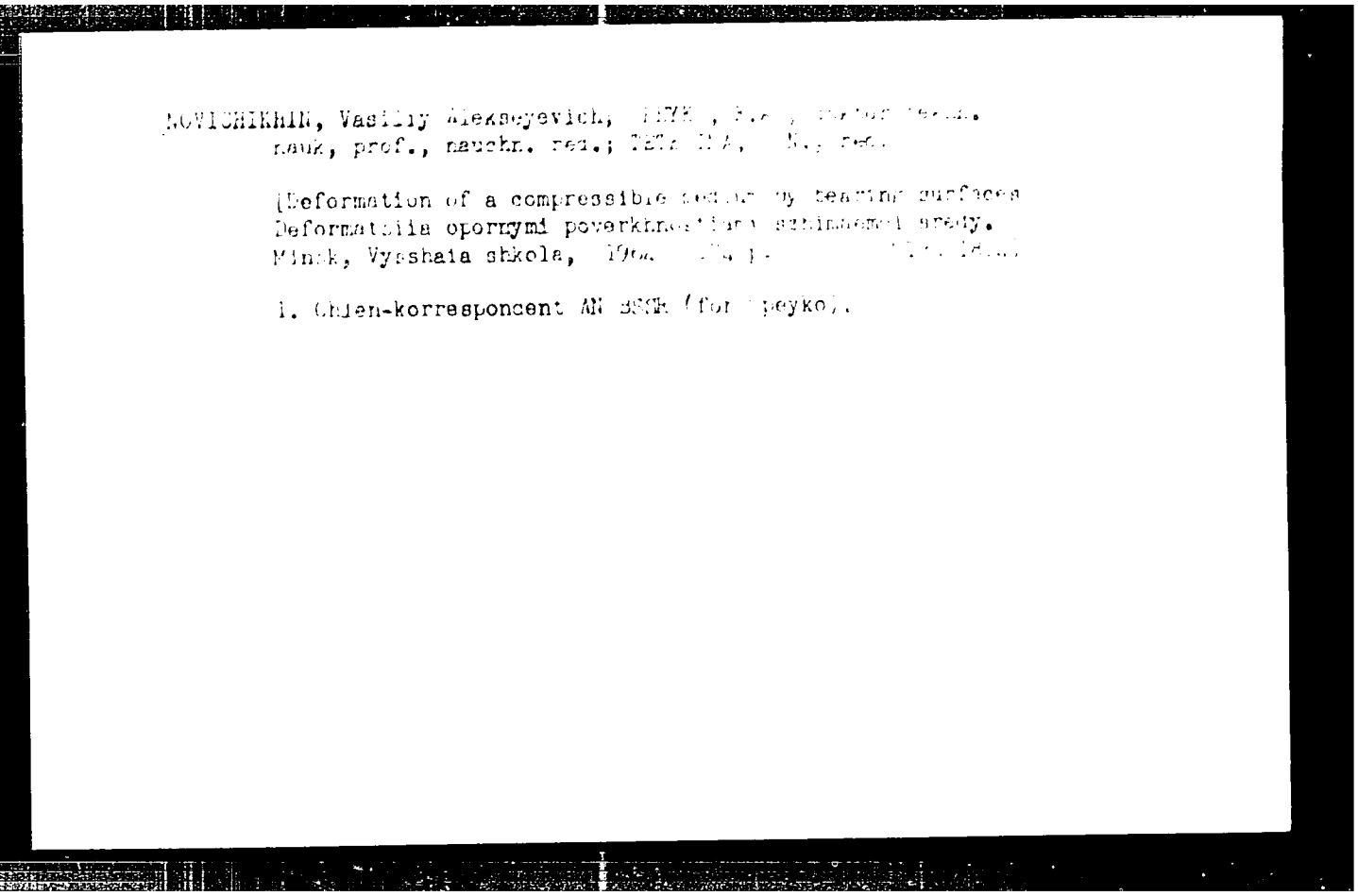
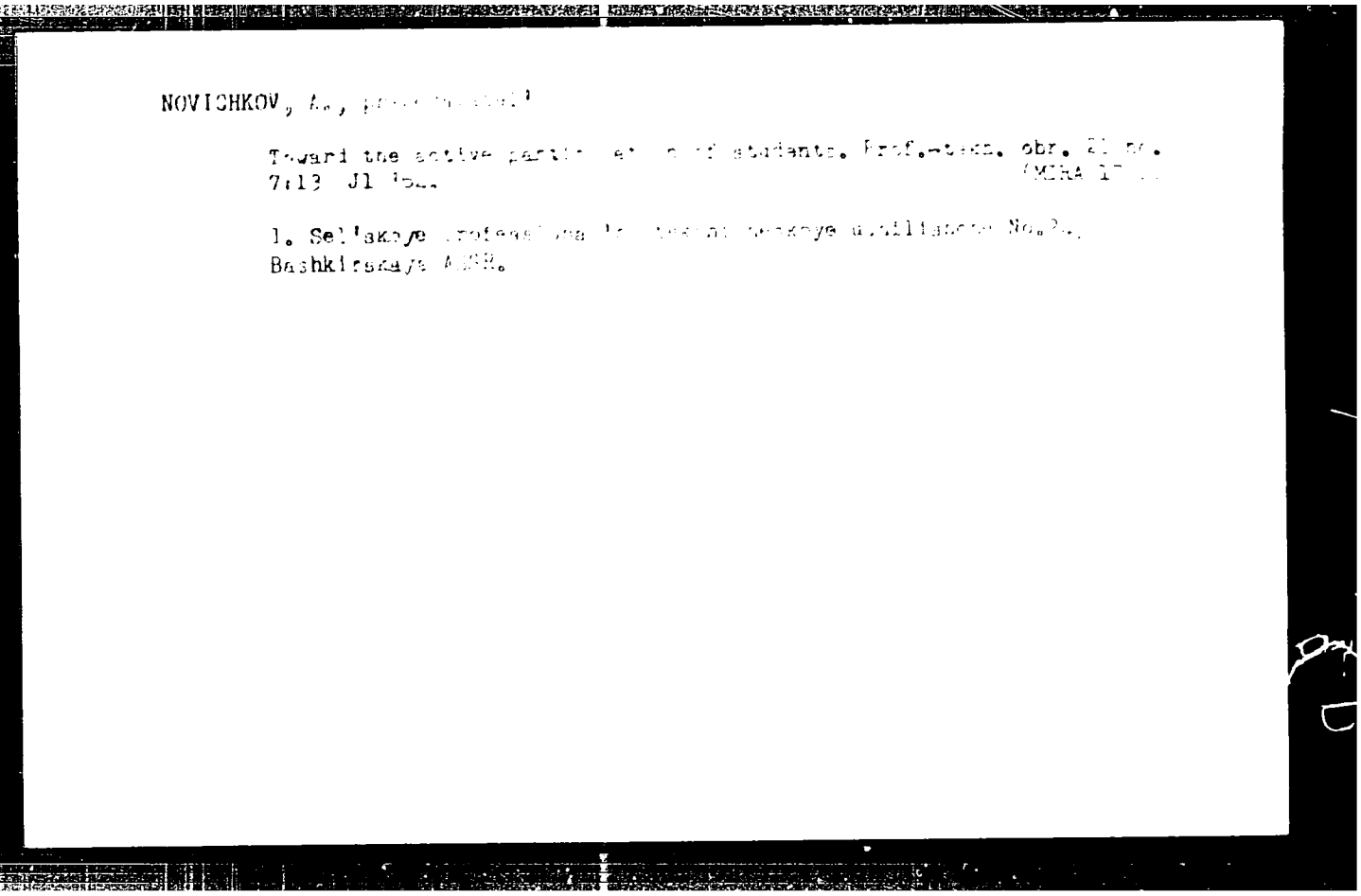


NOVICHKHIN, Vasiliy Alekseyevich, [illegible]
nauk, prof., nauchn. red.; [illegible]

[Deformation of a compressible [illegible] by bearing surfaces
Deformatsiia opornymi poverkhnostiami szhimaemoi sredy.
Minsk, Vyshaia shkola, [illegible]

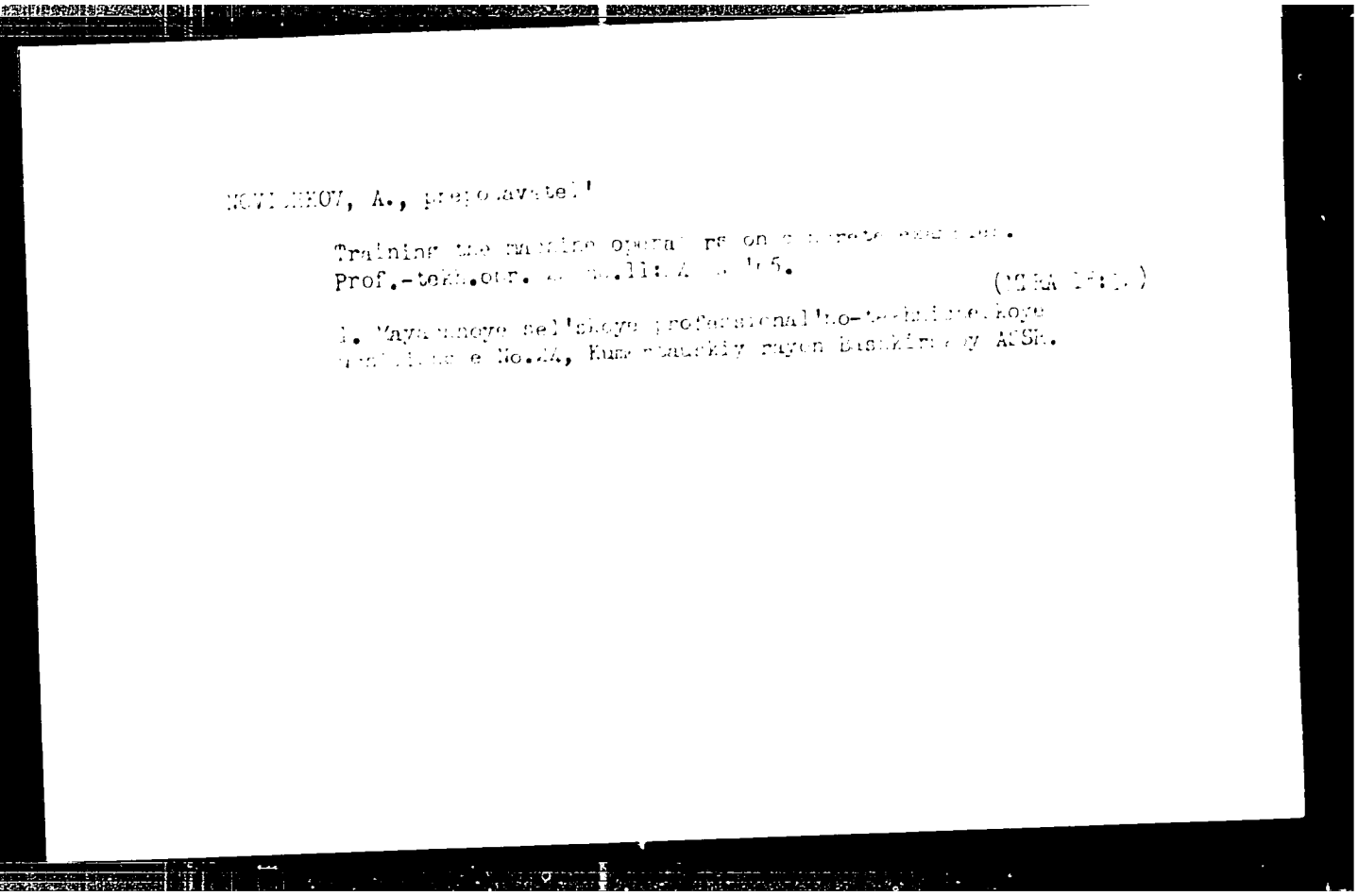
1. Chlen-korrespondent AN SSSR (for [illegible]peyko).



NOVICHKOV, A., [illegible]

Toward the active partic[illegible] of students. Prof.-tekh. obr. 21 no. 7:13 Jl '64. (MIRA 17:[illegible])

1. Sel'skoye professional'no-tekhnicheskoye uchilishche No. [illegible], Bashkirskaya ASSR.



[illegible], A., prepodavatel'

Training the machine operators on a [illegible].
Prof.-tekh.obr. [illegible] 1:4 [illegible] 45. (MIRA 14:1)

1. Vayenskoye gorodskoye professional'no-tekhnicheskoye [illegible] No.24, Kuybyshevskiy rayon Moskvy. (ACSR.

L 17620-66 EWT(m)/EWP(j)/T DJ/RM

ACC NR: AP6007673 (A) SOURCE CODE: UR/0413/66/000/003/0044/0044

INVENTOR: Berents, L. I.; Gavrilyuk, A. D.; Derbaremdiker, A. D.; Vinner, G. G.; Abramovich, S. Sh.; Novosartov, G. T.; Novichkov, A. M.

