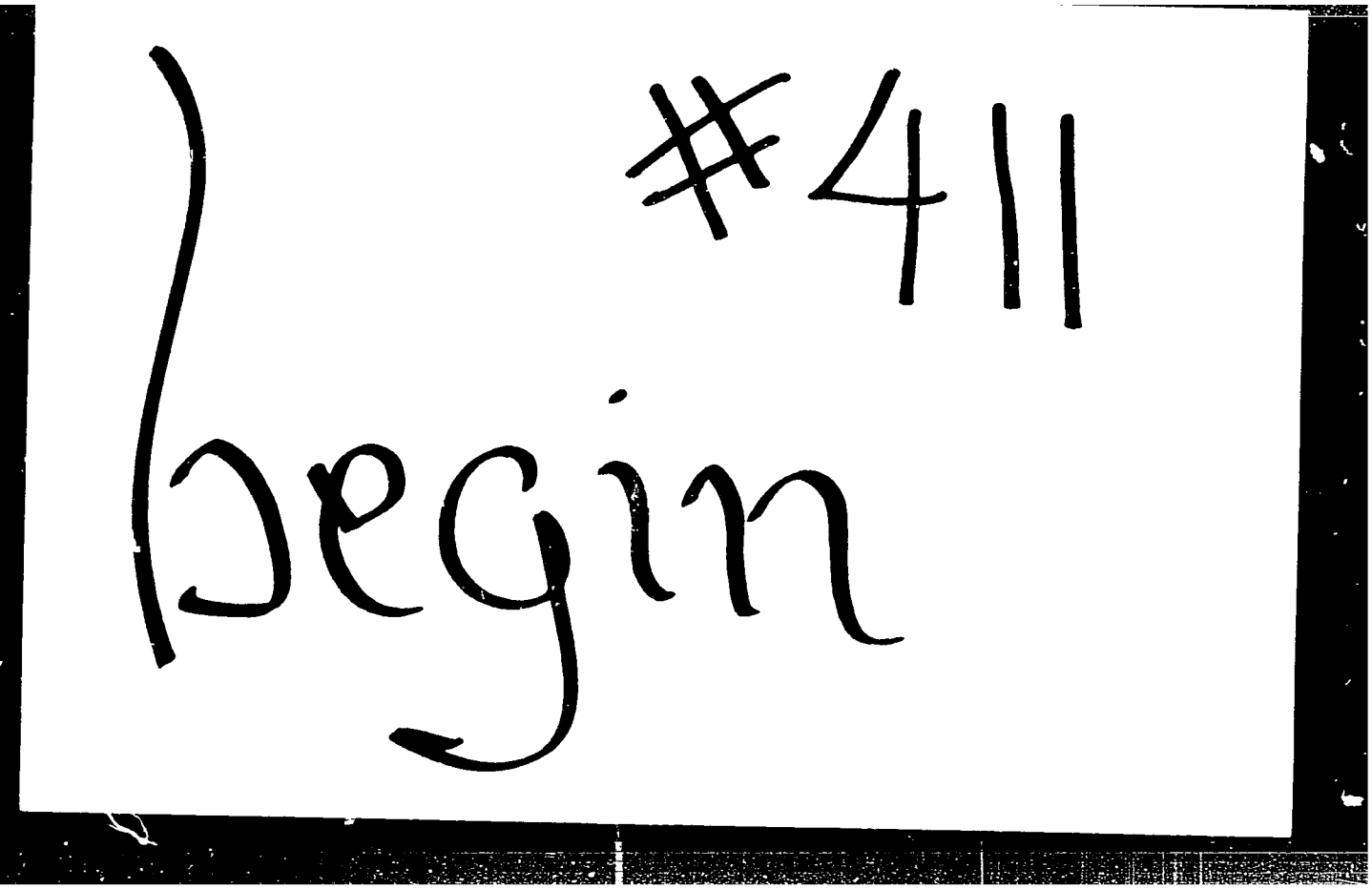


[illegible], G. [illegible]; [illegible], N.F.

Met[illegible] of [illegible] the effe[illegible] of [illegible] on [illegible] the [illegible]. [illegible] 5-0 '64. (MIR [illegible])

1. Voyenno-[illegible] ordena Lenina akademiya [illegible], Leningrad. Submitted Ma[illegible] 4, 196[illegible].

PATRUSHEV, G.A.

Effect of chloral hydrate on the cardiovascular system in rabbits in experimental cholesterol atherosclerosis. Farm.i toks. 22 no.5:426-434 S-O '59. (MIRA 13:3)

1. Kafedra farmakologii (zaveduyushchiy - prof. A.M. Preobrazhenskiy [deceased]) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.

(CHLORAL HYDRATE pharmacol.)
(ARTERIOSCLEROSIS pharmacol.)

PETRUNIN, A.M.; LOKTIONOVA, N.A.; AL'TMAN, M.B., rukovoditel' raboty; Prinimali uchastiye: LOZHICHEVSKIY, A.S.; SHKROB, V.A.; POSTNIKOV, A.S.; ARBUZOV, B.A.; PANTYUSHKOVA, N.S.; POBOCHINA, T.V.; PATRUSHEV, L.M.

Mastering the production of large A18 alloy castings. Alium. splavy no.1:150-159 '63. (MIRA 16:11)

PATRUSHEV, M

USSR

Irrigation-engineering

On Irrigation in Talas River, Central Tyan'Shan'Plateau, etc., Kirgizskaya SSR

Source: Sovetskaya Kirgiziya, 16 Feb. 1947, Frunze

Abstracted in USAF "Treasure Island" Report No. 15944, on file in Library of Congress, Air Information Division.

KARPOV, A.M., prof.; PATRUSHEV, M.A., kand.tekhn.nauk

Unstable direction of air escape. Bezop.truda v prom. 6 no.8:31-33 Ag '62. (MIRA 16:4)

1. Institut gornogo dela im. M.M.Fedorova AN UkrSSR.
(Mine ventilation)

MEDVEDEV, I.I., dotsent; PATRUSHEV, M.A.

Ways of reducing air leakage at the Solikamsk Potash Mines. Izv. vys. ucheb. zav.; gor. zhur. no.12:79-82 '60. (MIRA 14:1)

1. Permskiy gornyy institut. Rekomendovana kafedroy razrabotki mestorozhdeniy poleznykh iskopayemykh Permskogo gornogo instituta.
(Solikamsk--Potash) (Mine ventilation)

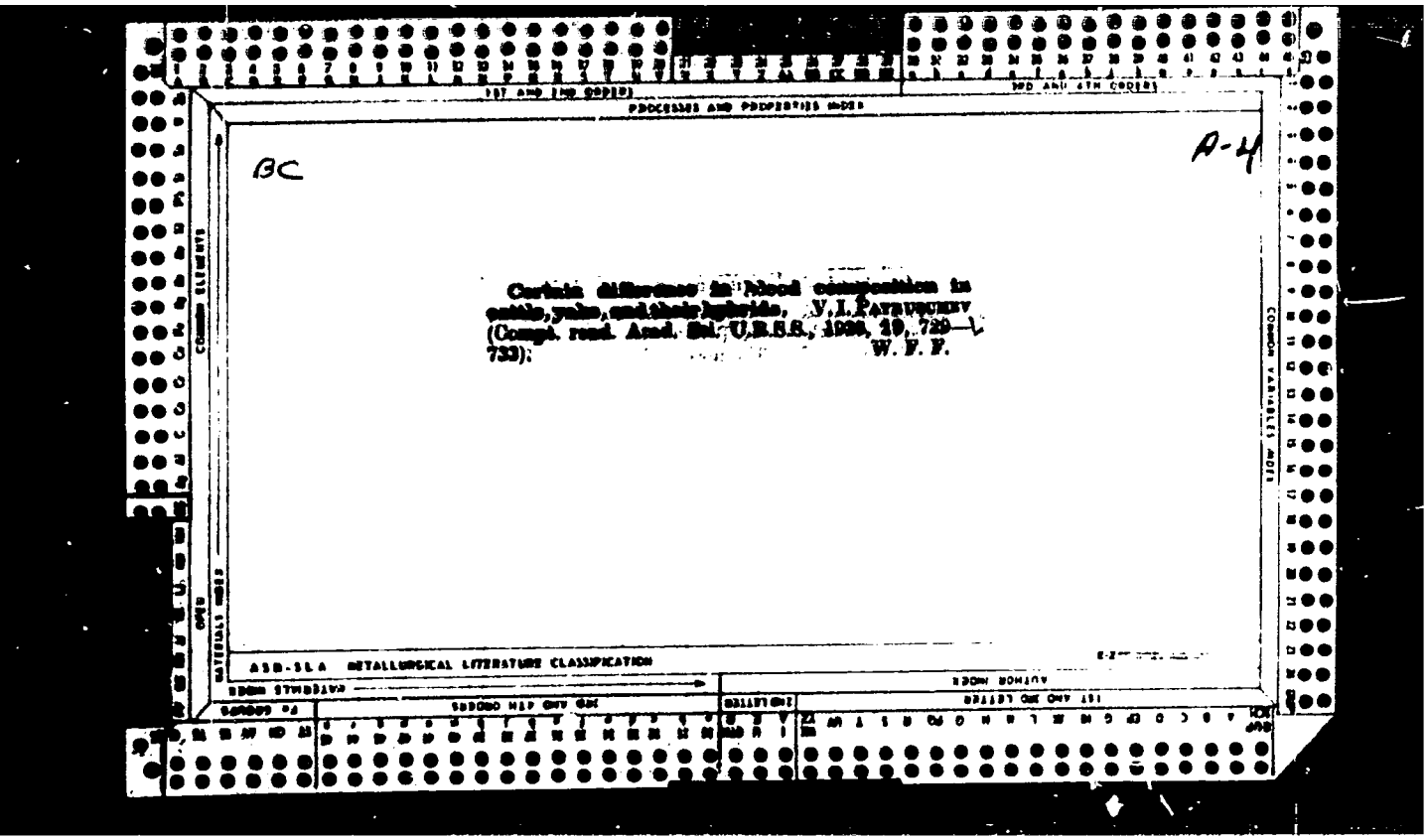
NAZAROV, M.I.; PATRUSHEV, M.F., inz., retsenzent; LEGOSTAYEV, A.M., retsenzent; TALMAZA, V.F., retsenzent; VALENTINI, L.A., kand.tekhn.nauk, retsenzent; KABAKOV, M.M., red.; ANOKHINA, M.G., tekhn.red.

[Paved canals] Moshchenye kanaly. Frunze, Akad.nauk Kirgizskoi SSR, 1958. 104 p. (MIRA 12:3)
(Irrigation canals and flumes)

PATRUSHEV, N.

Let's make a wider use of local building materials. Sel'.stroi. 11 [i.e.12] no.1:23 Ja '57. (MLRA 10:3)

1. Nachal'nik Sverdlovskogo oblastnogo upravleniya po stroitel'stvu v kolkhozakh.
(Building materials)



1ST AND 2ND ORDERS

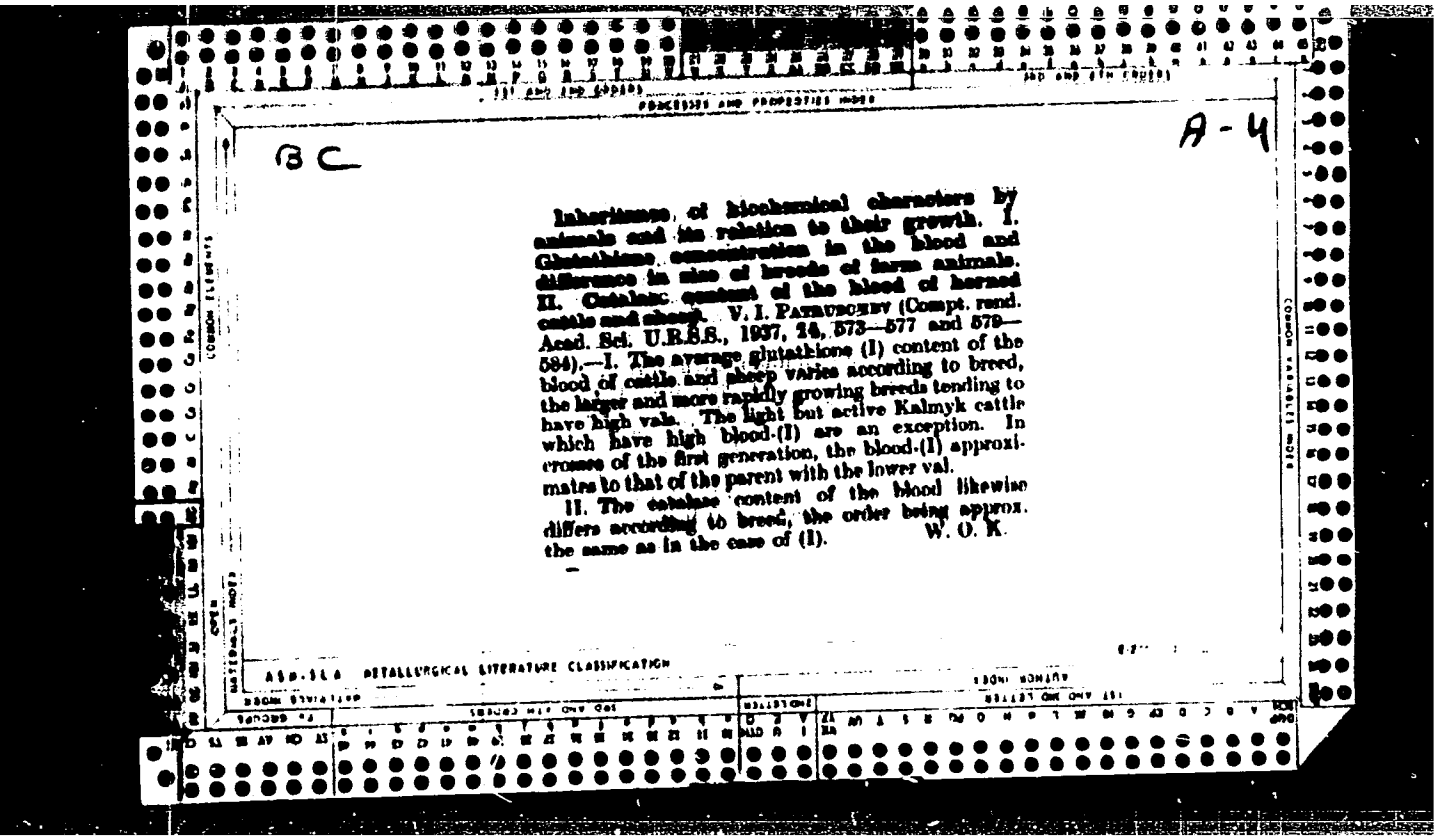
PROCESSES AND PROPERTIES INDEX

BC

Inheritance of biochemical characters in animals in connexion with growth. III. Some indices of the blood composition of the hybrids between bactrian camels and dromedaries in connexion with heterosis. IV. Differences in composition of blood in horses, asses, and mules. V. I. Patrushev (Compt. rend. Acad. Sci. U.R.S.S., [illegible], 291—296).—III. Sp. gr. and total and reduced glutathione content of the blood are highest in hybrids, then dromedaries, and lowest in bactrian camels. Resistance of erythrocytes and catalase content are highest in Bactrian camels with hybrids next and dromedaries lowest.

