Investigation of the Stability of the Solution of a Linear Differential Equation of Second Order With Periodic Coefficients 40-22-2-13/21

There are 3 figures, and 2 Soviet references.

SUBMITTED: November 5, 1957

1. Differential equations--Theory

Card 3/3

16(1)

AUTHOR: Proskuryakov, A.P. (Moscow) SOV/40-22-4-12/26

TITLE: The Construction of Periodic Solutions of Autonomous Systems With one Degree of Freedom for the Case of Arbitrary Real Roots for the Equation of Fundamental Amplitudes (Postroyeniye periodicheskikh resheniy avtonomnykh sistem s odnoy stepen'yu svobody v sluchaye proizvol'nykh veshchestevennykh korney uravneniya osnovnykh amplitud)

PERIODICAL: Prikladnaya matematika i mekhanika,1958,Vol 22,Nr 4, pp 510 - 518 (USSR)

ABSTRACT: The method for the construction of periodic solutions of autonomeous systems with one degree of freedom has been sufficiently explicitly elaborated for the case that the roots of the defining amplitude equations are simple and do not vanish. In the present note the special case is considered that the roots of the amplitude equations which are assumed as real and nonnegative can be multiple roots too.

The author considers a non-linear oscillating system of one degree of freedom, the differential equation of which possesses the general form :

(1.1) $$\ddot{x} + k^2 x = \mu f(x, \dot{x}, \mu) \ .$$

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The Construction of Periodic Solutions of Autonomous Systems With one Degree of Freedom for the Case of Arbitrary Real Roots for the Equation of Fundamental Amplitudes

SOV/40-22-4-12/26

The function f is assumed to be analytic with respect to its arguments. μ is a small parameter. The solution of the basic equation is sought according to the method of the small parameter. Here it is assumed as initial condition :

(1.4) (1.3) $x(0) = A_0 + \beta \quad ; \quad \dot{x}(0) = 0$

Here β is a function of the small parameter μ which vanishes, if it holds $\mu = 0$. Under the given assumptions the solution has the form :

$$x = x(t, \beta, \mu)$$

x is expanded into a series, and the whole paper consists in a discussion of the coefficients occurring in this expansion.

The application of the very complicated method is illustrated by two simple examples.
There are 2 Soviet references.

SUBMITTED: April 15, 1958

Card 2/2

PROSKURYAKOV, A.P. (Moscow)

Investigating the solution stability of a linear differential equation of the second order with periodic coefficients. Prikl. mat. i mekh. 22 no.2:250-253 Mr-Ap '58. (MIRA 11:7)
(Differential equations, Linear)

PROSKURYAKOV, A.P.; GORYAINOV, A.A., otvetstvennyy red.

[Longitudinal dynamic stability of gliders while being towed] Prodol'naia dinamicheskaia ustoichivost' planera na buksire. Izd-vo biuro nov. tekh. 1947. 24 p. (Moscow TSentral'nyi aero-gidrodinamicheskii institut. Trudy, no.606). (MIRA 11:4)
(Gliders (Aeronautics))

PROSKURYAKOV, A. P.

Kolebaniia lopasti avtozhira otnositel'no virtikal'nogo sharnira. Moskva, 1938. 58 p., diagrs. (TSAGI. Trudy, no. 379)

Title tr.: Autogiro rotor blade oscillations in respect ot the vertical hinge.

QA911.M65 no. 379

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

PROSKURYAKOV, A.P.

PROSKURYAKOV, A.P. (Moskva).

Periodic solutions for autonomic systems with one degree of freedom.
Prikl. mat. i mekh. 21 no.4:585-590 Jl-Ag '57. (MIRA 10:12)
(Oscillations)

PROSKURYAKOV, A.P.

Correction to the article of A.P. Proskuriakov "Rotor theory at the zero angle of attack." Prikl. mat. i mekh. vol.20, no.4, 1956. Prikl. mat. i mekh. 20 no.6:772 N-D '56. (MLRA 10:8)
(Rotors)

PROSKURYAKOV A.P.

AUTHOR: PROSKURYAKOV, A.P. (Moscow) 40-4-21/24

TITLE: On the Determination of the Periodic Solutions of Autonomous Systems With one Degree of Freedom (K postroyeniyu periodicheskikh resheniy avtonomnykh sistem s odnoy stepen'yu svobody).

PERIODICAL: Prikladnaya Mat.i Mekh., 1957, Vol.21, Nr 4, pp.585-590 (USSR)

ABSTRACT: By combining van der Pol's method with that of the small parameter the author obtains by formal series eypansions the periodical solutions of the oscillatory equation

(1) $$\frac{d^2x}{dt^2} + k^2x = \mu f(x, \frac{dx}{dt}, \mu)$$

where f is assumed to be analytical and μ to be small. By the transformation $t = \frac{\tau}{k} h$ where h is a power series in μ the author passes from (1) to

(2) $$\frac{d^2x}{d\tau^2} + h^2x = \mu\frac{h^2}{k^2} f(x, \frac{k}{h} \frac{dx}{d\tau}, \mu)$$

and then according to van der Pol to the system

$$\frac{dx}{d\tau} = y \quad , \quad \frac{dy}{d\tau} = -h^2x + \mu\frac{h^2}{k^2} f(x, \frac{k}{h} y, \mu) \; .$$

CARD 1/2

On the Determination of the Periodic Solutions of Autonomous Systems With one Degree of Freedom

40-4-21/24

Now van der Pol's variables are introduced:

$x(\tau) = a(\tau)\cos\tau + b(\tau)\sin\tau$, $y(\tau) = -a(\tau)\sin\tau + b(\tau)\cos\tau$

and the new system is solved by the series expansions

$a(\tau) = a_0(\tau) + \mu a_1(\tau) + \mu^2 a_2(\tau) + \ldots$

$b(\tau) = b_0(\tau) + \mu b_1(\tau) + \mu^2 b_2(\tau) + \ldots$

On the whole three approximations are calculated. The final results for $\ddot{x} + k^2 x = \mu(\alpha - \beta x^2)\frac{dx}{dt}$ (power-supply voltage in a tube generator) are

$$x(\tau) = A_0\cos\tau + \frac{\alpha A_0}{8k}(3\sin\tau - \sin 3\tau)\mu + \frac{\alpha^2 A_0}{16k^2}(-\cos\tau + \frac{3}{2}\cos 3\tau - \frac{5}{12}\cos 5\tau)\mu^2 + \ldots$$

$$T = \frac{2\pi}{k}\left(1 + \frac{1}{16}\frac{\alpha^2}{k^2}\mu^2 + \ldots\right), \text{ where } A_0^2 = \frac{4\alpha}{\beta}$$

SUBMITTED: April 15, 1957

AVAILABLE: Library of Congress

CARD 2/2

PROSKURYAKOV, A.V., kand.tekhn.nauk; BELOVA, L.D., inzh.

Characteristics of technical and economic calculations in small-lot production. Vest.mashinostr. 42 no.5:82-85 My '62. (MIRA 15:5)

(Industrial management)

ABRAMOV, Yu.A., inzh.; PROSKURYAKOV, A.V., kand. tekhn. nauk, dotsent

Using mathematical methods in planning operations for the production of a wide range of articles. Vest. mashinostr. 45 no.7:74-77 Jl '65. (MIRA 18:10)

LISICHKINA, S.M., obshchiy red.; TOMASHPOL'SKIY, L.M., obshchiy red.; CHUTKERASHVILI, Ye.V., obshchiy red.; KARYAGIN, I.D., red.; KIR'YANOVA, Z.V., red.; MATVEYEV, P.V., red.; MOTORIN, A.I., red.; POPOV, I.V., red.; POPOV, N.N., red.; PROSKURYAKOV, A.V., red.; SOKOLOV, Yu.S., red.; STUPOV, I.D., red.; BELYAVSKIY, A.M., red.; GRAZHUL', V.S., red.; DANILOV, N.N., red.; RAKHMANINOV, G.I., red.; SHEVCHENKO, G.A., tekhn.red.

[Development of the national economy of the German Democratic Republic] Razvitie narodnogo khoziaistva Germanskoi Demokraticheskoi Respubliki. Moskva, Proizvodstvenno-izdatel'skii kombinat VINITI, 1959. 906 p. (MIRA 13:4)

1. Akademiya nauk SSSR. Institut nauchnoy informatsii.
(Germany, East--Economic conditions)

PROSKURYAKOV, A.V.; CHERNYSHEV, V.M., inzh., retsenzent; SAKSAGANSKIY, T.D., inzh., red.; PETUKHOVA, G.N., red.izd-va; GORDEYEVA, L.P., tekhn. red.

[Technical and economic bases for the standardization of machine-tool attachments] Tekhniko-ekonomicheskie osnovy normalizatsii i unifikatsii prisposoblenii. 2. izd., perer. i dop. Moskva, Mashgiz, 1963. 189 p. (MIRA 17:2)

PROSKURYAKOV, A.V.

Efficiency of the unit assembly of technological equipment.
Standartizatsiia 29 no.6:28-31 Je '65. (MIRA 18:12)

FROLKOVSKIY A V

PHASE I BOOK EXPLOITATION SOV/3857

Moscow. Dom nauchno-tekhnicheskoy propagandy imeni F. E. Dzerzhinskogo

Vysokoproizvoditel'naya tekhnologicheskaya osnastka (High-Productivity Auxiliary Processing Equipment) Moscow, Mashgiz, 1960. 174 p. 8,000 copies printed.

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

Ed. (title page): V. V. Kuz'min; Ed. (inside book): S. L. Martens; Tech. Ed.: L. P. Gordeyeva; Managing Ed. for Literature on Metal-working and Machine-Tool Construction (Mashgiz): V. V. Rzhavinskiy, Engineer.

PURPOSE: This collection of articles is intended for technical personnel engaged in the development of auxiliary equipment for metal processing.

COVERAGE: This collection contains articles dealing with modern machine-tool auxiliary equipment, methods of manufacture, and data on the introduction of such equipment into production. The engineering and

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economic aspects of the use of standardized auxiliary equipment are also discussed. No personalities are mentioned. References follow each article.

TABLE OF CONTENTS:

PROSKURYAKOV, Andrey Vladimirovich; MEL'NIKOV, M.F., inzh., retsenzent; TSIKURIN, B.V., kand.tekhn.nauk, retsenzent; AVRUTIN, S.V., dotsent, red.; BARYKOVA, G.I., red.izd-va; SMIRNOVA, G.V., tekhn.red.

[Technological and economic bases for standardizing and universalizing machine-tool attachments] Tekhniko-ekonomicheskie osnovy normalizatsii i universalizatsii prisposoblenii. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 159 p. (MIRA 12:12)
(Machine tools--Attachments)

LISICHKIN, S.M., doktor ekonom.nauk, glavnyy red.; PROSKURYAKOV, A.V., kand.tekhn.nauk, red.; ARUTYUNOV, N.B., red.; TOMASHPOL'SKIY, L.M., red.; POPOV, I.V., kand.ekonom.nauk, red.; CHUTKERASHVILI, Ye.V., kand.ekonom.nauk, red.; DENISOVA, L.L., red.; DOBRITSYNA, R.I., tekhn.red.

[Belgium; brief economic-statistical survey] Bel'giia; kratkii ekonomiko-statisticheskii obzor. Moskva, 1959. 125 p. (MIRA 12:11)

1. Akademiya nauk SSSR. Institut nauchnoy informatsii. 2. Vsesoyuznyy tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii (TsNII Chermet) (for Arutyunov).
(Belgium--Economic conditions)

PROSKURYAKOV, A.V., kand.tekhn.nauk

Reducing the time needed for mastering new machines. Vest.mash. 39 no.3:83 Mr '59. (MIRA 12:4)

1. Po materialam Odesskogo soveshchaniya konstruktorov i tekhnologov.

(Machine-shop practice)

BOGATYREV, Vladimir Nikolayevich; BONDARENKO, A.K., inzh., retsenzent; PROSKURYAKOV, A.V., kand. tekhn. nauk, red.; ANTIPOV, V.P., red. izd-va; DOBRITSINA, R., tekhn. red.

