

L 00639-67 T/EWP(t)/ETI IJP(c) RM/JG/DS/JD

ACC NR: AP6026666

SOURCE CODE: HU/0014/65/098/008/0364/0368

AUTHOR: Lovasi, Jozsef--Lovashi, Y.; Szucs, Palne--Syuch, P.-no

15
B

ORG: Research Institute for the Metal Industry (Fempari Kutato Intezet)

TITLE: Determination of niobium in bauxite by ion-exchange polarography

SOURCE: Kohaszati lapok, v. 98, no. 8, 1965, 364-368

TOPIC TAGS: bauxite, niobium, polarographic analysis, ion exchange, alumina

ABSTRACT: In the analytical method described the niobium content of the bauxite is sorbed in the presence of tartaric acid on the anion-exchange resin Warion AP and the desorbed solution containing the niobium is determined polarographically in the conventional manner. The evaluation of the polarograms is performed according to the addition technique. The method is suitable for the analysis of bauxites and alumina-manufacture red sludge and other intermediate products containing up to 0.005% niobium pentoxide. Maximum negative error of the method is 20%; Fe, Ti, V, Si, and Al do not interfere with the determination. Orig. art. has: 1 figure and 4 tables. [JPRS: 32,49]

SUB CODE: 11, 07 / SUBM DATE: none / ORIG REF: 002 / SOV REF: 002

OTH REF: 011

Card 1/1 pb

UDC: 622.349.2:545.33:546.882

BR

ACCESSION NR: AP4040002

H/0016/64/000/005/0139/0143

AUTHOR: Lovas, Miklos (Lovash, M.)

TITLE: The RR Lyrae stars

SOURCE: Fizikai szemle, no. 5, 1964, 139-143

TOPIC TAGS: RR Lyrae star, population, Hertzsprung-Russell diagram, period sequence, gigantism, evolutionary path, empirical data, period length variation, empirical cosmogony, photoelectric recording, sphere cluster, Babcock material, polarization, reflecting telescope, halo

ABSTRACT: Since it is now customary to conceive the H-R diagram generally as evolutionary, the very remarkable position of RR Lyrae-k is very important for the theory of the evolution of the stars. In this small section of the diagram both sequences, the succession of variables by periods and the series of the far more numerous nonvariables, converge. But the situation is greatly complicated by the division of the stars into several populations -- the most important astrophysical discovery of the 40's. The RR Lyrae-k are so pronouncedly population II stars that their presence characterizes the system, that is, the star

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system in which they occur is itself also of population II; e.g. the sphere clusters. Still other subsystems of the Milky Way are populations II, and RR Lyrae-k are present in all of them. Regarding the H-R diagram branches as evolutionary paths, one at once reaches the conclusion that every population II star passes through the RR, Lyrae state in the course of its existence. But this position also fits into the period sequence, so that one may imagine that the physical variables likewise follow a path of evolution by periods, which extends over general gigantism. Although the author regards the H--R diagram branches as evolutionary paths, the question of where they are headed is an open one. Anyone with a sense of humor must sometimes be amused at how evolutionary theories have come and gone for four decades, with every direction (left to right, up and down, etc.) being tried out over and over. Perhaps some empirical data could be obtained by very careful and accurate observation of the periodic physical variables in less than the "astronomical" time that it would take to test all the theories! These variables are arranged by period lengths about parallel to the branch assumed for the evolutionary path. If the variation of the period length in some one direction could be demonstrated in one type, this would decide what the direction of evolution is. An empirical cosmogony could be constructed (obviously impossible from constant-light stars).

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Moreover, the period of light variation can be determined more accurately by many orders of magnitude than any other state characteristic of a star. The variables with the shortest periods are the most suited for this purpose, particularly the RR Lyrae-k, also exceptionally interesting from other standpoints. This work was begun by Dotre Laszlo in 1930 at the Budapest Konkoly Observatory, and still continues, but now with much more accurate and modern photoelectric recording apparatus. The author discusses work on the same subject by the Russian Blasko (the "Elasko effect"), Shlapey and Eddington, Struve, Gamow, Babcock, Deutsch, and Balazs Julia. It is now believed that the deviations appearing in the diagram of the period amplitude of sphere clusters are not due so much to differences in age as to differences between the chemical composition of the clusters. But further interesting results may be expected from a study of the RR Lyrae-k period variation particularly in the sphere clusters. Extension of the magnetic measurements is most important for the further study of the properties of RR Lyrae stars, as the Babcock material is still very scant. But such a study can be made only with the Mt. Palomar 5-m telescope. Since in the case of a strong magnetic field, synchrotron radiation from the stars is to be expected, a part of the star light has to be polarized. The magnetic property of stars can thus be investigated by measuring the polarization photoelectrically.

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ACCESSION NR: AP4040002

with a smaller telescope. The 50-cm Cassegrain reflecting telescope soon to be installed at the Matra Observatory will serve for this purpose. The big new Schmidt telescope at Matra is already being used to locate the very dim RR Lyrae stars and to determine whether there are also such objects in intergalactic space or whether they are confined to the "halo" enveloping the Milky Way.

ASSOCIATION: MTA Csillagvizsgáló Intézet Budapest-Szabadsághegy (Astronomic Observatory of the Hungarian Academy of Sciences)

SUBMITTED: 00 DATE ACQ: 21Jun64 ENCL: 00
SUB CODE: AA NO REF SOV: 000 OTHER: 000

Card 4/4

LOVASS-NAGY, V.

Mathematical Reviews
Vol. 15 No. 2
Feb. 1954
Analysis

✓ Egerváry, Jenő, et Lovass-Nagy, Viktor. La solution de l'équation différentielle de la conduction calorique avec condition périphérique dépendant linéairement de la durée. (Examen du processus de refroidissement respectivement de rechauffement d'un corps placé dans un médium dont la température varie d'une manière uniforme.) Magyar Tud. Akad. Alkalm. Mat. Int. Közl. 1 (1952). 11-22 (1953). (Hungarian. Russian and French summaries)

The boundary-value problem solved in this paper is: $u_t = a^2 \Delta u$, $u = 0$ when $t = 0$, $b \partial u / \partial n + u = vt$ on the boundary (b, v constants), and describes conduction of heat in a body which is being heated. The solution is written out explicitly for a rectangular finite slab, and some graphs and numerical values are also given. A. Erdélyi (Pasadena, Calif.).

LOVASS-MAGY, Viktor

Mathematical Reviews
Vol. 15 No. 3
March 1954
Mechanics

✓
Lovass-Nagy, Viktor. Sur la flexion d'une plaque circulaire comprimée dans son propre plan. Magyar Tud. Akad. Akadm. Mat. Int. Közl. 1 (1952), 23-32 (1953). (Hungarian. Russian and French summaries)

The author discusses the buckling of circular plates under the influence of a uniform normal pressure in the plane of the (undeformed) plate. Both clamped and freely supported plates are discussed and the method is modelled on the Kármán-Biot method for the corresponding problems regarding beams.
A. Erdelyi (Pasadena, Calif.)

LOVASS-NAGY, Viktor

Mathematical Reviews
Vol. 15 No. 3
March 1954
Mechanics

Lovass-Nagy, Viktor. Sur la déformation des plaques minces de forme circulaire et d'une petite courbure constante. Magyar Tud. Akad. Alkalm. Mat. Int. Közl. 1 (1952), 33-48 (1953). (Hungarian. Russian and French summaries)

The author discusses the bending of a thin, slightly spherically curved, circular plate under the influence of hydrostatic pressure. Both clamped and freely supported plates are considered, and the displacement of the center and normal stresses in the plate are computed.