IV. Young male horses, asses, and mules (up to 3½—4 years) are smaller and have lower blood indices than females. Blood indices of asses and mules decrease at 1½ years when they are almost fully grown, but continue to increase in horses, which grow more slowly. The blood indices for animals of different age and sex are tabulated. R. M. W.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

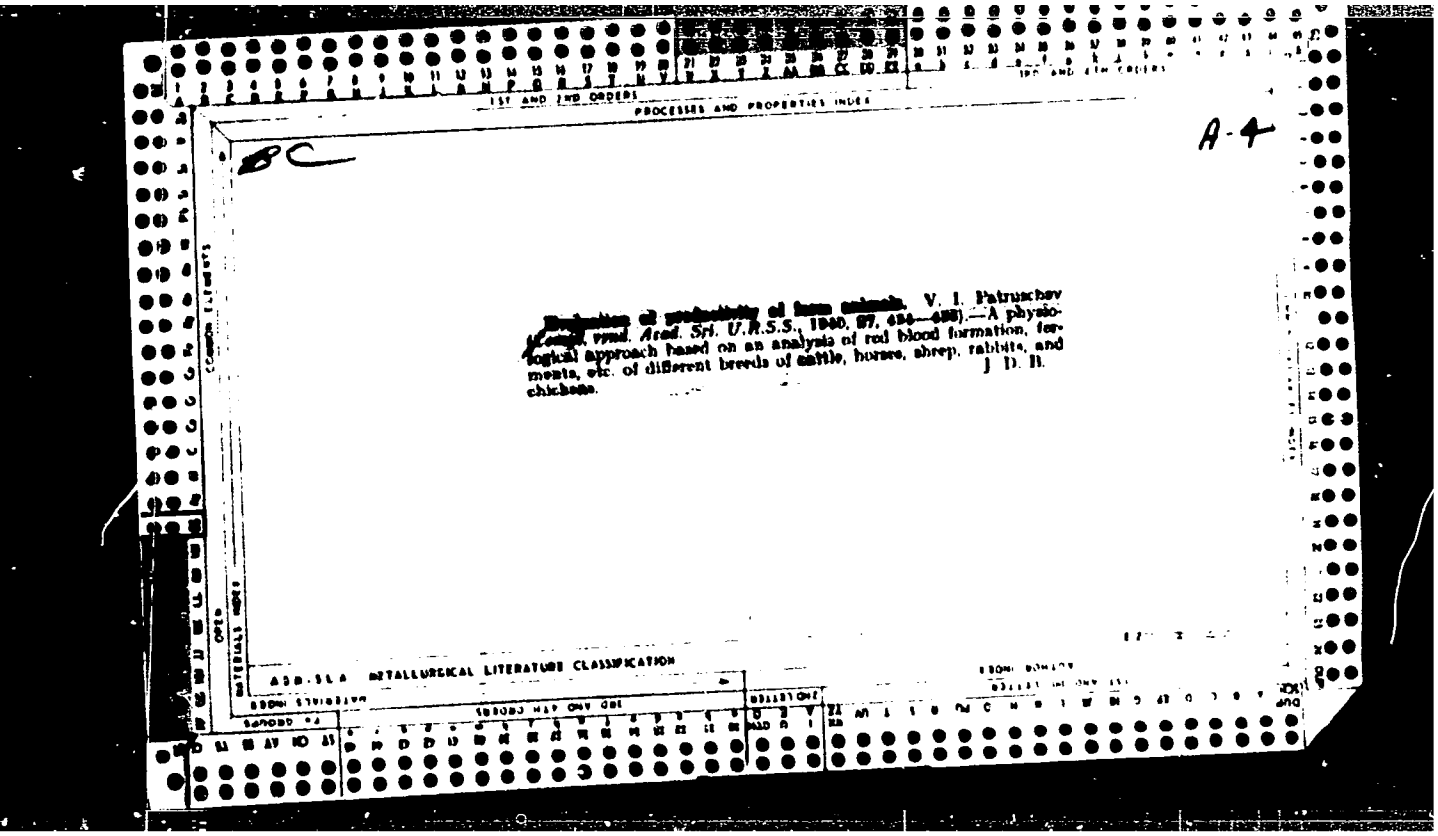


BC

A-4

Inheritance of biochemical characters by animals and its relation to their growth. I. Glutathione concentration in the blood and difference in size of breeds of farm animals. II. Catalase content of the blood of horned cattle and sheep. V. I. Patrushev (Compt. rend. Acad. Sci. U.R.S.S., 1937, 14, 573—577 and 579—584).—I. The average glutathione (I) content of the blood of cattle and sheep varies according to breed, the larger and more rapidly growing breeds tending to have high vals. The light but active Kalmyk cattle which have high blood-(I) are an exception. In crosses of the first generation, the blood-(I) approximates to that of the parent with the lower val.

II. The catalase content of the blood likewise differs according to breed, the order being approx. the same as in the case of (I). W. O. K.



1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

Morphophysiological types of farm animals. V. I. [illegible] and I. A. [illegible] (Compt. rend. Acad. Sci. U.R.S.S., 1940, 27, 735—739).—An analysis of constitutional types of cattle and horses from the point of view of physiological adaptation. J. D. B.

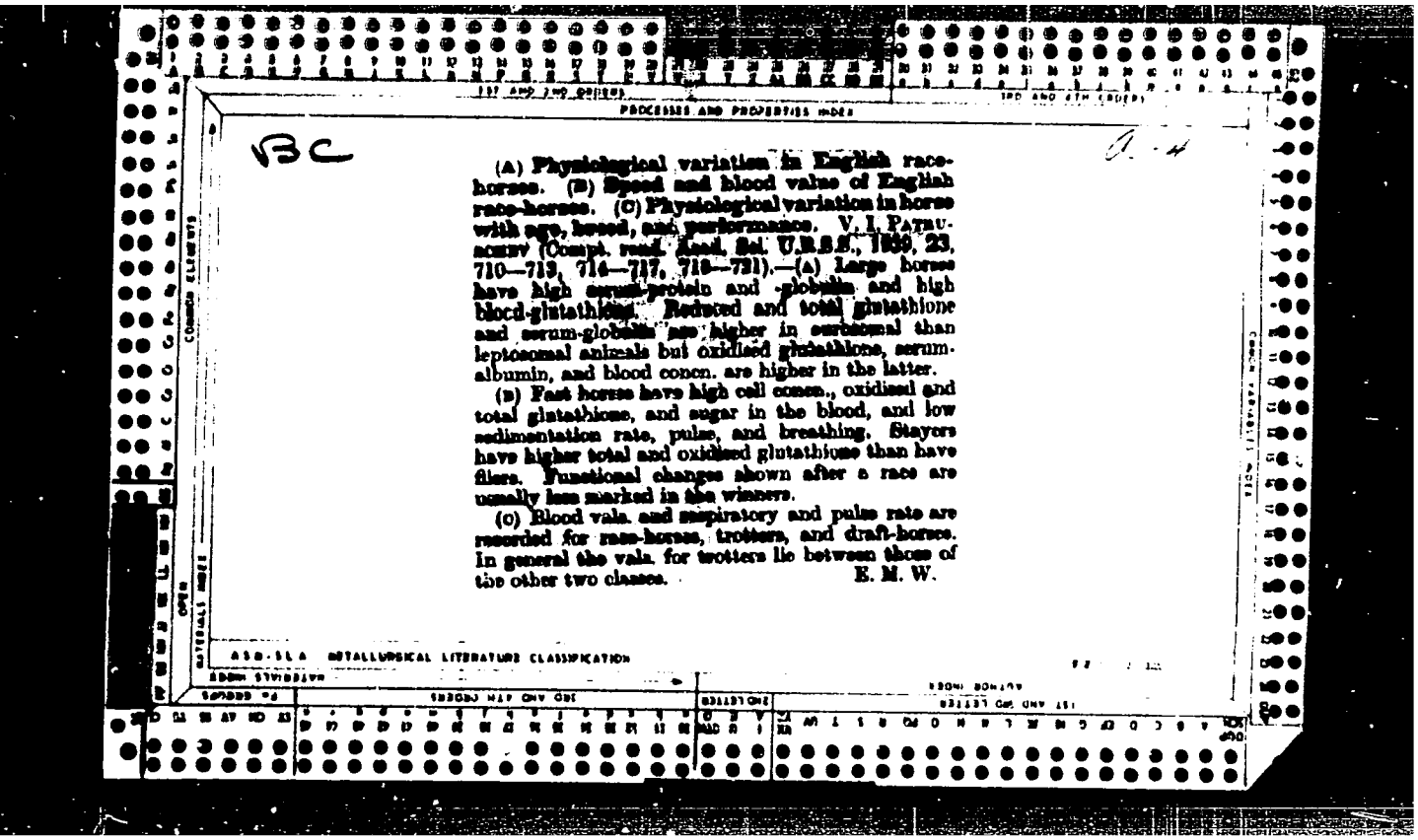
COMMON ELEMENTS

OPEN

MATERIALS INDEX

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

AUTHOR INDEX

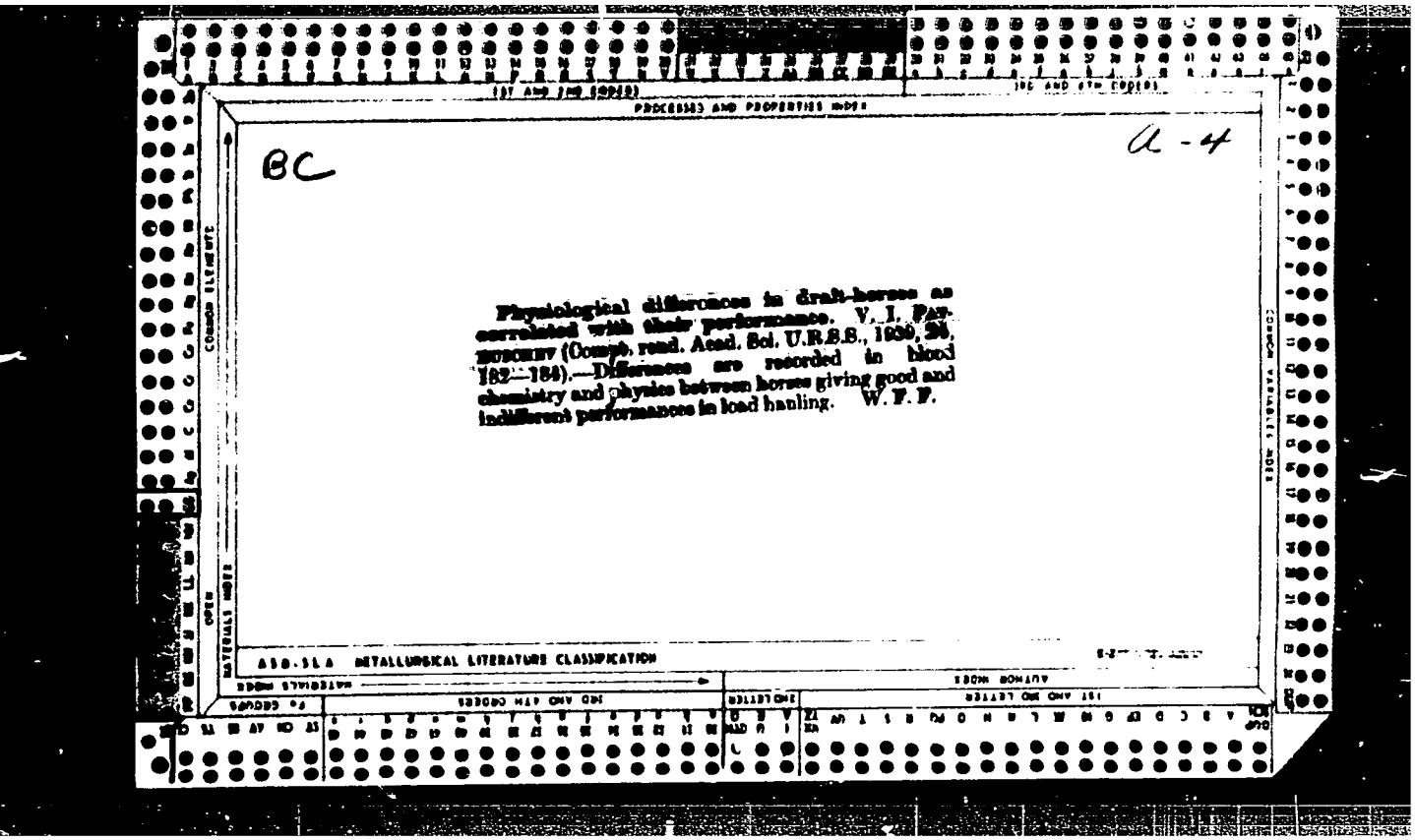


13C

(A) Physiological variation in English race-horses. (B) Speed and blood value of English race-horses. (C) Physiological variation in horse with age, breed, and performance. V. I. Patrushchev (Compt. rend. Acad. Sci. U.R.S.S., 1939, 23, 710—713, 714—717, 718—721).—(A) Large horses have high serum-protein and -globulin and high blood-glutathione. Reduced and total glutathione and serum-globulin are higher in eurisomal than leptosomal animals but oxidised glutathione, serum-albumin, and blood concn. are higher in the latter.

