VOLYNKIN, Yu.M.; ARUTYUNOV, G.A.; ANTIFOV, V.V.; ALTUKHOV, G.V.; BAYEVSKIY, R.M.; BELAY, V.Ye.; BUYANOV, P.V.; BRYANOV, I.I.; VASIL'YEV, P.V.; VOLOVICH, V.G.; GAGARIN, Yu.A.; GENIN, A.M.; GORBOV, F.D.; GORSHKOV, A.I.; GUROVSKIY, N.N.; YESHANOV, N.Kh.; YEGOROV, A.D.; KARPOV, Ye.A.; KOVALEV, V.V.; KOLOSOV, I.A.; KORESHKOV, A.A.; KAS'YAN, I.I.; KOTOVSKAYA, A.R.; KALIBERDIN, G.V.; KOPANEV, V.I.; KUZ'MINOV, A.P.; KAKURIN, L.I.; KUDROVA, R.V.; LEBEDEV, V.I.; LEBEDEV, A.A.; LOBZIN, F.P.; MAKSIMOV, D.G.; MYASNIKOV, V.I.; MALYSHKIN, Ye.G.; NEUMYVAKIN, I.P.; ONISHCHENKO, V.F.; POPOV, I.G.; PORUCHIKOV, Ye.P.; SIL'VESTROV, M.M.; SERYAPIN, A.D.; SAKSONOV, P.P.; TERENT'YEV, V.G.; USHAKOV, A.S.; UDALOV, Yu.F.; FOMIN, V.S.; FOMIN, A.G.; KHLEBNIKOV, G.F.; YUGANOV, Ye.M.; YAZDOVSKIY, V.I.; KRICHAGIN, V.I.; AKULINICHEV, I.T.; SAVINICH, F.K.; STEPURA, S.F.; VOSKRESENSKIY, O.G.; GAZENKO, O.G., SISAKYAN, N.M., akademik, red.

[Second group space flight and some results of the Soviet astronauts' flights on "Vostok" ships; scientific results of medical and biological research conducted during the second group space flight] Vtoroi gruppovoi kosmicheskii polet i nekotorye itogi poletov sovetskikh kosmonavtov na korabliakh "Vostok"; nauchnye rezul'taty medikobiologicheskikh issledovanii, provedennykh vo vremia vtorogo gruppovogo kosmicheskogo poleta. Moskva, Nauka, 1965. 277 p. (MIRA 18:6)

VOLYNKIN, Yu.M.; YAZDOVSKIY, V.I.; GENIN, A.M.; VASIL'YEV, I.V.; GYURDZHIAN, A.A.; GUROVSKIY, N.N.; GORBOV, F.D.; SERYAPIN, A.D.; BELAY, V.Ye.; BAYEVSKIY, R.M.; ALTUKHOV, G.V.; KOPANEV, V.I.; KAS'YAN, I.I.; YEGOROV, A.D.; SIL'VESTROV, M.M.; SHEPURA, S.F.; TERENT'YEV, V.G.; KRYLOV, Yu.V.; FOMIN, A.G.; USHAKOV, A.S.; DEGTYAREV, V.A.; VOLOVICH, V.G.; STEPANTSOV, V.I.; MYASHIKOV, V.I.; YAZDOVSKIY, V.I.; KASHIN, P.S., tekhn. red.

[First space flights of man; the scientific results of the medicobiological research conducted during the orbital flights of the spaceships "Vostok" and "Vostok-2"]Pervye kosmicheskie polety cheloveka; nauchny rezul'taty mediko-biologicheskikh issledovanii, provedennykh vo vremia orbital'nykh poletov korablei-sputnikov "Vostok" i "Vostok-2." Moskva, Izd-vo Akad. nauk SSSR, 1962. 202 p. (MIRA 15:11)
(SPACE MEDICINE) (SPACE FLIGHT TRAINING)

S/865/62/001/000/022/033
E028/E485

AUTHORS: Balakhovskiy, I.S., Karpova, L.I., Simpura, S.F.

TITLE: The provision of dogs with food and water during space flight conditions

SOURCE: Problemy kosmicheskoy biologii, v.1. Ed. by N.M.Sisakyan. Moscow, Izd-vo AN SSSR, 1962, 345-358

TEXT: The authors have determined the amount of food and water required by dogs during space flight conditions. In a preliminary study of energy requirements the oxygen consumption of 8 dogs ranged from 0.604 to 0.906 litre/h/kg, and the 24-hour energy expenditure from 66 to 107.9 kg/body weight. These figures did not change essentially when the animals were confined in a simulated space cabin. Three dogs kept under similar conditions for 20 days remained well and lost no weight on a daily diet of 50 to 100 g of pellets containing meat, sugar and fat to a total caloric value of 500 kcal/100 g. The average daily intake of water was 120 ml and the average rate of loss of water in the breath was 0.3 g/kg/h. The construction of an

Card 1/2

The provision of dogs ... S/865/62/001/000/022/033
E028/E485

automatic feeding apparatus is described and also the regime used for feeding the dogs Layka, Belka and Strelka during their space flights. There are 2 figures and 4 tables.

Card 2/2

S/865/62/002/000/025/042
D405/D301

AUTHORS: Kotovskaya, A.R., Lobashkov, S.I., Simpura, S.F., Suvorov, P.M. and Khlebnikov, G.F.

TITLE: Effect of prolonged transverse accelerations on human organism

SOURCE: Problemy kosmicheskoy biologii. v. 2. Ed. by N. Sisakyan and V. Yazdovskiy. Moscow, Izd-vo AN SSSR, 1962, 238-245

TEXT: The investigation had the following main objects: to study the effect of prolonged transverse accelerations on the principal physiological functions of the organism; to determine the limits of endurance of acceleration; the selection of the optimal position of the human body during acceleration; the development of methods of training and selection for astronauts. Experimental method: A group of specially selected healthy persons aged 25-30 was subjected to centifuge tests. The response to accelerations of 7, 9, 10 and 12 g was investigated. The indicators of the following

Card 1/3

Effect of prolonged ...

basic physiological functions were recorded: electrocardiograms; arterial pressure; pulse and respiration rate; lung ventilation and gas exchange; electroencephalograms; electromyograms of thorax and peritoneal muscles; the duration of the latent period of motor response to light signals; the penetrability of cutaneous capillaries. Results: The subjects could sustain accelerations of 7-12 g for a period of 3 minutes to 30 seconds respectively. The external respiration underwent marked changes; the subjects experienced difficulties in breathing. The number of cardial contractions increased. The arterial pressure also increased. Some regular changes in the bioelectric activity of the brain were noted; these changes can be divided into 3 main stages. The latent period of response to light signals increased to 0.8-0.9 seconds. The acuity of sight decreased in the majority of subjects by 20-30%. The bioelectric activity of the investigated muscles increased. All these physiological changes reverted to normal 3-5 minutes after the acceleration ceased. An analysis of the obtained material showed that the changes in the physiological functions are within tolerable limits, being determined by the magnitude and duration of the overload. Cutaneous hemorrhages

Effect of prolonged ...

were observed in most of the subjects after the acceleration ceased. The optimal position of the body was found to be a 10° inclination of the back of the chair with respect to the horizontal. The experiments made it possible to divide the subjects into 3 groups with regard to endurance: those with high endurance, satisfactory endurance, and low endurance. The obtained results were used in developing a special training program for the astronauts Yu. A. Gagarin and G.S. Titov. There are 2 figures and 4 tables.

Card 3/3

L 14282-66 EWT(1)/FS(v)-3 SCTB DD/RD

ACC NR: AT6003866 SOURCE CODE: UR/2865/65/004/000/0322/0332

AUTHOR: Kotovskaya, A. R.; Vasil'yev, P. V.; Lapin, B. A.; Simpura, S. F.; Shakhlamov, V. A.; Artem'yeva, N. S.

36
Dtl

ORG: none

2,44

TITLE: Effect of transverse accelerations on the organism of female monkeys

SOURCE: AN SSSR. Otdeleniye biologicheskikh nauk. Problemy kosmicheskoy biologii, v. 4, 1965, 322-332

TOPIC TAGS: cardiovascular system, experiment animal, biologic acceleration effect, biologic respiration, space physiology, histology, biologic reproduction, space biologic experiment

ABSTRACT: Tests were conducted on 16 half-grown monkeys, 5 mandrill and 11 rhesus. Exposure to 12 G centrifugation (varying durations) took place during the following sex cycles: proliferation, secretion, desquamation, and ovulation. Acceleration took place on a centrifuge with an arm radius of 7.25 m in a chest-back position. The behavior of the animals was monitored by TV, and cardiovascular and respiratory activity were used as criteria for the resistance of animals to acceleration. A photograph shows the position of a monkey fixed in the chair of the centrifuge. Table 1 shows the effect of acceleration on cardiovascular and respiratory activity.

Card 1/3

2

L 14282-66
ACC NR: AT6003866

Table 1. Changes in pulse rate and respiration rate in monkeys exposed to 12 G (mean for 14 animals)

Physiological function	Before	During	After
Pulse rate	152--186	190--230	150--160
Respiration rate	24--36	36--48--54	18--36

The EKG's of animals exposed to acceleration revealed sinus tachycardia, shortened T-P intervals, and ventricular and atrioventricular extrasystole. Cardiac activity in general returned to normal 10-20 min after centrifugation. It was found that the endurance of female monkeys to 12 G ranged from 1 to 4.5 min. A histological analysis of the ovaries of monkeys examined 10 min, 1 hr, 24 hr, and 72 hr after termination of acceleration revealed the following deviations from normal: Proliferation phase: Weakly pronounced depolymerization of acid mucopolysaccharides in the medulla and separate cortical sections of the ovaries, as well as in the uterus. Ovulation: After one, and especially 3 days after the termination of the experiment, all ovarian tissues were found to be full of erythrocytes; The areas around the venules were plasmorrhagic and locally hemorrhagic; Acid mucopolysaccharide depolymerization was intense. Secretory phase: Two monkeys showed premature menstruation and

Card 2/3

L 14282-66

ACC NR: AT6003866

hemorrhaging in the endometrium when examined 10 min after termination. This was attributed to the deleterious effects of acceleration. Examination of an animal 24 hr later revealed individual small hemorrhages in the cortical ovarian tissue. Some erythrocytes were observed along the vascular walls. Moderate depolymerization of acid mucopolysaccharides was evident.

Desquamative phase. A macro- and microscopic examination of the ovaries, Fallopian tubes, and uterus revealed the same changes as occurred during the proliferation phase.

It was apparent that acceleration had its greatest deleterious effect during ovulation and its minimum effect during proliferation. The observed deviations probably reflected neuroendocrine processes associated with stress reactions to acceleration. The long-term effects of acceleration were not evident one month after acceleration, demonstrating the ability of the ovaries to regenerate after various injuries. Orig. art. has: 5 figures and 2 tables. [ATD PRESS: 4091-F]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 004 / OTH REF: 006

QC

Card 3/3

L 11283-66 EWT(1)/FS(v)-3 SCTB DD/RD

ACC NR: AT6003867 SOURCE CODE: UR/2865/65/004/000/0333/0342

AUTHOR: Kotovskaya, A. R.; Kakurin, L. I.; Konnova, N. I.; Simpura, S. F.; Grishina, I. S.

44

B+1

ORG: none

2,41

TITLE: Effect of prolonged hypokinesia on human resistance to accelerations

SOURCE: AN SSSR. Otdeleniye biologicheskikh nauk. Problemy kosmicheskoy biologii, v. 4, 1965, 333-342

TOPIC TAGS: hypokinesia, acceleration, human physiology, cardiovascular system, space chamber test, space physiology, man, biologic acceleration effect

ABSTRACT: The effects of various durations of hypokinesia on the resistance of 5 male subjects to centrifugation were studied. The duration of force was chest-spine in a semi-prone position (25° from horizontal). Each subject was given a 30—40-sec 4-G trial run followed by two 7— 8-G runs. The same procedure was followed after hypokinesia. The duration of hypokinesia was 3 days for 2 men and 20 days for 3 men.

The basic indices of human resistance to acceleration after hypokinesia were changes in maximum endurance time and the degree of changes in basic physiological reactions. Subjective illusions were also considered. Some results of the tests are shown in Tables 1-3.

Card 1/4

2

L 14283-66
ACC NR: AT6003867

Table 1. Changes in some human physiological reactions to 7-G transverse accelerations before and after 3 days of hypokinesia (mean)

Indices of physiological functions	Subject A			Subject B		
	Original value	Before hypokinesia	After hypokinesia	Original value	Before hypokinesia	After hypokinesia
Pulse rate/min	80	132	140	89	130	141
Resp. rate/min	14	27	29	16	17	22
Lung ventilation, liters/min	7.7	13.4	14.5	6.0	13.0	17.0
O_2 consumption, cm^3/min	330	375	500	260	360	450
Latent period of motor reaction response, sec	0.3 0.43	0.58 0.73	0.45–0.82	0.40 0.67	0.74	0.64–0.76
Visual acuity	1.0	0.5	0.9	0.9	0.6	0.6

In general, 3-day hypokinesia did not noticeably alter physiological reactions to 7-G centifugation; the duration of endurance was 4 min. The reaction of subjects to acceleration following a 20-day period of hypokinesia is shown in Tables 2 and 3.