A. Erdlyi (Pasadena, Calif.)

EH

7-21-54

LOVASS-NAGY, Viktor

Mathematical Reviews
Vol. 15 No. 3
March 1954
Mechanics

Lovass-Nagy, Viktor. Sur les états de tension plastiques et élastiques dans les tuyaux à paroi épaisse. Magyar Tud. Akad. Alkalm. Mat. Int. Közl. 1 (1952), 49-80 (1953). (Hungarian. Russian and French summaries)

The state of stress and deformation is calculated in an indefinitely long thick-walled tube subjected to uniformly distributed radial tractions on the internal and external surfaces. It is assumed that a plane state of stress prevails in the tube. The radius of the cylindrical surface is calculated which divides the wall of the tube into an elastic and a plastic region. Both the Saint-Venant-Tresca and the von Mises criteria of plasticity are used in the analysis. In a fully worked out numerical example the difference between the radii of the limiting surface according to the two criteria is found to be ten percent. The Saint-Venant-Tresca condition is recommended in practical work because it is simpler to apply. Nomograms are presented to facilitate the computation of the radius of the limiting surface. The paper is clearly written and is easy to read. *N. J. Hoff.*

LL

HUNGARY/Atomic and Molecular Physics - Heat

D-4

Abs Jour : Ref Zhur - Fizika, No 11, 1958, No 24986

Author : Lovass-Nagy Viktor, Fal Sendor, Pasztor Janos
Inst : Not Given
Title : Certain Problems Connected with the Heating of Metallic
Bodies of Cylindrical Form, Heated by Induction.

Orig Pub : Magyar tud. akad. Alkalm. mat. int. kozl., 1953, 2, 499-511

Abstract : The authors investigate the temperature distribution in an infinite metallic round cylinder heated by induced alternating current at high frequency. If the frequency of the exciting current is assumed to be infinite, the thermal energy arising through induction can be considered constant and the flux of heat flowing through the surface of the body per unit time and per unit surface can be considered constant. The use of the most important formulas is illustrated by means of examples and diagrams.

Cord : 1/1

LOVASS-NAGY, V.

LOVASS-NAGY, V. Investigation of the stability of a beam suspended
at two points by means of matrix calculus. p. 49.

Vol. 3, No. 1/2, 1954 (published 1955)

KOZLEMENYEI

SCIENCE

Budapest, Hungary

So: East European Accession, Vol. 5, No. 5, May 1956

LOVASS-NAGY, V.; GYORY, T.

LOVASS- NAGY, V.: GYORY, T. Mathematical investigation of coupled
circuits by means of matrix calculus. p. 65.

Vol. 3, No. 1/2, 1954 (published 1955)

KÖZLEMÉNYEI

SCIENCE

Budapest, Hungary

So: East European Accession, Vol. 5, No. 5, May 1956

LeVASS - NAGY - V.

bertrachten der ...

MISS LAEY, ✓

Application of Hyper Matrices in Calculation of Space Frame Structures With Cyclic Symmetry.

4

✓ Béres, Elek; Lovass-Nagy, Viktor; und Szabó, János.

Über eine Anwendung der Hypermatrizen bei der Berechnung von räumlichen Fachwerken mit zyklischer Symmetrie. Magyar Tud. Akad. Mat. Kutató Int. Közl. 1 (1956), 559-576 (1957). (Hungarian. Russian and German summaries)

Bekanntlich lassen sich die linearen algebraischen Gleichungen, welche zur Berechnung von Spannkraften räumlicher Fachwerke dienen, zu einer einzigen Matrixgleichung zusammenfassen. Hat das Fachwerk eine zyklische Struktur, dann lässt sich die Koeffizientenmatrix dieser Matrixgleichung in zyklische Blöcke zerlegen. Mit Hilfe der Egerváry'schen Hypermatrizenalgorithmus entwickeln die Verfasser eine Methode zur Spektralzerlegung der Koeffizientenmatrix. Hierbei erscheint die aus zyklischen Blöcken bestehende Hypermatrix als eine Summe, deren Glieder direkte Produkte von Eigenwert-Matrizen und der entsprechenden Eigen-Dyaden sind. Diese Methode liefert einheitliche und übersichtliche Lösungsformeln zur Berechnung der Spannkraften statisch bestimmter wie statisch unbestimmter räumlicher Fachwerke, sie führt nämlich die Inversion der Koeffizientenmatrix zur Berechnung von Reziprokmatrizen der Eigenwert-Matrizen der Blöcke zurück.

Zusammenfassung der Autoren.

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APPROVED FOR RELEASE: 08/23/2000

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20753-21641

3

60. Application of the matrix calculus to the investigation of transformers in arbitrary connection. (In English) V. Levyagy-Nagy, K. Szendy. Acta Technica Academiae Scientiarum Hungaricae. Vol. 16, 1957, No. 3-4, pp. 311-352. 12 figs.

Steady state processes in multi phase transformers containing several coil cycles per phase were investigated for different kinds of coil cycles. Investigation of this problem by the matrix method leads to a linear matrix equation the solution of which is equivalent to the inversion of the coefficient matrix. In the cases examined the coefficient matrix is a hyper matrix containing only cyclic blocks. A method is presented by means of which arbitrary functions of an hyper matrix consisting of cyclic blocks can be expressed in a simple way as direct products of matrices formed from the characteristic values of the blocks and of the dual formed from the cyclic characteristic vectors pertaining to the corresponding characteristic values. Based on the above a method has been evolved for a simple solution of the examined problem by numerical calculation.

Handwritten signature

LOVASS-NAGY, V.

76. A new method of applying hypermatrices in the theory of multiphase systems. (In English) P. HALCSAY, V. LOVASS-NAGY. *Acta Technica Academiae Scientiarum Hungaricae*, Vol. 21, 1958, No. 3-4, pp. 363-386, 2 figs.

2

It is known that with the aid of the matrix calculus clear relations for the determination of the stationary voltages and current intensities of monophasic systems composed of quadripoles may be derived from the four-terminal theory. D. W. C. Shen established the matrix formulae describing the stationary phenomena of single-phase uniform transmission lines by means of these relations. In an earlier study the authors elaborated a general application of D. W. C. Shen's results to multiphase uniform transmission lines. Using the method of hypermatrices, the present paper investigates the stationary voltage and current intensities of multiphase systems composed of cyclically symmetrical, cascade-connected different $2(m+1)$ -poles with given voltage at the points of supply and given current intensities at the points of consumption; the paper also analyzes the stationary and transient voltages and current intensities of multiphase systems composed of cyclically symmetrical, cascade-connected, identically built $2(m+1)$ -poles, likewise with given voltages at the points of supply and given current intensities at the points of consumption. The relations thus obtained may — at the same time — be regarded as approximate formulae for the determination of cyclically symmetrical multiphase uniform transmission systems with given voltages at the points of supply and given current intensities at the points of consumption.

68. Surge phenomena in electromagnetic coils analyzed by hypermatrix methods. (In English) V. Lovvns, N. K. S. Pandey. *Acta Technica Academiae Scientiarum Hungaricae*, Vol. 21, 1969, No. 3-4, pp. 447-449, 2 figs.

By taking the mutual inductances between the winds of an electromagnetic coil into account, the coil can be separated into n parts. The a. c. equations given for the single coil elements can be summarized in a system of two differential matrix equations. With an arbitrary permissible from the standpoint of electrical engineering the two differential matrix equations can be compounded into a single differen-

tial hypermatrix equation, the matrix coefficient of which is composed of interchangeable blocks. With the transformation of this matrix coefficient to a diagonal form the scalar equations describing the transient phenomena occurring in the individual coil elements are established. The equations have a better basis from a theoretical point of view than the equations obtainable by infinitesimal calculus because they are deduced from the assumption of the coil model which is closer to reality -- of an infinite number of parts. The equations obtained are especially adaptable for calculation on high efficiency computing machines.

An Interpolation Process for the Approximate Solution of Matrix-Differentiable Equations.

