity was estimated from oil absorption data according to the formula

$$M = \frac{G_2 - G_1}{\gamma_{_M} \cdot V} \cdot 100,$$

Card   1/2

L 37747-66

ACC NR: AP6017102

where M is the oil absorption, G_2 and G_1 are the weights of the specimen before and
after oil treatment respectively, γ_M is the density of the oil, and V is the volume
of specimen. The experimental results are presented graphically (see Fig. 1). It
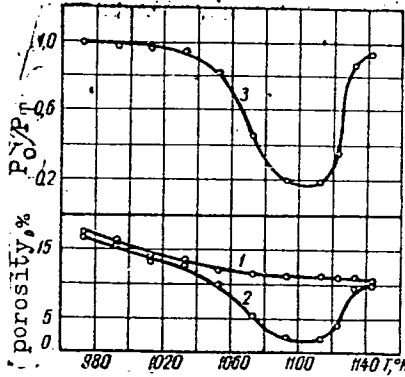
Fig. 1. Dependence of total (1) and surface (2)
porosity, and the ratio of surface to total
porosity (P_O/P_T) of bronzographite specimen
compressed from powdered Cu, alloy Cu--Sn, and
C, on the sintering temperature. Sintering
pressure 40 k newtons/cm^2, initial total
porosity 19%.

was found that the sintering temperature and pressure affect the total and surface
porosity differently. The ratio of surface to total porosity when expressed as a
function of the temperature exhibits a minimum, the position of which is shifted to
lower temperatures with increase in the specific sintering pressure. Orig. art. has:
2 equations and 4 figures.

SUB CODE: 11/   SUBM DATE: none/   ORIG REF: 007
Card 2/2

S/0089/64/016/005/0423/0426

ACCESSION NR: AP4036526

AUTHOR: Memelova, L. Ya.; Kukavadze, G. M.; Ershler, B. V.

TITLE: Mass spectrometric determination of very small amounts of boron in certain materials

SOURCE: Atomnaya energiya, v. 16, no. 5, 1964, 423-426

TOPIC TAGS: boron determination, boron mass spectrometry, isotopic dilution method, analytical chemistry, boron, mass spectrometry

ABSTRACT: The method of isotopic dilution suggested by G. Morrison and R. Rupp (Analyt. Chem. 6, (1957), 892) was used for the determination of small amounts of boron of the order of 10^{-7} gm in glass, quartz, and silicon. The sample was dissolved (or fused) in sodium hydroxide, internal standard was added which consisted of a known amount of an almost pure boron isotope (e.i. B^{10}), borax was then separated electrolitically, and placed on the filament of the mass spectrometer. The purpose of the pure isotope addition is to render harmless the boron losses during the chemical manipulations, as the determination depends only on the ratio of the spectrometric maxima of $Na_2B^{10}O_2$ to $Na_2B^{11}O_2$ and the comparison with the

Card   1/3

ACCESSION NR: AP4036526

naturally occuring isotopic ratio.   Orig. art. has: 1 figure

ASSOCIATION: None

SUBMITTED: 22Jul63   DATE ACQ: 03Jun64   ENCL: 01

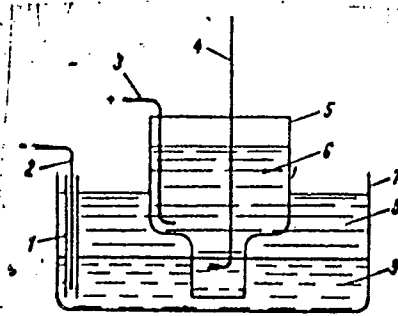SUB CODE: NP, GC   NO REF SOV: 003   OTHER: 002

Card   2/3

ACCESSION NR: AP4036526

ENCLOSURE: 01

Polyethylene two-chamber electrolytic cell:
1 - glass tube, 2 - iron electrode, 3 - platinum electrode, 4 - polyethylene
stirrer, 5 - upper bottomless polyethylene chamber, 6 - working solution,
7 - lower polyethelene chamber, 8 - water and sulfuric acid, 9 - mercury

Card 3/3

KUKAVADZE, G.M.; MEMELOVA, L.Ya.; SUVOROV, L.Ya.

Search for anomalous hydrogen. Zhur. eksp. i teor. fiz. 49 no.2:
389-392 Ag '65.   (MIRA 18:9)

1. Institut teoreticheskoy i eksperimental'noy fiziki.

KIRSANOVA, M.K., kandidat tekhnicheskikh nauk; MEMELOVA, Sh.L., starshiy
tekhnik.

