PETROV, I.V., inzh.; SHVARTS, V.S., inzh.

Organizing the operation of mortar plants. Bezop.truda v prom. 3 no.1:16-17 Ja '59. (MIRA 12:3)
(Building materials industry)

L 6709-65 EWT(d)/EWT(m)/EWP(w)/EWP(t)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(h)/EWP(z)/EWP(b)/EWP(l) Pf-4 MJW/JD

ACCESSION NR: AP5016103

UR/0122/65/000/006/0033/0037
621.81:620.178.16

AUTHORS: Grinberg, N. A. (Candidate of technical sciences); Petrov, I. V. (Engineer); Koshelev, I. K.

TITLE: Wear-resistance of plating materials at different temperatures

SOURCE: Vestnik mashinostroyeniya, no. 6, 1965, 33-37

TOPIC TAGS: metal wear, wear resistance/ KBKh alloy, KBKh 45 alloy, KhR 19 alloy, T 620 alloy, ETN 5 alloy, ETN 4 alloy, US alloy, ETN 2 alloy, EN 50M alloy, TsN 11 alloy, ETN 1 alloy, OZI 1 alloy, VSN 6 alloy, G13L alloy

ABSTRACT: To determine the most durable plating alloy for teeth on EKG-4 excavator shovels, 15 different plating alloys were experimentally tested at the Moskovskiy inzhenerno-stroitel'nyy institut im. V. V. Kuybyshev (Moscow Engineering Construction Institute) under simulated working conditions. The specimens were tested in apparatus ChP-1M which represents a rotating drum with internally mounted specimens (filled with granulated abrasives) simulating actual working conditions of the open pit excavators as reported by K. D. Chudakov, I. V. Petrov, and L. S. Valova (Issledovaniye rabotosposobnosti naplavochnykh materialov pri

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L-61709-65

ACCESSION NR: AP5016103

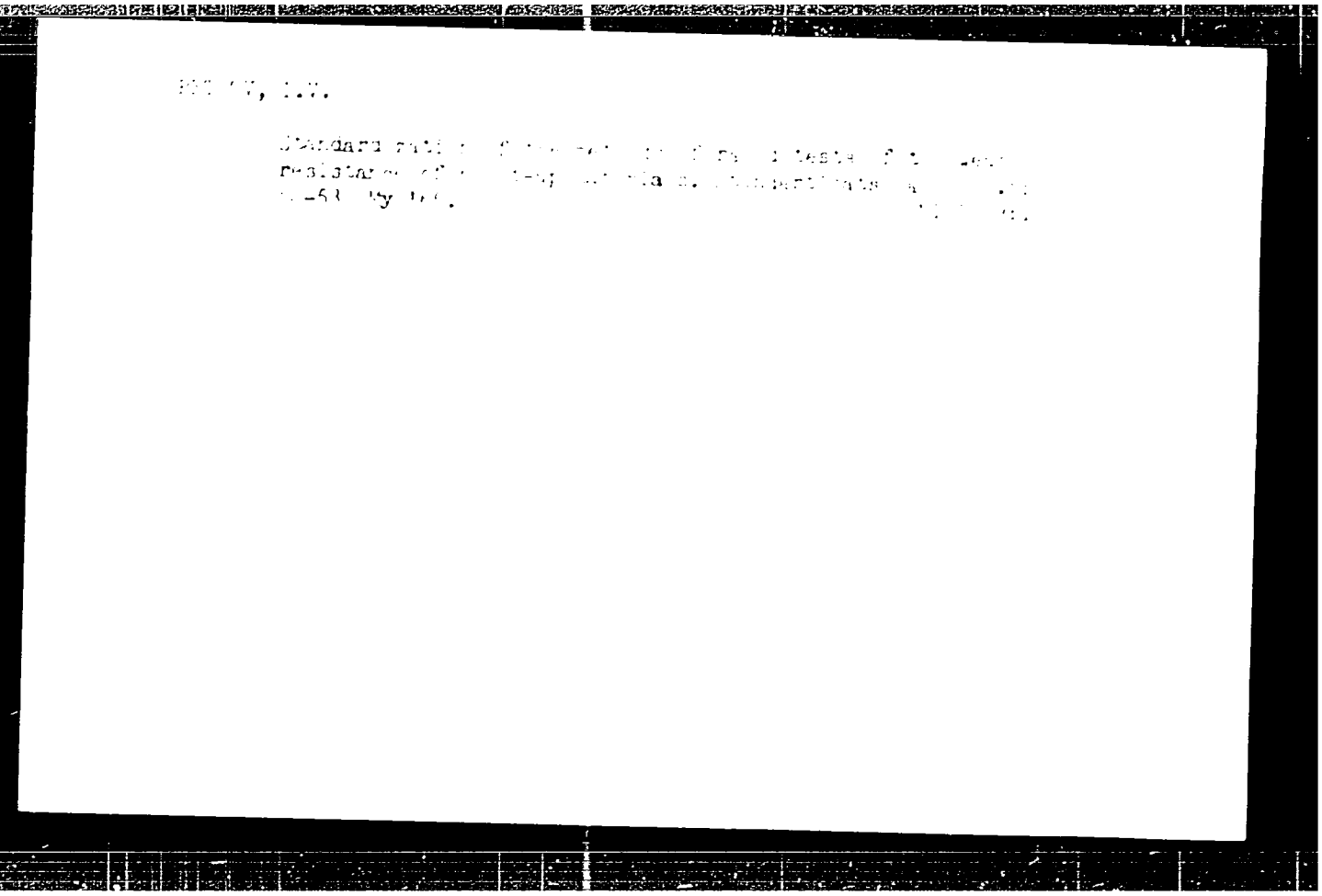
abrazivnom dinamicheskom iznashivanii. "Vestnik mashinostroyeniya," 1963, No. 8). After determining the test conditions for best simulation, the materials were tested at temperatures above 0°C, and the materials showing best durability were then tested at -25C. Metallographic analysis of the platings before and after the tests were also conducted. Six groups of metal platings were tested: 1- alloys with high C, Cr, and V content (KBKh, KBKh-45, KhR-19, T-620, ETN-5); 2- tungsten alloys (relit, ETN-4, ETN-4 on, ETN-2); 3- medium-alloy plating (EN-60M); 4- alloys of the type "stalinit" (improved stalinit, ETN-2, TsN-11); 5- high-manganese alloys (ETN-1); 6- C, Cr, W alloys (OZI-1, VSN-6). It was found that KBKh-45, ETN-2, TsN-11, OZI-1, and VSN-6 had the best coefficients of relative volume wear resistance (relative to steel G13L): 1.55, 1.13, 1.64, 1.97, and 2.81 respectively for plating on steel St 3 (above 0°C); 1.47, 1.02, 1.46, 1.75, 2.66 on St3 (at -25C) and 1.68, 1.16, no data; 2.11 3.08 on G13L (at -25C). These results were checked by plating half of actual excavator teeth with some of the better alloys and using them under operating conditions. The results were 3.68 and 3.23 respectively for VSN-6 and OZI-1, indicating that these are the most durable plating materials. Orig. art. has: 4 tables and 5 figures.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MM, IE

NO REF SOV: 002 OTHER: 000

Card 2/2



PETROV, I.V., inzh.

Testing wear-resistant [illegible]

N [illegible]

1. Moskovskiy [illegible] Institut im. [illegible]

PETROV, I.V., inzh.; SHVARTS, V.S.

New methods of organizing the mortar production for the Main Administration of Housing and Public Construction in the City of Moscow. Mekh. stroi. 16 no.1:25-27 Ja '59. (MIRA 12:1)
(Moscow--Mortar)

PHASE I BOOK EXPLOITATION SOV/[illegible]

Dikenshteyn, G. Kh., L. I. Zn[illegible], M.I. Zayt[illegible], [illegible]
Yu. V. Kayesh, and I.V. Petrov

Gazlinskoye gazoneftyanoye mestor zhdeniye (Gaz [illegible] Oil and Gas Fields) Moscow, Gostoptekhizdat, 19[illegible]. 44 p. 800 [illegible] printed.

Exec. Ed.: A. I. Zaretskaya; Tech. Ed: I. G. Fedotova.

PURPOSE: This booklet is intended for technical personnel in the petroleum and chemical industries.

COVERAGE: This booklet describes the geological structure (stratigraphy and tectonics) of the Gazli gas and oil fields and includes the results of exploratory test drilling. Characteristics of productive horizons and certain specifications of oil- and gas-bearing possibilities of the Mesozoic deposits, as well as preliminary estimates of gas reserves, are given. The material presented are based on the most recent data obtained [illegible]. No references are given.

Card 1/2

Gazli Oil and Gas Fields

TABLE OF CONTENTS:

AVAILABLE: Library of Congress

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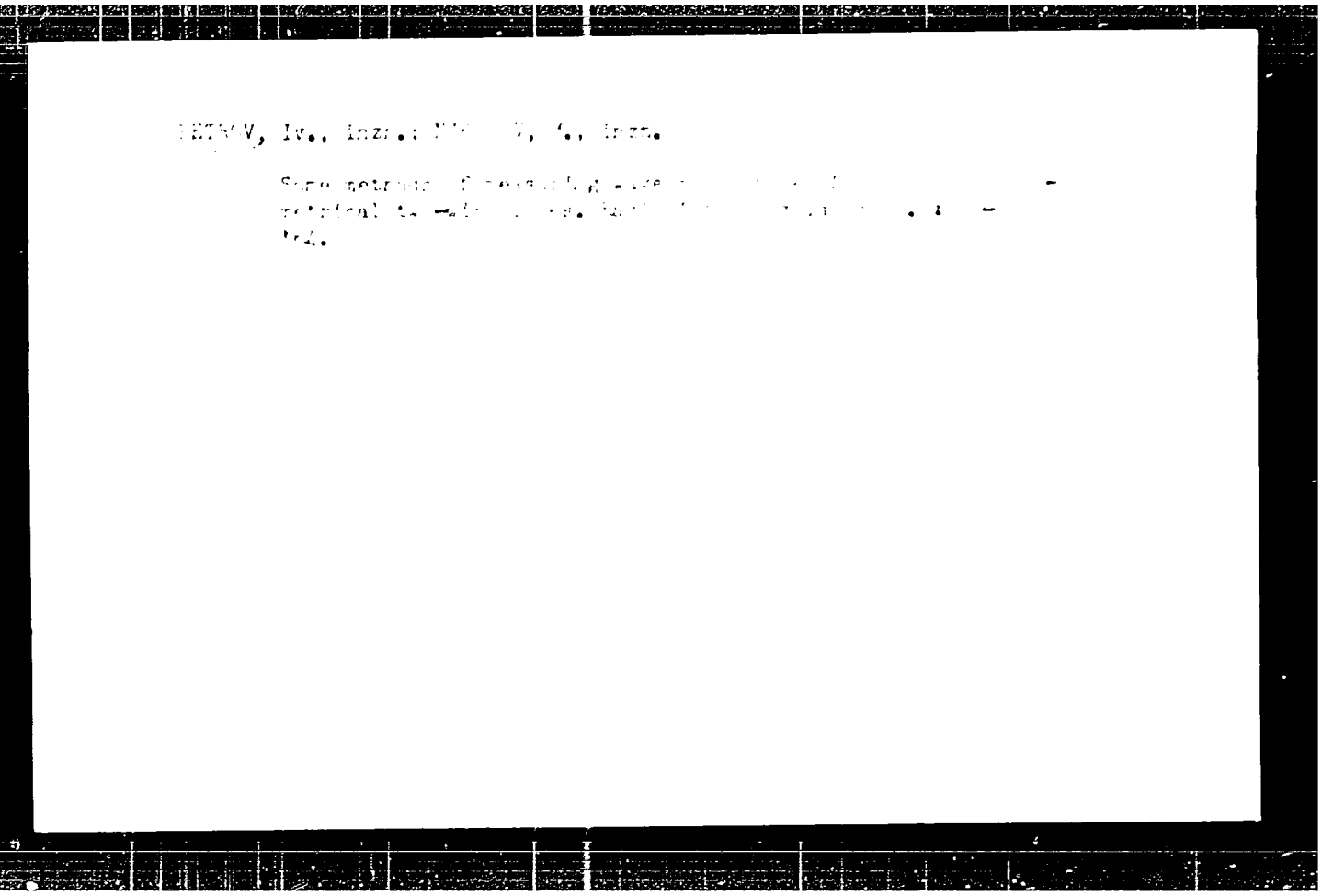
CHUDAKOV, Konstantin Petrovich; FEDIN, Leonid Aleksandrovich; PETROV, Il'ya Vladimirovich; TERLOV, Yuriy Sergeyevich; FERTVALYUK, M.V., red.izd-va; SHEKSTNEVA, N.V., tekhn.red.

[Maintenance of construction machinery] Tekhnicheskoe obsluzhivanie stroitel'nykh mashin. [By] K.P.Chudakov i dr. Moskva, Gosstroiizdat, 1963. 259 p. (MIRA 16:12)
(Construction equipment--Maintenance and repair)

LOTOTSKIY, Konstantin Vasil'yevich, prepodavatel'; PETROV, Igor' Vladimirovich, prepodavatel'; NIKITINA, V.M., red.; DEYEVA, V.M., tekhn.red.

[Practical manual on electrical engineering and on the application of electricity in agriculture] Praktikum po elektrotekhnike i primeneniiu elektricheskoi energii v sel'skom khoziaistve. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1960. 163 p. (MIRA 13:6)

1. Glukhovskiy tekhnikum mekhanizatsii i elektrifikatsii sel'skogo khozyaystva (for Lototskiy, Petrov).
(Electric engineering--Study and teaching)
(Electricity in agriculture)



PETROV, IV.

The "Baltika" Radio Receiver. In Radio Engineering, No. 2:31 Feb 55

[redacted]

[redacted] Questions and Answers. [redacted] Engineering, [redacted] Mar. [redacted]

DIKENSHTEYN, G.Kh.; ZHUKOVSKIY, L.G.; IL'IN, V.D.; KAYESH, Yu.V.; PETROV, I.V.; SOTIRIADI, K.A.

Geology and the oil and gas potentials of the Gazli field. Trudy VNIGNI no.30:38-63 '61. (MIRA 14:9)
(Gazli region--Petroleum geology) (Gazli region--Gas, Natural--Geology)

DIKENSHTEYN, G.Kh.; ZHUKOVSKIY, L.G.; ZAYDEL'SON, M.I.; IL'IN, V.D.; KAYESH, Yu.V.; PETROV, I.V.; ZARETSKAYA, A.I., vedushchiy red.; FEDOTOVA, I.S., tekhn.red.

[Gazli gas-oil fields] Gazlinskoe gazoneftianoe mestorozhdenie. Moskva, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry, 1959. 44 p. (MIRA 12:4)

(Gazli region--Petroleum geology)
(Gazli region--Gas, Natural--Geology)

PETROV, I.V.

Graphic method for determining the position of the gas-water contact in gas pools. Geol. nefti i gaza 4 no.5:46-51 My '60.(MIRA 13:9)

1. Trest Uzvekneftegazrazvedka.
(Gas wells)

PETROV, I.V.; LOTOTSKIY, Konstantin Vasil'yevich; LERNER, F.M.; KHODOROVICH, M.A.; POYARKOV, K.M., red.; GUREVICH, M.M., tekhn.red.

[Electric engineering and use of electric power in agriculture] Elektrotekhnika i primenenie elektricheskoi energii v sel'skom khoziaistve. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1958. 373 p. (MIRA 12:1)
(Electricity in agriculture)
(Electric engineering)

PETROV, IV.

Condensers with Constant Capacity. "RADIO" Ministry of Communications, #11:VII:Nov. 55

PETROV, Iv., inzh.

A method of determining the wave impedance to the coaxial cables and the double lines with a solid dielectric. Radio i televiziia 11 no.10:313 '62.

PETROV, IV.

For Our Native Televis on. "RADIO" Ministry of Communications, #12:1:Dec. 55

PETROV, IV.