7390:
Bajcsay, P.; und Lovass-Nagy, V. Ein Iterationsverfahren zur näherungsweise Lösung von Matrizendifferentialgleichungen. Z. Angew. Math. Mech. 39 (1959), 8-13. (English, French and Russian summaries)

3
I-F/W

A method is proposed for solving the system of differential equations $(d/dt)y=Ky$, $y(0)=y_0$ ($y(t)$, y_0 column vectors of dimension n and K a constant matrix) without transforming K to canonical form. K is decomposed into a sum $A+B$ with the matrix A having a known canonical representation (e.g., A a diagonal matrix), and the following iteration is set up: $(d/dt)y_1=Ay_1$, $(d/dt)y_m=Ay_m + By_{m-1}$ ($m=2, 3, \dots$), $y_m(0)=y_0$ ($m \geq 1$). An explicit expression

$$y_m(t) = \sum_{v=1}^n \beta_{mv}(t) \exp(\lambda_v t) u_v$$

is obtained, where λ_v are the eigenvalues of A , u_v corresponding eigenvectors, and $\beta_{mv}(t)$ scalar functions (too lengthy to be quoted here) formed with the help of the matrix B and the right and left-hand eigenvectors of A . An analogous method is stated for inhomogeneous systems, and convergence is proved as $m \rightarrow \infty$.

Walter Gantschi (Washington, D.C.)

LOVASS-NAGY, Viktor, dr.

Introduction to matrix calculus and its application in the field of electrical engineering. Pt.3. (To be contd.). Elektrotechnika 55 no.10:463-474 0 '62.

1. Klement Gottwald Villamossagi Gyar.

LOVASS-NAGY, Viktor, dr.

Introduction to the theory of the calculus of matrices and
its application in electrical engineering. (To be contd.).
Elektrotechnika 55 no.8:367-378 Ag '62.

1. Klement Gottwald Villamossagi Gyar.

LOVASS-NAGY, Viktor, dr.

Introduction to the theory of matrix calculus and its application in the field of electrical engineering. Pt.4. (To be contd.). Elektrotechnika 55 no.11:509-520 N '62.

1. Klement Gottwald Villamosagi Gyar.

LOVASS-NAGY, Viktor, dr.

Introduction to the theory of matrix calculus and its application in the field of electrical engineering.V. (To be contd.) Elektrotechnika 55 no.12:552-564 D-42.

1. Klement Gottwald Villamossagi Gyar.

LOVASS-NAGY, Viktor, dr., okleveles gépészmérnök

Introduction to the theory of matrix calculus and its application
in the field of electrical engineering. Pt. 6. Elektrotechnika 56
no.1/2:53-68 F '63.

1. Klement Gottwald Villamosági Gyar Transzformator Főosztályának
mérnöke, Budapest, II., Lovcház u.39.

BAJZA, Lajos, okleveles gépészmérnök, adjunktus; LOVASS-NAGY, Viktor, dr., okleveles gépészmérnök, egyetemi tanár, SZENDY, Karoly, dr., okleveles gépészmérnök, a muszaki tudományok doktora, Kossuth-díjas, fozsakerto

Examination of transient processes occurring in three-phase asynchronous machines by means of the matrix calculus.
Elektrotechnika 57 no.9:381-391 S '64.

1. Chair of Electric Machines, Budapest Technical University, Budapest, XI., Egry J.u.18 (for Bajza). 2. University, Khartoum, Sudan (for Lovass-Nagy). 3. Power Plant and Network Designing Enterprise, Budapest, V., Szecheny rakpart 3 (for Szandy).

SUPEK, Z.; RANDIC, M.; LOVASEN, Z.

Radioprotective action of some indolealkylamines. Bul sc
Youg 7 no.1/2:19 F-Ap '62.

1. Institut "Ruder Boskovic," Zagreb.

LOVASHEV, M. YE. SAVVATEYEV. V.B.

Conditioned Response

Conditioned reflex modification of sorption characteristics of protop;asm of intestinal epithelial cells. Fiziol. zhur., 38, No. 4. 1952

9. Monthly List of Russian Accessions, Library of Congress, November 1958² Unclassified.

LOVASI, J.

Chemical polishing of brass objects. p. 78,
(Gep., Vol. 9, no. 2, April 1957. Budapest, Hungary)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 9, Sept. 1957. Uncl.

LOVASI, Jozsef

Pyrohydrolytic-potenciometric determination of fluorine in
U(IV)-fluorine salts. Koh lap 95 no.8:367-372 Ag '62.

1. Femipari Kutato Intezet tudomanyos munkatarsa.

LOVASI, Jozsef

Rapid determination of the electrolytically reduced U^4 -content
of concentrated uranium solutions, Magy kem lap 19 no.9:499-502
S '64.

1. Research Institute of the Metal Industry, Budapest.

LOVASI, Jozsef

Dehydration of NaUF_5 and NH_4UF_5 , and preparing UF_4 from NH_4UF_5 .
Koh lap 96 no.1:41-44 Ja '63.

1. Femipari Kutato Intezet tudomanyos munkatarsa.

LOVASI, Jozsef

Experiences in the thermal decomposition of uranyl nitrate
containing crystal water. Koh lap 97 no.1:45-51 Ja'64.

LOVASI, Jozsef, tudományos munkatárs

Activity investigation of some uranium trioxides. Koh
lap 97 no.6:293-295 Je'64.

1. Research Institute of the Metal Industry.

LOVASIC, Ante, inz.

~~Structural analysis of products, and its methods in precision~~
mechanical engineering. Strojarsstvo 5 no.3/4:7-19 '63.

STEINKE, G.; LOVASS, Gyula [translator]

Switching technique of up-to-date monophonic and stereophonic
mixing devices. Pt.1. Kép hang 9 no.3:78-83 Je '63.

1. RFZ, Berlin (for Steinke).

LOVASS, Nora

Report on the Berlin session of the Deutsche Kinotechnische
Gesellschaft. Kep hang 10 no. 3:84-85 Je '64.

LOVASZ, Dezso

Some problems relating to overtime work. Munka 11 no.8:29-30 Ag '61.

1. Szakszervezetek Orszagos Tanacsa berosztalyanak munkatarsa.

(Hungary—Overtime)

LOVASZ, Gyorgy, dr.

Data on the water course conditions of the basin of the Drava river.
Foldrajzi ert 10 no.1:23-44 '61.

CSANADI, Gyorgy, dr., egyetemi tanar; FASKERTI, Sandor; SZABO, Dezso, dr.,
a kozlekedestudomanyok kandidatusa, okl.mernok; CSUHAY, Denes;
TAKACS, Endre; CSABAI, Rudolf; NAGY, Rudolf; KUTAS, Laszlo, mernok;
VASARHELYI, Boldizsar, dr., a muszaki tudomanyok doktora, tanszek-
vezeto egyetemi tanar; KOLLER, Sandor, megyetemi adjunktus; KALNOKI
~~KISS~~, Sandor; GYOMBER, Sandor; TALLO, Gyula; KOZARY, Istvan; SZILAGYI,
Lajos; HEGYI, Kalman, okl.mernok; BERGZIK, Andras; MARKI, Laszlo; PALFI,
BUDINSZKI, Endre; NAGY, Endre, okl.mernok; SZATMARY, Ferenc; MAGORI,
Judit; CSIKHELYI, Bela; MESZLERI, Zoltan; VEROSZTA, Imre; ZSIGA, Sandor;
TOROK, Istvan; KONCZ, Laszlo; WESSELY, Ferencne; SZABO, Bela; KOMOROCZI,
Lajos; GINTL, Jozsef; CSONTOS, Dezso; JAKAB, Sandor; LOVASZ, Istvan,
mernok; KISS, Karoly; ~~BODOSZI, Karoly~~

The City Transportation Conference in Szeged. Kozl tud sz 12 no.2:
49-54 F '62.

1. Akademiai levelezo tag, a kozlekedes- es postaugyi miniszter
elso helyettese, es "Kozlekedestudomanyi Szemle" szerkeszto
bizottsagi tagja (for Csanadi) 2. Kozlekedes- es Postaugyi Miniszterium
Muszaki Felugyeleti Osztalyanak vezetoje (for Faskerti) 3. Fovarosi
Tanacs Vegrehajto Bizottsaga VIII. Varosrendezesi es Epiteszeti
Osztalyanak munkatarsa, es "Kozlekedestudomanyi Szemle" szerkeszto
bizottsagi tagja (for Szabo)

(Continued on next card)

CSANADI, Gyorgy --- (Continued) Card 2.

