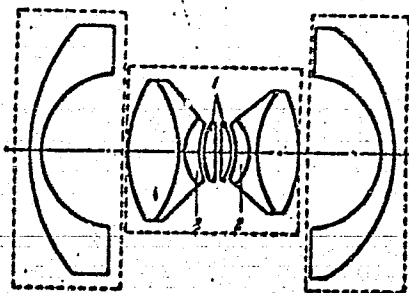


ACC NR: AF6025635



1--positive lenses; 2--three-
lens units

SUB CODE: 20, 14/ SUBM DATE: 03May65

Card 2/2

L 27816-66 ENT(d)/ENT(m)/EMP(v)/EMP(j)/EMP(k)/EMP(h)/EMP(z) RU

ACC NR: AP5026776

SOURCE CODE: UR/0286/65/000/017/0066/0066

ORG: none

TITLE: A device for welding thermoplastics. Class 39, No. 174450

Source: Bulletin' izobreteniy i soveryshkh snakov, no. 17, 1966, 66

INDEX: welding equipment, plastic industry, thermoplastic material

ABSTRACT: This Author's Certificate introduces: 1. A device for welding thermoplastics using hf current. The unit contains an insulation casing and flat metal electrodes located on one side of the material to be welded. In order to produce a seal of any configuration, the casing is made in the form of a prismatic roller with the

UDC: 678.059.4
678.073

Card 1/2

09 01 19 61

L 27846-66

ACC NR. AP5026776

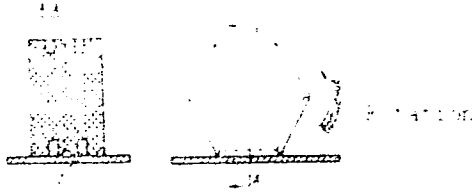


Fig. 1. 1--casing; 2--metal electrodes; 3--recess

SUB CODE: IE,MT/

SUBM DATE: 28Sep63/

ORIG REF: 000/

OTH REF: 000

Card 2/2 -

1. 000000
ACC 44

APSOPT145

NR/0126/65/020/034/0770/0973

Author: G. I. Yurgenko, Yu. F. Dubovitskaya, N. V. ...
Institute for the Physics of Metals AN UkrSSR, Institut
fizicheskoi AN UKR SSR.

TITLE: Investigation of recovery processes in the heating of steels
in a high strength state

SOURCE: Fizika metallov i metallovedeniye, v. 20, no. 4, 1965,
570-573

TOPIC TAGS: recrystallization, steel, metal heat treatment

The authors present the results of a series of
x-ray diffraction investigations of the
recovery processes taking place during the
heating of a cold-rolled strip of 118 steel. Measurements
were made of the change in the lattice parameter during the continuous
heating of samples at a rate of approximately 2 degrees per second. It was
found that the heating process leads to a considerable evolution
of the lattice parameter. An investigation of the kinetics of the recovery of the

Card 1/3

UDC: 621.785.3

ALC 001 11/11/62

reads of the x-ray diffractometer was made with a DRSC-1
... of intensive recrystallization
... dependence of the rate of
... interference lines in the heat-
... must be expressed by a simple
exponential relation, since it varies substantially with a decrease
in the value of the microdeformations. This relationship can be ex-
pressed by an equation of the type

$$\ln \frac{V}{V_0} = - \frac{W}{RT} \exp \left(- \frac{U}{RT} \right) \quad (2)$$

where W is the sum of the activation energy of autodiffusion and
the energy of formation of the dislocation thresholds. The samples
intended for electron microscope investigation were heated con-
tinuously at the same rate as those for the calorimetric tests.
... of the last sample
... initial samples
... dispersion of the carbide phase and of ferrite bands
after cold working of the patented strip. After annealing up to
... side of the strip
... increase with further heating. The role of these
... recrystallization of a steel strip during heating

ACC NO: AP5027143

is evidently substantial. The authors express their thanks to
colleagues, M. J. ... M. Karionov for their
... work ... formulas and ... figures.

STPM DATE: ... ORIG REF: ...

PC

Card 3/3

ACC NO: AP5027151

UR/0126/65/020/004/062A/0630-3

TITLE: Mechanism of the regeneration of the initial structure in the heating of alloys aged by a heterogeneous mechanism

SOURCE: Fizika metallov i metallovedeniye, v. 20, no. 4, 1965.

cadmium containing alloy, beryllium containing alloy, lead containing alloy, METALLOGRAPHY, CRYSTALLOGRAPHY

ABSTRACT: To explain the mechanism of the regeneration of single crystals disintegrating by a heterogeneous mechanism the article

Card 1/3

UDC: 620.18

L 8839-66

ACC NR

nickel-tellurium alloys were investigated both by x-ray and electron microscopy. Figures showing the change in the x-ray diffraction pattern of a lead alloy with different heat treatments are presented. The regeneration of the initial structure of a lead alloy after a certain time of annealing is observed. An analogous picture is observed in the natural aging of a lead alloy with 2% cadmium. In the case of a single crystal of martensite for 5 hours at 100°C leads only to partial regeneration of the initial structure in the annealed state. The hypothesis is advanced that the regeneration of such systems to a certain degree analogous to the initial structure in the annealed state is a natural phenomenon. Other articles 5 figures.

Card 2/3

L 8839-66

ACC NR: AP5027151

SUB CODE: MM, IC/ SUBM DATE: 28Dec64/

ORIG REF: 008

OTH REF: 003

PC
Card 3/3

LARIKOV, L.N.; YURCHENKO, Yu.F.

Investigating thermal and volumetric effects during the
annealing of cold-worked patented steel. Sbor. nauch. trud.
Inst. metallofiz. AN URSS no.20:64-66 '64.

Methods of investigating small volumetric changes. Ibid.:
191-197 (MIRA 18:5)

L 56004-45 EFA(s).2/EWT(m)/EPP(c)/SWA(d)/EWF(v)/T/EWP(t)/EWP(k)/EWP(z)/
EWF(s)/EVA(e) P-4 MJM/JD/HR/RW/WE

ACCESSION NR: AF5016018

UR/0125/55/000/006/0041/0043
621.791.053:620.191/.193

AUTHOR: Gurhenko, Yu. F. (Engineer) (Moscow)

47
39
B

TITLE: Knife corrosion of 18-8-type steel welds

SOURCE: Avtomaticheskaya svarka, no. 6, 1985, 41-43

TOPIC TAGS: stainless steel, welded stainless steel corrosion, knife corrosion, weld metal corrosion, welding speed effect, filler wire composition effect/18-8 stainless steel / 18-8 stainless steel

ABSTRACT: Welded joints of 18-8 stainless steel, 5-10 mm thick, were tested for susceptibility to knife corrosion in 65% nitric acid at 110-120C. Both multi- and single-pass welds were susceptible to knife corrosion. The depth of knife corrosion increased linearly as the energy of welding (the amount of heat per unit length of the weld) increased. The depth of knife corrosion decreased with increasing steel thickness. For example, at a fusion-zone temperature of 700C held for 10 min, the knife corrosion speed in 65% nitric acid and in a copper sulfate solution increased by 10 times, while no marked increase in the knife corrosion rate was observed with a holding time of 20 and 60 sec. The chemical composition of the weld metal, particularly of the filler metal, greatly influences the knife corrosion

L 35004-15
ACCESSION NO: AP5016018

rate. In 1 Kh18N9T steel welded with OKh18N9T, OKh18N9TY, or 1Kh18N9T filler wire, the weld metal corrosion was greater than the knife corrosion. In contrast, in welding with 1Kh18N9, E1649 (OKh18N9PES), 1Kh18N9B, or Kh18N11M filler wire, the knife corrosion rate was $3/8 - 1.5$ mm per year compared with a weld-metal corrosion rate of 2 mm per year. Thus, OKh18N9, E1649, and 1Kh18N9B filler wire should be used for welding stainless-steel pipes working in concentrated nitric acid. Orig. art. has: 2 figures and 1 table. [MS]