Characteristics of the organization of production and planning in con-
struction yards. Biul.stroi.tekh. 13 no.10:7-10 O '56.
(MIRA 10:1)

1. Nauchno-issledovatel'skiy institut Stroytekhniki Akademii stroitel'-
stva i arkhitektury SSSR.
(Concrete slabs) (Precast concrete construction)

MEMESHKIN, G.; KAZHDAN, B.; BARANOVSKIY, S.

Bookkeeping

"Journal-order system of bookkeepign," I. S. Reznichenko, Reviewed b; : 1. G. Memeshkin;
2. B. Kazhdan; 3. S. Baranovskiy, bukhg. uch t, 11, No. 4, 1952.

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

DRAGULESCU, C., prof.; MEMESSY, I.; ANTON, Rozalia; SIMONESCU, T.

Metallic complexes of the diacetic anthranilic acid. Note IV. Reaction of the complex Fe-ANDA with H_2O_2. Studii chim Timisoara 9 no.1/2:57-66 Ja-Je '62.

1. Membru corespondent al Academiei R.P.R., membru al Comitetului de redactie si redactor responsabil, "Studii si cercetari, Stiinte chimice" - Timisoara - (for Dragulescu).

ZAKIROV, I.Z., dotsent; MEMETOVA, U.Z., ordinator

Data on oxyhemometry in normal and pathological pregnancy and labor. Med. zhur. Uzb. no. 2:3-6 F '61.   (MIRA 14:2)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. G.I. Ioffe-Golubchik) Samarkandskogo gosudarstvennogo meditsinskogo instituta imeni I.P. Pavlova.
          (BLOOD—OXYGEN CONTENT)   (PREGNANCY, COMPLICATIONS OF)

KOMM, P. S., inzh.; LAPUZIN, V. S., inzh.; MEMIROV, V. S., inzh.;
FRIDMAN, A. Ye., inzh.; SHCHERBINA, S. A., inzh.

Dynamics of the control of a GTU-50-800 gas turbine system
manufactured by the Kharkov Turbine Plant. Energomashinostroenie
8 no.12:1-7 D '62.   (MIRA 16:1)

(Gas turbines)

RUMANIA/General Biology - Individual Development. Transplants   B
            and Coalescens

Abs Jour   : Ref Zhur Biol., No 6, 1959, 23634

Author   : Memkes, B., Deleanu, M.I.
Inst   : -
Title   : An Investigation of the Biology of Heterologous
              Transplants (Embryonal Membraneous Hetero Transplants
              on Bird Embryo).

Orig Pub   : Studii si cercetari stiint. Avad. RPR, Baza Timisoara
              Ser. Stiinetemed., 1956, 3, No 3-4, 9-30

Abstract   : Embryonal tissues were utilized as scions and matrix,
              in particular covering melanoblasts. Aside from some
              humoral and nervous factors, the absence of nerve end-
              ings influenced the melanogenesis.

Card 1/1

IVANOVA, V.A.; MEMKOV, G.I.

First find of large foraminifers in the Eocene sediments of the
southern Aral Sea region. Izv. vys. ucheb. zav.; geol. i razv.
4 no.4:130-131   Ap '61.   (MIRA 14:6)

1. Soyuznaya geologo-poiskovaya kontora Glavgaza SSSR i Moskovskiy
geolcgorazvedochnyy institut imeni S. Ordzhonikidze.
                         (Aral Sea region--Foraminifera, Fossil)

MEMMAS, N.

"Radio on Railway Transport," Radio, Issue No. 8, 1951.

S/275/63/000/002/024/032
D405/D301

AUTHORS: Topchubashov, M.A. and Memmedov, I.A.

TITLE: Automatic quality control of oil products by ultra-
                sonic method

PERIODICAL: Referativnyy zhurnal, Elektronika i eye primeneniye,
                no. 2, 1963, 23, abstract 2V144 (Energetika inst.
                eserleri. AzerbSSR Elmler Akad., Tr. Energ. in-ta
                AS AzerbSSR, v. 15, 1962, 155-165 (Azerbaydzhani:
                summary in Rus.))