On a Battlefield Radio Station. "RADIO" Ministry of Communications, #12:2:Dec. 55

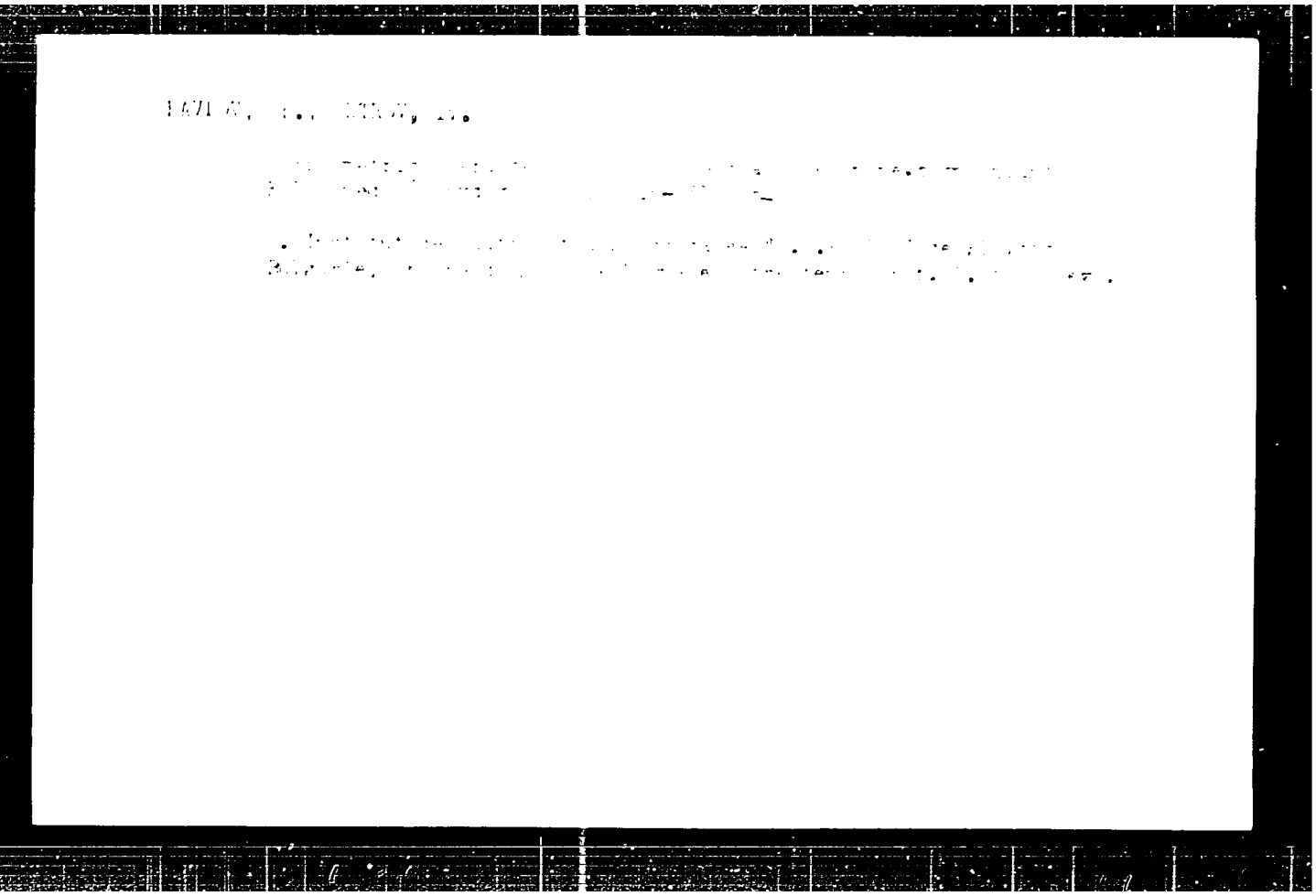
MARKHASIN, Yu. A., inzhener.; PETROV, I.V., inzhener.

Conditions for an effective dry separation of poor magnetite ores of Gornaya Shoriya. Gor. zhur. no.3:67-69 Mr '57. (MLRA 10:4)

1. Kuznetskiy metallurgicheskiy kombinat.
(Kemerovo Province--Magnetite) (Magnetic separation of ores)

KHODOROVICH, Mikhail Antonovich; LERNER, F.M.; LOTOTSKIY, K.V.; VOLOSHENKO, V.A.; PETROV, I.V.; POYARKOV, K.M., redaktor; BALLOD, A.I., tekhnicheskiy redaktor; VESKOVA, Ye.I., tekhnicheskiy redaktor. (MLRA 9:5)

[Operating and repairing electric farm equipment] Eksploatatsiia i remont sel'skokhoziaistvennykh elektricheskikh ustanovok. Moskva, Gos.izd-vo selkhoz.lit-ry, 1955.312 p.
(Electricity in agriculture) (Electric engineering)



KIRILOV, D., inzh.; PETKOV, Iv., inzh.; [illegible], IU., inzh.; KHAIDUKOV, P., inzh.

The TRS-40/20 television relay. Radio i televiziia 11 no.11:335-339 '62.

Efficiency, Increase.

Striving for the attainment of the honorary title: factory of superior quality. Leg. prom. No. 3, 1952

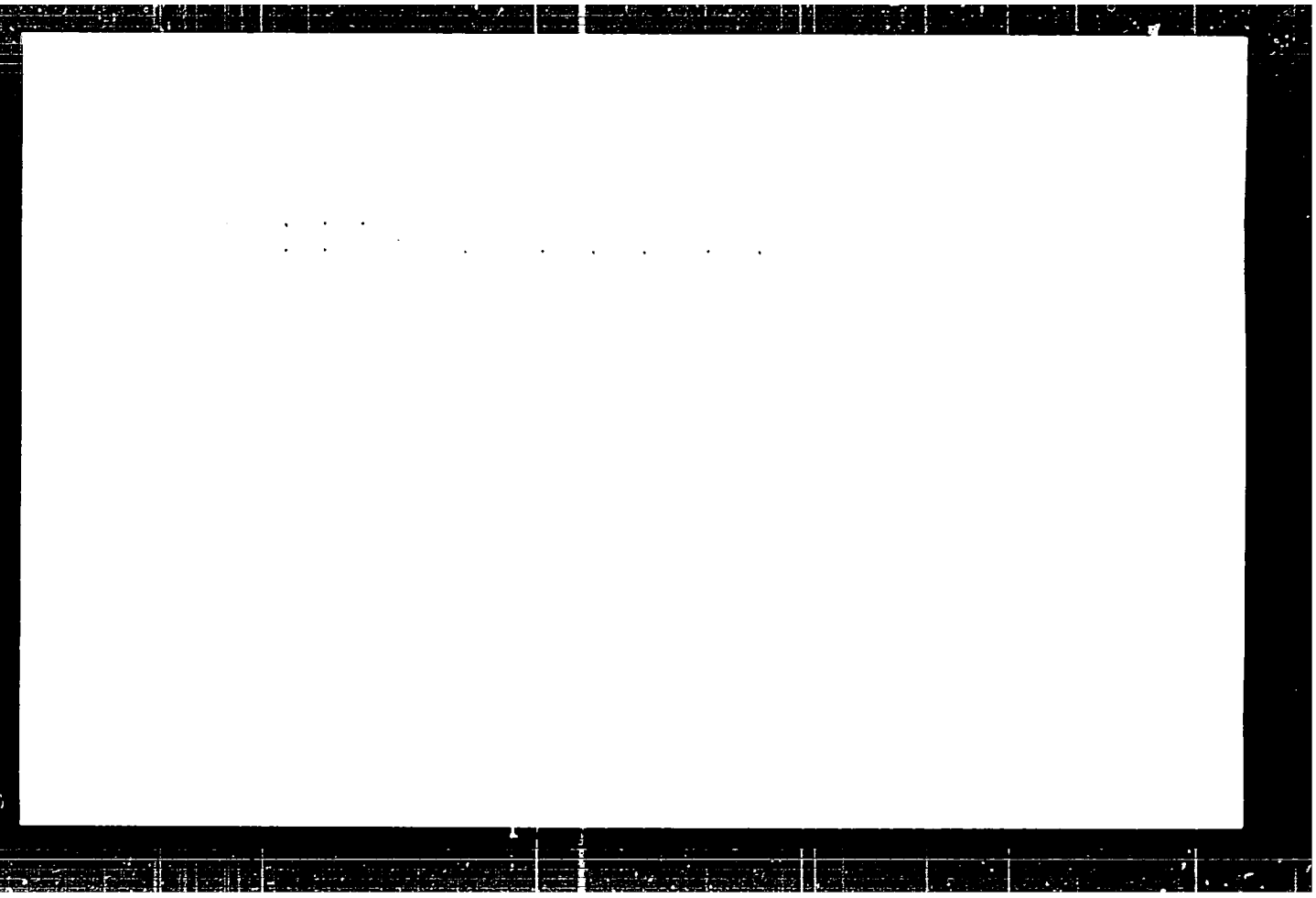
Monthly List of Russian Accessions, Library of Congress, June 1952. Unclassified

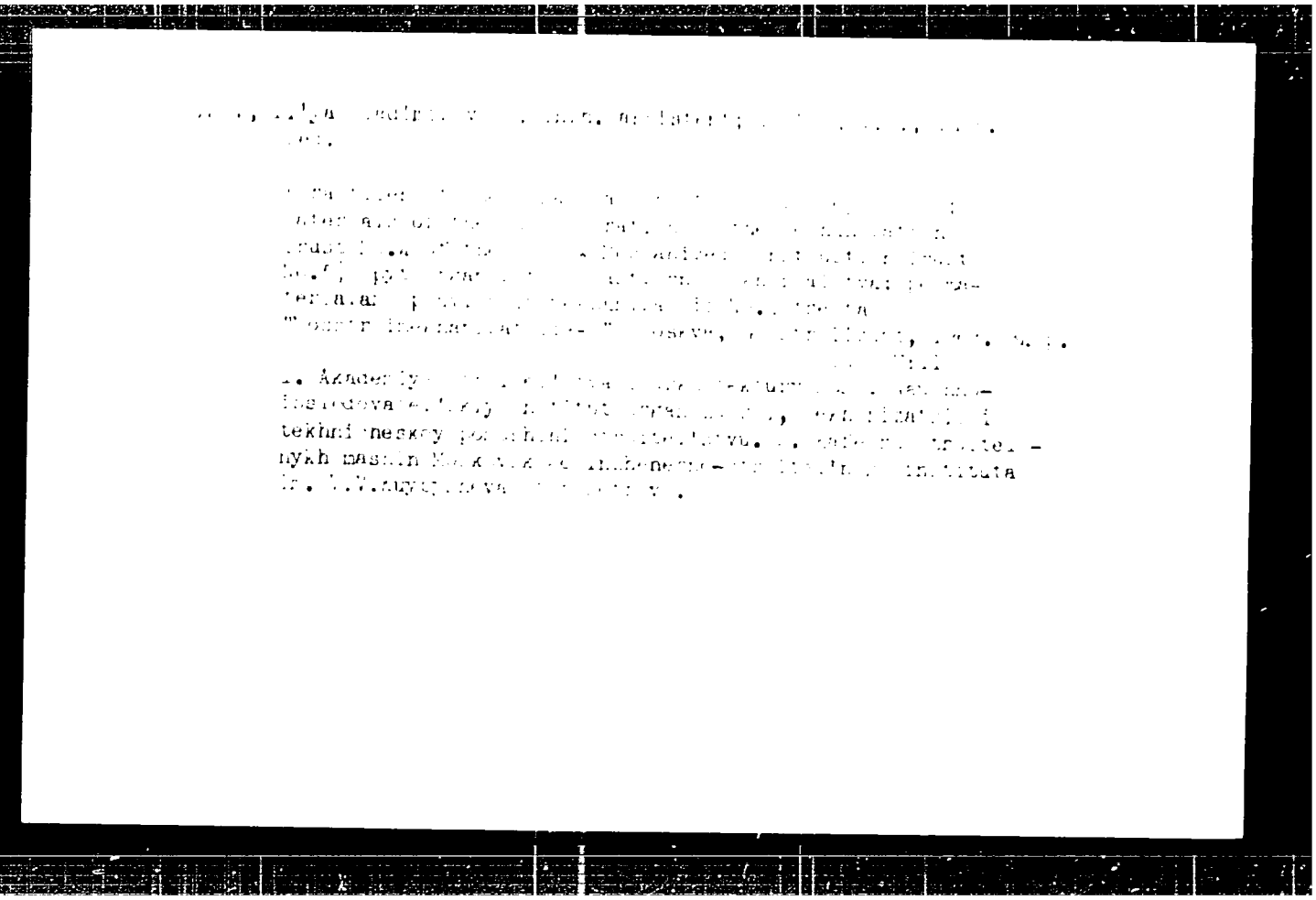
[illegible], I. I.

Boots and Shoes - Technology

Striving for the attainment of the honorary title: factory of superior quality Leg. prom. No. 3, 952

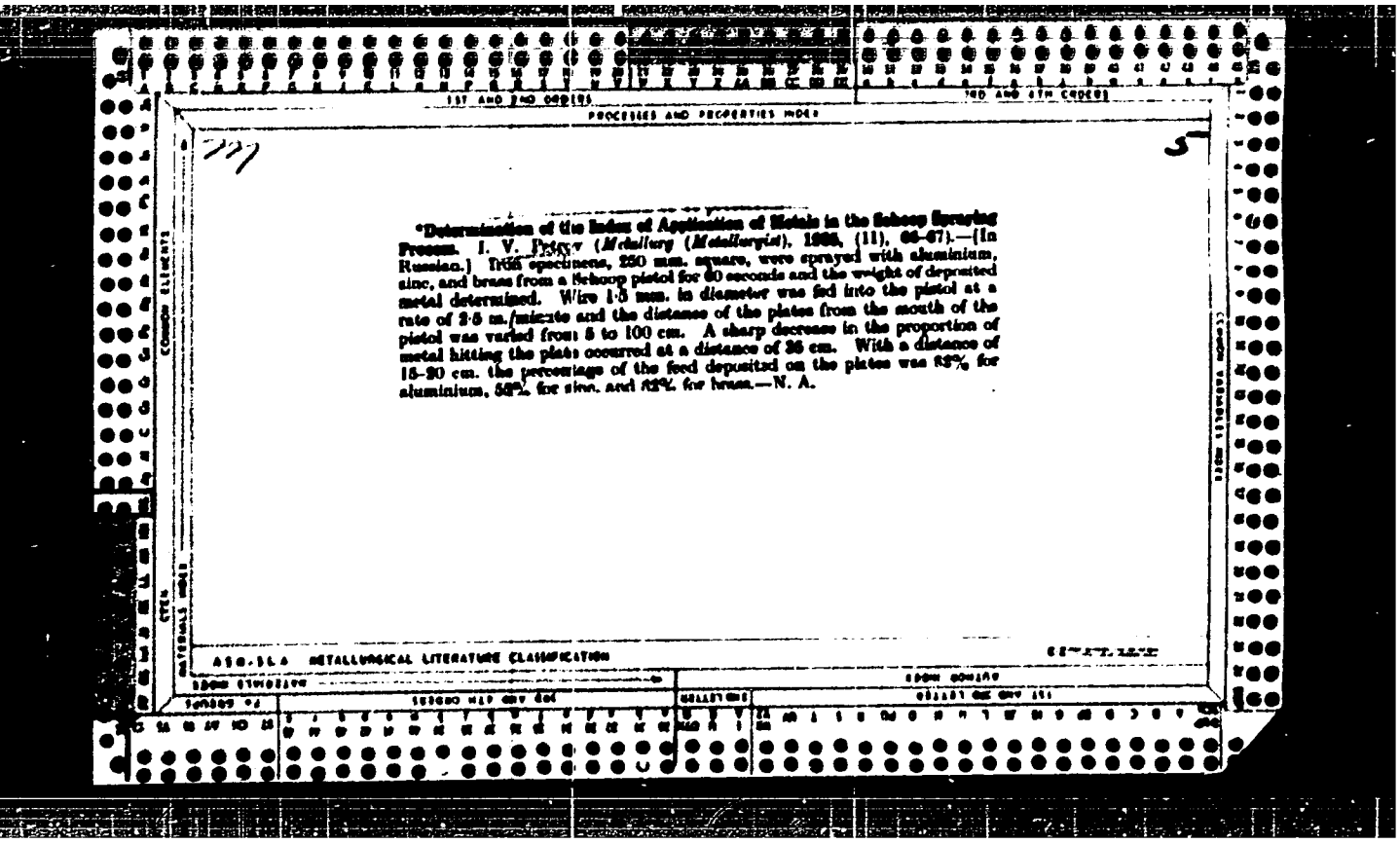
Monthly List of Russian Accessions, Library of Congress, June 1952. Unclassified





PETROV, I.V., inzh.

