BILYK, A.A. (Poltava)

Role and duties of the nurse at the first aid station. Med. sestra 17 no.4:41-43 Ap '58. (MIRA 12:10)
(NURSES AND NURSING)

BILYK, G. I.

1. G. I. BILYK

2. USSR (600)

4. Botany - Ukraine

7. Stalin construction projects of communism and the tasks of botanists. Bot. zhur. 8 no. 1. 1951.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

1. G. I. BILYK

2. USSR (600)

4. Botany

7. New plantain species (Plantago Schwarzenbergiana Schur) in the flora of the U. S. S. R. Bot. zhur 8 no. 1. 1951.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

BILYK, G. I.

New species of Atropis, Puccinellia syvaschica Bilyk sp.n. from southern Ukraine. Bot.zhur.[Ukr.] 9 no.3:77-80 '52. (MLRA 6:11)

1. Instytut botaniky Akademiyi nauk Ukrayins'koyi RSR, Viddil geobotaniky. (Ukraine--Grasses) (Grasses--Ukraine)

BILIK, G.I.

Vegetation of small depressions of Bashtanka District in Nikolaev Province. Bot.zhur.[Ukr.] 9 no.2:62-73 '52. (MLRA 6:11)

1. Institut botaniki Akademii nauk Ukrains'koi RSR, Viddil geobotaniki. (Bashtanka District--Botany) (Botany--Bashtanka District)

BILIK, G.I.

Meadows and pastures of southern Ukraine, their efficient use and improvement. Bot.zhur. [Ukr.] 10 no.4:7-15 '53. (MLRA 6:12)

1. Institut botaniki Akademii nauk Ukrains'koi SSR, viddil geobotaniki.
(Ukraine--Forage plants) (Forage plants--Ukraine)

BILIK, G.I.

Results of scientific work of the Botanical Institute of the Academy of Sciences of the Ukrainia S.S.R. for 1954. Bot.zhur. [Ukr.] 12 no.2:105-109 '55. (MLRA 8:10)
(Ukraine--Botany)

BILIK, G.I.

Plant complexes along the left bank of the middle Dnieper. Bot.zhur. [Ukr.] 12 no.4:46-65 '55. (MLRA 9:3)

1. Institut botaniki AN URSR, viddil geobotaniki.
(Dnieper Valley--Botany--Ecology)

BILYK, G.I.

AFANAS'YEV, D.Ya.; BILYK, G.I.; BRADOS, Ye.M.; GRIN', F.A.

Classification of the vegetation of the Ukrainian S.S.R. Ukr. bot.zhur. 13 no.4:63-82 '56. (MLRA 10:1)
(Ukraine--Botany--Classification)

L

USSR/Meadow Cultivation.

Abs Jour : Ref Zhur Biol., No 14, 1958, 63258

Author : Bilyk, G.I.
Inst [redacted]
Title : Low-Lying Saline Meadows of the Northern Part of the Dnepr River's Left Bank Region.

Orig Pub : Ukr. botanichniy zh., 1957, 14, No 2, 3-13

Abstract : It has been ascertained that the most suitable components of cereal grasses for sowing on low-lying solonchak humid meadows with solonetz patches are the oriental and meadow fescues and "beskil'nitsa" (Puccinella pseudoconvoluta), leguminous (field and yellow affalfa, black medice and yellow trefoil) and the stratified (millet, barley and oats). For low-lying wet and marshy saline meadows, foxtail, slough grass, and red canary grasses should be sown.

Card 1/1

BILIK, G.I.

Studying the vegetation of the Ukrainian S.S.R. during the last 40 years (1917-1957). Ukr.bot.zhur. 14 no.3:27-35 '57. (MIRA 10:10)

(Ukraine--Phytogeography--Research)

BILYK, G.I. [Bilyk, H.I.]

Geobotanical map of the Ukrainian S.S.R. Ukr.bot.zhur. 15 no.4:32-36 '58. (MIRA 12:5)
(Ukraine--Phytogeography)

BILYK, G.I. [Bilyk, H.I.]

Occurrence of Zerna riparia (Rehm.) Nevski in the Mikhaylovskaya Virgin Steppe Preserve. Ukr.bot.zhur. 16 no.1:57-61 '59. (MIRA 12:5)

1. Institut botaniki AN USSR, otdel geobotaniki.
(Mikhaylovskaya Virgin Steppe Preserve--Zerna)

BILYK, G.I. [Bilyk, H.I.]; PANOVA, L.S.

Plant complexes of the Kamennyye Mogily Reserve. Ukr.bot.zhur. 16 no.6:40-48 '59. (MIRA 13:5)

1. Institut botaniki AN USSR, otdel geobotaniki.
(Volodarskoye District--Botany--Ecology)

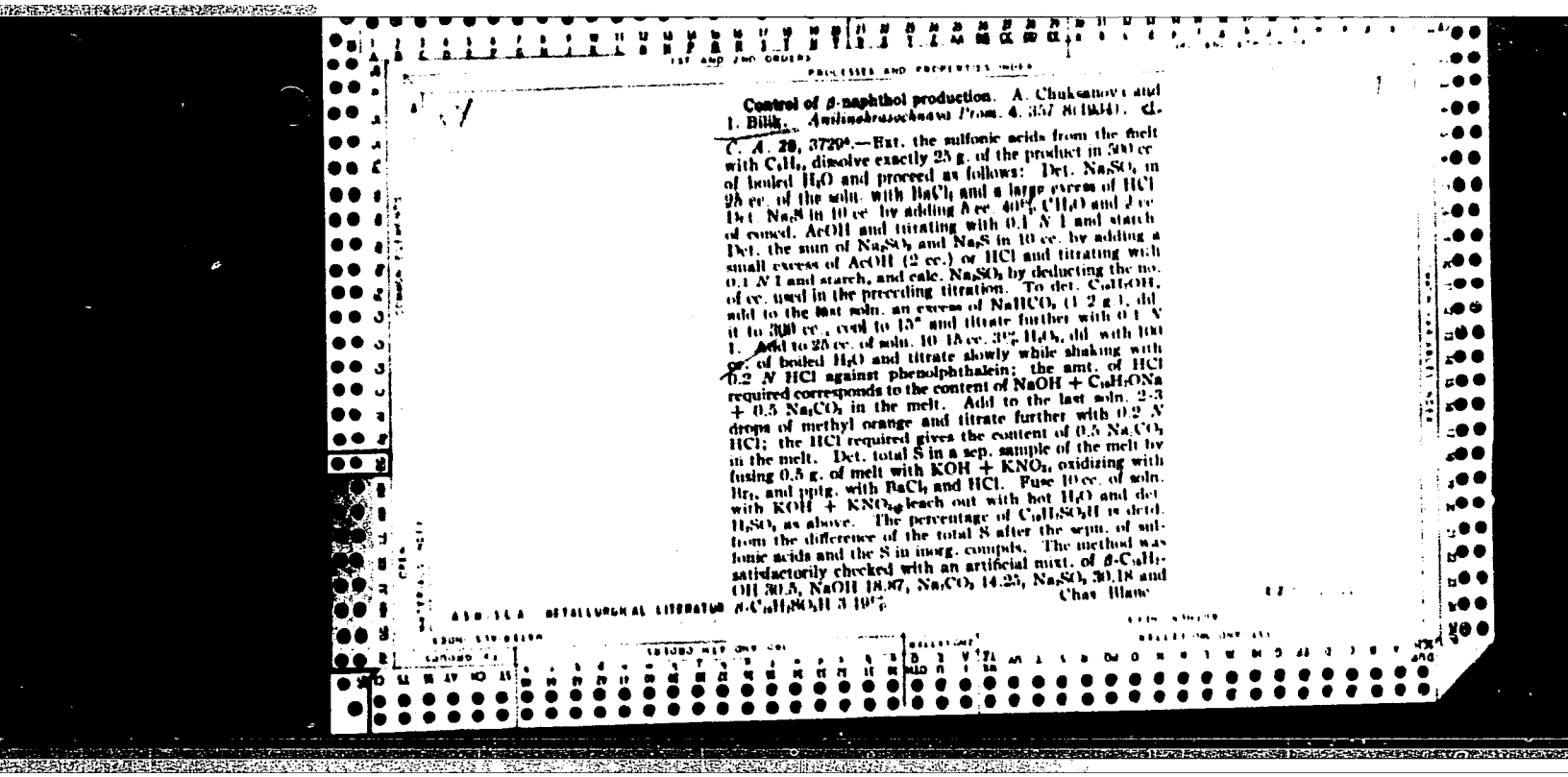
BILYK, G.I. [Bilyk, H.I.]

"Izvestiia" of the Botanical Institute [of Bulgaria] for 1950-1951, 1953, 1955-1956, 1958. Ukr.bot.zhur. 16 no.6: 110-113 '59. (MIRA 13:5)
(Bulgaria--Botany--Periodicals)

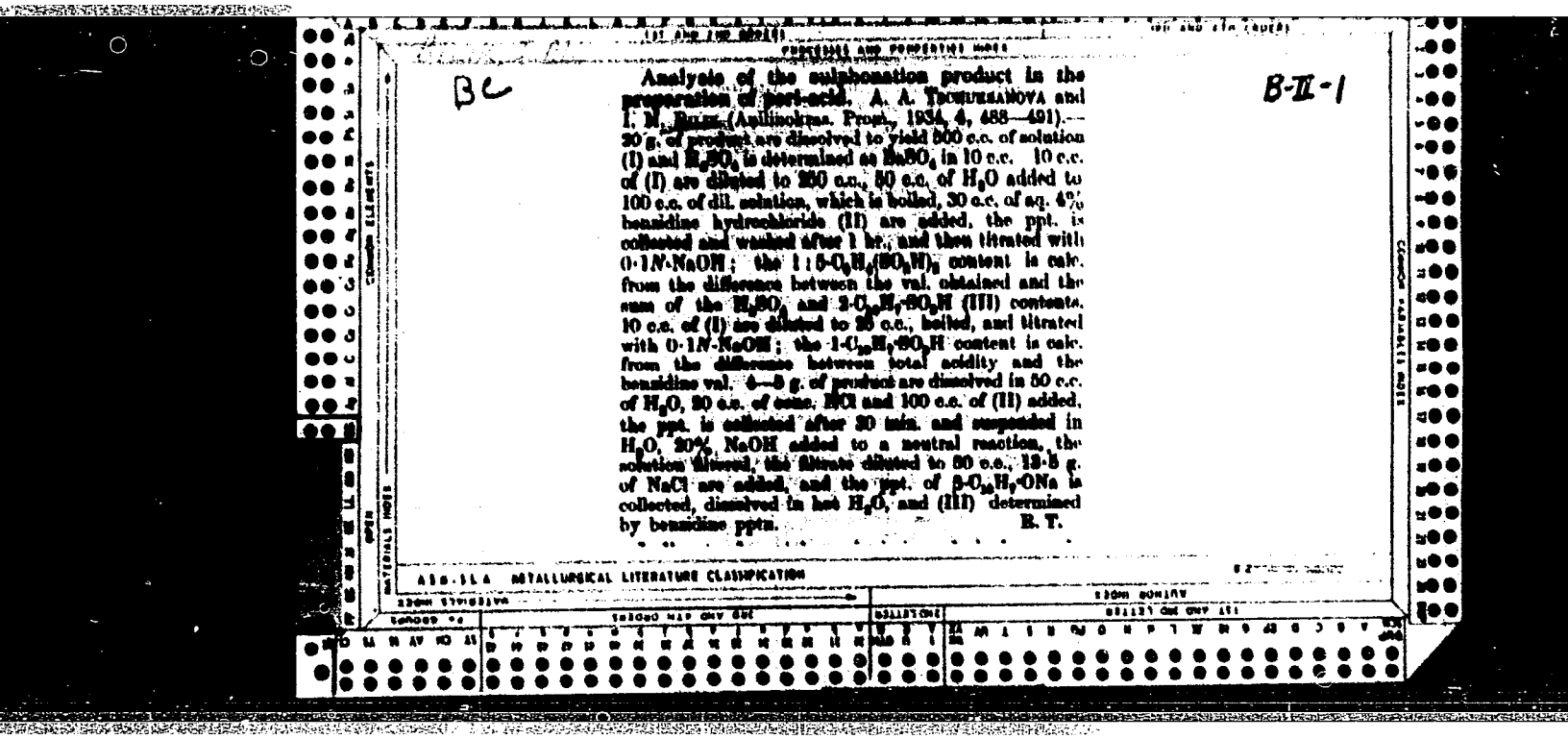
BILIK, I.