4. Fomernok, Kozlekedes- es Postaugyi Miniszterium Kozlekedespoli-
tikai Osztalyanak munkatarsa (for Csuhay) 5. Kozlekedes- es Postaugyi
Miniszterium Autokozlekedesi Vezeregazgatosaganak szakosztalyvezetoje
(for Takacs) 6. MAV fointezo, a Kozlekedestudomanyi Egyesulet miskolci
területi szervezetének titkara (for Csabai) 7. Fomernok, a Fovarosi
Tanacs Vegrehajto Bizottsaga Kozlekedesi Igazgatosaga helyettes
vezetoje (for Nagy) 8. Fovarosi Tanacs Vegrehajto Bizottsaga
Kozlekedesi Igazgatosaganak fejlesztési eloadoja (for Kutas)
9. "Kozlekedestudomanyi Szemle" szerkeszto bizottsagi tagja (for
Vasarhelyi) 10. Csoportvezeto fomernok, Debrecen m.j. Varosi Tanacs
Vegrehajto Bizottsaga Ipari es Kozlekedesi Osztaly (for Kalnoki Kiss)
11. Rendorornagy, Csongrad Megyei Rendorfokapitanysag Kozrendvedelmi
Osztalya (for Gyomber) 12. Fomernok, Miskolc m.j. Varosi Tanacs
Vegrehajto Bizottsaga Epitesi es Kozlekedesi Osztaly (for Tallo)
13. Fomernok, Kozlekedes-es Postaugyi Miniszterium Utosztalya (for
Kozary) 14. Favorosi Tanacs Vegrehajto Bizottsaga VIII. Varosrendezesi
es Epitesi Osztalyanak vezetoje (for Szilagyi) 15. Ut-Vasutervezo ~~Vallalat~~
Kozlekedesi Osztalya vezetoje (for Hegyi) 16. BUVATI Kozlekedesi es
Kozmushakosztalyanak vezetoje, Budapest (for Berczik) 17. Pecs m.j.
varos Tanacs BV Epitesi es Kozlekedesi Osztalyanak vezetoje (for
Marki).

(Continued on next card)

CSANADI, Gyorgy --- (Continued) Card 3.

18. Szeged m.j. Varosi Tanacs Epitesi es Kozlekedesi Osztalyanak fomernoke (for Palfi Budinszki) 19. Budapest Fovarosi Tanacs Melyepitesi Tervezo Vallalat iranyito tervezoje (for Endre Nagy) 20. Debreceni Kozlekedesi Vallalat igazgatoja (for Szatmary) 21. Budapest Fovarosi Tanacs Melyepitesi Tervezo Vallalat tervezomernoke (for Magori) 22. Budapest Fovarosi Tanacs Melyepitesi Tervezo Vallalat tervezomernoke (for Csikhelvi) 23. Miskolci Kozlekedesi Vallalat fomernoke (for Meszleri) 24. Kozlekedes- es Postaugyi Miniszterium Autokozlekedesi Foszalyanak fomernoke (for Veroszta) 25. Szegedi Kozlekedesi Vallalat fomernoke (for Zsiga) 26. Miskolci Kozlekedesi Vallalat fokonyveloje (for Torok) 27. Debreceni Kozlekedesi Vallalat fomernoke (for Koncz) 28. Penzugy-miniszterium foeloadoja (for Wessely) 29. Pecsai Kozlekedesi Vallalat igazgatoja (for Szabo) 30. Epitesugyi Miniszterium Varosrendezesi Foszalyanak mernoke (for Komoroczi) 31. Fovarosi Villamosvasut Fomernoke (for Gintl)

(Continued on next card)

CSANADI Gyorgy --- (Continued) Card 4.

32. 51-es Autoközlekedési Vállalat munkatársa (for Csontos).
33. Ut-Vasutervező Vállalat irodavezető főmérnöke (for Jakab).
34. Budapesti Helyierdők Vasutak osztályvezetője (for Lovász).
35. Magyar Államvasutak igazgatóhelyettese (for Kiss, Karoly).
36. Magyar Államvasutak vezérigazgatóhelyettese (for Rodonyi).

LOVASZ, Kalman

The rotary machine is one hundred years old. Technika 7 no.10:
11 0 '63.

LOVASZ L.

Excerpta Medica sec 16 3/3 Mar 55 Cancer

1131. **LOVASZ L.** Szövetség-utcai kórház Sebészeti Osztályának közleménye. A peripherias idegdaganatokról, különös tekintettel a lemmocytomákra *Tumours of the peripheral nerves, especially lemmocytoma* Mag. Sebészet 1954, 7/4 (246-254) Illus. 3
A report on 13 cases operated on for various growths of the peripheral nerves. A 'lemmocytoma' (Verocays 'neurinoma') weighing 3,900 g. was successfully excised; one tumour as large as a head and 3 more, as large as a fist, were adherent to the mesentery of a 60-year-old man. They were excised. The removal entailed resection of the small intestine
Makai - Budapest

RECIPITA MEDICA Sec. 6 Vol. 11/10 Oct. 57
LOVASZ L.

6357. LOVASZ L. Országos Reuma és Fürdőgyi Int. Sebészeti Osztályának Köz-
leménye. * Az epehólyagtuberculosisról. Tb of the gallbladder
ORV. HETIL. 1956, 97/16 (437-441) Tables 2 Illus. 2

After a review of the literature, the data of collective statistics are reported. The cases are thoroughly discussed and the distribution of tuberculous conditions according to age and sex is presented in tables. The possibilities of infection are also discussed. On the basis of the experimental data published in the literature, evidence is given of the possibility of ascending infection of the bile duct in primary chronic tuberculous cholecystitis. From the cases reported the conclusion is drawn that great pathogenetic importance should be attributed to stones and to primary unspecific inflammation. In cholelithiasis in tuberculous patients, this possibility should be taken into account in the establishment of operative indications. A personal case is reported.

(VI, 15)

LOVASZ, Laszlo, dr.

About actinomycosis, with special regard to the pathogenesis.
Orv. hetil. 98 no.7-8:147-152 24 Feb 57.

1. Az Országos Reuma- és Furdougyi Intezet (Igazgato:
Dubovitz, Denes, dr.) Sebészeti Osztalyanak (foorvos:
Verebely, Tibor, dr.) kozlemenye.
(ACTINOMYCOSIS
(Hun))

IOVASZ, Laszlo, dr.

Cases of primary actinomycosis of the omentum. Orv. hetil.
98 no.15:392-394 14 Apr 57.

1. Az Országos Reuma és Furdougyi Intezet (igazgato:
Dubovits, Denes, dr.) Sebészeti Osztalyanak (foorvos:
Verebely, Tibor, dr.) koslemenye.

(ACTINOMYCOSIS, case reports
omentum, primary (Hun))

(OMENTUM, DIS.

actinomycosis, primary, case reports (Hun))

LOVASZ, Laszlo, Dr.

Early transit disorders after gastric surgery. Orv. hetil. 99 no.13:
423-430 30 Mar 58.

1. Az Orszagos Reuma es Furdougyi Intezet (igazgato: Farkas Karoly dr.)
Sebenzeti Osztalyanak (foorvos: Verebely Tibor dr.) kozlemenye.
(STOMACH, surg.
postop. early transit disord. (Hun))

JANOS, Denes, Dr.; LOVASZ, Laszlo, Dr.

Modern therapy of congenital megacolon. Orv. hetil. 100 no.7:243-248
15 Feb 59.

1. Az Istvankorhaz (igazgato foorvos: Katona Istvan dr.) gyermeksebészeti
(foorvos: Denes Janos dr.) es az Orszagos Reuma es Furdougyi Intezet
(igazgato foorvos: Farkas Karoly dr.) sebészeti Osztalyanak (foorvos:
Verbelyi Tibor dr.) kozlemenye.
(MEGACOLON, surg.
surg., Swenson's technic (Hun))

IOVASZ, Iagalo, dr.

Acute dilatation of the stomach without surgical intervention.
Orv. hetil. 101 no.26:918-921 26 Je '60.