Use of controlled silicon valves as output elements in the automatic control systems of traction substations. Trudy TSNII MPS no.276:106-114 '64. (MIRA 17:8)



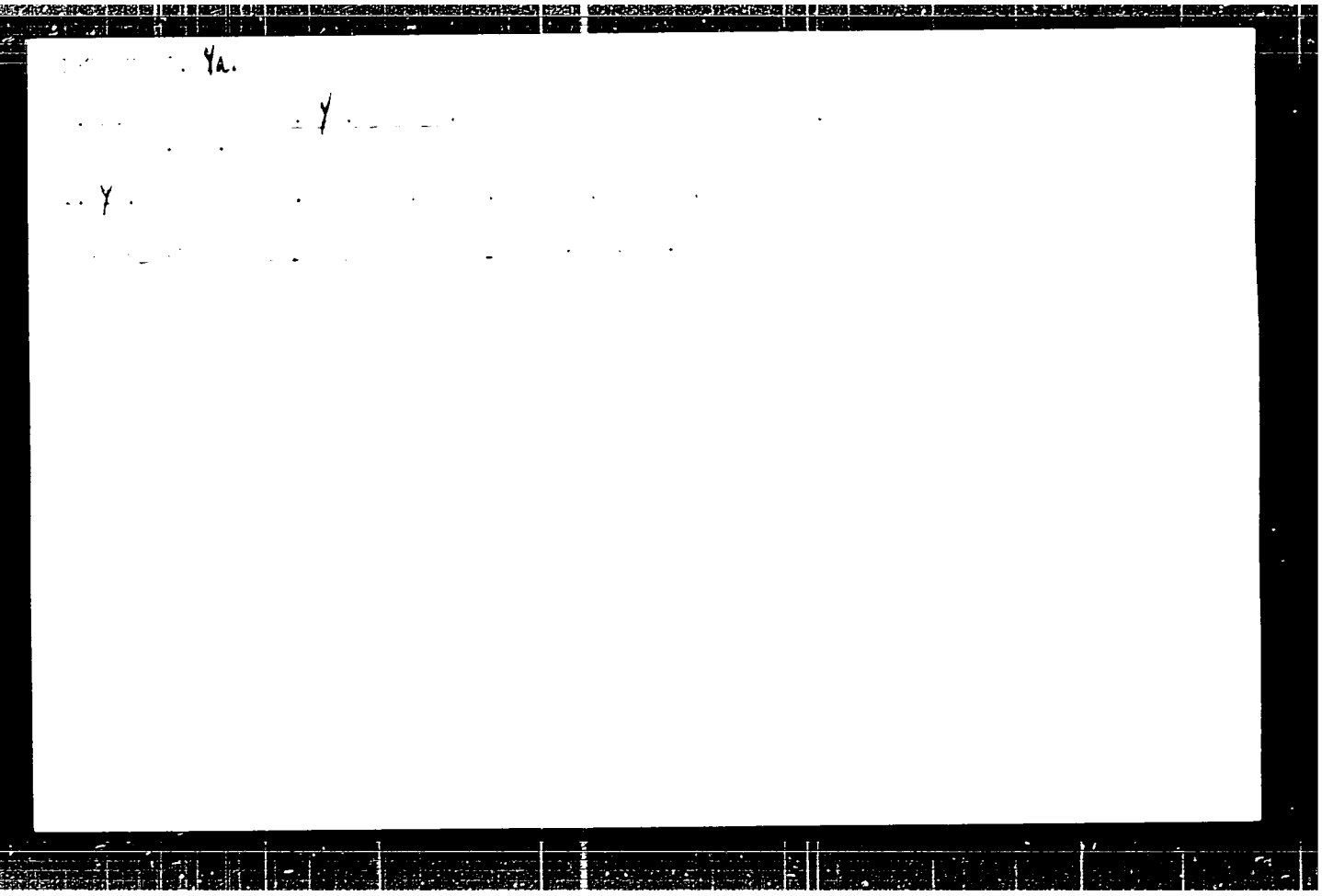
PROCESSES AND PROPERTIES INDEX

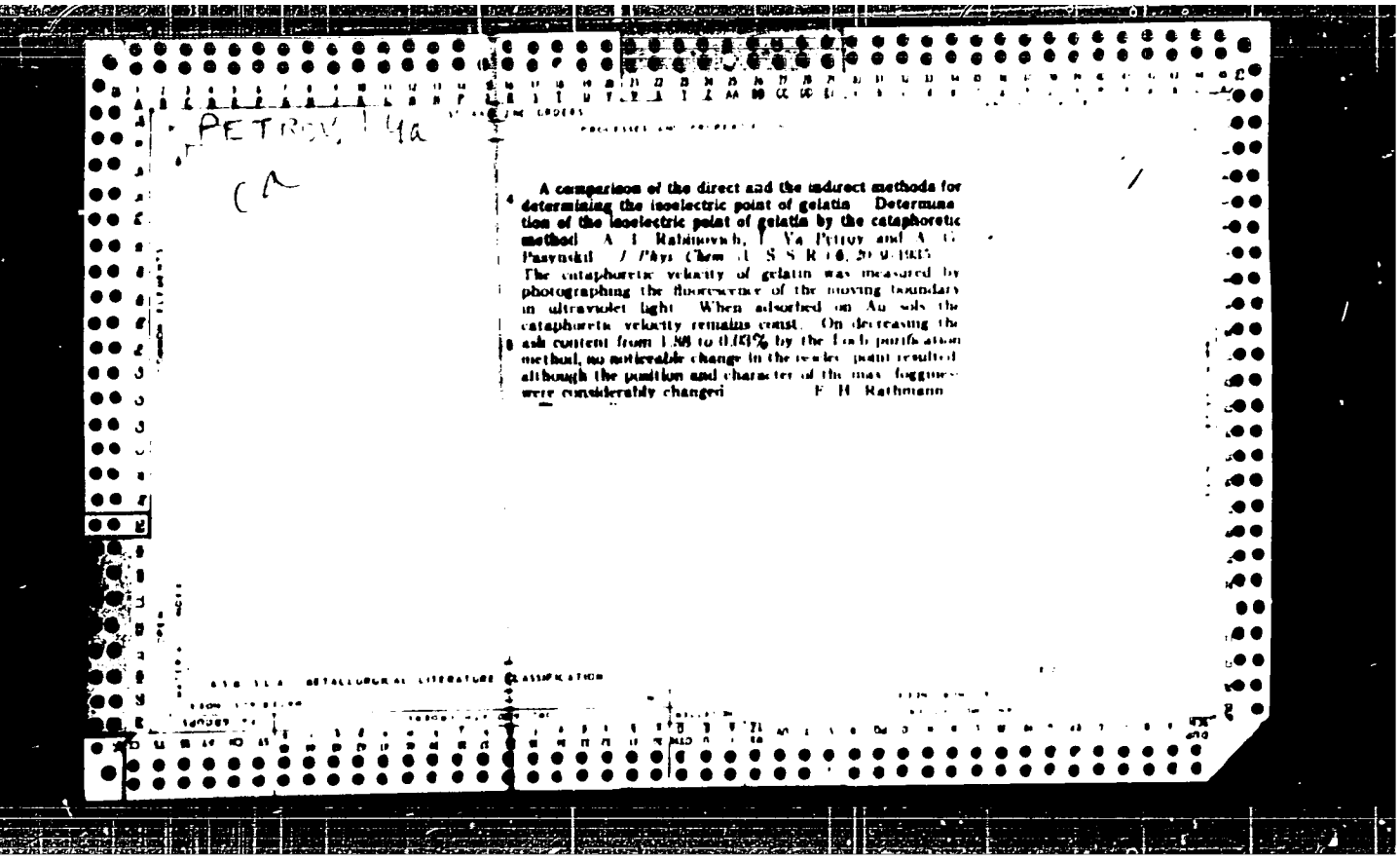
777

5

"Determination of the Index of Application of Metals in the Schoop Spraying Process. I. V. [illegible] (*Metallurg* (*Metallurgist*), 1938, (11), 66–67).—[In Russian.] Test specimens, 250 mm. square, were sprayed with aluminium, zinc, and brass from a Schoop pistol for 60 seconds and the weight of deposited metal determined. Wire 1·5 mm. in diameter was fed into the pistol at a rate of 2·5 m./minute and the distance of the plates from the mouth of the pistol was varied from 5 to 100 cm. A sharp decrease in the proportion of metal hitting the plate occurred at a distance of 36 cm. With a distance of 15–20 cm. the percentage of the feed deposited on the plates was 82% for aluminium, 58% for zinc, and 42% for brass.—N. A.

A59-55A METALLURGICAL LITERATURE CLASSIFICATION



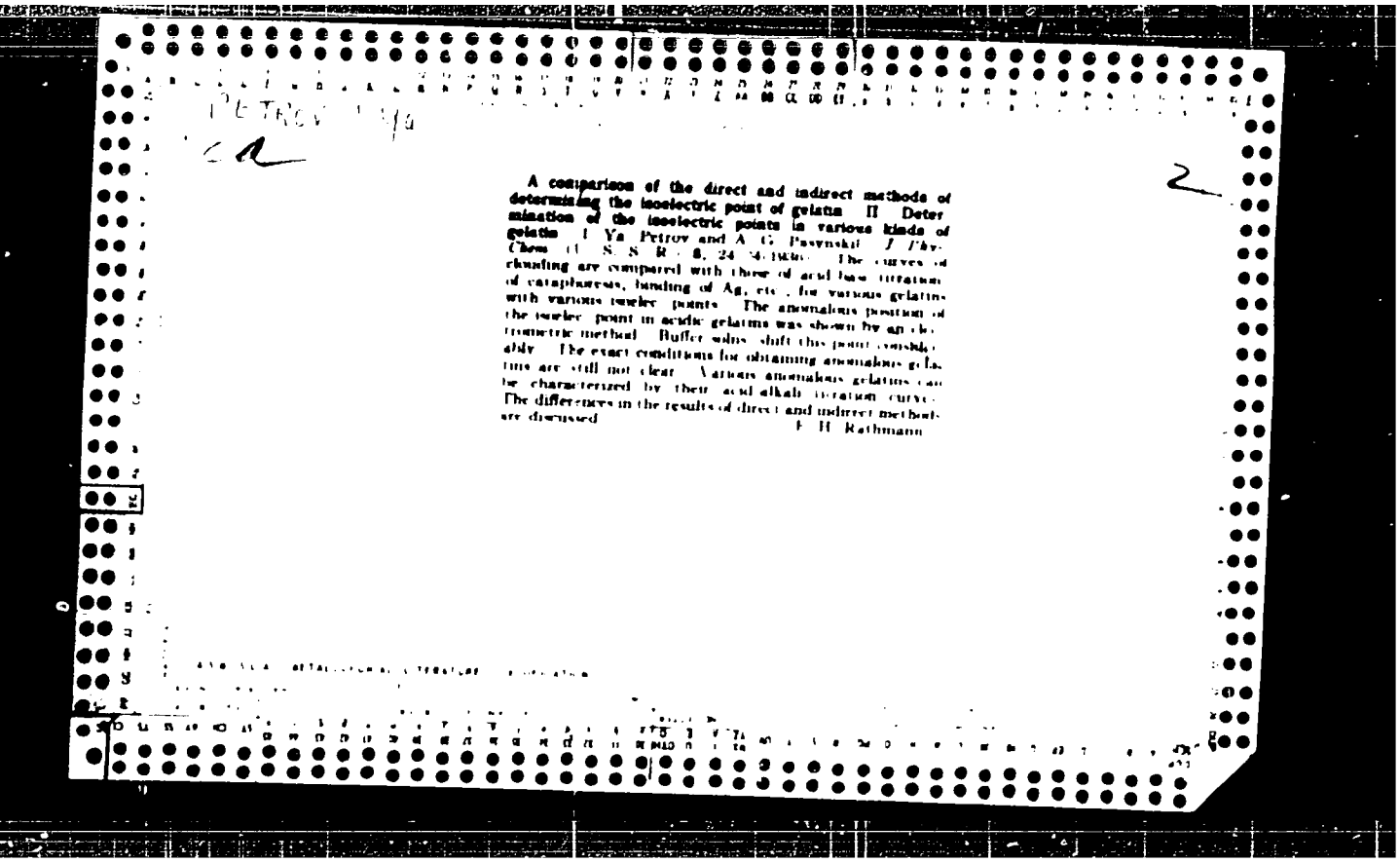


PETROV 14a

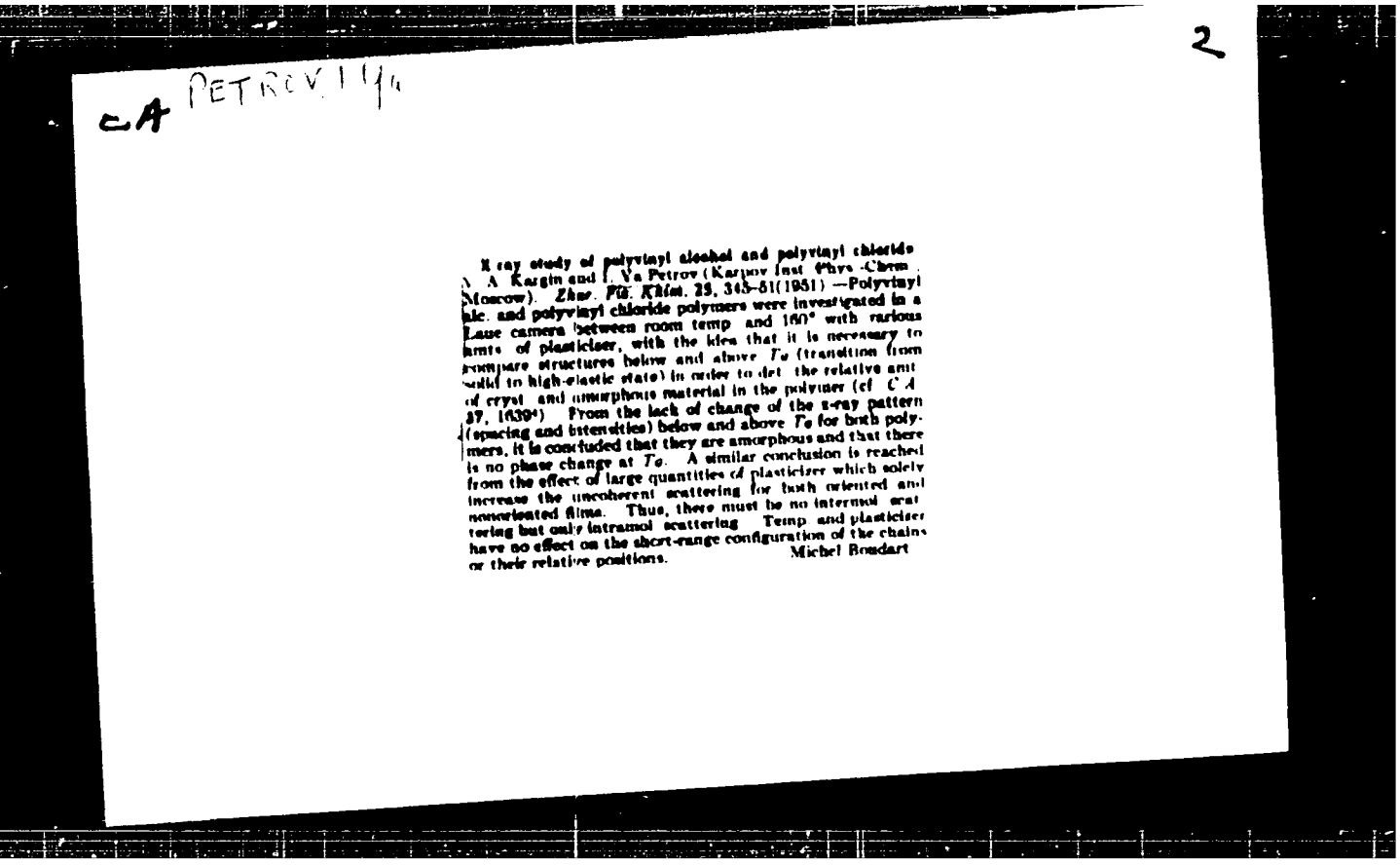
(A

A comparison of the direct and the indirect methods for determining the isoelectric point of gelatin Determination of the isoelectric point of gelatin by the cataphoretic method A I Rabinovich, I Ya Petrov and A G Pasynskii J Phys Chem U S S R 16, 20 9 1942

The cataphoretic velocity of gelatin was measured by photographing the fluorescence of the moving boundary in ultraviolet light When adsorbed on Au sols the cataphoretic velocity remains const On decreasing the ash content from 1.86 to 0.03% by the Loeb purification method, no noticeable change in the isoelec point resulted although the position and character of the max fogginess were considerably changed F H Rathmann



A comparison of the direct and indirect methods of determining the isoelectric point of gelatin II Determination of the isoelectric points in various kinds of gelatin I Ya Petrov and A G Pavenskii *J Phys Chem (U S S R)* 8, 24-34 (1936) The curves obtained by swelling are compared with those of acid-base titration of cataphoresis, binding of Ag, etc., for various gelatins with various isoelec points The anomalous position of the isoelec point in acidic gelatins was shown by an electrometric method Buffer salts shift this point considerably The exact conditions for obtaining anomalous gelatins are still not clear Various anomalous gelatins can be characterized by their acid-alkali titration curves The differences in the results of direct and indirect methods are discussed F H Rathmann



2

CA PETROV 1/4

X ray study of polyvinyl alcohol and polyvinyl chloride. A. Kargin and T. Ya Petrov (Karpov Inst. Phys. Chem., Moscow). *Zhur. Fiz. Khim.* 25, 345–51(1951).—Polyvinyl alc. and polyvinyl chloride polymers were investigated in a Lauc camera between room temp. and 160° with various amts. of plasticiser, with the idea that it is necessary to compare structures below and above T_0 (transition from solid to high-elastic state) in order to det. the relative amt. of cryst. and amorphous material in the polymer (cf. *C.A.* 37, 1639⁴). From the lack of change of the x-ray pattern (spacing and intensities) below and above T_0 for both polymers, it is concluded that they are amorphous and that there is no phase change at T_0. A similar conclusion is reached from the effect of large quantities of plasticiser which solely increase the incoherent scattering for both oriented and nonoriented films. Thus, there must be no intermol. scattering but only intramol. scattering. Temp. and plasticiser have no effect on the short-range configuration of the chains or their relative positions.

Michel Boudart

AUTHORS: Varshavskiy, Ya. M., Vasil'yev, S. Ya., [illegible] -31/60
Karpov, V. L., Lazurkin, Yu. S., Petrov, [illegible]

TITLE: On Isotopic Exchange Between Gaseous Hydrogen and Solid Polymers Under the Action of Nuclear Radiation (Ob izotopnom obmene mezhdu gazoobraznym vodorodom i tverdymi polimerami pri deystvii yadernykh izlucheniy)

PERIODICAL: Doklady AN SSSR, 1958, Vol. 118, Nr 2, pp. 313-316 (USSR)

ABSTRACT: In the case of irradiation of polymeric hydrocarbons gaseous products, which mainly contain hydrogen, are separated out. The explanation of the problem of the reversibility of the corresponding process, i.e. of the possibility of the penetration of hydrogen from the gaseous phase into the molecules of the polymer during the irradiation would be desirable. The authors tried to explain this problem by the method of the marked atoms, using deuterium; they studied the exchange of isotopes between the gaseous deuterium and various solid polymers in the radiation field of a nuclear rector. The following polymers of the vinyl-series were examined: Polyethylene, polypropylene, polystyrol, divinyl-caoutchouc, polymethyl-metacrylate. The perfor ance of

Card 1/3

On Isotopic Exchange between Gaseous Hydrogen and [illegible] to mers Under the Action of Nuclear Radiation

brium concentration of the solved deutrium in the polymer has the order of 10^{-6} mol/g. The penetration of deuterium into the molecules of the polymers may, to some degree, also be caused by exchange of isotopes between the gaseous dueterium and the free radicals. There are 1 table, and 5 references, 4 of which are Slavic.