ORG: none

TITLE: Preparative method for hydraulic fluids. Class 23, No. 178439

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 3, 1966, 44

TOPIC TAGS: hydraulic fluid, petroleum base hydraulic fluid, antiwear additive, antioxidant additive

ABSTRACT: An Author Certificate has been issued for a preparative method for petroleum base hydraulic fluid containing antiwear and antioxidant additives. The residual fraction of transformer oil, with a viscosity of 10.3—10.5 cs at 50C, is used as the petroleum base. Ethylpolysiloxane liquid (mol. wt., 1500—1700) or a composition of Sovol, diphenylamine and Ionol are used as the additives. [BO]

SUB CODE: 11/ SUBM DATE: 21Nov64/ ATD PRESS: 4014

UDC: 621.892.86:621.225

Card 1/1

...NIK, V. Aleksandr Nikolayevich; PUSTEL'NIYAK, Ye.F., inzh.
red.; FREGER, D.F., red.izd-va; BELOGUROVA, I.A., tekhn.red

[System of hydraulic (gasketless) sealing of high-pressure compressor plungers] Sistema gidravlicheskogo (bessal'nikovogo) uplotneniia plunzherov kompressorov sverkhvysokogo davleniia. Leningrad, 19[illegible] 31 p. (Leningradskii dom nauchno-tekhn. propagandy. Obmen peredovym opytom. Seriia: Mekhanicheskaia obrabotka materialov, no.[illegible]) MIRA 16:11)
(Sealing (Technology)) (Air compressors)

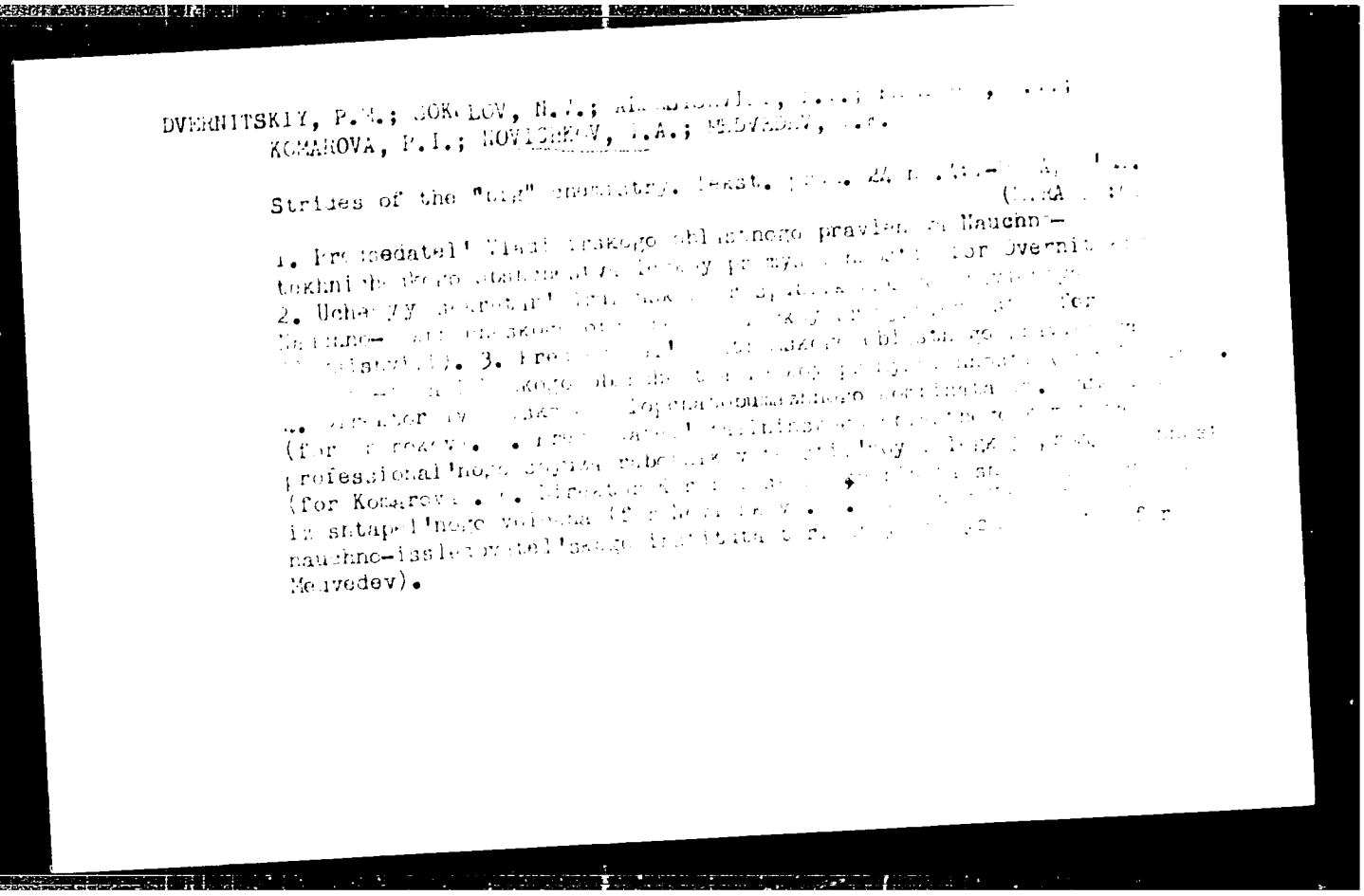
MUSIN, A.K.; NOVICHKOV, D.N.; UL'YANOV, K.N.

Retardation of plasma in a magnetic diffusor. Radiotekh. i elektron. 7 no.12:2051-2061 D '62. (MIRA 15:11)
(Plasma (Ionized gases))
(Magnetic fields)

NOVICHKOV, I.A.

Modernizing the equipment is a factor in the growth of labor productivity. Tekst.prom. 17 no.9:47-49 S '57. (MIRA 10:11)

1. Glavnyy inzhener Shuysko-Tezinskoy fabriki.
(Textile machinery)



DVERNITSKIY, P.[illegible]; SOKOLOV, N.I.; [illegible]
KOMAROVA, P.I.; NOVIKOV, I.A.; MEDVEDEV, [illegible]

Strikes of the "old" [illegible]. Sov. [illegible] (MLRA [illegible]

1. Predsedatel' [illegible] (for Dvernitskiy). 2. Uchenyy [illegible] (for [illegible]). 3. [illegible] (for [illegible]). 4. [illegible] (for Komarova). 5. [illegible] (for Novikov). 6. [illegible] (for Medvedev).

ZHUKOVSKIY, K.N., inzhener; NOVICHKOV, M.D., inzhener; RAYSKIY, S.D., inzhener.

Inclined or vertical paning of skylights. Stroi.prom. 35 no.2:41 F '57. (MLRA 10:3)

1. Giproavtoprom. (Skylights)

22 (1)

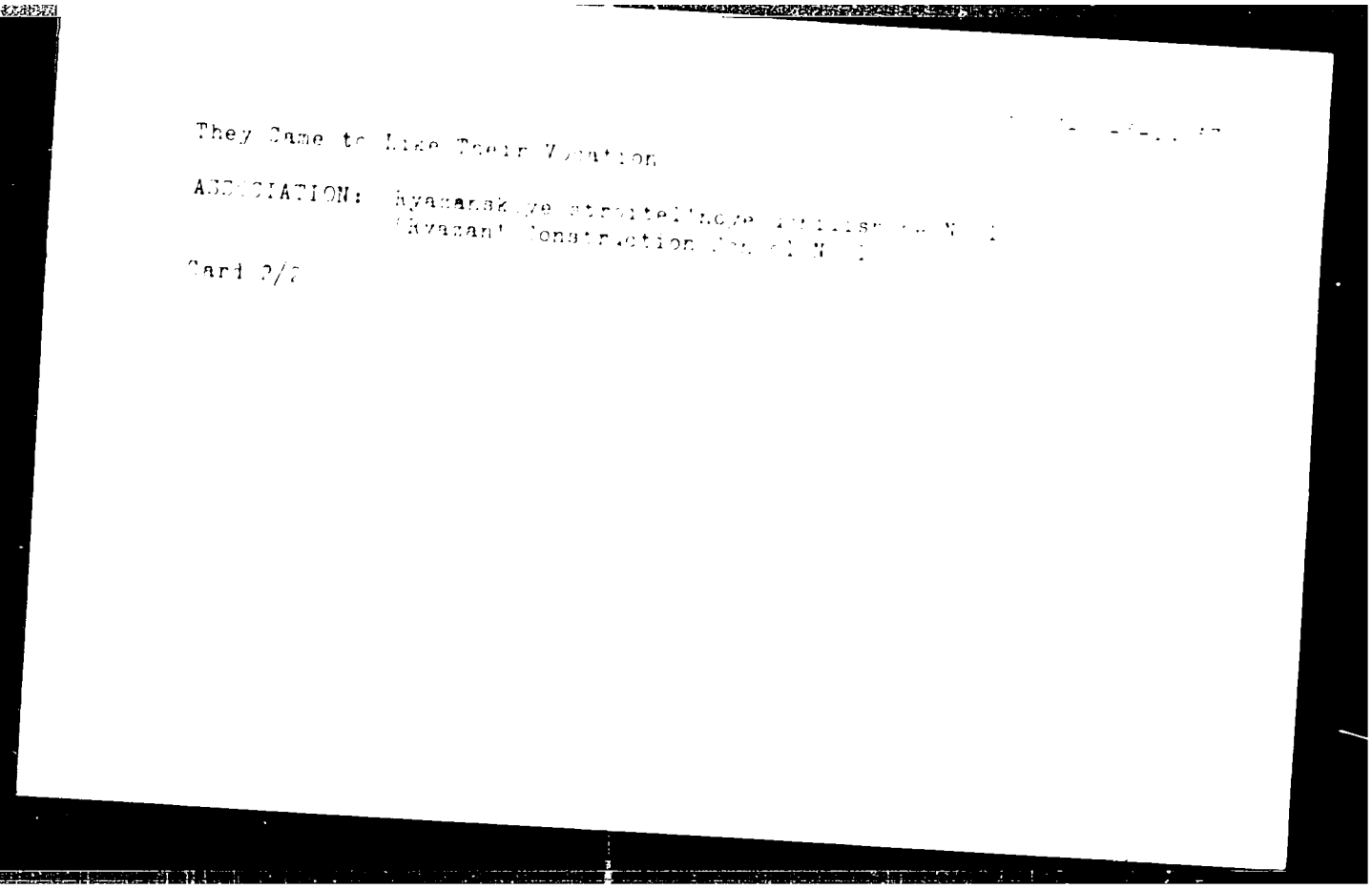
AUTHORS: Churkin, M., and Novichkov, N.

TITLE: They Came to Like Their Vocation [illegible] professiya)

PERIODICAL: Professional'no-tekhnicheskoye [illegible], [illegible], [illegible], [illegible]

ABSTRACT: By the end of last year, the Kyzyl-Kiya [illegible] had trained 4,500 workers of the building trade. A characteristic feature of the teaching process is that the students independently perform various work during the practical training. In the 1957/58 school year alone, the students painted 67,000 sqm of surface, [illegible], [illegible] sqm of steel, and 3,000 cum of masonry were built. Other work done includes the building of a 2-story house with 12 apartments. The author mentions several head foremen of practical training who have distinguished themselves in their work. There are 2 photographs.

Card 1/2



They Came to Live Their Vocation

ASSOCIATION: Ayaganskoye stroitel'noye upravleniye [illegible]
(Ayagan' construction [illegible])

Card 2/2

[illegible]CVICHKOV, P. V.

23554. [illegible] Zh.-L. [illegible] Vyp. 2, 1949, S. 145-47

SO: [illegible] 31, 1949.

AUTHORS: Blanter, M. Ye., Dr. of Tech. Sc. Prof., 655
Novichkov, P. V., Engineer.

TITLE: On the problem and nature of martensitic transformation. (K voprosu o prirode martensitnogo prevrashcheniya).

PERIODICAL: "Metallovedenie i Obrabotka Metallov" (Metallurgy and Metal Treatment), 1957, No.6, pp.11-14 (U.S.S.R.)