(B) Fast horses have high cell concn., oxidised and total glutathione, and sugar in the blood, and low sedimentation rate, pulse, and breathing. Stayers have higher total and oxidised glutathione than have fliers. Functional changes shown after a race are usually less marked in the winners.

(C) Blood vals. and respiratory and pulse rate are recorded for race-horses, trotters, and draft-horses. In general the vals. for trotters lie between those of the other two classes. E. M. W.



BC

a-4

Physiological differences in draft-horses as correlated with their performance. V. I. PAVLOVSKIY (Compt. rend. Acad. Sci. U.R.S.S., 1930, 26, 182—184).—Differences are recorded in blood chemistry and physics between horses giving good and indifferent performances in load hauling. W. F. F.

PATRUSHEV, I.G.

What proper utilization of land has given to the collective farm.
Zemledelie 4 no.5:104-108 My '56. (MLRA 9:8)

1. Agronom kolkhoza "Pervoye maya", Ust'-Abakanskogo rayona, Krasnoyarskogo kraya.
(Ust'-Abakan District--Agriculture)

1. PATRUSHEV, I. M.

2. USSR (600)

4. Feeding and Feeding Stuffs

7. Expefience in mechanization of labor in feed preparation. Dost. sel'khoz. No. 1, 1952.

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

PATRUSHEV, I.N., inzh.

Using electric heaters for drying lumber in petrolatum.
Stroi.prom. 35 no.11:34-36 N '57. (MIRA 10:12)
(Lumber--Drying) (Electric heating) (Petrolatum)

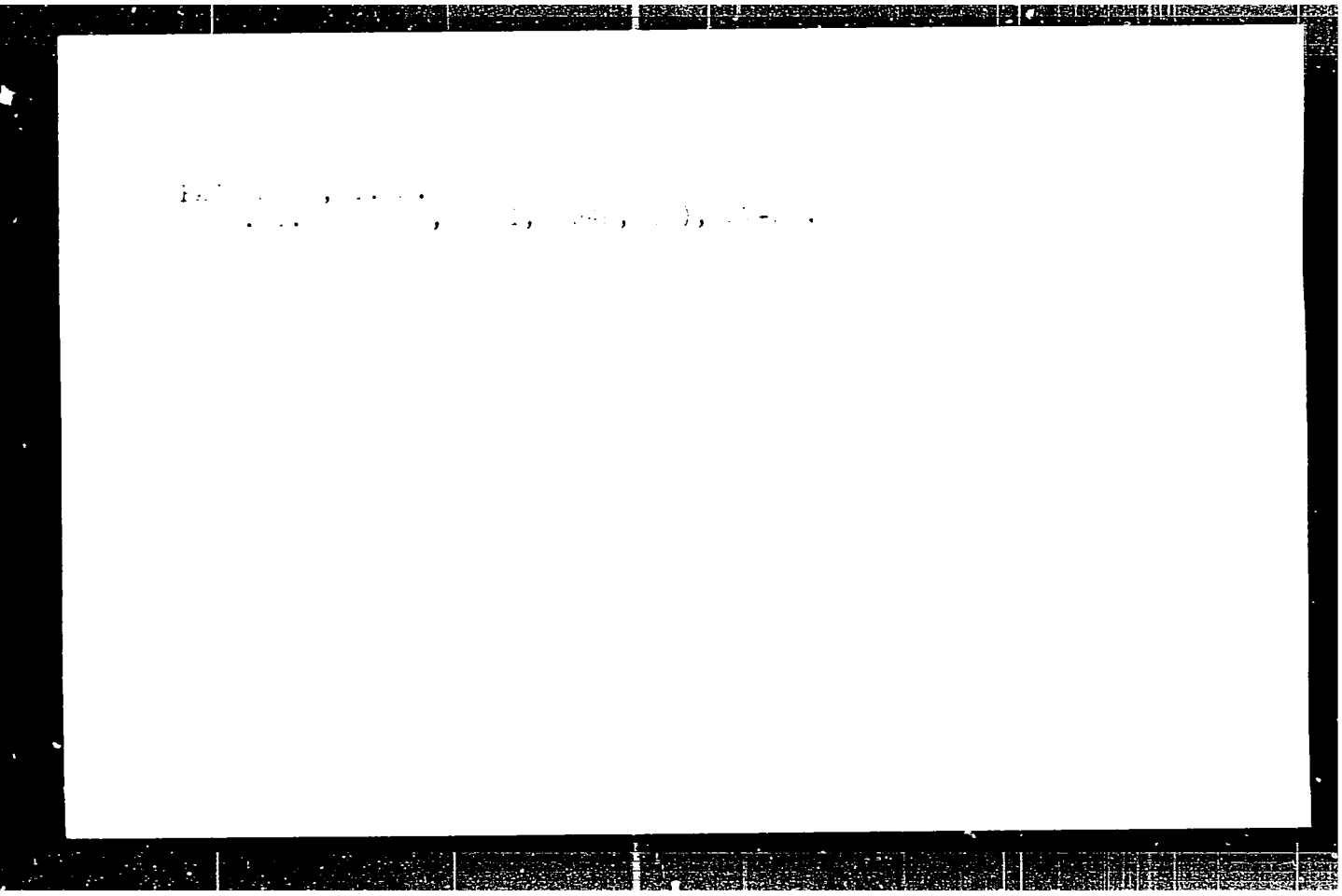
GORBACHEV, T.F.; PATRUSHEV, I.S.; KOSTYLEV, A.I., kand. tekhn. nauk, otv. red.; OKBYSH-KUZNETSOV, S.O., red.

[Coal-mining machinery and equipment] Ugledobyvaiushchie agregaty i kompleksy. Novosibirsk, Izd-vo Sibirskogo otd-niia AN SSSR, 19[illegible]. 162 p. (MIRA 17:5)

PATRUSHEV, I. S.; VOROB'YEV, V. I.; GORBACHEV, T. F.; KUFAREV, F. P.

"Effectiveness of Tests with Soviet Kuzbass Combine," Mekhanizatsiya Trudoyemkikh i Tyazhelykh Rabot, No 4, 1950.

Translation, M-13871, 25 Sep 50



PATRUSHEV, M.A., kand. tekhn. nauk

Stability of the ventilating flow according to its direction.
Bezop. truda v prom. 7 no.12:15-19 D '63.
(MIRA 18:7)

1. Institut gornogo dela AN UkrSSR im. M.M. Fedorova.

MEDVEDEV, Innokentiy Innokent'yevich; PATRUSHEV, Mikhail Alekseyevich; AYRUNI, A.T., otv. red.; YEROKHIN, G.M., red. izd-va; LOMILINA, L.N., tekhn. red.; MINSKER, L.I., tekhn. red.

[Ventilation of potassium and rock-salt mines] Provetrivanie kaliinykh i kamennosolianykh rudnikov. Moskva, Gosgortekhizdat, 1963. 159 p. (MIRA 16:6)
(Mine ventilation)

PATRUSHEV, M. A. Cand Tech Sci -- (diss) "Study of the loss of air in parallel mining." Len, 1957. 22 pp (Min of Higher Education USSR. Len Orders of Lenin and Labor Red Banner Mining Inst im G. V. Plekhanov)

(KL, 44-57, 100)

PATRUSHEV, M. A.

Research on the leakage of air through ventilation connections.
Zap. LGI 38 no.1:54-69 1959 (MIRA 14:3)
(Mine ventilation)

PATRUSHEV, M.A.

Determining air leakage and calculating the depression in parallel drifts. Zap.Len.gor.inst. 36 no.1:136-155 '58. (MIRA 12:4)

(Mine ventilation)

PATRUSHEV, M.A.dotsent; MEDVEDEV, I.I., dotsent

Standardizing poisonous gas content in explosion products. Bezop. truda v prom. 5 no.3:16-19 Mr '61. (MIRA 14:3)
(Explosives)

PATRUSHEV, N.I.

Modernization of the OK-66 bark peeling machine. Der. prom. 11 no.3. 22-23 S '62. (MIRA 17:2)

1. Permskiy domostroitel'nyy kombinat.

PATRUSHEV, P.A., inzh.; SMIRNOV, L.A., inzh.; SOKOLOV, T.P.; SHUL'MAN, ...

Combining assembly and transportation of the blocks of a PK-3[illegible] boiler. Energ. stroi. no.20:114-120 '61. (MIRA 15:1)

1. Proyektnoye byuro Montazhnogo upravleniya "Uralenergomontazh" (for Patrushev, Smirnov). 2. Montazhnoye upravleniye "Uralenergomontazh" (for Sokolov). 3. Moskovskiy filial instituta "Orgenergostroy" (for Shul'man).

(Boilers)

USSR / Cultivated Plants. Fruit Trees. Small Fruit Trees. M-

Abs Jour: Ref Zhur-Biol., 1956, No 16, 73120.

Author : Patrushev, S.
Inst : Not given.
Title : Agricultural Engineering in the Orchards of Tyumen.

Orig Pub: Sad i Ogorod, 1956, No 1, 55-59.

Abstract: No abstract.

Card 1/1

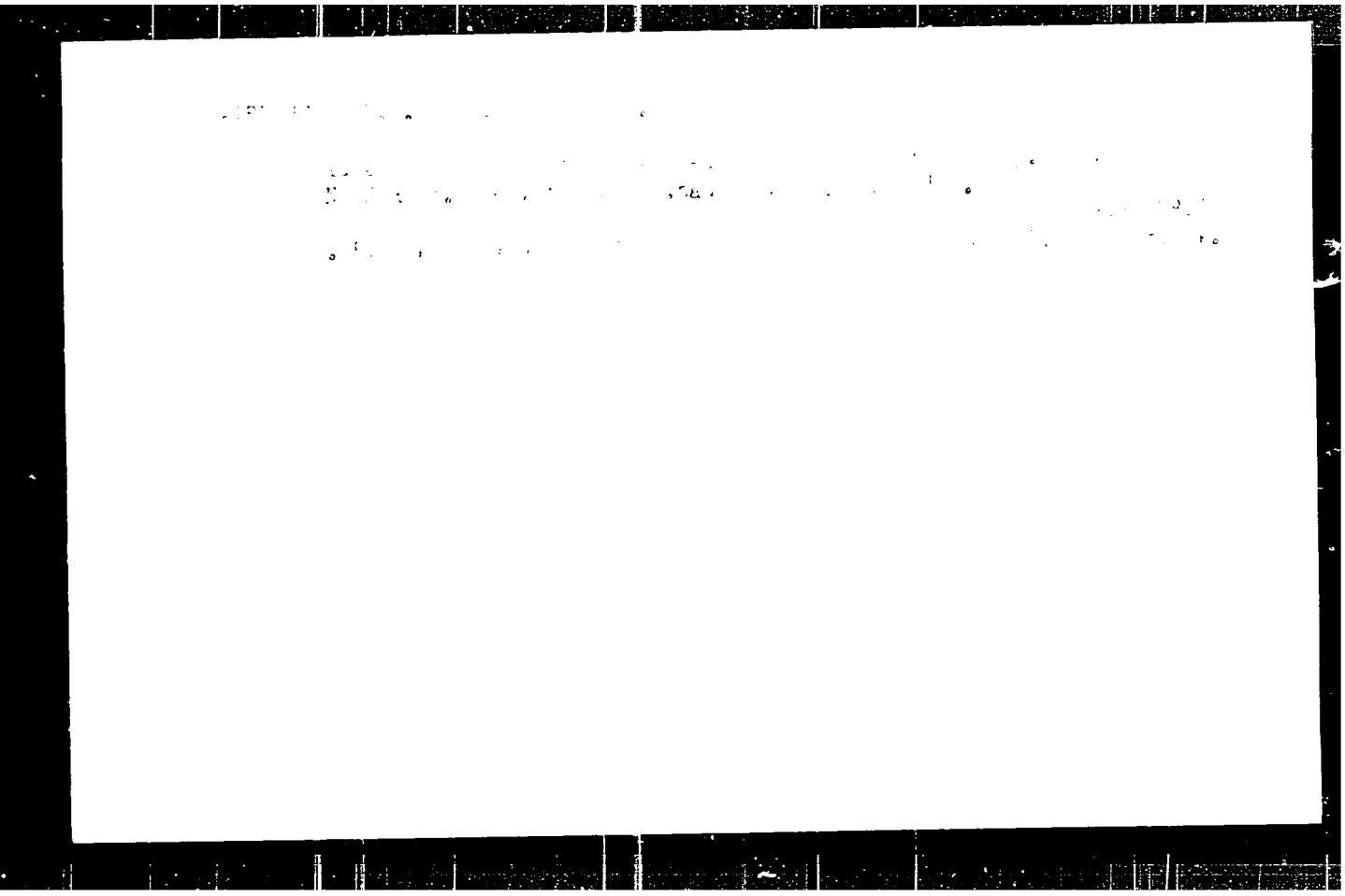
PATRUSHEV, V.

Work intensification as the most important factor in increasing the relative and absolute impoverishment of the proletariat. Sots. trud 8 no.1:111-117 Ja '63. (MIRA 16:2)
(Labor and laboring classes)

SOMINSKIY, V.S., doktor ekon. nauk, prof., red.; PATRUSHEV, V.D., otv. red.; BELOUSOVA, V.S., red.; POTEMKIN, P.I., red.; SNITSARENKO, A.A., red.; KVCHINNIKOVA, T.K., tekhn. red.

[Economic problems of mastering new enterprises] Ekonomicheskie voprosy osvoeniia novykh predpriiatii. Pod obshchei red. V.S.Sominskogo. Novosibirsk, Izd-vo Sibirskogo otdniia, 1963. 231 p. (MIRA 16:11)

1. Akademiya nauk SSSR. Sibirskoye otdeleniye. Institut ekonomiki i organizatsii promyshlennogo proizvodstva.
(Industrial management)



PATRUSHEV, Vasiliy Dmitriyevich, kand. ekon. nauk; TRIFSIK, G.B., red.; GERASIMOVA, Ye.S., tekhn. red.