TEXT: The advantages of the ultrasonic quality control
method of oil products are listed, viz.: 1) the possibility of con-
tinuous process-control; 2) high accuracy and speed; 3) no disrup-
tion of the engineering process. An ultrasonic generator circuit is
proposed which excites a magnetostriction transducer. The frequency-
response characteristics are given of the system as a whole, as well
as of its various elements, that are necessary for the design of the
control system. 6 references.
/ Abstracter's note: Complete translation_7

                                                    Card 1/1

MEHMEDZADE, Yu.I., dotsent.
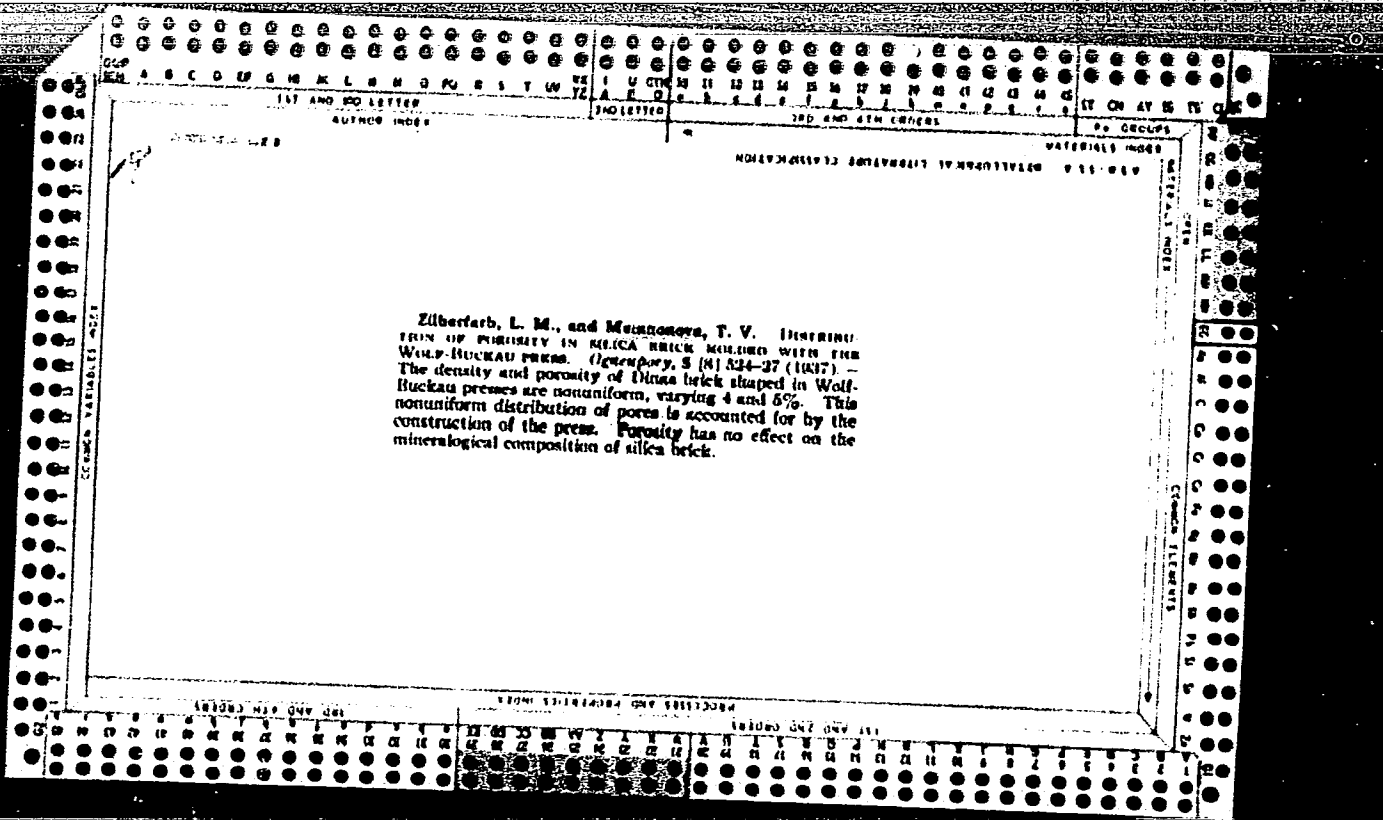
Technical terms used in hydraulic machinery [in Azerbaijani]. Trudy
Azerb.ind.inst.no.8:131-136 '54.   (MLRA 9:10)
(Hydraulic machinery--Dictionaries)(Azerbaijani language--Glossaries,
                                    vocabularies, etc)

MEMNONOV, S.A.

U S S R .

12086   Nature of Hexagonal Chromium and the Structure of Electrodeposited Chromium. S. A. Memnonov. Henry Brutcher Translation No. 3493, 13 p. (Abridged from Zhurnal Tekhnicheskoi Fizik, v. 18, no. 2, 1948, p. 239-246.) Henry Brutcher, Altadena, Calif.