"A Study of Dyes with Asymmetric Molecules," Dokl. AN SSSR, 29, Nos. 8-9, 1940.

Voroshilov Sci.Inst. Organic Semi-Manufactured Products and Dyes



Control of β-naphthol production. A. Chukanov and I. Bilik. *Anilinokrasochnaya Prom.* 4, 357-8(1934). *C. A.* 29, 3729⁶.—Ext. the sulfonic acids from the melt with C_6H_6, dissolve exactly 25 g. of the product in 500 cc. of boiled H_2O and proceed as follows: Det. Na_2SO_3 in 25 cc. of the soln. with $BaCl_2$ and a large excess of HCl. Det. Na_2S in 10 cc. by adding 5 cc. 40% CH_2O and 3 cc. of concd. AcOH and titrating with 0.1 *N* I and starch. Det. the sum of Na_2SO_3 and Na_2S in 10 cc. by adding a small excess of AcOH (2 cc.) or HCl and titrating with 0.1 *N* I and starch, and calc. Na_2SO_3 by deducting the no. of cc. used in the preceding titration. To det. $C_{10}H_7OH$, add to the last soln. an excess of $NaHCO_3$ (1.2 g.), dil. it to 300 cc., cool to 15° and titrate further with 0.1 *N* I. Add to 25 cc. of soln. 10-15 cc. 3% H_2O_2, dil. with 100 cc. of boiled H_2O and titrate slowly while shaking with 0.2 *N* HCl against phenolphthalein; the amt. of HCl required corresponds to the content of NaOH + $C_{10}H_7ONa$ + 0.5 Na_2CO_3 in the melt. Add to the last soln. 2-3 drops of methyl orange and titrate further with 0.2 *N* HCl; the HCl required gives the content of 0.5 Na_2CO_3 in the melt. Det. total S in a sep. sample of the melt by fusing 0.5 g. of melt with KOH + KNO_3, oxidizing with Br_2, and ppte. with $BaCl_2$ and HCl. Fuse 10 cc. of soln. with KOH + KNO_3, leach out with hot H_2O and det. H_2SO_4 as above. The percentage of $C_{10}H_7SO_3H$ is calcd. from the difference of the total S after the sepn. of sulfonic acids and the S in inorg. compds. The method was satisfactorily checked with an artificial mixt. of β-$C_{10}H_7$-OH 30.5, NaOH 18.97, Na_2CO_3 14.25, Na_2SO_3 30.18 and β-$C_{10}H_7SO_3H$ 3.10%. Chas. Blanc



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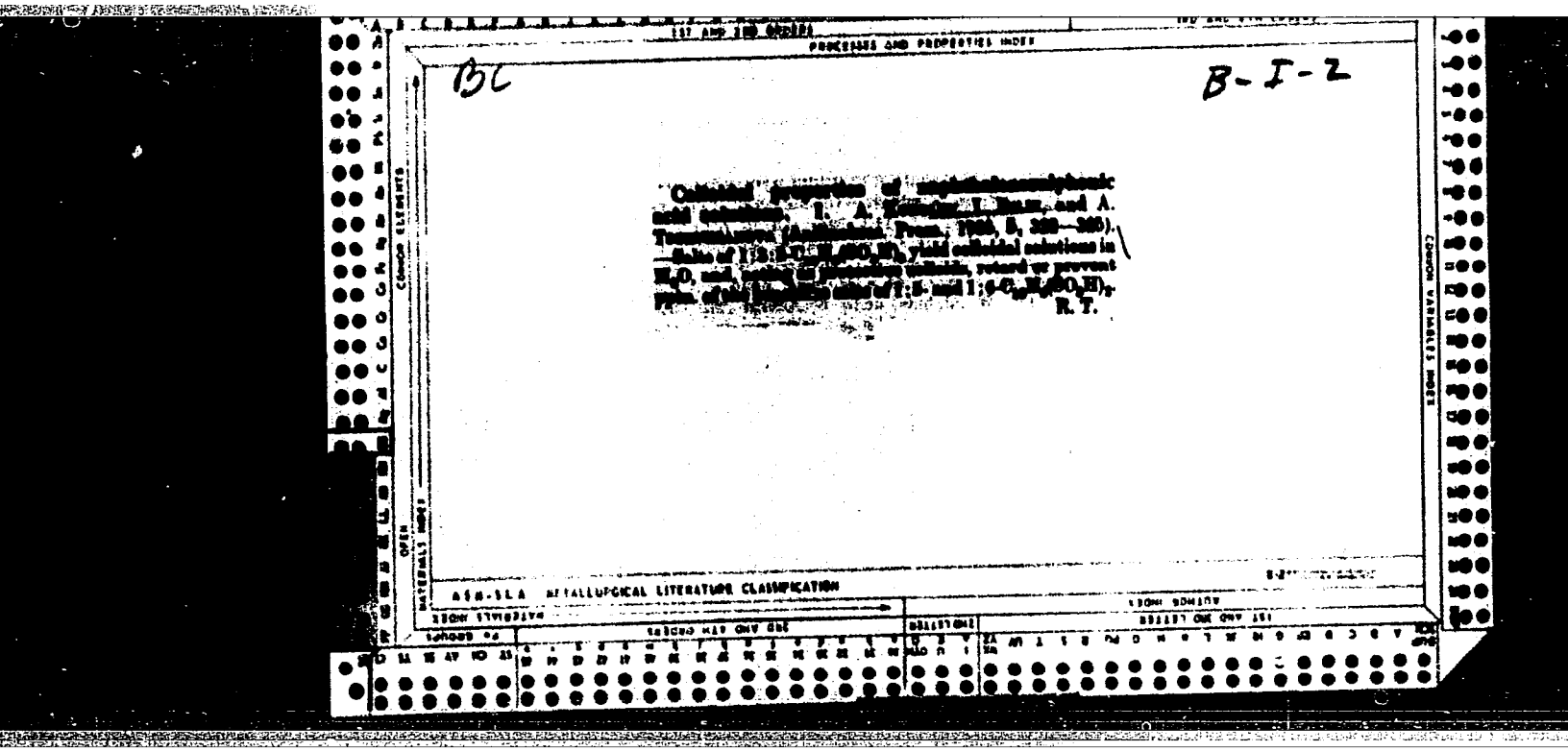
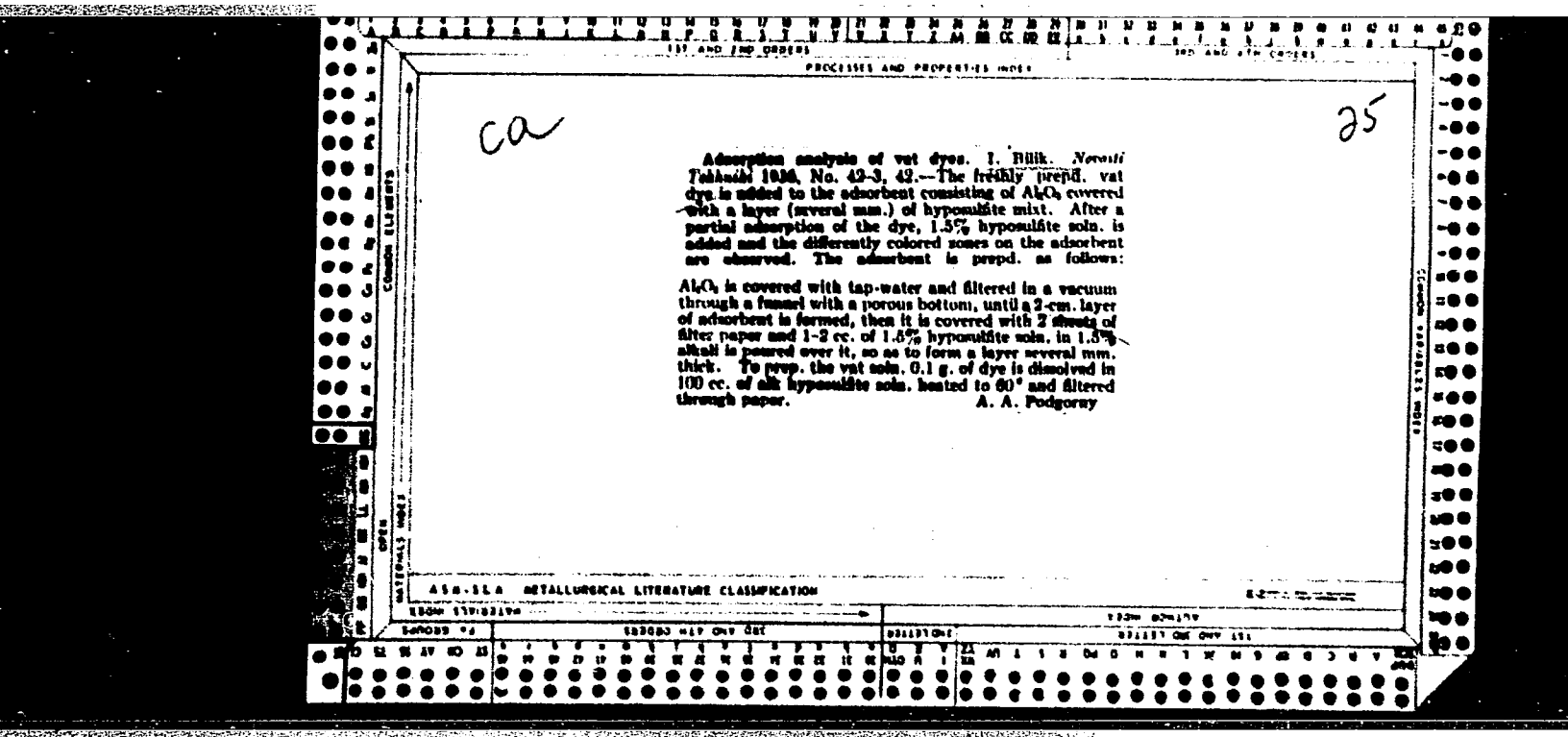
B-II-1

Analysis of the sulphonation product in the preparation of peri-acid. A. A. TROITSKAYA and I. N. BUSH. (Anilinokras. Prom., 1934, 4, 488—491).—20 g. of product are dissolved to yield 500 c.c. of solution (I) and H_2SO_4 is determined as $BaSO_4$ in 10 c.c. 10 c.c. of (I) are diluted to 200 c.c., 50 c.c. of H_2O added to 100 c.c. of dil. solution, which is boiled, 30 c.c. of aq. 4% benzidine hydrochloride (II) are added, the ppt. is collected and washed after 1 hr., and then titrated with 0·1*N*-NaOH; the 1 : 5-$C_{10}H_6(SO_3H)_2$ content is calc. from the difference between the val. obtained and the sum of the H_2SO_4 and 2-$C_{10}H_7$·SO_3H (III) contents. 10 c.c. of (I) are diluted to 25 c.c., boiled, and titrated with 0·1*N*-NaOH; the 1-$C_{10}H_7$·SO_3H content is calc. from the difference between total acidity and the benzidine val. 4—5 g. of product are dissolved in 50 c.c. of H_2O, 20 c.c. of conc. HCl and 100 c.c. of (II) added, the ppt. is collected after 30 min. and suspended in H_2O, 20% NaOH added to a neutral reaction, the solution filtered, the filtrate diluted to 50 c.c., 12·5 g. of NaCl are added, and the ppt. of β-$C_{10}H_7$·ONa is collected, dissolved in hot H_2O, and (III) determined by benzidine ppts. E. T.