[Labor intensity under socialism] Intensivnost' truda pri sotsializme. Moskva, Ekonomizdat, 1963. 237 p. (MIRA 16:6)

(Labor and laboring classes)

PATRUSHEV, V.N.

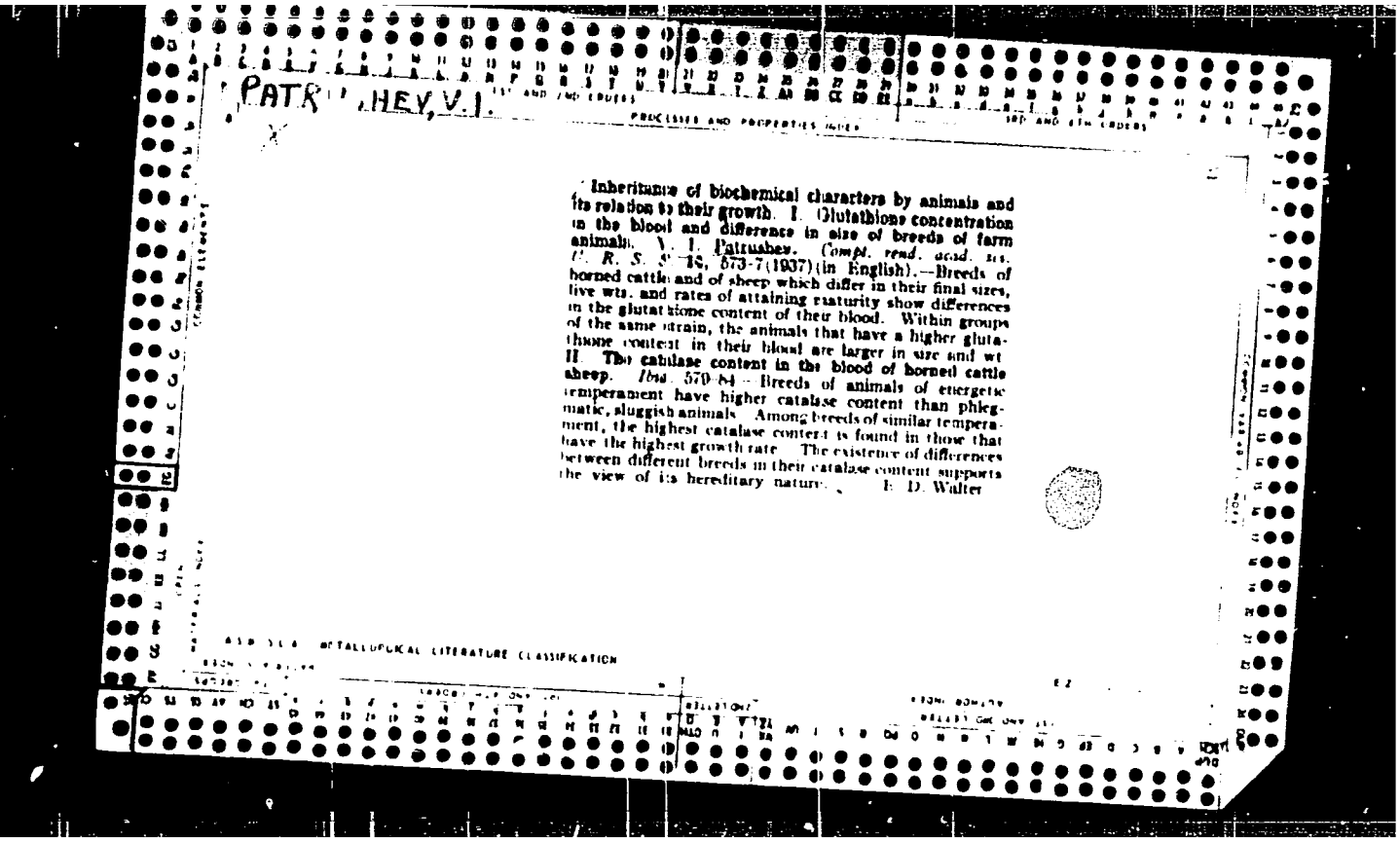
Practical applications in the physics curriculum. Fiz. v shkole 17 no.5:78-85 S-O '57. (MLRA 10:9)

1. 16-ya srednyaya shkola, g. Kirov.
(Physics--Study and teaching)

PATRUSHEV, V.I. [deceased]; ZHUKOV, V.G.

Physiology of attention. Vop. psikhol. 8 no.5:70-74 S-O '62.
(MIRA 16:5)

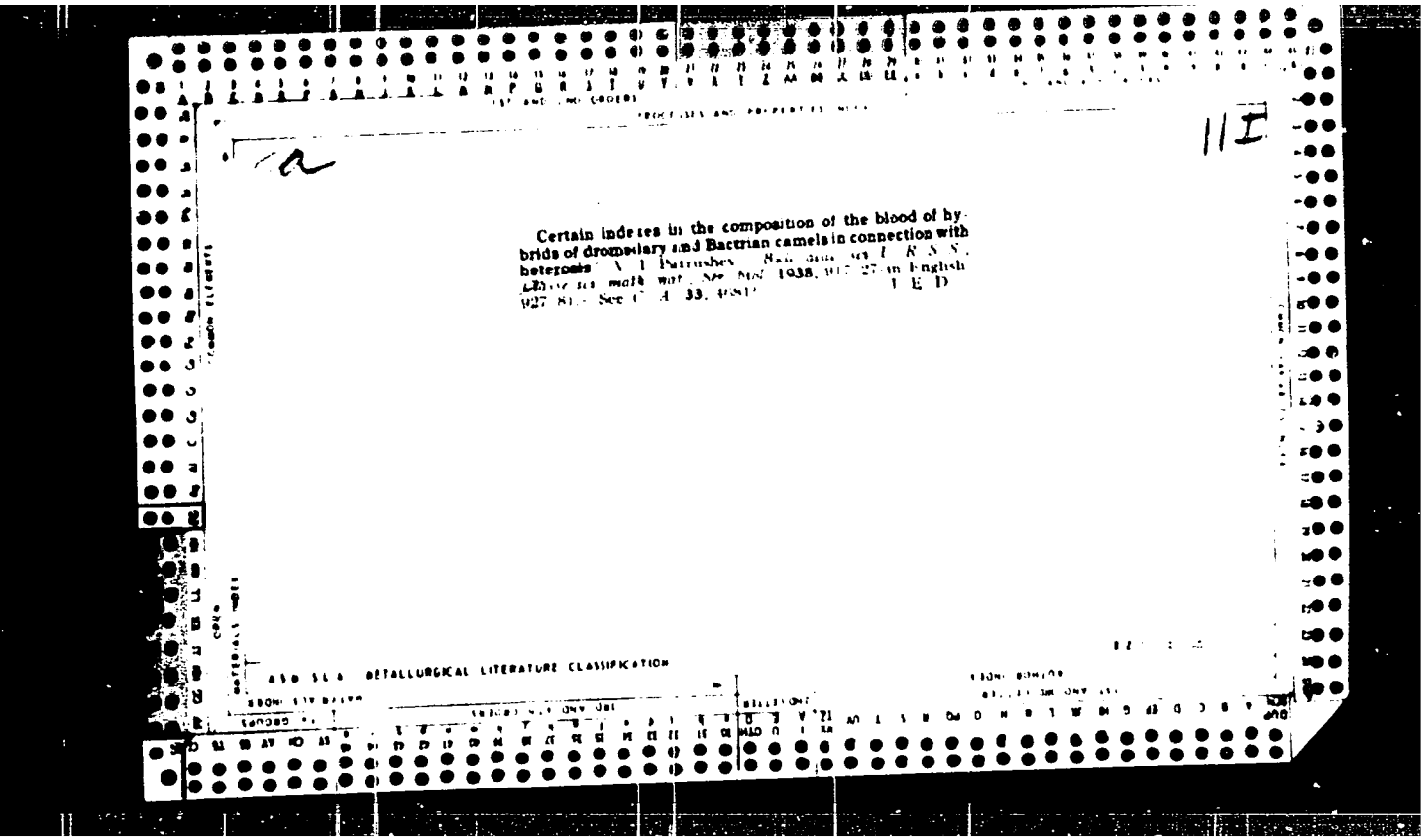
1. Ural'skiy universitet imeni A.M.Gor'kogo, Sverdlovsk.
(Attention) (Psychology, Physiological)



PATR[illegible]HEV, V. I.

Inheritance of biochemical characters by animals and its relation to their growth. I. Glutathione concentration in the blood and difference in size of breeds of farm animals. V. I. Patrushev. *Compt. rend. acad. sci. U. R. S. S.* 18, 573-7 (1937) (in English).—Breeds of horned cattle and of sheep which differ in their final sizes, live wts. and rates of attaining maturity show differences in the glutathione content of their blood. Within groups of the same strain, the animals that have a higher glutathione content in their blood are larger in size and wt. II. The catalase content in the blood of horned cattle sheep. *Ibid.* 579-84.—Breeds of animals of energetic temperament have higher catalase content than phlegmatic, sluggish animals. Among breeds of similar temperament, the highest catalase content is found in those that have the highest growth rate. The existence of differences between different breeds in their catalase content supports the view of its hereditary nature. E. D. Walter

METALLURGICAL LITERATURE CLASSIFICATION



Certain indexes in the composition of the blood of hybrids of dromedary and Bactrian camels in connection with heterosis

ASD SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

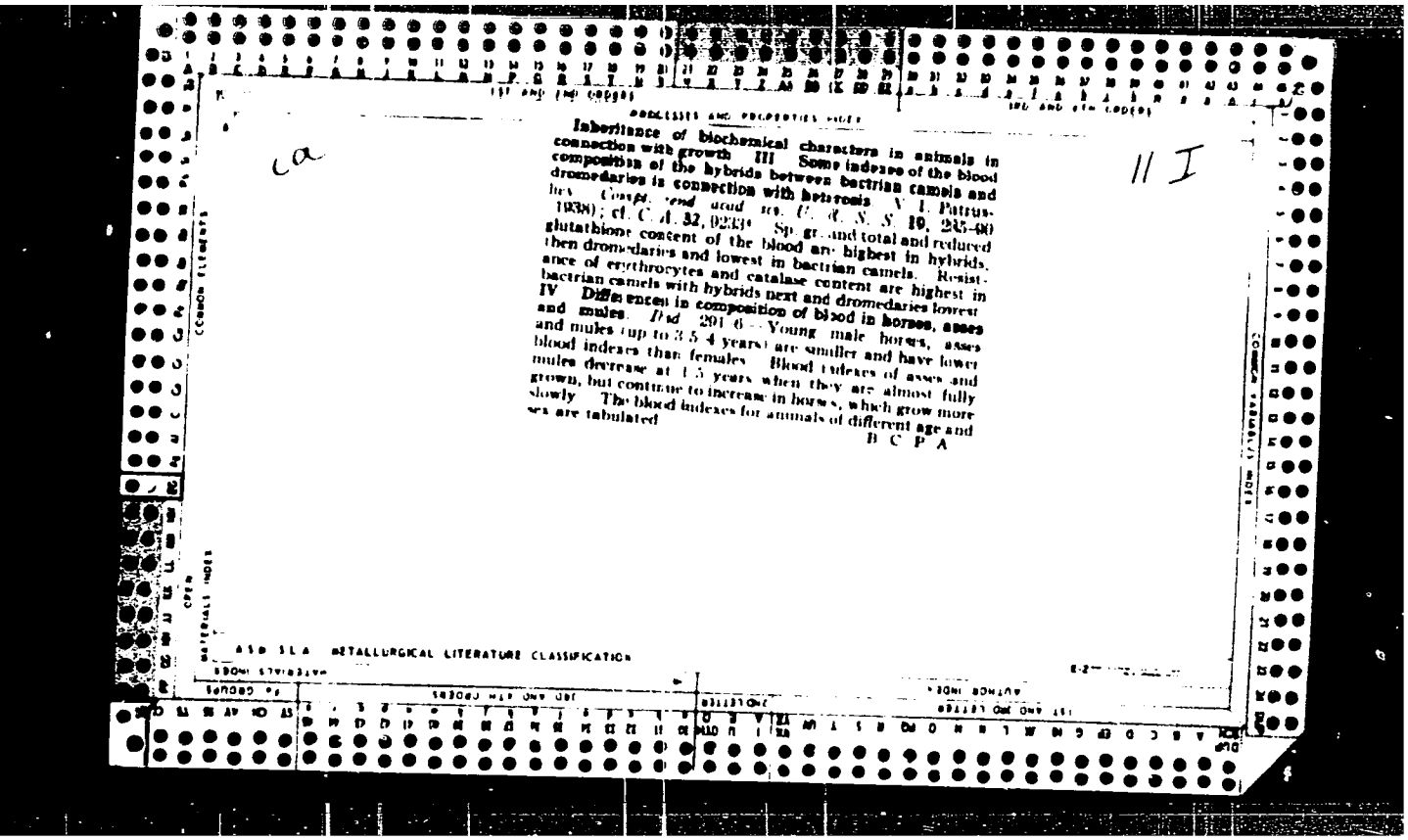
cla

11F

Differences in the composition of the blood of horses, asses and mules V. I. Patrusaev. *Bull. acad. sci. U. R. S. S., Classe sci. math. nat., Sér. biol.* **1938**, 929-4. (In English, 945-6. See C. A. 33, 4681.) I. E. D.

