25(1,5) PHASE I BOOK EXPLOITATION SOV

Moscow. Dom nauchno-tekhnicheskoy propagandy imeni F.E. D[illegible]

Novoye v tekhnologii vysokoproizvoditel'noy listovoy shtampovki; sbornik trudov konferentsii (New Features in the Methods of High-productivity Sheet Metal Stamping; Collection of Conference Transactions) Moscow, Mashgiz, 1959. 228 p. 8,000 copies printed.

Sponsoring Agency: Obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy RSFSR.

Resp. Ed.: V.T. Meshcherin, Doctor of Technical Sciences, Professor; Eds.: V.D. Golovlev, Candidate of Technical Sciences, Docent, and Ye.N. Lanskoy, Candidate of Technical Sciences, Docent; Ed. of Publishing House: G.N. Sokolev; Tech. Ed.: B.I. Model'; Managing Ed. for Literature on Heavy Machine Building (Mashgiz): S.Ya. Golovin, Engineer.

PURPOSE: This collection of papers is intended for engineers and technicians in sheet metal stamping. It may also be useful to

Card 1/9

New Features (Cont)

students of vuzes and tekhnikums.

COVERAGE: This collection deals with the design and features of some current problems in sheet metal stamping. Also discussed are processing methods still in the experimental stage. Several articles deal with the mechanization and automation of stamping processes and describe recently developed methods, such as explosion forming, the use of automatic rotary transfer lines, and press blocking with the use of radioactive isotopes. personalities are mentioned. References follow several the articles.

TABLE OF CONTENTS:

New Features (Cont.)

The author discusses labor productivity, shapes of work-pieces, the materials used, stamping operations and technique, production lines, working speed, and the correct meaning of basic operational time.

Pikhtovnikov, R.V. [Doctor of Technical Sciences, Professor, Kharkovskiy aviatsionnyy institut (Khar'kov Aircraft Institute)].
Use of an Explosive Wave for Drawing and Forming Medium and Large Parts in Small-scale Production

The author discusses experimental fabrication of shallow dish-type parts of an explosive wave caused by gunpowder, gasoline, or natural gas.

Koshkin, L.N. [Candidate of Technical Sciences]. New Possibilities in the Development of Sheet Metal Stamping in Connection With the Use of Automatic Rotary Transfer Machines

Mechanical and hydraulic rotary transfer machines are described. The flexibility of these machines allows facility of control, inclusion of chemical and heat treatment in the process, and smooth transition into fully automatic lines.

Card 3/9

New Features (Cont.)

Freydlin, A.Ya. [Candidate of Technical Sciences, Gor'kovskiy avtozavod (Gorkiy Motor Vehicle Plant)]. Problem of Increasing the Number of Strokes on Presses

The importance of the speed of deformation in [illegible] of metals is mentioned, and the effect of this speed on the behavior of metals during [illegible] operation is discussed. Information on the [illegible] and design of different types of presses is presented.

Lashenkov, Ye.I., [Candidate of Technical Sciences]. Basis for Selection of Lubricants for High-productivity Sheet Metal Forming

The influence of friction forces on the course of the forming process is explained. Distribution of pressure and its relation to lubrication is described. The [illegible] hydrodynamic [wedge film] lubrication is discussed; formulas for forces and stresses in the drawing process are derived; and the effect of temperature increases on the viscosity of lubricants is treated.

Card 4/9

New Features (Cont.)

Gorbunov, M.N. (Candidate of Technical Sciences, Docent, Aviatsionno-tekhnologicheskiy Institut, Moskva (Moscow Aviation Technology Institute)). Significance of Local Heating of Blanks in Increasing the Productivity of Sheet Metal Stamping

Distribution of stresses and temperatures during local heating in the deformed zone of tabular workpieces is analyzed. Formulas are presented.

Solov'yev, S.D. (Engineer, Zavod imeni Semashko, Moskva (Moscow Plant imeni Semashko)). Significance of Tubular Blanks and Local Annealing in Reducing Man-hours in Forming Operations

Advantages of using tubular blanks in making thin-walled shell-type parts by reducing and bulging operations are discussed. Local preheating for bulging is accomplished by heating the punch. Special features and the Efficiency of this method are also discussed.

Shalenko, F.P., (Candidate of Technical Sciences, Docent,

Card

New Features (Cont.)

Politekhnicheskiy Institut, g. Gor'kiy (Gor kiy Polytechnical Institute)]. Special Features of Planning With an Increased Number of Strokes

The author describes research done on this process in the cold-stamping department of the "[illegible]" plant and the laboratory of the Department of Machinery and Metal Forming, GPI imeni A.A. Zhdanov. A.A. Samoylov, department head, and N.S. Gilevich, process engineer, took part in the investigations made at the "[illegible]" Plant, and Y.V. Semenov, Candidate of Technical Sciences, participated in the work done at GPI. The article describes changes in punch and die dimensions and clearances in relation to changes in the number of strokes per minute and the number of parts cut out. Optimum clearances, minimum resistances, punching forces and energy consumption at various working speeds are discussed.

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New Features (Cont.) 194

Artes, A.E. [Engineer, Moscow Machine Tool and Instrument Institute]. Press Blocking With the Use of Radioactive Isotopes 148

The article presents information on the use of beta-radiation to stop presses in processes where two or more blanks are being fed, and on the principle of operation and the description of a beta-ray electronic relay. Suggestions for placing the emitter and receiver are given, and safety measures are discussed.

Artem'yev, S.I. [Engineer, Gor'kiy Motor Vehicle Plant]. New Features in the Automation of Sheet Metal Stamping at the Gor'kiy Motor Vehicle Plant 160

The article discusses devices for automatic removal of formed parts from the press, devices for automatic feeding of sheet metal into the die, and devices for complete automation of the forming process.

Card 7/9

New Features (Cont.)

Konovalova, I.I. [Engineer, Zavod "Metalloizdeliye", Leningra
(Leningrad Metal Products Plant)]. Transfer Machines for Making Safety-razor Blades

Fabricating processes and machinery for automatic lines are described, and information on tool life, heat treatment, grinding, and packing of blades is given.

Lanskoy, Ye.N. [Candidate of Technical Sciences, Docent, Moscow Machine Tool and Instrument Institute]. Selection of a Crank Press for Required Force and Work Parameters

The author discusses flywheel effect, the meaning of nominal force (capacity), the magnitude of force at various angles of the crank, the work delivered by motor and flywheel, and the work of deformation. Recommendations for selecting the proper press for a given stamping operation are presented.

AVAILABLE: Library of Congress

Card 9/9

GO:ajr
10-21-59

VOROB'YEV, S.A., kand.tekhn.nauk, otv.red.; KONOVALOV, A.I., inzh., red.; MAKARENKO, V.P., inzh., red.; MIKHEYEV, M.V., inzh., red.; NOVIKOVA, N.T., inzh., red.; PIKHTOVNIKOV, R.V., prof., red.; POLLOZHENOV, P.M., inzh., red.; SEMKO, M.F., prof., red.; TOROPOV, A.I., inzh., red.; TSERKOVNYY, I.M., inzh., red.; CHERKASHIN, I.P., inzh., red.; SHEVCHENKO, M.G., tekhn.red.; LIMANOVA, M.I., tekhn.red.

[Mechanization and automation of production processes; proceedings of the city technical conference] Mekhanizatsiia i avtomatizatsiia proizvodstvennykh protsessov; sbornik materialov gorodskoi tekhnicheskoi konferentsii. Khar'kov, Khar'kovskoe knizhnoe izd-vo, 1959. 295 p. (MIRA 13:1)

1. Kommunisticheskaya partiya Ukrainy. Khar'kovskiy gorodskoy komitet. 2. Nachal'nik Ukrainskoy proyektno-konstruktorskoy kontory "Prommekhanizatsiya" (for TSerkovnyy).
(Automation) (Technological innovations)

L 03210-67 EWT(m)/EWP(t)/ETI/EWP(k) IJP(c) JD/HW/JT

ACC NR: AP6027486 (N) SOURCE CODE: UR/0418/66/000/003/0005/0008

AUTHOR: Pikhtovnikov, R. V. (Doctor of technical sciences)

ORG: None

TITLE: Industrial experience and future developments in explosive sheet forming

SOURCE: Tekhnologiya i organizatsiya proizvodstva, no. 3, 1966, 5-8

TOPIC TAGS: metal forming, reliability, explosive forming, explosive charge, detonation

ABSTRACT: The author describes various types of explosive forming units and their recent improvements. Among these is the use of a perforated pipe placed around the perimeter of a water container and pumping compressed air through the pipe at the moment of explosion thus forming an air curtain and relieving the pressure on the metal casing of the container by 40-50%. This practice makes it possible to use thinner walls for the containers and improve their reliability. Another development which is discussed by the author is the use of a sloping container wall for placing dies within the container. A dolly takes a die, weighing from 40 to 70 tons, along the sloping walls to the bottom of the container and passes over a concrete column. The dolly is lowered by several centimeters until its bottom rests on the column. Thus the force of the explosion is transmitted from the die to the floor of the container by the dolly

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UDC: 621.73.034

L 06370-67
ACC NR: AP6027486

and the concrete column. Such a procedure speeds up explosive forming and makes it possible to handle parts up to 30 mm in thickness. Studies have shown that the use of the multiple impact method is very efficient in small-scale and mass production of parts. Its main advantage is that it eliminates extreme impact on container walls by using successive small charges for forming parts. Experience has shown that explosives with slow detonation are better suited for explosive forming. The use of slow detonation explosives produces a smaller peak load and effective explosion time is longer. It is recommended that ammonite should be used under industrial conditions instead of RDX or TNT. The reverse forming method is considered for large parts and the microbasin method for production of small parts. The microbasin method consists of placing a charge in a polyethylene bag with water on top of the part to be formed. Hot sheet explosive forming is also considered. This method is applied mainly to heavy gauge alloy steel sheets which cannot be formed by plastic deformation in the cold state. Orig. art. has: 5 figures, 1 formula.

SUB CODE: 13/ SUBM DATE: None

Card 2/2

PIKHTOVNIKOV, R.V., doktor tekhn. nauk; VOLKOV, A.I.