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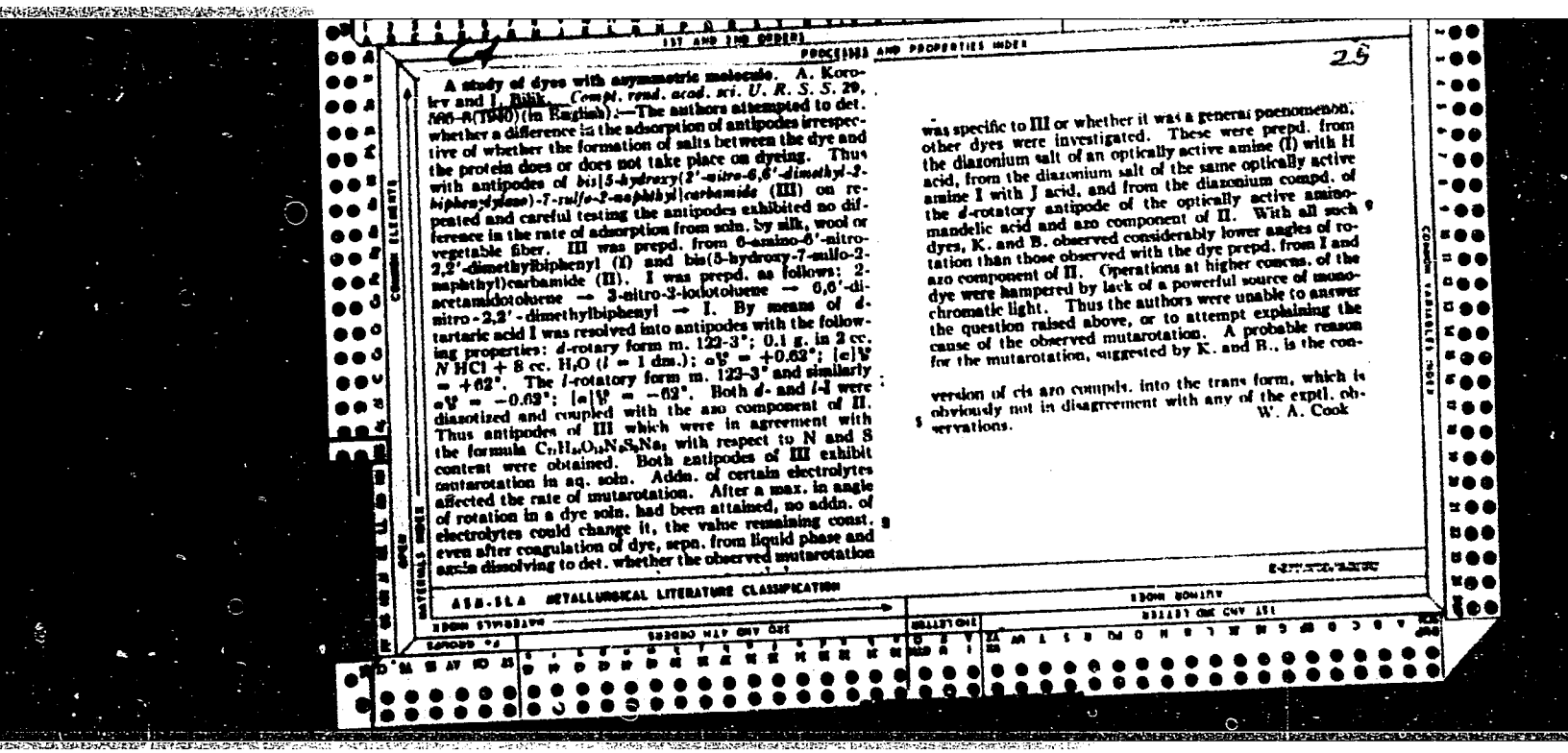
25

Adsorption analysis of vat dyes. I. Bilik. *Novosti Tekhniki* 1936, No. 42-3, 42.—The freshly prepd. vat dye is added to the adsorbent consisting of Al_2O_3 covered with a layer (several mm.) of hyposulfite mixt. After a partial adsorption of the dye, 1.5% hyposulfite soln. is added and the differently colored zones on the adsorbent are observed. The adsorbent is prepd. as follows:

Al_2O_3 is covered with tap-water and filtered in a vacuum through a funnel with a porous bottom, until a 2-cm. layer of adsorbent is formed, then it is covered with 2 sheets of filter paper and 1-2 cc. of 1.5% hyposulfite soln. in 1.5% alkali is poured over it, so as to form a layer several mm. thick. To prep. the vat soln. 0.1 g. of dye is dissolved in 100 cc. of alk hyposulfite soln. heated to 60° and filtered through paper.

A. A. Podgorny

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



A study of dyes with asymmetric molecule. A. Korolev and I. Bikk. *Compt. rend. acad. sci. U. R. S. S.* 29, 666–8(1940)(In English).—The authors attempted to det. whether a difference in the adsorption of antipodes irrespective of whether the formation of salts between the dye and the protein does or does not take place on dyeing. Thus with antipodes of *bis[5-hydroxy(2'-nitro-6,6'-dimethyl-2-biphenylylene)-7-sulfo-2-naphthyl]carbamide* (III) on repeated and careful testing the antipodes exhibited no difference in the rate of adsorption from soln. by silk, wool or vegetable fiber. III was prepd. from 6-amino-6'-nitro-2,2'-dimethylbiphenyl (I) and bis(5-hydroxy-7-sulfo-2-naphthyl)carbamide (II). I was prepd. as follows: 2-acetamidotoluene → 3-nitro-2-iodotoluene → 6,6'-dinitro-2,2'-dimethylbiphenyl → I. By means of *d*-tartaric acid I was resolved into antipodes with the following properties: *d*-rotary form m. 122-3°; 0.1 g. in 2 cc. *N* HCl + 8 cc. H_2O (l = 1 dm.); α_D° = +0.62°; $[\alpha]_D^{\circ}$ = +62°. The *l*-rotatory form m. 122-3° and similarly α_D° = −0.62°; $[\alpha]_D^{\circ}$ = −62°. Both *d*- and *l*-I were diazotized and coupled with the azo component of II. Thus antipodes of III which were in agreement with the formula $C_{71}H_{44}O_{12}N_6S_4Na_6$ with respect to N and S content were obtained. Both antipodes of III exhibit mutarotation in aq. soln. Addn. of certain electrolytes affected the rate of mutarotation. After a max. in angle of rotation in a dye soln. had been attained, no addn. of electrolytes could change it, the value remaining const. even after coagulation of dye, sepn. from liquid phase and again dissolving to det. whether the observed mutarotation was specific to III or whether it was a general phenomenon, other dyes were investigated. These were prepd. from the diazonium salt of an optically active amine (I) with H acid, from the diazonium salt of the same optically active amine I with J acid, and from the diazonium compd. of the *d*-rotatory antipode of the optically active aminomandelic acid and azo component of II. With all such dyes, K. and B. observed considerably lower angles of rotation than those observed with the dye prepd. from I and azo component of II. Operations at higher concns. of the dye were hampered by lack of a powerful source of monochromatic light. Thus the authors were unable to answer the question raised above, or to attempt explaining the cause of the observed mutarotation. A probable reason for the mutarotation, suggested by K. and B., is the conversion of cis azo compds. into the trans form, which is obviously not in disagreement with any of the exptl. observations.

W. A. Cook

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205310019-0"

KIZBER, A.I. [deceased]; BILIK, I.M.

Alkylation of arylamino derivatives of anthraquinone with olefins. Khim. nauka i prom. 3 no.2:283-284 '58. (MIRA 11:6)

1. Nauchno-issledovatel'skiy institut organicheskikh polyproduktov i krasiteley im. K.Ye. Voroshilova.
(Anthraquinone) (Alkylation)

KOROLEV, A.I.; [illegible], I.[illegible].

Mechanism of dyeing animal fibers. Org. poluprod. i kras. no.1:113-117 '57. (MIRA 14:11)
(Dyes and dyeing--Textile fibers)

S/191/61/000/003/014/015
B124/B203

AUTHORS: Bilik, I. M., Globus, R. L., Brudz', V. G.

TITLE: Synthesis of diphenylol propane

PERIODICAL: Plasticheskiye massy, no. 3, 1961, 69-70

TEXT: 4,4'-dioxy-diphenyl dimethyl methane (diphenylol propane) is used in the industry as initial substance for the production of epoxy and modified phenol resins, polycarbonates, and antioxidants. A common method for its production is the condensation of phenol with acetone in the presence of sulfuric acid: $CH_3COCH_3 + 2C_6H_5OH \longrightarrow HO\langle\bigcirc\rangle-C(CH_3)_2-\langle\bigcirc\rangle OH + H_2O$. Ionizable compounds containing divalent sulfur are recommended as catalysts. According to published data (Ref. 1: US Pat. 2,468,982 (1949)), mercapto acetic and mercapto propionic acid are good catalysts. To attain the required mobility of the mass, such inert solvents as toluene, solvent naphtha, etc., are used. The mentioned method of synthesizing diphenylol propane

Synthesis of diphenylol propane

S/191/61/000/003/014/015
B124/B203

A. M. Serebryanyy, N. M. Bondarets, and L. I. Gracheva assisted in the work. There are 3 references: 1 Soviet-bloc and 2 non-Soviet-bloc.

Card 3/3

BILIK, I.M.; SEREBRYANYY, A.M.; GLOBUS, R.L.; BRUDZ', V.G.

Bisphenols. Part 1: Condensation of phenol with acetone in the presence of boron fluoride. Zhur.ob.khim. 32 no.6:1945-1948 Je '62. (MIRA 15:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.
(Phenol) (Acetone) (Boron fluoride)

S/183/63/000/002/002/003
A051/A126

AUTHORS: Mikhaylov, N.V., Mayboroda, V.I., Vorob'yeva, T.V., Bilik, I.M.

TITLE: Polymer production by the interphase polycondensation method

PERIODICAL: Khimicheskiye volokna, no. 2, 1963, 19 - 22

TEXT: A study was conducted to establish production conditions of high-melting polymers and the possibility of a direct film formation from the corresponding monomers (with subsequent fiber formation) during the polycondensation process at the phase interphase. Fiber formation during polycondensation would result in high-melting fibers obtained by a simple and more effective method. A high-melting polyether capable of forming film on the phase interphase was produced. The effect of the concentration of the initial monomers, of their ratio and the nature of the organic solvents used, on yield, specific viscosity and film formation was established. The monomers investigated were: dichloroanhydrides of sebacic, adipic and terephthalic acids, and also hydroquinone and n,n'-dioxydiphenylpropane (Dian). The melting point was determined according to the differential-thermal analysis method (N.S. Kurnakov). The ability of the

S/183/63/000/002/002/003
A051/A126

Polymer production by the interphase ....

α-monomers to form film during the polycondensation process on the phase interphase was tested at different concentrations, temperatures and solvents. Optimum conditions for the polymer production were found to be: reaction temperature 20°C, concentration (of the triethylbenzyl ammonium hydroxide) 0.2%. The polymer obtained under these conditions had a viscosity of 0.43, a yield of 90% of the theoretical value, melting range 345 - 350°C. A firm and elastic film was produced. These properties and the rate of formation of the film on the phase interphase were found to depend on the nature of the organic solvent used to dissolve the dichloroanhydrides. Of various other solvents tested, cumol (isopropylbenzene) was found to yield the highest rate of film formation. The obtained polymers were tested by x-ray and thermographic methods at the VNIIV. The synthesized polymers were found to have a crystalline structure. The highest degree of crystallinity was found in the polymer produced from dichloroanhydride of adipic acid and hydroquinone. X-ray structural analysis showed that heating and cooling of the investigated polymers results in phase shifting connected with melting and polymer crystallization. The highest melting point (345 - 350°C) was obtained for the polymer produced from Dian and dichloroanhydride of terephthalic acid. There are 6 figures and 3 tables.

Card 2/3

Polymer production by the interphase ....

S/183/63/000/002/002/003
A051/A126

ASSOCIATION: VNIIV and IRYeA (Bilik)

SUBMITTED: May 18, 1962

Card 3/3

BILIK, Milan, inz.

Earth dam sealing. Inz stavby no.8:285-288 Ag '63.

1. Hydroprojekt, Brno.

BILIK, I.M.; SEREBRYANYY, A.M.; GLOBUS, R.L.; BRUDZ', V.G.