2ND AND 4TH ORDERS

A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION



Inheritance of biochemical characters in animals in connection with growth. III. Some indexes of the blood composition of the hybrids between bactrian camels and dromedaries in connection with heterosis. V. I. Petrushevskii. *Compt. rend. acad. sci. U. R. S. S.* **19**, 235-40 (1938); cf. *C. A.* **32**, 9233⁹. Sp. gr. and total and reduced glutathione content of the blood are highest in hybrids, then dromedaries and lowest in bactrian camels. Resistance of erythrocytes and catalase content are highest in bactrian camels with hybrids next and dromedaries lowest. IV. Differences in composition of blood in horses, asses and mules. *Ibid* 201-6.—Young male horses, asses and mules (up to 3.5-4 years) are smaller and have lower blood indexes than females. Blood indexes of asses and mules decrease at 1.5 years when they are almost fully grown, but continue to increase in horses, which grow more slowly. The blood indexes for animals of different age and sex are tabulated.

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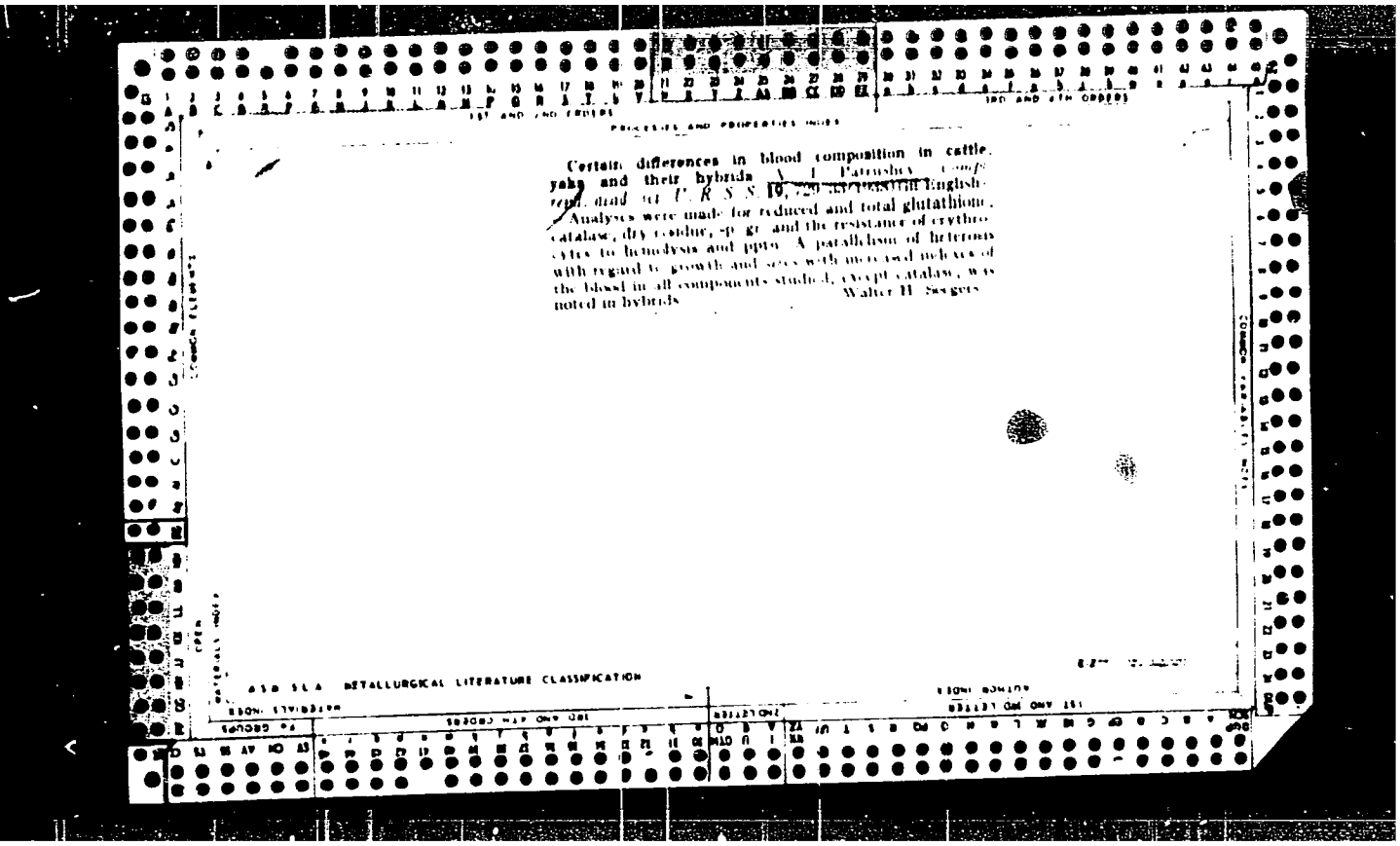


Certain differences in blood composition in cattle, yaks and their hybrids [illegible] English-
[illegible] Analyses were made for reduced and total glutathione, catalase, dry residue, sp gr and the resistance of erythro-cytes to hemolysis and ppts. A parallelism of heterosis with regard to growth and sex with increased indices of the blood in all components studied, except catalase, was noted in hybrids. Walter H Sawyer

PATRUSHEV, V. I.

"Physiological Variation in Horse as Connected with Age, Breed and Performance," Dok. AN, 23, No. 7, 1939; Inst. Genetics. Mbr., Acad. Sci., c1939-.

"Physiological Variation within the English Race-Horses," ibid.;

"Speed and Blood Value of English Race-Horses," ibid.;

Physiological differences in draft-horses as correlated with their performance V. I. Patrushev. *Compt. rend. acad. sci. U. R. S. S.* 24, 182 (1939); cf. C. A. 33, 7894. – Differences are recorded in blood chemistry and physics between horses giving good and indifferent performances in load hauling. B. C. P. A.

Inst. Genetics, AS USSR

A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION

Genetics of the biochemical characters in animals in relation to their size. V. I. Patrushev. *Bull. Inst. Genetics* (U. S. S. R.) 1940, No. 13, 131-52 (in English, 152-3). The glutathione concn. and catalase activity were studied in the blood of the following breeds of cattle. Shorthorn, Hereford, Aberdeen-angus, Kalmyk and their hybrids as well as in the blood of sheep of the Würtemberg and Ganib breeds and their hybrids. Glutathione was detd. according to the method of Woodward and Fry, and catalase according to Bach. The glutathione concn. in the blood of the same animal varies at different times of the day. In most animals glutathione decreases from morning till noon and then rises toward the evening. In all cases the catalase indexes are higher in the morning, successively diminishing toward noon and evening. Glutathione concn. remains relatively const. in animals up to the age of 3 years and then gradually decreases with age. As compared with mature animals the catalase indexes are considerably higher in calves. No reduction with age has been observed in mature animals. Glutathione indexes are higher in breeds of intensive growth and lower in the smaller, late-maturing breeds. The Kalmyk cattle are an exception, possessing the highest glutathione concn. among all the groups investigated. Methods of the total evaluation of the genotype have established actual differences in the concn. of glutathione and catalase between individual sires within the breeds. The distribution curves of animals according to the value of the catalase index is multi-peaked for all the breeds both of cattle and sheep. The catalase indexes (like those of glutathione) display the same successive decrease from breed to breed and also decrease in the hybrids. Within the given breed animals with a higher glutathione concn. and catalase activity in the blood display on the av. a greater body wt. 53 references.

W. R. Henn

ASM-SLA METALLURGICAL LITERATURE

PATRUSHEV, V.I.

Effect of a salt-free diet on arterial pressure and mineral metabolism in hypertension. Vop. pit. 22 no.1:22-28 Ja-F'63
(MIRA 16:11)

1. Iz kafedry gospital'noy terapii No.2 (zav. - prof.K.A. Mayanskaya) Kazanskogo meditsinskogo instituta.

PATRUSHEV, V. I.

"Physiological Approach to the Evaluation of the Productivity of Farm Animals," "Morphophysiological Types of Farm Animals," ibid., 27, Nos. 5, 7, 1940. Inst. Genetics, Acad. Sci., Moscow. c1940-.

PATRUSHEV, V. I.

"Consititution of Animals" (p. 312) by Patrushev, V. I.

SO: Journal of General Biology (Zhurnal Obshchey Biologii) Vol. III, No. 5-6, 1942.

USSR / Farm Animals, General Problems

Abs Jour: Ref Zhur-Biologiya, No 2, 1958. 7116

Author : V. I. Patrushev, A. V. Polukhina, N. I. Yalovaya, R. N. Oleneva, I. V. Pavlova, T. I. Batuyeva, D. Popovich, Yu. Paryshkin

Inst : West Ural University

Title : The Physiological Basis of Increased Productivity of Farm Animals

Orig Pub: Uch. zap. Ural'skogo un-ta, 1957, vyp. 15, 3-30

Abstract: Experiments made on calves which were raised on rations with a low, average, and high content of proteins, revealed a better digestion of proteins, nitrogen-free extracts and carotin, in animals which had received more proteins in their rations. It was also revealed that the stimulation of secretion of gastro intestinal juices

Card 1/3

ROSHCHEVSKIY, M.P.; PATRUSHEV, V.I., prof., doktor biolog.nauk, otv. red.; YEPIMAKHOVA, M.Ya., red.; BELYAYEV, S.A., tekhn.red.

[Electrical activity of the heart and electrocardiographic methods for cattle] Elektricheskaia aktivnost' serdtsa i metody s"emki elektrokardiogramm u krupnogo rogatogo skota. Sverdlovsk, Ural'skii nauchno-issl. in-t sel'.khoz., 1958. 77 p. (MIRA 11:12)
(Cattle--Physiology) (Electrocardiography)

PATRUSEV, V.I.; PATUYEVA, T.I.; BOGOMOLOV, N.A.; GANYUSHKINA, S.M.; NAUMOV, M.P.; PAVLOVA, I.V.; PARYSHKIN, Yu.A.; POLUKHINA, A.V.; SILANT'YEVA, K.G.; SUGANOVA, N.M.

Experiments in physiological evaluation of food rations. Uch.zap. UrGU no.31:3-16 '59. (MIRA 14:5)
(Cattle--Feeding and feeds) (Proteins)

PATRUSHEV, V.I.; VAKAR, B.A., prof., otv. red.

[A concise outline of the development and use of biological knowledge; a manual for students of biology departments] Kratkii ocherk razvitiia i ispol'zovaniia biologicheskikh znanii; uchebnoe posobie dlia studentov biologicheskogo fakul'teta. Sverdlovsk, Ural'skii gos. univ., 1961. 159 p. (MIRA 17:9)

PATRUSHEV, V.I.

Salt regimen at different stages of hypertension. Terap. arkh. 35 no.9:40-47 S'63 (MIRA 17:4)

1. Iz kafedry gospital'noy terapii No.2 (zav. - prof. K.A. Mayansakaya) Kazanskogo meditsinskogo instituta.

PATRUSHEV, V.I.

Role of sodium and chlorine in the hypotensive action of low-chloride and chloride free diet in hypertension. Terap. arch. 34 no.12:8-14 D'62. (MIRA 16:6)

1. Iz kafedry gospital'noy terapii No.2 (zav. - prof. K.A. Mayanskaya) Kazanskogo meditsinskogo instituta.
(SALT-FREE DIET) (HYPERTENSION)

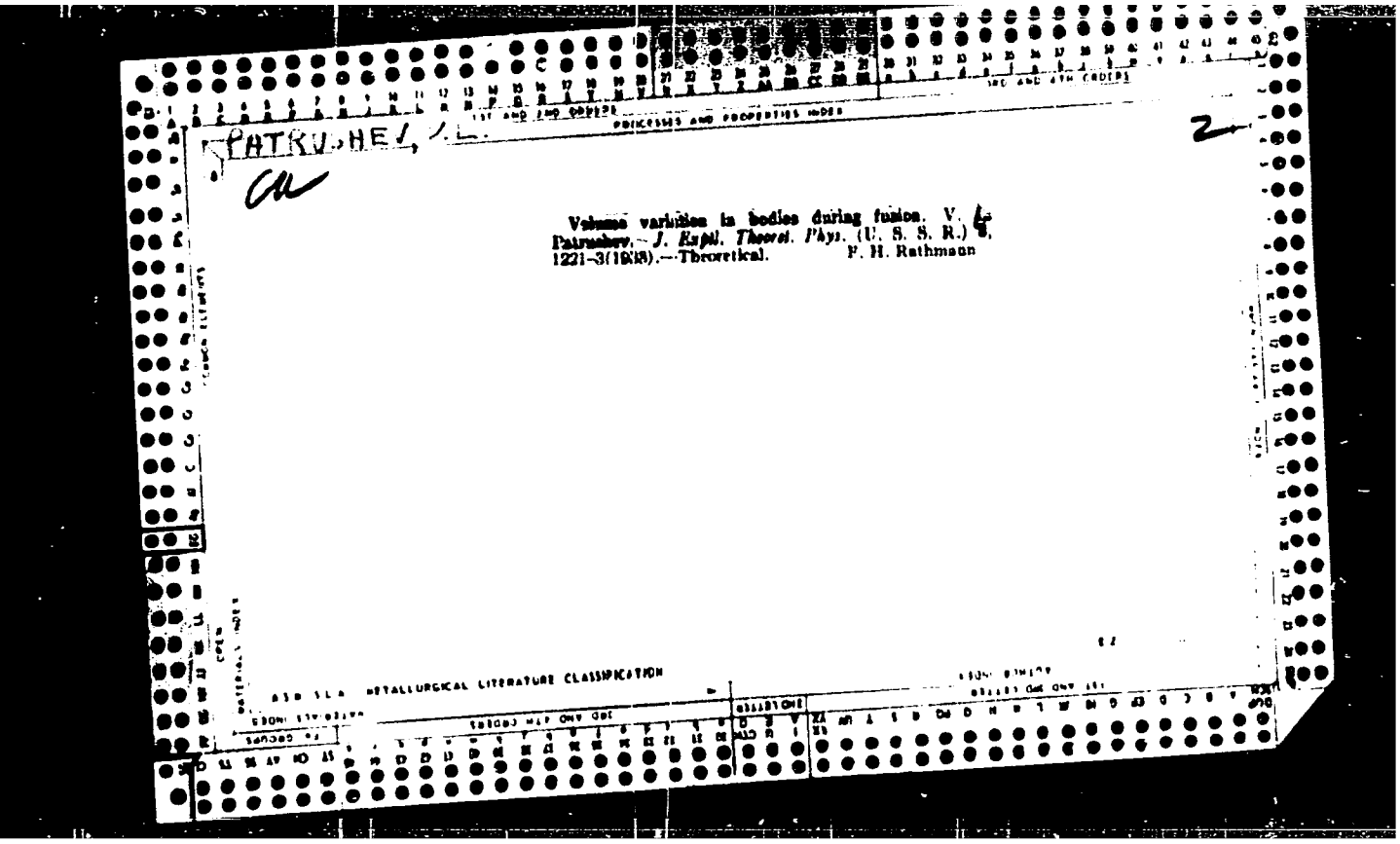
PATRUSHEV, V.I., aspirant

Effect of sodium chloride on electrolyte metabolism and arterial pressure in hypertension. Kaz.med.zhur. no.1: 23-24 Ja-F'63. (MIRA 16:8)

1. Kafedra gospital'noy terapii no.2 (zav. - prof. K.A. Mayanskaya) Kazanskogo meditsinskogo instituta.
(SALT—PHYSIOLOGICAL EFFECT) (ELECTROLYTE METABOLISM)

ZAVOYSKIY, Ye.K.; KOVAN, I.A.; PATRUSHEV, B.I.; RUSANOV, V.D.; FRANK-KAMENETSKIY, D.A.