Explosive forming of sheet metal. Mashinostroitel' no.11:22-25
N '64 (MIRA 18:2)

L 16481-65 EWT(m)/EWA(d)/EWP(t)/EWP(k)/EWP(b) Pf-4 JD/HW

ACCESSION NR AM4045988 BOOK EXPLOITATION S/

Pikhtovnikov, R. V.; Zav'yalova, V. I.

Explosive forming of sheet metal (Shtampovka listovogo metalla vzryvom), Moscow, Izd-vo "Mashinostroyeniye", 1964, 173 p. illus., biblio. Errata slip inserted. 4,000 copies printed.

TOPIC TAGS: explosive metal forming

PURPOSE AND COVERAGE: The book presents methods of calculating and designing technological processes and equipment. It describes the processes of explosive forming of sheet metal. The materials in the book are published for the first time in a systematized form. The book is intended for engineers, technicians, foremen working in sheet metal forming.

TABLE OF CONTENTS:

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L 16481-65
ACCESSION NR AM4045988

SUB CODE: MM SUBMITTED: 14Feb64 NR REF SOV: 038

OTHER: 002

Card 2/2

L 20213-65 EWI(m)/EWA(d)/EWP(t)/EWP(k)/EWP(b) Pf-4 ASD(m)-3 JD/HW
ACCESSION NR: AP4049462 S/0117/64/000/011/0022/0025

AUTHORS: Pikhtovnikov, R. V. (Doctor of technical sciences); Volkov, A. I.

TITLE: Explosive forming of sheet metal

SOURCE: Mashinostroitel', no. 11, 1964, 22-25

TOPIC TAGS: explosive forming, sheet metal forming, metal forming

ABSTRACT: Explosive forming of sheet metal using different combustible products and fluids to transmit the forming energy is discussed briefly. Explosive forming using high energy explosives and water to transmit the blast wave is treated in more detail. The following working equations are given (without derivation) for an explosive-forming apparatus similar to the one shown in Fig. 1 on the Enclosure using protyl explosive: the pressure for a concentrated (spherical) charge is given by

$$p_m = 530\left(\frac{\frac{1}{3}}{\frac{Q}{R}}\right)^{1,09} \text{ kg/cm}^2 \text{ [кг/см}^2\text{]},$$

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for a linear charge by

$$p_m \approx 720\left(q^{\frac{1}{2}}\frac{1}{R}\right)^{0,72} \text{ kg/cm}^2 \text{ [kz/cm}^2\text{]},$$

(where Q = charge weight in kg, g = weight per unit length in kg/m, R = distance from charge to metal blank). The pressure at a point as a function of time is

$$p = p_m e^{-t/\theta},$$

where

$$\theta = 0,07 \cdot 10^{-3} Q^{\frac{1}{3}}\left(\frac{R}{Q^{\frac{1}{3}}}\right)^{0,17} \text{[sec]} \quad \text{and} \quad \theta = 0,10 \cdot 10^{-3} q^{\frac{1}{2}}\left(\frac{R}{q^{\frac{1}{2}}}\right)^{0,63} \text{[sec]}$$

for a concentrated and linear charge respectively. In water, the energy transfer is given by

$$E_1 = 95\frac{Q}{R^3}, \qquad E_1 \approx 180 q^{\frac{1}{2}}\left(\frac{1}{q^{\frac{1}{2}}R}\right)^{0,99}$$

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ACCESSION NR: AP4049462

and the weight of the required explosive is

$$Q = \left[\frac{a_p \delta_0 R^{1,5}}{1-\nu^2} N\right]^{0,8} [kg]; \quad q = \left[\frac{a_p \delta_0 R^{0,55}}{1-\nu^2} M\right]^{0,8} [kg/m]$$

where $a_p = A/F$; A = total deformation energy (cm); F = wetted surface of blank (cm^2); δ_0 = thickness of metal sheet; N and M = coefficients depending on metal properties; V = wave reflection coefficient. A table of N, M and V is presented. The total deformation energies A required for producing cylindrical and spherical shapes are derived in terms of geometrical parameters and a number of tabulated constants. Orig. art. has: 21 formulas, 7 figures, and 2 tables.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 01

SUB CODE: IE, MM NO REF SOV: 000 OTHER: 000

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L 20213-65
ACCESSION NR: AP4049462

ENCLOSURE: 01

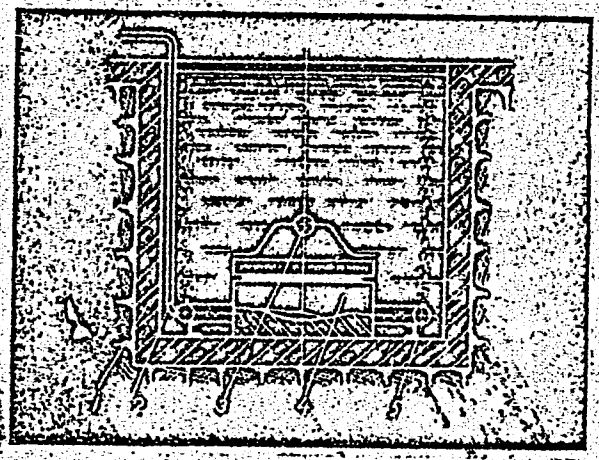

Fig. 1. Basin with bubble shield for the walls:

1- basin wall; 2- air tubing; 3- explosive; 4- die;
5- collector with perforations.

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S/137/61/000/012/113/149
A006/A101

AUTHORS: Lysenko, M.D., Pikhtovnikova, L.R.

TITLE: Ultrasonic control of weld joint quality in pipelines

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 12, 1961, 67. abstract 12E416 (V sb. "Energ. str-vo", 1 (II), Moscow-Leningrad, 1959, 116 - 120)

TEXT: Information is given on a method of ultrasonic control of high-pressure pipeline welded butts. The method was proposed by TsNIITMASh and improved by the laboratories of the "Donbassenergo" administration and the "Teploenergomontazh" Trust. It is intended for pipes with 12-40 mm thick walls. The metallographical evaluations are in a 85% agreement with ultrasonic flaw detection. The ultrasonic method makes it possible to reveal the most dangerous defects such as cracks, and to observe the development of defects during operation. It is most efficient.

Ye. Terpugov

[Abstracter's note: Complete translation]

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18 8100 2708

85137

S/104/60/000/009/001/005
E073/E335

AUTHOR: Pikhtovnikova, L.R., Engineer

TITLE: Ultrasonic Quality Control of Welded Joints by the Immersion Method

PERIODICAL: Elektricheskiye stantsii, 1960, No. 9, pp. 13 - 16

TEXT: In the first part of the paper the disadvantages of direct-contact methods of ultrasonic inspection are discussed, the main one being that only a fraction of the generated ultrasonic energy penetrates into the component By immersion into a liquid the loss of ultrasonic energy can be reduced very considerably. Particularly, provision of a local thin liquid layer is advantageous, the function of which is solely to act as an acoustic contact medium. In particular, the merits of a system described in the USA patent No. 2852707, 1958, of C.G. Kaehms are emphasised. In this system the dip probe can operate in the horizontal as well as in the vertical position or through a stream of liquid which carries ultrasonics into the component to be investigated. On the basis of these ideas equipment was designed for detecting defects in weld joints

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S/104/60/000/009/001/005
E073/E335

Ultrasonic Quality Control of Welded Joints by the Immersion Method

of high-pressure steam piping (273 x 30 mm). The system consists essentially of a water container with a hollow bottom (the bottom is formed by the section of the pipe surface) which is pressed onto the pipe to be investigated. This water container also contains two dip probes. The equipment is designed for use on pipes of diameters exceeding 133 mm and there are certain components which have to fit the particular pipe diameter. The entire system is designed so that it can move along the whole circumference of the pipe. Reciprocal movement is effected by means of a semi-mechanised system. The angle of the dip probes can be varied between 30 and 50° to the vertical, which enables searching for defects in all the necessary directions. The system enables semi-automatic detection of defects in weld joints of piping. The obtained oscillograms are similar to that obtained in contact ultrasonic defectoscopy work. However, in the case of the immersion method, there are one or two

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S/104/60/000/009/001/005
E073/E335

Ultrasonic Quality Control of Welded Joints by the Immersion Method

additional pulses which are reflected from the top surface of the component. In an editorial note it is mentioned that the contents of the article prove that quite a lot of work has still to be done in perfecting this method of "immersion" with the use of very small quantities of liquid.
There are 3 figures and 3 references 1 German and 2 Soviet

Card 3/3

PIKHTOVNIKOVA, L.R., inzh.

Ultrasonic checking of welded junctions by use of a method which involves immersion. Elek. sta. 31 no.9:13-16 S '60. (MIRA 14:10)
(Pipelines—Welding)
(Ultrasonic testing)

LYSENKO, M.D.; PIKHTOVNIKOVA, L.R.

Methods for ultrasonic determination of the character of defects in welded joints of pipes and cast parts of steam supply lines. Zav.lab. 25 no.7:816-818 '59. (MIRA 12:10)

1. Gosudarstvennyy trest "Teploenergomontazh".
(Welding--Testing)

28 (5)

AUTHORS: Lysenko M D Pikhtovnikova, L. R. SOV/32-25-7-

TITLE: Ultrasonic Method for Determining the Character of Defects in Welding Seams of Tubes and Cast Pipes for Steam Conduction (Metodika opredeleniya ul'trazvukom kharaktera defektov v svarnykh soyedineniyakh trub i litykh detaley paroprovodov)

PERIODICAL: Zavodskaya laboratoriya 1959 Vol 25, Nr 7 pp 8[illegible] (USSR)

ABSTRACT: A comparison was made between the oscillograms obtained by the crack detector (CD) during the ultrasonic control of faulty welding seams of high pressure pipes, and the appearance of defects metallographically found after cutting the welding seams. About 100 samples with different faults were examined. Ultrasonic control was carried out with (CD) UZD 7N according to the method of the TsNIITMASh (Ref 1) and by means of prismatic feeler gauges (FG) under an angle of 40°. The samples of steel 20, 12KhM and 12KhMF were examined at frequencies of 1.8 megacycles. The method of examination consisted in principle in the fact that ultrasonics either were completely reflected by the faulty point which caused an impulse or it was

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Ultrasonic Method for Determining the Character of Defects in Welding Seams of Tubes and Cast Pipes for Steam Conduction

SOV/32-25-7-[illegible]/[illegible]

only partly reflected, so that a ray of the gasket was reflected and two impulses occurred on the screen. Points not welded through, or enclosed slags caused further impulses. From the explanations of the obtained oscillographs the fact results that a "splitting" of impulses into several small impulses indicates the presence of cracks in the welding seam. The test method described in the present paper was applied for the control of welding seams in steam pipes and tubes with walls 18 - 36 mm thick. There are 2 figures and 1 Soviet reference

ASSOCIATION: Gosudarstvennyy trest "Teploenergomontazh" (State Trust "Teploenergomontazh")

Card 2/2

LYSENKO, M.D., inzh.; PIKHTOVNIKOVA, L.R., inzh.