Biphenols. Part 2: Condensation of phenols with ketones in the presence of boron fluoride. Zhur.ob.khim. 33 no.2:487-490 F '63. (MIRA 16:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.
(Phenols) (Ketones) (Boron Fluoride)

BILIK, Milan, inz.

Construction of a rock-fill dam in the Carpathian Flysch area. Vod hosp 13 no.11: 426-431 '63.

1. Hydroporojekt, Brno.

BILIK, I.M.; SEREBRYANYY, A.M.; GLOBUS, R.L.; BRUDZ', V.G.

2,2-Bis-(4'-hydroxyphenyl)butane (4,4'-dihydroxydiphenyl-methylethylmethane). Metod.poluch.khim.reak. i prepar. no.7: 12-13 '63.

3,3-Bis-(4'-hydroxyphenyl)pentane (4,4'-dohydroxydiphenyl-diethylmethane). Ibid.:14-15

5,5-Bis-(4'-hydroxyphenyl)nonane (4,4'-dihydroxydiphenyl-dibutylmethane). Ibid.:15-16 (MIRA 17:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.

BILIK, I.M.; GLOBUS, R.L.; BRUDZ', V.G.; SEREBRYANNYY, A.M.; BONDARETS, N.M.

Effect of additions on the synthesis of diphenylolpropane.
Trudy IREA no.25:191-194 '63. (MIRA 18:6)

DAVYDOVSKAYA, Yu.A.; VAYNSHTEYN, Yu.I.; BILIK, I.M.; SEREBRYANNYY, A.M.

Conductometric analysis of boron fluoride in reaction mixtures in the synthesis of diphenylolpropane. Trudy IREA no.25:232-239 '63. (MIRA 18:6)

POLISHCHUK, L.K. [Polyshchuk, L.K.]; BATRAK, A.P.; BILYK, L.G. [Bilyk, L.H.]

Effect of phytoncides of the English Walnut on certain phytopathogenic bacteria. Mikrobiol.zhur. 21 no.3:25-30 '59. (MIRA 12:10)

1. Z Kiivs'kogo derzhavnogo universitetu, Kafedra fiziologii roslin.

(ANTIBIOTICS pharmacol)
(NUTS)

BILIK, L.I.

Welding

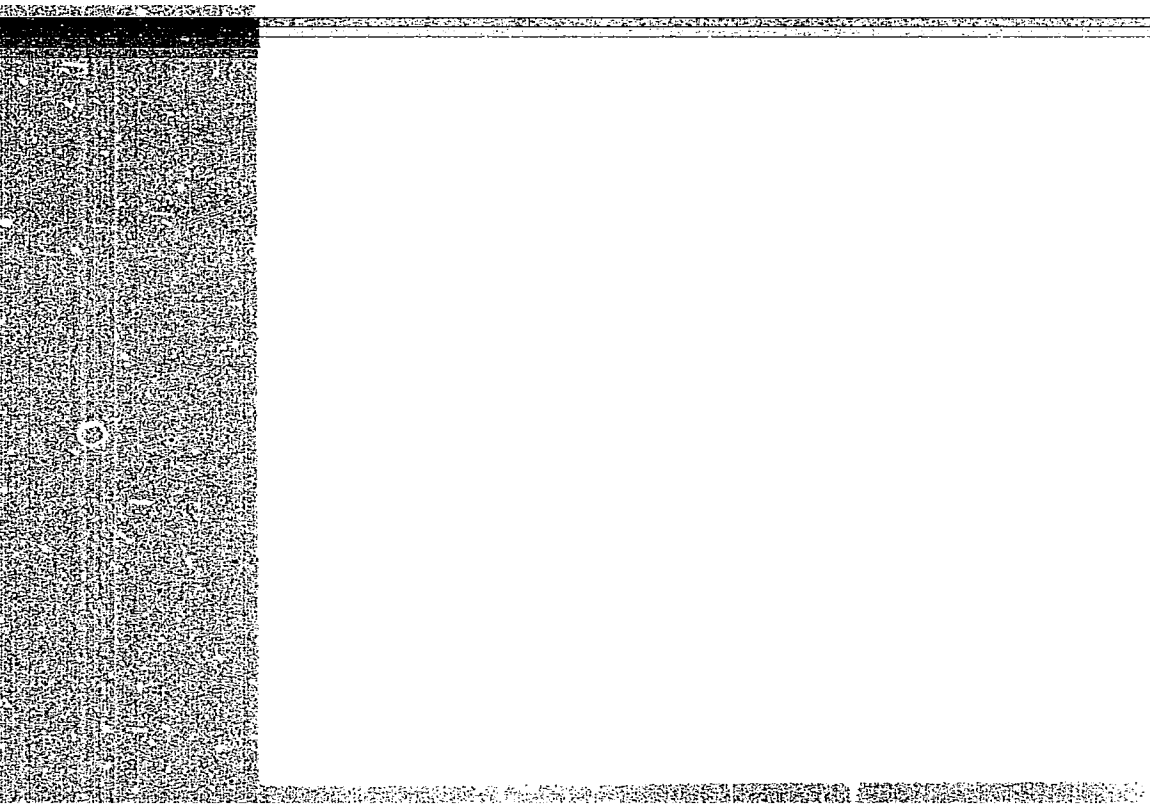
Automatic flux welding of a bicycle frame joint

Avtog. delo. 23, no. 2, 1952

BILIK, Lumir, inz.

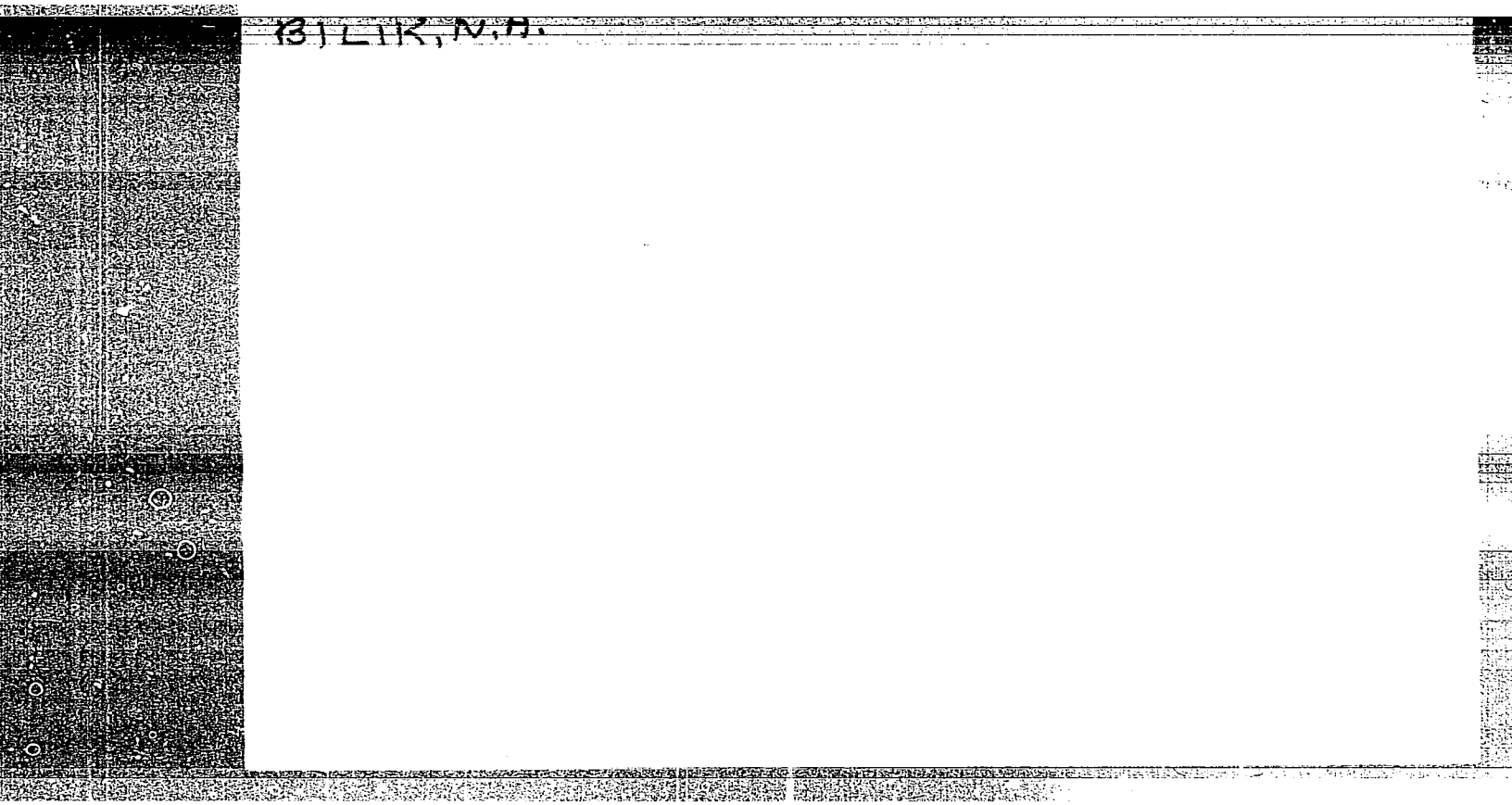
Saving metals in rolling mills by making full use of material incentives to workers. Prace mada 10 no.12:562-564 D '62.

1. Vitkovicke zelezarny Klementa Gottwalda, n.p., Ostrava.



APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205310019-0"

Detection of nitrate and nitrite ions by means of phenylanthranilic acid. N. A. Bilyk and P. I. Goncharov. *Ukrain. Khim. Zhur.* 20, 308–10(1954); cf. N. A. Bilyk, *Trudy Odesskogo Gosudarst., Univ. im. I. I. Mechnikova, Sbornik Khim. Fakul'teta* 3, 129(1953).—In a strong H_2SO_4 soln. phenylanthranilic acid reacts with NO_3^- to give products ranging from pink-violet to dark-violet depending on the amt. of NO_3^-. Under similar conditions NO_2^- yields products ranging from yellow to dark-violet depending on the concn. of NO_2^-. In a strong HCl soln. phenylanthranilic acid reacts only with NO_2^-. To test for NO_2^- in the presence or absence of NO_3^- place 1 ml. of soln. in a test tube, add 1 drop of 0.1% phenylanthranilic acid soln. mix, and add 1–3 ml. of concd. HCl along the walls of the test tube. The characteristic color will appear at the point of contact. Shaking spreads the color throughout the soln. In the absence of NO_2^-, NO_3^- is detected in an analogous manner by using H_2SO_4 in place of HCl. If NO_2^- is present, it is destroyed with cryst. NH_4Cl in an AcOH [illegible] before the test for NO_3^-.



KRAVETS, A.T.; BILIK, N.I.

Selecting parameters of the current-supply system for electric-contact cutting machines. Stan. i instr. 35 no.11:13-14 N '64. (MIRA 18:3)

BILIK, N.I., inzh.

Determination of the power losses, maximum power, and cable sizes of electric power transmission lines. Izv. vys. ucheb. zav.; energ. 8 no.1:6-14 Ja '65.
(MIRA 18:2)

1. Moskovskiy institut inzhenerov zheleznodorozhnogo transporta. Predstavlena kafedroy elektricheskikh stantsiy i setey.

BILIK, N.I.

Calculation of voltage unequality "weighed" in accordance to power. Elektrichestvo no.3:80-83 Mr '65. (MIRA 18:6)

1. Moskovskiy institut inzhenerov zheleznodorozhnogo transporta.

BILIK, N.I., inzh.

Optimal conditions for voltage regulation in an open power distribution network. Trudy MIIT no.199:213-218 '65. (MIRA 18:8)

BILIK, N.I., inzh.; SHENKMAN, L.Z., inzh.

Determination of power losses in transmission lines feeding traction loads and consumers. Trudy MIIT no.199:219-225 '65. (MIRA 18:8)

BILIK, N.P.

BILIK, N.P.; GUSEVA, L.Ye.

Accelerated methods of laboratory control. Proizv. smaz. mat. no.3: 9-10 '57. (MIRA 10:12)

1. Pervyy Moskovskiy neftemaslozavod.
(Lubrication and lubricants)

BILIK, N.P.