[Selection of an economic process for machining parts in machinery plants] Vybor ekonomicheskogo protsessa mekhanicheskoi obrabotki detalei na mashinostroitel'nykh zavodakh. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 71 p. (MIRA 15:3)

(Machinery industry)

SOV/122-59-3-30/42

AUTHOR: Proskuryakov, A.V., Candidate of Technical Sciences

TITLE: Ways of Accelerating the Familiarisation Cycle with New Machines (Puti sokrashcheniya tsikla osvoyeniya novykh mashin)

PERIODICAL: Vestnik Mashinostroyeniya, 1959, Nr 3, p 83 (USSR)

ABSTRACT: A Conference, called at the end of 1958 by the Odessa Region Administration of the Scientific and Technical Division of the Mechanical Engineering Industry (Odesskoye oblastnoye pravleniye NTOMashprom), the Odessa Economic Council (Sovnarkhoz) and the Odessa House of Scientists (Odesskiy Dom Uchenykh), assembled designers and production engineers and was devoted to problems of the technical preparation for production. Miroshnichenko, K.P., Engineer, of the Odessa Economic Council, emphasised the importance of concentrating the best engineering and scientific forces in design offices. The Economic Council therefore transferred several of its specialists to design offices. In some instances, it is appropriate to entrust identical technical assignments to two design offices of similar nature in order to choose the best solution. Design offices should include

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Ways of Accelerating the Familiarisation Cycle with New Machines

specialists in physics. S.M. Yampol'skiy, Candidate of Technical Sciences, Lecturer of the Odessa Polytechnic Institute (Odesskiy Politekhnicheskiy Institut) formulated the main trends in accelerating the creation of new techniques and improving their economic effectiveness. The planning of the technical development of all branches of production must be improved. Home and foreign experience in the fields of design, production methods, and production organisation must be better utilised in adopting new machines. Projects should envisage wider prospects and be conceived as an integrated system of machinery. Standardisation should be widely applied. In turbine construction particularly standardisation and unit construction principles have already greatly reduced the period of project design and production. L.Ya. Shukhgal'ter, Candidate of Technical Sciences, Lecturer, of Moscow, and Bartashev, L.V., Candidate of Technical Sciences, Lecturer, of Odessa, devoted papers to the problems of economics in the work of the designer and the production engineer. The

Ways of Accelerating the Familiarisation Cycle with New Machines

creation of new entities can be of full value and effectiveness only if their design is based on and verified from the point of view of the National Economy. A system of functional criteria should be established for each type of machine by means of which the operational merit of each new machine must be proved during the project stage. At the same time, the most important manufacturing aspects of the new machine must be established, such as the selection in the method of obtaining blanks, the type of machining, the organisation of partial and complete assembly. Problems of reducing the weight of a machine must be considered. At each stage the economic properties of the machine must be examined with greater refinement. F.L. Kopelev, of Odessa, showed how, by analysis of many dozens of present-day designs of home and foreign produced radial drills, a mathematical relation was found between the weight and the basic specification of the machine. Investigations, carried out on a number of machines, show that a general procedure for determining the basic specification can be established

Ways of Accelerating the Familiarisation Cycle with New Machines

and the relations between the weight and the basic quantities can be found. Relations between other criteria apart from the weight and the basic dimensions can also be obtained by statistical methods. A.V. Proskuryakov, of Moscow, considered the principles of selection of an economic system of fixtures depending on the production quantity. The difference between the savings achieved by fixtures and the annual expenditure on the fixtures determines their economic effectiveness. An analytical variation of the magnitude of the annual expenditure and of the savings which depend on production quantities makes it possible to find analytically or graphically the appropriate limits of utilising tooling of different systems, including universally adaptable and universal unit assembled fixtures. Bogakovskiy, Ya.M. of Odessa, emphasised that universally adaptable and universal unit-constructed tooling finds increasing use in Odessa Plants. The re-setting of equipment permits drastic savings in auxiliary time in small batch and medium batch production, where the use of special

Ways of Accelerating the Familiarisation Cycle with New Machines

fixtures is often unjustified. Erlikh, L.B., Candidate of Technical Sciences, of Odessa, dwelt on the problems of creating a system of criteria which determine the technical level of machines newly created. The tendencies in the changes in these criteria due to technical progress, which can be graphically presented, must be the basis of setting tasks to enterprises concerned with the improvement of the technical quality of the machines produced, in the same way as tasks are set to reduce the cost or to increase the productivity of labour. The introduction of such criteria will make it possible to plan technical progress and will guide the designer in the improvement of existing and the creation of new designs.

Card 5/5

PROSKURYAKOV, A. V.

Increasing Labor Productivity in Machine Buidling (Voprosy povysheniya proiavoditel'nosti truda v mashinostroenii) Gosudarstvennoye nauch-tekh. izdat. mashinostroitel'. literatury, Moscow, 1957 511 pp.
(Table of Contents authors below)

This collection presents a comparative tech. and economic analysis of most effective methods and industrial processes for obtaining high labor productivity in machine building. Output may be stepped up by further standardization of machine tools, materials, and production methods; drawing on unused potentials. Covers all stages of planning and production as performed in modern plants of USSR, actual experience, and new methods are discussed.

PROSKURYAKOV, A. V., "Technical and Economic Factors in Selecting Tooling Accessories," p. 208.

PROSKURYAKOV, A.V.

122-5-24/35

AUTHOR: Proskuryakov, A.V. (Cand.Tech.Sc.)

TITLE: The Technical and Economic Foundations for the Choice of Fixtures. (Tekhniko-ekonomicheskiye osnovy vybora prisposobleniy)

PERIODICAL: Vestnik Mashinostroyeniya, 1957, Nr 5, pp.70-75 (USSR)

ABSTRACT: The replacement of special fixtures by those assembled of standard elements is practised successfully in three ways distinguished as the "assembled unit type fixtures", the "universal adaptor fixtures" and the "complex universal adaptor fixtures with power actuators". The first system is associated with V.S.Kuznetzov and V.A.Gonomarev.("Assembled unit type fixtures in mechanical engineering manufacture", Trudrezervizdat, 1951). Second and third grades of accuracy are achieved, ten years service is normal for individual units. Assemblies are put together from office-prepared sketches by machine setters. The second group is described with some examples as embodied by universal fixtures with individual adaptor, e.g., vice with interchangeable jaws. The principles for selecting the type of fixture equipment most economic for a given production run are discussed. Expressions of machining cost in its relation to number of details, annual number of batches, the service life of a

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122-5-24/35

The Technical and Economic Foundations for the Choice of Fixtures.

fixture, its design cost and other factors are set up. A graph constructed on the basis of shop information shows typical regions for the use of the three classes of fixture equipment.
There are 8 illustrations, including 3 photographs and 4 graphs.

AVAILABLE: Library of Congress.

Card 2/2

PROSKURYAKOV, A.V., otvetstvennyy redaktor.

[Index of patent classes and certificates of authorship issued in the U.S.S.R. with their division into subclasses, groups, and subgroups] Ukazatel' klassov patentov i avtorskikh svidetel'stv vydavaemykh v SSSR s podrazdeleniem ikh na podklassy, gruppy i podgruppy. Otvetstvennyi redaktor A.V.Proskuriakov. [n.p., n.d.] 689 p. [Photostat] (MLRA 8:2)
(Patents--Classification)

PROSKURYAKOV, A. V.

PROSKURYAKOV, A. V.--"Technical-Economic Problems of Standardization of Adaptations for Mechnaical Processing." Min Higher Education USSR. Moscow Order of Lenin and Order of Labor Red Banner Higher Technical School imeni Bauman. Moscow, 1955. (Dissertation for the Degree of Candidate in Technical Science).

SO Knizhanay letopis'
No 2, 1956

BOGATYREV, Vladimir Nikolayevich; BONDARENKO, A.K., inzh., retsenzent; PROSKURYAKOV, A.V., kand. tekhn., red.; ANTIPOV, V.P., red. izd-va; DOBRITSYNA, R., tekhn. red.

[Selecting an efficient procedure for machining parts at machinery plants] Vybor ekonomichnogo protsessa mekhanicheskoi obrabotki detalei na mashinostroitel'nykh zavodakh. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit.lit-ry, 1961. 71 p. (MIRA 14:11)
(Machinery industry—Management)

PROSKURYAKOV, Boris Nikolayevich; CHERTOK, Mark Semenovich; DUBROVSKIY, Z.M., redaktor; OTOCHEVA, M.A., redaktor izdatel'stva; KONYASHINA, A., tekhnicheskiy redaktor

[Concise manual on streetcars] Kratkii spravochnik po tramvainym vagonam. Moskva, Izd-vo Ministerstva kommunal'nogo khoziaistva RSFSR, 1956. 205 p. (MLRA 9:10)
(Street railways--Cars)

PROSKURYAKOV, B.V., doktor tekhnicheskikh nauk.

Heat calculations of a freezing well in filtering soils. Izv.VNIIG no.45:3-16 '51. (MLRA 10:3)
(Frozen ground)

SOV-98-58-9-17/21

AUTHORS: Proskuryakov, B.V. and Stol'nikov, V.V., Doctors of Technical Sciences and Borovoy, A.A., Engineer

TITLE: Hydraulic Engineering Works in Turkey (Gidrotekhnicheskoye stroitel'stvo v Turtsii)

PERIODICAL: Gidrotekhnicheskoye stroitel'stvo, 1958, Nr 9, pp 48 - 50 (USSR)

ABSTRACT: The authors describe dams already existing in Turkey and those now under construction. Turkey's economic dependence on foreign capital is stressed. There are 4 diagrams and 1 photo.

1. Dams--Turkey 2. Economic conditions--Turkey

Card 1/1

SHAMOV, Grigoriy Ivanovich, prof., doktor tekhn.nauk [deceased];
PROSKURYAKOV, B.V., prof., doktor tekhn.nauk, otv.red.;
YASNOGORODSKAYA, M.M., red.; BRAYNINA, M.I., tekhn.red.

[River sediments, their regimen, calculation and measurement methods] Rechnye nanosy; rezhim, raschety i metody izmerenii. Izd.2., ispr. i dop. Leningrad, Gidrometeor.izd-vo, 1959. 377 p. (MIRA 12:8)
(Rivers) (Sedimentation and deposition)

GONCHAROV, Vitaliy Nikolayevich; PROSKURYAKOV, B.V., otv. red.; SHATILINA, M.K., red.; BRAYNINA, M.I., tekhn. red.

[Dynamics of channel streams] Dinamika ruslovykh potokov. Leningrad, Gidrometeoizdat, 1962. 373 p. (MIRA 15:7)
(Stream measurement)

NOVIKOV, I.T.; NEPOROZHNIY, P.S.; GINZBURG, S.Z.; BELYAKOV, A.A.; ERISTOV, V.S.; VOZNESENSKIY, A.N.; IVANTSOV, N.M.; BOROVOY, A.A.; TERMAN, I.A.; ALEKSANDROV, B.K.; YURINOV, D.M.; NOSOV, R.P.; MIKHAYLOV, A.V.; NICHIPOROVICH, A.A.; ABELEV, A.S.; PROSKURYAKOV, B.V.; MENKEL', M.F.; KRITSKIY, S.N.; BELYY, L.D.

Mikhail Evgen'evich Knorre. Gidr. stroi. 32 no.5: My '62. (MIRA 15:5)

(Knorre, Mikhail Evgen'evich, 1876-1962)

PROSKURYAKOV, G.V., Inzh.

Determination of expenditure coefficients and emission angles of the blade apparatus of axial-flow gas turbines. Teploenergetika 11 no.9:16-19 S '64. (MIRA 18:8)

1. Ural'skiy turbomotornyy zavod.

KOVALEVSKIY, M.M., inzh.; PROSKURYAKOV, G.V., inzh.; REVZIN, B.S., inzh.; GRECHUKHIN, Ye.M., inzh.; SOROKIN, G.N., kand. tekhn. nauk; TYRYSHKIN, V.G., kand. tekhn. nauk

Results of the heat tests of the GT-6-750-TMZ gas turbine operating on liquid fuel. Energomashinostroenie 11 no.4: 1-5 Ap '65. (MIRA 18:6)

L 50345-65 EPA/EWT(m)/EPF(n)-2/EWP(f)/EPR/T-2/EWP(t)/EPA(bb)-2/EWP(b)
Paa-4/Pa-4 JD/WW

ACCESSION NR: AP5013268 UR/0114/65/000/005/0014/0017

AUTHOR: Proskuryakov, G. V. (Engineer) 32 B

TITLE: Selection of optimum degree of reaction of a gas turbine stage with shroudless blades 16

SOURCE: Energomashinostroyeniye, no. 5, 1965, 14-17

TOPIC TAGS: gas turbine, shroudless blading, reaction degree, turbine design

ABSTRACT: The degree of reaction of gas turbines is an important parameter determining the efficiency and also the dimensions and levels of operational temperatures of turbine parts. These requirements are often contradictory. The problem of a gas turbine designer is to decide what cross section of the turbine blade should be con-

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L 50345-65

ACCESSION NR: AP5013268

O

the following conclusions have been reached: 1) In selecting the optimum degree of reaction, the cross section on the mean diameter of the stage should be taken as an initial parameter. In this cross section the degree of reaction depends only on the exit angle α. 2) The degree of reaction at the rotor blade roots, corresponding to the optimum value on the mean diameter, varies from 0 to 0.35—0.40 and should be selected in accordance with $\alpha_{1к}$ at the wheel hub and D_{av}/l (ratio of the mean diameter and the blade length). 3) The use of a small negative degree of reaction at the rotor blade roots may sometimes be expedient (e.g., at $D_{av}/l < 3$), but requires an experimental verification of the stage. 4) For blading whose swirl does not meet the condition $C_u r = \text{const}$, $C_a = \text{const}$, the exit angle should be determined analytically using the equation given. 5) The results

art. has: 9 formulas and 3 figures. (AC)

ASSOCIATION: none

Card 2/3

L 50345-65

ACCESSION NR: AP5013268

SUBMITTED: 00 ENCL: 00 SUB CODE: PR

NO REF SOV: 013 OTHER: 004 ATD PRESS: 4007

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001343310012-3

mee

Card 3/3

ACCESSION NR: AP4044558 S/0096/64/000/009/0016/0019

AUTHOR: Proskuryakov, G. V. (Engineer)

TITLE: The problem of determining discharge coefficient and discharge angle from gas turbine blade sections

SOURCE: Teploenergetika, no. 9, 1964, 16-19

TOPIC TAGS: turbine, turbine rotor, gas discharge, compressible fluid, blade profile/ turbine GT 6 750, TsND stage, turbine GTK 10

ABSTRACT: The discharge characteristics of gas turbine blades were studied analytically for a final adjustment in the circulation system of the turbine GT-6-750 of the Ural Turbomotor Factory. Since the blade profile and secondary loss mechanisms $\zeta_{пр}$ and $\zeta_{вт}$ were known, a flow discharge coefficient was computed according to the formula

$$\varphi_p = 1 - 0{,}5H_0(\zeta_{пр} + \zeta_{вт}),$$

where

$$H_0 = (1{,}3 - 1{,}4)(1 + 0{,}3M_2^2), \quad (M\text{- Mach number}),$$

and an expression was derived for the discharge angle given by

$$\beta_2 = \operatorname{arctg}\left(\operatorname{tg}\gamma_{выход} \cdot \frac{D_1 - l}{\pi l / b_a}\right).$$

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ACCESSION NR: AP4044558

These results were then checked with rotating model stage measurements with satisfactory results. The analysis assumes an incompressible potential flow in the blade profiles for $M_2 << M_{critical}$. For $M_2 > 0.6$ compressibility effects are included together with viscous terms, and the solution is carried out numerically on digital computers. Orig. art. has: 11 formulas and 4 figures

ASSOCIATION: Ural'skiy turbomotornyy zavod (Ural Turbomotor Factory)

SUBMITTED: 00 ENCL: 00

SUB CODE: PR NO REF SOV: 006 OTHER: 000

Card 2/2

PROSKURYAKOV, G. V.