Ultrasonic control of welded pipe joints. Energ. stroi. no.1:116-120 '59. (MIRA 13:2)

1.Trest "Teploenergomontazh".
(Pipe--Welding)
(Ultrasonic waves--Industrial applications)

PIKHU, E. R.

Cand Biol Sci - (diss) "Propagation of commercial fishes of Lake Vyrts'yarv." Tartu, 1961. 19 pp; 2 pp tables; (Academy of Sciences Estonian SSR, Division of Biological and Medical Sciences); 300 copies; free; list of author's works on p 19 (11 entries); (KL, 5-61 sup, 185)

S 254 62 000 007 002 003
I025 1225

AUTHOR Pikhtovnikov, R.

TITLE Treatment of metals by explosion

PERIODICAL Nauka i zhittya, no. 7, 1962, 13 14

TEXT: A procedure to replace the usual method of pressing, hammering etc is for the apparatus, containing the matrix, the object of stamping, and the plate on which it reposes etc. to be submerged in a reservoir full of water. An explosion is then made with a high-explosive, the shock-wave producing a perfect stamping Between the object and the matrix there must be vacuum. Advantages noiseless, gases are dissolved in the water and the atmosphere is not polluted, elimination of accidents to service personnel and people in the vicinity The matrix can be of any size, allowing stamping of large objects The installation is not expensive, as the pressure can reach 200 atmospheres It is very effective in cutting iron plates A combination is made of a gun serving for explosion with two knives, above and below the object Another application of importance is the drilling of holes in sheets, ships etc Also applicable in machine construction

Card 1/1

KOROTICH, A.S., dotsent; SHCHERBAK, Yu.N., nauchnyy sotrudnik; KONONYUK, G.Ya.; PIKHULYA, K.F.; ROTOV, I.V., kand. veter. nauk; LEDIN, V.Ye.; KURAKINA, T.A.

Analysis of the vaginal mucus in cattle as a method for diagnosing brucellosis. Veterinariia 39 no.10:78-86 O '62. (MIRA 16:6)

1. Kiyevskiy nauchno-issledovatel'skiy institut epidemiologii i mikrobiologii (for Korotich, Shcherbak). 2. Donetskaya oblastnaya veterinarno-bakteriologicheskaya laboratoriya (for Kononyuk). 3. Donetskaya oblastnaya sanitarno-epidemiologicheskaya stantsiya (for Pikhulya). 4. Dal'nevostochnyy nauchno-issledovatel'skiy veterinarnyy institut (for Rotov). 5. Respublikanskaya veterinarno-bakteriologicheskaya laboratoriya Ministerstva sel'skogo khozyaystva UkrSSR (for Ledin). 6. Zaveduyushchaya serologicheskim otdelom L'vovskoy oblastnoy veterinarno-bakteriologicheskoy laboratorii (for Kurakina).

(Brucellosis in cattle)
(Vaginal smears)

PIKHURKO, S.V. (L'vov, ul. Lysenko, d.46, kv.8)

Calculous anuria; based on material from Lwov Medical Institute. Nov.khir.arkh. no.2:18-20 Mr-Ap '58 (MIRA 11:6)

1. Kafedra urologii (zav. - dots. M.B. Plastunov) L'vovskogo meditsinskogo instituta.
(URINE--RETENTION)
(CALCULI, URINARY)

L 29921-65
ACCESSION NR: AP5003855 S/0106/65/000/001/0067/0072

AUTHOR: Agapov, M. V.; Pikhuta, A. V. #B

TITLE: Enhancing the efficiency of a semiconductor voltage stabilizer with a parallel regulating element

SOURCE: Elektrosvyaz', no. 1, 1965, 67-72

TOPIC TAGS: voltage stabilizer, semiconductor voltage stabilizer

ABSTRACT: Characteristics of semiconductor voltage stabilizers with a parallel-connected reactive-ballast impedance are considered. The circuits are suitable for output voltages under 40—50 v and slightly fluctuating load currents. Formulas for the overall efficiency of a stabilized rectifier with a resistance, an inductance, or a capacitance as the ballast element are developed. The voltage stabilization is possible without any ballast element, using the internal impedance of the rectifier instead. A reactive ballast element enhances the overall

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L 29921-65
ACCESSION NR: AP5003855

efficiency. Orig. art. has: 5 figures and 13 formulas.

ASSOCIATION: none

SUBMITTED: 02Jan64 ENCL: 00 SUB CODE: EC

NO REF SOV: 003 OTHER: 000

Card 2/2

AGAPOV, M.V.; PIKHUTA, A.V.

Protection of the transistors of transistor voltage stabilizers using silicon stabilotrons. Elektrosviaz' 18 no.3:38-51 Mr '64. (MIRA 17:4)

BOJ, Ewa; PIKIEL, Leonard

Contribution to pathogenesis of endocardial fibroelastosis in children. Acta biol. med. (Gdansk) 8 no.1:1-9 '64

1. Z Zakladu Anatomii Patologicznej Akademii Medycznej w Gdansku (Kierownik: prof. dr. Wilhelm Czarnocki).

TENCZYNSKI, Leon, MALECKA-DYMINCKA, Stanislawa; NIELUBSZYC, Stanislaw, PIKIEL, Leonard.

Three cases of endocardial fibroelastosis in adolescents. Pol. arch. med. wewnet. 34 no.3:373-382 '64

1. Z II Kliniki Chorob Wewnetrznych AM w Gdansku (kierownik: prof.dr.med. J.Person); z I Kliniki Chorob Dzieciecych AM w Gdansku (kierownik: prof. dr.med. K.Ereciński) z Zakladu Anatomii Patologicznej AM w Gdansku (kierownik: prof.dr. med W.Czarnocki [deceased]).

*

KONOPA, Jerzy; LEDOCHOWSKI, Zygmunt; NAZA[illegible]WICZ, Tere[illegible]; FALKOWSKI, Le[illegible]; STENZEL, Jan; PIKIEL, Leonard

Studies on antineoplastic properties of Poria obliqua. I. General data and in vitro studies. Nowotwory 11 no.3/4:3 3-400 '61.

1. Z Katedry Technologii Srodkow Leczniczych Politechniki Gda[illegible] Kierownik: prof. dr Z. Ledochowski Z Zakladu Anatomii Patologicznej Akademii Medycznej w Gdansku Kierownik: prof. dr med. W. Czarnecki Z Pracowni Nr 8 Zakladu Syntezy Organicznej PAN w Gdansku [illegible] Kierownik: prof. dr Z. Ledochowski.
(ANTINEOPLASTIC AGENTS pharmacol) (FUNGI)

NAZAREWICZ, Teresa; LEDOCHOWSKI, Zygmunt; KONOPA, Jerzy; STRZEL, Jan; PIKIEL, Leonard; FALKOWSKI, Leonard; WIŚNIEWSKI, Henryk

Studies on antineoplastic properties of Poria obliqua II. Studies on the effect of Poria obliqua on the growth of transplanted tumors in animals. Nowotwory 11 no.3/4:401-411 '61.

1. Z Zakładu Anatomii Patologicznej Akademii Medycznej w Gdańsku Kierownik: prof. dr med. W. Czarnocki z Katedry Technologii Środków Leczniczych Politechniki Gdańskiej Kierownik: prof. dr Z.Ledochowski i z Pracowni Nr 8 Zakładu Syntezy Organicznej Polskiej Akademii Nauk Kierownik: prof. dr Z. Ledochowski.
(ANTINEOPLASTIC AGENTS pharmacol) (FUNGI)

[redacted]

[redacted] Pat. Pol. [redacted]

1. Z Zakładu Anatomii Patologicznej Akademii Medycznej [redacted]
(Kierownik: prof. dr. med. W. Czarnecki [deceased]).

[redacted]

PIKIELNY, Jerzy

A congress in Munich on the processing of information.
Pomiary 9 no.1:40 Ja '63.

PIKIELNY, Jerzy, mgr inz.

Simple criteria for the quality of automatic control systems.
Pomiary 8 no.12:552-553 D '62.

[illegible] 000/012/[illegible]

AUTHOR: [illegible] Engineering

TITLE: [illegible] automatic control system

PERIODICAL: [illegible], no. 12, 1962, 552-5[illegible]

TEXT: The [illegible] view of automatic control system error criteria [illegible] transient overshoot and settling time. The perfor[illegible] as introduced by R.N. Burns for a single point nonlinear [illegible] Natl. Electronics Conf., v. 8, 1952, 22) is [illegible] is stated to be rather primitive and non-selective [illegible] so when applied to higher order systems. The author [illegible] a new performance criterion, of the overshoot area [illegible] type [illegible] = $t_{e\ max}\ x^2_{max}\ (te_{max})$, where $t_{e\ max}$ is the instant of [illegible] overshoot. He states that the "weighting" results in a smaller overshoot and that this criterion, being more selective, is nevertheless as simple as S_1. The criter-

Card 1/2

Simple performance criteria ... S/034/62/000/012/001/002
D201/D308

ion S_2 is used for the [illegible] of the normalized damping coefficient of a 2nd [illegible], the result differing little from those obtained by other methods. There are 9 figures.

Card 2/2

27025
P/021/61/000/008/002/002
D250/D302

9,7000

AUTHOR: Pikielny, J.