Card 2/4

Table 2. Change in endurance time to 7-G centrifugation after 20 days of hypokinesia

Subject	Maximum endurance time	
	Before hypokinesia	After hypokinesia
A	4 min 46 sec	4 min 50 sec
B	4 min 30 sec	4 sec
C	5 min	6 sec

Table 3. Change in visual acuity during 7-G centrifugation before and after 20 days of hypokinesia

Subject	Original value	Visual acuity during centrifugation	
		Before hypokinesia	After hypokinesia
A	1.0	0.7	0.4
B	1.0	0.8	Blacked out
C	0.9	0.7	Blacked out

L 11203-66
ACC NR: AT6003867

After a 20-day period of hypokinesia, subjects were pale, irritable, nervous, and tense, although they were able to withstand 4 G for 30 sec without difficulty. It took longer 5—10 min.) for cardiovascular and respiratory indices to return to normal following 20 days of hypokinesia and 7-G runs than during control runs (1—3 min). Hypokinesia did not alter motor reactions or peripheral blood indices in response to centrifugation.

Petechiae were more commonly encountered and more pronounced due to acceleration after 20 days of hypokinesia. These hemorrhagic syndromes persisted for 2— 3 days after centrifugation. In conjunction with these effects, there was a tendency for small vessels to become more brittle after bedrest (positive endotrelial syndrome). In general, it was observed that a 20-day period of hypokinesia lowered human endurance to acceleration, whereas a 3-day period did not have this effect. The individual response to the experiment was pronounced (see Tables 2 and 3). It was concluded that prolonged restriction of motor activity and decreased hydrostatic pressure of the blood are the main pathogenic factors determining lowered human tolerance to acceleration. Orig. art. has: 5 figures and 3 tables. [ATD PRESS: 4091-F]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 004 / OTH REF: 006

Card 4/4

L 25972-66 FSS-2/EWT(l)/EEC(k)-2/EWA(d) SCTB TT/DD/GW

ACC NR: AP6015410 SOURCE CODE: UR/0216/66/000/003/0337/0345

AUTHOR: Kotovskaya, A. R.; Yeshanov, N. Kh.; Vartbaronov, R. A.; Simpura, S. F. 51 13

ORG: none

TITLE: Physiological reactions of cosmonauts under the influence of acceleration during the Voskhod-1 flight 12

SOURCE: AN SSSR. Izvestiya. Seriya biologicheskaya, no. 3, 1966, 337-345

TOPIC TAGS: space flight, physiological change, cardiovascular system, electrocardiogram, weightlessness effect, acceleration effect

ABSTRACT: Physiological data from the Voskhod-1 flight were compared with preflight centrifuge data for all three cosmonauts. Comparison of laboratory pulse rates with pulse rates recorded during the prelaunch period showed higher prelaunch values for cosmonauts Komarov and Yegorov, but a lower value for Feoktistov. After launch, pulse and respiration rates continued to climb, reaching maximum values in the first 20—30 sec of flight, though acceleration forces at this point were small. During centrifuge tests the height of the T spike of electrocardiograms decreased with increased acceleration; however, the T spike decreased independent of changes in the magnitude of acceleration for all cosmonauts during spaceflight. Furthermore, recovery of the original T spike value during insertion into orbit occurred later than in centrifuge tests. This is apparently caused by a slower recovery process by

Card 1/2 UDC: 612.2:612.3:629.195

L 25972-66

ACC NR: AP6015410 O

the myocardium during spaceflight. Physiological shifts observed during spaceflight were similar in pattern to shifts noted during centrifuge tests, except that the degree of shifts in spaceflight was somewhat higher. This is probably due to greater emotional stress during spaceflight. The dynamics of physiological changes during the reentry stage of the Voskhod-1 flight showed considerable individual fluctuations, caused by changes in the reactivity of the organism more as a result of the preceding weightlessness than of emotional stress. The effect of weightlessness on the ability of the organism to endure subsequent accelerations is of great interest and can be studied further by comparing spaceflight data with centrifuge data. Orig. art. has: 1 table and 7 figures. [JS]

SUB CODE: 06/ SUBM DATE: 02Dec65/ ORIG REF: 001/ OTH REF: 007/ ATD PRESS: 4257

Card 2/2 FW

RUMANIA / Chemical Technology, Chemical Products and Their Application. Part 2. - Ceramics, Glass, Binders, Concretes. - Binders, Concretes and Other Silicate Building Materials. H-13d

Abs Jour : Ref. Zhur. Khimiya, No 5, 1958, 12098.

Author : V. Simpliceanu.

Inst : Not given

Title : Influence of Cement Dosage on Some Properties of Concrete.

Orig Pub : Ind. constructiilor si mater, constr., 1957, No 3, 166 - 170.

Abstract : Various cement dosage was used for the preparation of the concrete mixture: from the permissible minimum to a paste of pure cement. The degree of the maximum utilization of cement was obtained on the basis of the received data.

Card 1/1

JIRI, J.

Stepancovska hora State Reservation. p. 146.
OCHRANA PRIRODY. (Ministerstvo kultury. Statni pece o ochranu prirody) Praha.
Vol. 11, no. 5, June 1956.

SOURCE: EEAL - IC Vol. 5 No. 10 Oct. 1956

Sinar, J.

Botanical literature concerning the Highland of Central Bohemia. P. 103
Prague. Narodni Museum. CASOPIS; ODD.IL PRIROLOVEDNY. Praha.
Vol. 125, no. 1, 1956

Source: BEAL - LC Vol. 5, No. 10 Oct. 1956

SIMR, J.

A rare natural phenomenon in Ceske Stredohori. p. 55. (Ochrana Prirody, Vol. 12, No. 3, Mar 1957, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 8, Aug 1957, Uncl.

SIMR, J.

The "Vrsicek" State Natural Reservation

p. 172 (Orcrana Prirody) Vol. 12, No. 6, Aug. 1957, Czechoslovakia

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (EEAI) LC. - VOL. 7, NO. 1, JAN. 1958

SIMR, J.

Present problem of heat insulation materials for investment construction from the viewpoint of their production. Stavivo 42 no. 3:87 Mr '64.

1. State Planning Commission, Prague.

SIMSA, Jan, MUDr (Praha)

New regulation orthodonic apparatus. Prakt. sub. lek. 2 no.6: 121-130 1954.
(ORTHODONTICS, apparatus and instruments,)

SIMSA, Jan. MUDr

Measuring of electrical currents in metal prosthesis in the mouth. Cesk. stomat. no.1:13-23 Feb 55.

1. Vyskumny ustav stomatol., reditel doc. MUDr Jarmil Kostlan.
(DENTAL PROSTHESIS
metal, galvanic currents & electrolysis in, measuring)
(ELECTRICITY
galvanic currents in metal dental prosth., measuring)

SIMSA, Jan, MUDr.

Phthisiostomatology. Prakt. lek., Praha 35 no.15-16:356-357 20 Aug 55.

1. Vyzkumny ustav tuberkulosy, Praha 8--Bulovka, reditel doc. MUDr. Rudolf Krivinka).

(MOUTH, diseases
tuberc, role of dental care in prev.)
(DENTISTRY
dent. care, role in prev. of tuberc. of mouth)

SURNAME, Given Names: CIMSA, Jan

Country: Czechoslovakia

Academic Degrees: MD

Affiliation: /not given/

Source: Prague, Prakticke Zubni Lekarstvi, Vol IX, No 5, June 1961, pp 140-144.

Data: "Orthodontic Treatment By Simple Means."

GPO 981643

R/009/62/000/010/002/002
D272/D308

AUTHOR: Simşa, Mauriciu, Engineer

TITLE: Method of calculating roll ganging for blade milling

PERIODICAL: Metalurgia şi Construcţia de Maşini, no. 10, 1962, 917-930

TEXT: Data are presented on the characteristics of the hot and cold rolls employed. The calculation of the number of passes - in two versions: simple and double milling, owing to the relative advantages of each in different cases - is examined, considering the establishment of the shape of the rolls and the dimensioning calibers, and of their dimensions. Owing to the asymmetrical shape of the blades, no rules are given concerning the positioning of the shaping calibers on the rolls for the last rolling passes, but some indicative data are presented. The methods used for calculation of the polar coordinates of the profiles in the various stages, as well as the respective cartesian coordinates, are examined, and some numerical examples are given. There are 31 figures.

Card 1/2

SIMSA, V.

"Organizational rules of the telecommunication and telemechanization center of the Ceske Budejovice power distribution plant."

ENERGETIKA, Praha, Czechoslovakia, Vol. 9, no. 3, March 1959

Monthly List of East European Accessions Index (EEAI), Library of Congress, Vol. 8, No. 8, August 1959

Unclassified

[illegible], V.

New system of telemetering. p. 348.

ELEKTROTECHNIK. (Ministerstvo tezkeho strojirenstvi) Praha, Czechoslovakia. Vol. 14, no. 11, Nov. 1959.

Monthly list of East European Accessions (EEAI) LC, vol. 9, no. 1, Jan. 1960.

Uncl.

L 23780-66 T/EWP(t) IJP(c) JD

ACC NR: AP6012805 SOURCE CODE: GE/0030/66/014/002/0485/0490

AUTHOR: Simsa, Z.; Zalesskij, A. V.; Zaveta, K. (C2) (UR) 48 B

ORG: [Simsa; Zaveta] Institute of Solid State Physics, Czechoslovak Academy of Sciences, Prague; [Zalesskij] Institute of Crystallography, Academy of Sciences SSSR, Moscow

TITLE: Electrical properties of single crystals of hexagonal ferrites with the W structure

SOURCE: Physica status solidi, v. 14, no. 2, 1966, 485-490

TOPIC TAGS: electric property, single crystal, hexagonal ferrite, ferrite, resistivity, temperature dependence, thermoelectric measurement

ABSTRACT: Single crystals of a hexagonal ferrite of composition $BaFe_{18}O_{27}$ with the W-structure are found to have anisotropic electrical conductivity, which is believed to be an intrinsic property of the material. From the temperature dependence of electric resistivity, and from thermoelectric measurements, it is concluded that electron hopping between Fe^{2+} and Fe^{3+} ions plays a prominent role in the conduction process. The possible origin of the anisotropy in conductivity is discussed in relation to specific features of the W-structure. The

Card 1/2

L 23780-66
ACC NR: AP6012805

authors thank Dr. S. Krupicka for interest in, and the support of, this work. Orig. art. has: 1 table, 3 figures, and 2 formulas. [Author's abstract] [KS]

SUB CODE: 20/ SUBM DATE: 28Jan66/ ORIG REF: 001/ SOV REF: 002/ OTH REF: 003/

Card 2/2

23069
Z/037/61/000/002/001/003
E073/E335

24,7700 (1043, 1136, 1138)

AUTHOR: Šimša, Zdeněk

TITLE: Quantum Efficiency of the Internal Photo-electric Effect in Germanium

PERIODICAL: Československý časopis pro fysiku, 1961, No. 2, pp. 126 - 132

TEXT: This article gives a summary of diploma work presented at the Mathematics-Physics Department of Charles University, Prague, in 1959-1960. Measurement of the spectral characteristics of the quantum efficiency of the internal photo-electric effect η (i.e. the number of electron-hole pairs which form as a result of absorption of 1 photon) in the range of low photon energies is of great importance for the theoretical investigation of the phenomena which occur in semiconductors as a result of electromagnetic radiations. Study of the temperature dependence of η can elucidate the influence of thermal oscillations of the lattice on these phenomena. Experimental study of η is difficult, particularly owing to the errors in measuring the reflection

coefficient, the spectral characteristic of which depends greatly on the surface quality of the specimens. Goucher (Ref. 2) and Alferov (Ref. 3) together with others (Refs. 4, 5) found that for germanium η is practically constant, equalling approximately 1 for a wavelength shorter than the absorption boundary of germanium, whilst for higher energies of the incident radiation η is proportional to the energy of the adsorbed quanta; the inverse value of the proportionality constant is 2.5 eV according to Drahokoupil and Malkovská (Ref. 4) and 2.94 eV according to McKay and McAffee (Ref. 5). Thus, it was anticipated that a change in the character of the spectral dependence η will occur in the neighbourhood of these energies. This was first experimentally confirmed by Koc (Ref. 6) in measurements in the range 0.3 - 2.0 μ, who found that from the infrared absorption boundary up to the photon energy $E_f' = 2.15$ eV, the value of η will differ only little from unity but for higher E_f' values η will increase linearly with the photon energy, the proportionality constant being 2.5 eV.

Quantum Efficiency ....