Stages of formation of cubic Cr under ordinary conditions of deposition; effect of temperature and current density. 26 ref.

62

Zilberfarb, L. M., and Memnonova, T. V. Distribution of Porosity in silica brick molded with the Wolf-Buckau press. (Ogneupory, S [8] 524—27 (1937). — The density and porosity of Dinas brick shaped in Wolf-Buckau presses are nonuniform, varying 4 and 5%. This nonuniform distribution of pores is accounted for by the construction of the press. Porosity has no effect on the mineralogical composition of silica brick.

19

Spottiness of silica brick. T. V. Memnonova and L. M. Zilberfarb. *Ogneupory* 5, 613-16 (1937).—Silica brick made from white quartzite uncolored by Fe oxides is white regardless of the CaO content. A 1% CaO content leads to the formation of pseudowollastonite yellow spots. The tridymitization is very small regardless of CaO content. Silica brick from ordinary quartzite contg. Fe oxides has, when 1% of CaO is added, a light yellow color with dark yellow spots. The addn. of 2-3% CaO gives a dark yellow and spotty coloring and a considerable content of pseudowollastonite and Ca ferrite. In the presence of the latter 2 substances the tridymitization is worse; this is characteristic of dark yellow ware. After repeated burning dark yellow ware changes to light yellow, sometimes with small dark yellow spots owing to a nearly complete disappearance of pseudowollastonite and Ca ferrite. The tridymite content increases. Spotty ware attains a homogeneous light yellow color, pseudowollastonite and Ca ferrite disappear, and tridymitization improves. Light yellow ware does not change color; the tridymitization increases.   E. E. Stefanowsky

A.C.S.

Refractories

Dinas with a barite or aluminosilicate binder. T. V. MAMIKONOVA. *Sbornik Nauch.-Tekh. Statei NIIZ, 1939,* No. 2, pp. 134-30. *Khim. Referat. Zhur., 4 [3] 88 (1941).—* M discusses the effect of BaO and aluminosilicate binders on the properties of Dinas made from Anzhero-Sudzhensk quartzite. The Dinas with the barite binder has a higher mechanical strength, more heat resistance, higher porosity, and higher sublimitization. The Dinas with the aluminosilicate binder is highly refractory, mechanically strong, and porous. The disadvantage of this Dinas is its lowered thermal resistance.   M.Ho.

Memeonova, T. V., and Bulko, T. N. PRODUCTION OF HIGH GRADE REFRACTORIES FROM MOIKA CLAY. *Nauch.-Tekh. Stalei Kuznetib Metal. Zavoda*, 1939 [4] 167-70; *Khim. Referat. Zhur.*, 4 [3] 86 (1941). —Refractories made from Moika clay show many cracks. Experiments to determine the causes of these cracks indicate that the granulometric composition of the grog had the greatest influence. Increasing the content of fine fractions in the grog gradually decreased the number of cracks, until they disappeared completely. The effect of varying the percentages of grog and clay is uncertain. The effect is pronounced only with a fine granulometric composition of the grog.

Memnooova, T. V. ANZHERO-SUDZHENSK QUARTZITE. *Shornik Nauch.-Tekh. Statei KMZ*, 1940 [2] 133-36; *Khim Referat. Zhur.*, 4 [4] 103 (1941).—M. conducted physicochemical and mineralogical analyses of the quartzite. He also tested the fired material. The quartzite is suitable for use in making Dinas.

Dinas with a siliceous bonding material. T. V. MAK-
HOKOVA.—*Sbornik Nauch.-Tekh. Statei KMZ*, 1940, No. 3,
pp. 120-34; *Khim. Referat. Zhur.*, 4 [5] 89-90 (1941).—
Lime used as bonding material in the preparation of
Dinas lowers the refractoriness of the product appreciably.
At the Kuznetskii Metallurgicheskii Zavod, Dinas was
prepared using a siliceous bonding material made from
Anzhero-Sudzhensk quartzite; 3 to 5% of a siliceous
slurry was used in the preparation of the batch of quartz-
ite, and 2% coke was added to one of the batches to in-
crease the thermal resistance of the product. The labora-
tory experiment resulted in a product with a higher re-
fractoriness (over 1770°) and a high mechanical strength.
See *Ceram. Abs.*, 22 [1] 10 (1943).   M.Ho.

BENEDIKTOVA, N.B.; ZAMYATIN, S.R.; MEMNONOVA, T.V.; SOLOMONOV, Ye.F.