ABSTRACT: One of the important features of martensite transformation is the formation of definite quantities of martensite and cessation of further decomposition of the residual austenite for each given cooling temperature below the transformation point. Various hypotheses aimed at explaining this phenomenon have not been confirmed by experimental data. The phenomenon is being explained by micro non-uniformities in the distribution of carbon in the austenite volume (1) and G.V.Kurdyumov assumes the presence in austenite of frozen hetero-phase fluctuations. Other authors assume the formation during martensitic transformation of austenite volumes which are subjected to pressure from all sides and, therefore, have lower temperatures of martensite transformation; the influence of compression from all sides on a lowering of the martensitic transformation point has recently been experimentally proved (2). However, the latter hypothesis is not always applicable since the necessity of reducing the temperature for

On the problem and nature of martensitic transformation. (Cont.) 655

effecting martensitic transformation is observed immediately after the formation of the first martensite acicules. All the above hypotheses are based on the invariance of the state and the properties of the austenite in the process of the martensitic transformation. The authors of this paper base their conceptions on the possibility of obtaining irreversible changes in the austenite during the martensitic transformation which increase with the development of the transformation process; the martensitic transformation may cause phase hardening of the residual austenite. These irreversible changes may cause cessation of growth of the new phase at a given temperature and its progress during further lowering of the temperature. The changes in the state of the residual austenite during the martensitic transformation was studied on cuts of 10 mm dia., 6 mm height made of high carbon manganese alloyed steels which were heated to 680 C in sealed copper ampules and after cooling in oil they were subjected for various times to cooling in vapours of liquid oxygen so that austenite-martensite structures were obtained containing various quantities of residual austenite. The studied steels contained

On the problem and nature of martensitic transformation. (Cont.)

respectively 1.21, 1.18 and 1.52% C and 2.04, 2.98 and 2.94% Mn. An increase in the martensite content from 20.4 to 39 and 50.6% respectively brings about an increase in the modal microhardness of the residual austenite from 240 to 260 and 280 kg/cm^2 respectively; for martensite contents of 78 and 89% the modal microhardness values of the residual austenite increase to 410 to 460 kg/mm^2 respectively. Increase of the phase hardening of the residual austenite during the martensite transformation leads to an increase of the stability of the residual austenite against martensitic transformation. Thus, the authors obtained experimental proof during martensite transformation that a continuous change of the state of the austenite takes place and that the resulting phase hardening and strengthening of the residual austenite leads to an increased resistance of the residual austenite to further martensitic transformation. Thus, the cause of cessation of growth and of germination of martensite crystals under isothermal conditions is the increased resistance of the austenite due to phase hardening and increased strength of the residual austenite which can be overcome only by further lowering of the temperature

On the problem and nature of martensitic transformation. (Cont.)

or by applying adequate deformation stresses. Fig.1 contains the curves of distribution of the micro-hardness fields of the residual austenite of one of the studied steels for various stages of martensitic transformation; Fig.2 shows the influence on the micro-hardness of the residual austenite of the phase hardening in the process of martensite transformation during cold treatment; Fig.3 shows the influence of the stresses on the martensitic transformation of the residual austenite in the case of applying tensile stresses. Fig.4 shows the influence of the degree of phase hardening on the resistance of the residual austenite against martensitic transformation.
4 figures and 4 Slavic references.

ASSOCIATION: All Union Correspondence Course Engineering Institute. (Vsesoyuznyy Zaochnyy Mashinostroitel'nyy Institut)

AVAILABLE:

Card 4/4

19(7)

AUTHOR: Novichkov, P. V.

TITLE: Anisometer for Determining the Influence of the Tension and the Deformation Upon the Decomposition of Austenites (Anizometr dlya opredeleniya vliyaniya napryazheniy i deformatsiy na raspad austenita)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol 24, Nr 12, pp 1510 - 1511 (USSR)

ABSTRACT: An apparatus was constructed which can produce extension and torsion stresses and deformations in the samples. The samples are held at constant temperature, which is reached by using a brass container consisting of two vessels and filled with liquid nitrogen or two heating bodies (Fig 1). The experimental set-up for placing extension or torsion upon the sample (Fig 2) has an axle which extends the sample when turned by a hand wheel or twists it with a pair of screws. In order to increase the degree of measurement accuracy given by the apparatus an extended scale was used (300 mm); the calibrations of the scale allow an accuracy of

Card 1/2

Anisometer for Determining the Influence of the Tension [illegible]-24-12-54/[illegible] and the Deformation Upon the Decomposition of Austenite

measurement for the ferro-magnetic phase of 0.1 - 0.05%. The apparatus described possesses a new construction for the head piece which allows maximum sensitivity in measurement and good reproducibility in testing. The holding bars for the sample (made from porcelain) are reinforced above and below with steel springs and their tension (as well as that of the sample) is regulated using a screw. A second kind of construction is also proposed. There are 2 figures.

ASSOCIATION: Eksperimental'nyy nauchno-issledovatel'skiy institut kuznechno-pressovogo mashinostroyeniya (Experimental Scientific Research Institute for Forging and Pressing Machine-Building)

Card 2/2

PHASE I BOOK EXPLOITATION SOV/4997

Novichkov, Petr Vasil'yevich, Solomon Markovich Reyzin, and Feliks Solomonivich Shteyn

Metody bezokislitel'nogo nagreva kuznechnykh zagotovok; obsor (Methods of Scale-Free Heating of Blanks for Forging; a Survey) Leningrad, 1959. 55 p. 6,500 copies printed. (Series: Seriya Kovka i shtampovka)

Sponsoring Agency: Obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy RSFSR, Leningradskiy dom nauchno-tekhnicheskoy propagandy, NTO Mashprom. Sektsiya obrabotki metallov davleniyem

Ed. (Title page): M.A. Kuz'min, Doctor of Technical Sciences, Professor; Tech. Ed.: M.M. Kubneva

PURPOSE: This booklet is intended for engineers and workers in the heat-treatment and pressworking shops of machine plants.

COVERAGE: The authors discuss the various types of flame furnaces used for the heating of blanks without oxidation. Also considered are electrical methods of heating (including the use of electrolyte baths), technical and economic bases for the

Card 1/3

AVAILABLE: Library of Congress (TS225.N6)

Card 3/3

VK/wrc/gmp
4-24-61

SOV/135-59-11-6/26

18(5,7), 25(1)

AUTHOR: Novichkov, P.V., Engineer

TITLE: Measuring Stresses in Welded Press Beds

PERIODICAL: Svarochnoye proizvodstvo, 1959, Nr 11, pp 15-17 (USSR)

ABSTRACT: At the present time many crank presses have a welded construction. During the process of welding, residual stresses appear which may affect the press stability; however, experience has shown that such stresses do not influence the press stability, if it is constructed of a plastic tenacious material. The Moscow Automobile Plant imeni Likhachev, the Novo-Kramatorskiy Machine-Building Plant, and other plants apply heat treatment to the most important components of the press bed in order to diminish the residual stresses. On the other hand, a number of plants do not practice the process of heat-treatment when manufacturing press beds. Thus, no unanimous opinion exists, at present, on this subject. In this connection, the ENIKMASh and the Voronezh Plant of Heavy Mechanical Presses carried out a number of experiments and arrived at the following conclusions: Welded structures of crank press beds contain

Card 1/2

residual stresses which attain the steel fluidity limit. To the welding stresses, residual strains which appear in steel sheets during their rolling and cooling are added. As a result, a complex stress different for each part of the press bed ensues. That is why the welded press structures should be annealed after assembly. There are 4 tables, 1 diagram and 3 photographs.

ASSOCIATION: Voronezhskiy vecherniy politekhnicheskiy institut (Voronezh Polytechnical Evening Institute)

1 (7)
AUTHOR Novichkov, ... SOV ...

TITLE An Investi... tion of ... the Elastic Distortion Process ... vaniya martensita v protsesse ... deformirovani...

PERIODICAL Zavodskaya Laboratoriya, ... (USSR)

ABSTRACT It has been possible to ... site transformation from ... a theory of martensite transformation ... (Refs 1,2). In recent times ... by Chapman and Jominy (Ref 3) for studying ... occurring in steel when it is cooled ... with this investigation ... of increased accuracy and delicacy was ... review. The apparatus for investigation ... martensite formation in the distortion process ... principle of a bridge circuit (Fig 1). It has ... a sound generator ZG-1 (... - 15000 cycles) and ... of FEShO wire (0.15 mm). The standard sample ...

Card 1/...

An Investigation of the Kinetics of Martensite Formation in [illegible] the Plastic Distortion Process

than usual (l= 110 mm, d= 4.5 mm). Calibration diagrams (Fig 2) were plotted by means of steel 120G2 samples. The maximum delicacy of the apparatus is reached at a frequency of 450 - 1000 cycles and a maximum tension of the generator (Fig 3). Various sources of error in the determination are discussed, and the effects of a temperature increase, eddy currents (Fig 4), sample dimensions (Tables 1,2) and voltage fluctuations on the accuracy of the results are given. The sum total of absolute errors is quoted as being [illegible]. There are 4 figures, 2 tables, and 7 references, 2 of which are Soviet.

Card 2/2

SILAYEV, A.F., kand.tekhn.nauk; IGNAT'YEV, N.A., inzh.; Prinimali uchastiye: ZAYTSEV, Yu.N.; SHEVLYAKOV, G.I.; IGNAT'YEV, V.A.; NOVICHKOV, P.V.

Advantage of heat treating welded heavy press frames. Svar. proizv. no.8:40-43 Ag '61. (MIRA 14:8)
(Power presses--Welding)
(Metals--Heat treatment)

S/129/61/000/011/002/010
E111/E135

AUTHORS: Blanter, M.Ye., Doctor of Technical Sciences, Professor, and Novichkov, P.V., Engineer

TITLE: Kinetic and geometrical characteristics of the martensite transformation in an iron-nickel-manganese alloy

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, no. 11, 1961, 12-19 (+ 1 plate)

TEXT: In previous work (Ref.1: M.Ye. Blanter, Metallovedeniye i termicheskaya obrabotka metallov, no.4, 1960) the first of the present authors examined reasons for the rate of growth of martensite crystals in iron alloys being independent of temperature, whereas the rate of nucleation should generally follow a curve with a maximum. He showed (Ref.3: M.Ye. Blanter, Metodika issledovaniya metallov i obrabotka opytnykh dannykh, Metallurgizdat, 1952) that a proposed method (Ref.2: G.V.Kurdyumov, O.P. Maksimova and T.V. Tagunova, Problemy metallovedeniya i fiziki metallov, 2nd issue, Metallurgizdat, 1951) for calculating the activation energy was unsatisfactory. The present authors

Card 1/6

have investigated the effect of temperature and degree of transformation on the rate of appearance of centres and the sizes of martensite crystals in iron alloys under purely isothermal transformation conditions. From the relations obtained the activation energy and the work of formation of martensite-crystal nuclei were found. The data obtained confirm the dislocational nature of the martensite transformation. The authors point out that for the purely isothermal transformation it is practically impossible to count the number of crystals in the plane of the polished section. However, the thickness, a, of martensite crystals can be quantitatively determined. Taking the martensite crystal to be a flat parallelipiped (in principle any shape would do) of sides a, b, b, the number of crystals, N, formed in a given time interval is given by:

$$N \frac{1}{mm^3} = \left(\frac{S \cdot a - 2V}{4a \sqrt{aV}} \right)^2 \qquad (3)$$

Here, V is the relative volume of the magnetic component (martensite) determined magnetometrically and S the martensite-

Kinetic and geometrical .....

crystal surface per unit volume, determined by the method of random intercepts. The errors in determinations of a and the volume of the martensite phase were 5%, and 1.2-1.4% respectively. The isothermal transformation was investigated on an iron alloy with 23.02% Ni and 3.35 Mn. The results cannot be extended to other iron alloys, especially steels, where the isothermal martensite transformation is practically absent. On cooling in air from 1200 °C the martensite point is at 10 °C, subsequent cooling in liquid nitrogen producing 72% martensite. To obtain a purely isothermal transformation, specimens sealed in quartz capsules were cooled with the furnace to room temperature in 3 hours. Stabilization of the austenite reduced the transformation temperatures, and the extent of transformation was limited to about 25% martensite. The investigation was carried out at temperatures of -55, -68, -94, -114, -129 and -155 °C. It was found that the temperature dependence of the rate of nucleation is represented by a curve with a maximum. The absolute value of the rate, n, falls continuously and progressively as the degree of transformation rises, reaching zero when transformation is complete. The authors attribute such a variation of n to the

dislocational nature of the martensite transformation: as direct evidence of this they give the fact that the number K of particles or volumes participating in the transformation 10^9 is close to the number of dislocations reported by other workers (Ref.10: N.P. Allen, Journal of the Iron and Steel Institute, v.191, 1959). Direct evidence was provided by an experiment in which the austenite structure after ultra-high-frequency micro-plastic deformation, followed by cooling to room temperature, was etched to show the dislocational faults in the plane of the polished section. Cooling to low temperatures then produced the martensite transformation: the needle relief developed preferentially at points where dislocation faults had been found. The relation between n and K is given by:

$$n = K \cdot e^{-\frac{U}{RT}} \cdot e^{-\frac{A_3}{RT}} \qquad (6)$$

where U is the activation energy, A_3 the work of formation of a nucleus, or by:

$$n = K_o \left[1 - \left(\frac{V}{V_{max}}\right)^3\right] \cdot e^{-\frac{U}{RT}} \times e^{-\frac{A_3}{RT}} \qquad (9)$$

where K_o is the initial value of K, U is independent of temperature and degree of transformation and is about 940 cal/g. atom; A_3 is independent of the degree of transformation but its value falls from 4670 at -50 °C to 2360 cal/g.atom at -155 °C. The thickness, length and volume of martensite crystals are practically independent of temperature, being entirely governed by degree of transformation. At the completion of the transformation the decrease in the thickness and length reaches 15-18%, due to change in the state and decrease in the volumes of untransformed austenite.