Magnetoacoustic method of plasma ionization. Zhur.tekh.fiz. 31 no.5:513-517 My '61. (MIRA 14:7)
(Plasma (Ionized gases)) (Magnetohydrodynamics)



PATRUSHEV, I. I.

2

Volume variation in bodies during fusion. V. I. Patrushev. — *J. Exptl. Theoret. Phys.* (U. S. S. R.) 8, 1221–3(1938).—Theoretical. F. H. Rathmann

PATRUSHEV, V. L.

Mbr., Sci. Res. Physico-Math. Inst., Saratov State Univ., -1940-1945-.

Mbr., Sci. Res. Inst. Saratov State Univ., -1949-.

"The Endovibrator in the Resonance Method for Investigating the Dielectric Constant of Substances in the Decimeter Range," Iz. Ak. Nauk SSSR, Ser. Fiz., 4, No. 3, 1940;

"Computation of the Electromagnetic Field of Endovibrators Having Form of a Body of Rotation,"

"Calculation ofa Form of a Cylindrical Endovibrator," Zhur. Tek. Fiz., 16, No. 1, 1946;

"Equivalent Constants of a Rectangular Cavity Resonator," Radiotekh., 1, No. 9, 1946;

"Calculation of a Pi-Shape Cavity Resonator," Zhur. Tekh. Fiz. 20, No. 7, 1950;

PATRUSHEV, V. I.

USSR/Radio Dec 1946

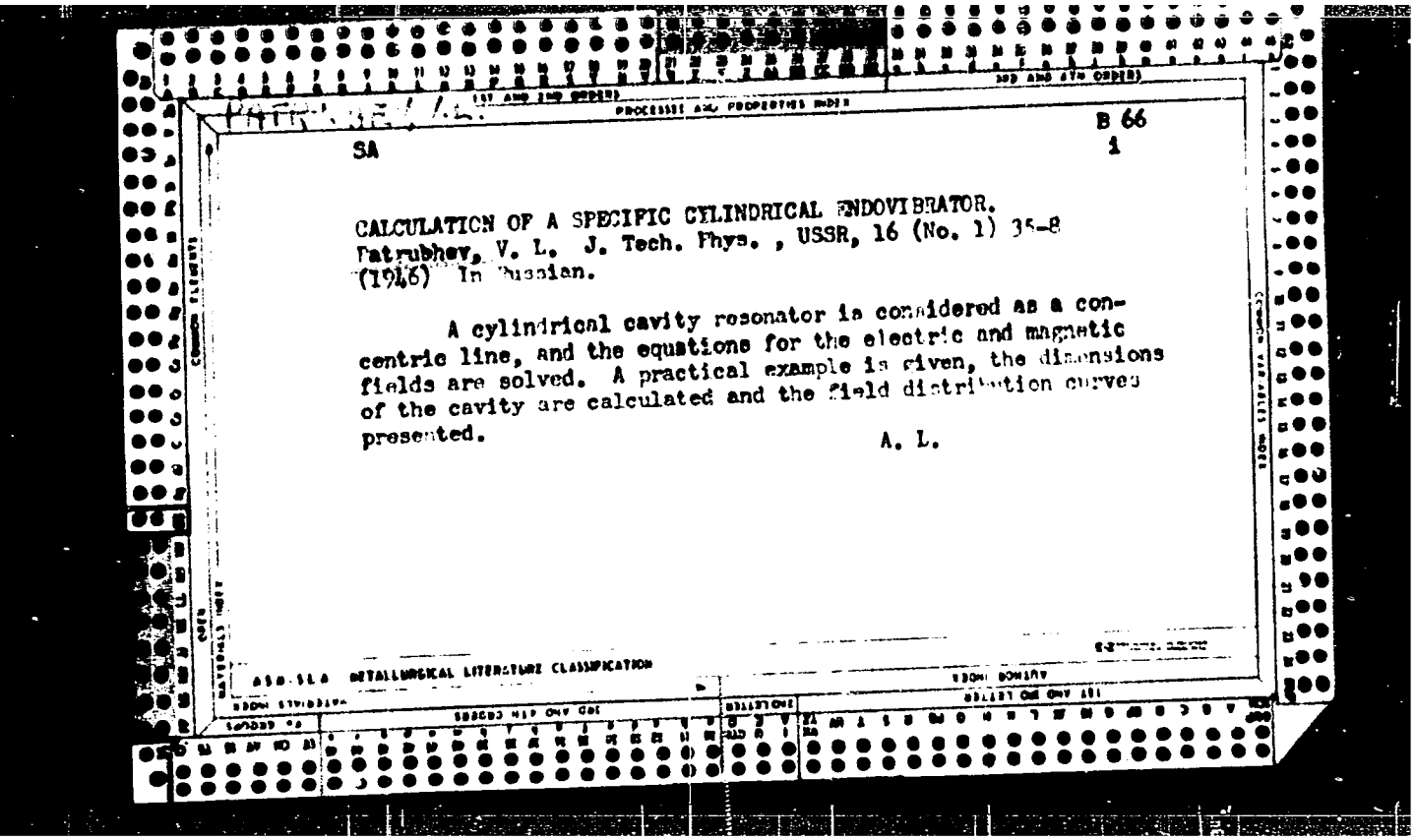
Resonators, Cavity
Resonators, Electric

"Equivalent Constants of a Rectangular Cavity Resonator," V. L. Patrushev, 9 pp

"Radiotekhnika" Vol I, No 9

The equivalency of a cavity resonator to an oscillatory circuit is established and formulas for computing the various modes of oscillations are derived.

20765



SA

B 66
1

CALCULATION OF A SPECIFIC CYLINDRICAL ENDOVIBRATOR.
Patrubhev, V. L. J. Tech. Phys. , USSR, 16 (No. 1) 35-8
(1946) In Russian.

A cylindrical cavity resonator is considered as a concentric line, and the equations for the electric and magnetic fields are solved. A practical example is given, the dimensions of the cavity are calculated and the field distribution curves presented.

A. L.

PATRUSHEV, V.L.

Patrušev, V. L. The application of the method of curvilinear coordinates for the computation of H-shaped endovibrators. (Russian) Akad. Nauk SSSR. Zurnal Tehn. Fiz. 20, 727–734 (1950).

The lowest mode electromagnetic field is found for a cavity in the form of a closed wave guide in which a partition is placed to make the interior H-shaped. A conformal mapping is first found which solves a related static field problem; then a variational principle is used to find the lowest mode.

E. N. Gilbert (Murray Hill, N. J.).

Source: Mathematical Reviews, Vol 12 No. 9

USSR/Electronics - Cavity Resonators Jul 50
Vacuum Tubes, UHF

"Calculation of a Pi-Shape Cavity Resonator," V. L. Patrushev, O. V. Romanova, Saratov, Lab of Radiophys, NIIMF [Sci Res Inst of Microwave Phys], Saratov State U

"Zhur Tekh Fiz" Vol XX, No 7, pp 798-801

Calculates cavity resonator in form of cylinder with thin rod inserted in it. Resonant wave length is $2p'/k$ [wavemeter application]. Applies formula obtained for calculating length of thin tuning rod to two cavity resonators

164T30

PA 164T30

USSR/Electronics - Cavity Resonators Jul 50
(Contd)

excited by 26-cm oscillator and compares values obtained with experimental data. Submitted 14 Feb 49.

164T30

PATRUSHEV, V. L.

Category : USSR/Radiophysics - Radiation of radio waves. Antennas I-5

Abs Jour : Ref Zhur - Fizika, No 1, 1957 No 1875

Author : Patrushev, V.L.
Title : Design of Toroidal Cavity Circuit using the Curvilinear-Coordinate Method

Orig Pub : Radiotekhn. i elektronika, 1956, 1, No 2, 162-170

Abstract : Report on the results of a theoretical design of a toroidal cavity circuit with rods of arbitrary length, using the curvilinear-coordinate method.

The Schwartz-Christoffel theorem is used to map the region bounded by the resonator cavity in the (z,r) plane onto the upper half of the plane of the complex variable $\bar{w}$, after which it is mapped with the equation $\bar{w} = \exp(j\pi\xi)$ unto the ξ plane. Equations are given to relate the parameters in the plane with the geometric dimensions of the cavity circuit.

The fundamental oscillation frequency, the components of the electromagnetic field, and the Q factor are determined by solving the Maxwell equation in the ξ plane by the Ritz approximate method.

The results of the theory are illustrated by numerical examples.

Card : 1/1

PATRUSHEV, V L

SUBJECT USSR / PHYSICS CARD 1 / 2 PA - 1258
AUTHOR PATRUŠEV, V.L.
TITLE The Application of the Method of Curvilinear Coordinates on the Computation of a ⊓-Shaped Resonator.
PERIODICAL Zurn. techn. fis, 26, fasc. 4, 821-831 (1956)
Publ. 4 / 1956 reviewed 9 / 1956

The present work proves the applicability of the method of curvilinear coordinates to the computation of a ⊓-shaped spatial circuit with a cylindrical rod of any thickness. The significance of the ⊓-shaped resonator is defined, but this is done in a complicated, not quite clear manner. In any case a ⊓-shaped resonator is a "high frequency oscillatory system which, with respect to the distribution of the electromagnetic field, is supposed to be equivalent to the quarter of a concentric wave line (?) with a certain capacity".

The choice of a curvilinear system of coordinates is carried out in such a manner that some of the coordinate surfaces are identical with the conductive walls of the ⊓-shaped spatial electric circuit. This ⊓-shaped electric circuit forms a cylindrical cavity with the radius r_o and with a rod of the radius r_1 which is coaxially arranged in the aforementioned cavity. The axial section of such a resonator is represented in a complex plane z + ir. The images between the various complex coordinate systems are discussed. In the curvilinear systems of coordinates used in this instance the expressions

Zurn. techn. fis, 26, fasc. 4, 821-831 (1956) CARD 2 / 2 PA - 1258

of the functions are in most cases considerably simplified.
There follows the determination of the components of the electromagnetic field and of the eigenfrequency of the oscillations. In the given oscillatory system oscillations of the type TM are assumed to be excited. For the determination of the scalar function Q occurring in the expressions for the components of the electromagnetic field a differential equation is given which is solved by means of a double rowed ansatz. The form of the resonator being assumed, two integrals remain to be computed; they are explicitly given for the present case.
An example for the computation in practice of a $\square$-shaped resonator. The system of coordinates used for computation must be adapted to the assumed dimensions of the system. The computation of the quality of the resonator is discussed and the results found are mentioned.

INSTITUTION: Agricultural Institute, Saratov

PATRUSHEV, V.L.

Characteristic frequency computation for a Π -shaped coil partly filled with an absorbing dielectric. Dokl.AN SSSR 107 no.3:409-412 Mr '56. (MLRA 9:7)

1.Predstavleno akademikom B.A.Vvedenskim.
(Electric coils) (Frequency measurements) (Dielectrics)

PATRUSHEV, V.L.

SUBMITTED: December 7, 1957 SOV/109-3-3-22/23

AUTHORS: Golubkov, P.V. and Tsimring, Sh. Ye.

TITLE: The Second All-Union Conference on Radioelectronics of the Ministry of Higher Education of the USSR (Vtoraya vsesoyuznaya konferentsiya MVO SSSR po radioelektronike) - News Item

PERIODICAL: Radiotekhnika i Elektronika, 1958, Vol 3, Nr 3, pp 440 - 444 (USSR)

ABSTRACT: The conference took place during September 23 - 29, 1957, at Saratovskiy gosudarstvennyy universitet imeni N.G. Chernyshevskogo (Saratov State University imeni N.G. Chernyshevskiy). Apart from the universities, the conference was attended by the representatives of some scientific research institutes of the Soviet and Ukrainian Academies of Science, various industrial establishments and the interested ministries. This arrangement stimulated the discussion and evaluation of the papers presented and permitted the determination of plans for the future research to be carried out by the universities in the field of radioelectronics.