1. Országos Reuma és Furdougyi Intezet, Sebészeti osztaly.
(STOMACH dis.)

LOVASZ, Laszlo, dr.

Stenosis of the cardial segment of the stomach of non-neoplastic origin and its surgical therapy. Magy sebesz. 14 no.5:273-278 0 '61.

1. Az Országos Reuma és Furdougyi Intezet (Igazgato: Dr. Farkas Karoly, az orvostudományok doktora) Sebészeti osztályának (Főorvos: Dr. Verebely Tibor) közleménye.

(STOMACH dis)

LOVASZ, Laszlo, dr.; MESZAROS, Laszlo, dr.; TANKA, Dezso, dr.

Surgery of a case of gastric lemmocytoma in association with prostatic cancer. Magy. sebeszet 14 no.4:240-243 Ag '61.

1. Az Orszagos Reuma es Furdougyl Intezet sebeszeti osztalyanak es prosecturajonak kozlemenye.

(STOMACH NEOPLASMS surg) (PROSTATE neopl)

LOVASZ, Laszlo, dr.

On surgical problems in portal hypertension. Magy. sebesz. 15 no.2:
103-105 My '62.

(HYPERTENSION PORTAL surg)

HUNGARY

BETLERI, Istvan, Dr, KERENYI, Karoly, Dr, LOVASZ, Laszlo, Dr, MESZAROS, Laszlo, Dr; National Institute of Rheumatology and Balneology, Department of Surgery (chief physician: VEREBELY, Tibor, Dr) (Orszagos Reuma- es Furdougyl Intezet, Sebeszeti Osztaly).

"Successful Resuscitation of Cardiac Arrest Following Surgery."

Budapest, Orvosi Hetilap, Vol 107, No 36, 4 Sep 66, pages 1713-1714.

Abstract: [Authors' Hungarian summary] The successful resuscitation of a case of cardiac arrest, by 100 minutes of manual, open heart massage, is reported. The arrest developed, for unclear reasons, in a 22 year-old male patient following surgery for a duodenal ulcer. 3 Hungarian, 4 Western references.

1/1

LOVASZ, Tibor, dr.

School health services in Szeged. Nepegeszsegugy 38 no.1-2:
5-8 Jan-Feb 57.

(SCHOOLS
health serv. in Szeged, Hungary (Hun))

LOVASZI, Z.

Experience in 1956 with maize planted in double rows at Godollo. p. 4.
(Allami Gazdasag, Vol. 9, No. 1, Jan 1957, Budapest, Hungary)

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

LOVCHAK, K.N.

Some problems of standardization in industrial production.
Standartizatsiia 29 no.4:53 Ap '65.

(MIRA 18:7)

YEFIMENKO, G.G., inzh.; VOYTANIK, S.T., inzh.; YEFIMOV, S.P., inzh.; MACHKOVSKIY, A.I., inzh.; RUDKOV, A.K., inzh.; RUDKOVSKIY, G.I., inzh.; Primalni uchastiye: KOVALEV, D.A.; GOTOVTSEV, A.A.; VASIL'YEV, G.S.; ZEMLYANOV, A.A.; KUKUSHKIN, S.N.; MATYNA, M.G.; LOVCHANOVSKIY, V.A.; KRAMNIK, T.A.; NECHESOVA, N.I.; MARTYENKO, V.A.; KURAKSIN, D.I.; LETYAGIN, N.L.

Intensifying the sintering process by the use of a special charge wetting device. Stal' 23 no.12:1061-1064 D '63. (MIRA 17:2)

1. Dnepropetrovskiy metallurgicheskiy institut, zavod im. Dzerzhinskogo i Yuzhnyy gornoobogatitel'nyy kombinat.
2. Dnepropetrovskiy metallurgicheskiy institut (for Kovalev, Gotovtsev, Vasil'yev, Zemlyanov, Kukushkin).
3. Zavod im. Dzerzhinskogo (for Matyna, Lovchanskiy, Kramnik, Nechesova).
4. Yuzhnyy gornoobogatitel'nyy kombinat (for Martynenko, Kuraksin, Letyagin).

ADMISSION NR: AP5007513

0/0286/65/000/004/0121/01/1

AUTHORS: Sokolov, G. I.; Frenk, M. Ia.; Ilupina, H. A.; Adler, M. V.; Lovchev, S. V.; Lopavok, V. S.

TITLE: Turborefrigerator for cabin air conditioning systems in large passenger aircraft. Class 62, No. 153845

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 4, 1965, 121

TOPIC TAGS: passenger aircraft, air conditioning equipment

ABSTRACT: This Author Certificate presents a turborefrigerator, consisting of a turbine and compressor, for cabin air conditioning systems in large passenger aircraft. To insure forced circulated lubrication of the shaft bearings, the oil feed system is provided with an oil turbopump mounted in the end of the air-cooled oil tank which is located below the turborefrigerator. The turbopump, rotated by compressed air withdrawn from the inlet nozzle of the turborefrigerator, is provided with throttles controlling the oil flow. The pump is connected in series with the oil feed channels to the bearings and the annular cooling chambers of the bearings.

ASSOCIATION: none

Card 1/2

ACC NR: AP6035941

SOURCE CODE: UR/0413/66/000/020/0199/0199

INVENTOR: Adler, M. V.; Gorbachev, L. M.; Lapavok, V. S.; Lovchev, S. V.; Sokolov, G. I.; Frenk, M. Ts.; Churikov, Ye. P.

ORG: none

TITLE: Ventilating unit for aircraft. Class 62, No. 187540

SOURCE: Izobreteniya, promyshlennyye obraztsey, tovarnyye znaki, no. 20, 1966, 199

TOPIC TAGS: aircraft cabin environment, aircraft cabin equipment, centrifugal blower, air conditioning equipment

ABSTRACT: An Author Certificate has been issued for a ventilating unit for aircraft which contains a fan with a drive. To assure the unit's efficient operation in ground-based and airborne applications, the fan is mounted on a separate shaft and is operated by an electric drive through an axial over-riding clutch; a centrifugal clutch is used for operation on turbine drive. [WA-98]

SUB CODE: 01, 13/ SUBM DATE: 10Feb64

Card 1/1

UDC: 629.13.01/06

LOVCHIKOV, A.A.

Differential diagnosis of thyrotoxicosis and thyrotoxicosis-like diseases. Vrach. delo no.10:64-68 0 '63.

(MIRA 17:2)

1. Kafedra rentgenologii i radiologii (zav. - dotsent N.N. Granovskaya), kafedra neyrokhirurgii (zav. - prof. V.L. Lesnitskaya) Krymskogo meditsinskogo instituta i kafedry gistologii (zav. - prof. B.V. Aleshin) Khar'kovskogo meditsinskogo instituta.

Lovchikov
MILITSYN, Konstantin Nikitich, kandidat tekhnicheskikh nauk; LOVCHIKOV,
~~Basiliy Semenovich~~, kandidat tekhnicheskikh nauk; SUVOROV, Artur
Mikhaylovich, inzhener; OSOKIN, N.Ye., kandidat tekhnicheskikh nauk,
retsenzent; PAVLOTSKIY, P.G., inzhener, retsenzent; ARONSHTEYN, N.A.,
inzhener, retsenzent; NOVIKOV, N.F., inzhener, retsenzent; RZHEZNIKOV,
V.S., redaktor; ARKHANGEL'SKAYA, M.S., redaktor izdatel'stva;
BEKKER, O.G., tekhnicheskij redaktor

[Smelting and founding of nonferrous metals and alloys] Plavka i
lit'e tsvetnykh metallov i splavov. Pod nauchnoi red. K.N.Militsyna.
Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metal-
lurgii, 1956. 662 p. (MLBA 10:2)

1. Kol'chuginskiy tekhnikum po obrabotke tsvetnykh metallov (for
Osokin, Pavlotskiy, Aronshteyn, Novikov)
(Founding) (Smelting)
(Nonferrous metals--Metallurgy)

LOVCHIKOV, D. P.