There are 10 figures, 3 tables and 12 references: 9 Soviet-bloc and 3 non-Soviet-bloc. The English language references read as follows:

Ref.6: M. Gensamer, E.B. Pearsalla, G. Smith, TASM, v.28, no.2, 1940.

Kinetic and geometrical characteristics... S/129/61/000/011/002/010
E111/E135

Ref.8: C.H. Shit, B.L. Averbach, M. Cohen.
Journal of Metals, v.7, 1955.
Ref.10: N.P. Allen, Journal of the Iron and Steel Institute,
v.191, 1959.

ASSOCIATION: Vsesoyuznyy zaochnyy mashinostroitel'nyy institut
(All-Union Machinery Correspondence Institute)

Card 6/6

NOVICHKOV, P.V., inzh.

Advantageousness of heat treating welded heavy press housings.
Svar. proizv. no.6:41-43 Je '64. (MIRA 17:6)

1. Voronezhskiy politekhnicheskiy institut.
(Power presses--Welding)
(Thermal stresses)

NOVICHKOV, P.V., inzh.

Investigating the pressure and speed of the loosening and swelling of compressed wood. Der. prom. 12 no.7:14-15 Jl '63. (MIRA 16:8)

1. Voronezhskiy politekhnicheskiy institut.
(Wood, compressed)

NOVICHKOV, S. [Novychkov, S.]

Re-equipping livestock buildings on collective farms in Nikolayev Province. Sil' bud. 9 no.8:10-11 Ag '59. (MIRA 12:12)

1.Glavnyy inzhener upravleniya stroitel'stva Nikolayevskogo oblastnogo upravleniya sel'skogo khozyaystva.
(Nikolayev Province--Farm buildings)

NOVICHKOV, S. [Novychkov, S.]; BUTOVICH, O. [Butovych, O.]; SERDYUK, Ya. [Serdiuk, IA.]

Efficiency experts suggest. Sil'.bud. 13 no.10:17-18 O '63. (MIRA 17:3)

1. Glavnyy inzh. Nikolayevskoy oblastnoy mezhkolkhoznoy stroitel'noy organizatsii (for Novichkov). 2. Starshiy inzh. Nikolayevskoy oblastnoy mezhkolkhoznoy stroitel'noy organizatsii (for Butovich). 3. Glavnyy mekhanik Nikolayevskoy oblastnoy mezhkolkhoznoy stroitel'noy organizatsii (for Serdyuk).

ARSLANOV, N.K., dotsent; NOVICHKOV, S.I., inzh.

Science and technology conference delicated to the 90th anniversary of V.I. Lenin's birth. Izv. vys. ucheb. zav. gor. zhur. no.8:147-149 '60. (MIRA 13:9)

(Lenin, Vladimir Il'ich, 1870-1924)
(Mining engineering--Congresses)

KMITOVENKO, A. T., dotsent; RUSSKIY, I. I., dotsent; KOVICHKOV, S. I., inzh.

Determining the efficient dimensions of open-pit mine areas. Izv. vys. ucheb. zav.; gor. zhur. no.9:48-58 '61. (MIRA 15:10)

1. Sverdlovskiy gornyy institut imeni V. V. Vakhrusheva. Rekomendovana kafedroy otkrytykh rabot.

(Strip mining)

KMITOVENKO, A.G., dotsent; RUSSKIY, I.I., dotsent; NOVICHKOV, S.I., inzh.

Determination of the most advantageous dimensions of a pit area in relation to the number of drawing trenches. Izv. vys. ucheb. zav.; gor. zhur. 5 no.10:11-17 '62. (MIRA 15:11)

1. Sverdlovskiy gornyy institut imeni V.V.Vakhrusheva. Rekomendovana kafedroy otkrytykh gornykh rabot.
(Strip mining)

Novichkov, S.N.

VARSHITSOV, V.S.; NOVICHKOV, S.N.

Dependability of the cutter method of peat winning. Torf.prom. 32 no.6:11-15 '55. (MIRA 8:12)

1. Vsesoyuznyy Nauchno-issledovatel'skiy institut torfyanoy promyshlennosti

(Peat industry)

The degree of reliability [illegible] of cutter [illegible] conditions [illegible] more than required [illegible] from the peat bed. Its use [illegible] is explained.

NOVICHKOV, S.N., inzhener

Accelerating the drying of milled peat by improving the process of turning. Torf. prom. 34 no.3:13-17 '57. (MLRA 10:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut torfyanoy promyshlennosti.
(Peat industry)

KUZHMAN, G.I.; NOVICHKOV, S.N.

Drying and moistening of small-sized peat. Inzh.-fiz.zhur. 5 no.3:33-38 Mr '62. (MIRA 15:3)

1. Torfyanoy institut, Kalinin.
(Drying)(Peat)

OSIPOVICH, V.; NOVICHKOV, V.

Technical remodeling of the production layout. Mias. ind. SSSR 30 no.3:5-7 '59. (MIRA 12:9)

1. Dnepropetrovskiy myasokombinat.
(Dnepropetrovsk--Meat industry--Equipment and supplies)

STAROSTIN, A.; NOVICHKOV, V.; YAKIMOVA, C.

Experiments with lactic acid bacteria in the production of smoked sausages. Mias. ind. SSSR 31 no.4:21-22 '60. (MIRA 14:7)

1. Dnepropetrovskiy myasokombinat.
(Sausages)
(Lactic acid bacteria)

NOVICHKOV, V.I., student

Clinical significance of determining sialic acid and the blood proteins in chronic nonspecific lung diseases. Kaz.med.zhur. no.3:57-58 My-Je '62. (MIRA 15:9)

1. Kafedra fakul'tetskoy terapii (zav. - prof. Z.I.Malkin) Kazanskogo meditsinskogo instituta.
(LUNGS—DISEASES) (NEURAMINIC ACID) (BLOOD PROTEINS)

NOVICHKOV, V. P.

Novichkov, V. P.

"The Effect of Elastic Elements on the Operation of a Railroad Line." Min Railways USSR. Moscow Order of Lenin and Order of Labor Red Banner Inst of Railroad Transport Engineers imeni I. V. Stalin. Moscow, 1956. (Dissertation for the Degree of Candidate in Technical Science)

So: Knizhnaya letopis', No. 2 , 2 July 1956

NOVICHKOV, V.P., inzhener.

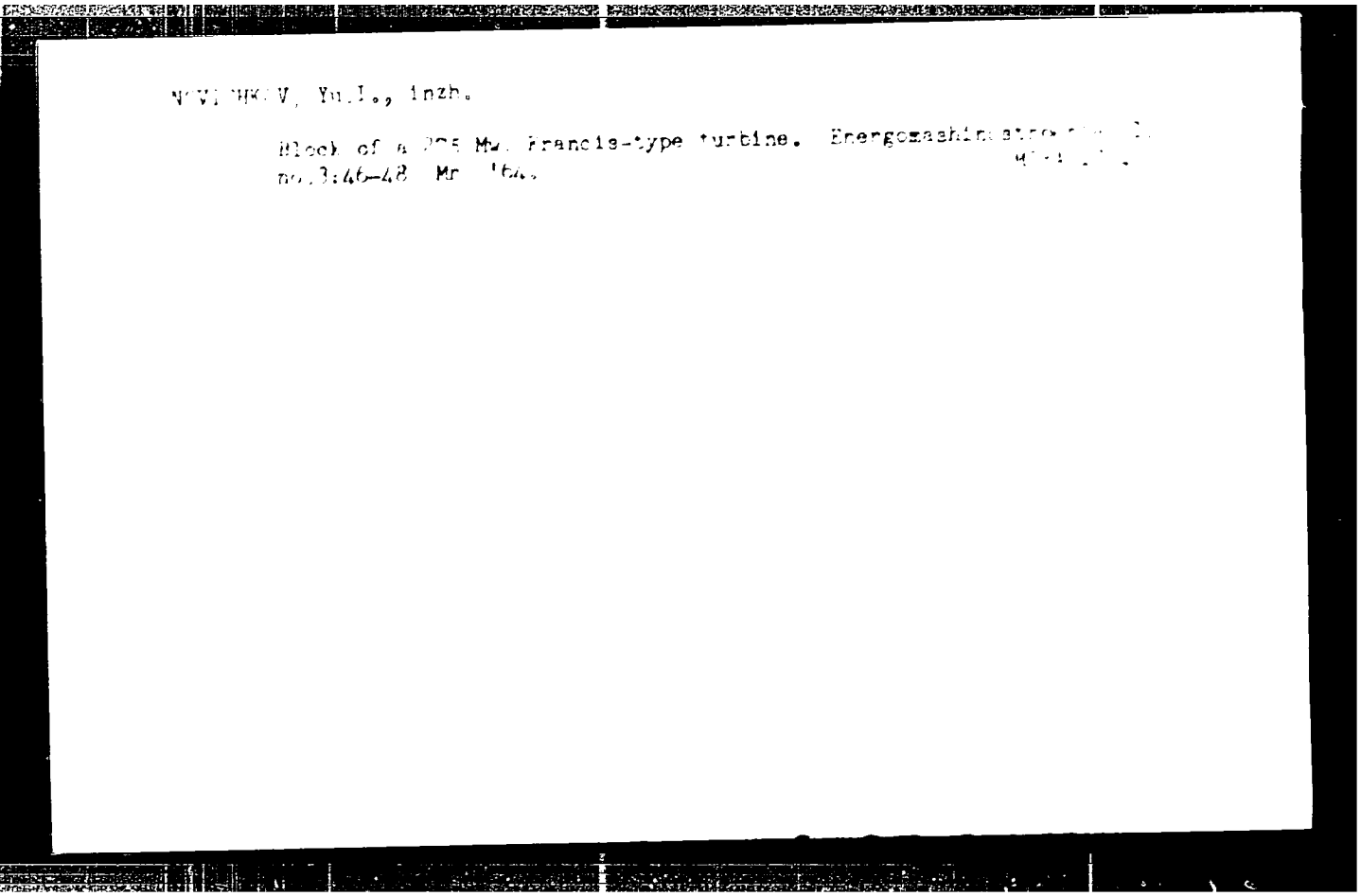
Efficient methods of strengthening railroad track. Zhel.dor.transp. 37 no.4:66-68 Ap '56. (MLRA 9:7)
(Railroads--Track)

NOVICHKOV, V.P., kand.tekhn.nauk (g.Khabarovsk)

Characteristics of laying 25-meter rails under severe climatic conditions. Put' i put.khoz. No.6:36-37 Je '61. (MIRA 14:8)
(Railroads--Cold weather operations) (Railroads--rails)

APATOVSKIY, L. Ye., inzh.; BUDNYATSKIY, D.M., inzh. NOVICHKOV, Yu.I., inzh.

News in power machinery construction abroad. Energomashinostroenie 7 no.4:46-47 Ap '61. (MIRA 14:7)
(Turbogenerators) (Turbines)



Yu.I., inzh.

Block of a [illegible] Mw. Francis-type turbine. Energomashinostroenie [illegible]
no.3:46-48 Mr '[illegible].