Additives increasing the adhesive properties of lubricants. Proizv. smaz. mat. no.3:10-12 '57. (MIRA 10:12)

1. Pervyy Moskovskiy neftemaslozavod.
(Lubrication and lubricants)

Bilik, N.P.

RODZAYEVSKAYA, V.D.; BILIK, N.P.

Utilizing the paraffin of high-sulfur crudes in wax compositions. Proizv. smaz. mat. no.3:12-15 '57. (MIRA 10:12)

1. Pervyy Moskovskiy neftemaslozavod.
(Waxes)

RODZAYEVSKAYA, V.D.; BILIK, N.P.

Rapid method for determining the resistance of wax compounds to heat and cold. Proizv. smaz. mat. no.4:29-35 '57. (MIRA 11:9)

1.Pervyy Moskovskiy neftemaslozavod.
(Ceresin)

67633

SOV/81-59-14-51145

15.6400

Translation from: Referativnyy zhurnal, Khimiya, 1959, Nr 14, p 464 (USSR)

AUTHORS: Bilik, N.P., Grebenshchikova, L.V.

TITLE: The Improvement of the Quality of the Apparatus Lubricant GOI-54

PERIODICAL: Novosti neft. tekhn. Neftepererabotka, 1958, Nr 8, pp 20 - 22

ABSTRACT: The possibility of extending the temperature range of the operation capacity of the apparatus lubricant GOI-54 has been studied. Substituting polysiloxane liquids for MVP oil in the lubricant ensures the production of lubricants with raised dropping points (75°C) and creep points (60 - 80°C). The viscosity of the lubricant prepared from polysiloxane N3 at -50°C is equal to ~4,000 poise, and from MVP 15,400 poise. The introduction of polyisobutylene and vinypol into the lubricants with the aim of improving their adhesion properties did not show any results. Oxidized synthetic ceresin improves considerably the adhesion of the lubricants to metals. Among the admixtures introduced for increasing the protective property of the lubricants the best proved to be IONOL and TsIATIM-339. For use in temperate and cold climatic zones lubricants based on polysiloxanes or their

Card 1/2

The Improvement of the Quality of the Apparatus Lubricant GOI-54

mixtures with MVP oils, spindle AU and machine SU are recommended. In regions of hot tropical climate it is expedient to use as bases of the lubricants viscous oils with a low vapor pressure at high temperatures and a good thermal and chemical stability.

A. Shakhov

Card 2/2

66563

15.6600

SOV/81-59-15-54904

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 15, p 431 (USSR)

AUTHORS: Bilik, N.P., Vekser, P.Z.

TITLE: The Increase of the Fungus Resistance of Gun Lubricant

PERIODICAL: Novosti neft. tekhn. Neftepererabotka, 1958, Nr 9, pp 15 - 18

ABSTRACT: Experiments carried out with gun lubricant consisting of 5% ceresin of type 67, 65% petrolatum and 30% cylinder oil have shown that the addition of a mixture of copper naphthenate and diphenylamine increases the resistance of the lubricant to the action of microorganisms. The fungus resistance of the lubricant was tested by the method of the International Standard: the lubricant was artificially infected by a suspension of spores of fungi and kept at 28 - 30°C and a relative humidity of 98 - 100% for 30 days.

G. Margolina

Card 1/1

BILIK, N.P.

PHASE I BOOK EXPLOITATION SOV/[illegible]

Leningrad. Neftemaslozavody, trest

Proizvodstvo smazochnykh materialov, vyp. 5 (Production of Lubricants, No. 5). Leningrad, Gostoptekhizdat, 1959. 70 p. (Series: [illegible]) Errata slip inserted. 1,700 copies printed.

Sponsoring Agencies: RSFSR. Gosudarstvennyy planovyy komitet. Rosglavneftesnabsbyt; Leningradskiy opytnyy [illegible]

Ed.: I.Ye. Dobkin; Executive Ed.: O.M. Rygina; Tech. Ed.: A.B. [illegible]

PURPOSE: This booklet is intended for industrial and organic chemists, and engineers interested in the synthesis and properties of lubricants.

COVERAGE: The collection contains 9 articles dealing with methods of producing lubricants having special properties indicating additives which will [illegible] such properties. The synthesis of raw materials for producing lubricants [illegible] additives is also discussed. No personalities are mentioned. Figures, [illegible] and references accompany the articles.

AVAILABLE: Library of Congress

Card 3/3

JA/rm/gmp
8-25-60

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87448
S/081/60/000/022/012/016
A005/A001

15.6200

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 22, p. 425, # 90091

AUTHORS: Bilik, N. P., Vekser, P. Z.

TITLE: Detergent Lubricants

PERIODICAL: Novosti neft. tekhn. Neftepererabotka, 1959, No. 1, pp. 13-16

TEXT: A prescription was developed for a detergent lubricant designed in the main for cleaning the gun barrel bores of deposits and for neutralizing the acid products, having formed on the metal at firing; its content is (in %): 54 gas oil, 20 acidol, 1 ammonia, 10 water, 15 fusel oil. The lubricant forms a stable emulsion with water (in the ratio of 5% lubricant and 95% water) and can also be applied as emulsion to cold processing of metals.

G. Margolina

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

BILYK, O.D.; SUKHORSKIY, R.F.

Studying lower Cretaceous sediments in the northwestern part of the Dnieper-Donets Lowland. Trudy UkrNIGRI no.1:113-121 '59.
(MIRA 12:12)
(Dnieper Lowland--Geology, Stratigraphic)
(Donets Basin--Geology, Stratigraphic)

BILIK, O.D. [Bilyk, O.D.]; KHARCHENKO, P.D.

Development of the analysis of forms in pups of various ages. Visnyk, Kyiv. un.no.4. Ser. biol. no.2:107-112'61. (MIRA 16:6)

(CONDITIONED RESPONSE)

BILIK, O.D. [Bilyk, O.D.]

Mobility of nervous processes in puppies of various ages. Visnyk Kyiv.un. no.5. Ser.biol. no.2:117-124 '62. (MIRA 16:5)
(CONDITIONED RESPONSE)

BILIK, O.D. [Bilyk, O.D.]

Ontogenic analysis of rhythmic stimuli. Visnyk, Kyiv. un. no.4. Ser. biol. no.2:96-106'61. (MIRA 16:6)
(CONDITIONED RESPONSE)

BILYK, O.G.

GOLUB, A.M.; BILYK, O.G.

Investigating the thiocyanate complexes of cadmium. Report No.1. Zhur. neorg.khim. 2 no.12:2723-2733 D '57. (MIRA 11:2)

1. Kiyevskiy gosudarstvennyy universitet im. T.G. Shevchenko i Laboratoriya neorganicheskoy khimii.
(Cadmium thiocyanate)

BILIK, O. YA.

15-57-7-9490

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 7, p 109 (USSR)

AUTHORS: Efros, S. M., Bilik, O. Ya.

TITLE: Verification of the Sintering Method for Decomposition of a Silicate (Proverka metoda spekaniya dlya razlozheniya silikata)

PERIODICAL: Sb. stud. rabot. Leningr. tekhnol. in-t im. Lensoveta Leningrad, 1956.

ABSTRACT: A ground sample of the material to be investigated was prepared with a five-fold quantity of the mixture according to Yu. S. Lyashenkov, V. I. Sakunov, and N. S. Tkachenko [Analiya (?) zheleznykh i margantsovykh rud. Metallurgizdat, 1954 (Analysis of Iron and Manganese Ores. State Scientific and Technical Publishing House for Literature on Ferrous and Nonferrous Metallurgy, 1954)] and carefully placed in a porcelain crucible. The mixture from the crucible was transferred to a sheet of tissue paper (7 cm by 7 cm), made into a

Card 1/2

Verification of the Sintering Method for Decomposition (Cont.)

small package, and placed in the porcelain crucible on top of a lining of filter paper. The package should not touch the sides or bottom of the crucible to avoid adhesion of the mixture. The sintering was done at 800° to 900° in a muffle furnace for 10 to 15 minutes. The sintered mass was transferred to a 100-ml beaker. Twenty-five milliliters of water were added and then HCl in small portions (sp. gr. 1.18 to 1.19). After each addition of HCl, the beaker was covered by a watch glass. The solution was evaporated to a small volume in a sand bath for 1 to 1.5 hours (the solution remained clear during this time). It was then cooled to 50°. Seven milliliters of HCl (1.18 to 1.19) and one milliliter of one percent gelatin solution were added and the whole stirred. After this, 2 ml more of gelatin was added, and the mixture again stirred. Then this material was diluted by 50 ml of hot water and filtered through filter paper. The sediment on the filter was washed in hot water until there was a negative reaction to chlorine ions and it was then roasted.

Card 2/2

K. N. Ryabicheva

ZHOZHIKASHVILI, V., kand.tekhn.nauk; BILIK, P., inzh.

A single system controls hundreds of items. NTO 2 no.11:18-19 N 60. (MIRA 13:11)

(Remote control)

BILIK, P.G. [Pilyk, P.H.], inzh.

Repairing milking pails. Mekh. sil'. hosp. 14 no.5:16 My '63. (MIRA 16:10)

1. Chernovitskoye oblastnoye ob"yedineniye "Sil'gosptekhnika."

BILIK, Rodiy, Vasil'yevich

BILIK, Rodiy Vasil'yevich, insh.; SENKEVICH, I.V., insh., red.; UDAL'TSOV, A.N., glavnyy red.

[Cyclic telemetering apparatus] Ustroistvo tsiklicheskogo teleizmereniia. Moskva, In-t tekhniko-ekon.inform. 1956. 19 p. (Informatsiia o nauchno-issledovatel'skikh rabotakh. Tema 30, I-56-92) (MIRA 11:2)
(Telemetering)

BILIK, R. V.

"Apparatus of Telemetry of Time-Impulse System" (Apparatura teleizmereniya vremyaimpul'snoy sistemy) from the book Telemechanization in the National Economy, pp. 315-326, Iz. AN SSSR, Moscow, 1956

(Given at meeting held in Moscow 29 Nov to 4 Dec 54 by Inst. of Automatics and Telemechanics)

BILIK, R.V.

report to be presented at the 1st Intl Congress of the Intl Federation of Automatic Control, 25 Jun-5 Jul 1960, Moscow, USSR.

AGEYKIN, D. I. - "Compensating thermo-magnetic gas analysers"
ANDREYEV, N. I. - "Method of determining the optimum dynamic system according to the criterion of the functional extra, which is a given function of several other functions"
AYZERMAN, M. A., and GANTMAKHER, F. R. - "Some problems of the theory of nonlinear systems of automatic regulation with discontinuous characteristics"
BARBASHIN, E. A. - "Concerning the organization of the LYAPUNOV function for nonlinear systems"
BASKAKIN, A. V. - "Graphic methods of synthesis of nonlinear systems of automatic regulation"
BASHTA, T. M. - "Problems of the application of high liquid pressures for automatic systems"
BEDEL'BAYEV, A. K. - "The theory of stability of regulation systems"
BELIKOV, Yu. I. - "Multicoordinate nonlinear interpolator for program control of machines"
BERENDS, T. K., and TAL', A. A. - "Pneumatic alloy systems"
BERNADSKIY, V. L., KALASHNIKOV, V. I., KRAZHEVSKIY, V. V., MAZIN, L. V., POPOV, G. A. - "Automated electric drive of the propeller installation of the atomic icebreaker 'Lenin'"
BESEKERSKIY, V.A., and FEDOROV, S. M. - "Application of the equivalent transmission function in the calculation of follower systems by the logarithmic frequency curve method"
BILIK, R. V., MIKHIKASHVILI, V. A., and FRANGISHVILI, I. V. - "Contactless telemechanical systems with temporary separation of channels"
BOLTYANSKIY, V.G. , GAMKRELIDZE, R. V., MISHCHENKO, Ye. F., and PONTRYAGIN, L. S. - "The maximum principle in the theory of optimum control processes"
BROZOOL', M. M. - "Automated electric drives of a metallurgical plant"
BUROVOY, I. A. - "Automatic regulation of froth-layer processes in nonferrous metallurgy"

BILIK, R.V.