New alloys for sanitary equipment. B. P. Lovchikov.
Litkov Proizvodstvo 1956, No. 2, 26-7. ~~Proposed~~ At
alloys contain Mg 10, Cu 2, Zn 0.1, Si 5, and Fe 1.0% and
Mg 4, Cu 2, Zn 0.4, Si 5, and Fe 1.0% and have, resp. 85-
120 and 62-73 Brinell hardness, 17-22 and 15-19 kg./sq.
mm. tensile strength, and 0.9-1.2 and 0.8-1.0% elongation.
They are not corrosion resistant and require coating when
the appearance is important. I. D. Gal

MIG



LOVCHIKOV, G.G.; NAZARENKO, I.I.

Welding up defects of iron castings used in crank-bearing supports of the DT-54 engine blocks. Mashinostroenie no.1: 48-50 Ja-F '63. (MIRA 16:7)

1. Proyektno-konstruktorskiy tekhnologicheskiy institut Kiyevskogo soveta narodnogo khozyaystva.
(Electric welding)

LOVCHIKOV, G.G., inzh.

Correcting defects in cast iron on surfaces to undergo enamelling.
Svar. proizvod. no.2:37-38 F '65. (MIRA 18:3)

1. Proyektno-konstruktorskiy tekhnologicheskiiy institut Kiyevskogo
soveta narodnogo khozyaystva.

1. LOVCHIKOV, I. S.
 2. USSR (600)
 4. Wheat
 7. High-yield varieties of spring wheat. Dost.sel'khoz. no. 11, 1952
-
9. Monthly List of Russian Accessions, Library of Congress, March 1953, Unclassified.

LOVCHIKOV, I. S., BUDYUK, V. D.

Irrigation Farming

Best varieties of spring wheat for irrigated lands of the southwest and central-
chernozem belt, Sel. i sem. 19, No. 5, 1952.

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

LOVCHIKOV, I. S.

Barayev, A. I.

Greater objectivity in evaluating hard wheat (review of A. I. Barayev's article "Selection of hard wheat and scientific principles of its cultivation." I. S. Lovchikov.) Sel. i sem., 19, No. 9, 1952.

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

1. LOVCHIKOV, I.S.
2. USSR (600)
4. Wheat
7. Introduce more rapidly the use of new regionally adapted varieties of hard spring wheat. Sel.i sem. 19 no.10, 1952.

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

PRUTSKOVA, M.G., kand. sel'khoz. nauk; BOLSUNOVSKAYA, O.V., agronom;
LOVCHIKOV, I.S., agronom; MARINICH, P.Ye., red.; KONDRATOVA,
N.A., red.; PECHENKIN, I.V., tekhn. red.

[New strong and durum spring wheat varieties; Saratov 29,
Saratov 210, Bezenchuk 98, Kharkov 46, Melianopus 26] No-
vye sorta sil'nykh i tverdykh iarovykh pshenits; Saratov-
skaia 29, Saratovskaia 210, Bezenchukakaia 98, Khar'kovskaia
46, Melianopus 26. Moskva, Izd-vo M-va sel'.khoz. SSSR, 1960.
73 p. (MIRA 14:8)

1. Russia(1923- U.S.S.R.) Gosudarstvennaya komissiya po sorto-
ispytaniyu sel'skokhozyaystvennykh kul'tur. 2. Zamestitel' pred-
sedatelya Gosudarstvennoy komissii po sortoispytaniyu sel'sko-
khozyaystvennykh kul'tur (Marinich)
(Wheat--Varieties)

PRUTSKOVA, M.G., kand. sel'khoz. nauk; UKHANOVA, O.I.; SAKHAROVA, L.I.;
BOLSUNOVSKAYA, O.V.; IVANOVA, N.Ye.; LOVCHIKOV, I.S.; ZALKIND,
G.N.; IL'IN, M.I.; KOZ'MINA, K.A.; SHIKUT', V.A.; PETROVA,
Z.V.; GENERALOV, G.F.; BUDYUK, V.P.; GOMENYUK, L.I., red.

[New highly productive varieties of grain crops] Novye vysoko-
produktivnye sorta zernovykh kul'tur. Moskva, Kolos, 1965.
319 p. (MIRA 18:8)

LOVCHIKOV, V.A.

Effect of chloral-induced sleep on the higher nervous activity in dogs [with summary in English]. Fiziol.zhur. [Ukr.] 3 no.3:71-76 My-Je '57. (MIRA 10:8)
(NERVOUS SYSTEM) (SLEEP) (CHLORAL)

LOVCHIKOV, V.A.

Effect of chlortetracycline on the conditioned reflex activity of
the dog. Eksp. i klin. issl. po antibiot. 2:146-152 '60.
(AUREOMYCIN) (CONDITIONED RESPONSE) (MIRA 15:5)

LOVCHIKOV, V.A.

Effect of terramycin on conditioned reflex activity of the dog.
Eksp. i klin. issl. po antibiot. 2:153-157 '60. (MIRA 15:5)
(TERRAMYCIN) (CONDITIONED RESPONSE)

LOVCHIKOV, V.A.; ORLOVSKAYA, Ye.V.

Change in the filtration ability of the kidneys and the rate of
urination with the use of chlortetracycline, terramycin and tetracycline.
Eksp. i klin. issl. po antibiot. 2:158-162 '60. (MIRA 15:5)
(KIDNEYS) (URINE--SECRETION) (ANTIBIOTICS)

MENTESKIY, D.N. and LOVCHIKOV, V.A.,

Laboratory for Radioelectronics and Gybernetics, Institute of
Experimental Medicine, Academy of Medical Sciences USSR,
Leningrad - "Experimental study on conditioned probability
computing in a nervous system" (9)

Report to be submitted for the 4th Intl. Conf. on
Medical Electronics, New York, N.Y. 16-21 July 1961

LOVCHIKOV, V.A. [Lovchykov, V.O.]

Effect of chloral hydrate-induced sleep on the conditioned reflex activity of dogs. Fiziol. zhur. [Ukr.] 9 no.4:458-464 J1-Ag '64. (MIRA 17:10)

1. Institute of Experimental Medicine of the Academy of Medical Sciences of the U.S.S.R., Leningrad, and A.A. Bogomoletz Institute of Physiology of the Academy of Sciences of the Ukrainian S.S.R., Kiev.

LOVCHIKOV, V. S., LOSKITOV, F. M. and URAZOV, G. G.

"Dezbncking Lead by the Chlorine Method," Tsvet. metal., 19, No.6, 1946

LOVCHIKOV, V. S. Card. Tech. Sci.

Dissertation: "Dezinking Lead with Chlorine." Moscow Inst of Nonferrous Metals and Gold imeni M. I. Kalinin, 10 Apr 47.

SO: Vechernyaya Moskva, Apr, 1947 (Project #17836)

LOVCHIKOV, V. S.