BOLOTIN, V.V. (Moskva); NOVICHKOV, Yu.N. (Moskva)

Buckling and steady flutter of thermally compressed panels in a supersonic flow. Inzh.zhur. [illegible] 62:82-96 '61. (Aerodynamics)

1. Institut mekhaniki AN SSSR.
(Aerodynamics, Supersonic) (Flutter (Aerodynamics))

S/879/62/000/000/036/088
D234/D308

AUTHOR: Novichkov, Yu. N. (Moscow)

TITLE: Stability and natural oscillations of plane and curvilinear panels in a gas stream

SOURCE: Teoriya plastin i obolochek; trudy II Vsesoyuznoy konferentsii, L'vov, 15-21 sentyabrya 1961 g. Kiev, Izd-vo AN USSR, 1962; 237-243

TEXT: The author considers an elastic panel supported along a rectangular contour, placed in a homogeneous quasistationary temperature field and in a supersonic gas stream having an undisturbed velocity U. It is assumed that the deflections are comparable with the thickness h but small with respect to the sides a, b. For the disturbed pressure the author uses the linearized formula of piston theory, neglecting the difference between external and internal pressure. No initial conditions are formulated. The approximate solution is represented by

Card 1/2

$$w(x,y,t) = f_1(t)\sin\frac{\pi x}{a}\sin\frac{\pi y}{b} + f_2(t)\sin\frac{2\pi x}{a}\sin\frac{\pi y}{b} \qquad (5)$$

and Galerkin's method is applied. The results are plotted for the case of a square panel. For a cylindrical panel the solution was sought with a constant component, and some results are plotted. It is pointed out that a solution given by Y. C. Fung (JAS, v. 25, no. 3, 1958) is unsatisfactory. There are 4 figures.

S/179/62/000/004/006/010
E031/E435

AUTHOR: Novichkov, Yu.N. (Moscow)

TITLE: On the stability of solutions in the problem of panel flutter

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Mekhanika i mashinostroyeniye, no.4, 1962, 122-124

TEXT: The stability is proved of the steady flutter of a curved cylindrical panel. The result was obtained by the method of the small parameter in the first approximation; results for a plate are obtained as special cases. The behaviour of a freely supported curved cylindrical panel which is rectangular in plan and which is in a supersonic flow is described by two nonlinear differential equations. The aerodynamic loading is determined from the linearized expression in piston theory. The equations permit a static solution corresponding to temperature buckling. The method of the small parameter is applied to study oscillations about the buckled position. Variational equations are used to establish stability. There is 1 figure.

SUBMITTED: April 2, 1962

Card 1/1

NOVICHKOV, Yu.N. (Moskva)

Application of the three-dimensional aerodynamic theory to problems of the bulging and flutter of panels. Izv.AN SSSR.Otd.tekh.nauk.-Mekh.i mashinostr. no.3:138-141 My-Je '63. (MIRA 16:8)
(Flutter (Aerodynamics))

44678
S/258/62/002/004/018/019
E191/E535

10,6300

AUTHOR: Novichkov, Yu.N. (Moscow)

TITLE: On the solution of the equations of steady state flutter of cylindrical panels

PERIODICAL: Inzhenernyy zhurnal, v.2, no.4, 1962, 352-358

TEXT: The paper deals with the approximate solution of the equations of nonlinear flutter of cylindrical panels. The problem can be reduced to that of investigating a nonlinear system of ordinary differential equations. The notation is the same as that used by V. V. Bolotin and the present author in a paper on bulging and steady state flutter of thermally compressed panels exposed to supersonic flow (Inzhenernyy zhurnal, v.1, no.2, 1961). The aerodynamic forces of the flow directed along the generating line of the panel are derived by the linear formula of the "Piston Theory". In addition, the loads arising in the mean surface in heating up are taken into account. Solutions of the system of equations which are independent of time can be represented in the form of a four-dimensional surface which can be called the surface of static or temperature bulging. The conditions of stability for

Card 1/2

ACCESSION NR: AT4039440 S/2879/64/000/000/0751/0757

AUTHOR: Novichkov, Yu. N. (Moscow)

TITLE: Nonstationary flutter of cylindrical panels

SOURCE: Vsesoyuznaya konferentsiya po teorii obolochek i plastin. 4th, Yerevan, 1962. Teoriya obolochek i plastin (Theory II of plates and films); trudy* konferentsii, 1964, 751-757

TOPIC TAGS: panel, cyclindrical panel, flutter, nonstationary flutter, gas flow, supersonic gas flow, aerodynamic damping, structural damping, piston theory

ABSTRACT: Despite the copious literature on nonlinear problems of panel flutter, stationary solutions of the equations describing the behavior of panels in a gas flow have generally been sought. However, nonstationary solutions are also of interest since they afford the possibility of tracing the behavior of the panel during passage of the flutter region with simultaneous variation of the temperature and the velocity. Considered in the present article, in an approximate formulation, is the problem of the nonstationary vibrations of sloping cylindrical panels in a supersonic gas flow. The method of single-frequency oscillations is also employed to find non-stationary solutions, as was previously done by V. V. Bolotin (Nestatsionarnyye flatter plastin i pologikh obolochek v potoke gaza. Izv.

Card 1/3

ACCESSION NR: AT4039440

AN SSSR, OTN, "Mekhanika i mashinostroyenie", 1962, no. 3). The effect of different parameters on nonstationary flutter is shown on the basis of a particular example. It is pointed out that the behavior of a panel in a gas flow can be described by a system of equations of the Karman type with the aerodynamic load considered in accordance with the piston theory in a linear approximation and with the aerodynamic damping considered together with the structural. By approximating the normal bending of a cylindrical panel freely suspended at all edges by the expression

$$w(x, y, t) = \varphi_1(t)\, h \sin\frac{\pi x}{a} \sin\frac{\pi y}{b} + \varphi_2(t)\, h \sin\frac{2\pi x}{a} \sin\frac{\pi y}{b} \qquad (1)$$

and by using the procedure of Galerkin - Pankovich, the problem is easily reduced to finding solutions for the system

$$\left.\begin{aligned} &\varphi_1'' + g\varphi_1' + (d_{11} - s_{11}\theta)\varphi_1 - \mu\varphi_2 + c_{11}\varphi_1^3 + c_{12}\varphi_1\varphi_2^2 + d_{13}\varphi_1^2 + \\ &\qquad + d_{15}\varphi_2^2 + d_{16}\theta = 0, \\ &\varphi_2'' + g\varphi_2' + (d_{21} - s_{21}\theta)\varphi_2 + \mu\varphi_1 + c_{21}\varphi_1^2\varphi_2 + c_{22}\varphi_2^3 + d_{23}\varphi_1\varphi_2 = 0. \end{aligned}\right\} \qquad (2)$$

Card 2/5

ACCESSION NR: AT4039440

As already mentioned, the "method of single-frequency oscillations" is used to find the nonstationary solutions. The system under consideration is a unique non-conservative autonomous system with the pair interaction, characteristic of flutter problems, playing an important role. Seeking the solution near the flutter line and separating the solution corresponding to this line

$$\varphi_j(\tau) = \varphi_j^0 + \zeta_j(\tau) \quad (j = 1, 2). \tag{3}$$

the author arrives at a system of equations

$$\left.\begin{aligned}
&\zeta_1' + g\zeta_1' + (F_{11} - s_{11}\vartheta_*)\zeta_1 + (-\mu_* + F_{12})\zeta_2 = \gamma_1[s_{11}(\vartheta - \vartheta_*)\zeta_1 + \\
&+ (\mu - \mu_*)\zeta_2 - (F_{111}\zeta_1^2 + 2F_{112}\zeta_1\zeta_2 + F_{122}\zeta_2^2 + c_{11}\zeta_1^3 + c_{12}\zeta_1\zeta_2^2)], \\
&\zeta_2' + g\zeta_2' + (F_{22} - s_{21}\vartheta_*)\zeta_2 + (\mu_* + F_{21})\zeta_1 = \gamma_1[s_{21}(\vartheta - \vartheta_*)\zeta_2 - \\
&- (\mu - \mu_*)\zeta_1 - (F_{211}\zeta_1^2 + 2F_{212}\zeta_1\zeta_2 + F_{222}\zeta_2^2 + c_{21}\zeta_1^2\zeta_2 + c_{22}\zeta_2^3)].
\end{aligned}\right\} \tag{4}$$

where

$$F_{jk} = \frac{\partial F_j}{\partial \varphi_k}\Big|_{\varphi_1 = \varphi_1^0,\ \varphi_2 = \varphi_2^0} + \delta_{jk}s_{j1}\vartheta_*, \qquad F_{jkl} = \frac{1}{2}\frac{\partial^2 F_j}{\partial \varphi_k \partial \varphi_l}\Big|_{\varphi_1 = \varphi_1^0,\ \varphi_2 = \varphi_2^0} \tag{5}$$

Card 3/5

(the asterisks indicate the values of the parameters of temperature ϑ and velocity μ corresponding to the flutter line). The solution is sought in the form

$$\zeta_j = Au_{j1}e^{i\psi}_{A} + Au_{j2}e^{-i\psi}. \tag{6}$$

where

$$u_{jk} = u^0_{jk} + \sum_{s=1}^{\infty} \eta^s u^{(s)}_{jk}(A, \psi) \quad (j = 1, 2;\ k = 1, 2), \tag{7}$$

with real functions A and Ψ determined from

$$\left.\begin{aligned} \frac{dA}{d\tau} &= \sum_{s=1}^{\infty} \eta^s A_s(A), \\ \frac{d\psi}{d\tau} &= \omega_* + \sum_{s=1}^{\infty} \eta^s B_s(A) \end{aligned}\right\} \tag{8}$$

(ω_* is the oscillation frequency on the flutter line). The problem of finding an approximate solution resolves itself to finding functions u^0_{jk}, $u^{(s)}_{jk}$, A_s, B_s ($s = 1, 2\ldots$) with

Card 4/5

ACCESSION NR: AT4039440

subsequent integration of the system with separating variables. The author has demonstrated the effect of the rate of change of temperature and velocity, the considerable effect of damping and the effect of initial deviations on the amplitudes of non-steady-state flutter of cylindrical panels. It is pointed out that, at small values of the damping factor, the nonstationary vibrations are rather close to a stationary mode, while the initial deviations, as might have been expected, affect the value of the amplitude in the case of non-stationary oscillations only in the initial segment. Examining the non-stationary solutions corresponding to nonsteady-state flutter, the asymptotic stability of the stationary mode is easily demonstrated. Investigation shows that an exchange in the stability of the trivial and non-trivial values for amplitude takes place on the flutter line. Orig. art. has: 4 figures and 15 formulas.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 14May64 ENCL: 00

SUB CODE: AS NO REF SOV: 007 OTHER: 000

Card 5/5

ACC NR: AR7004676 SOURCE CODE: UR/0124/66/000/010/V021/V021

AUTHOR: Novichkov, Yu. N., Shveyko, Yu. Yu.

TITLE: Vibrations and stability of two-layer shells with flowing liquid in its cavities

SOURCE: Ref. zh. Mekhanika, Abs. 10V160

REF SOURCE: Dokl. Nauchno-tekhn. konferentsii po itogam nauchno-issled. rabot za 1964-1965gg. Mosk. energ. in-t. Sekts. energomashinostroit. M., 1965, 103-118

TOPIC TAGS: elasticity theory, orthotropic shell, shell vibration, shell structure stability, cylindric shell structure, shell stability

ABSTRACT: The problem of the stability and vibrations of a shell consisting of two thin coaxial cylinders joined by a sufficiently large number of longitudinal partitions is investigated. The cavities of the shell contain a liquid flowing at a constant velocity. The initial equations of the structurally orthotropic shell are derived as a result of a "smearing" operation. The pressure of a certain equivalent moving load of constant intensity is substituted for the pressure of the liquid

Card 1/2

ACC NR: AR7004676

on the shell. A characteristic equation which serves to determine critical velocities is derived through the application of Bubnov's variational method. Two characteristic critical speeds are distinquished: buckling and flutter speed. The expression for divergence rate is relatively simple. It is shown how to find the critical flutter speed. For a specific example calculated on a computer, the divergence rate proved to be lower than the flutter speed. There is a bibliography of 11 titles. [Translation of abstract] [DW]

SUB CODE: 13/

Card 2/2

GAL'TSOVA, R.D.; NOVICHKOVA, A.T.; VAKINA, I.P.