Vavilov and Bricyn (Ref. 7) found a similar dependence but the change in the spectral characteristic occurred for $E_f' = 2.9$ eV. The differences in the measured F_f' values are attributed to the different measurements of the reflection coefficients. Vavilov and Bricyn measured the reflection of the light by means of a spherical photmeter which was coated with a thick magnesium oxide layer, enabling measurement of scattered reflected light, whilst Koc measured the reflection on a germanium mirror which was made from material similar to that of the specimens. At the temperatures 293, 343 and 393 ^{o}K Koc did not detect any shift in the position of the point where the spectral characteristic changes. In this paper, a method of simultaneous measurement of the reflection coefficient and of the relative quantum efficiency η_o in the visible range and in the temperature range 119 - 296 ^{o}K is described. The method is based on utilising the photovoltaic effect on p-n junctions of germanium photo diodes developed by Dr. Z. Trousil at the Institute of Technical Physics. The test rig is shown in Fig. 1. A high pressure mercury

Quantum Efficiency ....

discharge tube HBO 200, combined with a Halle double monochromator with glass flint prisms, was used as a source of monochromatic light. About one-third of the output energy was reflected by means of a non-absorbing plane-parallel glass plate P with a semitransparent layer of TiO_2 onto a photo diode D_1, which was calibrated by means of a Hilger-Schwarz thermocouple, connected to a narrow-band tube voltmeter. The correction necessary for the fluctuations in the brightness of the discharge tube was determined by means of the diode D_1. The second part of the energy passed through the semitransparent plate P and hit the diode D_2 by means of which η was measured; the reflected energy was recorded by means of the diode D_3. The photo-electric current flowing through the diodes D_1, D_2 and D_3 was measured by three galvanometers of a sensitivity of 10^{-8} A/scale division. During temperature-dependence measurements, the diode D_2 was placed into a

Quantum Efficiency ....

cryostat which enabled continuous variation of the temperature between -154 °C and room temperature. The photo diodes D_1, D_2 and D_3 were made of type n-Ge single crystals with a specific resistance of approximately 15 Ω/cm produced by the Czochralski method in the direction of the axis [111] and cut into circular discs with a base diameter of 2 cm and a thickness of 0,6 mm. Using indium diffusion by means of a method developed at the ÚTF p-n junctions were obtained for about one-third of the specimens. A strip of "cellux" was glued onto the top; this did not affect the electrical properties but it acted as an antireflection layer. The measured reflectivity was in good agreement with the theoretically calculated value for a thick antireflection layer by means of a formula proposed by Vašíček (Ref. 10). Fig. 3 shows the spectral dependence of the relative quantum efficiency measured at 23 °C, whereby the value measured for E_f = 2,15 eV is taken as 1. Measurement of the temperature dependence of the reflection coefficient showed

Quantum Efficiency ....

that between 119 and 296 ^{o}K the spectral characteristic does not change. Fig. 4 shows the temperature dependence of η measured for F_f = 2.27, 2.85 and 3.07 eV; the values obtained for E_f = 150, 180 and 215 eV did not change with temperature and are not included in the graph.
There are 4 figures and 19 references: 8 Czech and 11 non-Czech.

ASSOCIATION: Ústav technické fysiky ČSAV, Praha
(Institute of Technical Physics, ČSAV, Prague)

SUBMITTED: August 12, 1960

SIMSA, Z.; ZAVETA, K.

Note on the electric conductivity of ferrites at low temperatures. Chekhosl fiz zhurnal 13 no. 6: 471-473 '63.

1. Ustav fyziky pevnych latek, Ceskoslovenska akademie ved, Praha.

L 22818-66

ACC NR: AP6010696 SOURCE CODE: CZ/0037/65/000/005/0438/0453

AUTHOR: Simsa, Zdenek

36
B

ORG: Institute of Solid State Physics, CSAV, Prague (Ustav fysiky pevnych latek CSAV)

TITLE: Distribution of cations in spinels

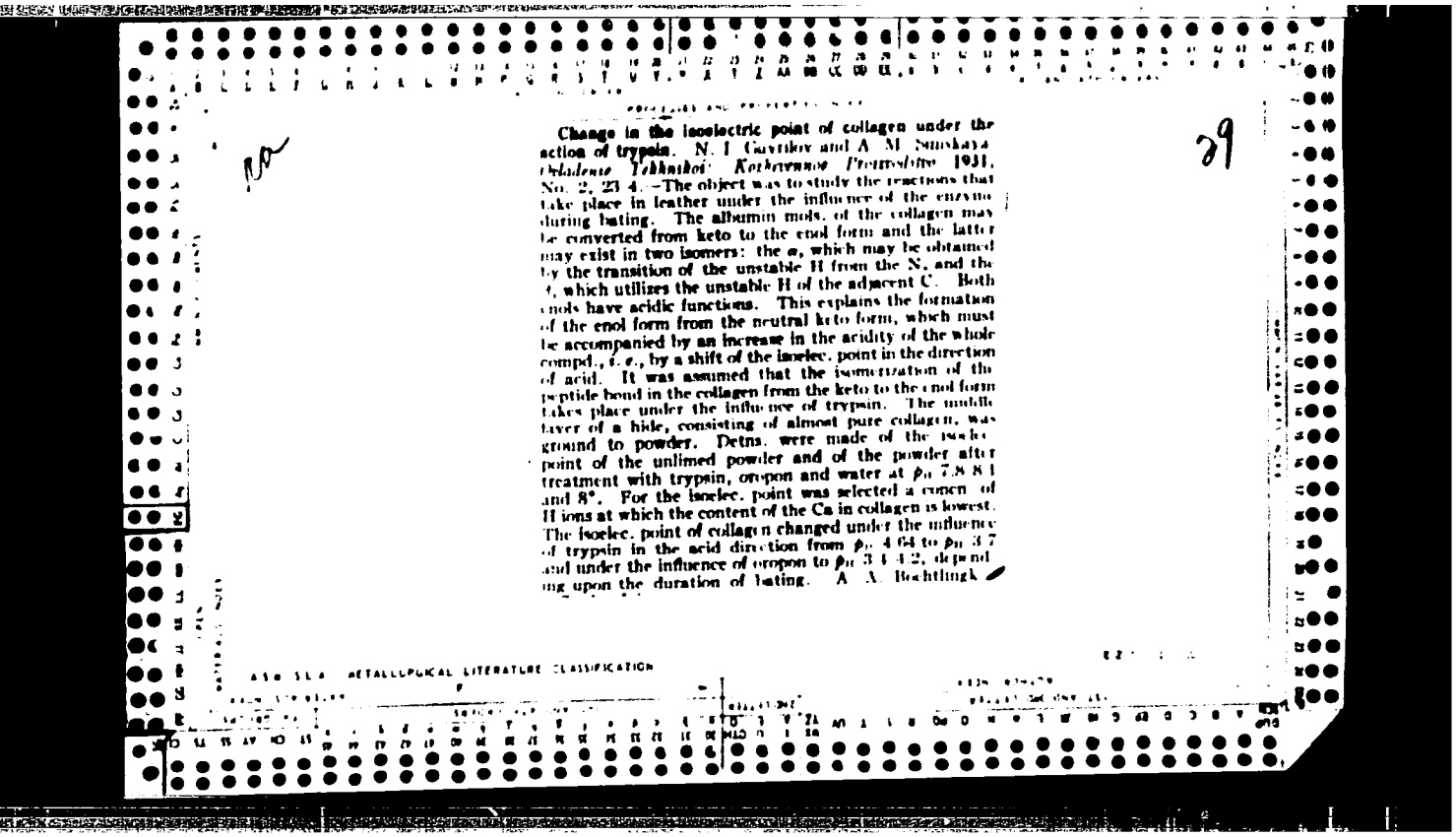
SOURCE: Ceskoslovensky casopis pro fyziku, no. 5, 1965, 438-453

TOPIC TAGS: cation, crystal structure, ionic crystal, ion distribution, electron shell, valance band

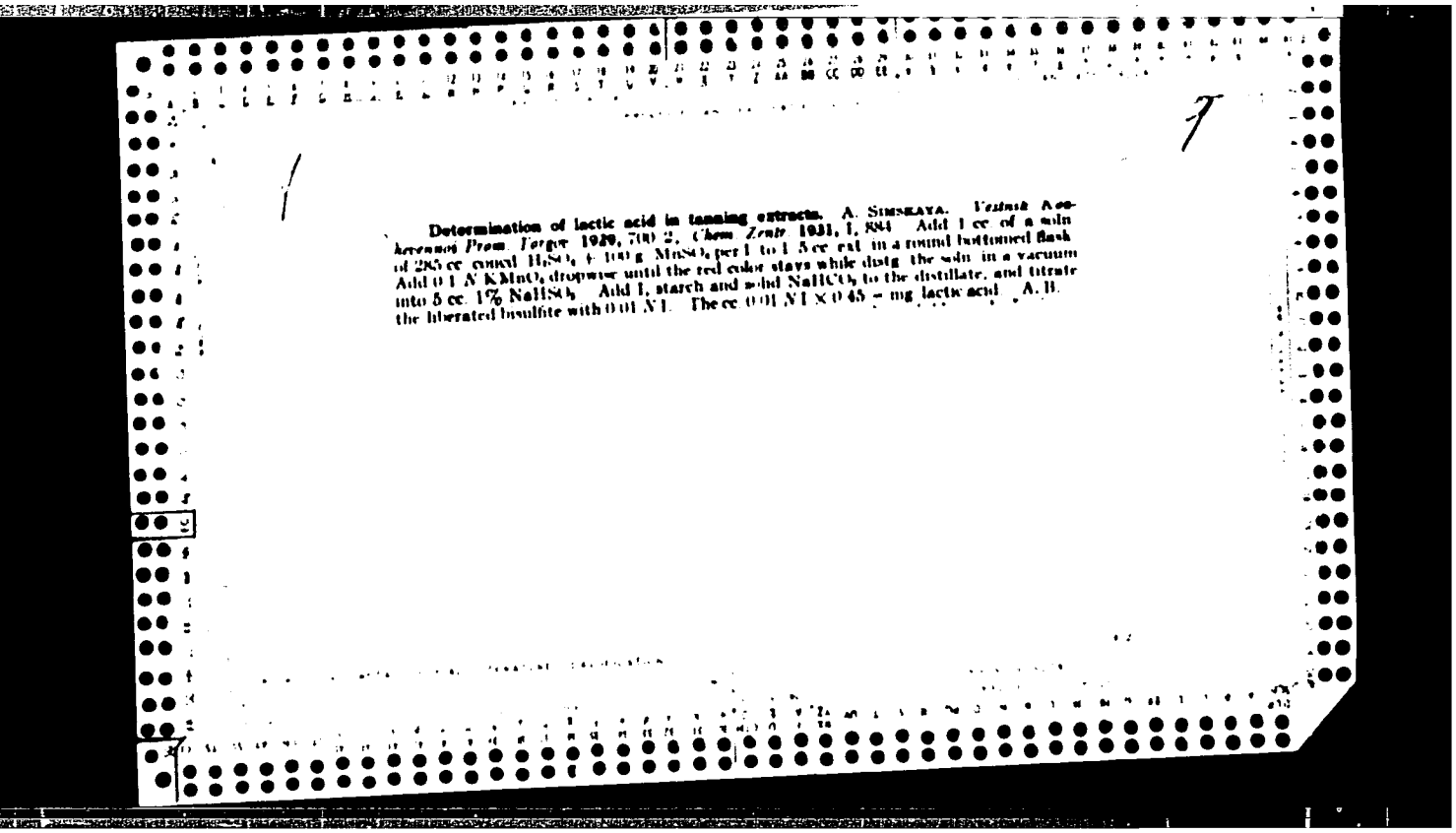
ABSTRACT: The main experimental methods are described for determining the distribution of cations in binary spinels. On the basis of several models, the rules are derived for predicting the distribution. The purely ion model gives good results for spinels that have only cations with filled electron shells, while for cations with partially filled valence bands it is necessary to take into consideration the stabilization in the crystal field. A combination of the two methods yields the conclusion that the distribution of cations in spinels can be predicted on the basis of the preferential energy P_J which is characteristic of the individual cations. The author thanks Dr. S. Krupick for valuable comments and discussions. Orig. art. has: 5 figures, 3 formulas, and 6 tables. [JPRS]

SUB CODE: 20, 07 / SUBM DATE: 31Mar64 / ORIG REF: 001 / OTH REF: 028
SOV REF: 001

Card 1/1



Change in the isoelectric point of collagen under the action of trypsin. N. I. Gavrilov and A. M. Smolkaya. *Obladenie Tekhnikoi Kozhevennoe Proizvodstve* 1931, No. 2, 23-4.—The object was to study the reactions that take place in leather under the influence of the enzyme during baiting. The albumin mols. of the collagen may be converted from keto to the enol form and the latter may exist in two isomers: the α, which may be obtained by the transition of the unstable H from the N, and the β, which utilizes the unstable H of the adjacent C. Both enols have acidic functions. This explains the formation of the enol form from the neutral keto form, which must be accompanied by an increase in the acidity of the whole compd., i. e., by a shift of the isoelec. point in the direction of acid. It was assumed that the isomerization of the peptide bond in the collagen from the keto to the enol form takes place under the influence of trypsin. The middle layer of a hide, consisting of almost pure collagen, was ground to powder. Detns. were made of the isoelec. point of the unlimed powder and of the powder after treatment with trypsin, oropon and water at p_H 7.8-8.1 and 8°. For the isoelec. point was selected a concn. of H ions at which the content of the Ca in collagen is lowest. The isoelec. point of collagen changed under the influence of trypsin in the acid direction from p_H 4.64 to p_H 3.7 and under the influence of oropon to p_H 3.1-4.2, depending upon the duration of baiting. A. A. Boehtlingk