TITLE: Applying a differential equation analyzer for tests of automatic regulation processes

PERIODICAL: Przegląd elektrotechniczny, no. 8, 1961, p 343-345

TEXT: The article describes transformations necessary in preparing a differential equation for solution with the aid of a differential equation analyzer, gives a calculation example of a turbine revolution speed regulation system and lists the preparation and calculation procedures with the ARR electronic analyzer. The principles of preparing a problem for solution by means of the ARR are discussed. The ARR (differential equation electronic analyzer) has been in operation at the Zakład aparatów matematycznych Polskiej Akademii Nauk (Computer Department of the Polish Academy of Sciences) since June 1954. In the ARR the independent variable is time t. Each dependent variable produces a voltage line on the screen of an oscilloscope, whose grid permits

Card 1/5

Applying a differential...

the reading of numerical values of a function. The maximum voltage change permitted by distortion constitutes a unit of the dependent variable of the analyzer. On the screen, this corresponds to a line distant 10 cm from the zero level. The voltage changes periodically; the change period is T + τ ; the T interval facilitates proper solution of the equation. A 20 cm section on the screen corresponds the interval T. The machine is prepared for the next solution in intervals τ. Transformation of the independent variable: Assuming that T t, the time unit of the machine equals a time unit of the equation. In order to extend or reduce the time interval of the solution observation, the following transformation is performed: T α_t t (1) where α_t is the dimensional coefficient of the time scale with the dimension machine time unit Assuming the designations. equation time unit.

$$p = \frac{d}{dt} \qquad (2)$$

$$P = \frac{d}{dT}$$ the relation is

obtained

Card 2/5

Applying a differential...

$p = \frac{d}{dt} = a_t \frac{d}{dT} = a_t P$ (3) Examples: if u = 20, then pu = 20; if T = 10t, then 10 Pu = 20 or Pu=2. Transformation of the dependent variable. Apart from the time scale, the dependent variable must be transformed according to the following formula: $R = a_r r$ (4) On equation recording in machine language, the ARR is capable of solving such differential equations which can be set apart with respect to the highest derivative and which can be recorded with the aid of the ARR operations. The ARR has addition, integration and multiplication circuits and function generators which facilitate the performance of complex and non-linear functions. On the choice of time scale and scale coefficients, the choice of the time-scale coefficient depends on the period of time in which the solution is to be observed. The scale coefficient is selected according to the rule $a_r \leq \frac{1}{\text{maximum expected value } /r/}$ The maximum factor at the output of the integration circuit in the ARR is

Card 3/5

Applying a differential...

250. The ARR is equipped with a photoelectric function generator. In order to perform the dependence y =/x/, when for instance x - sin Z, it is necessary to cut out a y = /x/ shaped blind, where "x" is a linear function, and then accomplish superposition in such a way that potentials, whose difference is proportional to sin Z are applied to "x" axis plates deflection. Initial conditions of a differential equation are set directly on proper integration systems. The addition and integration systems work with an accuracy of about 0.5%; the multiplication systems and photoelectric function generators with an accuracy of the order of 1%. An example of ARR application for turbine regulation system tests is given. The principles of calculation procedures with the ARR can be determined as follows: a) The equation of the investigated system's dynamics is presented in a non-dimensional form; it is made sure that all coefficients are within the limits of c[illegible] a [illegible] 1. If not, they are divided by the largest of them. b) The independent variable is properly transformed and time scale chosen. It is ensured that all equation coefficients meet the conditions of point a) above. c) The

Card 4/5

Applying a differential...

equation is recorded in machine language. d) An appropriately shaped blind is prepared for the function generator. e) The circuits are linked according to the scheme obtained in the equation record in machine language. f) Observation of the oscilloscope screen. There are 9 figures.

Card 5/5

PIKIELNY, J.

Application of the analyser of differential equations for studying automatic control processes. Przegl elektrotechn 37 no.8:343-345 '61.

(Automatic control)

POLAND/Radio Physics - General

Abs Jour : Ref Zhur - Fizika, No 8, 1958, No 18553

Author : Pikielny J.
Inst : Not Given
Title : Determination of Self-Oscillations by Means of the Harmonic Linearization Method

Orig Pub : Prace Przemysl. inst. teledomun., 1957, 8, No 22, 15-24

Abstract : A method is developed for the linearization of the nonlinear equations self-oscillation as applied to nonlinear problems in automatic regulation. This method follows from the asymptotic methods of Krylov and Bogolyubov. The physical interpretation of the method is given, and specific examples are discussed.

Card : 1/1

PIKIELNY. J.

Modern trends in the development of automatic control systems; nonlinear systems. p.482 (POMIARY, AUTOMATYKA, KONTROLA, Vol. 2, No. 12, Dec. 1956, Warsaw, Poland)

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

L 38158-65 EWT(d)/EWT(l)/EWP(v)/EWP(k)/EWP(h)/EWP(l)/EWA(h) Pf-4/Pe
ACCESSION NR: AT5006318 P/2507/64/014/045/0053/0060

AUTHOR: Krupa, W. (Krupa V.); Pikielny, J. (Pikielny, Ye.)

TITLE: A digital pseudoquadratic extrapolator

SOURCE: Warsaw. Przemyslowy Instytut Telekomunikacji. Prace, v. 14, no. 45, 1964, 53-60

TOPIC TAGS: digital control system, digital integrator, extrapolator, interpolation

ABSTRACT: An extrapolator is defined as a pulse element with memory which performs the mathematical function of extrapolation. A new extrapolation method is proposed, the so-called pseudoquadratic method, as a basis for constructing such an extrapolator after examining the most frequently used methods based on Newton's interpolation formula, Taylor's series and the least square method. The essence of the proposed method is extrapolation in segments in such a way that the error at the end of an extrapolation segment is equal to zero when the extrapolation function is a quadratic. In this case, the maximum error occurs at the midpoint of the segment and is equal to 1/4 the coefficient of x^2 (where x is the independent variable in the extrapolated function). Extrapolation in each segment begins

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ACCESSION NR: AT5006318

from a real value of the extrapolated function. A schematic diagram is given for such an extrapolator with a digital integrator. The operation and method of using the device is explained. The extrapolator is recommended for use in digital control systems and it is claimed that practically continuous control is possible by increasing the reference pulse frequency. Orig. art. has: 8 figures, 11 formulas.

ASSOCIATION: none

SUBMITTED: 23Nov63 ENCL: 00 SUB CODE: DP, MA

NO REF SOV: 004 OTHER: 002

Card 2/2

GOL', M.; PIKIL'NER, D.

Use of ionites for water desalting. Mest.prom.i khud.promys. 3 no.12:30-31 D '62. (MIRA 16:2)

1. Glavnyy inzh. Leningradskoy zerkal'noy fabriki (for Gol').
(Ion exchange)
(Saline waters--Demineralization)

PIKIN, A., inzhener-polkovnik

Role and tasks of artillery reconnaissance. Voen.vest. 43 no.7: 46-48 Jl '63. (MIRA 16:11)

PIKIN, A.I.; VINNIK, N.Ye.

State artificial insemination stations and stations maintained jointly by collective farms in Poltava Province. Veterinariia 35 no.2:61-66 F '58. (MIRA 11:2)

1.Poltavskoye oblastnoye upravleniye sel'skogo khozyaystva. 2.Nachal'nik otdela veterinarii (for Pikin). 3.Glavnyy vetvrach otdela veterinarii (for Vinnik).
(Poltava Province--Artificial insemination)

BORISOV, Ye.F., dots.; BREGEL', E.Ya., prof.; BUKH, Ye.M., dots.; VASHENTSEVA, V.M., dots.; GOLEVA, Yu.P., kand. ekon. nauk; GOLEVA, A.P., kand. ekon. nauk; DEMOCHKIN, G.V., dots.; DONABEDOV, G.T., kand. ekon. nauk; YERMOLOVICH, I.I., dots.; KALYUZHNYY, V.M., dots.; KORNEYEVA, K.G., dots.; KUZNETSOVA, A.S., prof.; MIROSHNICHENKO, V.S., dots.; MYASNIKOV, I.Ya., kand. ekon. nauk; PIKIN, A.S., dots.; SIDOROV, V.A.; SMIRNOV, A.D., dots.; SOLOV'YEVA, K.F., dots.; SOROKINA, I.F., dots.; TARUNIN, A.F., kand. ekon. nauk; KHARAKHASH'YAN, G.M., prof.; MENDEL'SON, A.S., red.; SHVEYTSER, Ye.K., red.; ROTOVA, R.S., red.; GARINA, T.D., tekhn. red.

[Economics of socialism] Politicheskaia ekonomiia sotsializma. Moskva, Gos.izd-vo "Vysshaia shkola," 1963. 476 p. (MIRA 17:2)

LAPSHINA, Genriyetta Yevgen'yevna, kand.ekonom.nauk; PIKIN, Aleksandr Semenovich, kand.ekonom.nauk; BANNIKOV, N.A., red.; DEYEVA, V.M., tekhn.red.

[Triumph of the collective farm system] Torzhestvo kolkhoznogo stroia. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1960. 316 p. (MIRA 13:6)

(Collective farms)

PIKIN, K.I., prof.; MITYUNIN, N.K., kand. med. nauk

"Traumatic shock." Reviewed by K.I.Pikin, N.K.Mitiunin. Ortop. travm. i protez. 24 no.6:81-84 Je'63 (MIRA 16:12)

LEVIN, Mark Mironovich, prof.; ZADOROZHNYY, B.A., dotsent, red.;
BELOUSOV, V.A., prof., red.; BOKARIUS, N.N., prof., red.;
VOROB'YEV, F.P., assistent, red.; GRISHCHENKO, I.I., prof., red.;
DERKACH, V.S., prof., red.; KORSUN', A.Ya., dotsent, red.;
KOSHKIN, M.L., prof., red.; KUDINTSEV, V.I., dotsent, red.;
PIKIN, K.I., prof., red.; PRIKHOD'KOVA, Ye.K., prof., red.;
POPOV, I.D., dotsent, red.; SOLOV'YEV, M.N., prof., red.;
SHTEYNBERG, S.Ya., prof., red.; KHARCHENKO, N.S., prof., red.