ASSOCIATION: none

SUBMITTED: 03Sep64

ENCL: 00

SUB CODE: MM

NO REF SOV: 003

OTHER: 002

STD PRESS: 4034

Card

L 04933-67 EWT(1) IJP(c) GW

ACC NR: AP6028222

SOURCE CODE: UR/0154/66/000/001/0131/0137

AUTHOR: Yurchenko, Yu. F. (Engineer)

ORG: Moscow Institute of Engineers of Geodesy, Aerial Photography, and Cartography
(Moskovskiy Institut Inzhenerov geodezii, aerofotos'yemki i kartografi)

TITLE: Analysis of high-order aberrations

SOURCE: IVUZ. Geodeziya i aerofotos'yemka, no. 1, 1966, 131-137

TOPIC TAGS: light aberration, refractive index, optic system

ABSTRACT: When calculating optical systems with high optical characteristics (relative opening, aperture, and viewing angle) the calculator constantly deals with aberrations of third and higher orders. If the system obeys the third order optical theory the system is corrected by means of Seidel sums. In most cases systems do not follow this theory and calculation of aberrations of higher orders in Seidel sums results in complex formulas which are difficult and even impossible to use. However, an analysis of aberrations of higher orders is one of the necessary elements of calculating systems, therefore in this article the author analyzes the spherical aberration of one refracting spherical surface for the case where the subject lies

Card 1/2

I. 04933-67

ACC NR: AP6028222

at infinity. An analysis of the formulas derived demonstrated that the smaller the index of refraction of the lens, the higher the order of spherical aberration and, conversely, at large angles of incidence of a ray onto a joined surface and small difference of the refractive indexes of the joined surface, large values of high orders of spherical aberrations occur. An analysis of spherochromatic aberrations showed that large spherochromatic aberrations occur on joined surfaces and that such aberrations can be eliminated if the type of glass on the joined surface is selected in such a manner that the coefficient $n^2/n'(n'-n)$ (where n and n' are the refractive indexes of the medium before and after the refracting surface) remains constant when the wavelength changes. A formula is derived for astigmatism introduced by one refracting spherical surface. The author states that it is apparent from the formulas derived that aberrations increase or decrease depending upon the angle of incidence on the surface, and distortion and coma change depending upon the angles of incidence of the principal ray and broad inclined rays. Orig. art. has: 34 formulas.

SUB CODE: 14,20/ SUBM DATE: 12Nov65/ ORIG REF: 001

kh

Card 2/2

YURCHENKO, Z.

Treacherous caves. Znan. ta pratsia no.5:22 Ky '60. (MIRA 13:10)
(Caves)

MURASHKIN, M.O.; YURCHENKOV, D.A.; RANEVSKIY, I.I., redaktor; ROSLOV, G.I.,
tekhnicheskiy redaktor

[Advice on television sets, radio receivers, and photographic
equipment; experience of Leningrad stores] Konsul'tatsii po tele-
vizoram, radiopriemnikam i fototovaram; iz opyta Leningradskikh
magazinov. Moskva, Gos. izd-vo torgovoi lit-ry, 1956. 76 p.

(Television--Receivers and reception)

(MIRA 9:7)

(Photography--Apparatus and supplies)

(Radio--Receivers and reception)

YURCHENKOVA, A. G.

GALUBINA, Z.I.; YURCHENKOVA, A.G.

Efficacy of antibiotics in the prevention of scarlet fever. Zhur.
mikrobiol.epid.i immun. no.3:23-25 Mr '54. (MIRA 7:4)

1. Iz Gor'kovskogo instituta epidemiologii i mikrobiologii (direktor
A.N.Meshalova) i sanitarno-epidemiologicheskoy stantsii Sverdlov-
nskogo rayona g. Gor'kogo (glavnyy vrach S.I.Tsareva).
(Antibiotics) (Scarlet fever)

TARANENKO, P.I.; LUR'YE, M.I., kand.tekhn.nauk; SERGEYEV, N.M.; YURCHEVSKIY, A.A.

Program controlled stand for investigating unsteady motion
conditions of motor vehicles. Avt.prom. 31 no.10:26-30 0 '65.
(MIRA 18:10)

1. Moskovskiy avtomobil'no-dorozhnyy institut i Tsentral'nyy
nauchno-issledovatel'skiy ordena Trudovogo Krasnogo Znameni
avtomobil'nyy i avtomotorny institut.

PALINSKIY, B.V.; YURCHUK, Y.M.

New data on the geology, and oil and gas potentials of the Bitkov
oil-producing region. Part. 1 gas.prom. no.1:9-13 Ja-Ma '65.
(MIRA 18:8)

Cand. Technical Sci.

YURCHIK, S. I.

"Investigation of the Effect of Certain Admixtures and Artificial Aging
on the Properties of Structural Gypsum." Sub 29 Sep 47, Moscow Order of Lenin
Chemicotechnological Inst imeni D. I. Mendeleev

Dissertations presented for degrees in science and engineering in
Moscow in 1947.

SO: Sum.No. 457, 18 Apr 55

YURCHIK, S. I.