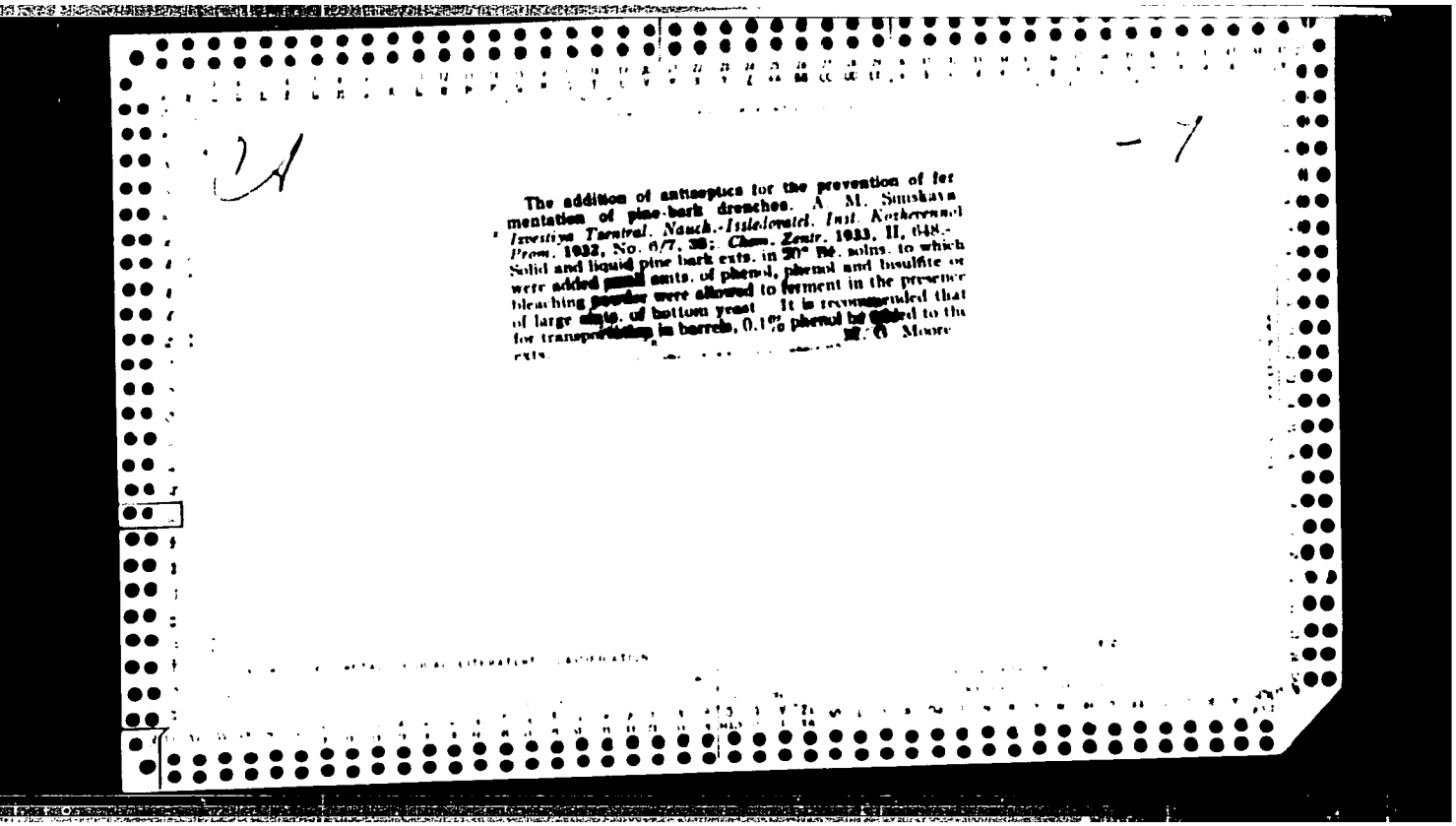
Determination of lactic acid in tanning extracts. A. SIMSKAYA. *Vestnik Kozhevennoi Prom. Torgov.* 1929, 700 2; *Chem. Zentr.* 1931, I, 884. Add 1 cc. of a soln. of 285 cc. concd. H_2SO_4 + 100 g. $MnSO_4$ per l. to 1–5 cc. ext. in a round bottomed flask. Add 0.1 *N* $KMnO_4$ dropwise until the red color stays while distg. the soln. in a vacuum into 5 cc. 1% $NaHSO_3$. Add I, starch and solid $NaHCO_3$ to the distillate, and titrate the liberated bisulfite with 0.01 *N* I. The cc. 0.01 *N* I × 0.45 = mg. lactic acid. A. B.

CA

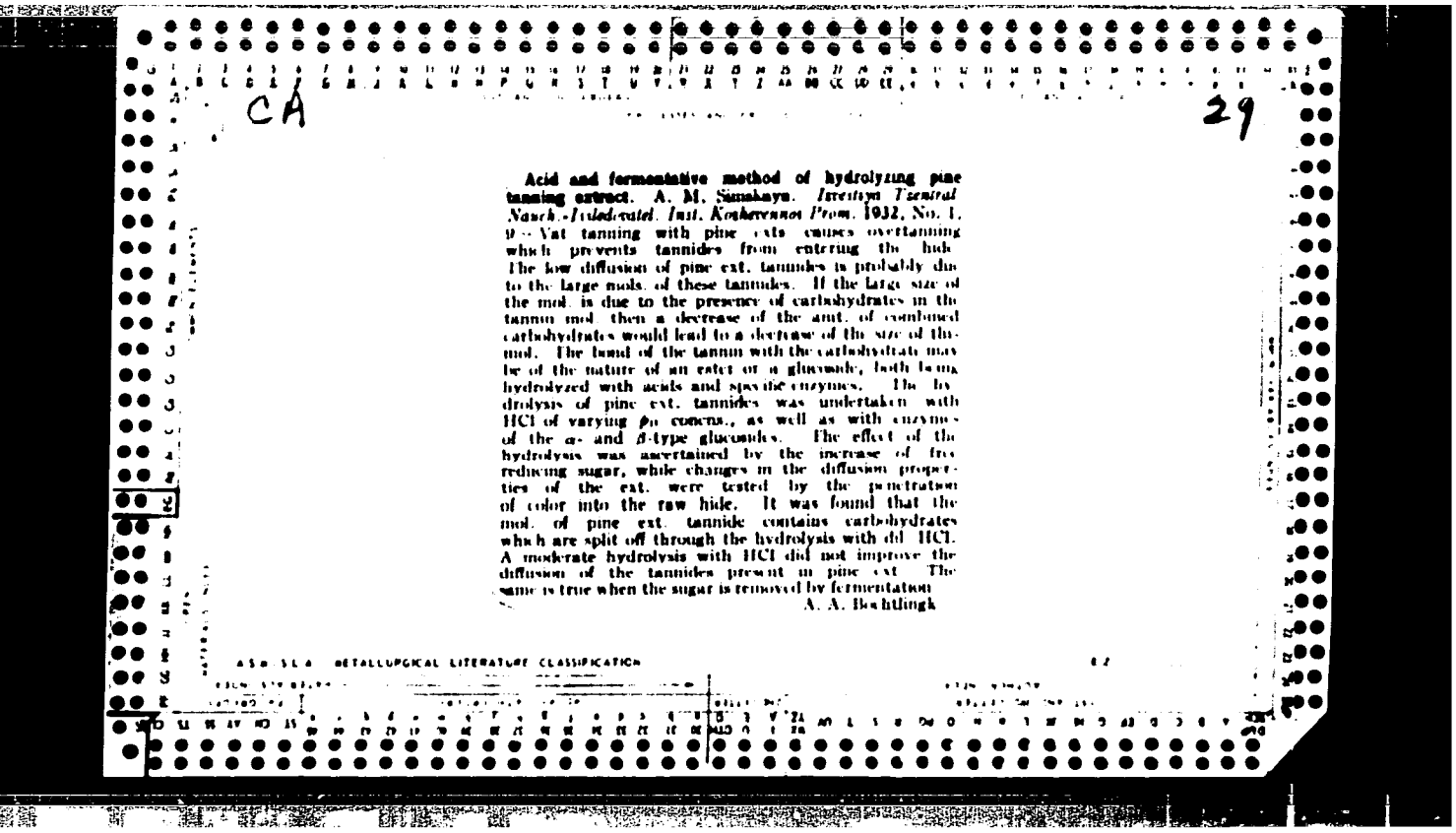
79

The effect of the addition of lactic acid bacteria on tanning with pine-bark extract. A. A. Siniskaya. *Obuvnoe Tekh.: Ser. Kozhevennoe Proizvodstvo* 1932, No. 6, 33-5; *Chem. Zentr.* 1933, II, 3079; cf. *C. A.* 26, 4954. The addn. of cultures of lactic acid bacteria checked the appearance of putrefaction in the tanning liquors. Lactic acid exerts the same action. M. G. Moore

METALLURGICAL LITERATURE CLASSIFICATION



The addition of antiseptics for the prevention of fermentation of pine-bark drenches. A. M. Smushkin. *Izvestiya Tsentral. Nauch.-Issledovatel. Inst. Kozhevennoi Prom.* 1933, No. 6/7, 38; *Chem. Zentr.* 1933, II, 648.—Solid and liquid pine bark exts. in 20° Bé. solns. to which were added small amts. of phenol, phenol and bisulfite or bleaching powder were allowed to ferment in the presence of large amts. of bottom yeast. It is recommended that for transportation in barrels, 0.1% phenol be added to the exts. M. G. Moore



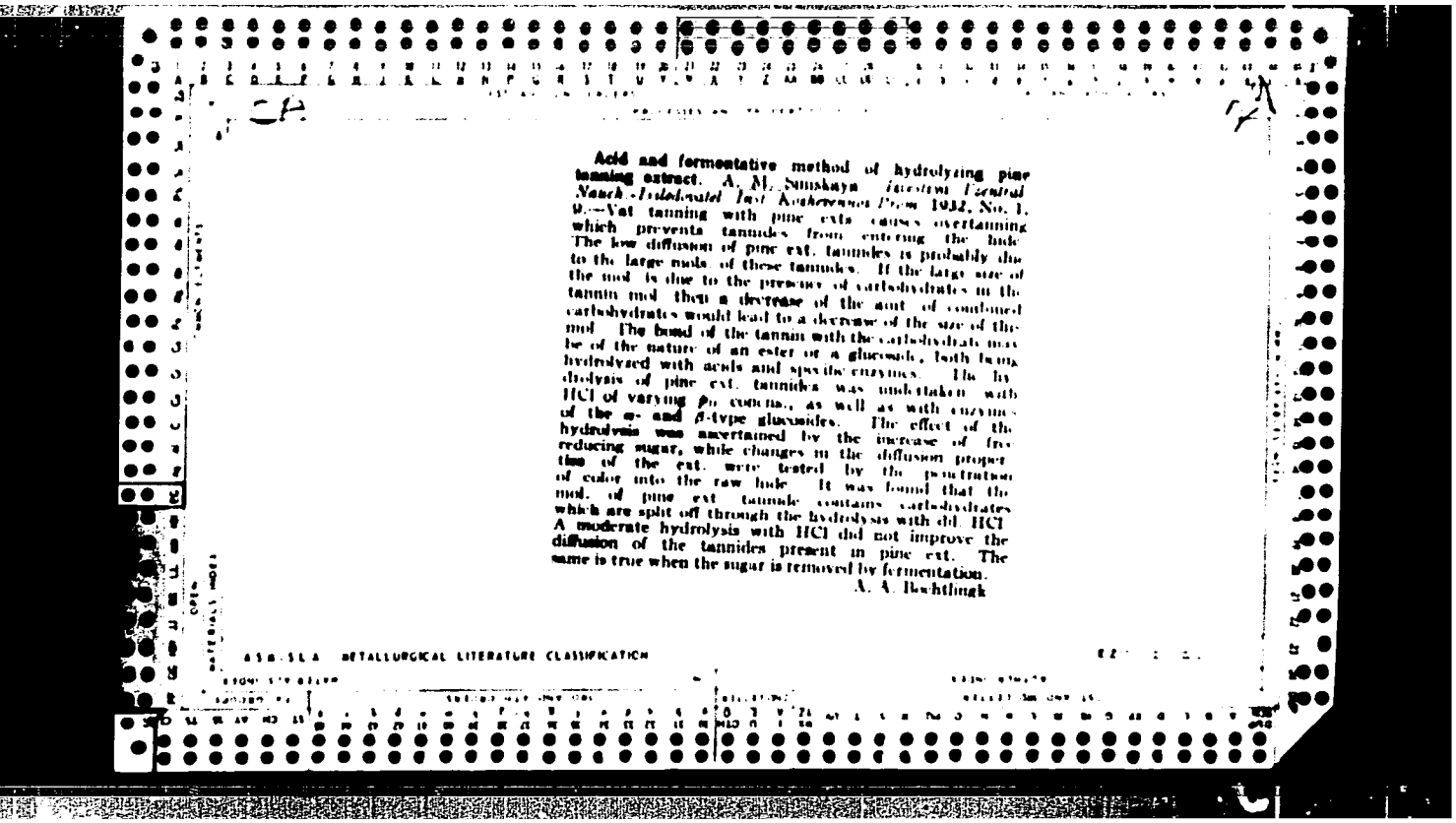
CA

29

Acid and fermentative method of hydrolyzing pine tanning extract. A. M. Simakaya. *Izvestiya Tsentral. Nauch.-Issledovatel. Inst. Kozhevennoi Prom.* 1932, No. 1, 9.—Vat tanning with pine ext. causes overtanning which prevents tannides from entering the hide. The low diffusion of pine ext. tannides is probably due to the large mols. of these tannides. If the large size of the mol. is due to the presence of carbohydrates in the tannin mol. then a decrease of the amt. of combined carbohydrates would lead to a decrease of the size of the mol. The bond of the tannin with the carbohydrate may be of the nature of an ester or a glucoside, both being hydrolyzed with acids and specific enzymes. The hydrolysis of pine ext. tannides was undertaken with HCl of varying p_H concns., as well as with enzymes of the α- and β-type glucosides. The effect of the hydrolysis was ascertained by the increase of free reducing sugar, while changes in the diffusion properties of the ext. were tested by the penetration of color into the raw hide. It was found that the mol. of pine ext. tannide contains carbohydrates which are split off through the hydrolysis with dil. HCl. A moderate hydrolysis with HCl did not improve the diffusion of the tannides present in pine ext. The same is true when the sugar is removed by fermentation.