[Repeated surgery in stomach diseases following operations]
Povtornye operatsii pri zabolevaniiakh operirovannogo zheludka.
Khar'kov, Izd-vo Khar'kovskogo gos.univ., 1961. 177 p.
(Kharkov. Medychnyi institut. Trudy, vol.58). (MIRA 16:2)
(STOMACH--SURGERY)

PIKIN, K.I., prof.; MITYUNIN, N.K., kand.med.nauk; KUDINTSEV, V.I., dotsent

"Military field surgery" by A.A. Vishnevskii, M.I.Shraiber. Reviewed by K.I.Pikin, N.K.Mitiunin, V.I.Kudintsev. Vest. khir. 91 no.7:141-143 Jl '63 (MIRA 16:12)

PIKIN, K.I., prof.

Varicocele. Nov. khir. arkh. no.12:86 D '61. (MIRA 14:12)

1. Kafedra fakul'tetskoy i gospital'noy khirurgii pediatricheskogo i sanitarno-gigiyenicheskogo fakul'teta (zav. - prof. K.I.Pikin) Khar'kovskogo meditsinskogo instituta.
(VARICOCELE)

FINKIN, K. I.

24417 FIKI[illegible], K. I. [illegible] vospalen[illegible] [illegible]. Vrach[illegible]. [illegible], [illegible], No. [illegible], str. [illegible]3-6[illegible].

SO: Let[illegible], [illegible]

PIKIN, K.I., prof.

Monograph on gunshot wounds ("The gunshot wound" by S.S. Girgolav. Reviewed by K.I. Pikin) Voen. med. zhur. no.1:93-94 Ja '59. (MIRA 12:4)
(GUNSHOT WOUNDS)
(GIRGOLAV, S.S.)

DANILOV, G.M.; KUNIN, Yu.I.; POPPE, E.I.; PIKIN, N.G.; PETROV, V.P.; LISTOV, Yu.A.

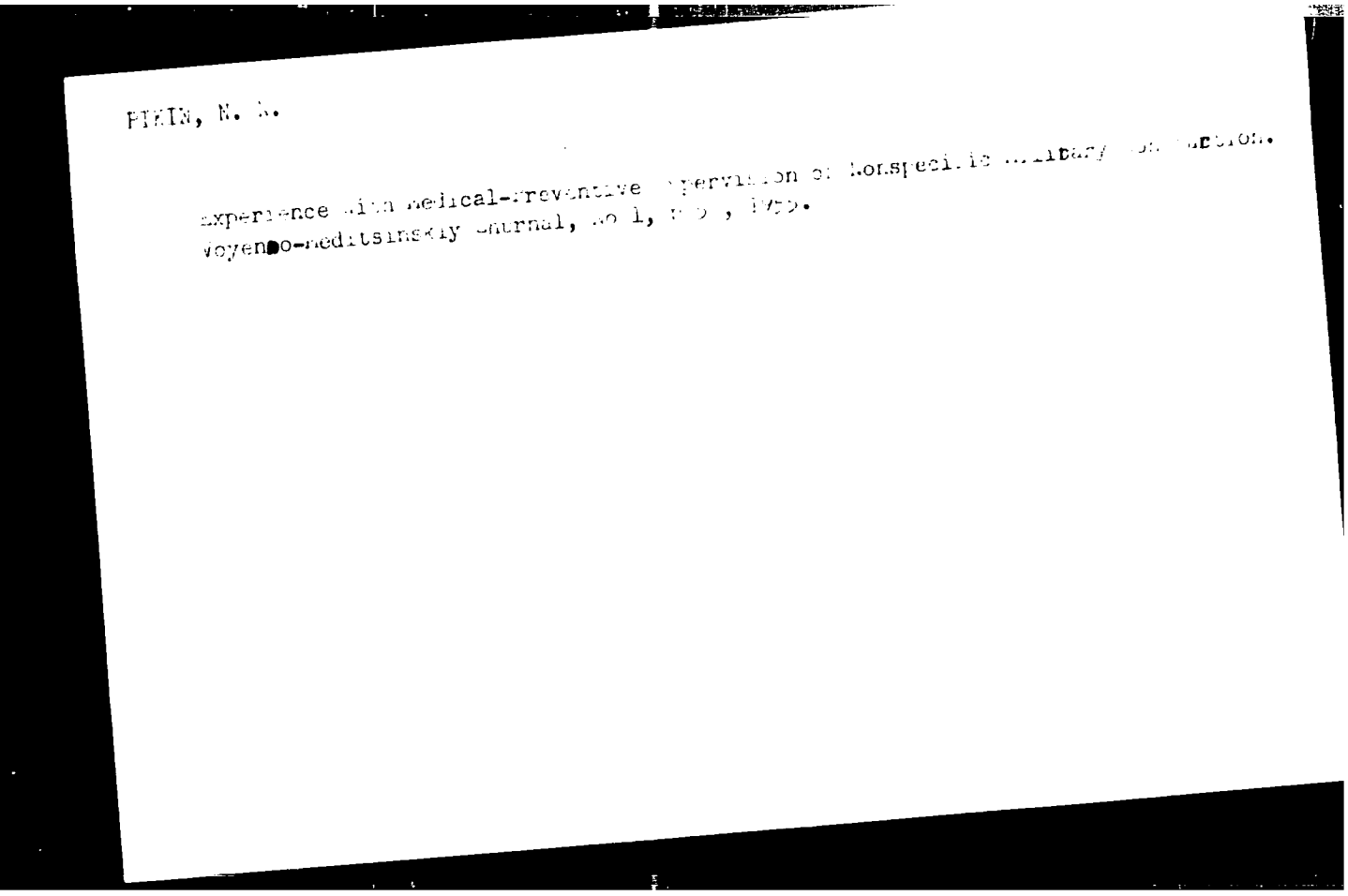
Discussing the article "Modulus or micromodulus?" Priborostroenie no.10:15-19 O '63. (MIRA 16:11)

PIKIN, N. N.

"The Experience With the Sanitary and Hygienic Water Supply Check-up in a District With Limited Water Resources" Voyenno-Meditsinskiy Zhurnal, No. 2, February, 19[illegible], p. 60.

PIKIN, N.N., podpolkovnik meditsinskoy sluzhby

Sanitary inspection of water supply in an area with limited water resources. Voen-med. zhur. no.2:60-64 F '56 (MLRA 10:5)
(WATER SUPPLY, sanit. control) (Rus)



PIKIN, N. N.

experience with medical-preventive supervision of nonspecialized military [illegible].
Voyenno-meditsinskiy zhurnal, no 1, [illegible], 1959.

L 40173-66 EWT(1) JW

ACC NR: AP6018817 SOURCE CODE: UR/0056/66/050/005/1377/1380

AUTHOR: Pikin, S. A.; Tsukernik, V. M.

ORG: none

TITLE: Thermodynamics of linear spin chains in a transverse magnetic field

SOURCE: Zh eksper i teor fiz, v. 50, no. 5, 1966, 1377-1380

TOPIC TAGS: spin system, transverse magnetic field, magnetic susceptibility, THERMODYNAMIC PROPERTY, HOMOGENEOUS MAGNETIC FIELD

ABSTRACT: A one-dimensional system of spins (s = 1/2) with a strongly anisotropic interaction of the immediate neighbors has been examined. The system is assumed to be in a homogeneous magnetic field directed along a given axis. Exact equations have been obtained for the thermodynamic characteristics of the system. It has been shown that at T = 0 and an absolute value of the magnetic-field strength H_0, the magnetic susceptibility has a logarithmic or root nature, dependent, like H_0, on the relation between the interaction constants. The authors thank V. G. Vaks and A. I. Larkin for valuable discussions. Orig. art. has: 11 formulas. [Based on authors' abstract] [NT]

SUB CODE: 20/ SUBM DATE: 03Dec65/ ORIG REF: 003/ OTH REF: 002

Card 1/1

ACC NR: AP6024896

SOURCE CODE: UR/0056/66/051/001/0361/0375

AUTHOR: Vaks, V. G.; Larkin, A. I.; Pikin, S. A.

ORG: none

TITLE: On the self-consistent field method in the description of phase transitions

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 51, no. 1, 1966, 361-375

TOPIC TAGS: phase transition, correlation function, thermodynamic function, crystal symmetry, ferroelectric material, dipole interaction, superconductivity

ABSTRACT: The purpose of the investigation was to determine the region of applicability of the Landau phenomenological theory for phase transitions, inasmuch as this theory disagrees with experiment in the direct vicinity of the phase transition point. Since the phenomenological theory is equivalent to the zeroth approximation of the self consistent field method from the microscopic point of view, the authors consider the phase transitions in an Ising model and in crystals for a large interaction radius r_0. Then the method of constructing the successive approximations is illustrated with the Ising model as an example. The first two terms of the expansion in terms of the parameter r_0^{-3} are obtained in the correlation function and in the thermodynamic quantities. The methods developed for the Ising model are then applied to the more complicated case of phase transitions accompanied by a change in crystal symmetry. The influence of the electric dipole-dipole interaction in ferroelectrics is analyzed and

Card 1/2

L 08179-67

ACC NR: AP6024896

it is shown that the results of the phenomenological theory are valid in a wide range of temperatures. The question of the phase transitions in one-dimensional systems is considered. It is shown that as the temperature approaches the transition temperature, the parameter r_0^{-3} increases like $r_0^{-3}|T - T_c|^{-1/2}$ for forces of finite radius and like $r_0^{-3}\ln|T - T_c|$ for dipole-dipole interaction in uniaxial ferroelectrics. The results show that when the interaction radius is large, $r_0 \gg 1$, the self-consistent approximation describes the phase transitions in crystals and in the Ising model correctly everywhere except a narrow region near the transition point. The phenomenological theory is best applicable to superconductors, where the role of the interaction radius is played by the pair dimension. The authors thank A. P. Levanyuk for a useful discussion. Orig. art. has: 51 formulas.