USSR/Engineering - Refractories, Technology

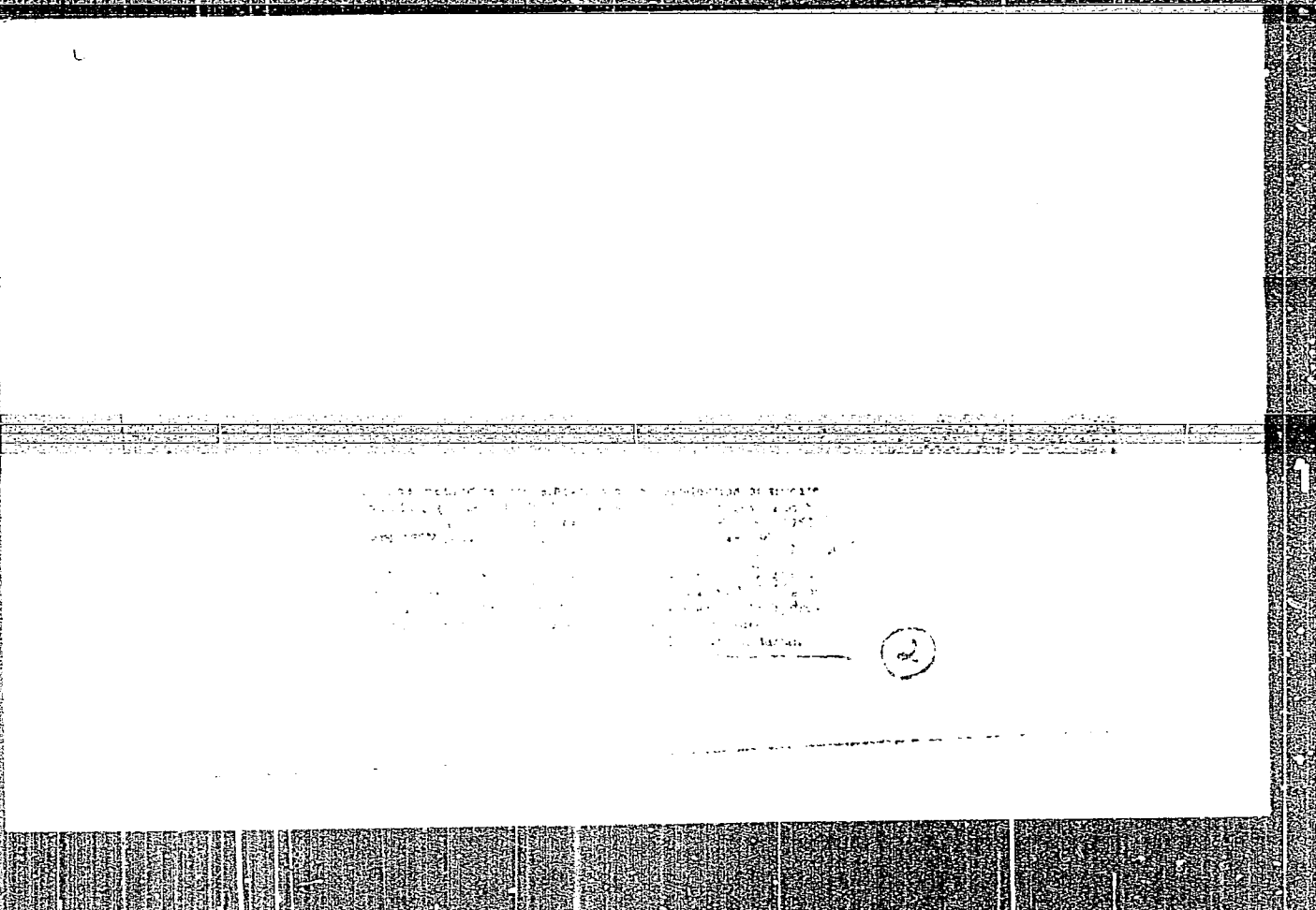
Nov 51

"Effect of Steam Pressure on Physicomechanical Properties of Silica Brick With Addition of Granulated Sodium Silicate," P. P. Budnikov, Corr Mem, Acad Sci USSR, M.A. Matveyev, S. I. Yurchik

"Dok Ak Nauk SSSR" Vol LXXXI, No 2, pp 255-258

Introduction of sodium silicate into sand-lime mixt intensifies formation of calcium hydrosilicates due to increased content of active silica, and indreases effect of higher steam pressure in autoclave in respect to improving strength of product made by hydrothermal method. In addn, granulated sodium silicate decreases water absorption of brick, having favorable effect on its frost-resistance.

199T31



Yurchik, S.I.
POPOV, A.N.; YURCHIK, S.I., inzhener

Rapid stripping of centrifugal reinforced concrete pipes. Bet. 1
zhel.-bet. no.5:188-190 Ag '55. (MIRA 8:9)

1. Deystvitel'nyy chlen Akademii arkhitektury SSSR (for Popov)
(Pipes, Concrete)

POKRIVNICHKI, St.; YURCHIK, V.; STENGERT, K.

Cardiac arrest in the operating room. Khirurgia (Sofia) 18
no.5:521-524 '65.

1. Institut po anesteziologija, Lodz (direktor dotsent St.
Pokrivnichki) i Institut po anesteziologija pri III. khir.
klinika na MA, Poznan (rukovoditel - V. IURgin).

ACC NR: AP6022019

SOURCE CODE: UR/0120/66/000/003/0165/0167

AUTHOR: Kikoin, A. K.; Buzynov, A. Ye.; Yurchikov, Ye. Ye.

ORG: Institute of the Physics of Metals, AN SSSR, Sverdlovsk (Institut fiziki metallor AN SSSR)

TITLE: A vacuum device with a diffusion pump

SOURCE: Pribory i tekhnika eksperimenta, no. 3, 1966, 165-167

TOPIC TAGS: vacuum, vacuum chamber, vacuum pump, vacuum technology, diffusion pump

ABSTRACT: A simple vacuum device capable of producing in its evaporating chamber a vacuum of $\sim 5 \cdot 10^{-8}$ torr, which is high enough for thin film technology, is described. Usually the possibility of obtaining such a vacuum depends on the speed with which working pressure is restored in the chamber after dismantling and parts replacement. Because of this every attempt to obtain a metallic thin film takes a long time and, if frequent replacements of the evaporator, or other parts of the vacuum device are required, then major difficulties are encountered. In the vacuum device discussed a diffusion pump, mounted directly in the evaporating chamber, is utilized which makes it possible to obtain within a short time a pressure of $2 \cdot 10^{-7}$ and a vacuum of $5 \cdot 10^{-8}$ torr. The evaporating chamber is in the form of a $3\phi 250$ mm cylinder with a volume of 15 l mounted on a steel plate. The chamber is evacuated through an opening in the center of the steel plate by the RVN-10 preevacuation pump and by the TsVL-100 oil-

UDC: 539.234:621.52

Card 1/2

ACC NR: AP6022019

vapor pump. High vacuum speed made possible by the diffusion pump permits the use of ordinary pressurizing and vacuum sanitation methods. The speed is such that during the evaporation with insignificant gas releases the pressure in the chamber increases by less than half an order of magnitude. Orig. art. has: 1 figure.

SUB CODE: 2013/ SUBM DATE: 12Jun65/ ORIG REF: 001

Card 2/2

YURCHISHIN, M.G., burovoy master

We need equipment for drilling slim wells. Neftianik 5 no. 12
D '60. (MIR# 13:12)

1. Prikumskaya kontora razvedochnogo bureniya tresta Stavropol'-
nefterazvedka.
(Stavropol Territory--Oil well drilling--Equipment and supplies)

YURCHISHIN, Ya.F.

Experience in thrombelastography using oxalated plasma.
Probl. gemat. i perel. krovi ~~№~~ no.6249-54 Je'63

(MIRA 1724)

1. Is fakul'tetskoy khirurgicheskoy kliniki (zav. - prof.
G.G. Karavancv) L'vovskogo meditsinskogo instituta na base
2-go khirurgicheskogo otdeleniya L'vovskoy oblastnoy klini-
cheskoy bol'nitsy.

S/044/61/000/005/002/025
C111/G444

AUTHORS: Ayzenberg, N. N., Yurchuk, A. P.

TITLE: On some problems of the propositional calculus

PERIODICAL: Referativnyy zhurnal, Matematika, no. 5, 1961, 8, abstract 5A74. (Dokl. i. soobshch. Uzhgorodsk. un-t. Ser. fiz.-matem., 1960, no. 3, 66 - 67)

TEXT: Information on new proofs of well-known theorems, granting 1) a survey of all conclusions of an assumption, and 2) the obtainment of all assumptions of a proposition for the propositional calculus of I. I. Zhegalkin (Matem. sb. 1927, 34, no. 1). The authors do not explicitly refer to the fact that the table, given by them, is a truth-table for the separating "or".

(Abstracter's note: Complete translation.)

Card 1/1

PSAREV, V.I.; YURCHUK, I.A.

Coalescence of carbide particles in the process of continuous heating. Izv. vys. ucheb. zav.; Chern. met. 4 no.10:82-87 '61.
(MIRA 14:11)

1. Chernovitskiy gosudarstvennyy universitet.
(Steel--Heat treatment)

YURCHUK, I.M.

Geology, and oil and gas potentials of the southern Komi-Permyak National Area. Geol. nefti i gaza 5 no.12:12-18 D '61.

(MIRA 14:114)

1. Kontora, razvedochnogo bureniya No.3 treata Perm'nefterazvedka.
(Komi-Permyak National Area--Petroleum geology)
(Komi-Permyak National Area--Gas, Natural--Geology)

TURCHUK, I.M.

Geological data and prospects for finding oil in Carboniferous
and Devonian sediments in the southern part of the Kama arch.
Trudy VNIGNI no.34:53-60 '61. (MIRA 15:7)
(Perm Province—Petroleum geology)

YURCHUK, I.M.