Manufacture of resin and dolomite firebrick and its testing in service. Ogneupory 27 no.4:151-155 '62.

(MIRA 15:4)

1. Kuznetskiy metallurgicheskiy kombinat.

(Firebrick)

MEMORSKIY, S.; POZHARITSKIY, M., starshiy inzhener

Compact felting out of industrial wastes. Prom.koop. 13 no.8:
22 Ag '59.   (MIRA 12:12)

1. Nachal'nik otdela kozhevenno-obuvnoy promyshlennosti Rosprom-
soveta (for Memorskiy).
        (Felt) (Industrial wastes)

MEMORSKIY, V. P.

USSR/Medicine - Syphilis   Jan/Feb 1948
        Medicine - Arsenic and Arsenic Compounds

"Problems of Far-reaching Results in Treatment of High-
ly Contagious Forms of Syphilis with Arsenic Oxide and
Novarsenol," V. P. Memorskiy, Clinic of Skin and
Venereal Diseases MONIKI, 2½ pp

"Vest Vener i Dermat" No 1

The following facts were noted as a result of studies
conducted by the author: 1) In most venereological in-
stitutions Furn'ye's method of treatment is still
practiced. 2) Dosages of arsenic oxide given in 1945
and first part of 1946 were usually too small and
usually mixed with lead preparations. 3) Data showed

USSR/Medicine - Syphilis (Contd)   Jan/Feb 1948

                                                41T75

that relapses occurred most frequently after the first
course of treatment of primary syphilis. 4) High per-
centage of syphilitic meningitis (8 in 24) was due to
faulty proportions of arsenic oxide and lead contain-
ing substances in doses. 5) Most relapses are due to
improper treatment of patients. Director of Clinic
of Skin and Venereal Diseases MONIKI is Prof V. Ya.
Arytyunov.

PA 41T75

41T75

MEMORSKIY, V.P., starshiy nauchnyy sotrudnik

Dermatovenereological aid in connection with the organization of
health centers serving several districts. Vest.derm.i ven. 33
no.4:29-32 Jl-Ag '59.   (MIRA 12:11)

1. Iz Moskovskogo oblastnogo kozhno-venerologicheskogo dispansera
(dir. - M.I. Razumov).
          (VENEREAL DISEASES, prevention & control)
          (SKIN DISEASES, prevention & control)

MEMORSKIY, V.P., starshiy nauchnyy sotrudnik; LYUOSEV, V.A., ordinator

Treatment of syphilis with bicillin-1 and bicillin-3. Vest.derm.
i ven.   no.11:40-45 '61.   (MIRA 14:11)

1. Iz kliniki kozhnykh i venericheskikh bolezney Moskovskogo
oblastnogo nauchno-issledovatel'skogo klinicheskogo instituta
(dir. - prof. B.Ya. Arutyunov).
     (SYPHILIS)   (BICILLIN—THERAPEUTIC USE)

STEPIEN, L.; BRYBZINSKI, J.; MEMPEL, E.; SREBRZYNSKA, J.

Disorders of dynamics of the higer nervous functions due to focal
injury of the temporo - parieto - occipital contact area in the
dominant cerebral hemisphere. Neurologia etc. polska 4 no.5:473-
481 Sept-Oct 54.

      (BRAIN, wound and injuries
        higher nervous funct. in)
      (CENTRAL NERVOUS SYSTEM, in various diseases
        brain inj., higher nervous funct. in)
      (WOUNDS AND INJURIES
        brain inj., higher nervous funct. in)

MEMPEL, E.

AREND, Rudolf; SOKOLOWSKI, Stefan; MEMPEL, Eugeniusz

Unusual syndrome in a case of gigantic subdural hematoma cured surgically. Neur. &c. polska 6 no.4:465-477 July-Aug 56.

1. Z Kliniki Neurologicznej Akademii Medycznej we Wroclawiu Kierownik: prof. dr. med. R. Arend i z Oddzialu Neurochirurgii Wojskowego Szpitala Klinicznego w Lodzi Ordynator: dr. med. S. Sokolowski.
    (CEREBRAL HEMORRHAGE, manifest.
        unusual manifest. in subdural hematoma cured surgically
    (Pol))

MEMPEL, Eugeniusz; SREBRZYNSKA, Jadwiga; ZARSKI, Stefan

Analysis of cases of mixed speech disorders appearing after injuries
of the "posterior aphasic region". Rozpr.wydz.nauk med. 6 no.2:73-92
'61.