PHASE I BOOK EXPLOITATION SOV/3781

Akademiya nauk SSSR. Institut avtomatiki i telemekhaniki

Trudy Vsesoyuznogo soveshchaniya (Industrial Telemechanics) Moscow, 1960.
Promyshlennaya telemekhanika (Industrial Telemechanics) Moscow, 1960.
284 p. Errata slip inserted. 4,000 copies printed.

Resp. Ed.: N.A. Gavrilov; Ed. of Publishing House: Yo.N. Grigor'yev;
Tech. Ed.: K.G. Shavchenko.

PURPOSE: This collection of articles is intended for scientific workers and engineers in the field of telemechanics.

COVERAGE: The book contains studies completed in 1957 by the workers of the Institut avtomatiki i telemekhaniki AN SSSR (Institute of Automation and Telemechanics, Academy of Sciences USSR). They include telemechanic equipment, particularly contactless systems and systems for distributed equipment, the design of telemechanic signal systems, problems of bridge circuitry in relay circuitry, and methods of synthesizing relay circuitry using contactless components. No personalities are mentioned. Most of the articles are accompanied by references.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress (TJ 213.A325)

BK/rsw/lb
7-20-60

Card 1/3

S/194/61/000/003/030/046
D201/D306

AUTHORS: Bilik, R.V. and Silayev, V.N.

TITLE: A complex telemechanical facility for distributed industrial objects

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 3, 1961, 44, abstract 3 V356 (V sb. Prom. telemekhanika, M., AN SSSR, 1960, 198-217)

TEXT: The Institute of Automation and Telemechanics AS USSR has developed a complex telemechanical installation for distributed industrial plants. The installation takes into account their specific conditions and combine harmoniously the problems of remote control (TY (TU)) and remote measurements (TИ (TI)). The automation of plants is envisaged, located either separately or in small groups along radial series, series radial or overhead communication lines. The installation is used for: 1) Cyclic remote measurements with signalling of deviation of the controlled quantities from their

Card 1/2

A complex telemechanical...

nominal values; 2) Remote measurement on call of any of the controlled parameters; 3) Remote control of plants with two or more locations; 4) Emergency signalling; 5) Telephone links. The communication channel is a 2 wire line of any configuration. The time division principle has been used. The operational principle of separate assemblies and blocs is analyzed. The main circuits and time diagrams are given. 16 figures. [Abstracter's note: Complete translation]

Card 2/2

67800

S/194/61/000/006/028/077
D201/D302

AUTHOR: Bilik, R.V.

TITLE: Remote signal system with polarized relays

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 6, 1961, 47-48, abstract 6 V349 (V sb. Prom. telemekhanika, M., AN SSSR, 1960, 260-276)

TEXT: In indirect remote signal systems every terminal set of the transmitting installation has a corresponding receiving terminal set in the control room. This method, although fast in operation, has the disadvantage of necessitating a large quantity of apparatus in the control room. The method of cyclic remote signalling removes this disadvantage. The speed of operation may in this case be increased by decreasing the time of the signal transmission. This in turn may be achieved by reducing the number of elements operating in series during the time taken by the signal series and by an increase of element operations. The main part of the installa-

Card 1/2

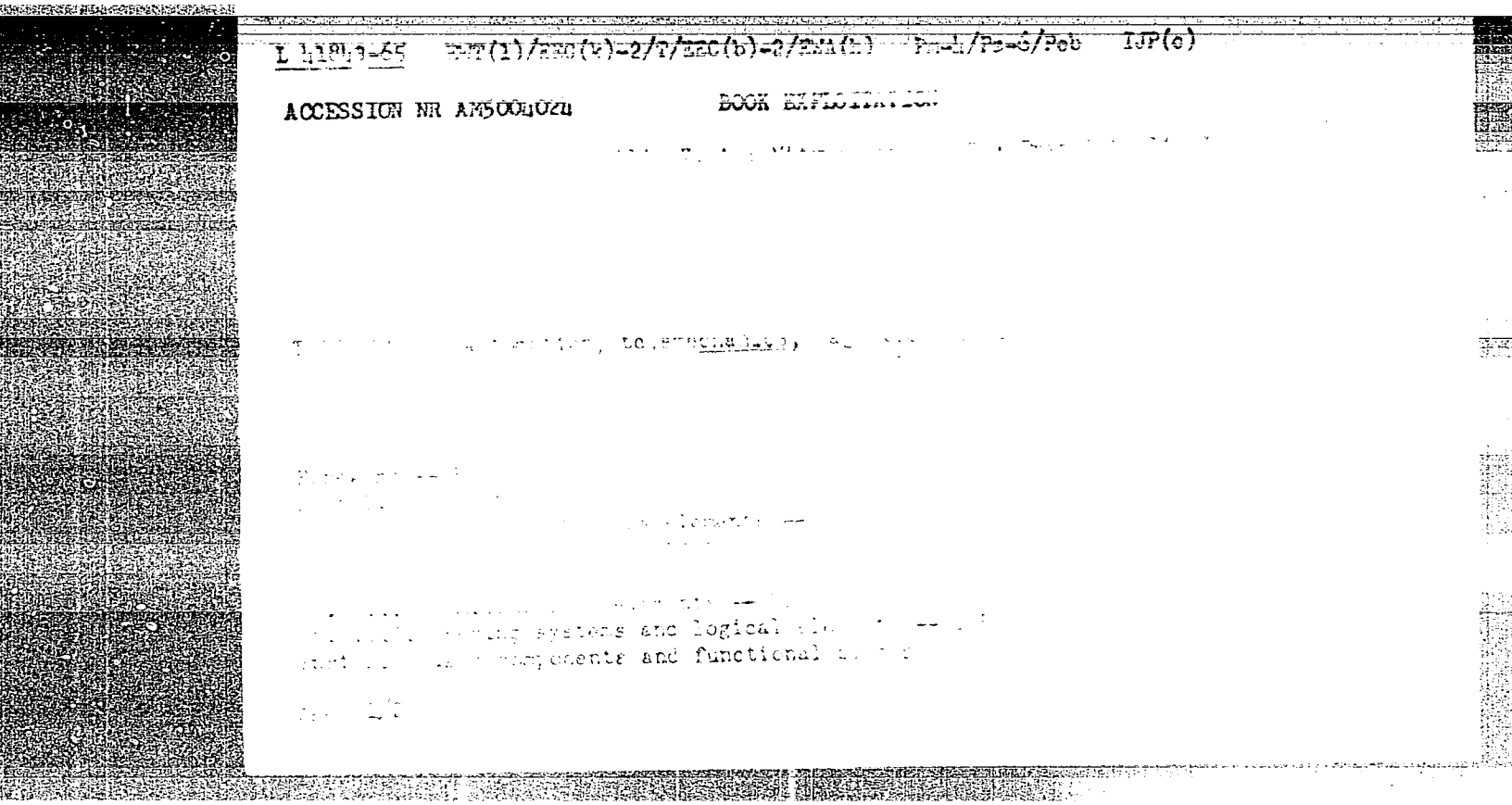
ZHOZHIKASHVILI, V.A., kand.tekhn.nauk; BILIK, R.V., inzh.

Over-all remote control system for irrigation works. Vest.AN SSSR 31 no.5:75-77 My '61. (MIRA 14:6)
(Irrigation) (Remote control)

BILIK, R.V.; ZHOZHIKASHVILI, V.A.; MITYUSHKIN, K.G.; PRANGISHVILI, I.V.; SOTSKOV, B.S., otv. red.

[Contactless elements and remote control systems with time division of signals] Beskontaktnye elementy i sistemy telemekhaniki s vremennym razdeleniem signalov. Moskva, Nauka, 1964. 415 p. (MIRA 17:9)

1. Chlen-korrespondent AN SSSR (for Sotskov).



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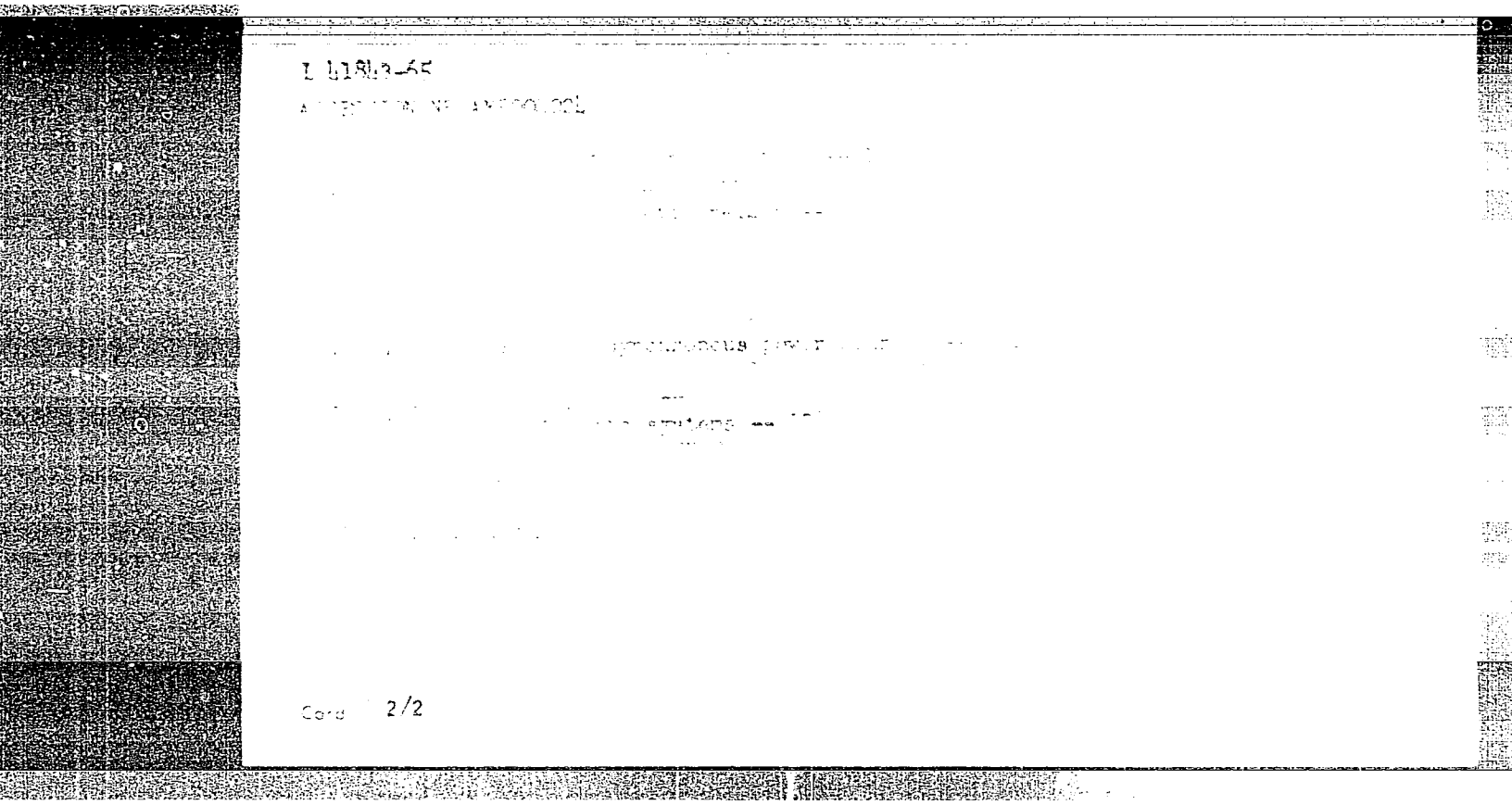
ACCESSION NR AM5006020 BOOK EXPLOITATION

systems and logical
components and functional



Card 2/2

L 39488-66 EWT(d)/EWP(t) IJP(c) JG/BB/GD/GS

ACC NR: AT6002984 SOURCE CODE: UR/0000/65/000/000/0156/0164

AUTHOR: Bilik, R. V.; Zhozhikashvili, V. A.; Kartuzov, Ye. V.