Geology and the prospects for finding oil in the Kama area.
Trudy VNIGNI no.36:32-38 '63. (MIRA 17:9)

YURCHUK, S., podpolkovnik tekhnicheskoy sluzhby

"How to protect a weapon from corrosion" by V.N. Poddubnyi.
Reviewed by S. Yurchuk, Starsh. serzh. no.1:29 Ja '62.

(Firearms Maintenance and repair) (Poddubnyi, V.N.)

(MIRA 15:4)

YURCHUK, S., inzh.

Forge for Russian weapons. Voen. znan. 38 no.6:25 Ja '62.

(MIRA 15:6)

(Tula—Arms and armor)

YURCHUK, S., inzh.

Designer of weapons used in sports. Voen. znan. 39
no.2:28-29 F '63. (MIRA 16:3)

(Firearms)

(Margolin, Mikhail Vladimirovich)

YURCHUK, S., inzh.

(golden hands of the armorer. Voen.znan. 38 no.12:32-33 I '62.

(Solov'yev, Pavel Aleksandrovich) (Firearms) (MIRA 15:12)

YURCHUK, Sergey Prokof'yevich; POZDNY SHEV, A.V., redaktor; MURTYAN, T.P.,
tekhnicheskiy redaktor

[Taking care of weapons] Beregi oruzhie. Moskva, Izd-vo DCSAAF,
1955. 45 p. (MLRA 9:2)
(Firearms--Maintenance and repair)

ACC NR: AT7001817

SOURCE CODE: UR/2778/66/000/015/0121/0128

AUTHOR: Yurchuk, V. A.; Gulyayev, A. A.

ORG: none

TITLE: Compensating elements for pulse circuits (bridges) with conversion (rheochords)

SOURCE: Leningrad, Nauchno-issledovatel'skiy institut gidrometeorologicheskogo priborostroyeniya. Trudy, no. 15, 1966, 121-128

TOPIC TAGS: meteorology, meteorologic instrument, pulse circuit, pulse bridge, rheochord, conversion unit, compensation element

ABSTRACT: The authors describe a circuit used in measuring meteorological parameters. The circuit consists of a dynamically compensated electrical bridge fed by a pulsed power supply and a rheochord which serves as the compensating conversion unit. Orig. art. has: 5 figs. and 8 formulas. [SP]

SUB CODE: 08, 09/SUBM DATE: none/ORIG REF: 002/

Card 1/1

ACC NR: AT7001813

SOURCE CODE: UR/2778/66/000/015/0072/0078

AUTHOR: Yurchuk, V. A.; Zlatin, A. L.; Gershenson, G. S.

ORG: none

TITLE: Resistance telemetering system

SOURCE: Leningrad. Nauchno-issledovatel'skiy institut gidrometeorologicheskogo priborostroyeniya. Trudy, no. 15, 1966, 72-78

TOPIC TAGS: telemetry system, telemetry transmitter, telemetry receiver, hydrometeorology, telemetry, electric resistance telemeter, resistance telemeter, pulse bridge telemeter

ABSTRACT: The authors discuss the principles of the construction of simple pulse-bridge telemetric systems for measuring hydrometeorological resistance when the measurement of meteorological elements is reduced to the measurement of electric resistance. The system consists of a measuring-and-transmitting unit and a receiving-and-recording unit. Circuit diagrams are given for the transmitter and receiver units, and the design of the various elements in the units is described.

Orig. art. has: 3 figures and 19 formulas. [Based on authors' abstract] [SP]

SUB CODE: 08, 09/SUBM DATE: none/ORIG REF: 001/

Card 1/1

POPOV, L.V., inzh.; TRAKHTER, L.P., inzh.; YURCHUK, V.A., inzh.

Networks for the electric power supply of oil fields. Prom.energ.
17 no.5:45-46 My '62. (MIRA 15:5)
(Electric power distribution) (Oil fields)

KNYSHEV, Ivan Nikitich; PRON', Vladimir Matveyevich; YURCHUK, V.I.,
kand. ist. nauk, otv. red.; VALIGURA, V.A., red.; MATVIICHUK,
A.A., tekhn. red.

[Our confident steps] Tverdoi postup'iu. Kiev, 1961. 45 p.
(Obshchestvo po rasprostraneniu politicheskikh i nauchnykh
znani Ukrainskoi SSR. Ser.1, no.20) (MIRA 15:2)
(Dnepropetrovsk—Steel industry) (Efficiency, Industrial)

YURCHUK, Y.F. F

GEBGARDT, A.G.; DATSYUK, N.M.; YURCHUK Y.F.

Effect of introducing Azotobacter on the thermal conditions of the
substrate in producing soil azotobacterin. Dep. ta pov. L'viv.un.
no.6 pt.2:27-30 '55. (MIRA 10:3)
(Azotobacter) (Soil temperature) (Soil inoculation)

YURDANOV, I. I.

~~Boric acid determination by saturation.~~ L. A. Majs and
I. I. Yurdanov. Plant "Omega" Riga, Latvia. Zoodifkays
~~1983, 2, 103-105.~~ The method is based on satg. with
H₃BO₃ soln. to be tested for H₃BO₃ and detg. the quantity
of H₃BO₃ soln. to obtain a satd. soln. at some detd.
temp. The method is suitable for other electrolytes.

IVANYUK, L.I., inzh.; KOCHAN, V.A., kand. tekhn. nauk; OGIRKO, N.M., inzh.;
YURCHUK, A.A., inzh.

The UPIP-60M universal instrument. Priboroostroenie no.2:25-26
F '65. (MIRA 18:3)

YURCHUK, I.M.

Geological prospecting for oil and gas in the Kaza Arch.
Geol. nefiti i gaza 7 no.12:15-18 D '63. (MIRA 17:8)

1. KRB No.3 tresta Permnefterazvedka.

Yurecek
Czechoslovakia / Analytical Chemistry.
Analysis of Organic Substances.

E-3

Abs Jour: Ref. Zhur - Khimiya No. 2, 1958, 4350

Author : Yurecek, Khladek, Khladkova, Soucek, Srpova

Title : Simultaneous Detection, Identification and
Determination of Secondary and Tertiary Alcohols
by a Micromethod.

Orig Pub: Chem. listy, 1957, 51, No. 3, 448-451

Abstract: The alcohol under investigation is converted
into the corresponding alkyl chloride by means
of the Lucas reagent (conc. HCl, sp. gr. 1.19
or the solution of 136 g. of anhydrous $ZnCl_2$ in
105 cc. conc. HCl). The separated alkyl chloride
is converted with thiourea (1) into a soluble
alkyl thiuronium chloride. After neutralization

Card 1/2

Czechoslovakia / Analytical Chemistry.
Analysis of Organic Substances.

E-3

Abs Jour: Ref. Zhur - Khimiya No. 2, 1958, 4350

with CH_3COONa it is converted by the action of sodium 3,5-dinitrobenzoate (11) into an insoluble alkyl thiuronium 3,5-dinitrobenzoate. The salt is recrystallized from $\text{C}_2\text{H}_5\text{OH}$ solution and its nitro groups are determined by titration with an excess of approximately a .4N solution of TiCl_3 , 0.05N solution of $\text{NH}_4\text{Fe}(\text{SO}_4)_2$ using NH_4SCN as indicator. A blank determination is required. The melting point of the derivative is determined at the same time. In the reaction of alkyl chlorides with (1) or (11) the addition of KI is expedient. The method is not suitable for pentanol-3, 2,3-dimethyl pentanol-3, cyclohexanol and triphenylcarbinol.

Card 2/2

YURECHKO, K.