A. A. Bushtlingk

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION



Acid and fermentative method of hydrolyzing pine tanning extract. A. M. Smushaya *Izvestiya Vsesoyuz. Nauch.-Issledovatel. Inst. Kozhevennoi Prom.* 1932, No. 1, 9.—Vat tanning with pine ext. causes overtanning which prevents tannides from entering the hide. The low diffusion of pine ext. tannides is probably due to the large mols. of these tannides. If the large size of the mol. is due to the presence of carbohydrates in the tannin mol. then a decrease of the amt. of combined carbohydrates would lead to a decrease of the size of the mol. The bond of the tannin with the carbohydrate may be of the nature of an ester or a glucoside, both being hydrolyzed with acids and specific enzymes. Its hydrolysis of pine ext. tannides was undertaken with HCl of varying p_H concns., as well as with enzymes of the α- and β-type glucosides. The effect of the hydrolysis was ascertained by the increase of free reducing sugar, while changes in the diffusion properties of the ext. were tested by the penetration of color into the raw hide. It was found that the mol. of pine ext. tannide contains carbohydrates which are split off through the hydrolysis with dil. HCl. A moderate hydrolysis with HCl did not improve the diffusion of the tannides present in pine ext. The same is true when the sugar is removed by fermentation.

A. A. Beshtlingk

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

CA

The application of fish entrails in the preparation of enzymic softeners and of unhairing substances. A. M. Simakova. *Tsentral. Nauch.-Issled. Inst. Kozhevennoi Prom. Sbornik Rabot*, No. 3, 69-76(1931).—The application of fish entrails was found to be quite feasible for softening and unhairing hides, as evidenced by expts. reported in detail. The av. compn. of fish entrails is H_2O [illegible], dry residue 21.41-20.[illegible], fats [illegible], albumin [illegible], ash 1.21-2.[illegible], Cl [illegible], Ca [illegible] 0.41 and P_2O_5 0.4-0.08%. The amounts depend on the type of fish and the season. Carp entrails were the most suitable. The best preservative for entrails is NaCl, used to an amount of 20% of the entrails. The activity of the dry enzymes in casein units varied from 25 to 200.

A. A. Bochtlingk

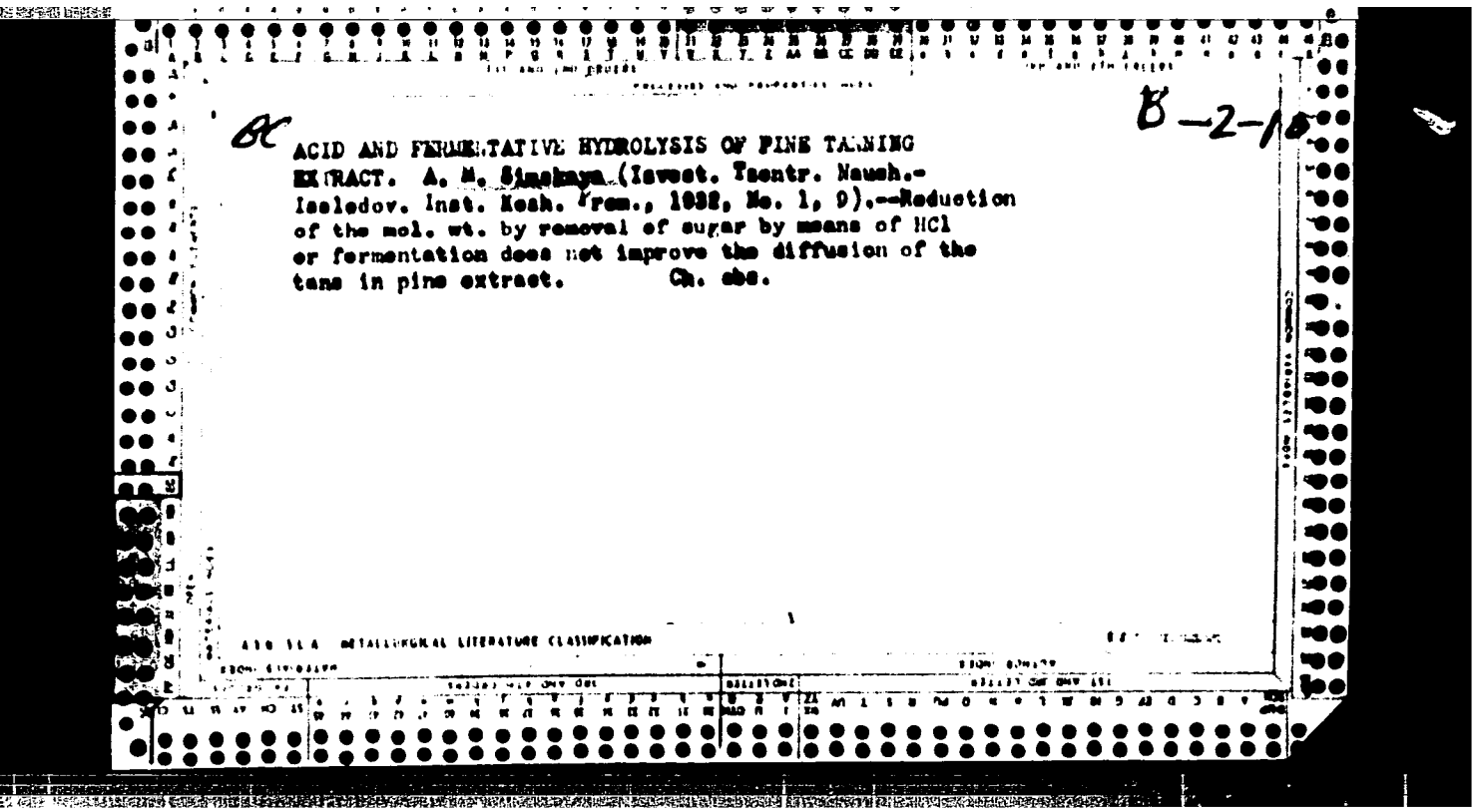
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

/3

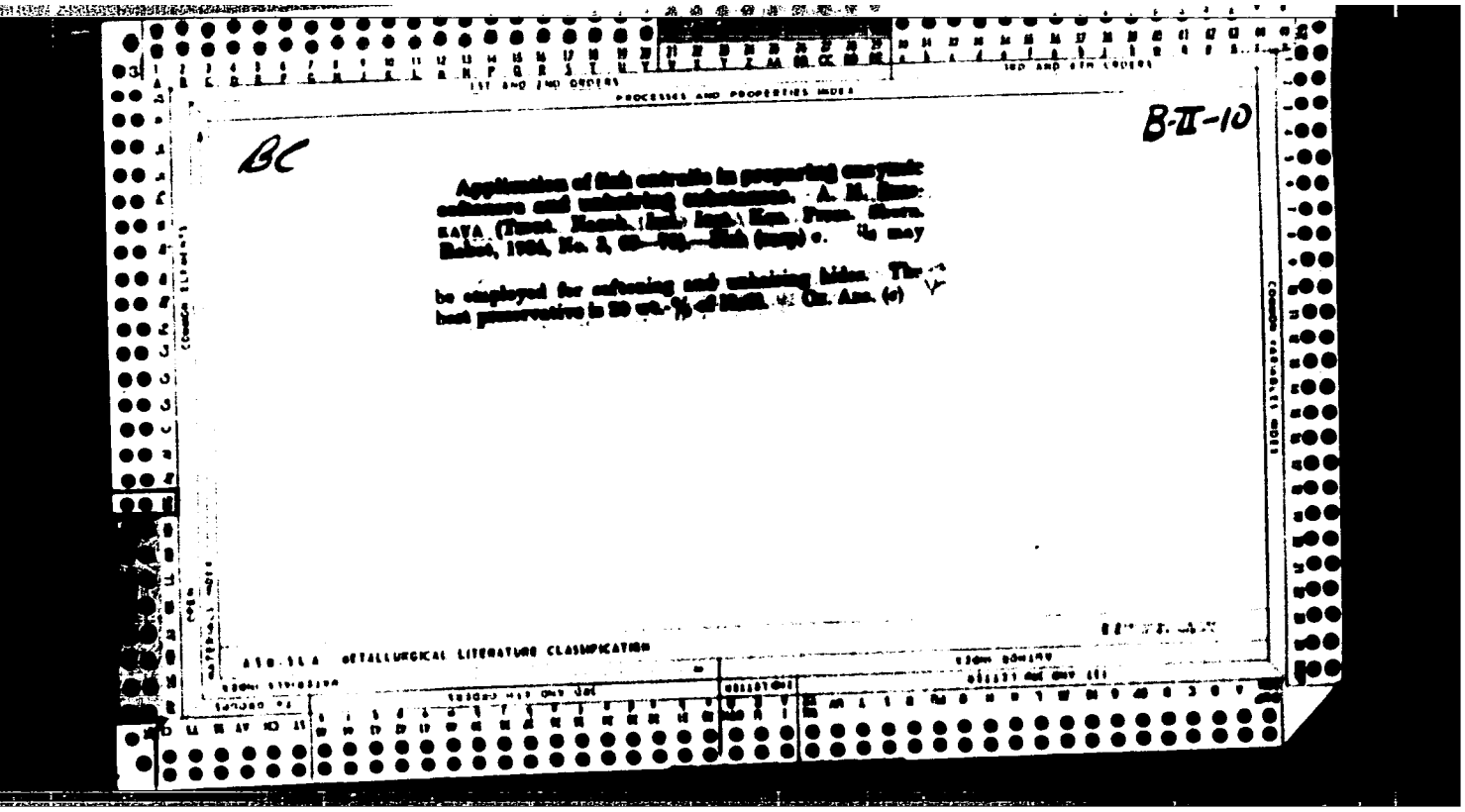
Softening or steeping agents. A. M. Sunskaya. Russ. 39,267, Oct. 31, 1934. Fish intestines are ground and pressed at 100-150 atm. The enzyme-contg. liquid produced is freed from oil by settling or by centrifuging, absorbed in sawdust, and dried at a temp. not over 40°.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



B-2-10

ACID AND FERMENTATIVE HYDROLYSIS OF PINE TANNING EXTRACT. A. M. Simakaya (Izvest. Tsentr. Nauch.-Issledov. Inst. Kozh. Prom., 1932, No. 1, 9).--Reduction of the mol. wt. by removal of sugar by means of HCl or fermentation does not improve the diffusion of the tans in pine extract. Ch. Abs.

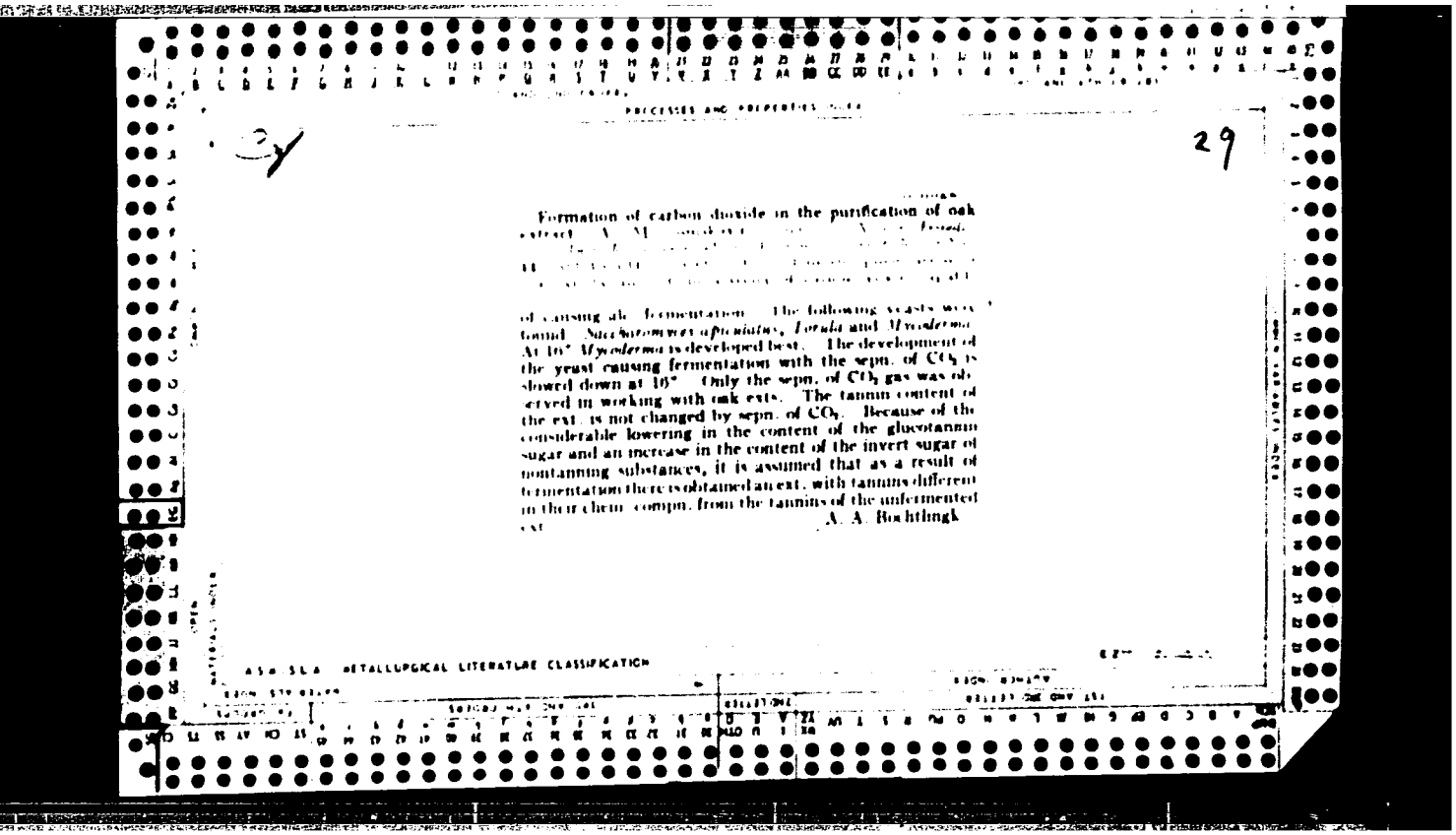


PROCESSES AND PROPERTIES INDEX

Utilization of waste products of potato starch factories for acetone-butyl alcohol fermentation. A. M. Sinskaya. *Biokhimiya* 1, 603-10(1936). Max. yields of $COMe_2$, BuOH and EtOH are obtained by fermentation of a suspension of the solid residues from potato-starch extn. in dil. potato juice, or in the effluent H_2O from washing the potato flakes. The wash-H_2O serves, not only as a source of N, but also as an activator of fermentation in general.
H. C. A.