1. Z Zakladu Neurochirurgii Polskiej Akademii Nauk Kierownik: prof. dr
med. Lucjan Stepien.

   (SEX SPEECH DISORDERS etiol)   (BRAIN dis)

MEMPEL, Eugeniusz; SREBRZYNSKA, Jadwiga; SUBCZYNSKI, Janusz; ZARSKI, Stefan

Compensation of speech disorders by the non-dominant hemisphere in adult age. Rozpr.wydz.nauk med. 6 no.2:109-128 '61.

1. Z Zakladu Neurochirurgii Polskiej Akademii Nauk Kierownik: prof. dr med. Lucjan Stepien.

(SPEECH DISORDERS physiol)   (BRAIN dis)

BRUTKOWSKI, S.; FONBERG, E.; MEMPEL, E.

Angry behavior in dogs following bilateral lesions in the genual portion of the rostral cingulate gyrus. Acta biol exper 21:199-205 '61.

1. Department of Neurophysiology, Nencki Institute of Experimental Biology, Warsaw.

(DOGS)   (BRAIN)

SOKOLOWSKI, Stefan; MEMPEL, Eugeniusz

Surgical therapy of cerebral echinococcosis. Report on 3 cases cured surgically. Neurologia etc., polska 12 no.3:365-377 '62.

1. Z Oddzialu Neurochirurgii Szpitala Klinicznego w Lodzi Ordynator Oddzialu: dr med. S. Sokolowski.
(ECHINOCOCCOSIS)   (BRAIN DISEASES)

BRUTKOWSKI, S.; FONBERG, E.; KREINER, J.; MEMPEL, E.; SYCHOWA, B.

Aphagia and adipsia in a dog with bilateral complete lesion of the amygdaloid complex. Acta biol. exp. 22 no.1:43-50 '62.

1. Department of Neurophysiology, the Nencki Institute of Experimental Biology, Warsaw.

(GANGLIA BASAL physiol)   (APPETITE physiol)
                THIRST physiol)

FONBERG, E.; BRUTKOWSKI, S.; MEMPEL, E.

Defensive conditioned reflexes and neurotic motor reactions following amygdalectomy in dogs. Acta biol. exp. 22 no.1:51-57 '62.

1. Department of Neurophysiology, The Nencki Institute of Experimental Biology, Warsaw.

(REFLEX CONDITIONED)   (GANGLIA BASAL physiol)

STEPIEN, Lucjan; MEMPEL, Eugeniusz

Hallucinations and illusions in temporal lobe epilepsy.
Neurol. neurochir. psychiat. Pol. 15 no.3:385-389
My-Je '65.

1. Z Kliniki Neurochirurgii AM w Warszawie i z Zakladu
Neurochirurgii Polskej Akademii Nauk w Warszawie
(Kierownik: prof. dr. med. L. Stepien).

STEPIEN, Lucjan; MEMPEL, Eugeniusz

An analysis of the results of surgical treatment in patients
with temporal lobe epilepsy. Neurol. neurochir. psychiat.
15 no.3:463-466 My-Je '65.

1. Z Kliniki Neurochirurgii AM w Warszawie (Kierownik: prof.
dr. med. L. Stepien) i z Zakladu Neurochirurgii Polskej Akademii
Nauk (Kierownik: prof. dr. med. L. Stepien).

MEMPEL, Eugeniusz

Principal aspects of stereotaxic surgery of the brain. Pol. przegl. chir. 37 no.8:807-815 Ag '65.

1. Z Zakladu Neurochirurgii Polskiej Akademii Nauk (Kierownik: prof. dr. L. Stopien).

MEMRUK, A.

Dictated by life. Prof.-tekh. obr. 21 no.5:10-11 My '64.

1. Zamestitel' direktora professional'no-tekhnicheskogo uchilishcha No.17, Moskva.

(MIRA 17:6)

MEMPUK, Aleksandr Fedorovich; SHLYAPINTOKH, Lev Samuilovich; DUKOV, V.M.,
redaktor; KOZLOVSKAYA, M.D., tekhnicheskiy redaktor

[Practical manual of electric engineering; a texbtook for students
in the tenth grade] Rukovodsto k praktikumu po elektrotekhnike;
uchebnoe posobie dlia uchashchikhsia X klassov. Moskva, Gos.
uchebno-pedagog.izd-vo M-va prosv. RSFSR, 1957. 175 p. (MLRA 10:9)
(Electric engineering)

MEMRUK, A.F.

Safe switching of a laboratory panel. Politekh. obuch. no.5:85 My '58.