GONCHAROV, Viktor Vladimirovich; master sportu SRSR; YURECHKO, K., red.;

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R001963210006-3

[Along the path of the clouds; notes of a glider enthusiast]
Khmarnyy dorohamy; zapysky sportsmena-planerysta. Kyiv, Vyd-vo
TsK LKSMU "Molod'" 1957. 181 p. (MIRA 10:11)
(Gliding and soaring)

21842 YURECHKO, N. A. Desertnyye i sladkiye Moldavii. Vinodeliye
i vinogradarstvo Moldavii, 1949, No. 3, s. 10-13.

SO: Letopis' Zhurnal'nykh Statey, No. 29, Moskva, 1949

YUREK, B. Ya.

ZENKEVICH, K.K. [Zienkiewicz, K.K.] (Pol'sha); YUREK, B. Ya. [Jurek, B.J.]
(Pol'sha).

The WM-18 gear-grinding machine for machining workpieces with
modified profiles. Stan. i instr. 28 no.10:25-27 G '57.
(Gear-cutting machines) (MLRA 10:11)

I 44124-65 EWP(m)/EWP(j) BW/JW/EM

ACC NR: AF6030657

SOURCE CODE: UR/0020/66/169/006/1332/1334

AUTHOR: Anderson, A. A.; Yurel', S. P.; Skimanskaya, M. V.; Giller, S. A. 13
(Academician AN LatvSSR) 3

ORG: Institute of Organic Synthesis, Academy of Sciences LatvSSR (Institut
organicheskogo sinteza Akademii nauk LatvSSR)

TITLE: Vapor-phase contact deamination of polyfunctional amines¹¹

SOURCE: AN SSSR. Doklady, v. 169, no. 6, 1966, 1332-1334

TOPIC TAGS: amine deamination, catalyst activity, kaolin, alumina, diethylenetri-
amine, ethanolamine, triethylenediamine, piperazine, pyrazine

ABSTRACT: Vapor-phase deamination of diethylenetriamine and dehydration of ethanol-
amine over kaolin, kaolin with 5% K_2O , active alumina, and alumina with B_2O_3 ,
 P_2O_5 , K_2O , WO_3 , and SiO_2 was studied at 300-500C to determine the effect of the
catalysts on the reaction products composition and the catalyst selectivity. The
yield and the composition of the catalyzate depend on both the catalyst
present and the temperature. Gas-liquid chromatographic analysis of the reaction
products showed that the composition of the catalyzate varied with both the catalyst
present and temperature. The reaction product formed in the deamination of

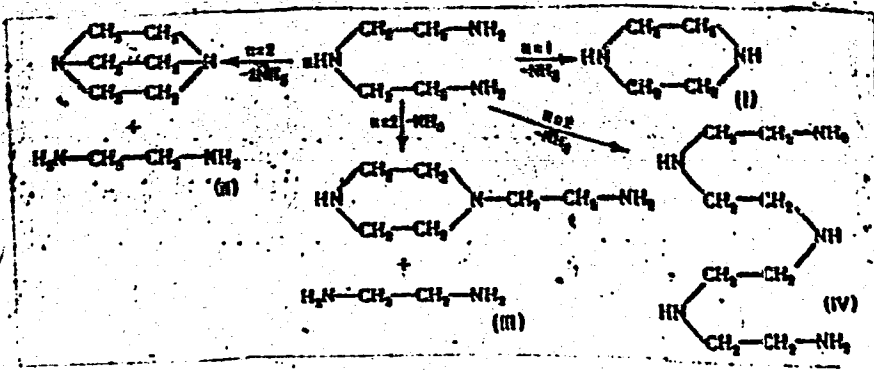
Card 1/3

UDC: 541.128.13+547.615+547.861.3

I 44126-66
ACC NR: AP6J30657

0

diethylenetriamine and its condensation with polyethylenepolyamines formed over kaolin contains 12 identified compounds. The reaction proceeds by the following mechanism:



The presence of ethylamine and pyrazine among the reaction products indicates the occurrence of dehydrogenation and hydrogenation processes in addition to deamination. Reactions III and IV prevailed at low temperatures (340—420C). Dehydrogenation commences at temperatures above 420C, and at temperatures above 460C, the main products undergo cracking. Conversion of the main products of deamination of diethylenetriamine was also studied. Among the reaction products, triethylenediamine was

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ACC NR: AP6030657

found to be most stable. Alumina containing 5% H_2O_2 was the most selective catalyst with respect to the formation of pyrazine, while triethylenediamine, ethylenediamine, and piperazine were not found among the reaction products formed over this catalyst. The addition of acid oxides to the catalyst has a positive effect on the conversion of diethylenetriamine into triethylenediamine. Orig. art. has: 2 figures. [FS]

SUB CODE: 07/ SUBM DATE: 21Dec65/ ORIG REF: 006/ OTH REF: 013/ AFD PRESS: 50727

amm
Card 3/3

ACC NR: AF6034934

(A)

SOURCE CODE: UR/0236/66/000/001/0161/0166

AUTHOR: Prantskyavichyus, G. A.—Franckovicus, G.; Yurenas, V. L.—Jurenas, V.;
Dauknis, V. I.—Dauknys, V.; Yodis, A. P.—Juodis, A.; Mayauskas, I. S.—Majauskas, J.

ORG: Institute of Power and Electrical Engineering, Academy of Sciences Lithuanian
SSR (Institut energetiki i elektrotehnikai, Akademii nauk Litovskoy SSR)

TITLE: Heat resistance of refractory materials. 1. High temperature apparatus for
investigation of heat resistance

SOURCE: AN LitSSR. Ser B. Fiz-matem khim geol i tekhn n, no. 1, 1966, 161-166

TOPIC TAGS: heat resistant material, metallurgic testing machine, aluminum oxide,
zirconium compound

ABSTRACT: The article describes an original piece of apparatus for investigating the
heat resistance of refractory materials with a temperature drop from 2500 to 300°K.
The apparatus has two heating elements: the upper high temperature element is made of
sheet tungsten, and the lower low temperature element of sheet molybdenum. The heating
temperature of the samples in the zone of the upper element can be regulated in the
interval from 600 to 2500°, and in the zone of the lower element from 400 to 1800°K.
By replacing the molybdenum heater by a coil, cooled by countercurrent water, a
temperature near 300°K can be reached in the lower zone. Cyclic change in temperature

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ACC NR: AP6034934

is achieved by displacing the sample from the high temperature zone to the low temperature zone and back with the aid of an electromagnetic device. The test medium can be either a vacuum or an inert gas (argon or helium). The total power requirement of the apparatus is 10 kilowatts. Investigations of the heat resistance of samples of refractory materials based on refractory oxides of aluminum and zirconium have shown that the apparatus is suitable for both long and short term cyclic tests. Orig. art. has: 4 figures.

SUB CODE: 11/ SUBM DATE: 08Dec65/ ORIG REF: 002

Card 2/2

YURENIN, B.N.