PRESENTED: June 24, 1957, by V.A. Kargin, Academician

SUBMITTED: June 24, 1957

AVAILABLE: Library of Congress

Card 3/3

PETROV, I. YA.

Distr: [illegible]

17

1403. ON ISOTOPIC EXCHANGE BETWEEN GASEOUS HYDROGEN AND SOLID POLYMERS UNDER THE ACTION OF IONIZING RADIATIONS. Ya. M. Varshavskii, G. Ya. Vasil'ev, V. L. Karpov, Yu. S. Lazurkin and I. Ya. Petrov. 538.16

Dokl. Akad. Nauk SSSR, Vol. 116, No. 5, 815-16 (1956). In Russian.

A study of the isotopic exchange between gaseous deuterium and solid polymers exposed to radiation from a reactor. The deuterium concentration was found to be of the order of 0.06 to 0.14%, depending on the polymer used; possible mechanisms for the take-up process are discussed.

W. O. Lock

VARSHAVSKIY, Ya.M.; VASIL'YEV, G.Ya.; KARPOV, V.L.; LAZURKIN, Yu.S.; PETROV, I.Ya.

Isotopic exchange between gaseous hydrogen and solid polymers under the action of nuclear radiation. Dokl. AN SSSR 118 no.2: 313-316 Ja '58. (MIRA 11:4)

1.Predstavleno akademikom V.A. Karginym.
(Hydrogen--Isotopes) (Polymers) (Radioactivity)

21.6100 also 2209

AUTHORS: [illegible]

TITLE: [illegible]

PERIODICAL: [illegible]

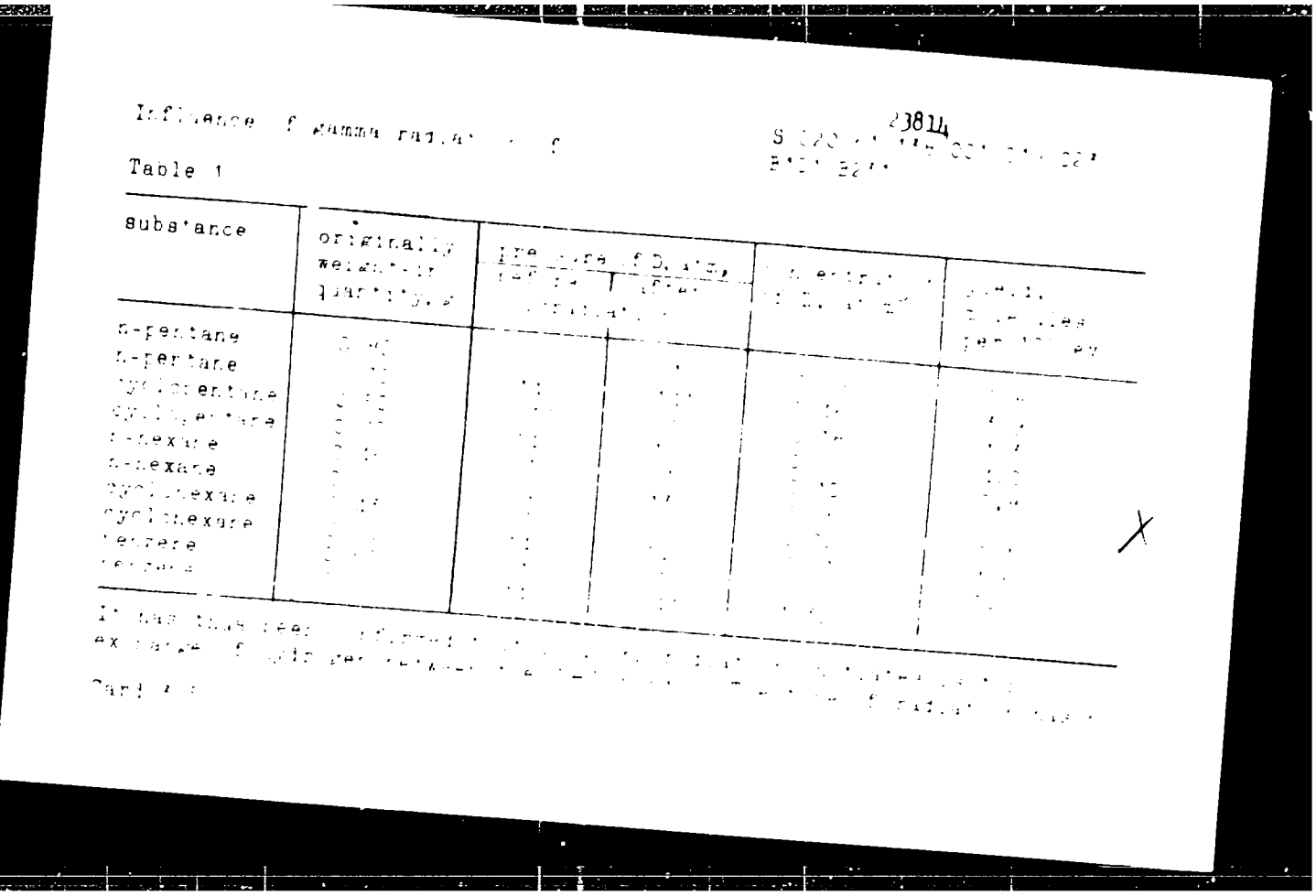
TEXT: In a previously published work [illegible] it was established that a certain relationship exists between the exchange between the hydrogen of some hydrocarbons and deuterium. Experiments made at that time were based on the radiation of a water-cooled tesla tube. It was the aim of the present work to give this effect a more detailed examination by applying the gamma rays of Co^{60} and to find out whether such exchange also occurs in low-molecular hydrocarbons. Experiments were made in metal ampoules 20 cc in which deuterium pressure of [illegible] atmospheres. The sampling box of the ampoule valve was made [illegible]. Its cover was provided with an end cap. After irradiation [illegible] pressure was measured, the sample was burnt in O_2 at a temperature [illegible]

Card 1/5

Influence [illegible]

[illegible] product was [illegible] contact between [illegible] combustion [illegible] and [illegible] pressure dose, [illegible] resulted in a [illegible] down, however, [illegible] ments made at [illegible] at a deuterium [illegible] content [illegible] of [illegible] been obtained [illegible]

Card 2/5



Influence [illegible]

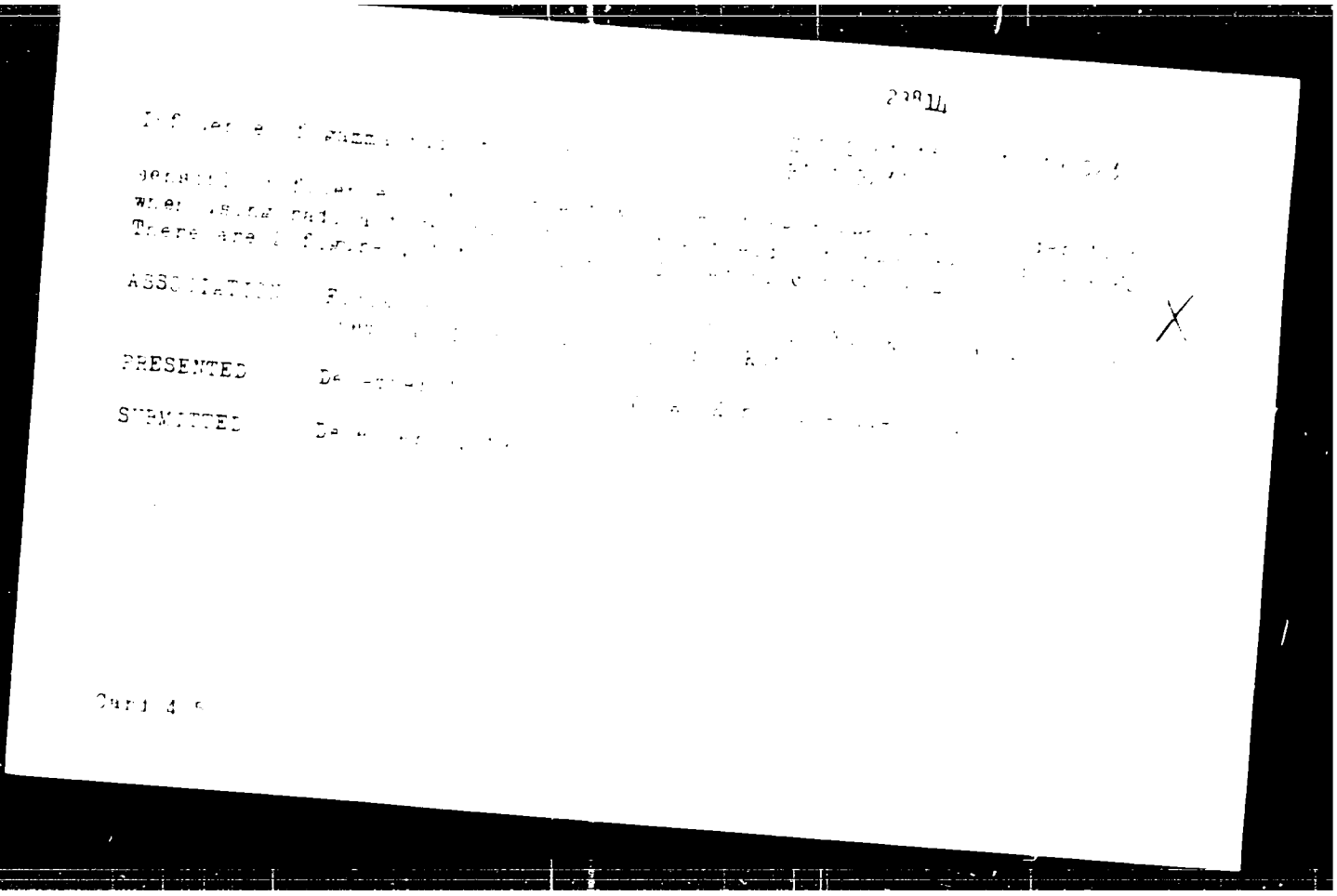
23814

Table 1

substance	originally weighed portions	[illegible]	[illegible]	[illegible]	[illegible]
n-pentane					
n-pentane					
cyclopentane					
cyclopentane					
n-hexane					
n-hexane					
cyclohexane					
cyclohexane					
benzene					
benzene					

[illegible]

[illegible]



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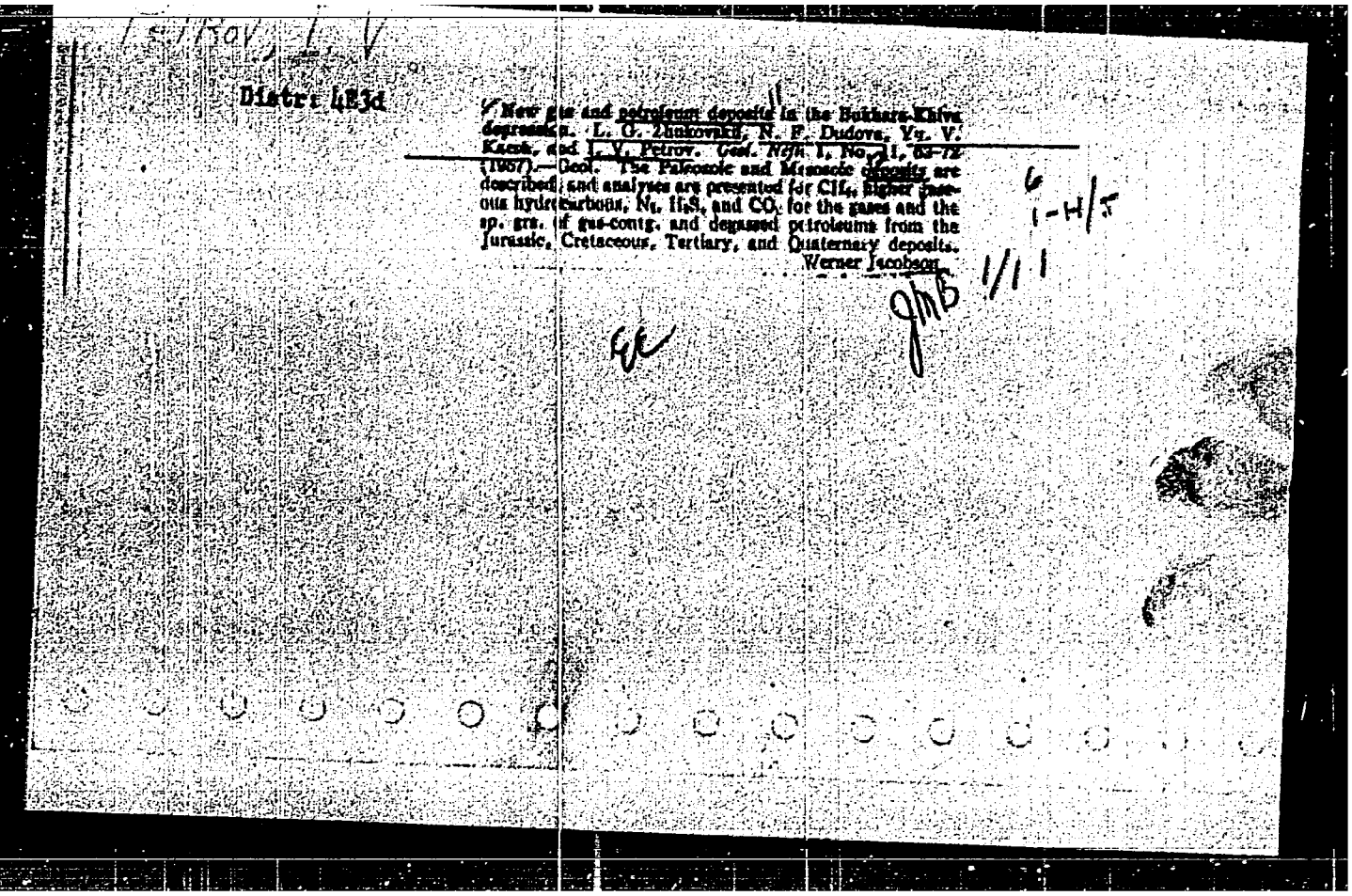


Distr: 4E3d

New gas and petroleum deposits in the Buinaro-Khiva depression. L. G. Zhukovskii, N. F. Dudova, Yu. V. Kacnk, and I. V. Petrov. *Geol. Nefti* 1, No. 11, 63-72 (1957).—Geol. The Paleozoic and Mesozoic deposits are described, and analyses are presented for CH_4, higher paraffinic hydrocarbons, N_2, H_2S, and CO_2 for the gases and the sp. grs. of gas-contg. and degassed petroleums from the Jurassic, Cretaceous, Tertiary, and Quaternary deposits.
Werner Jacobson

PETROV, Iv.

Case of acrdiospasm and dilatation of the esophagus in a child.
Khirirgiia, Sofia 8 no.5:461 '55.
(ESOPHAGUS, diseases,
dilat. with cardiospasm in child)
(CARDIOSPASM, in infant and child,
with esophageal dilat.)

PETROV, I. YE.

USSR/Engineering Oct 48
Concrete, Reinforced
Armor, Concrete

"Safety Factors and Cross-Sectional Design of Hydrotechnical Construction With Reinforced Concrete," I. Ye. Petrov, Engr, 3 pp

"Gidrotekh Stroi" No 10

Computations on all reinforced-concrete structures and structures built of so-called "armor concrete" are based on standards established by GidroEnergo-Proyekt in 1940 (TU-24-20-40 and TU-24-21-40). However, they do not satisfy safety requirements. Proposes new method to determine safety factors and cross-sectional design.

28/49T53

USSR/Engineering - Hydraulics, Jul 51
Structures

"On the Norms and Specifications for Designing Hydraulic Structures of Reinforced Concrete," Laureate of Stalin Prize I. Ye. Petrov, Engr

"Gidrotekh Stroi" No 7, pp 24-27

Reviews All-Union Std GOST 4286-48 and demonstrates that basic formulas of this std for calcn of eccentric compression and tension are practically inapplicable for hydraulic structures, which do not permit formation of cracks in concrete

199T61

USSR/Engineering - Hydraulics, Jul 51
Structures (Contd)

under load. Develops approx formulas, which simplify calcn and better satisfy requirements.

199T61

PETROV, I. Ye.

Reinforced Concrete

Degree of reinforcement in reinforced and in lightly reinforced hydrotechnical concrete structures. Gidr. stroi. [illegible] no. [illegible], 1952.

Monthly List of Russian Accessions, Library of Congress, July 195[illegible] UNCLASSIFIED.