"Manual and Machine Oxyten Cutting."

[Paper presented at the Sverdlovsk Regional Conference on Gas-Flame Metal Working and Electric-Gas Processes, Sverdlovsk, 14-16 May 1958, Sponsored by VNIIAvtogen.

L 21922-66 EWT(m)/ETC(m)-6/T/EWP(t) WW/WE

ACC NR: AP6014623 SOURCE CODE: UR/0114/65/000/004/0001/0005

AUTHOR: Kovalevskiy, M. M. (Engineer); Proskuryakov, G. V. (Engineer); Revzin, B. S. (Engineer); Grechukhin, Ye. M. (Engineer); Sorokin, G. N. (Candidate of technical sciences); Tyryshkin, V. G. (Candidate of technical sciences)

69
68
8

ORG: none

TITLE: Results of the gas turbine heat tests at the GT-6-750 TMZ liquid fuel plant

SOURCE: Energomashinostroyeniye, no. 4, 1965, 1-5

TOPIC TAGS: gas turbine, thermometer, resistance thermometer, tachometer, wattmeter, monometer, turbine compressor

ABSTRACT: The article presents the results obtained in the final stage of thermotechnical testing of the 6 megawatt gas turbine installation in the plant. A schematic diagram of the measuring set-up and instrumentation is shown: it consisted essentially of a mercury thermometer, a resistance thermometer, a manometer, a standard manometer, a tachometer and a laboratory wattmeter. At a temperature of 760°C before the high-pressure stage and with 6 MW output at 6200 rpm, the efficiencies were 86.5% for the high-pressure stage (89.5% design value) and 91.6% for the low-pressure stage (90.5% design value). All the equations are shown for calculating power losses, heat balance and efficiencies. The compressor was also tested at the same time. The results are presented in the form of curves. These show the overall perfor-

UDC: 621.438.001.41

Card 1/2

L 21922-66

ACC NR: AP6014623

mance characteristics, namely the temperature and compression ratio as functions of output power under optimum conditions of the high-pressure stage operation, also the output power as a function of speed at various fuel rates. The results are compared with those of previous preliminary tests and original design values. The analysis of test data provide a clue for possible improvements of the gas turbine performance. Orig. art. has: 5 figures, 9 formulas and 1 table. [JPRS]

SUB CODE: 21 / SUBM DATE: none / ORIG REF: 001

Card 2/2 nst

ACC NR: AP6023321 (A,N) SOURCE CODE: UR/0114/66/000/004/0036/0037

AUTHOR: Proskuryakov, G. V. (Engineer)

ORG: none

TITLE: The number of individual stages in stationary gas turbines

SOURCE: Energomashinostroyeniye, no. 4, 1966, 36-37

TOPIC TAGS: turbine stage, turbine design, gas turbine

ABSTRACT: In modern gas turbines with 4 to 8 pressure reduction stages, the specific volume of the gas varies from 3 to 5 times between the first and last stages. Under these conditions, to attain maximum efficiency, each stage must have its optimum rpm, optimum isentropic drops, and optimum parameters (degree of reactivity, angle α_1, ratio u/c_0). The required magnitude of the ratio u/c_0 can be determined by the equation:

$$\frac{u}{c_0} = \frac{1}{a}(\sqrt{b^2 + ac} - b). \qquad (1)$$

Card 1/3 UDC: 62-181.621.438.004.154

where

$$a = \frac{1}{\psi^2\left(\cos\beta_2 - \frac{\sin\beta_2}{\operatorname{tg}\alpha_2}\right)^2} - 1; \qquad (1a)$$

$$b = \varphi\sqrt{1-\varrho}\cos\alpha_1; \qquad (1b)$$

$$c = \varrho + \varphi^2(1-\varrho). \qquad (1c)$$

Figure 1 illustrates the change in the ratio u/c_0 and the weight of the turbine rotor as a function of the angle α_2 assumed in the stages.

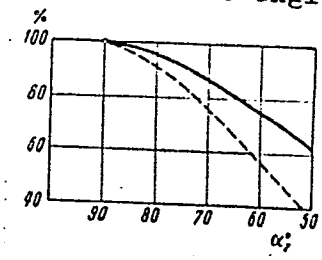


Fig. 1. Effect of the value of angle α_2 on the ratio u/c_0 and the size of the turbine: ——change in u/c_0; - - - change in weight of the rotor forging; stage parameters: $\alpha_1 = 20^0$; $\varrho = 30\%$; $\beta_2 = 30^0$

Card 2/3

ACC NR: AP6023321

The results of calculations based on the above assumptions are shown graphically. One curve illustrates the effect of the angle of attack on the efficiency of a turbine, and a second curve shows the effect of peripheral undercutting on the efficiency of turbine stages. Orig. art. has: 4 formulas and 3 figures.

SUB CODE: 13 / SUBM DATE: none/ ORIG REF: 005/ OTH REF: 001

Card 3/3 bia

L 22733-66 EWT(d)/EWT(m)/EWP(v)/EWP(t)/EWP(k)/EWP(h)/EWP(l) IJP(c) JD/HW

ACC NR: AP6002860 SOURCE CODE: UR/0286/65/000/024/0014/0014

AUTHOR: Proskuryakov, G. V.

ORG: none

TITLE: Mechanism for strip bending. Class 7, No. 176861

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 14

TOPIC TAGS: metalworking machinery, sheet metal bender, metal bending, bending machine

ABSTRACT: This Author Certificate presents a mechanism for strip bending. It includes a stationary case for clamping one end of the blank and a rotary mechanism for bending the free end of the blank. To obtain a smaller radius of curvature than is possible in normal bending, the bending mechanism is designed in the form of a rotary body in which two clamping plates and an adjustable support are mounted to form a closed chamber for upsetting the strip during the bending process. The body axis of rotation is displaced with respect to the center of the bending radius.

SUB CODE: 13/ SUBM DATE: 25Oct63

Card 1/1 ULR

UDC: 621.981.1

ACC NR: AP6033446 SOURCE CODE: UR/0413/66/000/018/0021/0021

INVENTOR: Proskuryakov, G. V.; Vozhdayev, Ye. A.; Terent'yev, A. A.; Kulikova, L. P.

ORG: None

TITLE: A method for bending sectional profiles from sheet stock. Class 7, No. 185827

SOURCE: Izobret prom obraz tov zn, no. 18, 1966, 21

TOPIC TAGS: sheet metal, metal bending, bending machine

ABSTRACT: This Author's Certificate introduces a method for bending sectional profiles from sheet stock. Cross sections with internal bending radii close to zero are produced from material with low ductility by additional bending with the application of compressive force to shelves on the prebent profile along lines which are normal and tangent to the central axis of the cross section.

SUB CODE: 11, 13/ SUBM DATE: 21Oct63

Card 1/1 UDC: 621.981.1

TARASENKO, Natal'ya Yuvenal'yevna; PROSTAKOVA, Iraida Grigor'yevna; RYNKOVA, Nina Nikolayevna; BURNAZYAN, A.I., red.; NOVIKOV, Yu.V., red.; ZUYEVA, N.K., tekhn.red.

[Industrial hygiene at atomic electric stations] Gigiena truda pri rabote na atomnykh elektrostantsiiakh. Pod red. A.I.Burnaziana. Moskva, Gos.izd-vo med.lit-ry, Medgiz, 1960. 151 p. (MIRA 14:3)

(ATOMIC POWER PLANTS--HYGIENIC ASPECTS)

PROSKURYAKOV, I.I. and KHOLOPOVA, L.S.

Reciprocal action of ascorbic acid and vegetal amylases of various origin.

Biokhimiya, Vol. 17, No.5, pp 578, 1952.

PROSKURYAKOV, I. V.

Topology

Theory of the dimension of topologic space; Uch. zap. Mosk. un. no. 148, 1951.

9. Monthly List of Russian Accessions, Library of Congress, May 1958. Unclassified.

Proskuryakov, I. V.

Proskuryakov, I. V. Construction of the spectrum of a compact space containing a given topological space of the same dimension. Mat. Sb. N.S. 39(81) (1956), 219–238. (Russian)

The note contains new proofs of some well-known results of dimension theory. A construction is given, for any separable metrizable n-dimensional R, of a sequential spectrum [in the sense of P. Alexandroff, Ann. of Math. (2) 30 (1928), 101–187] defining an n-dimensional compactum containing R. The question is raised of the possibility of modifying this construction, as well as P. Alexandroff's definition, so as to obtain R itself as a limit (in an appropriate sense) of the spectrum.

M. Katětov (Prague).

1-FW

2

PROSKURYAKOV, IGOR' VLADIMIROVICH

PROSKURYAKOV, Igor' Vladimirovich; FEDOROV, Yu.G., red.; TSVETKOV, A.T., red.; MURASHOVA, N.Ya., tekhn.red.

[A collection of problems in linear algebra] Sbornik zadach po lineinoi algebre. Moskva, Gos.izd-vo tkehniko-teoret. lit-ry, 1957. 368 p. (MIRA 11:2)
(Algebra--Problems, exercises, etc.)

16(1)
AUTHOR: Proskuryakov,I.V. SOV/42-14-1-19/27

TITLE: On a Property of the n-Dimensional Affine Space, Connected With the Theorem of Helly (Ob odnom svoystve n-mernogo affinnogo prostranstva, svyazannom s teoremoy Khelli)

PERIODICAL: Uspekhi matematicheskikh nauk,1959,Vol 14,Nr 1,pp 219-222(USSR)

ABSTRACT: The following theorem is proved: An arbitrary system of n+2 points of the n-dimensional affine space R_n can be decomposed into two non-empty subsystems without common points, the convex closures of which have a common point. For the uniqueness of the decomposition it is necessary and sufficient that no k+1 points of the system lie in a (k-1)-dimensional plane (k = 1,2, ...,n). In this case the common point is determined uniquely and the decomposition is given as follows: two points of the system belong to the same or to different subsystems depending on the fact whether they lie on different or on one side of the (n-1)-dimensional plane defined by the remaining n points of the system.
From this theorem there follows the theorem of Helly [Ref 1]

Card 1/2

On a Property of the n-Dimensional Affine Space, Connected With the Theorem of Helly

SOV/42-14-1-19/27

on common points of convex sets. The author mentions variations of the proof of the theorem of Helly due to I.G.Dukor [Ref 4], M.A.Krasnosel'skiy [Ref 5], I.M.Yaglom and V.G.Boltyanskiy [Ref 6].
There are 7 references, 3 of which are Soviet, 3 German, and 1 Italian.

SUBMITTED: September 25,1957

Card 2/2

MISHINA, A.P.; PROSKURYAKOV, I.V.; RASHEVSKIY, P.K., red.; LYUSTERNIK, L.A., red.; YANPOL'SKIY, A.R., red.; LATYSHEV, V.N., red.

[Higher algebra; linear algebra, polynomials, universal algebra] Vysshaia algebra; lineinaia algebra, mnogochleny, obshchaia algebra. Izd. 2., ispr. Moskva, Izd-vo "Nauka," 1965. 300 p. (MIRA 18:3)

PROSKURYAKOV , Igor' Vladimirovich; DOLGOPOLOV, V.G., red.

[Numbers and polynomials] Chisla i mnogochleny. Izd.2.
Moskva, Prosveshchenie, 1965. 283 p. (MIRA 18:4)

MISHINA, A.P.; PROSKURYAKOV, I.V.; LYUSTERNIK, L.A., red.;
YANPOL'SKIY, A.R., red.; RASHEVSKIY, P.K., red.;
LATYSHEV, V.N., red.; PLAKSHE, L.Yu., tekhn. red.