BENESHEVICH, I.I., kandidat tekhnicheskikh nauk; BOGIN, M.H., kandidat tekhnicheskikh nauk; BYKOV, Ye.I., inzhener; VLASOV, I.I., kandidat tekhnicheskikh nauk; GRITSEVSKIY, M.Ye., inzhener; GRUBER, L.O., inzhener; GURVICH, V.G., inzhener; DAVYDOV, V.N., inzhener; YER-SHOV, I.M., kandidat tekhnicheskikh nauk; ZASORIN, S.N., kandidat tekhnicheskikh nauk; IVAHOV, I.I., kandidat tekhnicheskikh nauk; KRAUKLIS, A.A., inzhener; KROTOV, L.B., inzhener; LAPIN, V.B., inzhener; IASTOVSKIY, V.P., dotsent; LAFUNIN, N.I., inzhener; MARKVADE, K.G., professor, doktor tekhnicheskikh nauk; MAKHAYLOV, M.I., professor, doktor tekhnicheskikh nauk; NIKANOROV, V.A., inzhener; OSKOLKOV, K.N., inzhener; OKHOSHIN, L.I., inzhener; PARFENOV, K.A., dotsent, kandidat tekhnicheskikh nauk; PERTSOVSKIY, L.M., inzhener; POPOV, I.P., inzhener; PGRSHNEV, B.G., inzhener; RATNER, M.P., inzhener; ROSSIYEVSKIY, G.I., dotsent, kandidat tekhnicheskikh nauk; RYKOV, I.I., kandidat tekhnicheskikh nauk; RYSHKOVSKIY, I.Ya., dotsent, kandidat tekhnicheskikh nauk; RYABKOV, A.Ya., professor [deceased]; TAGER, S.A., kandidat tekhnicheskikh nauk; KHAZEN, M.M., professor, doktor tekhnicheskikh nauk; CHERNYSHEV, M.A., doktor tekhnicheskikh nauk; MDIN, L.Ye., professor, doktor tekhnicheskikh nauk; YURENIN, B.N., dotsent; AKSENOV, I.Ya., dotsent, kandidat tekhnicheskikh nauk; ANKHANGEL'SKIY, A.S., inzhener; BARTENEV, P.V., professor, doktor tekhnicheskikh nauk; BMBNGARD, K.A., kandidat tekhnicheskikh nauk; BOROVOY, N.Ye., dotsent, kandidat tekhnicheskikh nauk; BOGDANOV, I.A., inzhener; BOGDANOV, N.K., kandidat tekhnicheskikh nauk; VINNICZENKO, N.G., dotsent, kandidat ekonomicheskikh nauk;

(Continued on next card)

BEKESHEVICH, I.I.----(continued) Card 2.

VASIL'YEV, V.F.; GONCHAROV, H.G., inzhener; DERIBAS, A.T., inzhener;
DOBROSUL'SKIY, K.M., dotsent, kandidat tekhnicheskikh nauk; DLUGACH,
B.A., kandidat tekhnicheskikh nauk; YEFIMOV, G.P., kandidat tekhnicheskikh nauk;
ZHEBLINOV, S.V., professor, doktor tekhnicheskikh nauk; ZABELLO, M.L., kandidat tekhnicheskikh nauk; IL'IN, K.P., kandidat tekhnicheskikh nauk; KARSTNIKOV, A.D., kandidat tekhnicheskikh nauk; KAPLUN, F.Sh., inzhener; KANSHIN, M.D.; KOCHNEV, F.F., professor, doktor tekhnicheskikh nauk; KOGAN, L.A., kandidat tekhnicheskikh nauk; KUGHURIN, S.F., inzhener; LEVASHOV, A.D., inzhener; MAKSIMOVICH, B.M., dotsent, kandidat tekhnicheskikh nauk; MARTYNOV, M.S., inzhener; MEDAL', O.M., inzhener; NIKITIN, V.D., professor, kandidat tekhnicheskikh nauk; PADNYA, V.A., inzhener; PANTELEYEV, P.I., kandidat tekhnicheskikh nauk; PESTROV, A.P., professor, doktor tekhnicheskikh nauk; POVOROZHENKO, V.V., professor, doktor tekhnicheskikh nauk; PISKAREV, I.I., dotsent, kandidat tekhnicheskikh nauk; SERGUYEV, Ye.S., kandidat tekhnicheskikh nauk; SIMONOV, K.S., kandidat tekhnicheskikh nauk; SIMANOVSKIY, M.A., inzhener; SUYAZOV, I.G., inzhener; TALDAYEV, F.Ya., inzhener; TIKHONOV, K.K., kandidat tekhnicheskikh nauk; USHAKOV, N.Ya., inzhener; USFENSKIY, V.K., inzhener; FELD'MAN, B.D., kandidat tekhnicheskikh nauk; FERAPONTOV, G.V., inzhener; KHOKHLOV, L.P., inzhener; CHERNOMORDIK, G.I., professor, doktor tekhnicheskikh nauk; SHAMAYEV, M.F., inzhener; SHAFIRKIN, B.I., inzhener; YAKUSHIN, S.I., inzhener; GRANOVSKIY, P.G., redaktor; TISHCHENKO, A.I., redaktor; ISAYEV, I.P., dotsent, kandidat tekhnicheskikh nauk, redaktor; KLIMOV, V.F., dotsent kandidat tekhnicheskikh

(Continued on next card)

BENESHEVICH, I.I.--- (continued) Card 3.

nauk, redaktor; MARKOV, M.V., inzhener, redaktor; KALININ, V.K.,
inzhener, redaktor; STEFANOV, V.N., professor, redaktor; SIDOROV, H.I.,
inzhener, redaktor; GERONIMUS, B.Ye., kandidat tekhnicheskikh nauk,
redaktor; ROBEL', R.I., otvetstvennyy redaktor

[Technical reference manual for railroad engineers] Tekhnicheskiy
spravochnik zheleznodorozhnika. Moskva, Gos. transp.zhel-dor. ind-vo.
Vol.10. [Electric power supply for railroads] Energosnabzhenie zhelez-
nykh dorog. Otv.red. toma K.G.Markvardt. 1956. 1080 p. Vol.13.
[Operation of railroads] Eksploatatsiya zheleznykh dorog. Otv. red.
toma R.I.Robel'. 1956. 739 p. (MLRA 10:2)

1. Chlen-korrespondent Akademii nauk SSSR (for Petrov)
(Electric railroads) (Railroads---Management)

YURENEV I. N.

TA 151T36

USSR/Medicine - Camphor Oil
Chemotherapy

Sep 49

"Comparative Effect of 'Camphor-Sollib' and Camphor Oil," P. N. Yurenev, Clinical Dept, VNIIDITS, Sokol'nik Rayon Hosp, 1 p

"Sov Med" No 9

Tests relative effect of camphor oil and camphor-sollib on pulse, respiration, blood pressure, circulation rate, and electrocardiogram. Camphor-sollib is a eutectic mixture of 39.41% camphor, 48.51% salol, 8.9.5% ethanol, and 0.9-1.2% chloroform. When injected subcutaneously, it does not

151T36

USSR/Medicine - Camphor Oil (Contd)

Sep 49

produce infiltrates any better than camphor oil, but does have faster pharmacodynamic action and is considered a completely satisfactory substitute for camphor oil.

151T36

YURENEV, P. N.

Comparative activities of 'camphor-sollib' and camphor-oil Soviet Medicine, Moscow
1949, 9 (39-40) Tables 1

Paragraph 2083

A preparation of camphor, containing camphor, salicyl, ethanol and chloroform,
suitable for subcutaneous injection was compared with camphor oil.

Clinical trials revealed no toxic side effects and the therapeutic effect was
equal to that of camphor oil.

SO: Section II Vol. 3 No. 1-6

38310 YURENEV, P. N.

Otdalennyye rezul'taty lecheniya yazvennoy bolezni. Sov. meditsina, 1949,
No 12, s. 9-11

YURENEV, P. N., BUKOVSKAYA, A. V.

Heart - Diseases

Clinical aspects of congenital heart diseases. Klin. med. 30 no. 7, 1952.

MONTHLY LIST OF RUSSIAN ACCESSIONS, LIBRARY OF CONGRESS, DECEMBER 1952. UNCLASSIFIED.

YURENEV, P.N., kandidat meditsinskikh nauk.