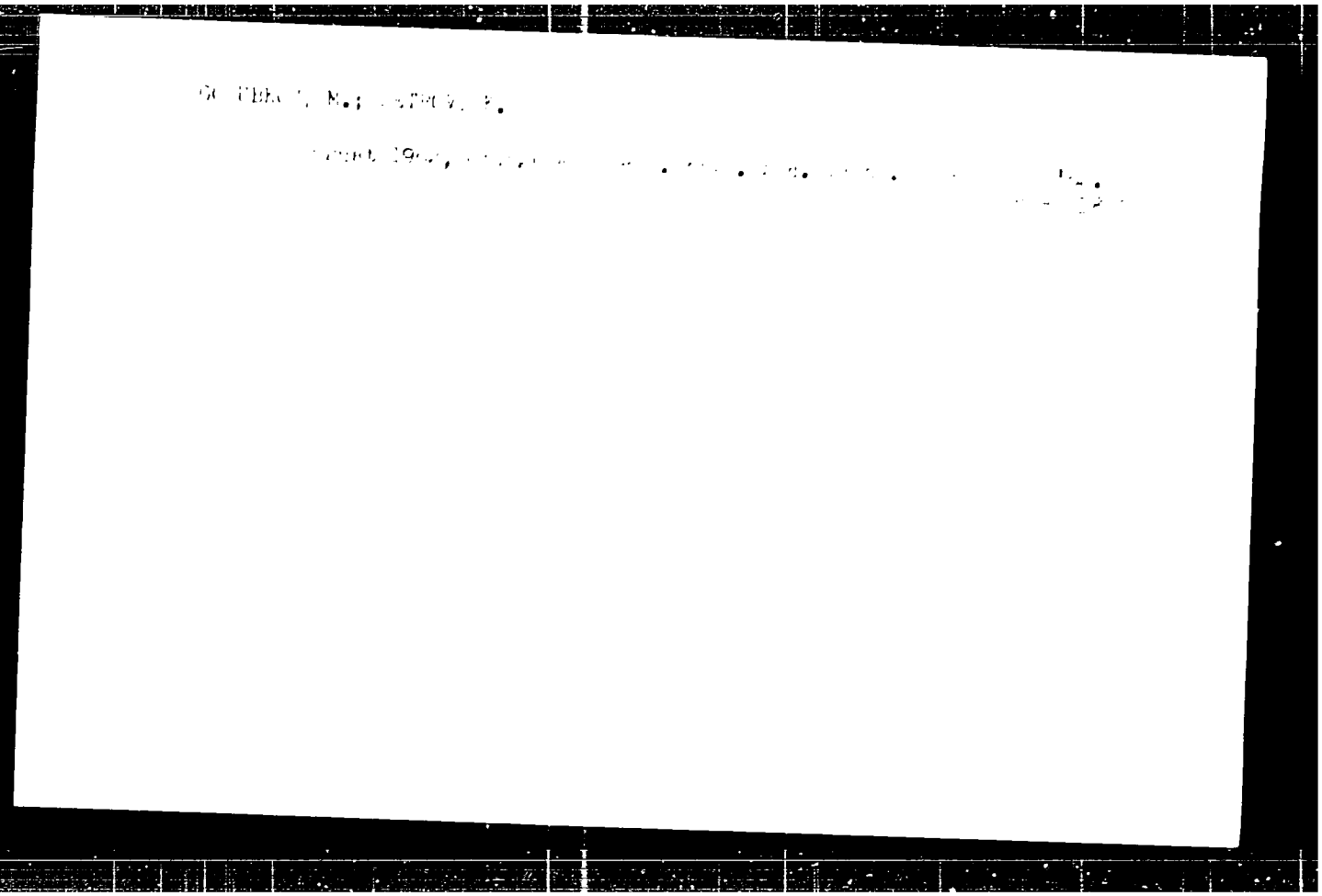
PAVLOV, S.; PETROV, J.

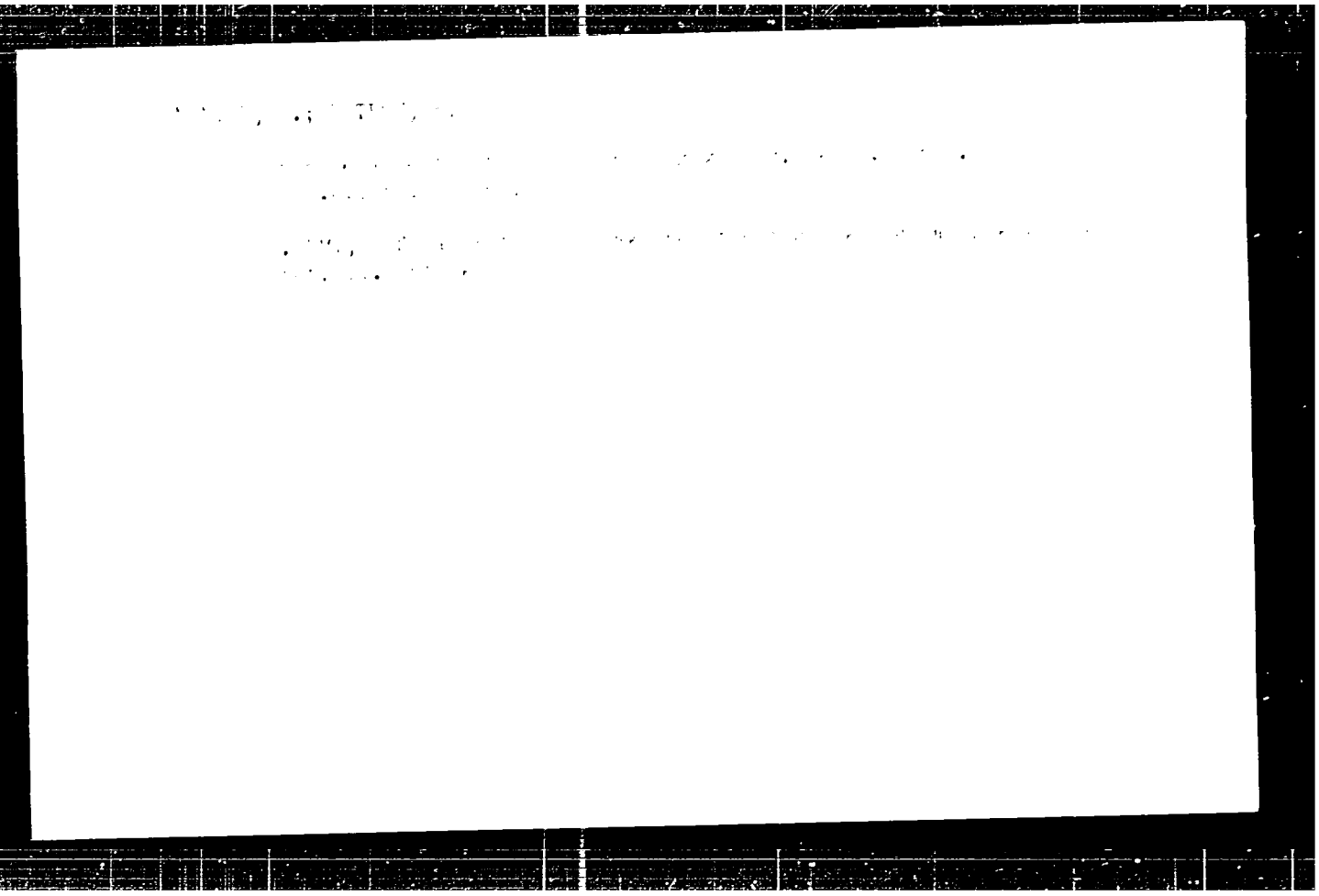
Morphometric characteristics of the numerus [illegible].
Folia med. (Plovdiv) 7 no. 2:1-106 '65.

1. Institut de Hautes Etudes Medicales "I.P. Pavlov" de Plovdiv,
Bulgarie (Directeur: prof. D. Stanev).

ONEDOV, V.; PETROV, K.

"Knights of destiny." Kryl.rod. 13 no.6:30 Je '62.
(MIRA 19:1)





PETROV, K., polkovnik

During the war years. Tyl.i snab.Sov.Vooruzh.Sil no.5:49-54 My '61. (MIRA 14:8)

(World War, 1939-1945)

PETROV, Kostadin, assistant (Sofia)

Nineteen new books in mathematics. Reviewed by Kostadin Petrov. Mat i fiz Bulg 5 no.2:62-[illegible] Mr Ap '[illegible]

PETROV, Kostadin (Sofia)

Number of solutions of a constructed planimetric problem. Mat i fiz Bulg 6 no.3:13-18 My-Je '63.

PETROV, K.; GERCHEV, Al.

A case of a rare form of elephantiasis neuromatosum of the lower leg combined with severe pes plano-valgus. Khirurgiia 16 no.1:82-84 '63.

1. Iz Klinikata po ortopediia i travmatologiia pri VMI [Vissh meditsinski institut] - Sofiia.
(LEG) (LYMPHEDEMA) (FOOT) (ABNORMALITIES)

PETROV, K.

A case of mobile pyron. Khirurgiia, Sofia 13 no.11:999-1000 '60.

1. Iz Klinikata po prtopediia i travmatologiia pri VMI, Sofia.
(HIP fract & disloc)

What is the "Radio echo by Kabanov?" S/529/61/[illegible]/004
B117/B206

are only reflected by the ionized layers of the earth's atmosphere and by the earth, or also scattered. Originally the assertion by the English scientist T. Eckersley was widely accepted. In his opinion, a certain scattering of radio waves only takes place in one layer (E layer of the ionosphere (Fig., dashed arrows). The waves are only reflected by the earth and partly absorbed. According to Eckersley casual and weak echos of signals transmitted are therefore of no practical significance for radio engineering. This statement was refuted by N. I. Kabanov on the basis of his studies conducted in 1946/47. He proved that the ionized layers of the ionosphere act like a great mirror and that radio waves are mainly scattered by the unevenness of the earth's surface Consequently, a portion of the short radio waves has the possibility of returning through the same channel through which they were transmitted, observing all reflection laws. (Fig. thin full line and arrows). This phenomenon opens up rules and peculiarities of radio wave propagation so far unknown. New types of radio communications could be developed on their basis. The author envisages the following example of utilizing these rules: a wave packet is emitted in such a way that it is reflected by the ionosph[illegible] to a closely defined observation area. From there, it

Card 2/4

" ... Radio echo by Kabanov"

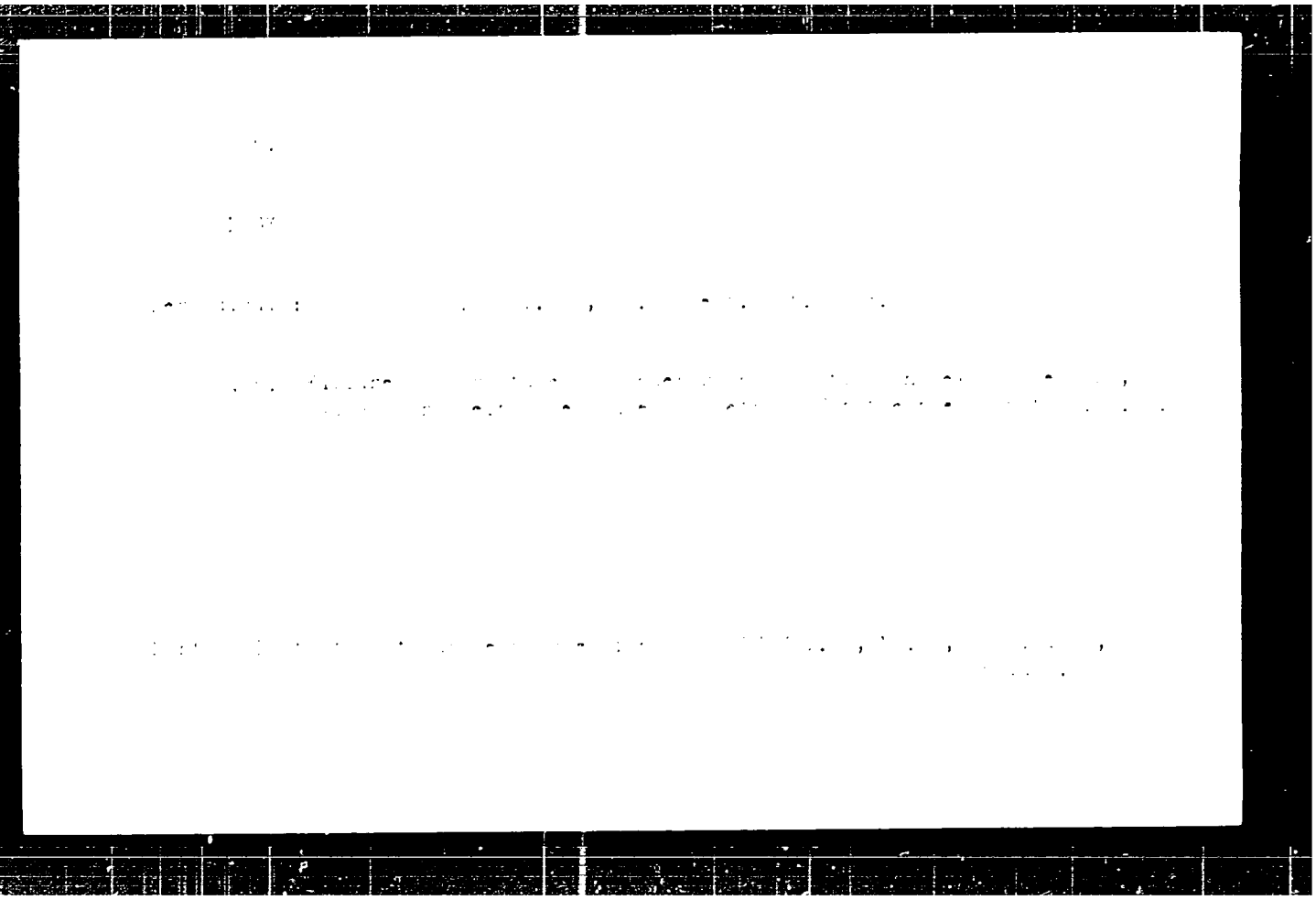
S/029/61/000/[illegible]/004/004
B117/B206

... to the ionosphere and propagates in the usual way. ... part of the scattered radio waves, naturally a smaller and weaker one, returns to the starting point. Here, it is picked up by suitable instruments and reproduces the picture of the object observed. Objects could be observed in this way over distances of thousands of kilometers ... Earth's curvature. There is 1 figure.

Card 3/4

PETROV, K. (Bolgariya)

Encouraging students to use their own ... Mat. v shkole (MIRA 14:4
no.2:74 Mr-Ap '61.
(Mathematics--Problems, exercises, etc.)



PETROV, K.

Reasons for the Formation of Glass-like Inclosures in the Glass Metal and Ways to Eliminate Them. Leka Promishlenost (Light Industry) #12:1 :Dec. 1954

PASTUKHOV, A.I.; PETROV, K. DANILOV, A.M.

Scrap process smelting of pipe steel from low-manganese cast iron with a varying manganese content. Stal' 18 no.1:28-34 Ja '58. (MIRA 11:1)

1.Ural'skiy nauch-issledovatel'skiy institut chernykh metallov i Zlatoustovskiy metallurgicheskiy zavod.
(Iron-manganese alloys)
(Smelting)

PETROV, K.

Reclaiming saline soils. Tekh. mol. 23 no.5:27 My '55. (MLRA 8:6)
(Alkali lands)

1. PETROV, K.
2. USSR (600)
4. Cranes, Derricks, Etc.
7. Giant crane. Nauka i zhizn', 19, no. 12, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April [illegible], Unc.

PETROV, K.

Plastic materials and their economic significance. p. 23

GEOGRAFIIA. Vol. 4, No. 3, 195[illegible]

Sofiya, Bulgaria

LAZAROV, Sl., inzh.; DASKALOV, P., k.t.n.; DASKALOV, Iv., inzh.; DIMITROV, M., inzh.; PETROV, K.

Application of millisecond blasting in the State Mining Enterprise "Burgaski medni mini". Min delo 17 no.1:17-21 Ja '62.

1. Minen nauchnoizsledovatelski institut (for Iv. Daskalov).
2. Durzhavno minno predpriiatie "Burgaski medni mini" (for Petrov).

PETROV, K.

Developer of parachute equipment. Aryl.rod. 12 no.10:22 '61. (MIRA 15:2)

(Parachutes) (Glushkov, Igor L'vovich, 1911-)

PETROV, K.

Work the communist way. Kryl.rod. 12 no.7:3 Jl '61. (MIRA 14:6)

(Kaunas--Gliding and soaring)

1. PETROV, K. A.

2. USSR (600)

4. Peat Industry

7. Field training of students from peat schools. Torf. prom. 29 no. 10. '52/

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

17(8)

AUTHOR: Petrov, K.A.

TITLE: Apparatus for Healing Fractures of the Lower Jaw (Apparat dlya lecheniya perelomov nizhney chelyusti)

PERIODICAL: Byulleten' izobreteniy, 1[illegible], Nr [illegible], [illegible] SSSR

ABSTRACT: Class [illegible], [illegible] Nr [illegible] ([illegible]/[illegible] of [illegible] [illegible]). With the addition of Claim Nr [illegible]. Submitted to the Ministry of Public Health of SSSR. An apparatus for healing fractures of the lower jaw, consisting of a splint attached to the patient's head that fixes the jaw fragments in the proper position. The splint is designed as a horse shoe-shaped plastic grid with a metal frame and provided with [illegible] for the teeth. There are also curved [illegible] wire

Card 1/2

Application for Mental Fracture of the Upper Jaw

branches serving to adjust vertical connecting rod on a metal head hoop, to be fixed upon the plaster of Paris bandage. The horse shoe-shaped grid is provided with a removable plastic plate for fixing remaining tissues of hard and soft palate.

Card 2/

PETROV, K.A.

New apparatus for treating maxillary fractures. Stomatologiia 38 no.4:70-71 Jl-Ag '59. (MIRA 12:12)

1. Iz stomatologicheskogo otdeleniya Pskovskoy oblastnoy bol'nitsy (glavnyy vrach I.I. Saltan).
(JAWS--FRACTURE) (SURGICAL INSTRUMENTS AND APPARATUS)

PETROV, K.A.

Pskov Province Conference of Stomatologists and Dentists on Research and Practice. Stomatologiia 40 no.1:109-110 Ja-F '61. (MIRA 14:6)

(PSKOV PROVINCE—STOMATOLOGY)

ACC NR: AP7000239 SOURCE CODE: UR/0079/66/036/004/0715/0718

AUTHOR: Petrov, K. A.; Raksha, M. A. ; Vinogradov, V. L.