Effect of glucose on ergosterol synthesis by yeasts. Mikrobiologiia 28 no.4:502-506 Jl-Ag '59. (MIRA 12:12)

1. Institut mikrobiologii AN SSSR.
(VITAMIN D metab.)
(GLUCOSE pharmacol.)
(YEASTS metab.)

[illegible], M.N., [illegible]ZOVA, T.S., GAL'ZOVA, [illegible], [illegible]OVA, G.A., [illegible]OVA, V.A., [illegible]OVA, YE.N., [illegible], [illegible].A., [illegible]A, M.V. and [illegible]OVICHOVA, A.T.

"Cytophysiological and biochemical investigation of micro-organisms in the process of post-radiation inactivation."

Report submitted to the 2nd Intl. Congress of Radiation Research, Harrogate/Yorkshire, Gt. Brit. 5-11 Aug 1962

41619
S/205/62/002/005/006/017
D268/D308

27.1220

AUTHORS: Gal'tsova, R.D., and Novichkova, A.T.

TITLE: The effect of ionizing radiations on nitrogen metabolism in yeast organisms

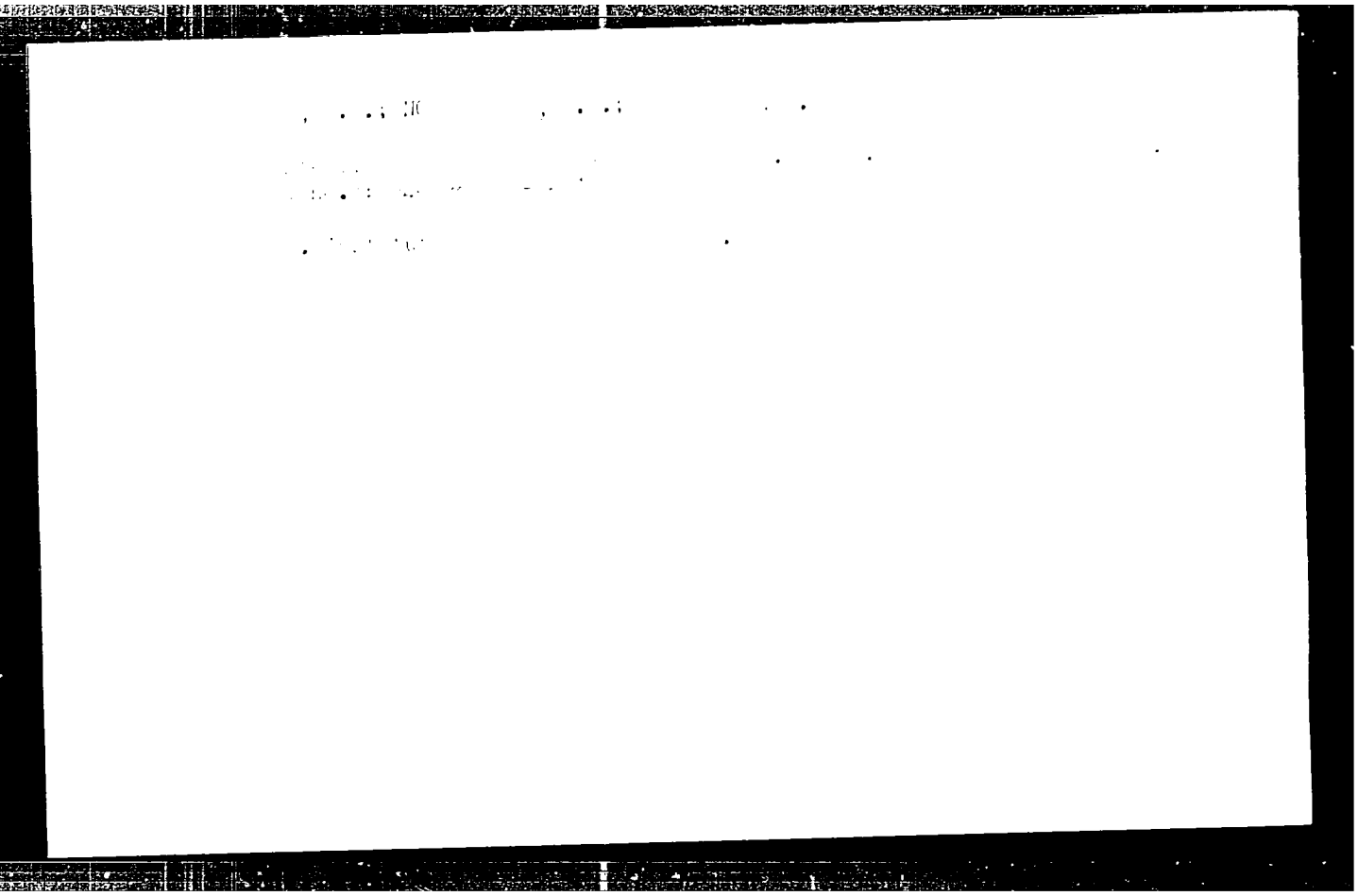
PERIODICAL: Radiobiologiya, v. 2, no. 5, 1962, 690 - 694

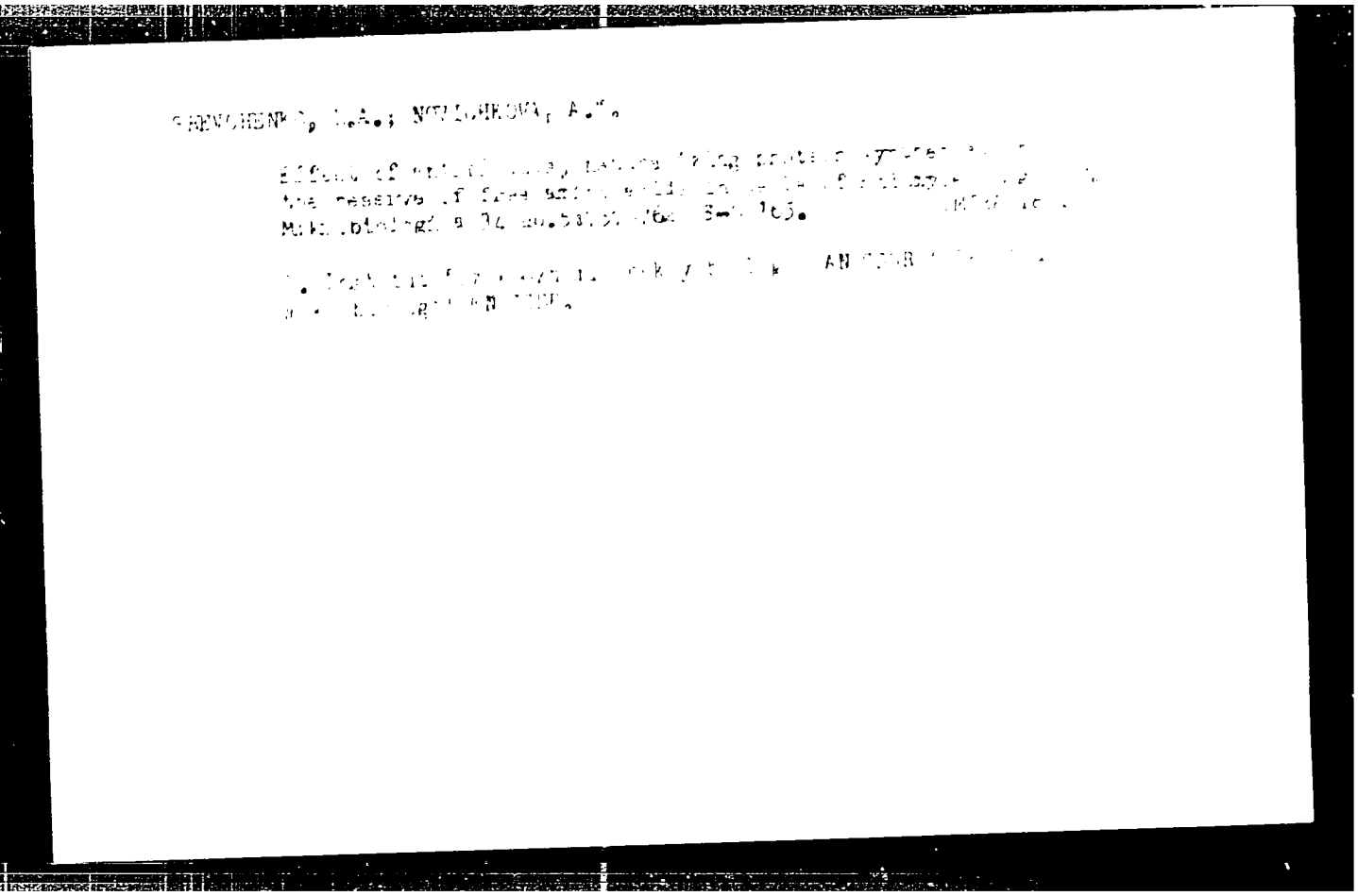
TEXT: In continuation of earlier work, the disruption of protein metabolism was investigated in pure cultures of Saccaromyces cerevisiae, S. carlsbergensis Frohberg, and S. carlsbergensis 10 D, after x ray irradiation and subsequent culturing in a wort agar suspension. There was no pronounced change in the N fraction content immediately after irradiation, except for a gradual accumulation of amino N after a dose of 30 curies. As irradiated yeasts developed, there were marked metabolic disturbances, with the general N content at times 10 - 20 % above that in non-irradiated, and remaining constant at doses of 20 - 30 curies. Protein N content also increased and irradiation seemed to stimulate protein synthesis. With higher radiation doses the general and protein N content gradually declined, and was especially pronounced at 150 - 200 curies.
Card 1/2

MEYSEL', M.N ; [illegible], T.S.; [illegible], V.I.; [illegible], [illegible]; [illegible], G.A.; POMOSHCHNIKOVA, L.A.; [illegible], I.A.; [illegible], [illegible]; [illegible], A.I.; [illegible], T.M.

Cytophysiological and biochemical studies of yeasts during their recovery following radiation injury. Izv. AN SSSR. Ser. biol. no.6: 827-851 N-D '64.

1 Institute of Microbiology, Academy of Sciences of [illegible], and Institute of Radiation and Physico-Chemical Biology, Academy of Sciences of [illegible], Moscow.





BARATS, S.S., starshiy nauchnyy sotrudnik; NOVICHKOVA, E.P.

Physical activity, cholesteremia and arteriosclerosis; report No.1. Kardiologiia 2 no.1:30-36 Ja-F '62 (MIRA 15:5)

1. Iz Kardiologicheskoy gruppy usileniya pri Sverdlovskom institute fizioterapii, rukovodimoy zasluzhennym deyatelem nauki prof. S.P. Kushelevskim.
(CHOLESTEROL METABOLISM) (ARTERIOSCLEROSIS) (WORK)

PARATS, I.A.; NOVITSKIY, B.P.

Physical activity and some biochemical indices of the blood in atherosclerosis. Report No.2. Kardiologiia 4 no.4:37-42 N-D '64. (MIRA 18:8)

1. Kardiologicheskaya gruppa ustanovleniya, rukovoditel' - prof. B.P. Kushelevskiy pri Sverdlovskom nauchno-issledovatel'skom institute kurortologii i fizioterapii.

USSR/Physiology of Plants - Photosynthesis. I.

Abs Jour : Ref Zhur - Biol., No 15, 1958, 67795

Author : Grushvitskiy, I.V., Novichkova, L.M.