Card1/16

A.I. Shtyrov proposed (and proved by means of the "cold" reciprocity theorem) an interference method of the investigation of delay systems. The method permits the measurement of electrical non-homogeneities of delay systems, gives a high accuracy and requires comparatively little effort. The paper "Production of Periodic Structures by Means of Ultrasonics" by Ye.M. Gershenzon was devoted to the experimental investigations of an interesting modification of a periodic structure, i.e. a regular waveguide filled with a liquid in which an ultrasonic standing wave was excited. T.P. Nazemov described the results of an investigation of the distribution of electric fields in a number of important delay systems (combs, stub systems, etc.) by means of two methods (probes with a high-resistance input) and small perturbing objects). The author also obtained the distributions of tangential components of the electric fields along certain boundary surfaces, which are of considerable interest. In a number of cases, the author also measured the coupling impedance. Some of the lectures were devoted to the problems of diffraction which are important in the analysis of the directional patterns of antennas. Here one should mention the papers by Ye.N. Vasil'yev and S.M. Vereveim, dealing with the excitation of the solids of revolution. The analysis of the oscillations in π-type and toroidal volume resonators and in π-type and cross-shaped waveguides was given in the papers by V.L. Patrushev and V.M. Sedykh, respectively. A number of the papers in the Electrodynamics Section dealt with the complex phenomena appearing at the junctions of waveguides. Here, it is necessary to mention the papers: "The Calculation of Junctions" by Ya.N. Turover; "The Problem of Construction of Certain Wideband Matching Devices" by Ye.T. Anisimov and V.D. Luchinin and "Measurement of the Parameters of the Energy Outputs in U.H.F. Devices by Means of a Symmetrical Transformer" by I.A. Dukhovnikova and M.M. Ra[illegible]er. The behaviour of various substances in electromagnetic fields at U.H.F. was discussed in the papers o. O.V. Karpova, U.P. Radin, I.A. Shekhtman, A.I. Pilshchikov, A.L. Levinson, N.S. Sedletskaya and A.A. Kuznetsov. The paper of N.G. Basov and his collaborators described the principle of operation of a molecular clock having an accuracy of 10^{-9}. The results of a theoretical investigation of the molecular radiation in [illegible]-frequency fields were given in the papers of V.M. Fain, entitled "Radiation of the Molecules in Strong High-frequency Fields" and "The Spontaneous Radiation of Molecules at Ultra-high Frequencies". In the second of the above papers, the author came to the conclusion that the width of the spectral line of the spontaneous radiation at U.H.F. is finite. The author also proposed a classical analogy for the phenomenon of coherence in the spontaneous radiation.

Card7/16

PATRUSHEV, V.L.

Computation of TE-mode natural frequencies in toroidal and Π-form resonators. Izv. vys. ucheb. zav.; radiofiz. 2 no.2:223-228 '59
(MIRA 13:3)

1. Saratovskiy gosudarstvennyy universitet.
(Wave guides) (Electromagnetic waves)

05485
SOV/141-2-2-10/23

AUTHOR: Patrushev, V.L.

TITLE: Calculation of the Natural Frequencies of the TE Modes of Toroidal and Π-shaped Resonators

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, 1959, Vol 2, Nr 2, pp 223 - 228 (USSR)

ABSTRACT: The electrical field in the TE mode has only one component, $E_\varphi = E$, which is found from

$$\frac{\partial^2 E}{\partial \xi^2} + \frac{\partial^2 E}{\partial \eta^2} + \frac{1}{r}\frac{\partial r}{\partial \xi}\frac{\partial E}{\partial \xi} + \frac{1}{r}\frac{\partial r}{\partial \eta}\frac{\partial E}{\partial \eta} + \left(k^2 - \frac{1}{r^2}\right) h_o^2 E = 0 \qquad (1),$$

this being written in a curvilinear system of co-ordinates ξ and η. The curves ξ = const. and η = const. in the cross-section of the resonator are in the form shown in Figure 1. The Lamé coefficient h_o and the radial cylindrical co-ordinate r are chosen because of the axially symmetric form of the resonator. The expressions

Card1/4

Calculation of the Natural Frequencies of the TE Modes of Toroidal and Π-shaped Resonators

for h_o and r for a Π-shaped resonator are given in the work of the author (Ref 1) and those for a toroidal resonator in Ref 2. The solution of Eq (1) is equivalent to finding the value of the functional expressed by Eq (2), where the integration is carried out over the whole region, D , limited by the contour, L . In analogy to the solution of the problem of a vibrating diaphragm, the field E can be represented by Eq (3), where the constant coefficients a_m are chosed so that the functional I(E) has a steady-state value in the dass of functions represented by Eq (3). The coefficients a_m and the eigen values k can be found by substituting Eq (3) into Eq (2). The stationary value of the functional is obtained when the condition described by Eq (4) is fulfilled. By introducing the notation of Eqs (5) and (6) (where the index s can have values 1, 2, ...,), Eq (4) can be written as Eqs (7). This infinite system of linear equations has non-trivial solutions when its determinant (given by Eqs (8)) is equal

Calculation of the Natural Frequencies of the TE Modes of Toroidal and Π-shaped Resonators

to zero. From Eq (8), it is possible to determine the quantity k and evaluate the coefficients of Eqs (7). The components of the electromagnetic field can now be expressed by Eqs (9). The above equations can be employed to solve practical problems. For a Π-shaped resonator, for $m = 1$ (the first approximation) it is shown that the coefficients α_{11} and γ_{11} are given by Eqs (10) and (11). On the other hand, the first approximation for a toroidal resonator shows that α_{11} and γ_{11} are given by Eqs (12) and (13). Eqs (10) to (13) permit the evaluation of the natural frequency of the TE mode in Π-type and toroidal cavity resonators. The formulae are approximate in that they give an error of the order of 1-2%. More accurate results can be obtained if the second approximation is attempted. There are 1 figure and 5 references, of which 4 are Soviet and 1 English.

05485

Calculation of the Natural Frequencies of the TE Modes of Toroidal and Π-shaped Resonators SOV/141-2-2-10/22

ASSOCIATION: Saratovskiy gosudarstvennyy universitet (Saratov State University)

SUBMITTED: November 10, 1957

Card 4/4

PATRUSHEV, V.N.

47-5-12/16

AUTHOR: Patrushev, V.N. (Kirov)

TITLE: Polytechnical Training During Physics Instruction (Politekhnicheskoye obucheniye pri prepodavanii fiziki)

PERIODICAL: Fizika v Shkole, September-October 1957, No 5, pp 78-85 (USSR)

ABSTRACT: The Kirov 16th high school possesses a well equipped plant with facilities for electro-engineering, motion pictures, carpentry and mechanics. Section 1 of the article describes the equipment and storage facilities. Section 2 deals with the role polytechnical training plays in the physics course. It points out the necessity of making the students familiar with the application of physical laws to modern industry, and quotes a number of questions considered to be most important in this training. In the last section the author relates his experiences with student extra-curricula activity. There exist 10 technical groups at the school, such as for aircraft models, for photography, for making devices, etc. The group work contributes to better progress by the students in physics, but also lectures on technical subjects. Evenings devoted to questions in physics and technics are important. The author quotes some of the subjects on which lectures are delivered in the various classes. Great significance is also attached to motion pictures

Card 1/2

Polytechnical Training During Physics Instruction 47-5-12/16

on physics and technique.
The article contains 5 photos.

ASSOCIATION: The 16th High School at Kirov (16-ya srednyaya shkola, gorod Kirov)

AVAILABLE: Library of Congress

Card 2/2

PATRUSHEV, V. N.

Excavating Machinery

Increasing productivity of excavators in open mines. V. N. Patrushev., [illegible], 1 52

9. Monthly List of Russian Accessions, Library of Congress, April 1952. 1953, Uncl.

GRIGOR'YEV, I.I.; SHIKHOVA, N.N.; VLADIMIROVA, Z.Ya.; KRESIKOVA, I.A.; PATRUSHEVA, A.V.

Prevention of rheumatic fever under operating conditions of rheumatological clinics. Vrach. delo no.9:31-33 S '60. (MIRA 13:9)

1. Sochinskiy nauchno-issledovatel'skiy institut kurortologii.
(RHEUMATIC FEVER)

L 13274-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 RM
ACCESSION NR: AP5002987 S/0079/64/034/009/2907/2910

AUTHOR: Pudovik, A. N.; Aladsheva, I. M.; Patrusheva, N. A. B

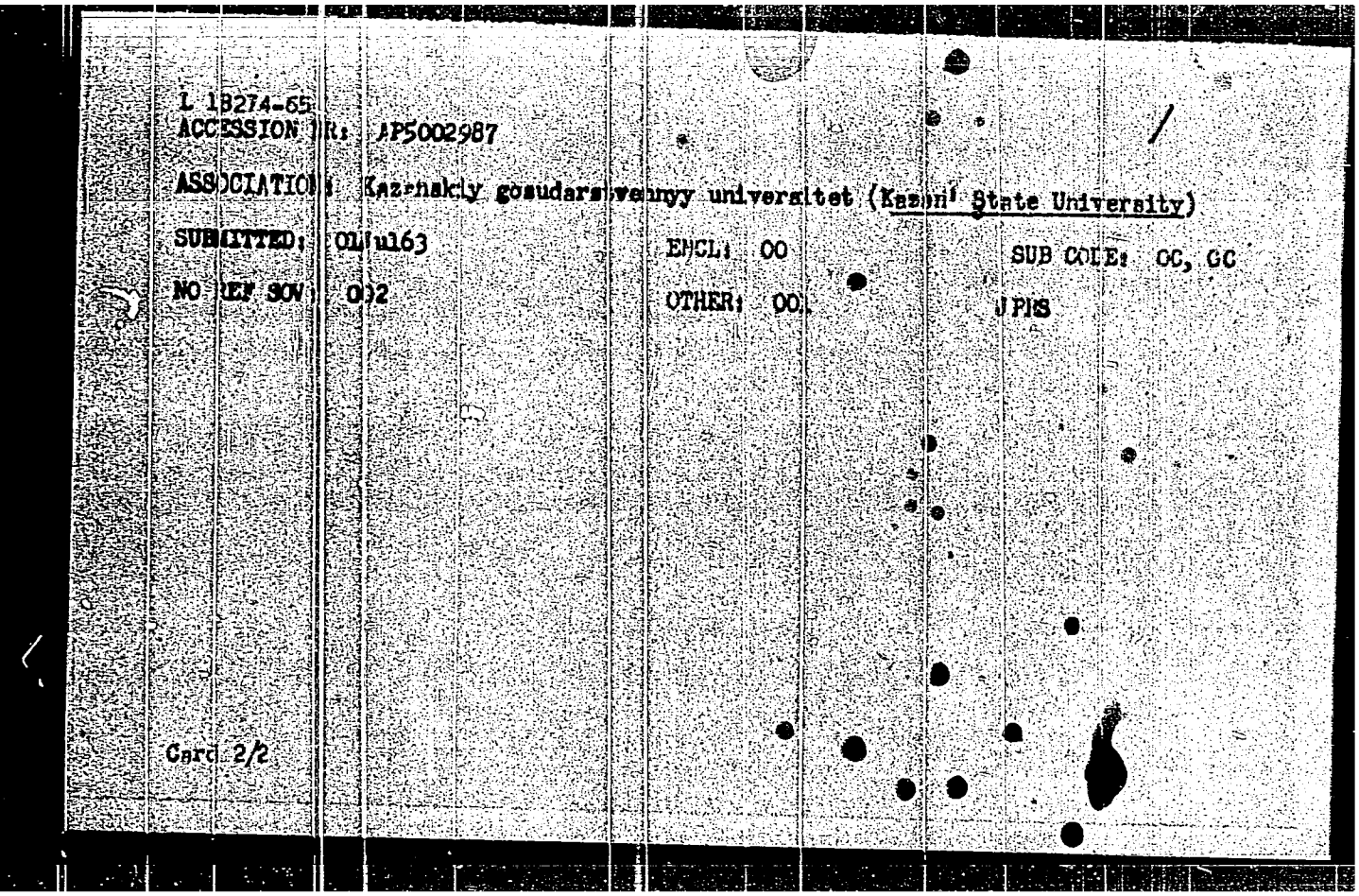
TITLE: Reaction of chlorides of dialkylphosphorus acids with 2,5-dimethylhexyne-3-diol-2,5

SOURCE: Zhurnal obshchey khimii, v. 34, no. 9, 1964, 2907-2910

TOPIC TAGS: chloride, organic phosphorus compound, chemical reaction

Abstract: The reactions of chlorides of diethyl-, di-n-propyl-, and di-n-butylphosphorous acids with 2,5-dimethylhexyne-3-diol-2,5 (I) were studied. In the reaction of 1 mole of (I) with 2 moles of the dialkylchlorophosphite in ether solution in the presence of an organic base, followed by distillation of the reaction products under vacuum, the phosphites formed underwent a rearrangement, and 2,5-dimethyl-4-(dialkylphosphone)hexadiene-2,3-ols-5 (A) (20-38% yield) and 2,5-dimethyl-3,4-di(dialkylphosphone)hexadienes-2,4 (7-30% yield) were obtained. These reactions are compared with the analogous reactions of dialkylchlorophosphites with 2-butynediol-1,4, producing only conjugated dienes and no allene-type products. The mechanisms of the reactions studied are discussed and the infrared spectra of the reaction products, confirming their structures, are considered. Orig. art. has 6 formulas and 1 table.