ORG: none

"Synthesis and Study of the Properties of Derivatives of Alkenephosphinic Acids. I. Production of Dichlorides of Substituted Vinylphosphinic Acids by the Reaction of Ethers with Phosphorus Pentachloride"

Moscow, Zhurnal Obshchey Khimii, Vol 36, No 4, 1966. pp 715-718

Abstract: A method was developed for synthesizing dichlorides of alkoxyvinylphosphinic and beta-alkoxy-alpha-alkylvinylphosphinic acids in good yields by the reaction of ethers with phosphorus pentachloride in an inert solvent or in excess ether, followed by treatment with sulfur dioxide. The dichlorides of beta-propoxy-alpha-methyl and beta-butoxy-alpha-ethylvinylphosphinic and -thiophosphinic acids were prepared and characterized for the first time. The study of the reactions of phosphorus pentachloride with ethers containing mixed radicals and the study of the properties of derivatives of alkenephosphinic acids are being continued. Orig. art. has: 1 table. [JPRS: 37,177]

Card 1/2 UDC: 547.341

0923 0776

ACC NR: AP7000239

TOPIC TAGS: phosphinic acid, organic synthetic process, phosphorus chloride

SUB CODE: 07 / SUBM DATE: 04 Mar 65 / ORIG REF: 023 / OTH REF: 005

Card 2/2

PETROV, KONSTANTIN ALEKSANDROVICH

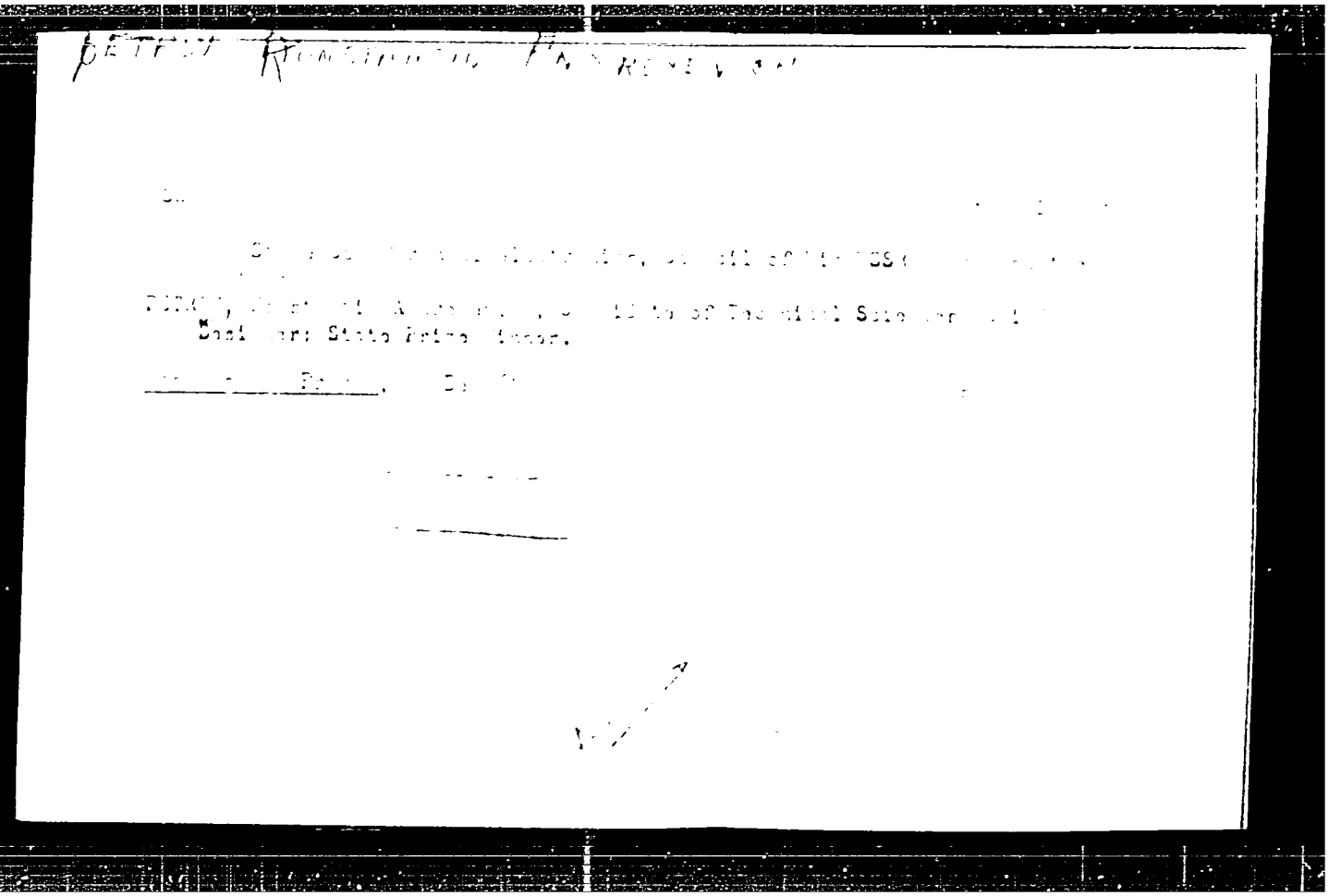
METALLURGY

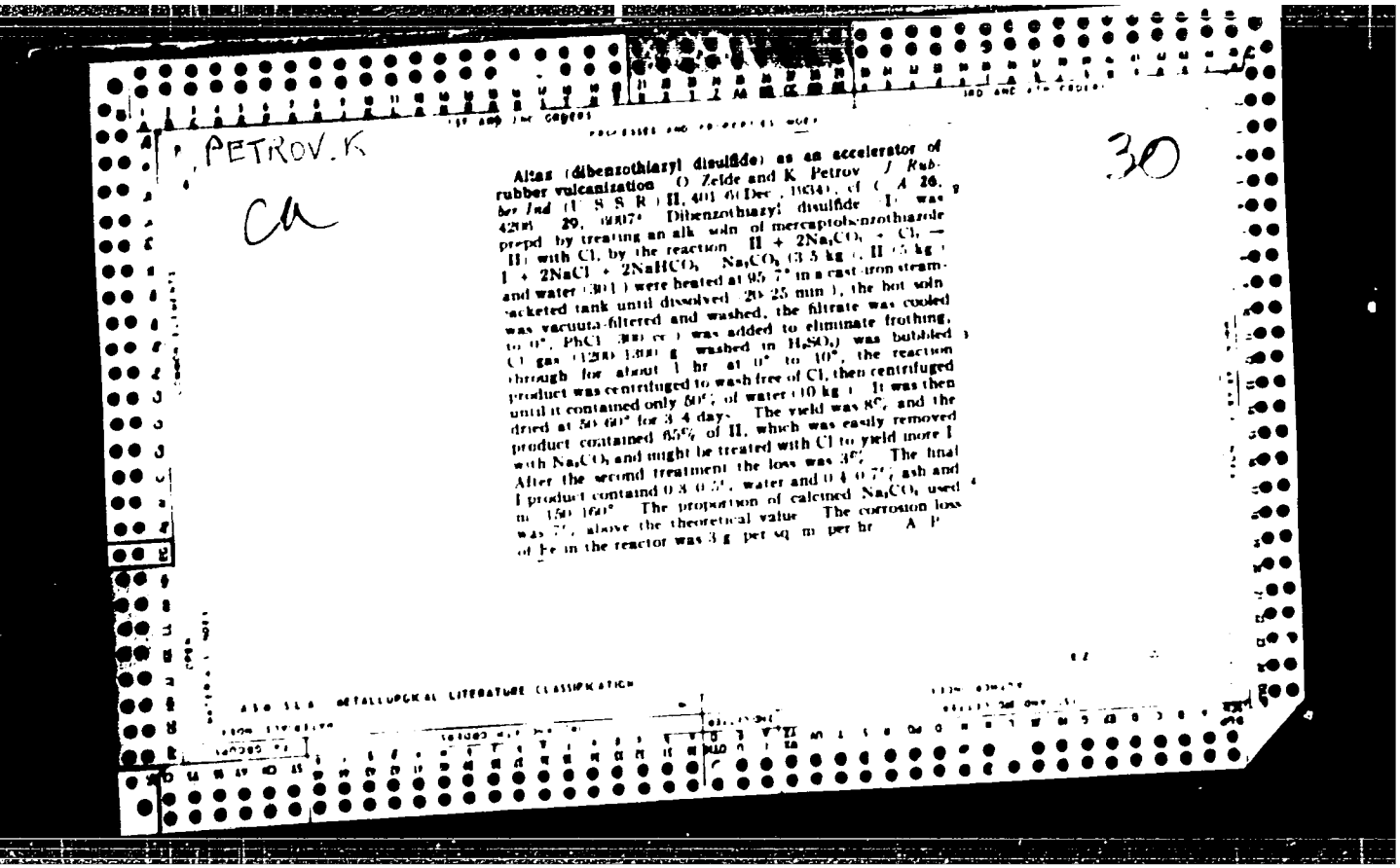
PETROV, Konstantin Aleksandrovich

Senior laboratory worker, Moscow Steel Institute imeni I. V. Stalin, Moscow, RSFSR

Medal for Labor Excellence, 15 Sep 61

(VVS SSSR, No 39, 27 Sep 61)





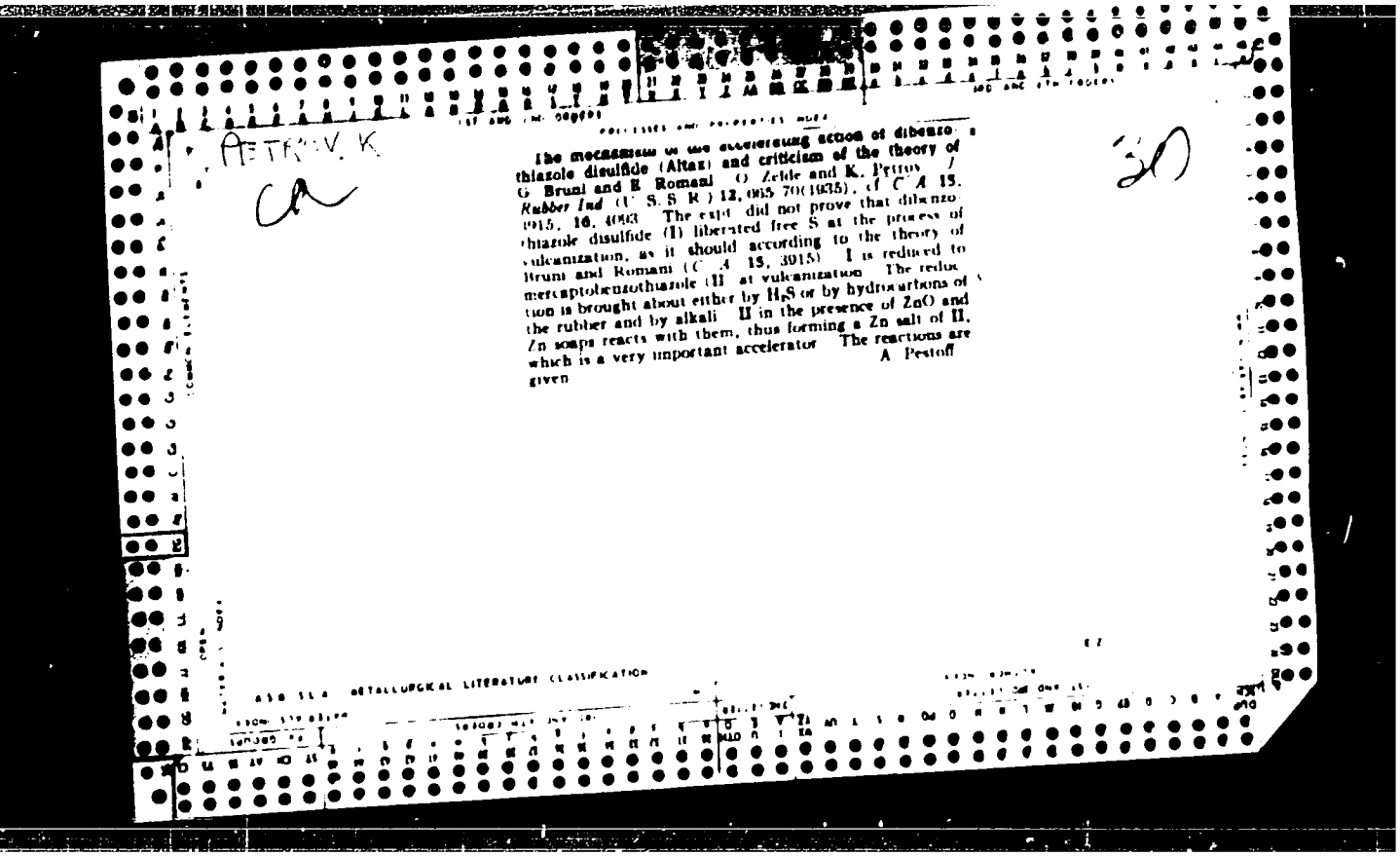
PETROV, K

CA

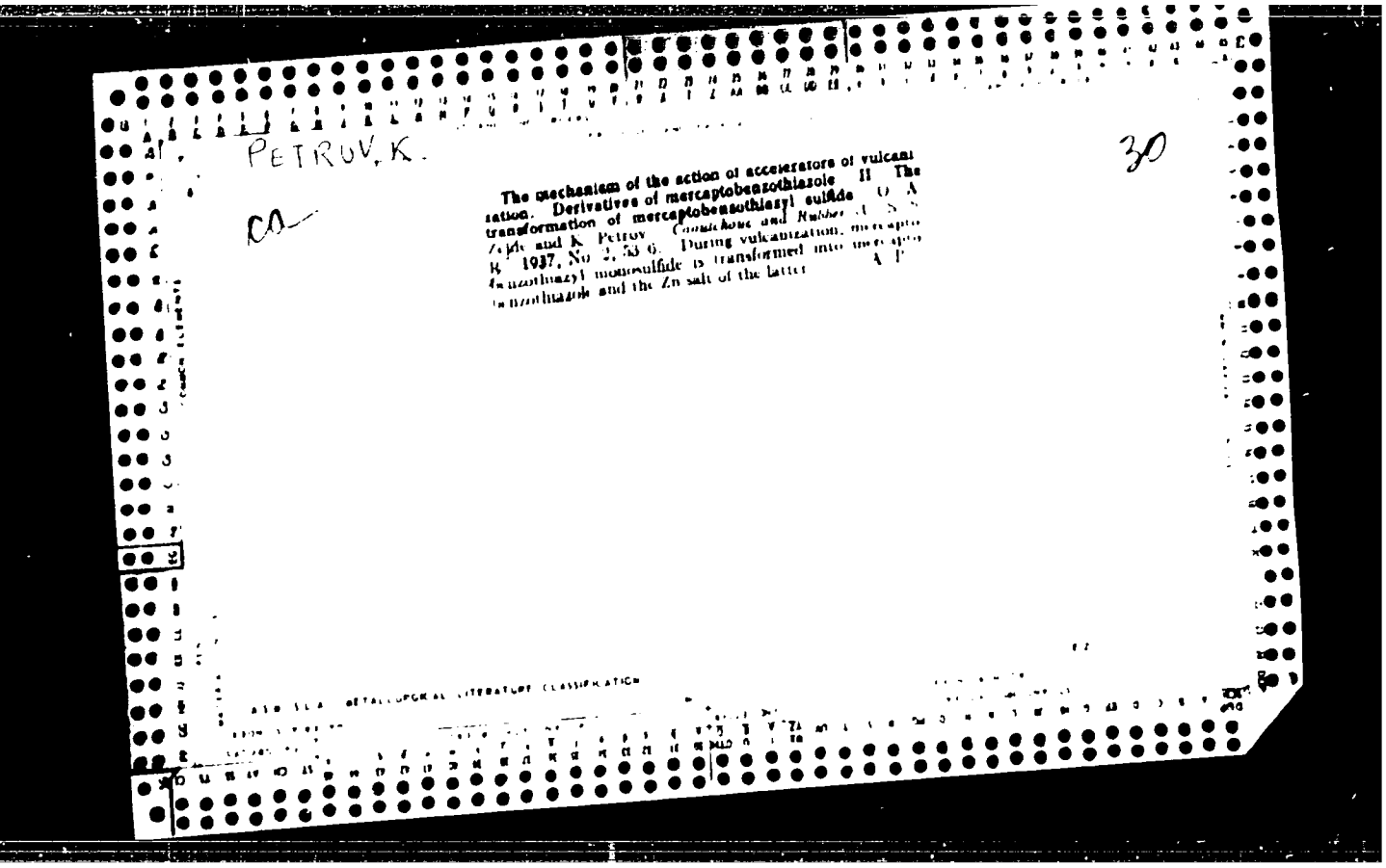
30

Altax (dibenzothiazyl disulfide) as an accelerator of rubber vulcanization. O. Zelde and K. Petrov. *J. Rubber Ind.* (U. S. S. R.) 11, 401-6 (Dec., 1934); cf. *C. A.* 26, 4288; 29, 3807. Dibenzothiazyl disulfide (I) was prepd. by treating an alk. soln. of mercaptobenzothiazole (II) with Cl, by the reaction: $II + 2Na_2CO_3 + Cl_2 \rightarrow I + 2NaCl + 2NaHCO_3$. Na_2CO_3 (3.5 kg.), II (5 kg.) and water (30 l.) were heated at 95° in a cast-iron steam-jacketed tank until dissolved (20-25 min.), the hot soln. was vacuum-filtered and washed, the filtrate was cooled to 0°, PhCl (300 cc.) was added to eliminate frothing, Cl gas (1250-1300 g. washed in H_2SO_4) was bubbled through for about 1 hr. at 0° to 10°, the reaction product was centrifuged to wash free of Cl, then centrifuged until it contained only 50% of water (10 kg.). It was then dried at 50-60° for 3-4 days. The yield was 8C, and the product contained 65% of II, which was easily removed with Na_2CO_3 and might be treated with Cl to yield more I. After the second treatment the loss was 3C. The final I product contained 0.3-0.5% water and 0.4-0.7% ash and m. 150-164°. The proportion of calcined Na_2CO_3 used was 7% above the theoretical value. The corrosion loss of Fe in the reactor was 3 g. per sq. m. per hr. A. P.