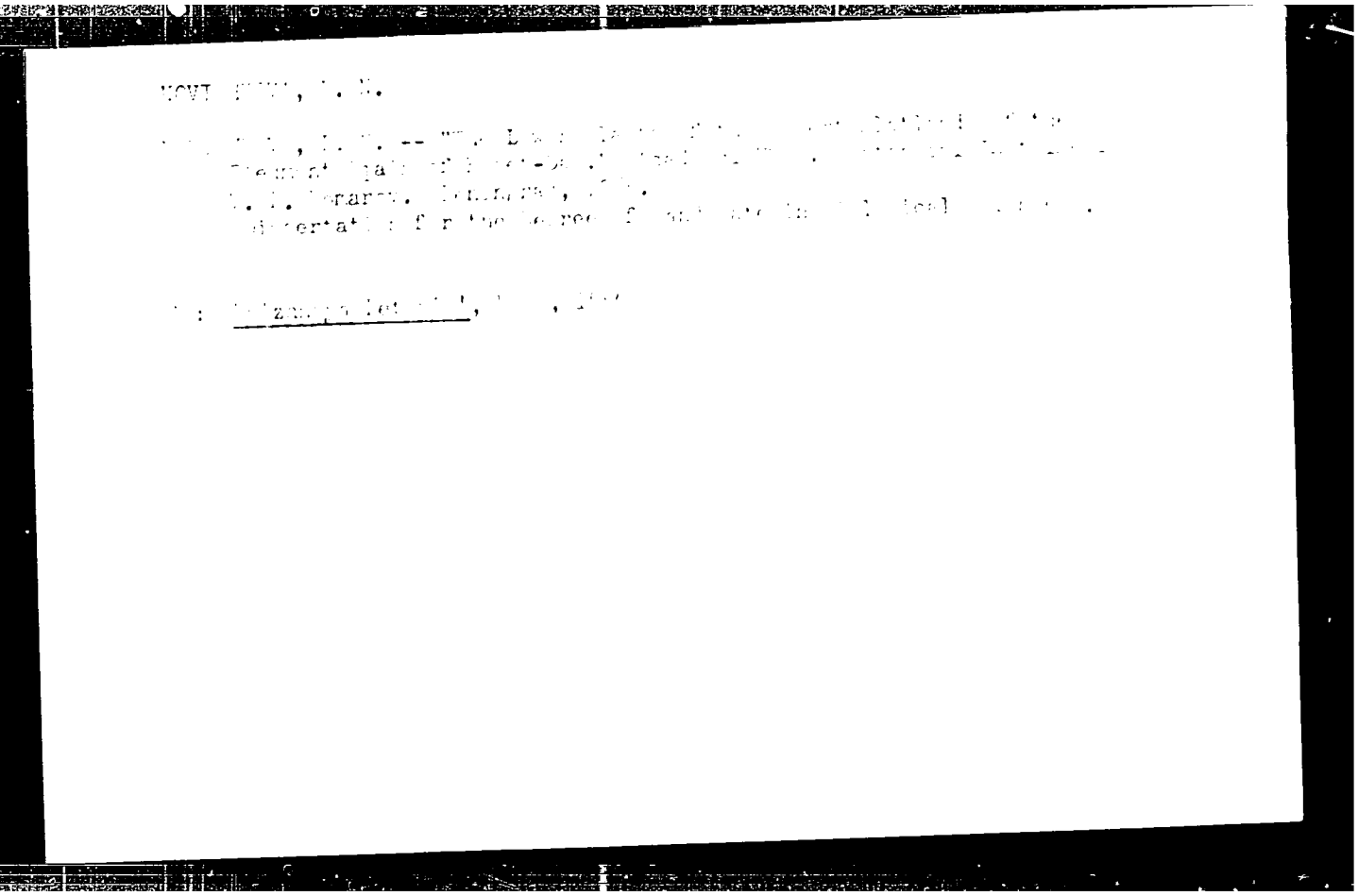
Inst : Botanical Institute of the USSR Academy of Sciences.

Title : Some Data on Photosynthesis in Ginseng.

Orig Pub : Botan zh., 1957, 42, No 5, 751-756.

Abstract : In the Botanical Institute of the Academy of Sciences of USSR a face counter was used to compute the activity of fizated pulverized leaves of hothouse ginseng plants after exposing them to a $C^{14}O_2$ atmosphere, and to compute the loss of C^{14} from the gaseous mixture of the chamber. Over the course of 24 hours the change in intensity of photosynthesis was insignificant, and during vegetation it declined. The photosynthesis intensity of ginseng from the Primorskiy Kray was 1 1/2-2 times greater than that

Card 1/2



KOSHELEVA, I.T.; NOVICHKOVA, L.N.

Spotted tundras of Western Siberia and their algal flora. Bot.zhur. 43 no.10:1478-1485 O '58. (MIRA 11:11)

1. Botanicheskiy institut imeni V.L. Komarova AN SSSR, Leningrad; Pochvennyy institut imeni V.V. Dokuchayeva AN SSSR, Moskva.
(Siberia, Western--Tundras) (Algae)

VAULINA, E.N.; DOROGOSTAYSKAYA, Ye.V.; NOVICHKOVA, L.N.; SDOBNIKOVA, N.V.

Materials on a study of species of Chlamidomonas occurring in soils of the U.S.S.R. Trudy Bot. inst. Ser. 2 no.12:18-35 '59. (MIRA 12:12)

(Algae) (Soil micro-organisms)

NOVICHKOVA, L.N.

New and interesting blue-green algae from the takyrs.
Bot. mat. Otd. spor. rast. 13:30-34 '60. (MIRA 13:7)
(Turkmenistan--Algae)

NOVICHKOVA-IVANOVA, L. N.

"Soil algae of the arid regions of the USSR."

report submitted to [illegible] Int. Botanical [illegible]

as USSR, Leningrad.

GOMZHIN, Gennadiy Nikolayevich; NOVICHKOVA, M.M., ved. red.

[Experience in building precast reinforced concrete reservoirs] Opyt stroitel'stva sbornykh zhelezobetonnykh rezervuarov. Moskva, Nedra, 1964. 73 p. (MIRA 17:6)

SOV/143-58-3-14-18

AUTHOR: Novichkova, V. G., Engineer

TITLE: Effects of Non-isothermicity and the Direction of a Heat Current on the Hydraulic Resistance Factor With a Turbulent Liquid Flow in a Round Tube (O vliyanii neizotermichnosti i napravleniya teplovogo ; toka na koeffitsiyent gidravlicheskogo soprotivleniya pri turbulentnom techenii zhidkosti v krugloy trube)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy - Energetika, 1958, Nr 3, pp [illegible] (USSR)

ABSTRACT: The paper first quotes a number of works including those of Sukhomel and Kalakutskiy, Il'in, Mikheyev and B.S. Petukhov. All these works have computed the changes in physical characteristics only from the cross section for mean values of resistance factors. On the basis of the theory of similarity, the attempt was made to obtain in sample shape the relation of the resistance factor to the temperature drop, from the cross section and the length of the tube. The resul-

Card 1/4

Effects of Non-Isothermicity and the Direction of a Heat Current on the Hydraulic Resistance Factor with a Turbulent Liquid Flow in a Round Tube

is similar to the L. S. Petukhov formula. The paper then describes the experimental equipment and measuring technique. In the laboratory of the Kuybyshev Industrial Institute, equipment was designed for studying heat exchange and resistance for the movement of water in a tube. The equipment was designed for tests with high Reynold figures (Re = [illegible] to 5 x [illegible]). The main component of the equipment is a long straight brass tube with cross section [illegible] mm, wall thickness 1.5 mm and length 4 m. This tube is located within another one 2" in diameter. A direct stream of [illegible] water flowed in the ring cross section. The paper then describes the methods and results of the experiment. The Mikheyev formula agrees well with the test, where there were high Re values. Where there were small values of the Reynolds invariant, the divergence from the test data increases with heating of the liquid (much too low and vice-versa with cooling of the

Card 2/4

SOV/143-58-3-14/18

Effects of Non-Isothermicity and the Direction of a Heat Current on the Hydraulic Resistance Factor with a Turbulent Liquid Flow in a Round Tube

liquid. The author concludes: 1) The effect of non-isothermicity on the hydraulic resistance factor is considerable in the range of high Re values. 2) Non-isothermicity can be most simply assessed by introducing a complex comprising the relation of the viscosity on the tube wall and the viscosity pertaining to the mean temperature of the stream. 3) The results obtained have great practical importance in the thermo-power and chemical industries. There are 2 graphs, 1 schematic diagram, 1 figure and 15 references, 5 of which are Soviet and 1 English.

ASSOCIATION: Kafedra teoreticheskikh osnov teplotekhniki Kuybyshevskogo industrial'nogo instituta imeni V.V.Kuybysheva (Chair for the Theoretical Bases of Thermal Engineering, Kuybyshev Industrial Institute imeni V.V. Kuybyshev)

Card 3/4

NOVICHKOVA, L. P.: Master Tech Sci (diss) -- "The effect of [illegible] and the direction of a thermal current on the coefficient of [illegible] in the turbulent flow of a liquid in a round pipe". Kuybyshev, [illegible] (Min Higher Educ USSR, Kuybyshev Industrial Inst im V. V. Kuybyshev) (KL, No 1, 1960, 127)

KUDRYASHEV, L.I., prof., doktor tekhn.nauk; NOVICHKOVA, O.G., inzh.

Theoretical bases for evolving an equation to determine the coefficient of hydraulic resistance inside circular tubes in the case of markedly nonisothermal flow. Sbor. nauch. trud. Kuib. indus. inst. no.8:167-172 '59. (MIRA 14:7)
(Differential equations) (Hydrodynamics)

MAYATSKIY, G.A., inzh.; NOVICHKOVA, O.G., inzh.

Formula for calculating the coefficient of resistance in the case of nonisothermal liquid flow in tubes. Sbor. nauch. trud. Kuib. indus. inst. no.8:173-175 '59. (MIRA 14:7)
(Hydrodynamics)

NOVICHKOVA, O.G., inzh.; MAYATSKIY, G.A., inzh.

Experimental setup for studying the heat transfer and resistance in turbulent flow of water in a smooth tube. Sbor. nauch. trud. Kuib. indus. inst. no.8:177-184 '59. (MIRA 14:7)
(Heat--Transmission) (Hydrodynamics)
(Turbulence)

66176

SOV/143-59-10-16/22

~~24 (7)~~ 10.4000

AUTHORS: Mayatskiy, G.A., and Novichkova, O.G., Engineers

TITLE: A Formula for Calculating the Resistance Factor for the Nonisothermal Motion of a Liquid in Pipes

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Energetika 1959, Nr 10, pp 95-97

ABSTRACT: A formula is presented for calculating the hydraulic resistance of a turbulent liquid flow in smooth pipes under heat exchange conditions. It is based on the formula of A.D. Al'tshul' for calculating the resistance of a turbulent isothermal motion of a liquid in smooth pipes

$$\lambda = \frac{1}{(1.82 \lg Re - 1.64)^2} \quad (1)$$

(2)

The co-factor $(\frac{\mu_w}{\mu_f})^n$

is introduced into this formula, where μ_w and μ_f are viscosity factors related to the mean temperatures

Card 1/4

A Formula for Calculating the Resistance Factor for the Nonisothermal Motion of a Liquid in Pipes

of the walls and the flow along a section. It was shown by G.A. Mayatskiy [Ref 4] that the ratio with the exponent $n \approx 0.14$ will account in the first approximation for the influence of a nonisothermal flow on the resistance factor for a liquid moving in the Blasius range ($Re = 10^4 \div 10^5$). The resistance factor is expressed in implicit form in the formula [Ref 4]

$$\frac{1}{\sqrt{\lambda}} = 2.0 \lg \left(Re \sqrt{\lambda \frac{\mu_f}{\mu_w}}\right) - 0.8 \qquad (3)$$

Due to the identity of formulas (1) and (3), the following formula may be used for calculations of isothermal motion

$$\lambda = \frac{1}{\left[2 \lg \left(Re \sqrt{\frac{\mu_f}{\mu_w}}\right) - 1.6\right]^2}. \qquad (4)$$

Card 3/4

66176

SOV/143-59-10-16/22

A Formula for Calculating the Resistance Factor for the Nonisothermal Motion of a Liquid in Pipes

This formula is an Al'tshul' formula, generalized for the case of nonisothermal motion and may be used for calculating the flow resistance in the entire range of turbulent flow conditions in smooth pipes. Similar to formula (3) the influence of the nonisothermal flow on the resistance factor is considered in the first approximation. For more accurate calculations, G.A. Mayatskiy's method of subsequent approximations is to be used [Ref 4, 5]. The formula (4) is adequate for the majority of practical calculations of the flow resistance in the presence of heat exchange. Table 1 contains a comparison of B.S. Petukhov's and O.G. Novichkova's experimental data with calculation results of formula (4). The calculated data deviate from the experimental data on the average by 2 + 3 % in the region of Re numbers $2.8 \cdot 10^4 + 4.5 \cdot 10^5$ and μ_f/μ_w = 2.5 + 0.8. This formula may be recommended for calculating the resistance factor of a turbulent, nonisothermal

Card 3/4

66176

SOV/143-59-10-16/22

A Formual for Calculating the Resistance Factor for the Nonisothermal Motion of a Liquid in Pipes

thermal liquid flow in smooth tubes. This article was presented by the Kafedra teoreticheskoy teplotekhniki i gidravliki (Chair of Theoretical Heat Engineering and Hydraulics). There are 1 table and 5 Soviet references

ASSOCIATION: Kuybyshevskiy industrial'nyy institut imeni V.V. Kuybysheva (Kuybyshev Industrial Institute imeni V.V. Kuybyshev)

SUBMITTED: February 10, 1959

Card 4/4

KURDYUMOV, G.M.; MOLOCHKO, V.A.; KREPKOV, F.N.; Prinimali uchastiye: FILATOVA, L.N.; NOVICHKOVA, S.L.