(Electric engineering--Safety measures)   (MIRA 11:5)

AL'PEROVICH, Arkadiy Il'ich; MEMRUK, A.F., nauchnyy red.; TELINGATER, L.A., red.; NESHYSLOVA, L.M., tekhn. red.

[Methodological manual for work training of tower-crane operators]Metodicheskoe posobie po proizvodstvennomu obu- cheniiu mashinistov bashennykh kranov. Moskva, Proftekhizdat, 1962. 184 p.

(Cranes, derricks, etc.)   (MIRA 16:2)

MERKULOV, V.I.; MEN', A.A.

Errors in registering the explosion moment. Hazved. geofiz.
no.5:30-32 '65.
(MIRA 18:9)

MEN', A.N.; ORLOV, A.N.; LEONTOVICH, M.A., akademik.

Spectrum of vibrational frequencies of the simplest model of an alloy being set in order. Dokl.AN SSSR 90 no.5:753-756 Je '53.   (MLRA 6:5)

1. Institut fiziki metallov Ural'skogo filiala Akademii nauk SSR (for Men', Orlov). 2. Akademiya nauk SSSR (for Leontovich). (Vibration) (Alloys)
                                                        (Spectrum analysis)

MEN, A.N

Category : USSR/Magnetism - Ferrites

Abs Jour : Ref Zhur - Fizika, No 1, 1957 No 1439

Author   : Men', A.N., Orlov, A.M,
Inst   : Inst. of Metal Physics, Sverdlovsk
Title   : Temperature Dependence of the Degree of Inversion of Mixed Ferrites

Orig Pub : Fiz. metallov i metallovedeniye, 1955, 1, No 3, 410-416

Abstract : Mixed ferrites having a composition $A_C B_{1-C} O.Fe_2 O_3$ are examined. The free
           energy F of the spinel lattice is found as a function of the temperature T,
           of the concentration c, and of the degree of inversion λ. The dependence
           of λ on T is obtained from the condition that F must be a minimum. For the
           case when the ion charges A and B are equal and only the A ions shift in the
           octahedral sites, the following expression is obtained

$$kT = -b_1 \frac{\lambda + b_2/b_1}{\ln (c-\lambda)(2-\lambda)/\lambda^2}$$

           where b_1 and b_2 are constants independent of λ and c. The range of possible
           values of λ was studied as a function of the values of b_2 and of $|b_2|/b_1$. A
           prediction is made that at low temperatures there may exist a metastable phase,
           which is inverse if the stable phase is not inverse, and vice versa. The

Card   : 1/2

MEN', A. N.:

MEN', A. N.: "The statistical theory of the forces binding spinal-type
    crystals." Min Higher Education USSR. Ural State imeni A.M. Gor'kiy.
    Sverdlovsk, 1956. (DISSERTATION For the Degree of Candidate in PHYSI*
    COMATHEMATIC L SCIENCES.)

So: Knizhnaya letopis', No. 24, 1956

137-58-6-13091

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 272 (USSR)

AUTHORS: Men', A.N., Orlov, A.N.

TITLE: Calculation of the Cohesive Forces in Some Oxides of Trans-
             ition Metals (Raschet sil svyazi v nekotorykh okislakh pere-
             khodnykh metallov)

PERIODICAL: V sb.: Issled. po zharoprochn. splavam. Vol 2. Moscow, AN
             SSSR, 1957, pp 44-51

ABSTRACT: The cohesive energy (CE) of a crystal was determined by
             the use of the statistical theory of electron gas. The Thomas-
             Fermi equation was set up with due account for the energy ex-
             change of the electrons. It is taken into consideration that the
             numbers of electrons with right and left rotation are not equal,
             and either variety is examined separately. A system was devel-
             oped for the solution of the Thomas-Fermi equation, without
             accounting for the exchange, by expansion into series. The
             simplest version of the theory was applied to determine the CE
             of oxides of transition metals with spinel structure. An ex-
             pression for the period of crystal lattice, a_o , was developed
Card 1/2   from the condition of minimum CE. Experimental data show

137-58-6-13091

Calculation of the Cohesive Forces in Some Oxides of Transition Metals

that an increase in concentration of atoms with high atomic number leads to a decrease in a_o. An equation is adduced for the degree of conversion, λ, applicable to some types of spinels. The temperature dependencies of λ calculated for certain values of the constants correspond to the experimental values. Concurrence is received therein for values of constants that corre- spond to not purely ionic cohesive forces.