SUB CODE: 20/ SUBM DATE: 25Feb66/ ORIG REF: 015/ OTH REF: 005

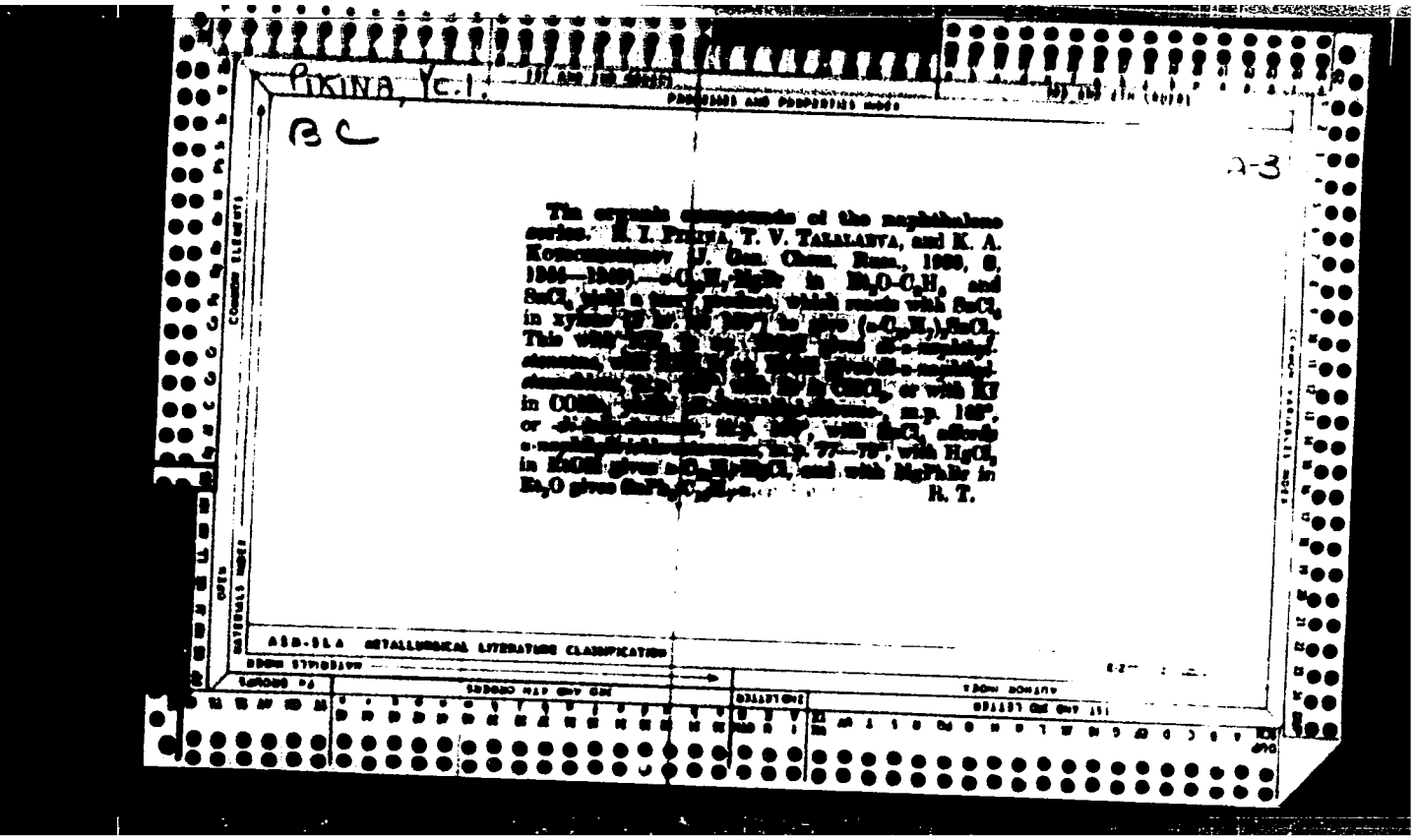
Card 2/2 nst

PROKOF'YEV, A.D.; PIKIN, Ye.I.

High-output double-acting drawing press. Mashinostroitel' no.9:28 S '62. (MIRA 15:9)
(Sheet-metal work)

Organotin compounds of the naphthalene series. [illegible] Pikina, T. V. Talalaeva and K. A. Kocheshkov. *J. Gen. Chem.* (U. S. S. R.) 8, 1844 (in French, 1840) (1938). α-$C_{10}H_7MgBr$ (I) with $SnCl_4$ (II) in ether-benzene gives an amorphous, pale yellow powder (III), which on further treatment with II in dry xylene at 150° for 3 hrs. in a sealed tube gives (α-$C_{10}H_7)_2SnCl_2$ (IV), m. [illegible]. III is also prepd. by reaction of IV with I. IV with $HgCl_2$ in alc. readily forms α-$C_{10}H_7HgCl$ (V), m. 190° [illegible]; with an excess of aq. NH_4OH IV gives *di-α-naphthyltin oxide*, (α-$C_{10}H_7)_2SnO$ (VI), amorphous powder. VI with NaOH and $HgCl_2$ in aq. alc. gives (α-$C_{10}H_7)_2Hg$, m. 24[illegible], [illegible] theoretical amt. IV treated in EtOH with 5% KOH satd. with H_2S gives *di-α-naphthyltin sulfide*, (α-$C_{10}H_7)_2SnS$, cryst. powder, m. 21[illegible]. III with Br_2 in $CHCl_3$ readily forms *di-α-naphthyldibromostannane*, (α-$C_{10}H_7)_2SnBr_2$, m. 142°, also obtained by treatment of VI with HBr. The corresponding *diiodostannane*, (α-$C_{10}H_7)_2SnI_2$, m. [illegible], is prepd. from IV and NaI in Me_2CO. Heated with II for 3 hrs. at 150° in a sealed tube IV gives [illegible]% α-*naphthyltrichlorostannane*, α-$C_{10}H_7SnCl_3$ (VII), [illegible], which is hydrolyzed to the corresponding acid, α-$C_{10}H_7SnO_2H$ [illegible], with excess KOH, and is decompd. to $C_{10}H_8$ when heated with 10% HCl. With $PhNH_2$, pyridine and other bases VII forms the corresponding mol. compds. VII with $HgCl_2$ in abs. alc. gives V (silky needles, m. 189°); with PhMgBr in ether the product is α-$C_{10}H_7Ph_3Sn$ ([illegible]0% yield), m. 125.5°.

John Livak



BORISOV, S., doktor tekhn.nauk; PIKINER, Yu.

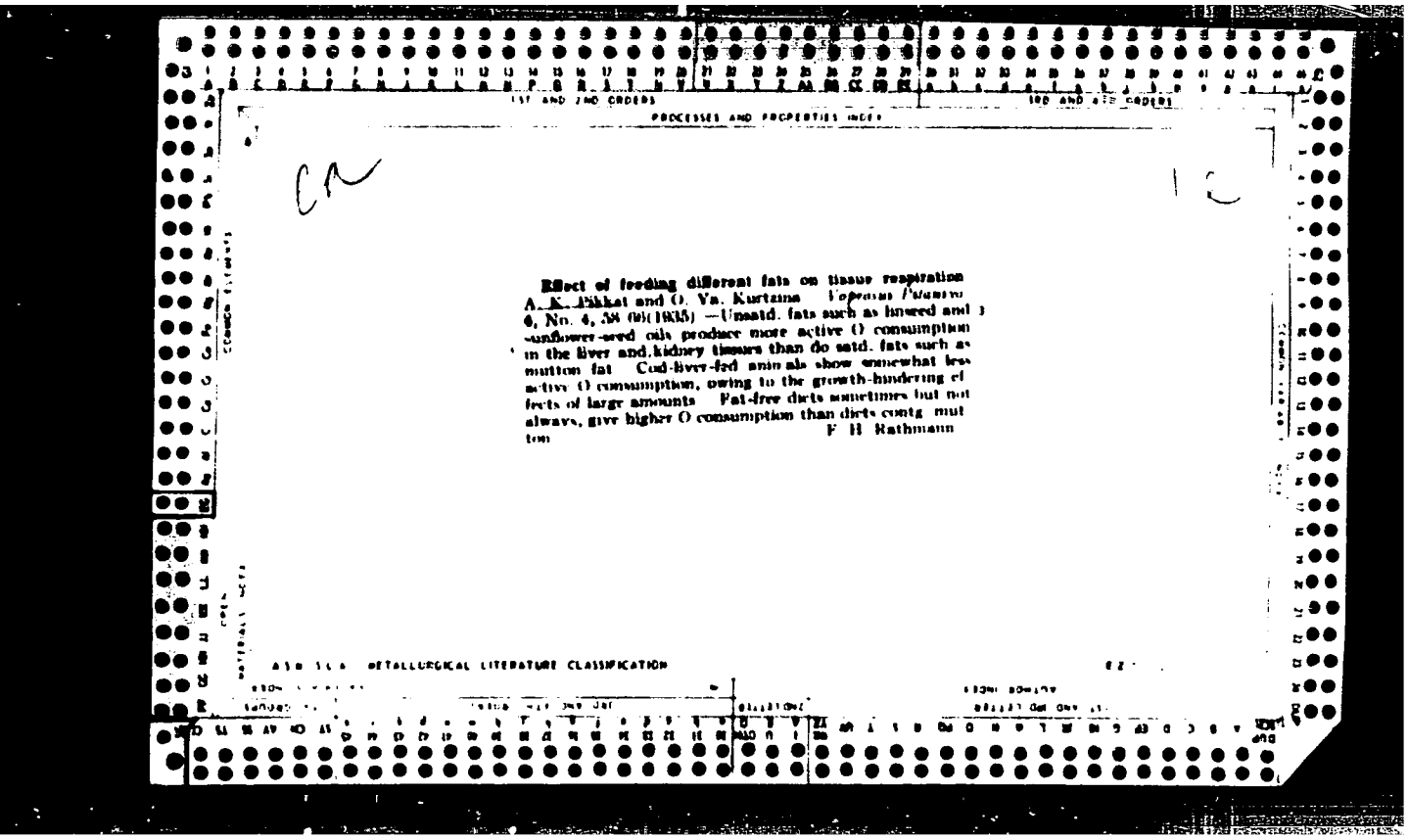
Story about large pipes. NTO 6 no.1:48-50 Ja '64. (MIRA 17:2)

1. Predsedatel' soveta Nauchno-tekhnicheskogo obshchestva Ukrainskogo nauchno-issledovatel'skogo trubnogo instituta (for Borisov). 2. Uchenyy sekretar' soveta Nauchno-tekhnicheskogo obshchestva Ukrainskogo nauchno-issledovatel'skogo trubnogo instituta (for Pikiner).