Distribution of arsenic and phosphorus impurities in the oriented crystallization of germanium tetrachloride. Khim. prom. 41 no.3:201-203 Mr '65. (MIRA 18:7)

DARVOYD, T.I.; GUREVICH, M.A.; NOVICHKOVA, S.M.; POPOVA, M.A.

System TlBr – TlI. Zhur. neorg. khim. 10 no.2:462-466 F '65.
(MIRA 18:11)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut redkometallicheskoy promyshlennosti. Submitted Aug. 28, 1963.

NOVICHKOVA Ye A.

МЕХАНИЗМ ТЕРМИЧЕСКОЙ ДЕСТРУКЦИИ
И СИНТЕЗА КОКСА

[redacted]

VIII Mendeleyev Congress for General and Applied Chemistry
Section of Chemistry and Chemical Technology of Fuels.
publ. by Acad. Sci. USSR, Moscow 1959

Abstracts of reports scheduled to be presented at above mentioned congress,
Moscow, 15 March 1959.

NOVICHKOVA, Ye A

11(0) PHASE I BOOK EXPLOITATION SOV/3404

Rakovskiy, V. Ye., F. L. Kaganovich, and Ye. A. Novichkova

Khimiya pirogennykh protsessov (Chemistry of Pyrogenic Processes) Minsk, AN Belorusskoy SSR, 1959. 208 p. Errata slip inserted. 1,500 copies printed.

Sponsoring Agencies: Akademiya nauk BSSR. Institut torfa, and Moskovskiy torfyanoy institut.

Ed.: Ye. Barabanova; Tech. Ed.: N. Siderko.

PURPOSE: This collection of articles is intended for chemists studying the mechanism of pyrogenic processes.

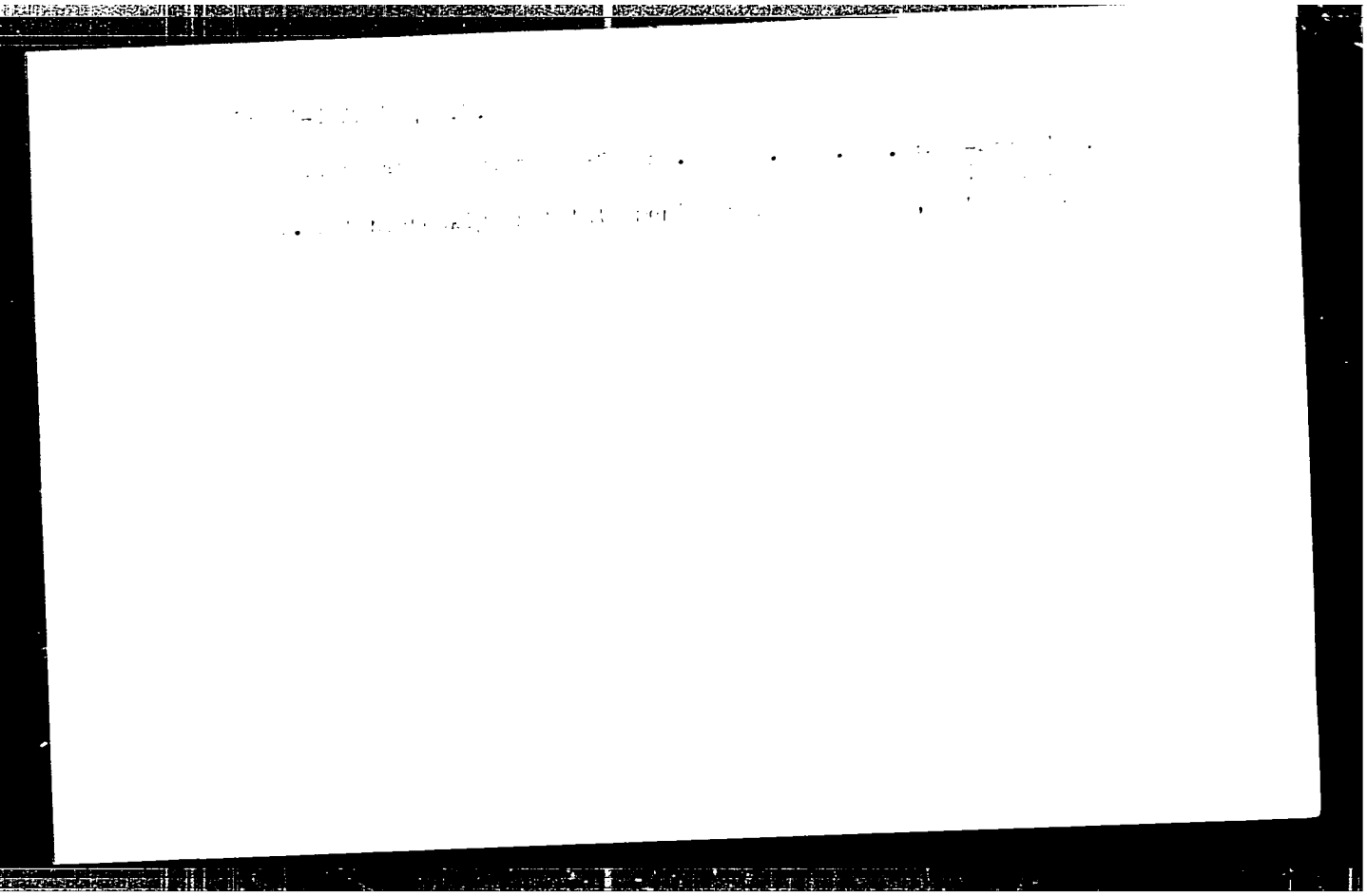
COVERAGE: This collection presents the results of research conducted under the direction of Doctor of Technical Sciences V. Ye. Rakovskiy on the mechanism of pyrogenic processes. Chemical structure and composition of peat and coal of different types are discussed and illustrated. Major chemical processes of carbonization are reviewed, and the thermal decomposition of various compounds contained in products of semicoked coal is analyzed along with

Card 1/ 4

different chemical reactions. Conjugate reactions of dehydration and saponification taking place in thermal decomposition of peat are discussed and the results of semicoking of peat given. Coke synthesis and the process of firm semicoke production are analyzed along with the mechanism of formation and decomposition of thermally unstable molecular groups of coal. The sintering and briquetting processes are also discussed. There are 72 references: 44 Soviet, 6 English, 21 German and 1 French.

TABLE OF CONTENTS:

Chemistry of Pyrogenic Processes

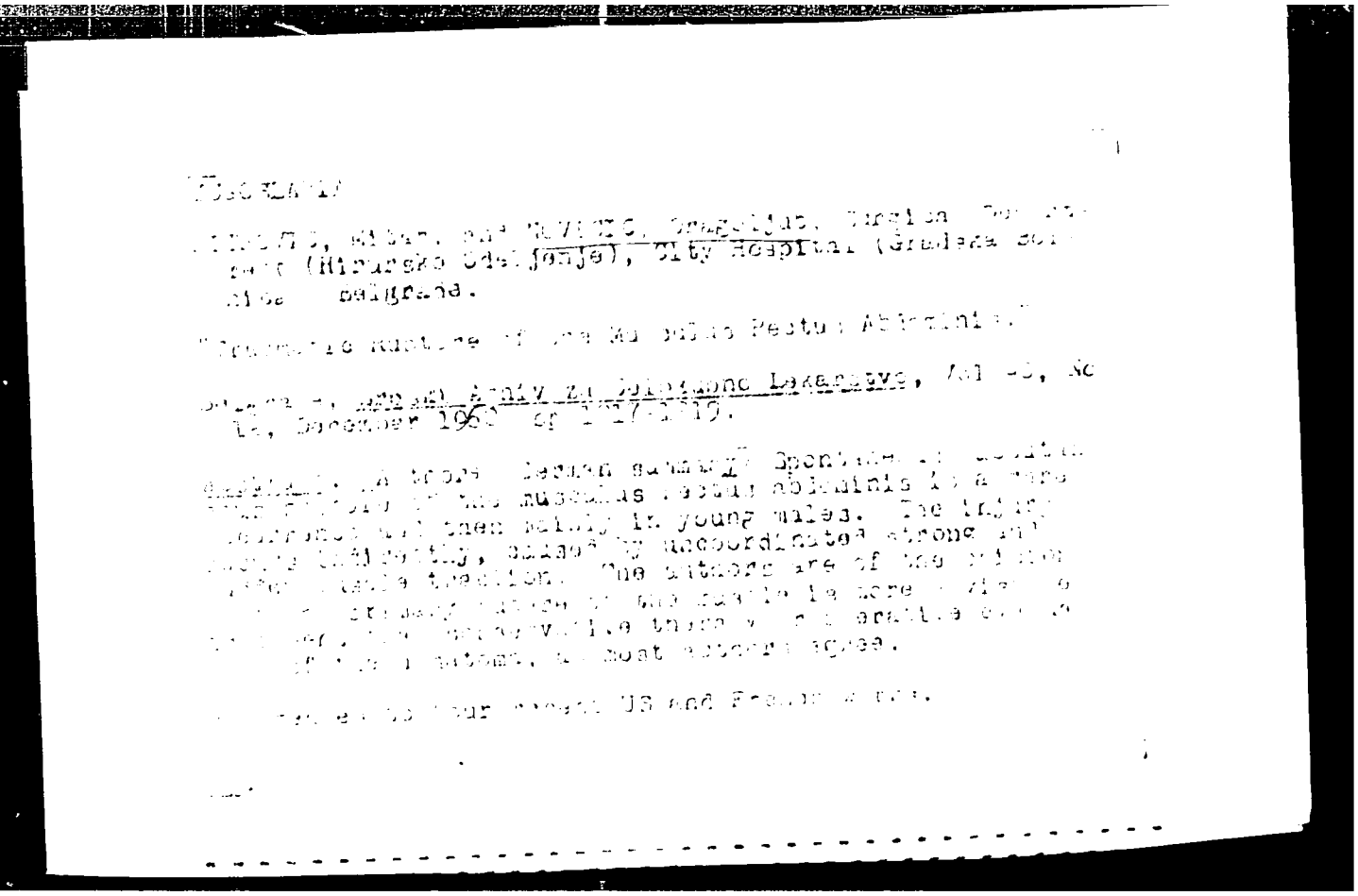


APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420005-8"

MITROVIC, Mitar; NOVICIC, Dragoljub

Hepatic hemangioma. Srpski arh. celok. lek. 90 no.10:979-982 O '62.

1. Hirursko odeljenje Gradske bolnice u Beogradu Nacelnik: prof. dr. Mitar Mitrovic.
(LIVER NEOPLASMS) (HEMANGIOMA)



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Mitar MITROVIC, Zivota GJORGJEVIC and Dragoljub NOVICIC, Surgical Department of City Hospital (Hirursko odeljenje Gradske bolnice) Chief (nacelnik) Prof Dr Mitar MITROVIC, Belgrade.

"Ulcerative Colitis."

Belgrade, Srpski Arhiv za Celokupno Lekarstvo, Vol 91, No 3, Mar 63; pp 301-304.

Abstract [French summary modified]: Case report - ulcerative colitis in 31-year-old nurse, 7 years of progressive incapacitation, total colectomy with ileorectal anastomosis brought amazingly rapid recovery; 3 months' postoperative she had gained 11 Kg. and had very normal digestive and excretory function; felt well. Two photographs of operative specimen; 2 Yugoslav and 13 Western references.

1/1

MITROVIC, Mitar; DORCEVIC, Zivota; NOVICIC, Dragoljub

Ulcerative colitis. Srpski arh. celok. lek. 91 no.3:301-304 Mr '63.

1. Hirursko odeljenje Gradske bolnice u Beogradu Nacelnik: prof. dr Mitar Mitrovic.
(COLITIS, ULCERATIVE)

MILUTINOVIC, Petar, dr.; STEINFL, Sonja, mr.; BOSNJAKOVI , Vladimir, dr.; CIRIC, Olivera, dr.; NOVICIC, Gligorije

In vitro fixation of triiodothyronine-I-131 by erythrocytes as the index of functional conditions of the thyroid gland. Med. glas. 17 no.3/4 116-120 Mr-Ap '63.

1. Institut za medicinska istrazivanja u Beogradu - Centralna laboratorija za medicinsku primenu radioaktivnih izotopa (V. d. direktora prof. dr B.S Djordjevi).

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