A 5 0 S L A METALLURGICAL LITERATURE CLASSIFICATION



The mechanism of the accelerating action of dibenzothiazole disulfide (Altax) and criticism of the theory of G. Bruni and E. Romani. O. Zelde and K. Petrov. *J. Rubber Ind.* (U.S.S.R.) 12, 695-70(1935); cf. *C.A.* 15, 1915, 10, 4063. The expt. did not prove that dibenzothiazole disulfide (I) liberated free S at the process of vulcanization, as it should according to the theory of Bruni and Romani (*C.A.* 15, 3915). I is reduced to mercaptobenzothiazole (II) at vulcanization. The reduction is brought about either by H_2S or by hydrocarbons of the rubber and by alkali. II in the presence of ZnO and Zn soaps reacts with them, thus forming a Zn salt of II, which is a very important accelerator. The reactions are given. A. Pestoff



PETROV, K.

CO

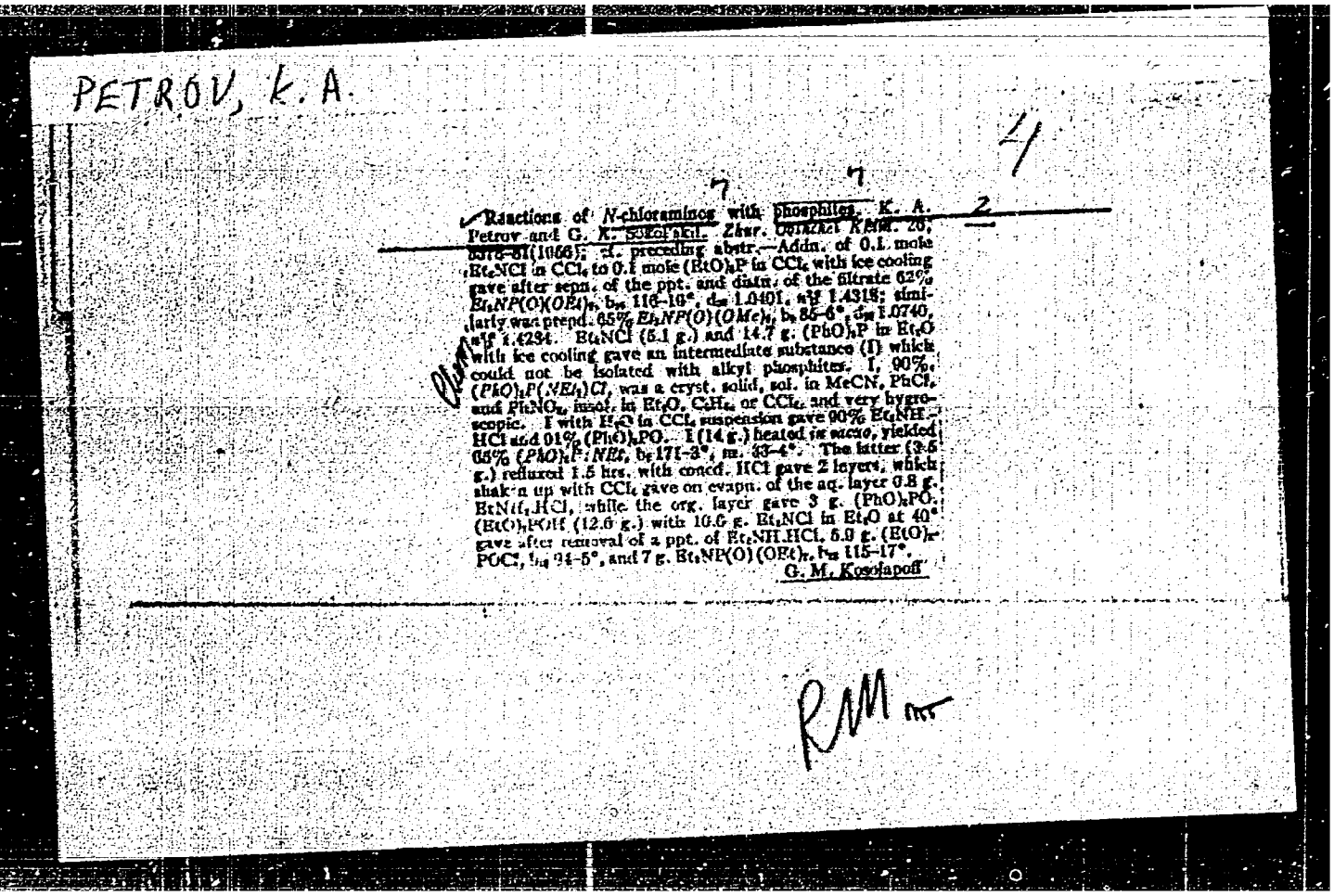
30

The mechanism of the action of accelerators of vulcani
sation. Derivatives of mercaptobenzothiazole II The
transformation of mercaptobenzothiazyl sulfide O A
Zefir and K Petrov Caoutchouc and Rubber (U S S
R) 1937, No 2, 33 6 During vulcanization, mercapto
benzothiazyl monosulfide is transformed into mercapto
benzothiazole and the Zn salt of the latter A P

PETROV, K. A.

4

Reactions of alkyl hypochlorites with phosphites. K. A. Petrov and G. A. Sokol'skii. *Zhur. Obshchei Khim.* 26, 3077-8(1956).—Addn. of 2.4 g. EtOCl in CCl_4 with ice cooling to 4.9 g. $(EtO)_3P$ in CCl_4 gave 83% $(EtO)_3PO$. Similarly 4 g. $(MeO)_3P$ and 5.8 g. EtOCl gave 85% $(MeO)_2(EtO)PO$, b. 201-2°, d_4 1.1784. EtOCl (3.1 g.) and 8.1 g. $(PhO)_3P$ gave 97% $(PhO)_3PO$. Reaction of 5.7 g. $(EtO)_2POH$ with 3.9 g. EtOCl in CCl_4 at 35° gave after air blowing 2 hrs. to remove evolved HCl, 74% $(EtO)_2PO$. The reaction appears to proceed through intermediate $(RO)_2(R'O)PCl$, which decomp. by evolving the alkyl chloride of lowest mol. wt. G. M. Kosolapoff



PETROV, K. A.

41

Reactions of *N*-chloramines with phosphites. K. A. Petrov and G. K. Kosolapoff. *Zhur. Obshchei Khim.* 26, 3278–81 (1956); cf. preceding abstr.—Addn. of 0.1 mole Et_2NCl in CCl_4 to 0.1 mole $(EtO)_3P$ in CCl_4 with ice cooling gave after sepn. of the ppt. and distn. of the filtrate 62% $Et_2NP(O)(OEt)_2$, b_{10} 116–18°, d_4^{20} 1.0401, n_D^{20} 1.4318; similarly was prepd. 65% $Et_2NP(O)(OMe)_2$, b_6 85–6°, d_4^{20} 1.0740, n_D^{20} 1.4294. Et_2NCl (5.1 g.) and 14.7 g. $(PhO)_3P$ in Et_2O with ice cooling gave an intermediate substance (I) which could not be isolated with alkyl phosphites. I, 90%, $(PhO)_2P(NEt_2)Cl$, was a cryst. solid, sol. in MeCN, $PhCl$, and $PhNO_2$, insol. in Et_2O, C_6H_6, or CCl_4, and very hygroscopic. I with H_2O in CCl_4 suspension gave 90% $Et_2NH \cdot HCl$ and 91% $(PhO)_2PO$. I (14 g.) heated *in vacuo*, yielded 65% $(PhO)_2P \cdot NEt_2$, b_{17} 171–3°, m. 43–4°. The latter (3.5 g.) refluxed 1.5 hrs. with concd. HCl gave 2 layers, which shaken up with CCl_4 gave on evapn. of the aq. layer 0.8 g. $Et_2NH \cdot HCl$, while the org. layer gave 3 g. $(PhO)_2PO \cdot (EtO)_2POH$ (12.6 g.) with 10.6 g. Et_2NCl in Et_2O at 40° gave after removal of a ppt. of $Et_2NH \cdot HCl$, 5.9 g. $(EtO)_2POCl$, b_4 94–5°, and 7 g. $Et_2NP(O)(OEt)_2$, b_{10} 115–17°.

G. M. Kosolapoff

PETROV K A

"Reactions of Sulfenechlorides With Phosphites," by K. A. Petrov, G. A. Sokol'skiy, and B. M. Poleyes, Zhurnal Obshchey Khimii, Vol 26, No 12, Dec 56, pp 3381-3384

The authors studied the reaction of sulfenechlorides with esters of phosphorous acid. They established that alkylsulfenechlorides react with neutral and acid alkylphosphites to form corresponding S-alkyl-O-alkylphosphates and S-alkyl-O-alkylhalogenophosphates. Alkylsulfenechlorides react with neutral aromatic phosphites to form O-arylthiophosphates. Arylsulfenechlorides react with neutral aromatic phosphites to form arylphosphonium dichlorides and disulfides.

Sum 1214

PETROV, K. A.

3

Thiophosphates. K. A. Petrov and A. A. Neimysheva. U.S.S.R. 145,336, Aug. 20, 1962. CSCl is obtained by the action of chloromethyl mercaptan on diethyl phosphorochloridothioic acid. The reaction is carried out at 0° with const. stirring. Upon completion of the reaction, the mixt. is distd.
M. Hirsh

4E4f

FM
MIT

PETROV, K.A.

[illegible] of α-chloro sulfides by the [illegible]. K. A. Petrov, G. A. Sokol'skii, and A. A. Neimysheva. [illegible] Khim. 27, 780-3(1957). To an Et_2O soln. of a diazoalkane at -10° was added the Et_2O soln. of sulfenyl chloride in equimolar proportion; after 12 hrs. at room temp. the reaction was complete and filtration and distn. of the filtrate gave the following chloro sulfides which treated with monochloramine-B in aq. EtOH gave the sulfilimines listed below: $EtSCH_2Cl$, 66%, $b_{[illegible]}$ 55-[illegible]°, d_{20} 1.[illegible], n_D^{20} 1.5284; $EtSCH$[illegible]$ClMe$, [illegible]%, $b_{[illegible]}$ 60°, 1.[illegible], [illegible]; $ClCH_2CH_2S$[illegible] [illegible] CH_2CH_2[illegible] [illegible] $PrSCH_2Cl$, 55%, [illegible], 1.4801; $PrSCHClMe$, 50%, $b_{[illegible]}$ 60-1°, 1.0350, 1.4801; [illegible] 60.8%, [illegible] 52-3°, 1.0169, 1.4712; $MeCH$[illegible]CH_2SCH_2Cl, 50%, $b_{[illegible]}$ [illegible] 1.[illegible], 1.5230; $MeCHClCH_2SCHClMe$, 62%, $b_{[illegible]}$ [illegible], 1.[illegible], 1.4975; $PhCH_2SCH_2Cl$, 68%, $b_{[illegible]}$ 108-10°, 1.1907, 1.5828; CCl_3SCH_2Cl, 43%, $b_{[illegible]}$ 66-7°, 1.5911, 1.5338; $CCl_3SCHClMe$, 63.5%, $b_{[illegible]}$ 76°, 1.5029, 1.5320; $CFCl_2SCH_2Cl$, 45.5%, $b_{[illegible]}$ 58-8.5°, 1.5420, 1.4890; $CFCl_2SCHClMe$, 78%, $b_{[illegible]}$ [illegible]-6°, 1.4076, 1.4700; $PhSO_2N:SEtCH_2Cl$, m. 145-6°; $PhSO_2N:SEtCHClMe$, m. 160-1°; $PhSO_2N:S(CH_2CH_2Cl)CH_2Cl$, m. 124-5°; $PhSO_2N:S(CH_2CH_2Cl)CHClMe$, m. 146-7°; $PhSO_2N:SPrCH_2Cl$, m. 143-4°; $PhSO_2N:SPrCHClMe$, m. 148-9°; $PhSO_2N:S(CH_2CHClMe)CHClMe$, m. 160-7°. SCl_2 (20 g.) with 20.4 g. CH_2N_2 in Et_2O at -40° gave N and 91% $S(CH_2Cl)_2$, b. 152-4°, $b_{[illegible]}$ 60-2°, d_{20} 1.4[illegible]58, n_D^{20} 1.5[illegible]; S_2Cl_2 similarly gave 35.8% $(SCH_2Cl)_2$, [illegible], 1.4317, n_D^{20} 1.[illegible], which chlorinated at [illegible] in CCl_4 gave [illegible] n_D^{20} 1.5490, which with cyclohexene gave [illegible] chloromethyl 2-chlorocyclohexyl [illegible], [illegible], n_D^{20} 1.[illegible]. CH_2N_2 (9.9 g.) and 15.1 g. SO_2Cl_2 in Et_2O at -40° gave 9.1 g. $SO_2(CH_2Cl)_2$, m. 68.5-70°. Passage of SO_2 into 6.1 g. CH_2N_2 in Et_2O gave after 12 hrs. 93% $(MeO)_2SO$, b. 176-6°, d_{20} 1.2158, n_D^{20} 1.4029. Addn. of 4.1 g. Cl to 12.4 g. $PhCH_2SH$ at 0° in CCl_4 (benzyl disulfide can be used as well) gave after heating 30-40 min. 93-5% $PhCH_2SCl$, d_{20} 1.186, on evapn. of the solvent. G. M. Kosolapoff