Card 1/2



L 18274-65
ACCESSION NR: AP5002987

ASSOCIATION: Kazanskiy gosudarstvennyy universitet (Kazan' State University)

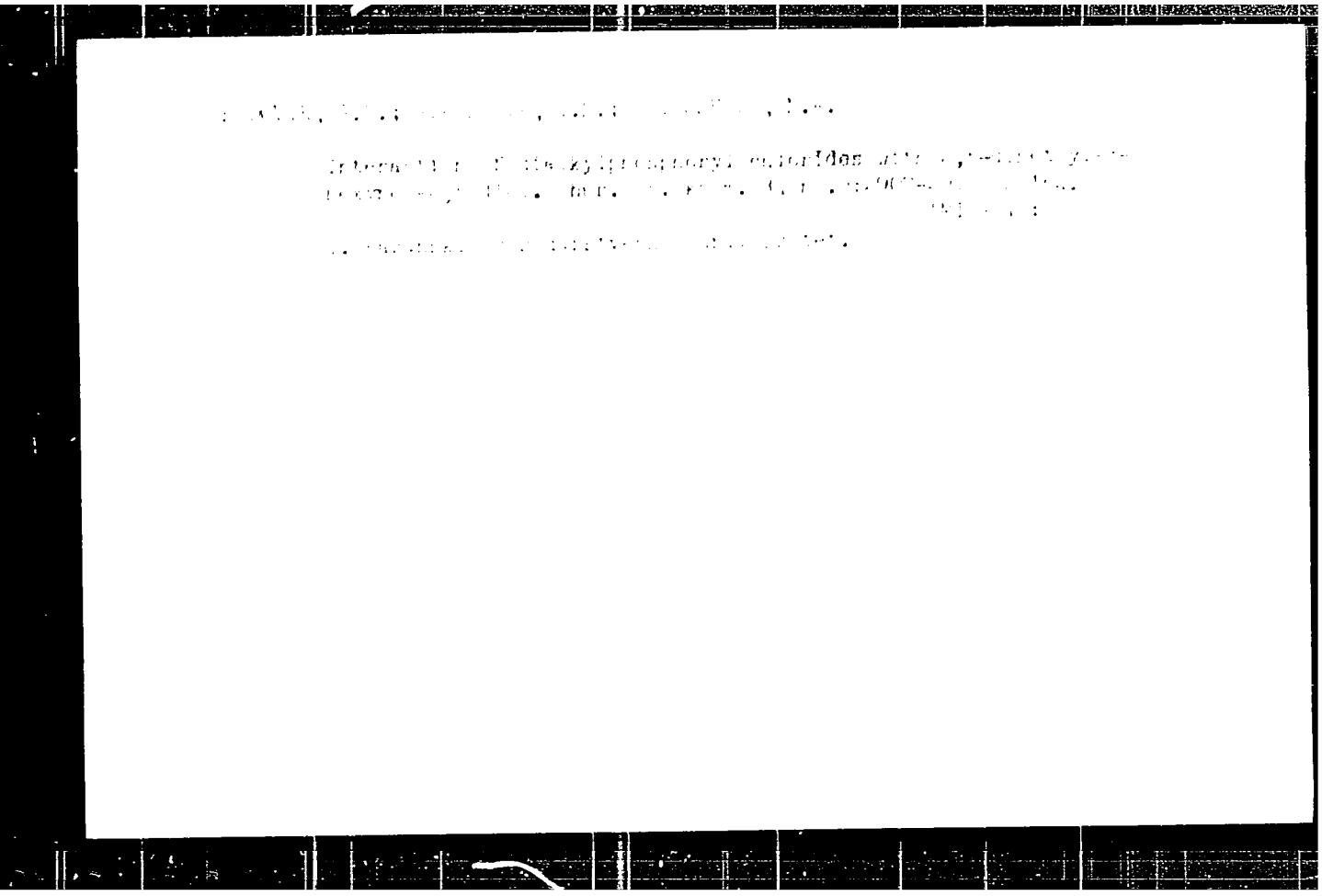
SUBMITTED: 01Jul63 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 002 OTHER: 001 JPRS

Card 2/2

PATRUSHEVA, N.N.; VAL'PITER, E.V.

Increasing the speed of mazut discharge from tank cars in the wintertime. Neft. khoz. 40 no.4:55-59 Ap '62. (MIRA 15:5)
(Mazut) (Tank cars) (Viscosity)



ZUDIN, V.M.; PATRUSHEVA, N.N.; VALPITER, E.V.; VEREMEY, I.I.

Separate feed of fuel oil. Metallurg 7 no.7:23 Jl '62.
(MIRA 15:7)

1. Magnitogorskiy metallurgicheskiy kombinat.
(Open-hearth furnaces—Fuel systems)

L 57750-65
ACCESSION NR: AP5010363 UR/0205/65/005/002/0314/0314

AUTHOR: Patusova, O. I.; Tarchevskiy, I. A. 5 B

TITLE: Effect of beta-radiation on heart contraction frequency of mollusk embryos

SOURCE: Radiobiologiya, v. 5, no. 2, 1965, 314

TOPIC TAGS: mollusk, embryo, heart, heart contraction frequency, beta-radiation, radiation dose, radioresistance, phosphorus-32

ABSTRACT: In a series of experiments mollusk embryos (Planorbis corneus, Physa hypnorum, Limnea stagnalis, and Physa fontinalis) were beta-irradiated with phosphorus-32 to investigate possible compensatory activity of the heart and radioresistance of embryos to different radiation doses. Four to six week old mollusk embryos were placed in a $Na_2HP^{32}O_4$ solution and heart contraction frequencies were determined 10-15 min later. Solutions with a specific radioactivity of 0.5 to 250 microcuries/ml were used to determine survival time of embryos after 1, 2, 4, 24 and 168 hrs. Results show that beta-radiation produces a [illegible] effect on heart contraction frequencies. Immediately at the start of a [illegible] radiation dose of 125 microcuries or more, the heart contraction

Card 1/2

L 57750-65
ACCESSION NR: AP5010363

frequency decreases then increases and is followed by a second period of depression leading to cessation of heart activity and death. The separate periods of heart activity change become longer with decreased beta-radiation doses. Data on survival time for different phosphorus-32 doses indicate that the radioresistance of mollusk embryos is high compared to mammal embryos and is approximately the same as that of chicken embryos. Orig. art. has: 1 table.

ASSOCIATION: Kazanskiy gosudarstvennyy universitet im. V. I. Ul'yanova-Lenina (Kazan State University)

SUBMITTED: 27Feb63 ENCL: 00 SUB CODE: LS

NR REF SOV: 001 OTHER: 001

dlp
Card 2/2

USSR / Human and Animal Morphology (Normal and Patho- S-4
logical). Nervous System.

Abs Jour: Ref Zhur-Biol., No 17, 1958, 79082.

Author : Magrupov, A. I., Semenova, Ye. N., Patrusheva, T. M., Poznanskaya, Sh. L., Abdukhalinkov, F., Surkova, L. F.
Inst : Not given.
Title : Pathomorphology of the Internal Organs During Toxic Encephalitis.

Orig Pub: Sb. nauchn. tr. Samarkandsk. med. in-ta, 1955, 10, 145-153.

Abstract: No abstract.

Card 1/1

PATRUSHEVA, T. M.

"Complications of Gunshot Fractures of the Long Bones." Cand Med Sci, Samarkand State Medical Inst imeni Academician I. P. Pavlov, Samarkand, 1953. (KL, No 10, Mar 55)

SO: Sum. No. 670, 29 Sep 55--Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

PATRUSHEVA, V.D.

[illegible] AN SSSR
no.3 [illegible] MIRA [illegible]

. Biologicheskiy inst [illegible] N [illegible]
Novosibirsk.

PATRUSHEVA, V. D.

Distribution of chlorine, bicarbonates, and sulfates in Lower Cretaceous sediments of Daghestan. Geol. nefti i gaza 7 no.3: 52-56 Mr '63. (MIRA 16:4)

1. Institut geologii Dagestanskogo filiala AN SSSR.
(Daghestan—Chlorine) (Daghestan—Carbonates)
(Daghestan—Sulfates)

PATRUSHEVA, V.D.

Geochemical characteristics of the Lower Cretaceous sediments of Daghestan. Neftegaz. geol. i geofiz. no.7:54 '63. (MIRA 17:10)

1. Dagestanskiy filial AN SSSR.

PATRUSHEVA, V.D.

Invasion of blackflies in various biotopes. Trudy Biol. inst. Sib. otd. AN SSSR no. 10:89-96 '63.

Effect of meteorological conditions on the invasive activity of blackflies. Ibid.:152-170 (MIRA 17:5)

PATRUSHEVA, V.D.

Ecology of preimaginal stages of the development of black flies in Western Siberia. Izv. SO AN SSSR no.4.Ser. biol.-med. nauk no.1:62-66'63. (MIRA 16:8)

1. Biologicheskiy institut Sibirskogo otdeleniya AN SSSR, Novosibirsk.
(SIBERIA, WESTERN—BLACK FLIES)
(INSECTS—DEVELOPMENT)

PATRUSHEVA, V.D.

Materials on balck flies (Diptera, Simuliidae) in the upper Ob'Valley. Trudy Biol. inst. Sib. otd. AN SSSR no.8:165-170 '62. (MIRA 15:12)
(Ob' Valley--Black flies)

PATRUSHEVA, V.D.

Geochemical conditions governing the formation of Middle Jurassic sediments in Daghestan. Trudy Geol.inst.Dag.fil. AN SSSR 2:98-104 '60. (MIRA 15:12)

(Daghestan--Geochemistry)

PATRUSHEVA, V.D.

Connection between the character of asphaltenes and the chemical composition of oils in Tertiary and Mesozoic sediments of Daghestan. Trudy Geol.inst.Dag.fil. AN SSSR 2:111-117 '60. (MIRA 15:12)
(Daghestan—Asphaltenes) (Daghestan—Petroleum—Analysis)

MAGATAYEV, K.S.; PATRUSHEVA, V.D.; KOMAROV, V.P.

Study of spherosiderites as weighting material of clay muds.
Trudy Geol.inst.Dag.fil. AN SSSR 2:204-212 '60. (MIRA 15:12)
(Samur Valley--Spherosiderite)
(Oil well drilling fluids)

PATRUSHEVA, V.D.

"Group chemical composition of gasolines of the Tertiary and Mesozoic petroleums of Daghestan." Trudy Geol.inst.Dag.fil. AN SSSR 1:213-220 '57. (MIRA 14:9)
(Daghestan--Gasoline--Analysis)

S/189/60/002/005/005/017
A051/A130

AUTHORS: Patrusheva, Ye. N.; Brezhneva, N. Ye.; Korpusov, G. V.

TITLE: The extraction of rare earth products of division using phosphorous-organic compounds (diamylphosphoric acid)

PERIODICAL: Radiokhimiya, v. 2, no. 5, 1960, 541 - 548

TEXT: The authors have investigated a group of alkylphosphoric acids as extracting agents for the formation of micro-quantities of yttrium and rare earth elements. Data are submitted on the distribution of certain rare earth elements amongst solutions of diamylphosphoric acid $(C_5H_{11}O)_2$ POOH (abbreviated HA) and of nitric acid. A study was made of the relationship of the distribution coefficients of these rare earth elements in the extraction using diamylphosphoric acid, to the concentration of: a) nitric acid, b) hydrogen ions, c) extracting agent, d) nitrate-ions, and also a determination was made of the relationship of the distribution coefficients of rare earths to the values of their atomic numbers. A probable mechanism for extraction of rare earth elements has been recommended using diamylphosphoric acid and an evaluation was given of the equilibrium

Card 1/12

S/186/60/002/005/005/017
A051/A130

The extraction of rare earth . . .

constant of the reaction of the extracting complex formation. The main experimental investigations were carried out with uni-basic diamylphosphoric acid, actually not containing dibasic acid (H_2A). The HA also did not contain isoforms. The experiments showed that when extracting with diisoamylphosphoric acid, the distribution coefficients obtained were somewhat less. Benzene and hydrated kerosene were used as the diluents which were first brought to equilibrium with the initial solutions. The extraction was conducted in graduated funnels of the usual type, at a temperature maintained at $\pm$ 3°C. The determination of the initial and equilibrial acidity of the water phase was carried out by direct titration with alkali. The element distribution was determined using radioactive indicators Ce^{144} + Pr^{144}; Pm^{147}, Y^{91}, Tu^{169}, $Eu^{152-154}$. Since Ce^{144} in its radioactive decay forms its by-product Pr^{144}, having a half-life of 17.5 min., the measurements of the specific activity were carried out after a radioactive equilibrium was reached (after 1.5 - 2 hours). The experimental procedure determined: 1) the relationship of the distribution coefficients of yttrium and europium to the concentration of nitric acid, 2) to the concentration of the hydrogen ions, 3) of the nitrate ion, 4) of the diamylphosphoric

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acid, 5) the relationship of certain rare earth element distribution coefficients to their atomic numbers. Tables 1, 2 and Figures 1 - 5 show the experimental results, respectively. In discussing the obtained data the authors point out that these showed that within the region of low acidity, the distribution coefficients of the rare earth elements, when extracted with diamylphosphoric acid, are directly proportional to the third degree of concentration of the diluent in the organic phase and reversely proportional to the third degree of concentration of the hydrogen ions in the water phase and do not depend on the content of the nitrate ions in the system. Based on these data the authors conclude that within the range of the given acidity, organic salts are extracted of rare earth metals. It is said that a usual reaction of salt formation takes place, with subsequent dissolution of these in the organic phase. The absence of, within limits, anions of the corresponding mineral acids in the organic phase, when their concentration in the water phase did not exceed 2M, is given as proof of this extraction mechanism. The authors have also shown that although in the organic phase the diamylphosphoric acids are completely dimerized, (Ref. 6 - 8: C. F. Coleman, J. Phys. Chem., 62, 2, 129 (1958);

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D.F. Pappard, G. W. Mason, J. L. Maier, W. J. Driscoll, J. Inorg. Nuclear Chem. 4, 5-6, 334, 1957; D.F. Peppard, G. W. Mason, S. W. Moline, J.Inorg. Nuclear Chem. 5, 2, 141, 1957;), yet, regardless of the degree of aggregation, the polymer molecule (or in this case the dimer molecule) of the diamylphosphoric acid, dissociates as a uni-basic acid, forming only one hydrogen ion. Thus, the authors present the equilibrium equation in the organic phase in the following form:

$$Me^{3+}_{org.} + 3H_2A_{2\ org.} \rightleftarrows Me(HA_2)_{3\ org.} + 3H^+_{org.} \qquad (1)$$

An expression relating to two equilibrial phases is given by introducing the corresponding equations of equilibrium, representing the distribution of Me^{3+} and H^+ between the organic and water phases:

$$Me^{3+}_{B} + 3H_2A_{2\ org.} \rightleftarrows Me(HA_2)_{3\ org.} + 3H^+_{B} \qquad (2)$$

The equilibrium constant of this reaction (1) is given as being:

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$$q = \frac{\left[Me(HA_2)_3\right]_{org.}\left[H^+\right]^3_B}{\left[Me^{3+}\right]_B\left[H_2A_2\right]^3_{org.}} \qquad (3)$$

At low concentration of HNO_3 ($< 2M$) Me^{3+} is actually the only form in the water phase, i.e., the relative concentrations of other forms in the water phase are low. Thus, in this case the ratio

$$\frac{\left[Me(HA_2)_3\right]_{org.}}{\left[Me^{3+}\right]_B}$$

is replaced by K_p the distribution coefficient, and the equilibrium constant of equation (2) will aquire the following form after substituting and taking the log.:

$$\lg q = \lg K_p + 3 \lg\left[H^+\right]_B - 3 \lg\left[H_2A_2\right]_{org.} \qquad (4)$$

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