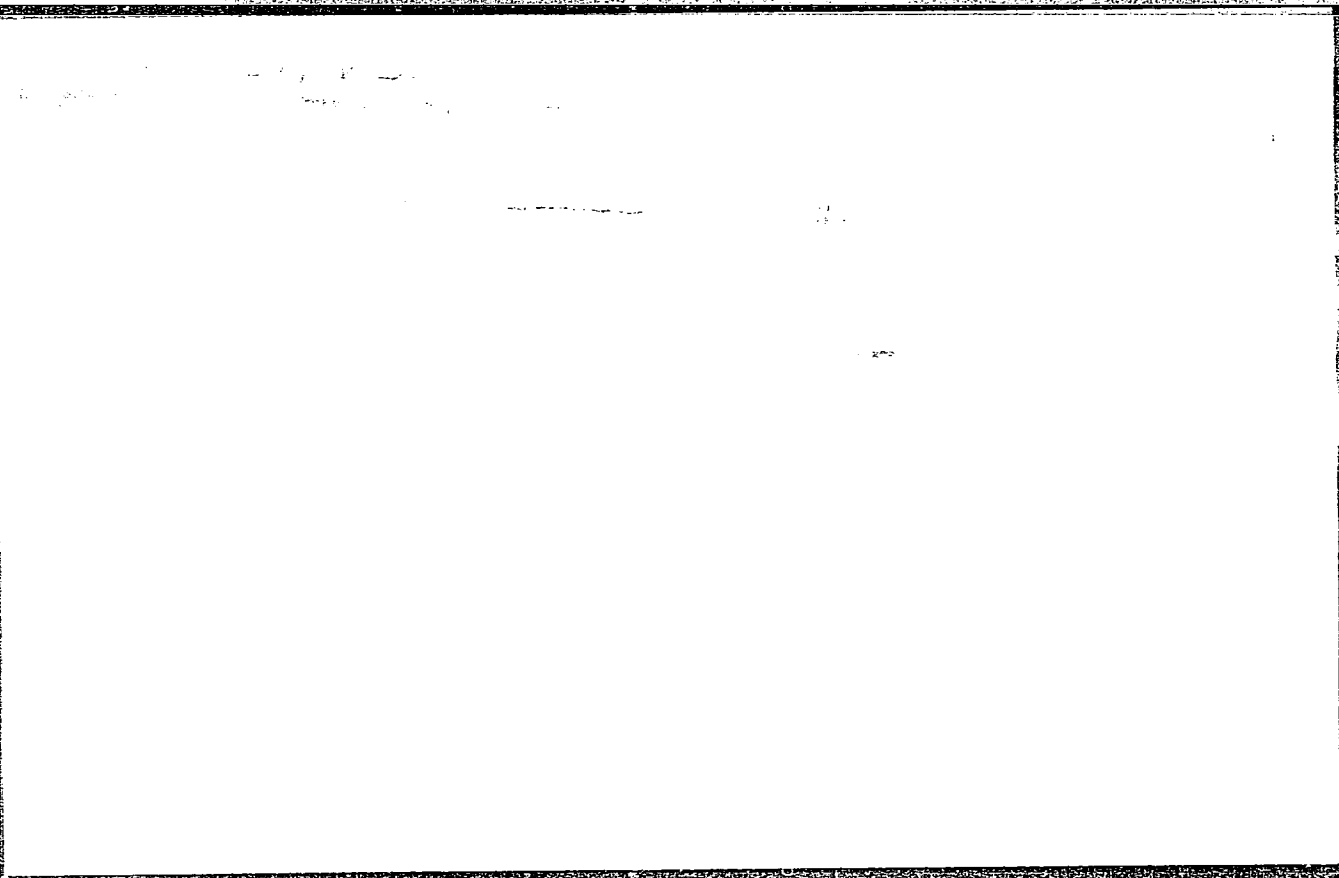
1507

Issledovaniye vliyaniya nekotorykh faktorov na zatrudnennuyu usadku pri lit'ye v postoyannyye formy. M. 1954 10 s.v. Klyuch.obl. 21 sm. (M-vo vyssh. obrazovaniya SSSR, Mosk. in-t tsvet. metalov i zolota im. M. I. Kalinina). 110 ekz. P. ts.- (54-52147)

SO: Knizhaya Letopis', Vol. 1, 1955

URAZOV, G.G.; LOVCHIKOV, V.S.; LIPSHITS, B.M.

Zinc removal from lead by alkalization. TSvet.met.29 no.12:33-35 D
'56. (MLRA 10:2)
(Lead--Metallurgy)



LOVCHIKOV, V. S., LOSKUTOV, F. M., VOL'SKIY, A. N. ARACHEVA, R. A., YEGOROV, A. M.,
and TITOV, P. S.

"On Hydrometallurgical Treatment"

Mintsvetmetzoloto

report submitted at a conference on new methods of lead production from concentrates,
Gintsvetmet (State Inst. Non-Ferrous Metallurgy), Moscow 22-25 June 1958.

(for entire conf. see card for LIDOV, V. P.)

URAZOV, G.G. [deceased]; LOVCHIKOV, V.S.; LIPSHITS, B.M.

Refining lead from arsenic, tin and antimony by liquid molten
alkali. Izv. vys. ucheb. zav.; tsvet. met. no.2:77-84 '58.
(MIRA 11:8)

1. Moskovskiy institut tsvetnykh metallov i zolota. Kafedra
tyazhelykh tsvetnykh metallov.
(Lead—Metallurgy)

AUTHOR: Urazov, G.G., (Deceased) SOV/149-58-4-13/26
Lovchikov, V.S.,
~~Lipshits, B.M.~~

TITLE: Oxidation of Arsenic, Tin, and Antimony in Refining
Lead by Alkaline Melts (Okisleniye mysh'yaka, olova i
sur'my pri rafinirovani svintsa shchelochnymi plavami)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya
Metallurgiya, 1958, Nr 4, pp 96-102 (USSR)

ABSTRACT: The results obtained by other workers (Ref.1-3) who
had studied kinetics of the reactions occurring when
fused NaOH and NaNO₃ are used for refining lead,
prompted the present Authors to investigate the
possibility of improving the efficiency of the refining
process by separate oxidation of the main impurities
(i.e. As, Sn and Sb) present in the crude metal. To
this end, the effect of various factors on the rate of
oxidation of these elements was studied in the
following manner: Oxidising mixtures of various
composition were added to impure lead melted in an
electrically heated iron crucible and maintained at

Card 1/5

SOV/149-58-4-13/26

Oxidation of Arsenic, Tin and Antimony in Refining Lead by Alkaline Melts

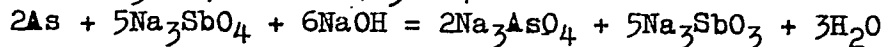
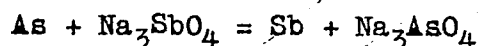
constant temperature and the whole was continuously stirred with a mechanical stirrer. Samples of metal and the salt were taken at regular intervals and chemically analysed. The results were plotted in the form of graphs showing how under various experimental conditions the impurity content in the refined metal changed with time. It was found that: In air, the rate of oxidation of As by NaOH is considerably higher at 450°C than at 400°C (Fig.1). In dry nitrogen this reaction occurs at approximately the same rate in the case of arsenic but neither Sn nor Sb are oxidised by NaOH under these conditions (Fig.2). In air, both Sn and Sb react with NaOH but at a much slower rate than As (Fig.3), which at 450°C is almost completely oxidised after 1 hour's treatment. Complete oxidation of arsenic in 5 minutes can be attained if instead of NaOH a mixture of 78% NaOH and 22% Na_3SbO_4 is employed (Fig.4). It can be seen from Fig.4 that in the course of the reaction with As, sodium antimonate is reduced

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SOV/149-58-4-13/26

Oxidation of Arsenic, Tin and Antimony in Refining Lead by Alkaline Melts

to metallic Sb, so that oxidation of As takes place according to the following reactions:



Similar reactions take place between Na_3SbO_4 and Sn (Fig.5) but in this case 16 hours are necessary completely to oxidise the impurity. According to the law of mass action, it is lead that is oxidised in the first place during the refining process. PbO reacts with NaOH forming sodium plumbite which reacts with As, Sn and Sb to yield metallic lead and corresponding arsenates. (Fig.6 shows the rate of oxidation of As, Sn and Sb by a melt consisting of 80% NaOH and 20% NaCl to which a quantity of PbO , 20% higher than that necessary to oxidise the impurities present in the metal, has been added: Arsenic is almost completely oxidised in 10 minutes, while the content of metallic Sn and Sb is

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SOV/149-58-4-13/26

Oxidation of Arsenic, Tin and Antimony in Refining Lead by Alkaline Melts

reduced in 3 hrs to 97 and 92% respectively). Although it would be possible to oxidise all these impurities with the aid of sodium plumbite, some lead oxide would remain after refining in the alkaline melt. For this reason it is necessary to oxidise the last traces of the impurities with NaNO_3 . (The results of experiments in which the alkaline melt consisted of 80% NaOH and 20% NaCl with a quantity of NaNO_3 theoretically necessary to oxidise As and Sb has been added, are shown on Fig.7.) In the course of the refining process the impurities present in the alkaline melt displace each other in the following order: As, Sn, Sb, Pb. However, it is not possible to obtain melt containing one of these elements only, owing to the fact that the displacement process does not proceed to completion. This has been shown not only by the results of laboratory experiments, but also by a large scale production test, the results of which are reproduced on Fig.8. It was concluded that separate recovery of

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SOV/149-58-4-13/26

Oxidation of Arsenic, Tin and Antimony in Refining Lead by
Alkaline Melts

the impurities under consideration may be expedient when the Sb content in the crude metal is several times higher than the content of the two other impurities (separately and jointly). In such a case, refining should be carried out in two stages: In the first stage As, Sn and a small proportion of Sb is recovered from the metal, while the bulk of the latter impurity is recovered in the second operation. There are 8 diagrams, 2 Soviet and 2 German references.