PIKLIKIEWICZ, H.

High-speed excavators on tires, a new achievement in the field of construction. p.154
(PRZEGLAD BUDOWLANY, Vol. 28, No. 4, Apr. 1956, Warsaw, Poland)

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



Effect of feeding different fats on tissue respiration A. K. Pikkat and O. Va. Kurtzina *Voprosy Pitaniya* 6, No. 4, 38 60(1935) —Unsatd. fats such as linseed and sunflower-seed oils produce more active O consumption in the liver and kidney tissues than do satd. fats such as mutton fat Cod-liver-fed animals show somewhat less active O consumption, owing to the growth-hindering effects of large amounts Fat-free diets sometimes but not always, give higher O consumption than diets contg mut ton F H Rathmann

METALLURGICAL LITERATURE CLASSIFICATION

[redacted]

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

Bc

A-4

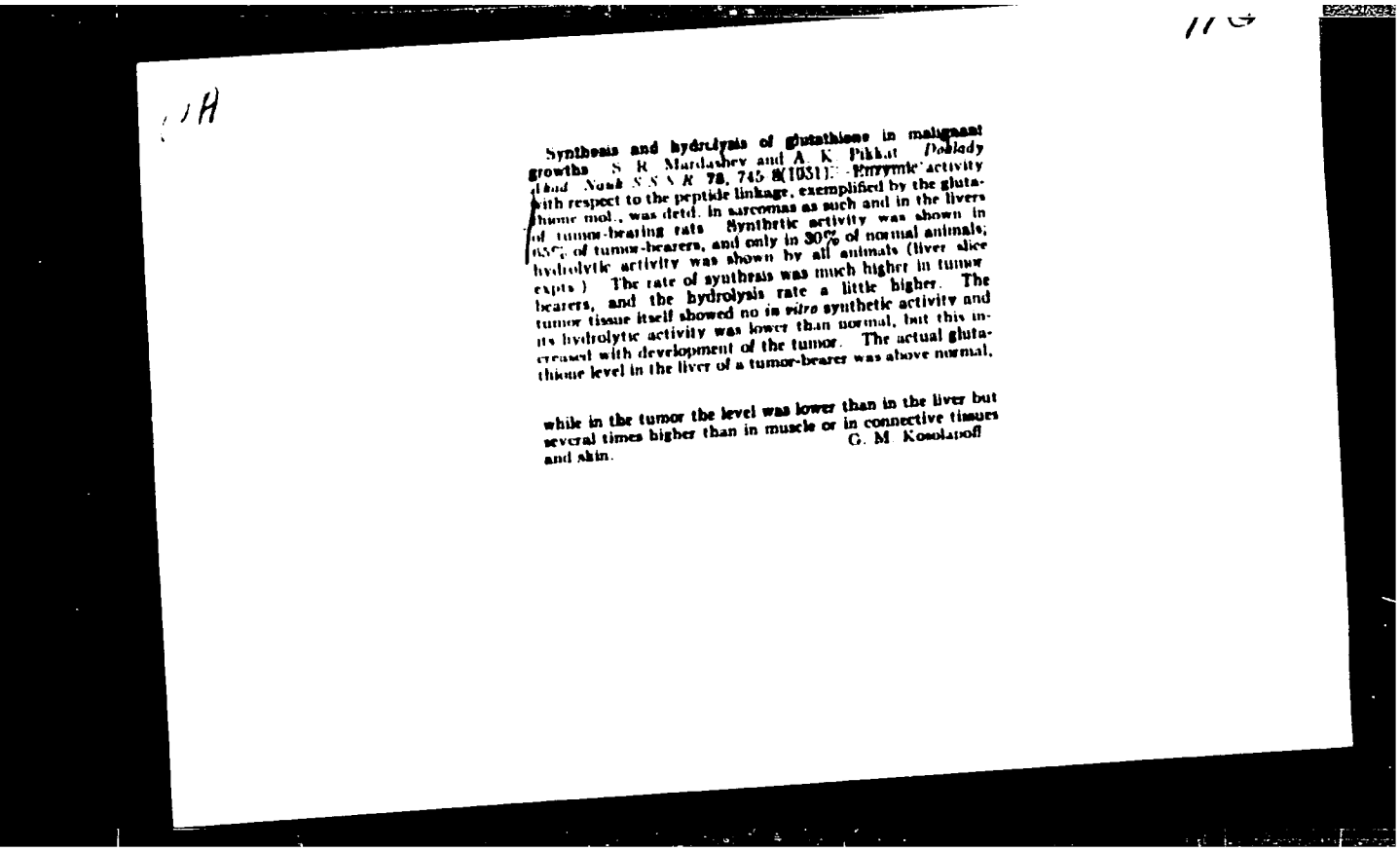
Effect of phosphatides of food on chemical composition of tissues. A. K. Pirrat, O. Y. Kuznetsova, and N. S. Levin (Voprosui Pitaniya, 1935, 4, No. 4, 66—75).—Lecithin added to a synthetic diet for rats caused an increased loss of lipins (especially neutral fat) from all tissues only when the diet already contained fat. Lecithin feeding increased the glycogen content of liver and muscles, probably as a result of the influence of H_3PO_4 and glycerophosphoric acid, derived from lecithin, on the resorption of fats and carbohydrates. Dietary lecithin has no consistent effect on the lecithin or cholesterol contents of tissues. Ch. Abs. (p)

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Comparative evaluation of the important methods for the determination of fats (lipides) in tissues I. Soxhlet and Kumagawa-Suto methods. A. K. Pikkat and O. Ya. Kurtzina. *Voprosy Pitaniya* 4, No. 6, 115-21 (1935).—From detns. made on skin, living tissue, internal organs, etc., P. and K. conclude that the K.-S. method is completely satisfactory when a series of detns. must be made.

J. H. Rathmann

METALLURGICAL LITERATURE CLASSIFICATION



Synthesis and hydrolysis of glutathione in malignant growths. S. R. Mardashev and A. K. Pikkat. *Doklady Akad. Nauk S.S.S.R.* 73, 745-8(1951).—Enzymic activity with respect to the peptide linkage, exemplified by the glutathione mol., was detd. in sarcomas as such and in the livers of tumor-bearing rats. Synthetic activity was shown in 65% of tumor-bearers, and only in 30% of normal animals; hydrolytic activity was shown by all animals (liver slice expts.). The rate of synthesis was much higher in tumor bearers, and the hydrolysis rate a little higher. The tumor tissue itself showed no *in vitro* synthetic activity and its hydrolytic activity was lower than normal, but this increased with development of the tumor. The actual glutathione level in the liver of a tumor-bearer was above normal, while in the tumor the level was lower than in the liver but several times higher than in muscle or in connective tissues and skin.

G. M. Kosolapoff

PFKKAT, A.K.

USSR.

The effect of qualitatively different fats in the diet on the nitrogen metabolism. A. K. Pikkat and O. Ya. Kurtsin (Inst. Nutrition, Acad. Med. Sci. U.S.S.R., Moscow). *Voprosy Pitaniya* 12, No. 6, 34-7(1953).—Pure beef suet (fat) (I) and sunflower oil (II), characterized by iodine nos. 32-47 and 127-30 and the amt. of constituting unsatd. fatty acids 40 and 90%, resp., differ in their nutritional value as far as the utilization of the food N is concerned. Three healthy men, 28-31 years of age, 67-70.1 kg. body wt., after receiving during 6 days a normal diet contg. 3000 kcal./day, in which the fat (75 g./day) was either I or II showed the following av. differences in the N balance: amt. of N supplied with food per day 10.655 and 15.608 g., excreted in urine 11.483 and 9.790 and in feces 2.617 and 2.251 g., and the amt. of N utilized 2.555 and 3.567 g., i.e. 15.20 and 22.85% of the N supply, in the case of I and II, resp. E. Wierbicki

Dept. Physiol. & Biochem. of Nutrition

PIKKAT, A.K.

Synthesis of glutathione by hepatoma and ascitic cancer cells [with summary in English] Vop.med.khim. 2 no.5:323-327 S-O '56. (MLRA 9:12)

1. Kafedra biologicheskoy khimii I Moskovskogo ordena Lenina meditsinskogo instituta.

(GLUTATHIONE, metabolism,
ascites carcinoma & hepatoma cells, synthesis (Rus))
(HEPATOMA, metabolism in,
glutathione, synthesis in tumor cell (Rus))
(NEOPLASMS, metabolism,
tumor cell glutathione synthesis in ascites carcinoma & hepatoma (Rus))

PIKKAT—ORDYNSKAYA, A.P.

GLEMBOTSKIY, V.A.; PIKKAT-ORDYNSKAYA, A.P.

Possible intensification of sulfide flotation by means of combining xanthogenates and sodium oleate. Trudy Inst.gor. dela 1:235-241 '54. (MLRA 7:12)
(Flotation) (Sulfides)

PIKKAT-ORDYNSKAYA, A.P.

Flotation method for the separation of monomineral fractions.
Trudy IMGRE no.18:151-158 '63. (MIRA 16:12)

PIKKAT-ORDYNSKAYA, A.P.

Astr: 4E2c(j)/4E4j/4E2c/ 4E3d

18

Ore flotation. V. A. Glembotskii, A. P. Pikkat-Ordynskaya, and A. A. Zhdanov. U.S.S.R. 106,[illegible] [illegible]. As collectors, organosilicon compds. are used. They consist of alkyl- or aryl-substituted silicones, e.g., $R'Si(OH)_2ONa$, or $R''Si(OH)_2ONa$, where R' is an alkyl and R'' is an aryl radical, which are capable of splitting off 1 or 2 cations.

M. Hosch

5

2 May

4

SOV [illegible]

Translation from: Referativnyy zhurnal, Metallurgiya, [illegible] Nr [illegible] p [illegible] 1958,

AUTHORS: Glembotskiy, V. A., Dmitriyeva, G. M., Pikkat, Org[illegible]skaya, A. P.