ORG: none

TITLE: Ferrite-diode logical elements for remote control and telemetry

SOURCE: Vsesoyuznoye soveshchaniye po magnitnym elementam avtomatiki i vychislitel'noy tekhniki, 9th, Yerevan, 1963. Magnitnyye tsifrovyye elementy (Magnetic digital elements); doklady soveshchaniya. Moscow, Izd-vo Nauka, 1965, 156-164

TOPIC TAGS: logical element, remote control, telemetry

ABSTRACT: Several ferrite-core-plus-diode logical elements and switching circuits are described; the experimental elements used VT-2 and K-65, 10x6x2.5-mm ferrite cores. A 4-core AND-gate is briefly described, and the plots of power, current, and current ratio vs. supply voltage for 2—10 inputs are presented. A 3-core NOT gate (inverter) is briefly described. A circuit diagram is shown that carries out the Scheffer operation: $f = \overline{x \wedge y} = \overline{x \vee y}$. Also, a circuit diagram for a

Card 1/2

BILIK, SH. M.

Candidate of Technical Sciences'

"Design and Use of Spiral Reamers of Large Diameter"
Stanki i Instrument vol. 15,no. 1-2, 1944

BILIK, SH. M.

Tekhnologiia obrabotki avtomobil'nykh tsilindrov. Moskva, Mashgiz, 1945. 71 p. illus.

Bibliography: p. [72].

Technique of machining automobile cylinders.

DLC: TL210.B37

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

BILIK, Sh.M., kandidat tekhnicheskikh nauk.

Porous chromium-plating of internal combustion engine parts.
Vest.mash.27 no.2:54-61 '47. (MLRA 9:4)
(Chromium-plating) (Cylinders)

BILIK, SH. M.

Zhidkostnoe khoningovanie. (Vestn. Mash., 1948, no. 3, p. 40-41)
Includes bibliography.

Liquid honing.
DLC: TN4.V4

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

BILIK, SH. M.

Uluchesheniе prirabatyvaemosti poverkhnostei treniia khimicheskoe obrabotkoi. Vestn. Mash., 1949, no. 5, p. 47-51

Improvement of friction surfaces adjustment by means of chemical treatment.

DLC: TN4.V4

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

BIIJK, SH. M. and A. IU. SHAIERMAN.

Nekotorye tekhnologicheskie parametry protsessa zhidkostnoi polirovki. (Vestn. Mash., 1949, no. 6, p. 54-56)

Some technological processes of liquid polishing.

DLC: TN4,V4

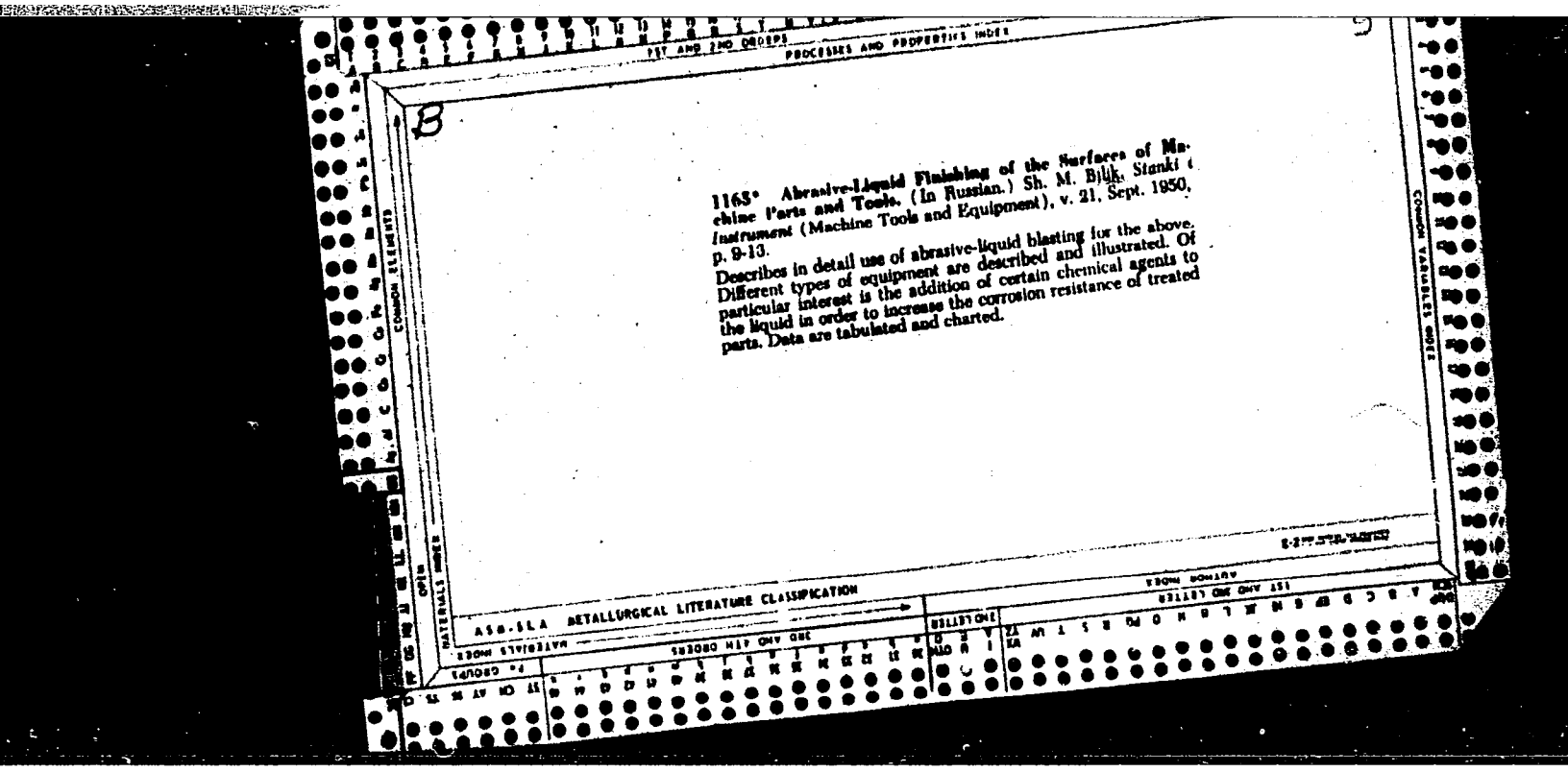
SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

BILIK, Shaya Mendelevich.

Academic degree of Doctor of Technical Sciences, based on his defense 18 January 1950, in the Council of the Institute of Machine Study, Acad Sci USSR, of his dissertation entitled: "Macro-geometric Changes of Cylinder Form, The Nature, and Effect upon the Work of a Light Internal Combustion Engine."

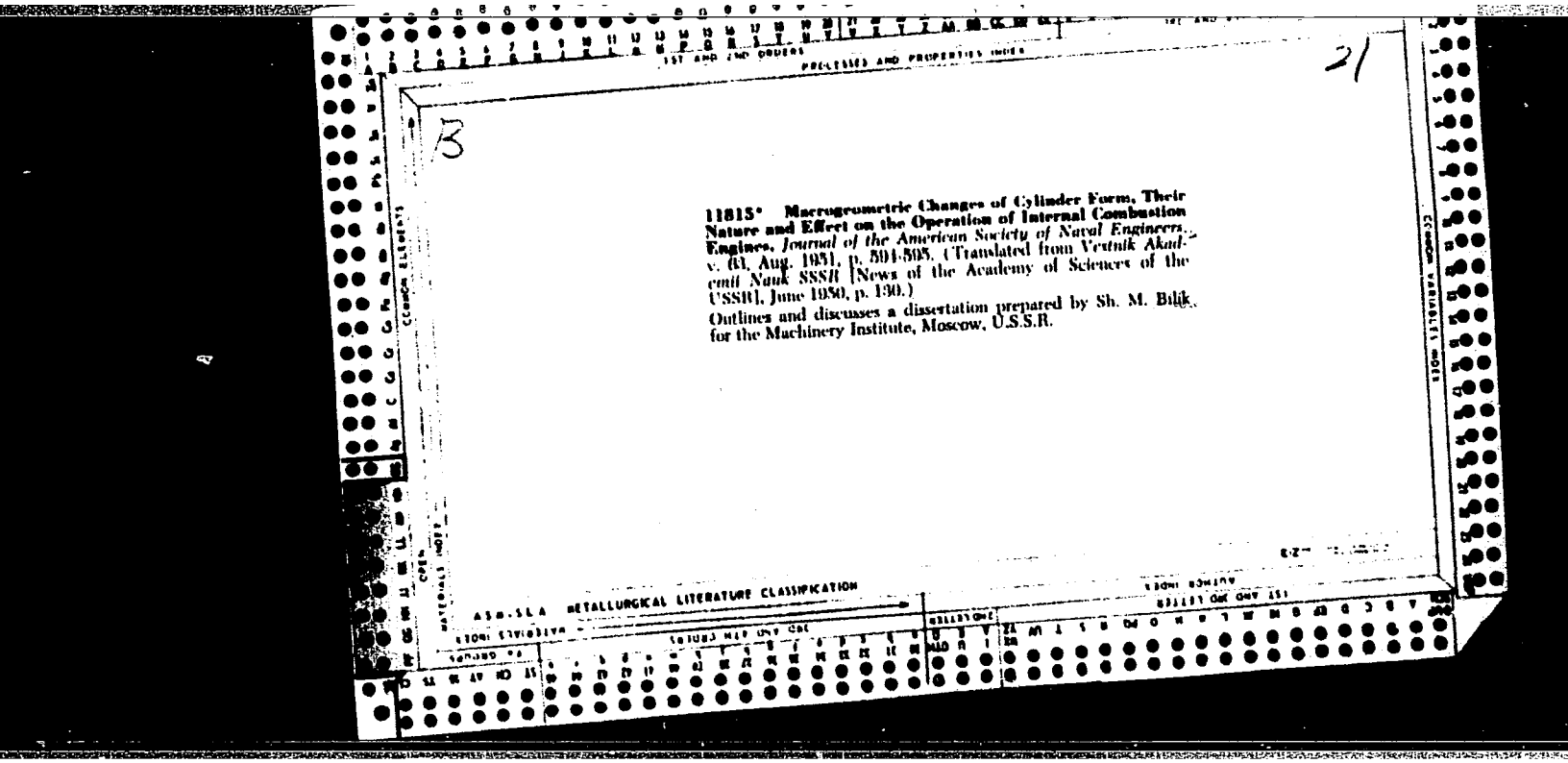
Academic degree and/or title: Doctor of Sciences

SO: Decisions of VAK, List no. 13, 4 June 55, Byulleten' MVO SSSR, No. 15, Aug 56, Moscow, pp. 5-24, Uncl. JPRS NY-537



1165* **Abrasive-Liquid Finishing of the Surfaces of Machine Parts and Tools.** (In Russian.) Sh. M. Bljh. *Stanki i Instrument* (Machine Tools and Equipment), v. 21, Sept. 1950, p. 9-13.

Describes in detail use of abrasive-liquid blasting for the above. Different types of equipment are described and illustrated. Of particular interest is the addition of certain chemical agents to the liquid in order to increase the corrosion resistance of treated parts. Data are tabulated and charted.