[Higher algebra; linear algebra, polynomials, universal algebra]Vysshaia algebra; lineinaia algebra, mnogochleny, obshchaia algebra. Pod red. P.K.Rashevskogo. Moskva, Fizmatgiz, 1962. 299 p. (MIRA 15:9)
(Algebra)

PROSKURYAKOV, Igor' Vladimirovich; SHIROKOVA, S.A., red.; LIKHACHEVA, L.V., tekhn. red.

[Collection of problems in linear algebra] Sbornik zadach po lineinoi algebre. Izd.2. Moskva, Gos. izd-vo fiziko-matem. lit-ry, 1962. 332 p. (MIRA 15:3)
(Algebras, Linear--Problems, exercises, etc.)

PRO[illegible], S.D., inzh.

Determination of the parameters of a self-oscillatory process in a steam generating channel. Izv.vys.uchteb.zav.; energ. 8 no.10:92-96 O '65. (MIRA 18:10)

1. Moskovskiy ordena Lenina energeticheskiy institut.

PROSKURYAKOV, K.N., inzh., dissertant

Natural vibrations in a single steam generating channel.
Teploenergetika 12 no.3:75-77 Mr '65. (MIRA 18:6)

1. Moskovskiy energeticheskiy institut.

DEMENT'YEV, Boris Aleksandrovich; PROSKURYAKOV, Konstantin Nikolayevich

[Transport and engineering equipment and the regueling of nuclear reactors] Transportno-tekhnologicheskoe oborudovanie i peregruzka iadernykh reaktorov; uchebnoe posobie dlia studentov spetsial'nosti "Proektirovanie i ekspluatatsiia atomnykh elektrostantii." Red. K.N. Proskuriakov. Moskva, Mosk. energ.in-t, 1961. 59 p. (MIRA 16:10)

(Nuclear reactors)

PROSKURYAKOV, K.N., inzh.

Some laws governing oscillatory processes in steam generating channels. Trudy MEI no.63:173-182 '65.
(MIRA 18:12)

ZIZIN, V.G.; PROSKURYAKOV, L.M.; YAKOVETS, V.V.; SHKLOVSKIY, Ya.A.

Continuous titrimeter for indicating the maximum hardness of water.
Trudy Bash NIINP no.5:296-298 '62. (MIRA 17:10)

PROSKURYAKOV, L.M.; SOBOLEV, A.S.

Automatic a.c. balanced bridge for chromatographic recording. (MIRA 17:5)
Trudy BashNII NP no.6:168-171 '63.

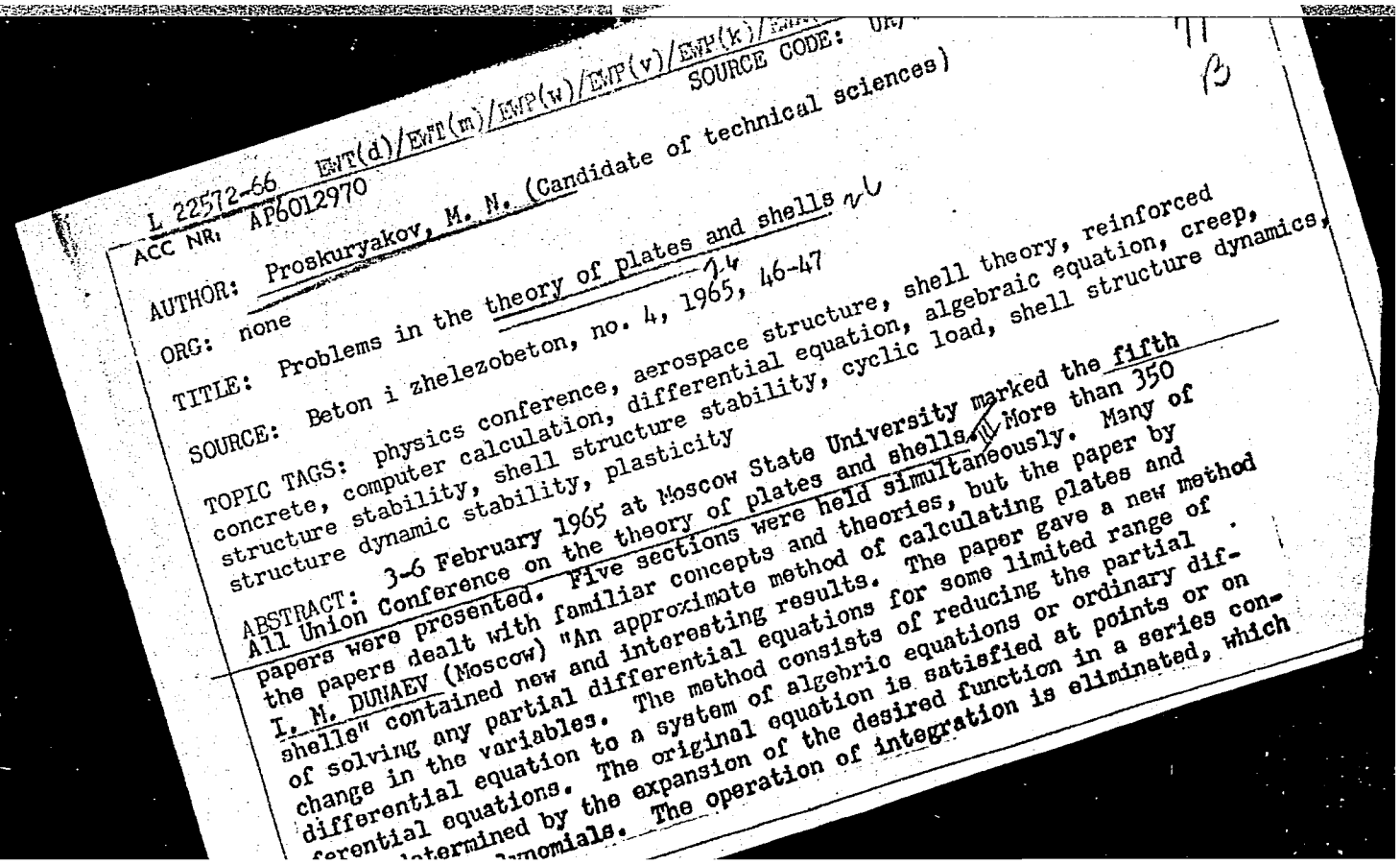
PROSKURYAKOV, L.M.; BURKIN, Yu.A.

Improving equipment for laboratory experiments. Trudy BashNII NP no.7:143-146 '64. (MIRA 17:9)

PROSKURYAKOV, L. V.

"New Demonstration of Equivalence of Two Determinations of Dimensionality of a Topological Space," Usp. Mat. Nauk Vol. 6 No. 4 (44), pp 193-220, 1951.

U-1635, 16 Jan 52



L 22572-66 EWT(d)/EWT(m)/EWP(w)/EWP(v)/EWP(k)/EWP(h) SOURCE CODE: UR/

ACC NR: AP6012970

AUTHOR: Proskuryakov, M. N. (Candidate of technical sciences)

ORG: none

TITLE: Problems in the theory of plates and shells

SOURCE: Beton i zhelezobeton, no. 4, 1965, 46-47

TOPIC TAGS: physics conference, aerospace structure, shell theory, reinforced concrete, computer calculation, differential equation, algebraic equation, creep, structure stability, shell structure stability, cyclic load, shell structure dynamics, structure dynamic stability, plasticity

ABSTRACT: 3-6 February 1965 at Moscow State University marked the fifth All Union Conference on the theory of plates and shells. More than 350 papers were presented. Five sections were held simultaneously. Many of the papers dealt with familiar concepts and theories, but the paper by I. N. DUNAEV (Moscow) "An approximate method of calculating plates and shells" contained new and interesting results. The paper gave a new method of solving any partial differential equations for some limited range of change in the variables. The method consists of reducing the partial differential equation to a system of algebric equations or ordinary differential equations. The original equation is satisfied at points or on [illegible] determined by the expansion of the desired function in a series con- [illegible] nomials. The operation of integration is eliminated, which

L 22572-66

ACC NR: AP6012970

2

is particularly important when solving equations with variable coefficients. Other papers presented interesting results on the design of reinforced concrete shells. Two type of reinforced materials were considered, -- laminated materials, and fibrous materials where the reinforcement consists of rigid filments or rods. The equations of equilibrium and the natural boundary conditions were derived from variational principles. The second section dealt with stability and nonlinear problems in the theory of plates and shells. A new method was presented for finding the upper critical loading, and an analysis was made of a new form of loss of stability, which gave a smaller value for the critical loading than had been known previously. The problem of the stability of reinforced concrete shells under condtions of linear creep was treated by the methods of the theory of stability of the motion. The papers in the third section dealt with the dynamics of shells and plates, touching mainly on machine and airplane construction (oscillations of plates and shells in a random force field and in a random acoustic pressure field, stability of shells containing a flowing liquid, etc.). Thirty papers were presented in the section of plasticity and creep of shells and plates. General problems were discussed, including a comparative analysis of methods of calculating plates and shells made of a nonlinearly elastic material, when operating at large displacements. A number of papers contained important results for the design of reinforced concrete shells, involving the method of limiting equilibrium. The latest achievements in the calculation of plates and shells including creep were widely represented. The fifth section dealt with problems in the structural mechanics of shells and plates, using digital computers. Results were presented of experimental

Card 2/3

L 22572-66

ACC NR: AP6012970

studies on reinforced concrete shells, including full-scale tests of 5 shells with spans from 18 to 75 m. In spite of the large number of papers, the theory of reinforced concrete plates and shells received limited treatment, and the papers dealing with the subject were mainly experimental. More attention must be given to theoretical studies of reinforced concrete shells using the methods of creep theory and limiting equilibrium. Work also needs to be done on the dynamics of reinforced concrete shells. [JPRS]

SUB CODE: 20 / SUBM DATE: none

Card 3/3 BK

PROSKURYAKOV, M.T.

Apparatus for cutting glass. Lab. delo 7 no.3:56-57 Mr '61.
(MIRA 14:3)

1. Kafedra biokhimii Kubanskogo meditsinskogo instituta.
(GLASS CUTTING—EQUIPMENT AND SUPPLIES)

/

SLAVYANSKIY, V.T., KRESTNIKOV, Ye. N., PROSKURYAKOV, M.V.

New method for analysing gases in glass. Stek. i ker. 17 no.6:29-33 Je '60. (MIRA 13:6)
(Glass)

PETROVSKIY, G. T.; KRESTNIKOVA, Ye. N.; GREBENSHCHIKOVA, N. I.; PROSKURYAKOV, M. V. 3

"Structural interpretation of the possibility of obtaining glass-crystalline materials."

report submitted for 4th All-Union Conf on Structure of Glass, Leningrad, 16-21 Mar 64.

15 (2)

AUTHORS: Slavyanskiy, V. T., Krestnikova, Ye. N., SOV/72-59-9-6/16
Proskuryakov, M. V.

TITLE: Investigation of Blister Formation During Glass-melting in a Vacuum

PERIODICAL: Steklo i keramika, 1959, Nr 9, pp 25 - 29 (USSR)

ABSTRACT: It has been established that there are two sources of blister formation in glass: gases which are contained in the pores of the ceramics and show a content of 80-90% nitrogen and 5-10% carbon dioxide and oxygen. These blisters can be reduced by reducing the corrosion and porosity of the refractory materials; the gases contained in the glass mass cannot be established as easily, since the gas composition within the blisters of non-ceramic origin differs considerably from the gases of the glass mass, as can be seen from the paper by V. T. Slavyanskiy (Footnote 1). During the reduction of temperature, oxygen and carbon dioxide are absorbed; the nitrogen, however, remains in the blisters, as established by V. V. Vargin and V. V. Pollyak (Footnote 2). The purpose of the present paper was to carry out the qualitative estimation of the gas contents in some optical borosilicate glass types. The melting tests of the glass under

Card 1/2

vacuum were carried out in a horizontal electrical furnace with a temperature drop of from 1200 to 700°. The furnace temperature was controlled by an automatic electronic potentiometer of the type EPD-17. The design of the furnace is shown in figure 1. The air exhaustion was obtained by a rotary oil pump of the type RVN-20, as can be seen from the scheme (Fig 2). Furthermore, the experiments with the optical glass types TK-10, BK-10, K-8, and F-8 are described in detail. The experimental results are shown in figures 3 to 6. Experiments were carried out in a platinum crucible to determine the influence of stirring up the glass types at 1400 and 1450°. The experimental results are shown in figures 7 and 8. In conclusion, the authors establish that blister formation in molten glass occurs possibly through over-saturation of the glass mass with gases. As shown by the experimental results, pressure variations in the industrial furnaces are of no influence on the blister formation in the glass. Various mechanical influences on the molten glass mass can, however, cause the formation of a great amount of blisters. There are 8 figures and 5 references, 4 of which are Soviet.

L 13559-66 EWP(e)/EWT(m)/EWP(b) GS/WH

ACC NR: AT6000500 SOURCE CODE: UR/0000/65/000/000/0327/0331

AUTHOR: Petrovskiy, G. T.; Krestnikova, Ye. N.; Grebenshchikova, N. I.; Proskuryakov, M. V.