[Heart diseases; their prevention and treatment] Poroki serdtza, ikh pred-
preshdanie i lechenie. Moskva, Izd-vo "Znanie," 1953. 30 p. (MLRA 6:10)
(Heart--Diseases)

Yurenev, P.N.

SHELAGUROV, A.A., professor; YURENEV, P.N.; MURASHKO, V.V.

On the subject of mitral commissurotomy. Khirurgia no.8:11-16
Ag. '55. (MIRA 9:2)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (dir.-chlen. korrespondent
AMN SSSR prof. B.V. Petrovskiy) pediatricheskogo fakul'teta i
prepedbticheskoy terapevticheskoy kliniki (dir.-prof. A.A.
Shelagurov) lechebnogo fakul'teta II Moskovskogo meditsinskogo
instituta imeni I.V. Stalina.

(MITRAL STENOSIS, surg.
commissurotomy)

YURNEV, P.N., dotsent (Moskva)

Acute and chronic acrdiovascular insufficiency. Med.sestra 15 no.9:
16-20 S '56. (MIRA 9:11)

(CARDIOVASCULAR SYSTEM--DISEASES)

YURENEV, P.N.

GORINSHEYN, M.L., doktor meditsinskikh nauk; YURENEV, P.N., dotsent (Moskva)

Roentgenotherapy of hypertension. Klin.med. 34 no.3:67-69 Kr '56.

(MIRA 10:1)

1. Is gosital'noy terapevticheskoy kliniki (dir. - chlen-korrespon-
dent AMN SSSR prof. A.A.Bagdasarov) pediatricheskogo fakul'teta i
propedavticheskoy terapevticheskoy kliniki (dir. - prof. A.A.
Shelagurov) lechobnogo fakul'teta II Moskovskogo meditsinskogo
instituta imeni I.V.Stalina.

(HYPERTENSION, therapy,
x-ray (Rus))

(RADIOTHERAPY, in various diseases,
hypertension (Rus))

YURENEV, P. N.

SHELAGUROV, A.A., professor; YURENEV, P.N., dotsent; MURASHKO, V.V.
(Moskva)

Surgical therapy of mitral stenosis. Klin.med. 35 no.3:7-14 Kr '57.
(MLRA 10:7)

1. Iz propedevticheskoy terapevticheskoy kliniki (zav. kafedroy -
prof. A.A.Shelagurov) lechebnogo fakul'teta II Moskovskogo meditsin-
skogo instituta imeni Stalina.
(MITRAL STENOSIS, surg.
(Rus))

YURENEV, P. (Moskva)

"Problems in the pathogenesis, clinical aspects and treatment of
rheumatic fever" edited by A.I. Nesterov. Reviewed by P. Yurenev.
Terap. arkh. 29 no.5:96-98 My '57. (MIRA 11:4)
(RHEUMATIC FEVER) (NESTEROV, A.I.)

YURENEV, P.N. (Moscow)

Diet and regimen in diseases of the cardiovascular system.
Med.sestra 17 no.5:7-11 Ky'58 (MIRA 11:6)
(CARDIOVASCULAR SYSTEM--DISEASES)
(DIET IN DISEASE)

YURENEV, P.N. (Moscow)

Prevention of rheumatic fever. Med. gazeta 17 no.8:13-15 Ag'58
(RHEUMATIC FEVER) (MIRA 11:8)

YURENEV, P.N. (Moskva)

Experimental allergic carditis and desensitization therapy [with
summary in English]. Pat.fiziol. i eksp.terap. 3 no.1:44-49
Ja-F '59. (MIRA 12:2)

1. Iz propedevticheskoy terapevticheskoy kliniki (zav. kafedroy -
prof. A.A. Shelagurov) II Moskovskogo meditsinskogo instituta imeni
N.I. Pirogova.

(MYOCARDITIS, experimental,
allergic, desensitization (Rus))

(ALLERGY, exper.
causing myocarditis, desensitization (Rus))

SHELAGUROV, A.A., prof.; YURENEV, P.N., dotsent

Diagnosis of mitral stenosis and its relation to surgical therapy.
Terap.arkh. 31 no.12:45-50 D '59. (MIRA 13:4)

1. Iz propedevticheskoy terapevticheskoy kliniki (zav. - prof. A.A. Shelagurov) lechebnogo fakul'teta II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova.
(MITRAL STENOSIS diag.)

SHELAGUROV, A.A., prof; YURENEV, P.N., dotsent (Moskva)

Clinical picture of a primary tumor of the left auricle.
Klin.med. 37 no.6:116-123 Je '59. (MIRA 12:8)

1. Iz propedevticheskoy terapevticheskoy kliniki (zav. prof. A.A.Shelagurov) II Moskovskogo meditsinskogo instituta imeni N.I.Pirogova.

(HEART, neoplasms
primary, of left auricle, differ. diag. from
mitral stenosis (Rus))
(MITRAL STENOSIS, differ. diag.
primary tumor of left auricle (Ger))

YURENEV, P. N.

Doc Med Sci - (diss) "Rheumatic carditis and mitral commissuro-
tomy." Moscow, 1961. 25 pp; (First Moscow Order of Lenin Med
Inst imeni I. M. Sechenov); 350 copies; price not given; list of
author's works at end of text (15 entries); (KL, 7-61 sup, 256)

YURENEV, P.N., doktor med.nauk; RYBKIN, I.N., kand.med.nauk

Plenum of the board of the All-Russian Society of Therapists.
Kardiologia 2 no.4:91-93 J1-Ag '62. (MIRA 15:9)
(THERAPEUTICS—CONGRESSES)

YURENEV, P.N. (Moskva, 3-ya Bogatyrskaya ul., d.1, korp. 4, kv. 37.)
4, kv. 37.)

Cause of postcommisurotomy syndrome. Grud.khir. no.4:15-20 JI-Ag
'62. (MIRA 15:10)

1. Iz gosital'noy terapevticheskoy kliniki (zav. doktor meditsin-
sikh nauk P.N.Yurenev) pediatricheskogo fakul'teta II Moskovskogo
meditsinskogo instituta imeni N.I.Pirogova.
(MITRAL VALVE—SURGERY)

YURENEV, P.N. (Moskva)

Present methods for the prevention and treatment of heart
defects. Med. sestra 22 no.11:8-11 N°63 (MIRA 16:12)

YURENEV, Pavel Nikolayevich; IPATOV, V.P., red.

[Rheumatic carditis] Revmaticheskii kardit. Moskva,
Meditsina, 1964. 238 p. (MIRA 17:6)

SEELAGUROV, A.A., zasluzhenny deyatel' nauki, prof.; YURENEV, P.N.;
POROSHINA, Yu.A.; ALEKSEYEVA, T.A.

Study of allergic factors in the clinical aspects of internal
diseases; preliminaray report. Sov.med. 26 no.2:17-23 F'63.

(MIRA 16:6)

1. Iz kafedry propedevtiki vnutrennikh bolezney (zav. - za-
sluzhenny deyatel' nauki prof. A.A.Shelagurov) lechebnogo
fakul'teta II Moskovskogo meditsinskogo instituta imeni
N.I.Pirogova i nauchno-issledovatel'skoy allergologicheskoy
laboratorii (zav. - chlen-korrespondent AMN SSSR prof. A.D.
Ado).

(ALLERGY)

(MEDICINE, INTERNAL)

YURENEV, P.N.; ALEKSEYEVA, T.A.; POLOTSKAYA, Ye.L.

Allergic reactivity in myocardial infarct. *Kardiologiya*
no.1:9-14 '64. (MIRA 17:10)

1. Gospiatal'naya terapevticheskaya klinika pediatricheskogo fakul'teta (zav. kafedroy - prof. P.N. Yurenev) II Moskovskogo meditsinskogo instituta imeni Pirogova i allergologicheskaya laboratoriya (zav.- chlen-korrespondent AMN SSSR prof. A.D. Ado) AMN SSSR.