TITLE: Improving the Flotation Indices of Polymetallic Ores by Use of Various Collectors and Combinations of Collectors (Ob uluchshenii pokazateley flotatsii polimetallicheskikh rud putem primeneniya razlichnykh sobirateley i sochetaniy sobirateley)

PERIODICAL: Byul. tsvetn. metallurgii, 1957, Nr 22, pp 10-14

ABSTRACT: A study is made of the action of various collector reactants and combinations thereof on the ore of the Yekaterino Blagodat deposit. It is found that under the present ore dressing flow sheet, butyl xanthate, because of its low selectivity, is by no means the best collector. Various collectors are recommended for use at various points in the procedure as means of raising flotation indices. Isopropyl xanthate should be used in the primary lead-flotation operation, while control flotation should be run with more powerful collectors or mixtures of isopropyl and amyl xanthates and caustic dithiophosphate, while ethyl or isopropyl xanthate should be used in the primary zinc flotation. Tests of DS reactant gave reason to pose the question of substituting DS reactant for phenol containing frothers. A. S.

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1. Ores--Flotation

SOV/180-59-3-3/43

AUTHORS: Glembotskiy V.A. Kolchemanova A.Ye. and Pikkat-Ordynskaya A.P. (Moscow)

TITLE: Looking for New Methods of Separating Collective Flotation Concentrates

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo 1959, Nr 3, pp 13-19 (USSR)

ABSTRACT: This article is a report approved by a session of the Uchenyy Sovet (Scientific Council) of the Institut Gornogo dela (Mining Institute) AN SSSR (AS USSR) in December 1958. The authors mention the promising proposals of A.S.Konev and L.B. Dobrinaya, adopted at the Leninogorskaya obogatitel'naya fabrika (Leninogorsk Beneficiation Works) (Ref 1 and 2) for the separation of collective lead-zinc concentrates. To extend the range of application of collective flotation the authors decided to study other possible methods. This has led them to laboratory-scale studies of the stability of the adsorbed layers of collector on particle surfaces in relation to different factors. For this the mineral suspension was treated for a given time with a collector and then subjected to flotation under normal conditions

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The product was exposed to the action of the factor being studied and again flotated: with complete destruction of the adsorbed layer hardly any flotation occurred. Abrasive factors were studied using quartz, which was mixed together with the mineral (galenite) in the flotation chamber (Fig 1 shows the flowsheet); the effectiveness depended on the origin of the mineral and the collector used. Quartz was found ineffective with a pyrite, a chalcopyrite and a sphalerite. Thermal disruption of the adsorbed layers was studied using hot water, steam or electric (induction or ordinary frequency) heating of the froth flotation product. Results for water at 100°C are shown as plots of mineral recovery in the second flotation against time of heating (Fig 2 and 3) for a galenite, sphalerite and pyrite with ethyl and amyl xanthates. The treatment was most effective with the galenite. Steam was less effective than hot water. Electric heating was effective for materials relatively insusceptible to hot water treatment: high-frequency heating heating in

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experiments in which G.M.Dmitriyeva participated showed no advantages. To elucidate details of the adsorption layer disruption process special determinations were made of the rate and degrees of decomposition of xanthate solutions at elevated temperatures and also the quantity of xanthate leaving the mineral surface under the action of mechanical or thermal factors. Fig 5 shows plots of amount of undecomposed potassium ethyl xanthates against time for 30, 60, 80 and 100°C. Fig 6 shows plots of undecomposed ethyl, butyl and amyl xanthates after 30 minutes treatment against temperature. The authors conclude provisionally that with thermal decomposition of the adsorbed layer there is no appearance of free xanthate ions in the solutions: the stability of a freshly separated ion is considerably reduced. Since 1956, the authors have been working in collaboration with the laboratoriya ul'trazvuka (Ultrasonics Laboratory) (head I.D.Rozenberg) of the Akusticheskiy institut (Acoustics Institute) of the AN SSSR (AS USSR). A magnetostruction vibrator (frequency

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20 k Hertz, intensity 2 watt/cm^2), was used on froth products of galenite, pyrite, spalerite, chalcopyrite, scheelite, calcite, beryl zircon, ilmenite and some other minerals, a chalcopyrite-galenite flotation product could be separated, the galenite being depressed. It is not clear in what form the xanthate is removed from the sulphide surface. It is doubtful if either the abrasive cavitation or temperature rises produced by the ultrasonic beam remove the xanthate. Adsorbed oleate layers on beryl and ilmenite were removed but in general such layers proved stable. Technical-economic calculations are said by the authors to be favourable to the use of ultrasonics. There are 6 figures 1 table and 10 references, 8 of which are Soviet and 2 English.

SUBMITTED: January 29, 1959

Card 4/4

KLASSEN, V.I., professor, doktor; PIKKAT-ORDYNSKIY, G.A.; GUREVICH, R.I.

Increasing flotation efficiency by means of foam sprinkling. TSvet. met. 29 no.5:12-16 My '56. (MLRA 9:8)

1. Moskovskiy gornyy institut.
(Flotation)

PIKKAT-ORDYNSKIY, G. A.

68-1-5/21

AUTHOR: Klassen, V.I., Doctor of Technical Sciences, Professor, and Pikkat-Ordynskiy, G.A., Engineer.

TITLE: An Improvement in the Flotation of Coals by Spraying of Foam. (Uluchsheniye Flotatsii uglya primeneniyem oroshen-iya peny.)

PERIODICAL: Koks i Khimiya, 1957, No.1, pp. 15 - 19 (USSR)

ABSTRACT: The process of secondary concentration which takes place in the foam layer was investigated in the flotation laboratory of the Moscow Mining Institute directed by Prof. I.M. Verkhovskiy. Changes in the ash content with the depth of foam during flotation of coal on the Karagandinsk TsOF are shown in Fig.1. Experimental investigations indicated that the secondary concentration which takes place in foam depends to a large extent on the structure and stability of foam and on the thickness of water layers separating foam bubbles and the velocity of draining of this water. It was established that an artificial increase of the thickness of inter-bubble water and the velocity of its draining gives a positive effect. This was done by spraying the foam. Optimum condition of spraying: water consumption 6 l/min per FM-2.5 machine; height of spraying installation 200 mm over the foam surface. With higher water consumption or excessive height of spray the destruction of foam takes place. Spraying of foam during flotation (Fig.2)

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PIKKAT-ORDYNSKIY, G.A.

V. Improving coal flotation by applying a water spray to the froth. V. I. Klassen and G. A. Pikkat-Ordynskii (Mining Inst., Moscow). *Koks i Khim.* 1957, No. 1, 18-19.—Among the many factors that play important roles in coal and heavy-mineral flotation are thickness of foam layer, time of its detention in the chamber, screen size of the granules in the foam, hydrophylic properties of the mineral, and thickness and stability of the foam itself. Of special importance is the observation based on numerous expts. that with other things equal, the greater the amt. and the higher the speed of drainage between individual bubbles the more effective is the flotation treatment. A flotation cell (FM-2.5) with a water-spray attachment for providing these conditions delivers 6 l. water/min. at a height of 200 mm. above the surface of the foam. Excessive amts. of spray and high velocities that break the film structure must be avoided. Typical flotation results obtained with coal with the use of sulfonated kerosine or turpentine as agents are: with a raw feed of 17.2% ash, without spraying 41.6% concentrate with 7.2% ash and 58.5% tailings with 24.4% ash were obtained; with the use of the spray the yield was 53.6% concentrates with 6.8% ash and 46.4% tailings with 29.8% ash. Numerous tabulated data on similar tests on various screen sizes show in general, comparable results. H. L. Olin

GLEMBOTSKIY, V.A., prof., doktor tekhn. nauk; DMITRIYEVA, G.M., kand. tekhn. nauk; PIKKAT-OKUYNSKAYA, A.P.

Improving flotation indices for polymetallic ores by using various collectors and combinations of collectors. Biul. TSIIN tsvet. met. no.22:10-14 '57. (MIRA 11:8)

(Flotation)

137-58-6-11

Translation from: Referativnyy zhurnal Metallurgiya, 1958, Nr 6, p 7 (USSR)

AUTHORS Klassen, V I, Pikkat-Ordynskiy, G A

TITLE Irrigation of the Froth in Flotation Machine Chambers to Improve the Flotation Process (Primeneniye oroshcheniya peny v kamerakh flotatsionnykh mashin s tsel'yu uluchsheniya protsessa flotatsii)

PERIODICAL Byul Tsentr in-t inform M-va tsvetn metallurgii SSSR, 1957, Nr 5, pp 8-11

ABSTRACT On irrigation of flotation froth with water, the process of secondary concentration of minerals, which is chiefly dependent upon the thickness of the aqueous layers in the froth and the amount of water flowing between the bubbles, is significantly improved. The improvement of the quality of the concentrates results from the washing away of the gangue particles carried into the froth mechanically and loosely adhering thereto. Simultaneously there is an increase in recovery due to 1) the growth in the total surface of the bubbles, which are enlarged to a lesser degree and merge, 2) the thickening of the water layer and the possibility of retention of the larger particles of material

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Irrigation of the Froth (Cont.) 137-58-6-11343

in the froth and 3) the washing off of the slimes. Irrigation of the froth is most effective when mineralization is high and in repeat operations, the number of which may thus be reduced. Shop tests at the Lyangar Molybdenum and Tungsten Plant showed irrigation to result in a 100 to 150% increase in degree of concentration. Tables are adduced for the effect of the flow of irrigation water on the results and the size of the grains extracted in the froth in flotation of Lyangar ore. Possible variants of irrigation devices are described.

L. P.

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PIKKAT-ORDYNSKIY, G.A.

120. IMPROVEMENT OF THE FLOTATION OF COAL BY SPRINKLING WATER ON THE FROTH. Klassen, V.I. and Pikkat-Ordynskii, G.A. (Koks i Khim. (Coke & Chem., Moscow), 1957, (1), 15-19). The behaviour of particles in foam is being studied. Improved coal concentrates were obtained in industrial plant when the froth was sprinkled with water. The results are tabulated and the effect of sprinkling is explained. (L).

KLASSEN, V.I., doktor tekhnicheskikh nauk, professor; PIKKAT-ORDYNSKIY, G.A., inzhener.

Froth irrigation for the improvement of coal flotation. Koks i khim. no.1:15-19 '57. (MLRA 10:3)

1. Moskovskiy gornyy institut.
(Coal preparation) (Flotation)