ORG: None

TITLE: Structural interpretation of the possibility of creation of transparent glass-crystal materials in various systems

SOURCE: Vsesoyuznoye soveshchaniye po stekloobraznomu sostoyaniyu. 4th, Leningrad, 1964. Stekloobraznoye sostoyaniye (Vitreous state); trudy soveshchaniya, Leningrad, Izd-vo Nauka, 1965, 327-331

TOPIC TAGS: glass property, optic property, silicate glass

ABSTRACT: The authors survey ways for the creation of transparent glass-crystal materials and report some recent investigations of their own concerning 1) the experimental checking of the assumption that larger changes in glass viscosity above 660C can be explained by the inclusion of the bonds otherwise frozen in liquefaction groupings; 2) the feasibility of transparent glass ceramics formation in $Si\phi_2$-$Bi_2\phi_3$-$SrTi\phi_3$($BaTi\phi_3$, $PbTi\phi_3$), $Si\phi_2$-$Zn\phi$-$K_2\phi$ and $Si\phi_2$-$B_2\phi_3$-$Zn\phi$, and beryllium oxide-containing systems; and 3) the role of polar and nonpolar components in lithium-gallium silicate. All the results seem to confirm the previously proposed mechanism for the production of transparent glass-ceramic material (G. T. Petrovskiy, I. M. Buzhinskiy, OMP, 4, 31, 1963) which required the simultaneous presence of cations which

Card 1/2

L 13559-66
ACC NR: AT6000500

during the heat treatment of glass increase and decrease, respectively, their coordination number. The crystallization process is determined not only by the catalyzer content but also by the ratio between the polar and nonpolar components. Orig. art. has: 4 figures and 1 table.

SUB CODE: 11, 20 / SUBM DATE: 22May65 / ORIG REF: 005 / OTH REF: 001

Card 2/2

1. PROSKURYAKOV, N.

2. USSR (600)

4. Retail Trade

7. Extending credit to commercial enterprises for a period not exceeding average merchandise turnover. Sov. torg. No. 1, 1953.

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

PROSKURYAKOV, N.

Against automatic granting of commercial credit. Sov.torg. no.8:5-8 Ag '57. (MLRA 10:8)

(Credit)

PROSKURYAKOV, N.

Urgent questions regarding simplification of accounts. Sov. torg. no.5:19-23 My '58. (MIRA 11:5)
(Credit) (Banks and banking)

PROSKURYAKOV, N.

One cannot agree with this suggestion. Sov.torg. no.2:59-60 F '59. (MIRA 12:2)

(Retail trade--Finance)

PROSKURYAKOV, N.

Regulate the collection of receipts. Sov.torg. 33 no.6:30-33 Je '60. (MIRA 13:7)
(Banks and banking)

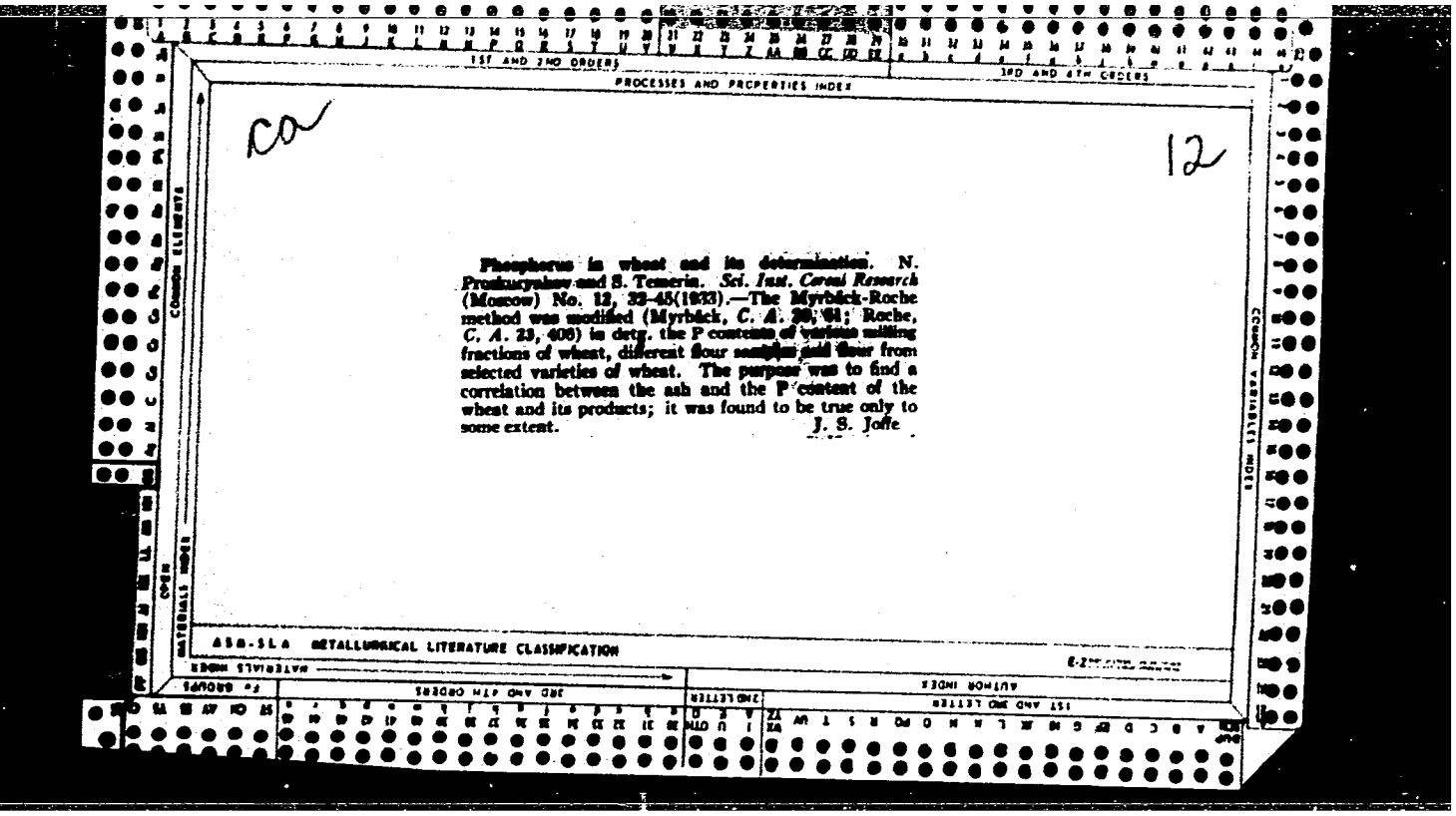
PROSKURYAKOV, N.F.; BIMAN, L.R.; BEKKER, L.G.

Improving the design of the RTP-192-2 roving frame. Tekst. prom. 19 no.12:35-36 D '59. (MIRA 13:3)

1. Direktor zavoda Tashtekstil'mash (for Proskuryakov). 2. Glavnyy inzhener Spetsial'nogo konstruktorskogo byuro tekstil'nykh mashin (for Biman). 3. Nachal'nik otdela rovnichnykh mashin Spetsial'nogo konstruktorskogo byuro tekstil'nykh mashin (for Bekker).
(Spinning machinery)

BORODIN, Mikhail Maksimovich; L'VOV, Sergey Vladimirovich; NEMIROVSKIY, Yevgeniy Il'ich; PROSKURYAKOV, Nikolay Aleksandrovich; CHULITSKIY, Lev Dmitriyevich; REBROVA, G.I., red.; LABAZINA, S.N., red. izd-va; GRECHISHCHEVA, V.I., tekhn. red.

[Work and wages for the workers of the forest economy and the lumbering industry]Trud i zarabotnaia plata rabotnikov lesnogo khoziaistva i lesnoi promyshlennosti. Moskva, Goslesbumizdat, 1962. 323 p. (MIRA 16:3)
(Wages--Forests and forestry)

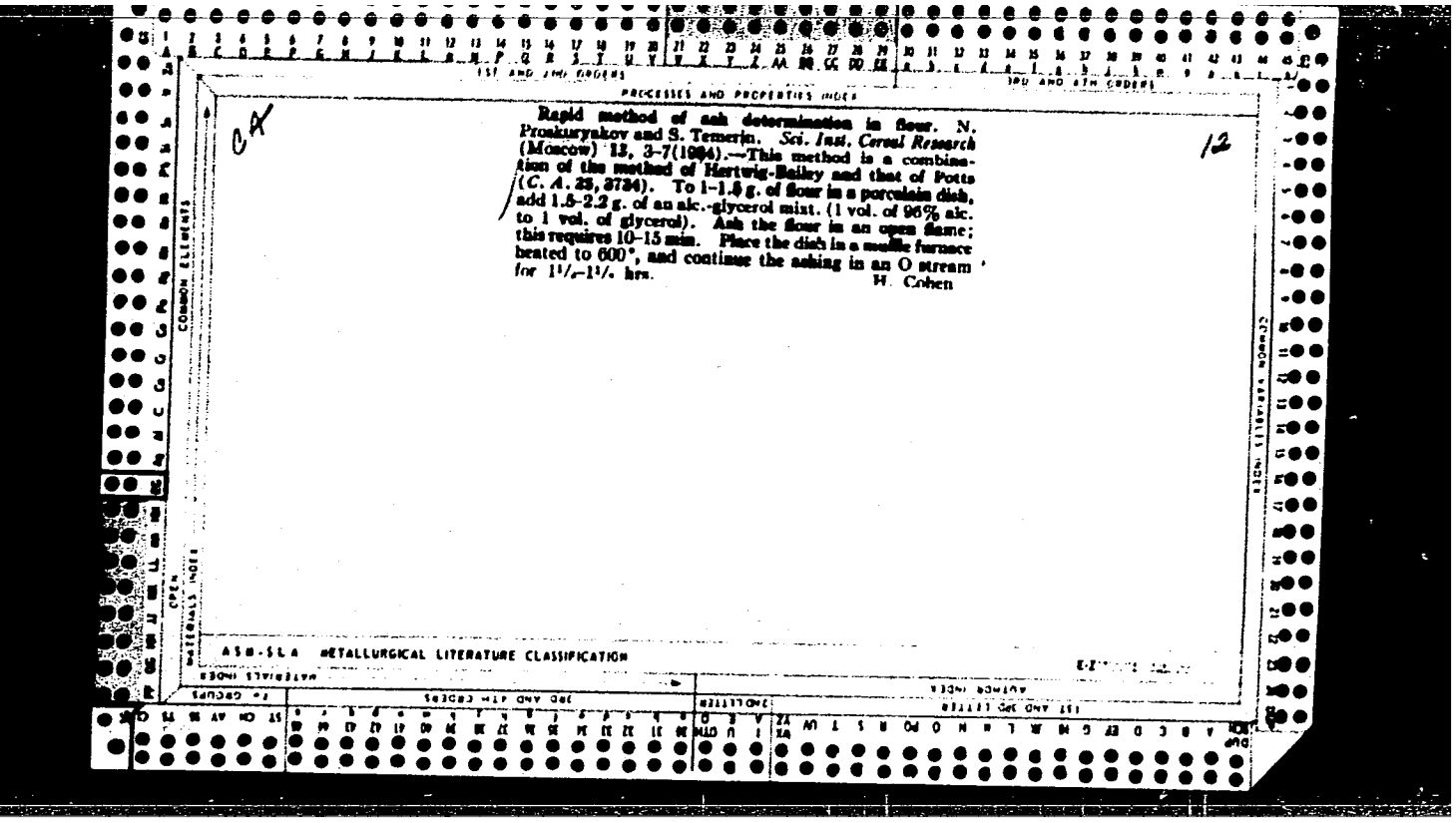


Ca

12

Phosphorus in wheat and its determination. N. Prokuzyrskaw and S. Temerin. *Sci. Inst. Cereal Research* (Moscow) No. 12, 33-45(1933).—The Myrbäck-Roche method was modified (Myrbäck, *C. A.* **28**, 61; Roche, *C. A.* **23**, 408) in detg. the P contents of various milling fractions of wheat, different flour samples and flour from selected varieties of wheat. The purpose was to find a correlation between the ash and the P content of the wheat and its products; it was found to be true only to some extent.