YURENEV, Pavel Nikolayevich; YUKHNOVSKAYA, S.I., red.

[Prevention of rheumatic fever in children] Preduprezh-
denie revmatizma u detei. Moskva, Meditsina, 1965.
29 p. (MIRA 18:12)

YURENEV, Pavel Nikolayevich; YUKHNOVSKAYA, S.I., red.

[Prevention of rheumatic fever in children] Preduprezhdenie revmatizma u detei. Moskva, Meditsina, 1965. 29 p.
(MIRA 18:12)

ГОРЮЧЕ, В. Н.

Coal/Engineering (Contd)
Boilers
Fuel Conservation

Sept 1957

must be made, however, one of which is the heating of the air to 450°C before it enters the combustion chamber. Illustrated with schematic diagrams, tables and graphs of operating data.

USSR/Engineering
Boilers
Fuel Conservation

23728
Sept 1957

"Increasing the Economy of Boilers Operating on a Compound of Coal Dust and Blast Furnace Gas," V. N. Yurkov, A. S. Varinskii, 5 1/2 pp

"Za Ekonomiyu Topliva" Vol IV, No 9

Deals with the use of this fuel compound in type KO-II-200 and LMZ-90/110 boilers. This method results in increased use of blast furnace gases. The use of coal dust is recommended because it is able to burn better without making any special adjustments of air supply. Certain special adaptations

23724

YURENEV, V. N.

Industrial electric power stations with steam turbines. Moskva, Gos. energ. izd-vo
1952, 183 p. (53-15295)

TK1051.I 8

YURENEV, V.N.[author]; BAEHEMOV, I.G.; SHEYNIN, B.I., kandidat tekhnicheskikh nauk [reviewers].

"Industrial steam turbine electric power plants." Elek.sta. 24 no.7:63-64
Jl '53. (MLRA 6:7)

(Electric power plants) (Iurenev, V.N.)

YURENIN, V.N.; LAGOVSKIY, A.A.; LARIONOV, G.Ye., tekhnicheskiy redaktor

[Thermoelectric power plants] Teplovye elektricheskie stantsii.
Moskva, Gos. energ. izd-vo, 1956. 272 p. (HLBA 10:1)
(Electric power plants)

YURENEV, V. N.

AUTHOR: Yurenev, V. N. (Engineer).

9E-4-3/24

TITLE: Increasing the efficiency of industrial electric power stations. (Povysheniye ekonomichnosti promyshlennykh elektrostantsiy).

PERIODICAL: Teploenergetika, 1958, No.4, pp. 16-22 (USSR).

ABSTRACT: Industrial electric power stations account for a considerable proportion of the total Soviet fuel consumption and it is important that they should be efficient. Some idea of the characteristics of their equipment and their thermal efficiency may be obtained from Table 1, which gives data for 1956 for power stations in the ferrous-metallurgical industry. Stations with an output of more than 25 MW preponderate, and they have a considerable number of high-pressure sets. However, 59% of the power stations have outputs less than 25 MW and operate on low- and medium-pressure steam. None of the low-pressure stations, and few of the medium-pressure stations, have turbines with process and heating steam pass-outs, so that operation is under condensing conditions. The relatively high fuel consumption of stations with high-pressure sets as compared with those with medium-pressure sets is due to the greater use of

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96-4-3/24

Increasing the efficiency of industrial electric power stations.

combined heat and electric power generation in the medium-pressure stations. Fuel consumption is high in the low-pressure electric power stations because the boiler and turbine equipment is old, inadequate or small. The data given for power stations in the ferrous-metallurgical industry are characteristic of similar stations in other industries. Even the largest industrial condensing stations are less efficient than modern regional power stations. The possibility of closing down a number of industrial condensing-type stations must be considered but cannot be done on a large scale because of the large capital investment involved. Instead, modernisation of industrial power stations is justified. The main steps needed are to modernise the fuel-handling equipment, and to reconstruct the boiler sets for increased efficiency; also to make greater use of regenerative feed-water heating, maintain better vacuum and so on. Further, the operation of existing industrial power stations can often be made more economic by using higher steam conditions, which may be achieved by superposed equipment. Examples are given of the large fuel savings that can be effected in this way. The case

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Increasing the efficiency of industrial electric power stations. ^{96-4-3/24}

for measures of this kind depends on fuel costs. In the next few years there will be a considerable change in the fuel balance of the country; much more use will be made of natural gas and of underground gasification, which are relatively cheap sources. The use of superposed equipment will be justifiable for stations that operate on long-haul solid fuel with no prospect of going over to cheap fuel. The size of the local heat load supplied by pass-out or back-pressure turbines has a decisive influence on the thermal efficiency of power stations. Fig.1 shows a graph concerning the operation of a medium-pressure heat and electric power station which gives the actual relationship between the specific fuel consumption for electricity generation and the proportion used for heat supply. When 40% or more of the electric power is generated in conjunction with heat supply, the fuel consumption is less than 400 grams/kWh. In a medium-pressure heat and electric power station with back-pressure turbines, the specific fuel consumption is 180 grams/kWh, which is less than half that of a large regional electric power station. Clearly a most important

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Increasing the efficiency of industrial electric power stations. 96-4-3/24

means of raising the efficiency of industrial power stations is to increase as much as possible the amount of electricity generated in connection with heat supply. This can be greatly facilitated by closing down small local boiler-houses and organising centralised heat-supply. When the replacement of condensing turbines by pass-out or back-pressure turbines cannot be justified, the condensing turbines may be operated with reduced vacuum. In this case, the output of the condensing turbine working on medium-pressure steam, which normally delivers steam to a condenser at 0.5 - 0.7 atms, is reduced to about half. Nevertheless, the economies may be great if the heat demand is large. If electric power supply can be obtained from the regional system and there is sufficient heat demand, many of the condensing turbines in industrial electric power stations should be operated with reduced vacuum. To deliver the necessary quantity of heat at the winter peak it may be necessary to use spare boiler capacity. Most small turbines can be operated on reduced vacuum without modifying the stages in any way. When the cost per ton of conventional fuel exceeds about 100 roubles, the use of superposed sets

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Increasing the efficiency of industrial electric power stations.

will be advisable in many small power stations. Extension and reconstruction of the thermal circuit of an isolated low-power, low-pressure electric power station working on long-haul solid fuel is shown in Fig.2. The characteristics of the equipment, and the most important technical and economic data, are given in Table 2. Stations of medium output in large industrial undertakings, which are usually located in towns, should be used as base-load stations for centralised heat-supply. In some cases this may be done by operating condensing turbines on reduced vacuum, transferring additional electric load to the main system. In many cases it will be necessary to change the stages of the turbines, removing the last low-pressure stage. It is quite practical to change the rotor for the winter and summer periods; about two days would be required for the work. In electric power stations and heat and electric power stations at medium-pressure with outputs up to 25 MW, an increasing thermal load should be met by installing boilers for higher steam conditions and back-pressure turbines. Thus, the condensing output is not increased and the cost is kept to a minimum. The installation of

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pass-out turbines is justified only when the unit is quite large and high steam conditions are necessary. In extending isolated power stations at which there is no prospect of connection to an electric power system, it is often most advantageous to instal pass-out turbines. Because of the prospects of developing district-heating from industrial power stations without increasing the amount of electric power generated under condensing conditions, it is necessary to manufacture turbines with back-pressures of 0.7 - 1.2 atms and rated outputs of up to 12 MW.

There are 3 figures and 2 tables.

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