1. Crystals--Energy   2. Crystals--Lattices   3. Electron gas--Theory   M.K.
4. Thomas-Fernic equation--Applications   5. Metal oxides--Properties

Card 2/2

. i , E /v , f !;

AUTHOR: Men', A. N.   126-3-25/34

TITLE: Influence of the changes in the equilibrium degree of
inversion with temperature on the thermal capacity of a
spinel. (Vliyaniye izmeneniya ravnovesnoy stepeni
obrashchennosti s temperaturoy na teployemkost' shpineley).

PERIODICAL: "Fizika Metallov i Metallovedeniye" (Physics of Metals
and Metallurgy), 1957, Vol.4, No.3, pp. 544-545 (U.S.S.R.)

ABSTRACT: The degree of inversion λ is defined as the extent of
distribution of type A-atoms of a binary AB alloy along the
a- and b-nodes. The author considers the oscillations in
a simple model of an ordering solid solution, a linear
chain. Knowledge of the maximum frequency ω_m of this chain
permits certain conclusions on the characteristic of the
heat capacity, assuming that a similar dependence for ω_m
is also valid in a three-dimensional lattice. The
structure of the investigated mixed oxides, in which the
ions of various types can interchange their location in the
lattice, is in many respects similar to the structure of
ordering metallic alloys where analogous rearrangements of
the ions can take place. Since oxygen ions do not partici-
pate in these movements they need not be considered in
investigating some properties of the spinel lattice. In this

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case the theory of ordering alloys is applicable to such
a lattice. However, it is necessary to consider that
between the degree of the distant order η (expressing to
what extent the a-nodes are occupied by A-atoms and the
b-nodes are occupied by B-atoms of a binary AB alloy)
and the degree of inversion λ (which is a measure of the
distribution of the type A-atoms along the a- and b-nodes)
the following relation is valid:

$$\lambda = (1 - c)(1 - \eta),$$

where $c \ (\neq 1)$ is the concentration of the type A-atoms.
The existence of this relation is utilised for investigating
the oscillations of the linear model of the mixed spinel
lattice. The example of a unidimensional chain permits
elucidation of a number of relations which are characteristic
for a three-dimensional crystal. In an earlier paper
(Dokl. Ak. Nauk, 1953, Vol.90, p.753), the linear chain was
considered consisting of atoms of two types, which interact
elastically, distributed along the nodes of a chain with any
degree of the distant order η and any arbitrary concentration c.
It is shown that for known approximations such a chain can be

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considered as an ordered one consisting of real atoms.
Applying this method to a chain in which the atoms of the
mass M (oxygen) are located on the spot and the (metal) atoms
with the masses m_1 and m_2 are distributed along the
nodes of the chain with any arbitrary degree of inversion λ
and any concentration c, it is possible to derive the
relation for the maximum frequency of the degree of inversion
which is expressed by eq.(2), p.545. According to Seitz, F.
(2) and Fermi, E. (3) the heat capacity of a unidimensional
model can, in the general case, be approximately represented
by a sum of two components:

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$$C_V = 2NkD\left(\frac{kT}{h\omega_m}\right) + 2Nk\, f_E\left(\frac{h\omega_o}{kT}\right)$$

where D is a Debay function, f_E is the Einstein function.
The first term of this equation describes in the framework
of the theory of the continuum, the heat capacity due to low
frequency oscillations, whilst the second expresses the
relations with optical oscillations which are characterised
by the frequency ω_o.   Improving the theory by taking into

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consideration numerous optical frequencies is not justified
in view of the fact that the above equation represents only
a very rough approximation. By making the maximum frequency,
determined according to eq.(2), p.545, identical with the
Einstein and the Debay ones and considering the relation
$\omega_m(\lambda)$, it is possible to elucidate within the framework of
the assumed model the distribution of the ions in the chain
on the heat capacity. According to earlier work of the
author (same journal, 1955, Vol.1, p.410) the equilibrium
degree of inversion entered in eq.(2) depends on the
temperature and, therefore, it can be anticipated that for
some spinels there will be deviations ΔC_v in the
temperature characteristic of the heat capacity from that
predicted by the eq.(2) for ω_{max} = const. For an equal
dependence of the maximum frequency on the degree of
inversion the normal and the inverted spinels have deflections
ΔC_v of equal sign but at differing temperatures. The here
obtained predictions on the deviations of the heat capacity
could not be detected in principle in the only ferrite which,
according to the knowledge of the author, has so far been
Card 4/5   investigated experimentally, i.e. the non-ferromagnetic