J. S. Joffe

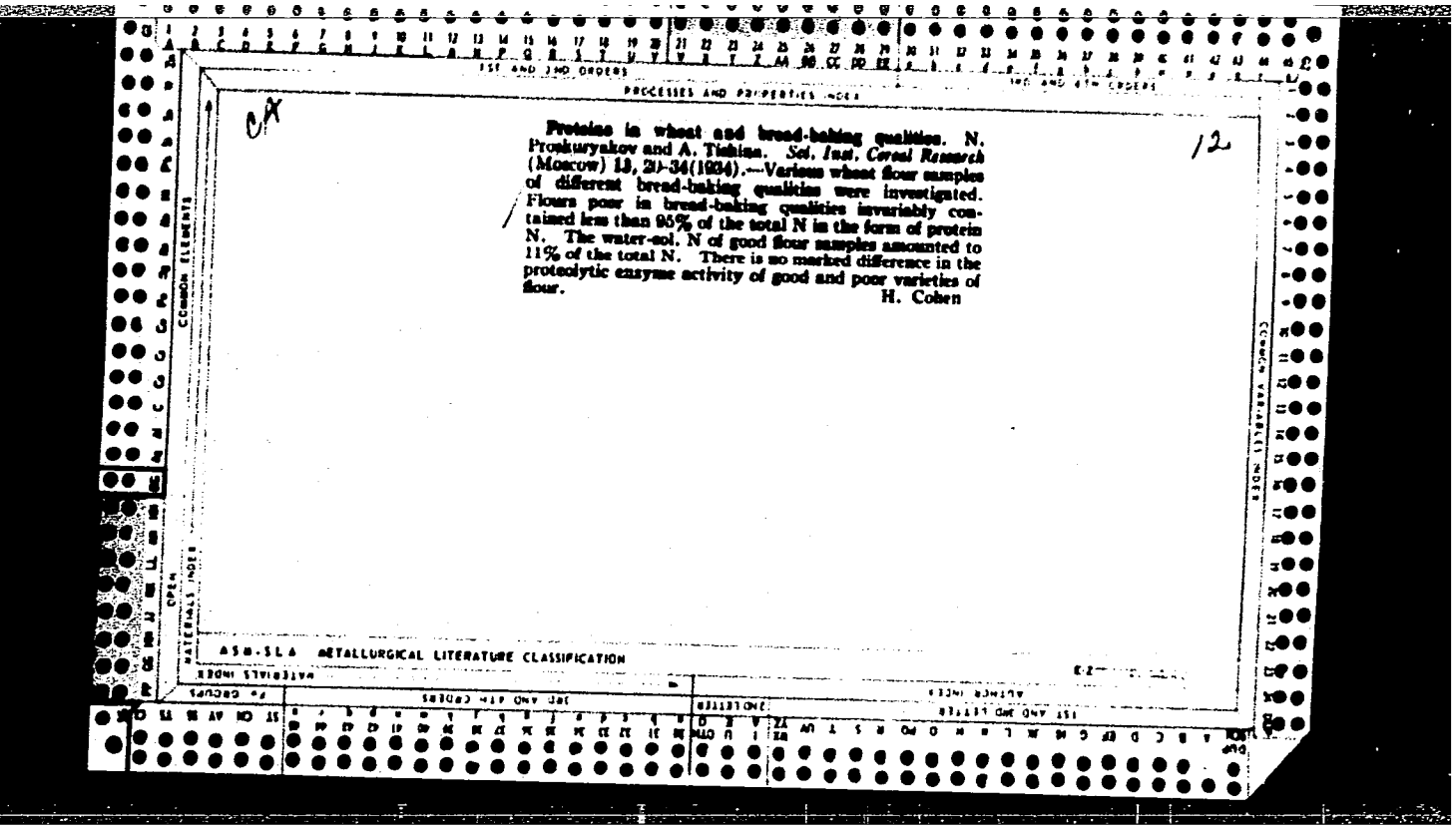


PROCESSES AND PROPERTIES INDEX

Rapid method of ash determination in flour. N. Proskuryakov and S. Temerin. *Sci. Inst. Cereal Research (Moscow)* 13, 3-7(1964).—This method is a combination of the method of Hertwig-Bailey and that of Potts (*C. A.* 25, 3734). To 1–1.5 g. of flour in a porcelain dish, add 1.5–2.2 g. of an alc.-glycerol mixt. (1 vol. of 96% alc. to 1 vol. of glycerol). Ash the flour in an open flame; this requires 10–15 min. Place the dish in a muffle furnace heated to 600°, and continue the ashing in an O stream for 1½–1¾ hrs.

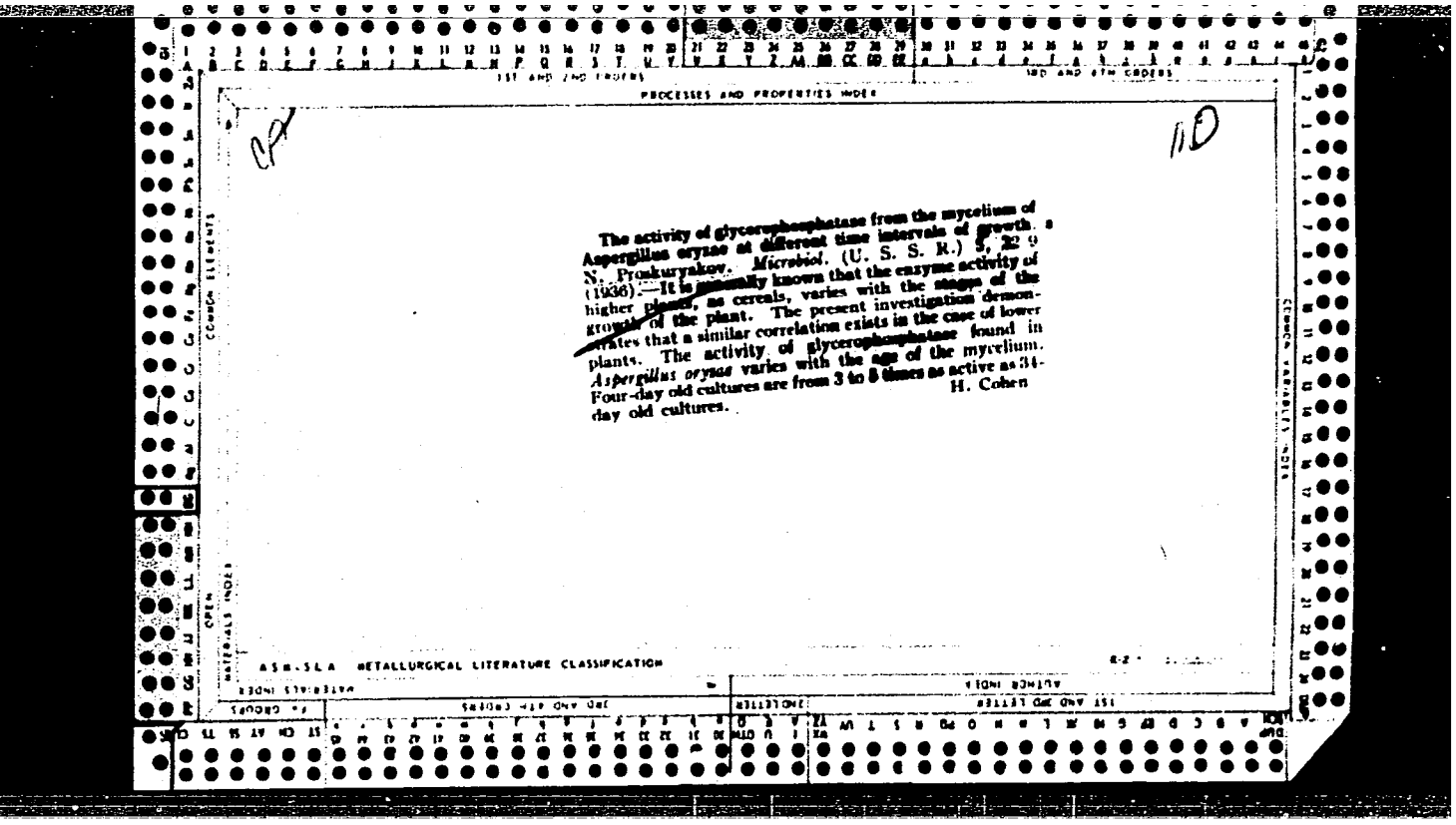
W. Cohen

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Proteins in wheat and bread-baking qualities. N. Proskuryakov and A. Tishina. *Sci. Inst. Cereal Research* (Moscow) **13**, 20-34(1934).—Various wheat flour samples of different bread-baking qualities were investigated. Flours poor in bread-baking qualities invariably contained less than 95% of the total N in the form of protein N. The water-sol. N of good flour samples amounted to 11% of the total N. There is no marked difference in the proteolytic enzyme activity of good and poor varieties of flour.

H. Cohen



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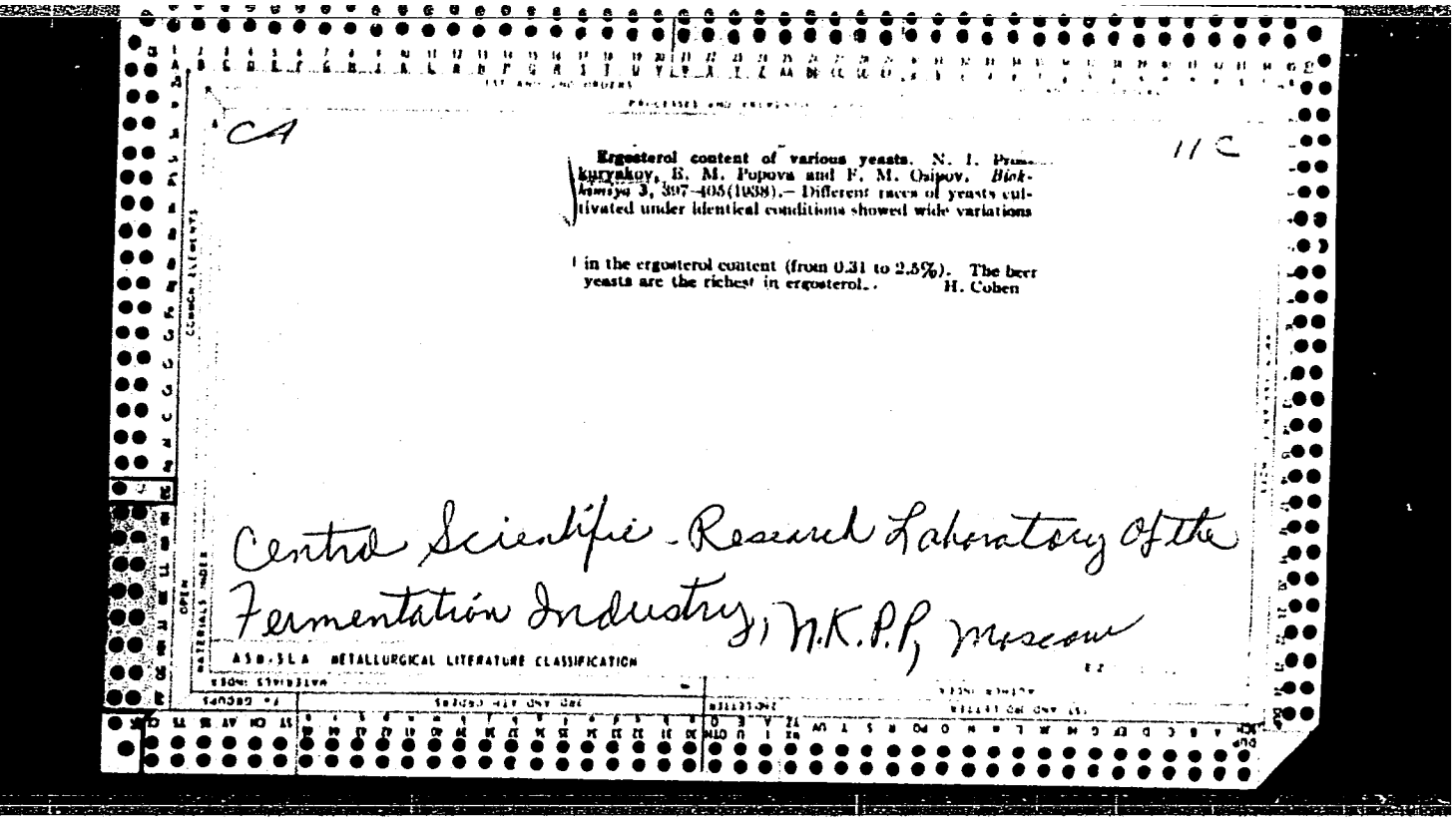
CP

ID

The activity of glycerophosphatase from the mycelium of Aspergillus oryzae at different time intervals of growth. S. Prokuryakov. *Microbiol.* (U. S. S. R.) 5, 329 (1936).—It is generally known that the enzyme activity of higher plants, as cereals, varies with the stages of the growth of the plant. The present investigation demonstrates that a similar correlation exists in the case of lower plants. The activity of glycerophosphatase found in *Aspergillus oryzae* varies with the age of the mycelium. Four-day old cultures are from 3 to 5 times as active as 34-day old cultures. H. Cohen

A.S.M.-S.L.A. METALLURGICAL LITERATURE CLASSIFICATION



CA

11 C

Ergosterol content of various yeasts. N. I. Prus-kuryakov, E. M. Popova and F. M. Chipov. *Biokhimiya* 3, 397–405(1938).— Different races of yeasts cultivated under identical conditions showed wide variations in the ergosterol content (from 0.31 to 2.5%). The beer yeasts are the richest in ergosterol.. H. Cohen

Central Scientific Research Laboratory of the Fermentation Industry, N.K.P.P., Moscow