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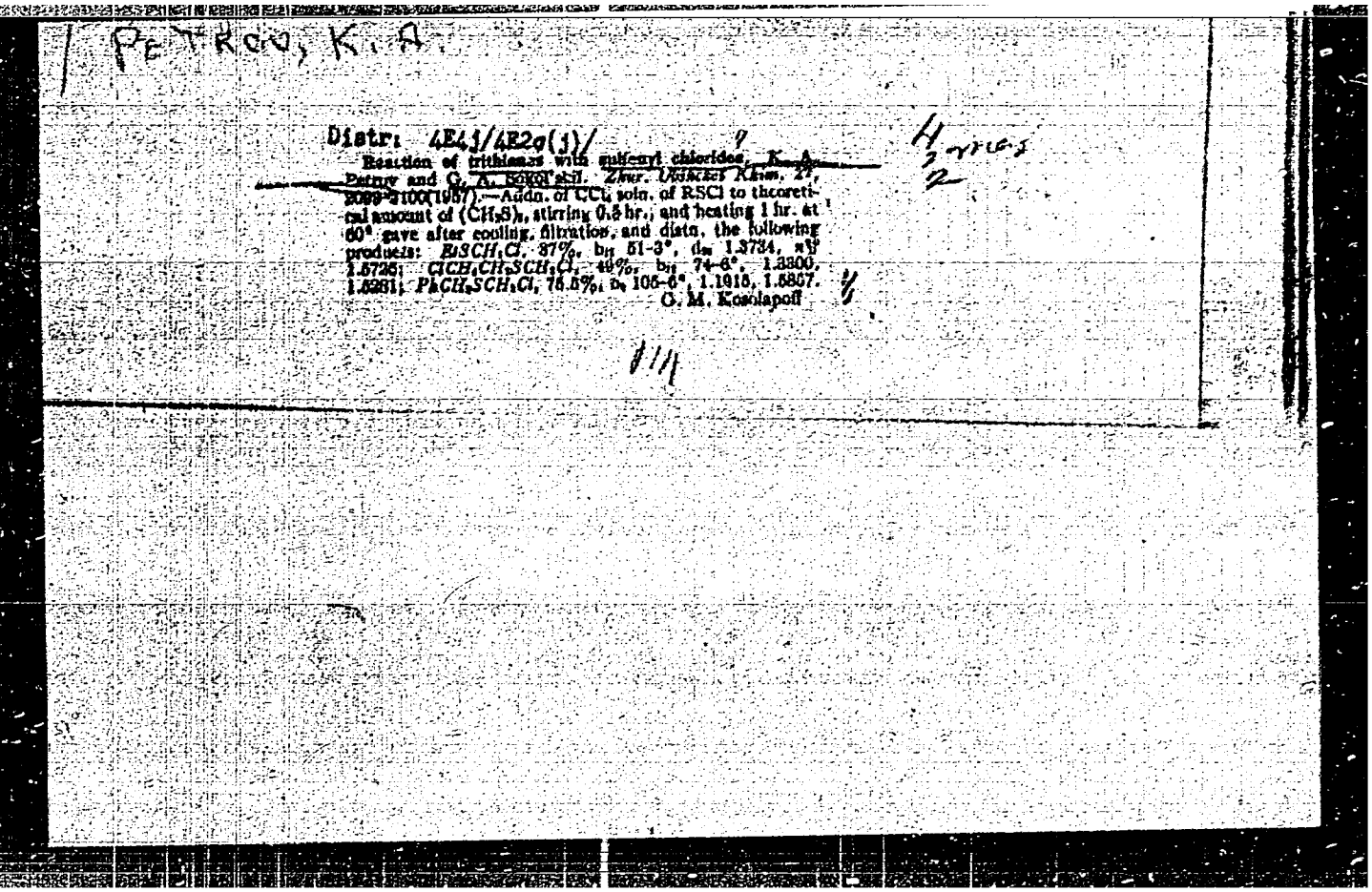
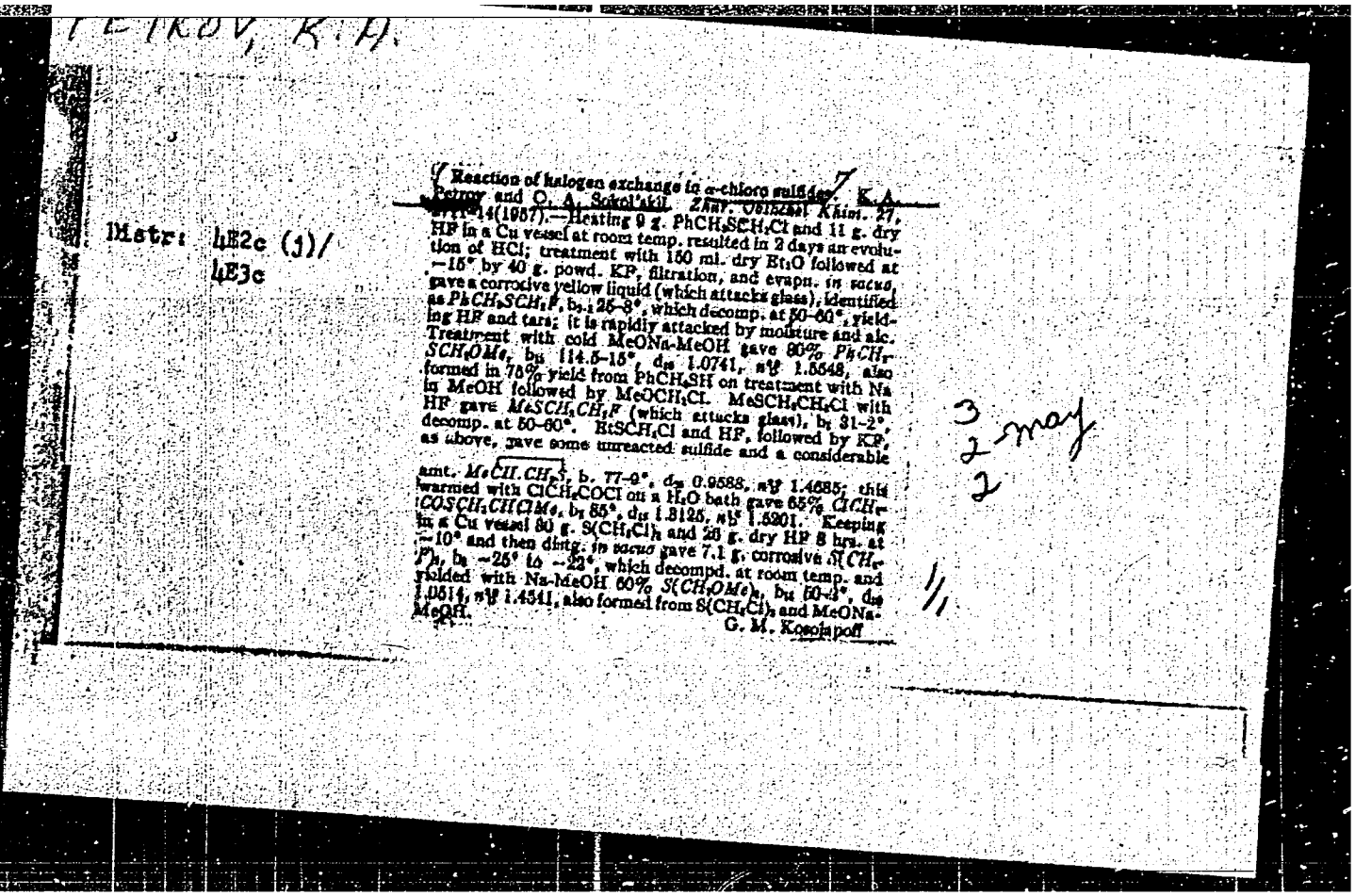


PETROV, K. A.

Distr: 4E4j/4E2g(j)

Reaction of trithiolanes with sulfenyl chlorides. K. A. Petrov and G. A. Sokol'skii. *Zhur. Obshchei Khim.* 27, 2089-2100(1957).—Addn. of CCl_4 soln. of RSCl to theoretical amount of $(CH_2S)_3$, stirring 0.5 hr., and heating 1 hr. at 60° gave after cooling, filtration, and distn. the following products: $EtSCH_2Cl$, 87%, b_{11} 51-3°, d_{20} 1.3734, n_D^{20} 1.5726; $ClCH_2CH_2SCH_2Cl$, 49%, b_{11} 74-6°, 1.3300, 1.5281; $PhCH_2SCH_2Cl$, 76.5%, b_6 105-6°, 1.1915, 1.5857.

G. M. Kosolapoff



PETROV, K. A.

Metr: 4E2c (1)/
4E3c

Reaction of halogen exchange in α-chloro sulfides. K. A. Petrov and O. A. Sokol'skii. *Zhur. Obshchei Khim.* 27, 1414(1957).—Heating 9 g. $PhCH_2SCH_2Cl$ and 11 g. dry HF in a Cu vessel at room temp. resulted in 2 days an evolution of HCl; treatment with 150 ml. dry Et_2O followed at −15° by 40 g. powd. KF, filtration, and evapn. *in vacuo* gave a corrosive yellow liquid (which attacks glass), identified as $PhCH_2SCH_2F$, $b_{3.5}$ 125–8°, which decomp. at 50–60°, yielding HF and tars; it is rapidly attacked by moisture and alc. Treatment with cold MeONa-MeOH gave 90% $PhCH_2SCH_2OMe$, b_{11} 114.5–15°, d_{20} 1.0741, n_D^{20} 1.5548, also formed in 75% yield from $PhCH_2SH$ on treatment with Na in MeOH followed by $MeOCH_2Cl$. $MeSCH_2CH_2Cl$ with HF gave $MeSCH_2CH_2F$ (which attacks glass), b_1 31–2°, decomp. at 50–60°. $EtSCH_2Cl$ and HF, followed by KF, as above, gave some unreacted sulfide and a considerable amt. $MeCH(CH_2F)_2$, b. 77–8°, d_{20} 0.9588, n_D^{20} 1.4685; this warmed with $ClCH_2COCl$ on a H_2O bath gave 65% $ClCH_2COSCH_2CHClMe$, b_1 85°, d_{18} 1.3125, n_D^{18} 1.5201. Keeping in a Cu vessel 80 g. $S(CH_2Cl)_2$ and 26 g. dry HF 8 hrs. at −10° and then distg. *in vacuo* gave 7.1 g. corrosive $S(CH_2F)_2$, b_3 −25° to −22°, which decompd. at room temp. and yielded with Na-MeOH 60% $S(CH_2OMe)_2$, b_{11} 50–3°, d_{20} 1.0514, n_D^{20} 1.4541, also formed from $S(CH_2Cl)_2$ and MeONa-MeOH.

G. M. Kosolapoff

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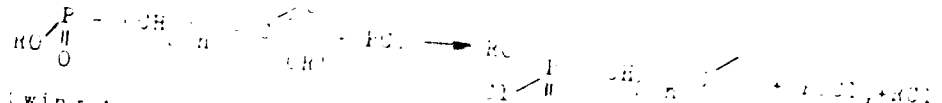
AUTHOR:

TITLE:

PERIODICAL:

ABSTRACT:



Card 1/3

Halogen Anhydrides of the esters of phosphonocarboxylic Acids. I. Synthesis of P-Monochloric Anhydrides of the dialkyl Esters of phosphonocarboxylic Acids

and lead to a mixture of different products. It was, however, proved that the substitution of chlorine for the group of esters in the esters of phosphonocarboxylic acids takes place easily and clearly under certain conditions in the case of action of PCl_5, in which case various groups of esters in connection with phosphorus (CH_3O-, C_2H_5O-, C_3H_7O-, C_4H_9O-, $C_5H_{11}O$-etc.) are almost easily replaced by chlorine. The yield in monochloric anhydrides amounts to 60 - 95%. Monochloric anhydrides of the esters of phosphonoformic acid are also obtained in good yield by chlorination of the mixture of PCl_5 and a neutral ester of phosphonoformic acid, in which case phosphorus pentachloride forms during the process of chlorination. According to these methods 12 P-chloric anhydrides of dialkyl esters of phosphonoformic acid, acetic acid and propionic acid were synthesized as well as the chloric anhydride of the diethyl ester of thio phosphonopropionic acid.

Card 2/3

V. [illegible] 71

Haloren Anhydrides of the esters of phosphono carboxylic acids. I. Synthesis of P-Monochloric Anhydrides of the Diethyl esters of Phosphono Carboxylic Acids

Monochloric anhydrides of the triethyl ester of phosphono acetic acid were also obtained by action of thionyl chloride on neutral esters. Scheme 1. Table 1 shows the constants of the compounds obtained. There are [illegible] references, 1 of which is Soviet.

ASSOCIATION: Voyenno-[illegible] Chemical Academy

SUBMITTED: December 15, [illegible]

Card 1/3

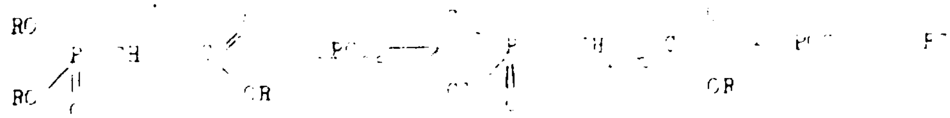
SOV [illegible]

AUTHORS: Petrov, K. A., Maklyayev, F. L., Korshunov, M. A.

TITLE: Acid Halides of the Esters of Phosphonocarboxylic Acids (Galoidangidridy efirov fosfinkarbonovykh kislot). II. Acid Dichlorides of the Dialkyl Esters of Phosphonoacetic Acid (II. Dikhlorangidridy dialkilovykh efirov fosfinuksusnoy kisloty)

PERIODICAL: Zhurnal obshchey khimii, [illegible], Vol. [illegible], Nr [illegible], pp. [illegible] (USSR)

ABSTRACT: In the present paper it was found that the reaction of PCl_5 [illegible] with alkyl esters with the neutral esters of phosphonoacetic and [illegible] phosphonopropionic acid leads to the acid chlorides of the dialkyl esters of these acids:



The yield was [illegible] %. The ester group at the carbon [illegible] is replaced neither by an excess of PCl_5 nor by chlorine at higher temperatures

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001240430005-2"

SOV

Acid Halides of the Esters of Phosphinecarboxylic Acid II. Acid Dichlorides of the C-Alkyl Esters of Phosphinecarboxylic Acid

The possibility of the synthesis of the P-C-N and P-P-C acid dichlorides of phosphoncarboxylic acid is apparently due to the different substitution of chlorine for the two ester groups at phosphorus in the passing of gaseous hydrogen through the solution of PCl$_3$ and the triethyl ester of phosphonacetic acid in benzene

of the C-ethyl ester of phosphonoacetic acid forms because chlorine substitutes not only the ester groups at phosphorus but also the methylene group at the phosphonacetic ester under formation of acid dichloride of the C-ethyl ester of phosphonochloridoacetic acid (Scheme 2). This compound is a colorless liquid soluble in ether solvents which decomposes the mucosa. The data of analysis corresponds to the acid dichloride of the ethyl ester of phosphonochloridoacetic acid. The position of the ester group within the acid dichloride is proved by its reaction with hydrogen fluoride or potassium bifluoride which leads to the formation of the ethyl ester of fluoridoacetic acid (Scheme 3) where the cleavage takes place at the C-P bond.

SUBMITTED: December

Card 2/2

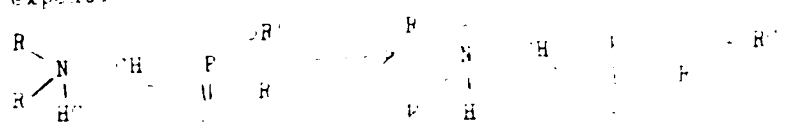
SOV [illegible]

AUTHORS: Petrov, K. A., Maklyayev, F. L., Bliznyuk, N. K.

TITLE: Synthesis of the Acid Esters of Dialkylaminoalkyl Phosphinic Acids (Sintez kislykh efirov dialkilaminoalkilfosfinovykh kislot)

PERIODICAL: Zhurnal obshchey khimii, [illegible], Vol. [illegible], Nr [illegible], pp. [illegible] (USSR)

ABSTRACT: In the present paper some hydrohalides of the aminomethyl [illegible] phonates were synthesized and the [illegible] conversion into the inner salts [illegible] was performed by a simple method. The [illegible] ty a thermal cleavage of the hydrochlorides of dialkylaminomethyl phosphonates phosphonates. The hydro[illegible]ides of dialkylamin[illegible] separate [illegible] alkyl halides and a [illegible] at the expense [illegible] the dialkyl a- [illegible] tion of the amino group [illegible] those of the amines [illegible] the thermal cleavage and are transformed into inner salts [illegible] alkylamino alkyl phosphonates under separation of alkyl halides [illegible] the expense of the [illegible] and the [illegible]



Card [illegible]

Synthesis of the Acid Es[illegible] ... [illegible] phosphonic Acids

Thus, e[illegible] ... [illegible] separated under [illegible] ethyl [illegible] quantitatively ... monoethyl ester of [illegible] methyl phosphonic ... state. The [illegible] separation of the alkyl ... in the [illegible] thermal cleavage of the hydro[illegible] ... esters of dialkylamin methyl phosphonic acids with ... at the phosphorus and nitrogen atom ... were obtained also in the thermal cleavage of the hy[illegible] ... the diethyl ester of [illegible] methyl phosphonic ... The aqueous ... of the mono esters ... cates their ... structure. The [illegible] ... of dialkylamin methyl phosphonic acid are, in contrast to the ... chlorides, thermally stable compounds. The ... fluorides ... phosphonates were ... action ... hydrohalides of the esters ... vents - there are ...

SUBMITTED: December [illegible]

Card 2/2

SOV

AUTHORS: Petrov, K. A. [illegible]

TITLE: Synthesis [illegible]
Sintez [illegible]

PERIODICAL: Zhurnal [illegible]

ABSTRACT: In [illegible]
the synthes[illegible]
In this [illegible]
[illegible]

[illegible]

[illegible]

The auth[illegible] [illegible]
dition[illegible]
amine [illegible]
the [illegible]
75 [illegible]

SUBMITTED:

SOV/79-29-5-17/75

5(2)
AUTHORS: Petrov, K. A., Bliznyuk, N. K., Burygin, V. Ye.

TITLE: On the Reaction of Phosgene With Trialkyl-Phosphites (O reaktsii fosgena s trialkilfosfitami)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 5, pp 1496 - 1501 (USSR)

ABSTRACT: It was demonstrated in the present paper that the reaction of chloro phosphoric acid esters with trialkyl phosphites is similar to the reaction of Arbuzov where the alkyl chloride is separated and the ester of the diphosphonic acid with a P-P-bond is formed. The diphosphonates with a P-P-bond are unstable substances. During distillation they are frequently cleaved and yield esters of the alkyl-phosphinic acid and metaphosphates. Such a cleavage even takes place in the low absolute pressure. The purely prepared ester of the alkyl phosphinic acid was hydrolyzed to the alkyl-phosphinic acid. The latter was transformed into its aniline salt. With water the diphosphimate decomposes. The reaction products reduce the mercuric chloride to mercurous chloride. Probably the P-P-bond breaks during the hydrolysis, with phosphite and phosphate thus being formed. The ester of the diphosphinic acid with

Card 1/2

On the Reaction of Phosphorus With Trialkyl-Ph[illegible]

a P-P-bond is readily split[illegible] by chlorine and [illegible]
and dialkyl-chl[illegible]
were prepared in a pure [illegible], analyzed and [illegible]
the anilides of the dialkyl-ph[illegible]hic acid. The
chloro-phosphonic [illegible] phosphites was investi-
on dimethyl and diethyl-chloro phosphonic acid esters di-
methyl and triethyl-phosphites, respectively. [illegible]
erees, [illegible] of which are [illegible], and 1 solid.

SUBMITTED: March [illegible], 1958

Card 2/2

S/ [illegible]

5(3)

AUTHORS: Petrov, K. A., Neymysheva, A. A., Smirnov, Ye. V.

TITLE: Anhydrides of Phosphono Isobutyric Acid. 3 (Angidridy fosfonizomaslyanoy kisloty. 3)

PERIODICAL: Zhurnal obshchey khimii, 19 [illegible], Vol 29, Nr 5, pp 1491 - 1494 (USSR)

ABSTRACT: In the present paper acid monochlorides of phosphono isobutyric acid esters as well as inner cyclic phosphono-carboxylic anhydrides were described. The synthesis of P-acid-monochlorides was carried out by interaction of phosphorus pentachloride and the phosphono isobutyric acid esters. The yields of [illegible] are satisfactory if the reaction is carried out in the absence of solvent, at 60 - 70° and at a molar ratio of the reactants of 1:1. The excess phosphorus pentachloride and at higher temperature a mixture of P-acid monochlorides and C-acid dichlorides was obtained from which it was impossible to isolate the C-acid monochloride by fractional distillation. A method was worked out according to which methoxy acid chlorides of the dimethyl-, diethyl- and methylethyl esters of the phosphono isobutyric acid were obtained. Acid chlorides of diesters of the phosphono isobutyric acid are

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