ASSOCIATION: Moskovskiy Institut Tsvetnykh Metallov i Zolota, Kafedra Metallurgii Tyazhelykh Tsvetnykh Metallov (Moscow Institute of Non-Ferrous Metals and Gold, Chair for Metallurgy of Heavy Non-Ferrous Metals)

SUBMITTED: 15th April, 1958.

Card 5/5

LOVCHIKOV, V.S.; LIPSHITS, B.M.

Preparing antimony and tin from products of treating molten
alkali-refined lead. Izv. vys. ucheb. zav.; tsvet. met. 2
no.3:78-81 '59. (MIRA 12:9)

1. Moskovskiy institut tsvetnykh metallov i zolota, Kafedra
metallurgii tyazhelykh tsvetnykh metallov.
(Nonferrous metals--Metallurgy)

LOYCHIKOV, V.S.; LIPSHITS, B.M.

Production of tellurium concentrate fluxes produced by the
alkali refining of lead. Izv.vys.ucheb.zav.; tsvet.met. 2
no.6:93-98 '59. (MIRA 13:4)

1. Krasnoyarskiy institut tsvetnykh metallov. Kafedra
metallurgii tyashelykh tsvetnykh metallov.
(Lead--Metallurgy) (Tellurium)

5(4)
AUTHORS:

SOV/78-4-2-29/40
Urazov, G. G. (Deceased), Lipshits, B. M., Lovchikov, V. S.

TITLE:

The Solubility Isotherms of the System $\text{Na}_2\text{O}-\text{H}_2\text{O}-\text{Sb}_2\text{O}_5$ at
25 and 75° (Izoterny rastvorimosti sistemy $\text{Na}_2\text{O}-\text{H}_2\text{O}-\text{Sb}_2\text{O}_5$
pri 25 i 75°)

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 2,
pp 439-444 (USSR)

ABSTRACT:

The solubility isotherms of the system $\text{Na}_2\text{O}-\text{H}_2\text{O}-\text{Sb}_2\text{O}_5$ were investigated for the first time at 25 and 75°. The synthesis of the compound $\text{NaSbO}_3 \cdot 3\text{H}_2\text{O}$ is given. The solubility of sodium antimonate in water, depending on the temperature, was investigated and it was found that the solubility increases considerably upon a temperature rise. The isothermal solubility diagram of the system $\text{Na}_2\text{O}-\text{H}_2\text{O}-\text{Sb}_2\text{O}_5$ at 25 and 75° was drawn.

The following salts crystallize in the system at 25°:
 $\text{NaSbO}_3 \cdot 3.5\text{H}_2\text{O}$; $\text{NaSbO}_3 \cdot 1.5\text{H}_2\text{O}$; $\text{Na}_3\text{SbO}_4 \cdot 6\text{H}_2\text{O}$ and Na_3SbO_4 . The crystallization zones of these salts depend on the concentration

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The Solubility Isotherms of the System $\text{Na}_2\text{O}-\text{H}_2\text{O}-\text{Sb}_2\text{O}_5$ at 25 and 75° SOV/78-4-2-29/40

of caustic soda. The salt $\text{NaSbO}_3 \cdot 1.5\text{H}_2\text{O}$ crystallizes difficultly. In this system the following salts crystallize at 75°: $\text{NaSbO}_3 \cdot 3\text{H}_2\text{O}$; $\text{Na}_3\text{SbO}_4 \cdot 6\text{H}_2\text{O}$ and Na_3SbO_4 . The existence of these salts also depends on the concentration of caustic soda. Upon investigation of the solubility of newly produced sodium antimoniate the salt showed comparatively great solubility in the concentration range of caustic soda from 40-49 weight % NaOH at 75°. There are 4 figures, 7 tables, and 5 references, 1 of which is Soviet.

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SUBMITTED: November 22, 1957

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5(2)

SOV/78-4-10-32/40

AUTHORS:

Urazov, G. G. (Deceased), Lipshits, B. M., Lovchikov, V. S.

TITLE:

Isotherms of Solubility in the System $\text{Na}_2\text{O} - \text{H}_2\text{O} - \text{SnO}_2$ at 25 and 75°

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 10, pp 2380 - 2383 (USSR)

ABSTRACT:

On refining lead by means of alkali an oxidation of tin occurs which passes over into the melt. In order to obtain the tin from the melt, the composition of the sodium salts of stannic acid and their solubility in sodium hydroxide must be known. To obtain these data, the system $\text{Na}_2\text{O} - \text{H}_2\text{O} - \text{SnO}_2$ was investigated. The results are given in tables 1 and 2 and figures 1-3. At 25° and a concentration of NaOH between 10.95 - 36.9 wt% the salt $\text{Na}_2[\text{Sn}(\text{OH})_6]$ crystallizes. At 75° this salt crystallizes in the concentration range of NaOH between 20.74 - 45.88 wt%. At NaOH concentrations between 49.98 - 68.88 wt% the salt $\text{Na}_3[\text{Sn}(\text{OH})_7]\text{H}_2\text{O}$ is stable. At both temperatures the increasing NaOH-concentration involves a decreasing solubility of the stannate. The following practical conclusions are drawn from the afore-mentioned: The melts of the alkaline lead refining can be granulated in a solu-

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at 25 and 75°

tion with 35% NaOH. There the tin forms the well filterable salt $\text{Na}_2[\text{Sn}(\text{OH})_6]$. An increase of the sodium hydroxide concentration must be avoided because of the formation of a viscous pulp. The slime obtained by granulation of the melt can be filtered in hot state since the solubility of the sodium stannate in concentrated sodium lye is practically independent on temperature. The filter cake from sodium stannate must be washed with an alkaline solution, since it hydrolyzes with pure water. If it contains sodium antimonate, the sodium stannate can be separated from it by dissolving it by means of Ca-free water. There are 3 figures, 2 tables, and 4 references, 1 of which is Soviet.

SUBMITTED: July 11, 1958

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5(2)

SOV/80-32-5-11/52

AUTHORS: Urazov, G.G., Lipshits, B.M., Lovchikov, V.S.

TITLE: The Effect of Table Salt on the Solubility of Sodium Antimonate, Stannate and Arsenate in Aqueous Solutions of Caustic Soda

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 5, pp 995-997 (USSR)

ABSTRACT: The investigation of the oxidation process of arsenic, tin and antimony has shown that table salt, which is used in the refining of lead, does not take part in the reactions, decreases the chemical activity of alkali melts and increases the time needed for oxidation. Experiments are made here using caustic soda (purified of sodium carbonate), chemically pure sodium chloride and especially prepared sodium antimonate, arsenate and stannate. The solubility of sodium antimonate in water at 25°C is 0.10% at 75°C - 0.58%. Table salt decreases the solubility. The principal effect being obtained by caustic soda, the presence of table salt in the solution is unnecessary. At a content of 350 g/l NaOH the effect of sodium

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carbonate which reduces the solubility of sodium antimonate, is cancelled. Table salt decreases also the solubility of sodium stannate. At the mentioned content of NaOH the effect is not observed. The same effect is observed with sodium arsenate. The temperature is very important. On cooling sodium arsenate does not precipitate, but forms a crystalline structure. There are: 3 tables and 1 Soviet reference.

SUBMITTED: April 14, 1958

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