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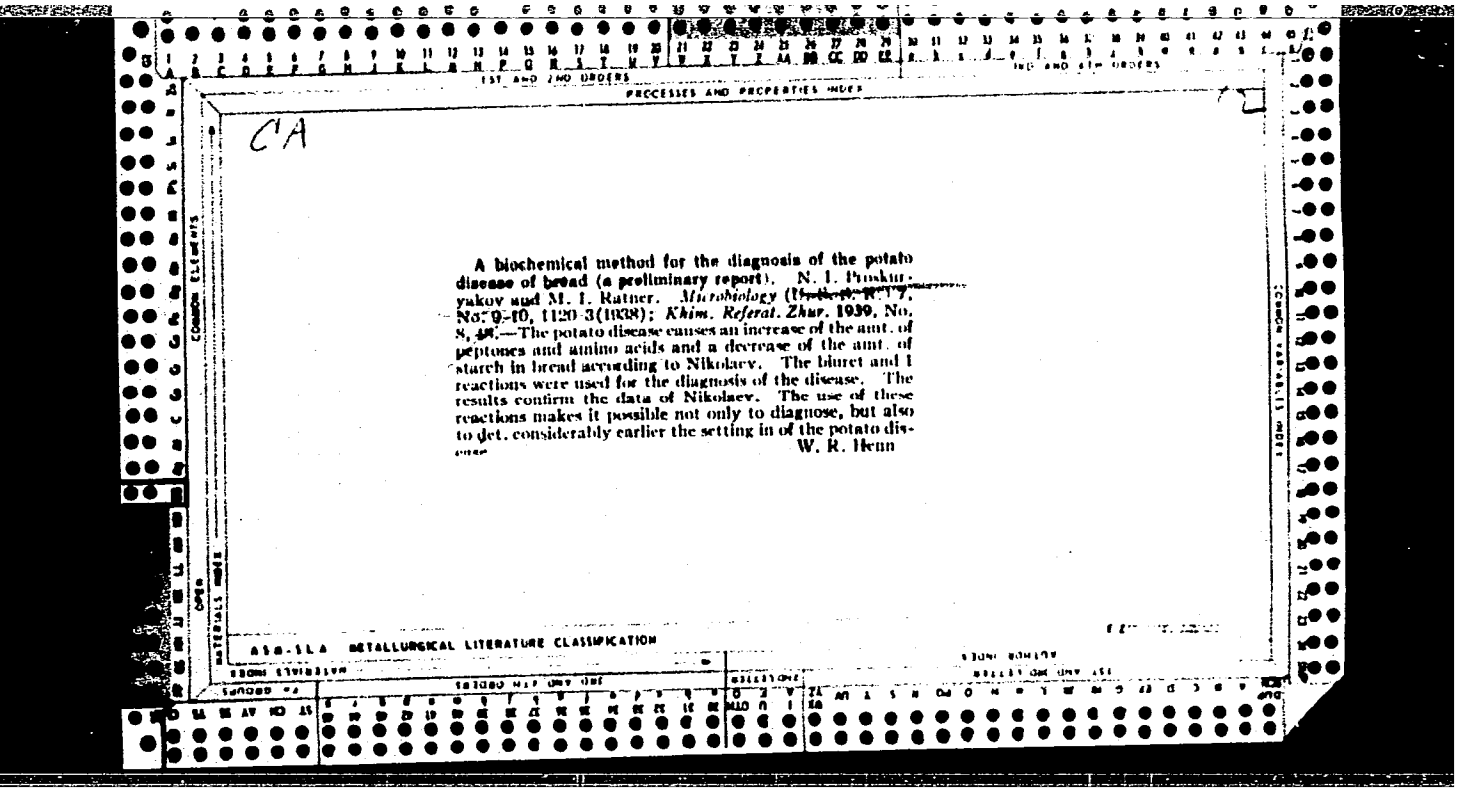
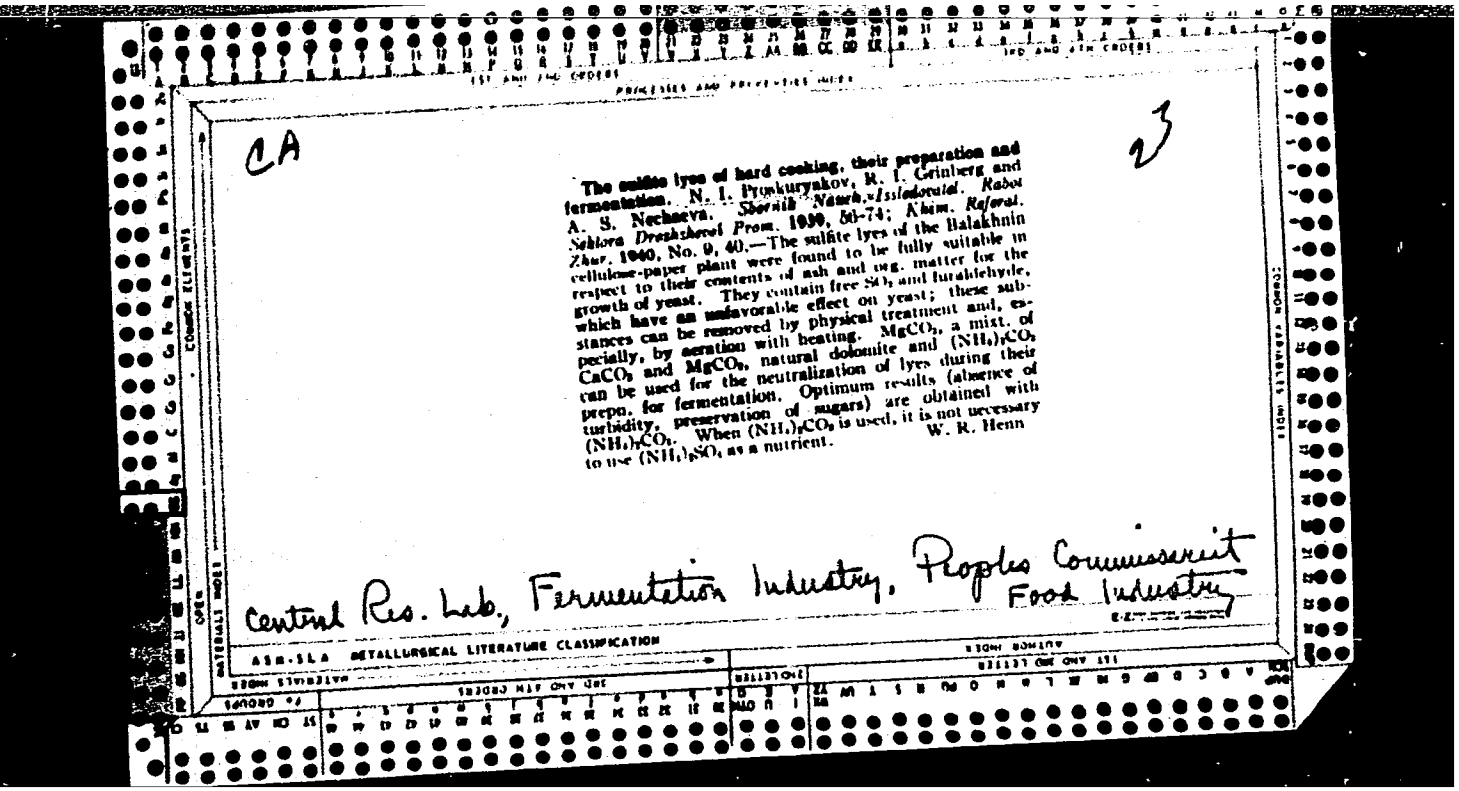


CA

A biochemical method for the diagnosis of the potato disease of bread (a preliminary report). N. I. Proskuryakov and M. I. Ratner. *Microbiology* (U.S.S.R.) 7, Nos. 9-10, 1120-3(1938); *Khim. Referat. Zhur.* 1939, No. 8, 48.—The potato disease causes an increase of the amt. of peptones and amino acids and a decrease of the amt. of starch in bread according to Nikolaev. The biuret and I reactions were used for the diagnosis of the disease. The results confirm the data of Nikolaev. The use of these reactions makes it possible not only to diagnose, but also to det. considerably earlier the setting in of the potato disease.
W. R. Henn



CA

23

The sulfite lyes of hard cooking, their preparation and fermentation. N. I. Pyatkuryakov, R. I. Grinberg and A. S. Nechaeva. *Sbornik Nauch.-Issledovatel. Rabot Sektora Drevesnogo Prom.* 1939, 58-74; *Khim. Referat. Zhur.* 1940, No. 9, 40.—The sulfite lyes of the Balakhnin cellulose-paper plant were found to be fully suitable in respect to their contents of ash and org. matter for the growth of yeast. They contain free SO_2 and furaldehyde, which have an unfavorable effect on yeast; these substances can be removed by physical treatment and, especially, by aeration with heating. $MgCO_3$, a mixt. of $CaCO_3$ and $MgCO_3$, natural dolomite and $(NH_4)_2CO_3$ can be used for the neutralization of lyes during their prepn. for fermentation. Optimum results (absence of turbidity, preservation of sugars) are obtained with $(NH_4)_2CO_3$. When $(NH_4)_2CO_3$ is used, it is not necessary to use $(NH_4)_2SO_4$ as a nutrient.

W. R. Henn

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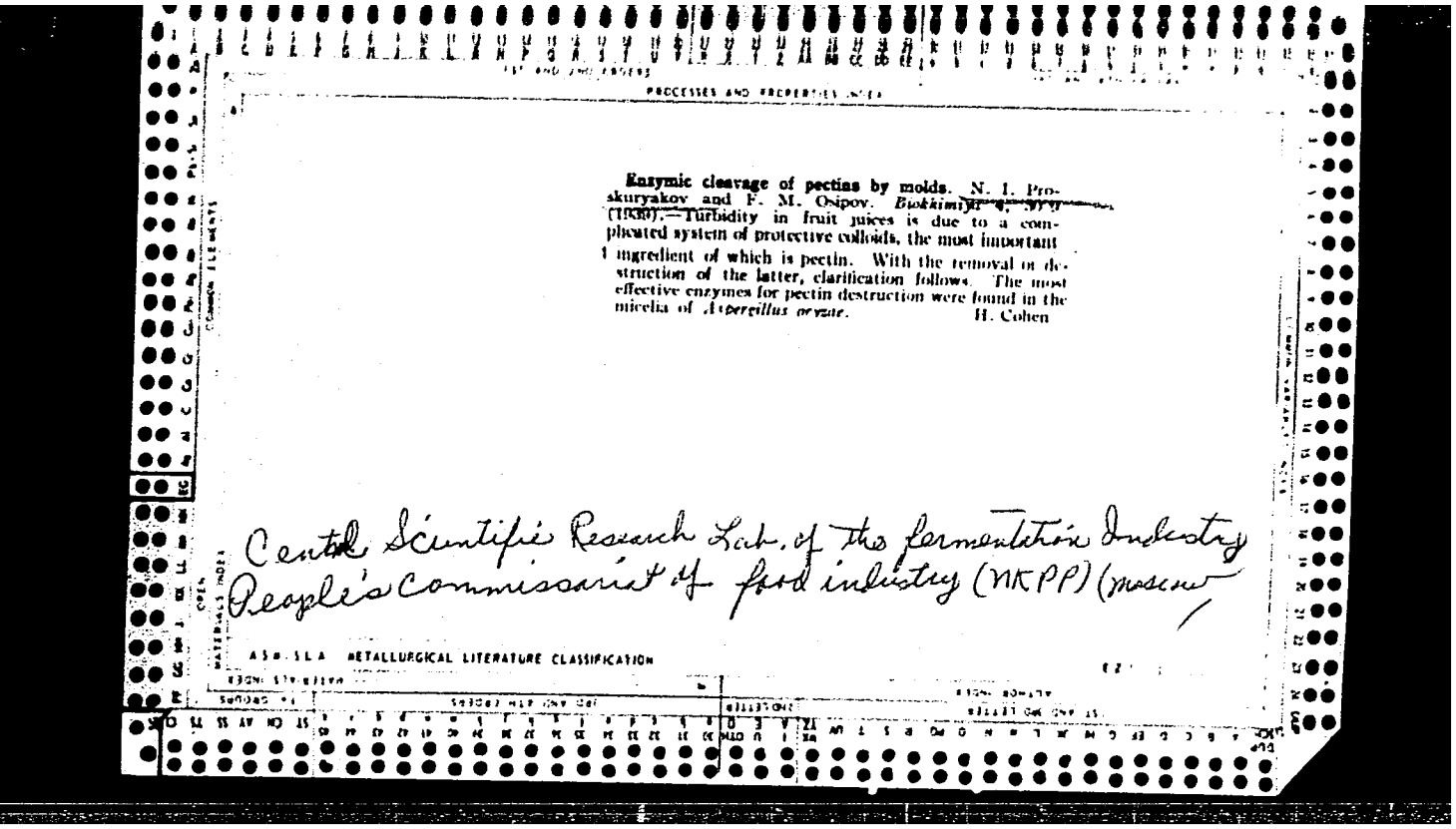

PROCESSES AND PROPERTIES INDEX

Enzymic cleavage of pectins by molds. N. I. Proskuryakov and F. M. Osipov. *Biokhimiya* 4, 377-9 (1939).—Turbidity in fruit juices is due to a complicated system of protective colloids, the most important ingredient of which is pectin. With the removal or destruction of the latter, clarification follows. The most effective enzymes for pectin destruction were found in the micelia of *Aspergillus oryzae*. H. Cohen

Central Scientific Research Lab. of the fermentation Industry
People's Commissariat of food industry (NKPP) (Moscow