Scientific. Research Inst. of The Starch-Molasses industry, Mosc

ASA-SLA METALLURGICAL LITERATURE CLASSIFICATION



29

Formation of carbon dioxide in the purification of oak extract. A. M. [illegible]

[illegible] of causing alc. fermentation. The following yeasts were found: *Saccharomyces apiculatus*, *Torula* and *Mycoderma*. At 10° *Mycoderma* is developed best. The development of the yeast causing fermentation with the sepn. of CO_2 is slowed down at 10°. Only the sepn. of CO_2 gas was observed in working with oak exts. The tannin content of the ext. is not changed by sepn. of CO_2. Because of the considerable lowering in the content of the glucotannin sugar and an increase in the content of the invert sugar of nontanning substances, it is assumed that as a result of fermentation there is obtained an ext. with tannins different in their chem. compn. from the tannins of the unfermented ext.

A. A. Bochtlingk

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

CA 12

Iodine-starch test for orientation indication of dry solid content in gruel. A. M. Sinskaya. [illegible] 1950, No. 3, 34.—The [illegible] gruel is mixed with [illegible] ml. tap water, let stand 1-2 min., and [illegible] ml. liquor is sepd. and treated with 1 drop 0.2% iodine soln., then 2 drops further. If solids are above 30%, there is no color with the first drop and after addnl. drops at most gray-violet color; under 28%, solids give red-violet first color and more intense color in the 2nd part; under 21%, solids give blue-violet, then violet color; under 20%, give blue, then more intense blue. G. M. Kosolapoff

12

C.A.

Determination of harmful alkaloid-containing admixtures in flour. A. M. Simskaya. *Gigiena i Sanit.* 1951, No. 10, 35.—Phosphomolybdic acid is more satisfactory in some cases than silicomolybdic acid for the detection of small amts. of poisonous alkaloidal admixts. in flour. Fluorescence methods run on flour exts. are not too satisfactory since all the commonly found alkaloids give similar colors.
G. M. Kosolapoff

SIMSKAYA, A. M.

Milk - pasteurization

Phosphatase method of control of pasteurization applied to sour cream, curds and cheese. Gig. i san. no.5, 1952.

Monthly List of Russian Accessions, Library of Congress, September, 1952. UNCLASSIFIED.

SIMSKAYA, A.M.; BUDAGYAN, F.Ye., professor, zaveduyushchiy.

Phosphatase method for controlling thermal processing of meat products. Vop.pit. 12 no.3:61-65 My-Je '53. (MLRA 6:6)

1. Kafedra gigiyeny pitaniya Tsentral'nogo instituta usovershenstvovaniya vrachey (Moscow). (Meat--Analysis)

USSR/Medicine - Purification of Foods FD-1761

Card 1/1 Pub 141-8/15

Author : Simskaya, A. M.

Title : Hygienic evaluation of the thermal treatment of duck eggs

Periodical : Vop. pit. 34-39, Jan/Feb 1955

Abstract : Eggs from water fowl such as ducks are often infected with bacteria of the Salmonella group. Boiling the eggs for the proper length of time will destroy the bacteria making them safe for comsumption. Three tables. Three references (two USSR)

Institution: Chair of Nutrition Hygiene (Head-Professor F. Ye. Budagyan) Central Institute for the Advanced Training of Physicians

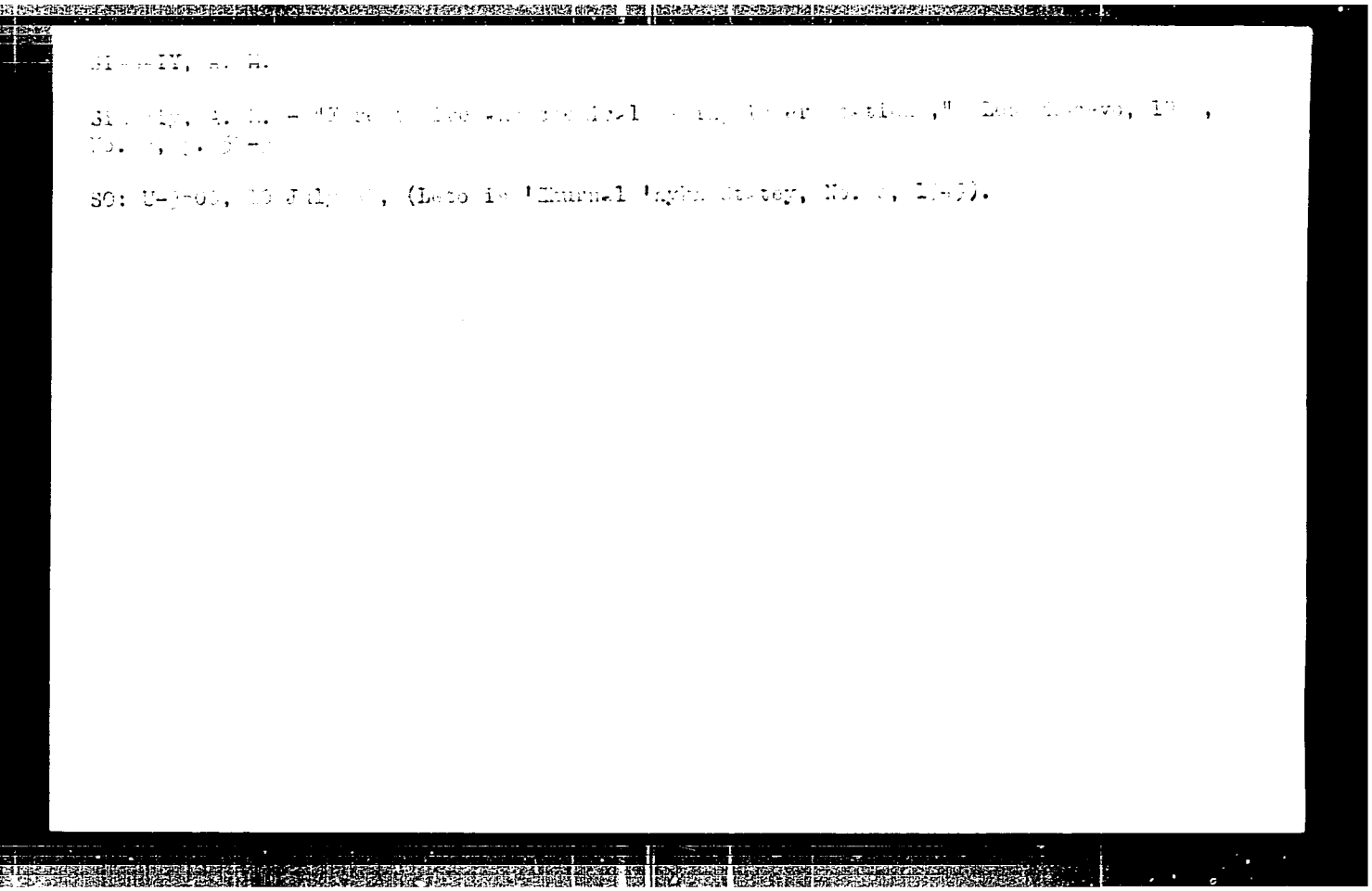
Comparative evaluation of methods for controlling the pasteurization of milk products. Vop.pit. 17 no.3:78-83 My-Je '58. (MIRA 11:6)

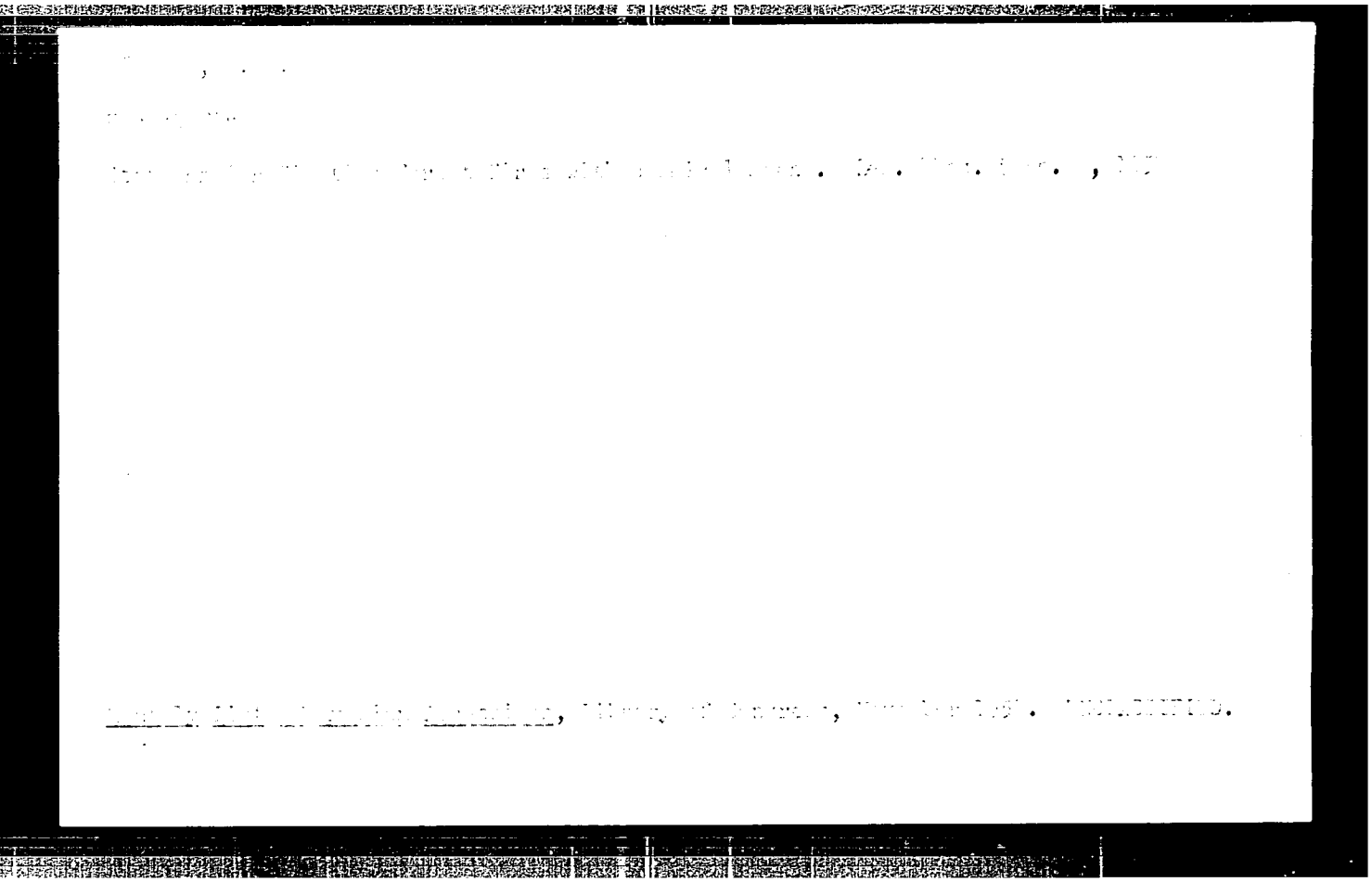
1. Iz kafedry gigiyeny pitaniya (zav. - prof. F.Ye.Budatyan) TSentral'nogo instituta usovershenstvovaniya vrachey, Moskva.
(MILK,
prod., pasteurization, method of control (Rus))

SIMSKAYA, A.M.