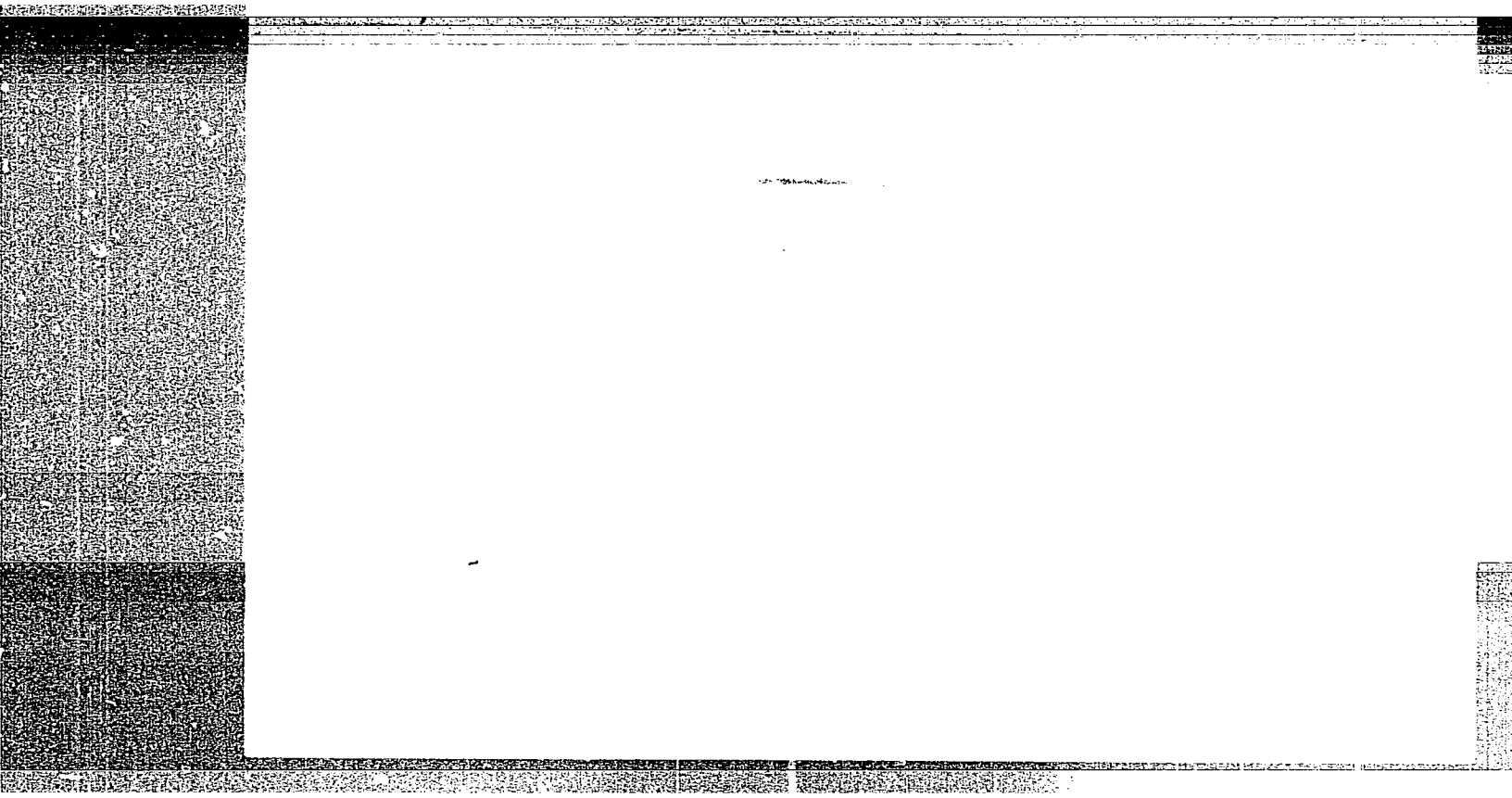
11815* **Macrogeometric Changes of Cylinder Form, Their Nature and Effect on the Operation of Internal Combustion Engines.** *Journal of the American Society of Naval Engineers*, v. 63, Aug. 1951, p. 504-505. (Translated from *Vestnik Akademii Nauk SSSR* [News of the Academy of Sciences of the USSR], June 1950, p. 130.)

Outlines and discusses a dissertation prepared by Sh. M. Bilik, for the Machinery Institute, Moscow, U.S.S.R.

TITLE: The Surface Finish and Uniformity of Metal Removal in Abrasive Liquid Polishing (Kachestvo poverkhnosti i ravnomernost' s"yema metalla pri abrazivno-zhidkostnom polirovanii.)

of metal removal is approximately proportional to the square of the nozzle diameter. The nozzle and float diameters should be about equal. The duration of the treatment is proportional to the increase in the depth of the metal removed. With an increase in the air pressure, both the rate of metal removal and the lack of uniformity increase. The use of the data collected in selecting the conditions of polishing is discussed. Maximum removal of metal is obtained at an angle of 40°. The best finish is obtained at angles of 3-7°. For industrial production, one volume of abrasive to four volumes of water are recommended. The effect of concentration on surface finish is small. Metal removal is greater from an initially rough surface. Useful polishing is accomplished in 60-80 seconds.

Card 2/3



APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205310019-0"

BILIK, Sh.M., doktor tekhn.nauk

Modern ways of timbering stopes. Bezop.truda v prom. 1 no.10:3-5 O '57. (MIRA 10:11)

(Mine timbering)

Modern Trends in the Field (cont.) of Machine Building Technology; Collection Of Articles, Moscow, Mashgiz, 1957, 363p. 301

The author discusses aspects of dimensional and technological analysis of machine piece parts in relation to the machine as a whole and as a part of assemblies and mechanisms and as a part of independent machine elements. There are 9 Soviet references.

Novikov, M.P., Candidate of Technical Sciences. Present-day Status and Problems in Machine Assembling. 99

Some of the more progressive mass-assembly methods employed by certain Soviet machine-building plants are briefly reviewed here.

Bilik, Sh.M., Doctor of Technical Sciences. Present-day Methods of "Liquid Jet" Polishing of Metals. 115

The author presents a detailed description of the equipment designed for surface polishing of metals with abrasive particles in a liquid jet. A discussion is included on the technological parameters of this process. There are 13 references of which 9 are Soviet, 2 English, 1 German, and 1 Hungarian.

Card 5/10

BILIK, Shaya Mendelevich; KORABLEV, Anatoliy Aleksandrovich; PANOV, Andrey Dmitriyevich; SLOBODOV, Mikhail Aleksandrovich; KRIVOBOK, K.P., otv.red.; LOMILINA, L.N., tekhn.red.; ALADOVA, Ye.I., tekhn.red.

[Instruments and apparatus for studying mine pressure] Pribory i apparatura dlia issledovaniia proiavlenii gornogo davleniia; spravochnik. Moskva, Ugletekhizdat, 1958. 363 p. (MIRA 12:1)
(Mining engineering) (Measuring instruments)

SOV/113-58-2-5/15

AUTHOR: Bilik, Sh.M., Doctor of Technical Sciences

TITLE: Influence of the Macro-Geometry of Cylinders on the Period of Service of Engines (Vliyaniye makrogeometrii tsilindrov na srok sluzhby dvigateley)

PERIODICAL: Avtomobil'naya promyshlennost', 1958, Nr 2, pp 17 - 20, (USSR)

ABSTRACT: The microgeometry of cylinders changes during operation. After longer periods of work the macrogeometry changes, too. Figure 1 shows the changes at different measuring zones of a cylinder. The distribution of the oval shapes of 6 cylinders is given in Figure 2. The second and the fifth cylinder show the highest value of deformation being in the central position of each half-block (Table 1, Figure 4). Deformation of cylinders takes place also during the assembly of truck engines type ZIL. Temperature has also a great influence on deformation. Unequal cooling causes unequal wear. Figure 5 shows a model representing an engine after 145,000 km of work. The deviations of the radii are 300 times exaggerated. The values for the ovality of cylinders at the various stages of the experiments are shown in Figure 6.

Card 1/2

Influence of the Macro-Geometry of Cylinders on the Period of Service of Engines

The wear of the same cylinders is shown in Figure 7. It has been demonstrated that the consumption of lubrication oils in a cylinder with an ovality of 0.4 mm is 27 % higher than in a cylinder with a deformation of only 0.09 mm. There are 2 photos, 3 tables, 4 graphs, and 1 diagram.

1. Automobile industry 2. Internal combustion engines--Maintenance
3. Cylinders--Deformation 4. Lubricants

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205310019-0"

SOV/122-58-12-7/32

AUTHOR: Bilik, Sh.M., Doctor of Technical Sciences

TITLE: The Macro-Geometry of the Cylinder and the Leakage of Gas into the Crankcase (Makrogeometriya tsilindra i proryv gazov v karter dvigatelya)

PERIODICAL: Vestnik Mashinostroyeniya, 1958, Nr 12, pp 22-25 (USSR)

ABSTRACT: Gas leakage into the crankcase was examined experimentally, both in a static position of the piston and in a working engine, as a function of the macro-geometry of the cylinder. In specially designed static test rigs, cylinder liners were deformed by pressure applied to the lower part of the liner. The test rigs differed in the smoothness of the liner deformation. In some cases gas pressure could be measured in each piston groove. Dynamic tests were carried out in a single cylinder unit, electrically driven, with and without supercharge. Nitrided liquid cooled aviation engine liners were used together with aviation type steel piston rings, without detectable clearances. Curves of leakage against liner ovality are reproduced at different pressures. The leakage measured in the single cylinder unit is plotted

Card 1/2

The Macro-Geometry of the Cylinder and the Leakage of Gas into the Crankcase

against rpm and power. Some analytical relations between leakage flow and clearances are given. The pressure distribution at each of the piston rings must be known to predict the leakage analytically.

There are 6 figures and 2 Soviet references.

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BILIK, Sh.M., doktor tekhn.nauk

Plastics for friction subassemblies of rolling stock. Vest. TSNII MPS 18 no.6:6-11 S '59. (MIRA 13:2)
(Plastics) (Railroads--Equipment and supplies)

S/686/61/000/000/012/012
D207/D303

AUTHOR: Bilik, Sh. M.

TITLE: Abrasion of polymer materials in the absence of lubrication

SOURCE: Soveshchaniye po voprosam teorii sukhogo treniya i obrazovaniya chstits iznosa pri sukhom trenii. Riga, 1959, 195-198

TEXT: The author reports a study of abrasion of various plastics, ruber and some metals. Three types of abrasive surface were used: (1) Emery cloth (very small contact areas and cutting action); (2) metal grids (limited contact); (3) polished steel (large contact areas). Neither emery cloth nor metal grids indicated correctly the enhancement of antifriction properties of fillers in polymers. In emery cloth tests a drum covered with the cloth rubbed the sample at a controlled rate, e.g. 0.3 m/sec. A fall of the rate of wear was observed during abrasion with the same piece of cloth. This fall was very rapid at first and more gradual later in the

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Abrasion of polymer ...

case of polymers (polyamides, fluoroplast, Φ_T-4 (Ft-4), polystyrene) but it was much less marked in the case of aluminum, brass or steel. Increase of the applied pressure from 0.3 to 3.2 kg/cm^2 clogged emery cloth, especially if it was fine-grained, and reduced its coefficient of friction. If the same piece of emery cloth was used on one polymer (e.g. polystyrene) and then on a dissimilar polymer (e.g. fluoroplast Ft-4), the rate of wear of the second material fell considerably, rose to a steady value and then fell again. This "cleaning effect" did not occur when two similar polymers (e.g. two polyamides) were rubbed consecutively with the same piece of cloth. When a metal (brass or steel) grid was used, the rate of wear remained constant during abrasion tests. Rubbing with polished steel showed clearly the beneficial effect of fillers on polymer properties. If tangential forces predominated in abrasion, wave-like ridges ("transverse waves") formed at right-angles to the direction of motion of the abrading body. If normal (cutting) forces predominated, bands of scratches were produced parallel to the direction of motion of the abrading body. The trans-

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PHASE I BOOK EXPLOITATION SOV/4202

Bilik, Shaya Mendelevich, Doctor of Technical Sciences

Abrazivno-zhidkostnaya obrabotka metallov (Abrasive Wet-Blast Machining of Metals. Moscow, Mashgiz, 1960. 197 p. 5,000 copies printed.

Reviewer: G.B. Luriye; Ed.: V.V. Sasov; Tech. Eds.: R.I. Dobritsyna and L.P. Gordeyeva; Managing Ed. for Literature on Metalworking and Instrument Making (Mashgiz) V.I. Mishin, Engineer.

PURPOSE: This book is intended for technical personnel in machine building.

COVERAGE: The author examines the process of abrasive wet-blast machining of metal parts. Types and construction of equipment used in this process are given along with a discussion of experience in operating laboratory and industrial units. Results of the investigation of the process conducted by the author and the optimal process parameters obtained for various purposes of machining are presented. The author also discusses the effect of the process on the quality of the machined surface and changes of physical properties in the

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