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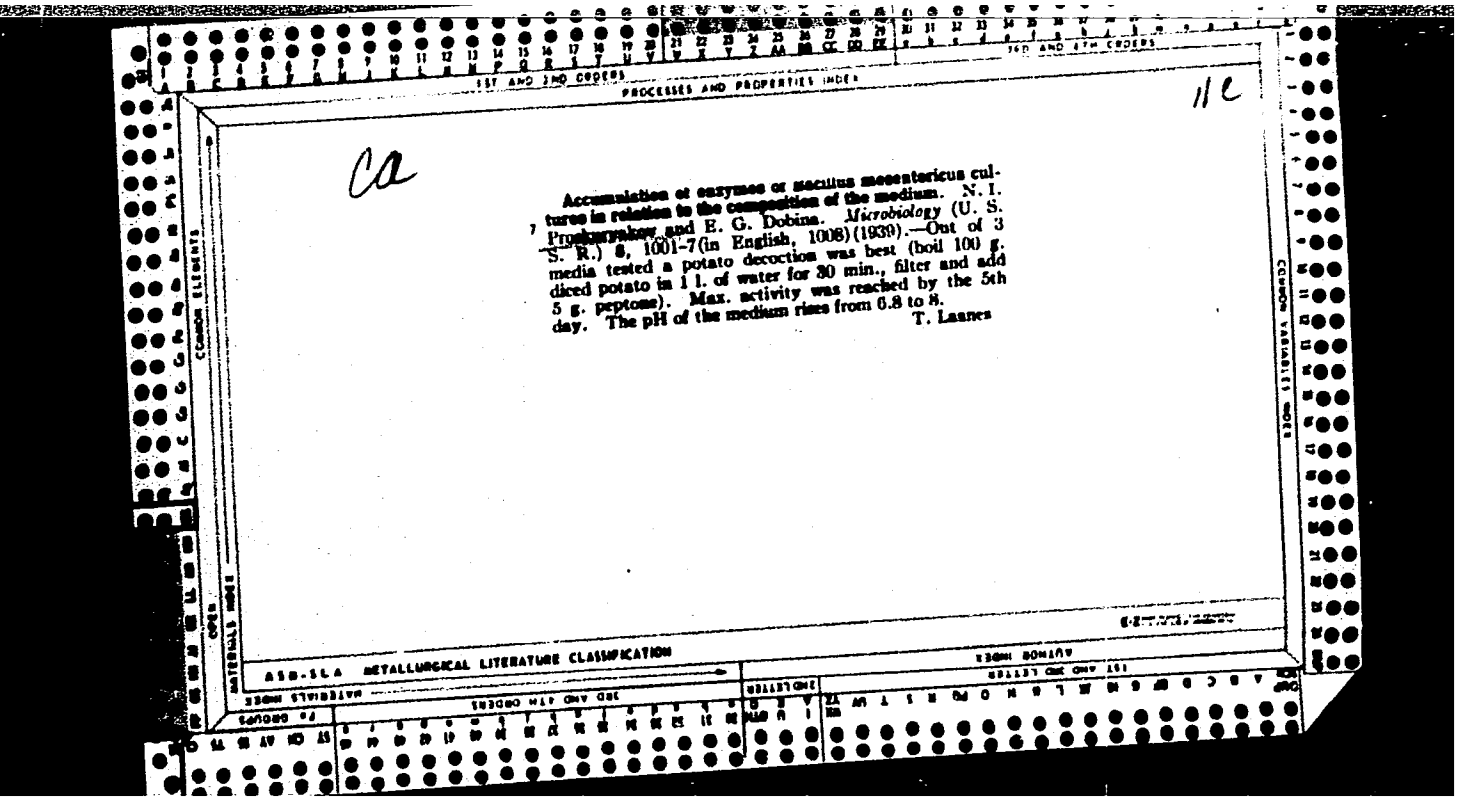
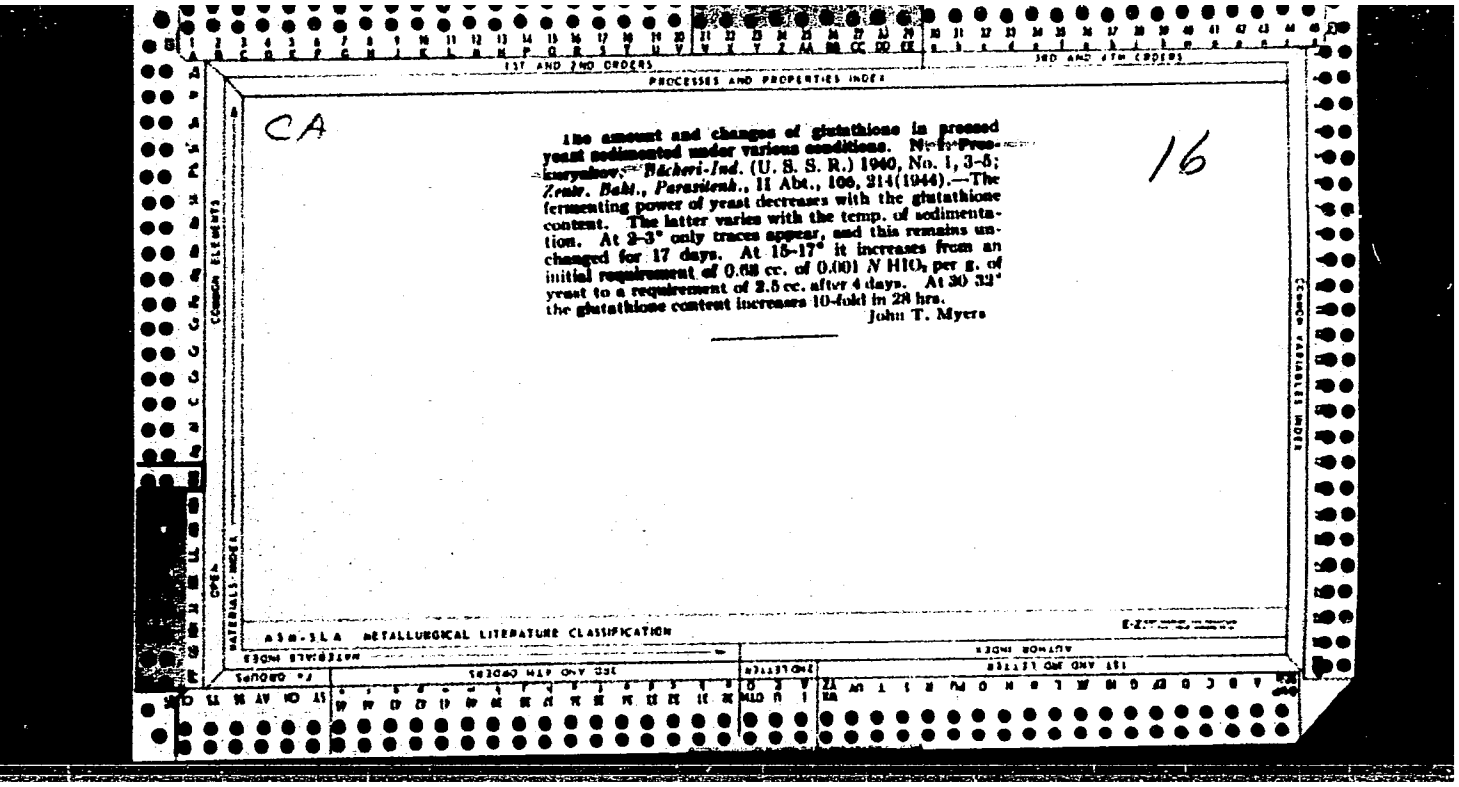


ca

11c

Accumulation of enzymes of bacillus mesentericus cultures in relation to the composition of the medium. N. I. Prokhorenkow and E. G. Dobina. *Microbiology* (U. S. S. R.) 8, 1001-7(in English, 1008)(1939).—Out of 3 media tested a potato decoction was best (boil 100 g. diced potato in 1 l. of water for 30 min., filter and add 5 g. peptone). Max. activity was reached by the 5th day. The pH of the medium rises from 6.8 to 8.

T. Laanes



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CA

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The amount and changes of glutathione in pressed yeast sedimented under various conditions. N. P. Prosvirnov. *Bäckerei-Ind.* (U. S. S. R.) 1940, No. 1, 3–5; *Zentr. Bakt., Parasitenk.*, II Abt., 106, 214(1944).—The fermenting power of yeast decreases with the glutathione content. The latter varies with the temp. of sedimentation. At 2–3° only traces appear, and this remains unchanged for 17 days. At 15–17° it increases from an initial requirement of 0.68 cc. of 0.001 *N* HIO_3 per g. of yeast to a requirement of 2.5 cc. after 4 days. At 30–32° the glutathione content increases 10-fold in 28 hrs.

John T. Myers

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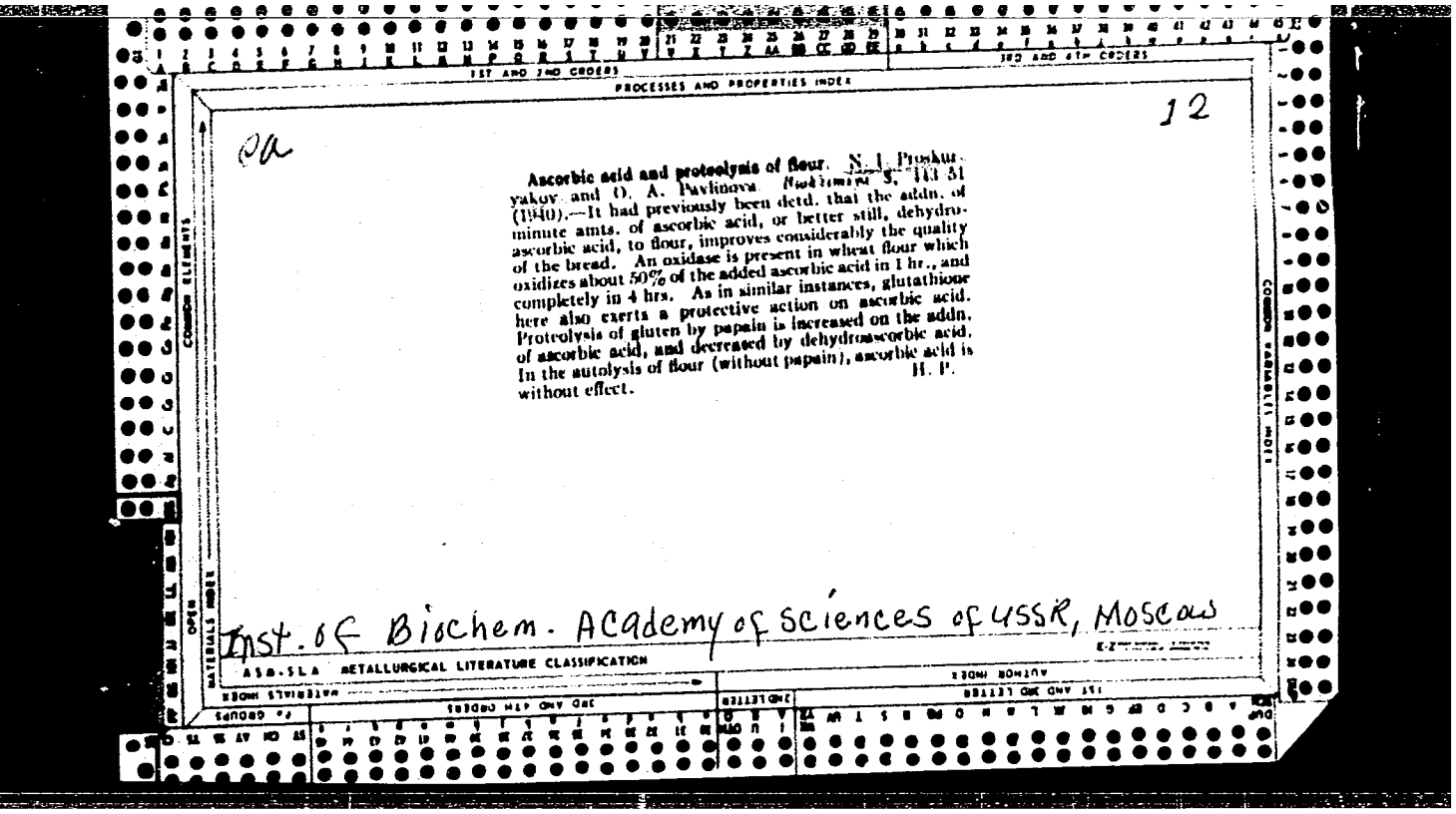

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9a

Ascorbic acid and proteolysis of flour. N. I. Proskuryakov and O. A. Pavlinova. *Biokhimiya* 5, 113-31 (1940).—It had previously been detd. that the addn. of minute amts. of ascorbic acid, or better still, dehydroascorbic acid, to flour, improves considerably the quality of the bread. An oxidase is present in wheat flour which oxidizes about 50% of the added ascorbic acid in 1 hr., and completely in 4 hrs. As in similar instances, glutathione here also exerts a protective action on ascorbic acid. Proteolysis of gluten by papain is increased on the addn. of ascorbic acid, and decreased by dehydroascorbic acid. In the autolysis of flour (without papain), ascorbic acid is without effect. H. P.

Inst. of Biochem. Academy of Sciences of USSR, Moscow

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