Studies on enzyme regeneration in pasteurized milk products.
Vop. pit. 18 no.3:83-87 My-Je '59. (MIRA 12:7)

1. Iz kafedry gigiyeny pitaniya (zav. - F.Ye. Budagyan) Tsentral'-nogo instituta usovershenstvovaniya vrachey, Moskva.
(MILK,
enzyme regen. in pasteurized milk prod. (Rus))
(ENZYMES,
regen. in pasteurized milk prod. (Rus))





SIMSKIY, Aleksandr Mikhaylovich; KURBATSKIY, N.P., redaktor; SVETLAYEVA, [illegible], redaktor izdatel'stva; SHITS, V.P., tekhnicheskiy redaktor

[Stations for fighting forest fires by chemical means] Lesnye pozharno-khimicheskie stantsii. Moskva, Goslesbumizdat, 1956. 31 p. (MLRA 10:1)
(Forest fires--Prevention and control)

SIMSKIY, Aleksandr Mikhaylovich; CHERVONNYY, M.G., red.; TSYGANOVA, L.E., red.izd-va; PANAKHINA, N.L., tekhn. red.

[Protection of forests against fires] Okhrana lesov ot pozharov. Moskva, Goslesbumizdat, 1961. 49 p. (MIRA 15:7)
(Forest fires--Prevention and control)

GRACHEV, A.[illegible], LARYUKHIN, G.A., MARUKYAN, S.M.; MIRONOV, V.V.; NUKHIN, A.I.; PANASIK, A.V.; PONOMAREVA, Ye.N.; SIMSKIY, A.M.

[Kolkhoz forester's manual] Spravochnik kolkhoznogo lesovoda. Moskva, Lesnaia promyshlennost', 1965. 424 p. (MIRA 18:8)

SIMSON, A.

VERNER, N.; SIMSON, A.

3 D 50 marine engines of higher capacity. Mor. i rech.flot 14 no.10:23-25 O '54. (MLRA 7:11)
(Marine engines)

SOV/124-58-1-503

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 1, p 61 (USSR)

AUTHORS: Kurits, A. A., Simson, A. E.

TITLE: How to Increase the Power of Compression-Ignition Engines (Puti povysheniya moshchnosti dvigateley s vosplameneniyem ot szhatiya)

PERIODICAL: V sb.: Povysheniye moshchnosti dvigateley s vosplameneniyem ot szhatiya, Moscow, Mashgiz, 1954, pp 123-142

ABSTRACT: The authors examine the limits of the rational use of various schemes of low-pressure turbosupercharging for compression-ignition engines in which the thermal stress and the maximum combustion pressure are nearly constant. The investigation is conducted for an exhaust-gas turbosupercharger system in which the backpressure in the exhaust pipe ahead of the turbine is either variable or constant. Utilizing a parabolic variation of the pressure of the gas in the exhaust manifold, corresponding to a linear variation of the flow velocity, the authors derive approximate equations for the determination of the effectiveness of the turbosupercharger. Formulas are also obtained for the mean indicator and effective pressures. The analysis of the results of various schemes of turbosupercharging in four- and two-stroke

Card 1/2

How to Increase the Power of Compression-ignition Engines

engines reveals that the low range of turbosupercharging (up to 2 kg/cm^2) does not require any structural changes in modern engines and yet can accomplish a worth while increase over their unsupercharged power, namely, by about 100% in four-stroke engines and about 40% in two-stroke engines.

B. D. Zaloga

SOV/124-58-1-504

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 1, p 61 (USSR)

AUTHOR: Simson, A. E.

TITLE: What Are the Power Reserves in Compression-ignition Engines? (Ispol'zovaniye rezervov moshchnosti dvigateley s vosplamenenivem ot szhatiya)

PERIODICAL: V sb.: Povysheniye moshchnosti dvigateley s vosplameneniyem ot szhatiya. Moscow, Mashgiz, 1954, pp 143-174

ABSTRACT: The author examines the possibility of increasing the power of compression-ignition engines by means of turbosupercharging and by lowering the inlet air temperature at low supercharger pressure-rise ratios. In his calculation he assumes that the pressure throughout the exhaust system is uniform at any given moment. The determination of the fundamental discharge-rate coefficients relative to the gas distribution organs and the speed coefficients of the flow-wetted portion of the turbine is accomplished by means of an analysis of the indicator diagram. Experimental investigations on the increase of the power performed on a D50 engine have shown the virtual coinci-

Card 1/2 dence of experimental data and the results of calculations. Tests

What Are the Power Reserves in Compression Ignition Engines?

with the Diesel-locomotive engine D50 have shown that it an effective method of gas turbine supercharging with variable exhaust manifold backpressure and a rational air intercooler system between the turbine outlet and the engine intake are used the power of the engine may be increased by 20% with moderate values of the supercharger pressure (up to 1.55 1.65 atm abs without raising the exhaust gas temperatures and with a virtually unchanged ignition pressure. The specific fuel consumption is reduced (at virtually the same indicator fuel consumption) and an amount of heat essentially equal to that lost in the cooling water is saved, while at the above indicated degree of increase in power the maximum combustion temperature is somewhat decreased (about 80° even though the excess air coefficient remains the same.

B. D. Zaloga

Card 2/2

SIMSON, A.E., kandidat tekhnicheskikh nauk; GRINSBERG, F.G., inzhener.

Increasing the power of engines by cooling the air charge. Energomashinostroenie no.11:13-17 N '56. (MLRA 9:12)
(Diesel engines)
(Refrigeration and refrigerating machinery)

SIMSON, A.E., kand.tekhn.nauk; NASYROV, R.A., kand.tekhn.nauk; SKRIPETS, N.F., inzhener; FAVOROV, Yu.L., aspirant.

Dynamic characteristics of two-cycle diesel engines with diverging pistons. Vest.TSNII MPS 16 no.6:39-44 S '57. (MIRA 10:10)

1. Khar'kovskiy teplovozostroitel'nyy zavod im. V.A.Malysheva, Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta i Khar'kovskiy institut inzhenerov zheleznodorozhnogo transporta im. S.M.Kirova.

(Diesel locomotives)

PHASE I BOOK EXPLOITATION 861

Simson, Al'fred Eduardovich, Candidate of Technical Sciences

Gazoturbinnyy nadduv dizeley (Gas-Turbine Supercharging of Diesels) Moscow, Mashgiz, 1958. 194 p. 3,500 copies printed.

Reviewer: Nigmatulin, I.N., Doctor of Technical Sciences, Professor; Ed.: Shatilov, A.I., Engineer; Ed. of Publishing House: Basentsyan, A.A.; Tech. Ed.: El'kind, V.D.; Managing Ed. for literature on general technical and transport machine building (Mashgiz): Ponomareva, K.A., Engineer.

PURPOSE: This book is intended for engineers, designers, researchers and students specializing in the field of internal combustion engines.

COVERAGE: The book presents various aspects of the theory, design, and experimental investigation of constant and variable pressure gas-turbine superchargers for two- and four-stroke-cycle diesel engines. A detailed procedure for obtaining indicator diagrams

Card 1/5

of various processes and the basic data and measuring techniques used in experimental investigation are presented. The book contains schematic drawings and photographs of various Soviet and foreign gas-turbine superchargers and tables and graphs of experimental data. No personalities are mentioned. There are 62 references, 44 of which are Soviet, 7 English, and 11 German.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress

GO/ksv
11-18-58

Card 5/5

GUREVICH, A.N., kand. tekhn. nauk; SIMSON, A.E., kand. tekhn. nauk; GRINSBERG, F.G., inzh.

Operational system of the TE3 diesel locomotive engine. Vest. TSNII MPS 17 no.4:36-39 Je '58. (MIRA 11:6)
(Diesel locomotives)

(1); 26(4 PHASE I BOOK EXPLOITATION SOV/3049

Moscow. Vyssheye tekhnicheskoye uchilishche

Povysheniye moshchnosti i uluchsheniye ekonomichnosti dvigateley vnutrennego sgoraniya; doklady i soobshcheniya na nauchno-tekhnicheskoy konferentsii kafedry "Dvigateli vnutrennego sgoraniya" MVTU imeni Baumana (Increasing the Output and Improving the Economy of Internal Combustion Engines; Reports and Transactions Presented at the Scientific and Technical Conference Held by the Department of Internal Combustion Engines, MVTU imeni Bauman) Moscow, Mashgiz, 1959. 219 p. Errata slip inserted. 4,500 copies printed.

Ed.: A.S. Orlin, Doctor of Technical Sciences; Ed. of Publishing House: L.I. Yegorkina; Tech. Ed.: V.D. El'kind; Managing Ed. for Literature on Automotive, Tractor, and Agricultural Machine Building: I.M. Bauman, Engineer.

PURPOSE: This collection of articles is intended for scientific and engineering personnel of research institutes and machine-building plants.

COVERAGE: The collection contains reports and papers dealing with better

economy and greater capacities for internal combustion engines. Experimental results are stated and their effectiveness evaluated. The conference took place in 1957. The introduction to the collection contains short summaries of the articles. No personalities are mentioned. References follow several of the articles.

of loop scavenging are evaluated. The types of diesel engines discussed are mostly non-Soviet.

Portnov, D.A. [Doctor of Technical Sciences, Professor, NIID]. Optimum Compression in a Transport-type Turbopiston Engine 58
The author analyzes the effects of compression on the basic parameters of turbopiston-engine performance, the relation of compression to supercharging, maximum-pressure values in supercharging, and effects of supercharging pressure on various characteristic pressures in the engine.

Kruglov, M.G. [Candidate of Technical Sciences, MVTU imeni Bauman]. Some Possibilities of Increasing the Capacity and Efficiency of Two-stroke Tractor Diesel Engines 73
The author analyzes the effect of the shape of the exhaust cam and of the exhaust-valve timing upon the efficiency of an engine with valve-port scavenging. Other topics discussed in the article include scavenge efficiency of loop scavenging in a one-cylinder engine, scavenge efficiency computation for a YaAZ-204 engine, and the amount of supercharging in a YaAZ-204 engine.

Ivanchenko, N.N. [Candidate of Technical Sciences, TsNIDI]. Contributions of TsNIDI Toward Improving the Capacities and Efficiencies of Diesel Engines With Divided Combustion Chambers and Turbulence Chambers 89
The article reviews recent achievements in reducing fuel consumption in such diesel engines.

Simakov, P.F. [Candidate of Technical Sciences, Docent, MVTU imeni Bauman]. Maximum Possible Revolutions of a Four-stroke Engine 105
The author surveys some structural possibilities of increasing the r.p.m. coefficient and discusses the effects of the size of inlet nozzle upon the capacity of the engine. Some information is given on gas penetration and methods of computing it.

Simson, A.E. [Candidate of Technical Sciences, Khar'kovskiy zavod transportnogo [redacted]ostroyeniya imeni V.A. Malysheva (Khar'kov Transport Machine-building Plant imeni V.A. Malyshev)]. Steps Being Taken in the Development of Gas-turbine Supercharging in Two-stroke Engines for Diesel Locomotives 125
The author discusses the problem of supercharging in TD-100 engines, mass-produced at this plant. After analyzing some of the systems using superchargers driven by exhaust-gas turbines, he concludes that the most

efficient and economical method of utilizing exhaust gas is by combining the kinetic energy of the air (transformed into pressure as it leaves the blower wheel) with variable pressure in the outlet. Tests have shown that fuel consumption in this type of engine is 150 to 155 grams per effective-horsepower hour.

STRPUNGE, B.N., inzh.; SINENKO, N.P., inzh.; SIMSON, A.E., kand.tekhn. nauk; GRINSBERG, F.G., inzh.

Technical characteristics of the new 9D100 diesel engine. Elek.i tepl.tiaga 3 no.7:7-10 Jl '59. (MIRA 13:3)
(Diesel engines)

GUREVICH, A.N., kand.tekhn.nauk; SIMSON, A.E., kand.tekhn.nauk;
GRINSBERG, F.G., inzh.

Effect of temperature and air pressure on the performance of a diesel motor. Elek.i tepl.tiaga 3 no.10:39-40 O '59. (MIRA 13:2)

(Diesel engines)

STRUNGE, B.N., inzh.; SIMENKO, N.P., inzh.; SIMSON, A.E., kand.tekhn.nauk

Testing the new 9D100 high-duty diesel engine. Energomashinostroenie 5 no.1:42-44 Ja '59. (MIRA 12:2)
(Diesel engines--Testing)

SIMSON, A.E.; SINENKO, N.P.; MALYAROV, F.M.; STRUNGE, B.N.; SUKHOMLINOV, R.M.; GRINSBERG, F.G.; PIRIN, I.V., kand.tekhn.nauk, retsenzent; BASENTSYAN, A.A., inzh., red.; UVAROVA, A.P., tekhn.red.; GORDEYEVA, L.P., tekhn.red.

[Testing D 100-type locomotive and marine diesel engines] Ispytaniia teplovoznykh i sudovykh dizelei tipa D100. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 263 p. (MIRA 13:12)

(Marine diesel engines--Testing)
(Diesel locomotives--Testing)

VODOLAZHCHENKO, V.V., dotsent, kand.tekhn.nauk, SIMSON, A.E., kand.tekhn. nauk.

Special features of gas turbine supercharging in six-cylinder motors. Energomashinostroenie 6 no.4:47-48 Ap '60. (MIRA 13:8)

(Diesel engines--Superchargers)

GUREVICH, A.N., kand.tekhn.nauk, SINENKO, N.P., inzh., SIMSON, A.E., kand.tekhn.nauk

Improving the performance of idling 2D100 diesel locomotives. Vest.TSNII MPS 19 no.2:20-24 '60. (MIRA 13:6)
(Diesel locomotives)

KURITS, A.A., kand.tekhn.nauk; SIMSON, A.E., inzh.; GRINSBERG, F.G., inzh.

Characteristics of D50 engines. Trudy KHIIT no.35:118-137 '60.
(MIRA 13:10)

(Diesel engines)

S/262/62/000/015/007/011
I007/I207

AUTHORS: Grinsberg, F. G., Pesotskiy, Yu. A. and Simson, A. E.

TITLE: Selecting the proper exhaust stsyem for gas-turbine supercharged two-stroke engines

PERIODICAL. Referativnyy zhurnal, otdel'nyy vypusk. 42. Silovyye ustanovki, no. 15, 1962, 56, abstract 42.15.318 (Tr. Khar'kovsk. politekhn. in-ta, Khar'kovsk. z-d transp. mashinostrt., no. 32, 1961, 149–163)

TEXT. The two-stroke diesel engine consumes a great quantity of air which, for proper scavenging, should be fed at increased pressure while the counter-pressure in the ahaust manifold not increase essentially. This can be achieved with turbine superchargers by the maximum use of kinetic energy of exhaust gases. In this connection, pulse supercharging systems have found wide acceptance. Of particular interest is an exhaust system which recovers the kinetic energy of exhaust gases after their passage through the outlet parts, by dividing the gases in streams of different velocity levels. This is achieved by mounting a baffle at a certain height of the outlet ports in the exhaust manifold; the exhaust gases, passing through the two channels so formed, are a recirculated to the turbine whose blades are shaped to suit these particular flow conditions. Calculations carried out with the 9Д100 (9D100) diesel engine showed the possibility of increasing the turbine power by a factor of 1.6 or more and minimizing fuel consumption from 162 to 150 g/HP hr

[Abstracter's note: Complete translation.]

Card 1/1

S/263/62/000/014/012/016
I007/I207

AUTHORS: Vodolazhchenko, V. V., Simson, A. E. and Verner, N. D.

TITLE: Investigations on the gas-turbine supercharging system in four-strokes engines

PERIODICAL: Referativnyy zhurnal, otdel'nyy vypusk. 42. Silovyye ustanovki, no. 14, 1962, 54, abstract 42.14.323 (Tr. Khar'kovsk. in-ta inzh. zg.-d. transp., no. 43, 1961, 29-38)

TEXT: Results are reported of investigations on exhaust systems with a single, common exhaust-manifold and with supercharging by means of the kinetic energy of exhaust gases. The system described was used in 2- and 4- stroke engines and ensures increase in turbine power by 20% as compared with reaction turbines; it may be applied to all types of internal combustion engines and requires the installation of a single turbine only regardless the cylinder number and dimension of the engines involved.

[Abstracter's note: Complete translation.]

Card 1/1

KURITS, Aleksandr Ariyevich; VODOLAZHCHENKO, Vitaliy Vasil'yevich; GRINSBERG, Filipp Grigor'yevich; ROZENBLIT, Gennadiy Borisovich; SIMSON, Al'fred Eduardovich; MAYDENKO, O.A., kand. tekhn. nauk, retsenzent; RABOVSKIY, V.V., inzh., retsenzent; VOLKOVICH, G.F., retsenzent; ZAKHARENKO, B.A., kand. tekhn. nauk, nauchn. red.; NIKITINA, R.D., red.; SHISHKOVA, L.M., tekhn. red.

[Diesel engines on ships with electric propulsion] Dizeli na sudakh s elektrodvizheniem. [By A.A.Kurits i dr. Leningrad, Sudpromgiz, 1963. 276 p. (MIRA 17:1)

ZASLAVSKIY, [illegible]; SIMSON, A.E., inzh.; OLEYNIK, V.I., inzh.

Methods for improving the idling of the D50 diesel engine. Elek. i [illegible] Ja '57. (MIRA 10:2)
(Diesel engines)

L 52985-65 EPA/EWP(f)/EPF(n)-2/EPR/T-2/EPA(bb)-2 Paa-4/Ps-4 WW

ACCESSION NR AM5005253 BOOK EXPLOITATION S/

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B+1

Simson, A. E.

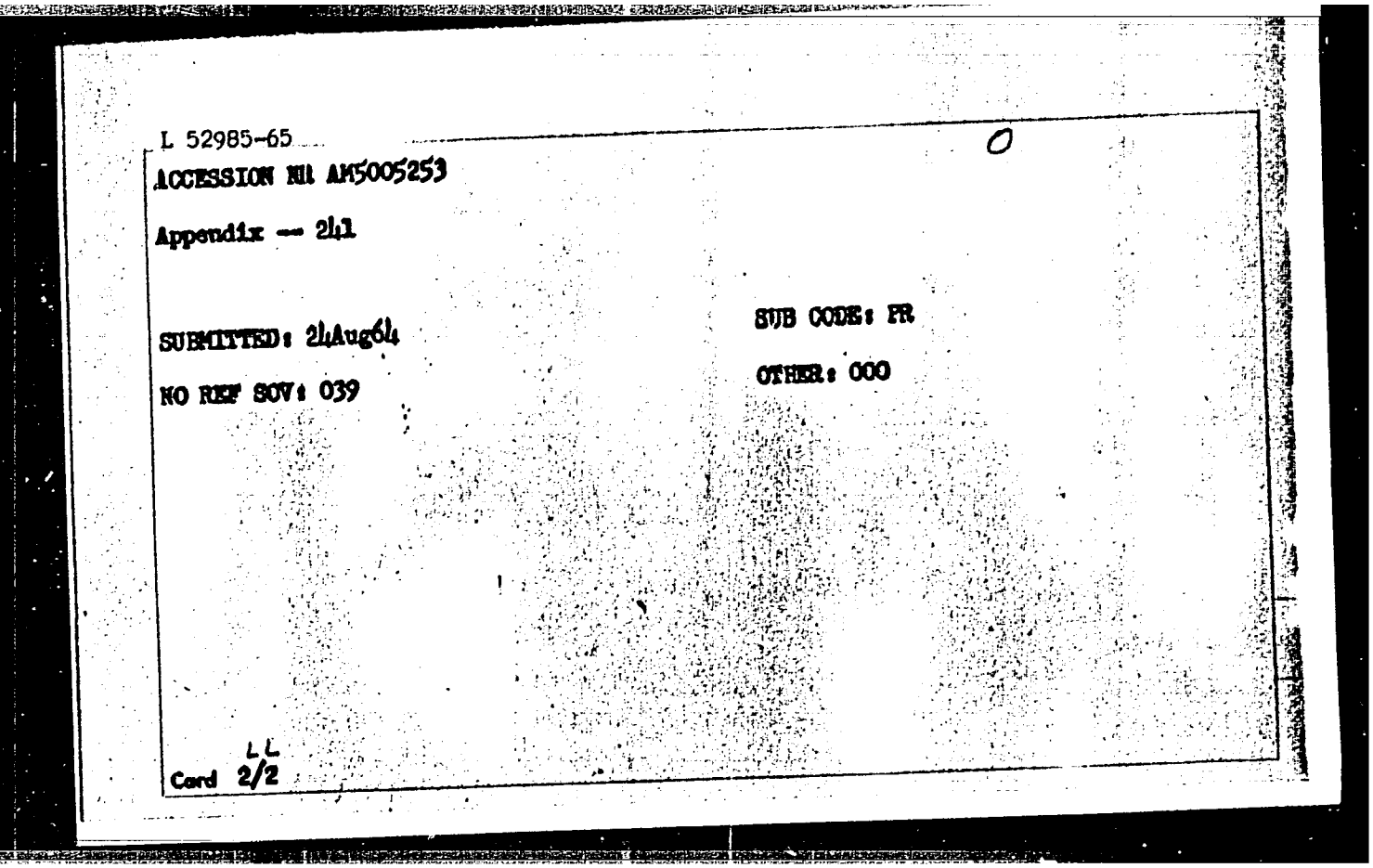
Gas-turbine supercharger for diesel engines (Gazoturbinnyy nadduv dizelay), 2d ed., rev., Moscow, Izd-vo "Mashinostroyeniye", 1964, 246 p. illus., biblio. Errata slip inserted. 1,800 copies printed.

TOPIC TAGS: diesel engine, gas-turbine supercharger

PURPOSE AND COVERAGE: This book presents problems in the theory, calculation, and experimental investigation of systems of gas-turbine supercharging of two and four-cycle diesels, and analyzes the character designs of modern gas-turbine superchargers. The book is intended for engineers, designers, researchers, and graduate students specializing in internal combustion engines.

TABLE OF CONTENTS (abridged):

Card 1/2



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Appendix -- 241

SUBMITTED: 24Aug64

SUB CODE: PR

NO REF SOV: 039

OTHER: 000

Card 2/2

KOVAL', I.A., inzh.; GLODIYEVSKIY, V.I., inzh.; DIDENKO, A.M., inzh.; SIMSON, A.E., kand. tekhn. nauk; KHARCHENKO, A.I., inzh.

Studying the working process of the SMD-18 diesel engine with turbocharger. Trakt. i sel'khozmash. no.8:5-8 Ag '64. (MIRA 17:11)

1. Gosudarstvennoye spetsial'noye konstruktorskoye byuro po dvigatelyam (for Didenko). 2. Khar'kovskiy institut inzhenerov zheleznodorozhnogo transporta imeni S.M. Kirova (for Kharchenko).

GENDLER, L.Ye.; SIMSON, G.G.

Characteristics of the mechanization of lumbering operations in the mountain regions of the Carpathians. Bum.i der.prom. no.1:16-18 Ja-Mr '62. (MIRA 15:5)

1. Trust "Zakarpatles"
(Carpathian Mountain region—Lumbering)

SIMSON, I.I.

[Guard devices on woodworking machinery; album of blueprints] Ograditel'nye ustroistva k derevoobrabatyvaiushchim stankam; al'bom rabochikh chertezhei. [Moskva] Profizdat, 1953. 97 p. (MLRA 7:7)
(Woodworking machinery —Safety appliances)

1. SIMSON, I. I.

2. USSR (600)

4. Lathes - Safety Appliances

7. Safety devices for lathes. Der. i lesokhim. prom. 2, No. 2, 1953.

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

SIMSON, I.I., starshiy nauchnyy sotrudnik.

Safety appliances for circular sawing machines. Der.i lesokhim.prom. 2 no. 7:3-6 Jl '53. (MLRA 6:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut okhrany truda Vsesoyuznogo tsentral'nogo soveta profsoyuzov. (Saws--Safety appliances)

123-1-716

Translation from: Referativnyy Zhurnal, Mashinostroyeniye, 1957, Nr 1, p. 109 (USSR)

AUTHOR: Simson, I. I.

TITLE: Safety Features in Design of Woodworking Machines (Elementy tekhniki bezopasnosti v konstruktsiyakh derevoobrabatyvayushchikh stankov)

PERIODICAL: Trudy Nauchnoy Sessii Vsesoyuznogo n.-i. Instituta Okhrany truda. 1954 (1955), Nr 2, pp. 11-22

ABSTRACT: The requirements of safety rules applying to the design of the basic parts of woodworking machines are presented in detail. Eight photographs are included.

M.F.M.

Card 1/1

SIMSON, I.I.; SIDOROCHKIN, S.S., inzhener, retsenzent; SHEYNOV, I.I., dotsent; kandidat tekhnicheskikh nauk, redaktor; SOKOLOVA, L.V., tekhnicheskiy redaktor

[Safety measures in mechanical woodworking] Tekhnika bezopasnosti pri mekhanicheskoi obrabotke drevesiny. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1955. 170 p. (MLRA 8:7)
(Woodworking machinery--Safety appliances)

SIMSON, Ivan Iosifovich; NOVOZHILOV, V.I., retsenzent; FAUSTOV, V.A., retsenzent; SHVEDOV, V.N., red.; SIDEL'NIKOVA, L.A., red. izd-va; REYZMAN, Ye.Ya., tekhn.red.

[Safety engineering and fire prevention techniques at sawmills and woodworking enterprises] Tekhnika bezopasnosti i protivopozharnaia tekhnika na lesopil'nykh i derevoobrabatyvaiushchikh predpriiatiiakh. Moskva, Goslesbumizdat, 1958. 316 p. (MIRA 12:7)

(Woodworking industries--Safety measures)

NIKITIN, Gennadiy Mikhaylovich; GUSEV, M.N., kand.tekhn.nauk, dots., retsenzent; VINOGRADOV, I.M., inzh., retsenzent; VOLKOV, Yu.N., starshiy nauchnyy sotrudnik, retsenzent; SIMSON, I.I., retsenzent; KRUKOVSKIY, V.A., red.; VOLCHOK, K.M., tekhn.red.

[Safety engineering and fire prevention in transportation by water] Tekhnika bezopasnosti i protivopozharnaia tekhnika na vodnom transporte. Leningrad, Izd-vo "Rechnoi transport," Leningr. otd.-nie, 1958. 416 p. (MIRA 11:5)
(Ships--Fires and fire prevention)
(Safety engineering)

SIMSON, I.I., inzh.

Removable automatic feeders. Der.prom. 7 no.9:9-11 S '58.
(MIRA 11:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut okhrany truda Vsesoyuznogo tsentral'nogo soveta profsoyuzov.
(Woodworking machinery--Attachments)

SIMSON, Ivan Iosifovich; SOKOL'SKAYA, Zh.M., red.; SHADRINA, N.D., tekhn.red.

[Safety engineering in the woodworking industries] Okhrana truda v derevoobrabatyvaiushchem proizvodstve. Moskva, Izd-vo VTsSPS Profizdat, 1959. 108 p. (MIRA 12:12)
(Wocdworking industries--Safety measures)