KAN, K.D., kand.tekhn.nauk; MAK, L I., inzh.; MARSHAK, A.M., kand.khim.nauk; YEVSEYEVA, L.S., inzh.

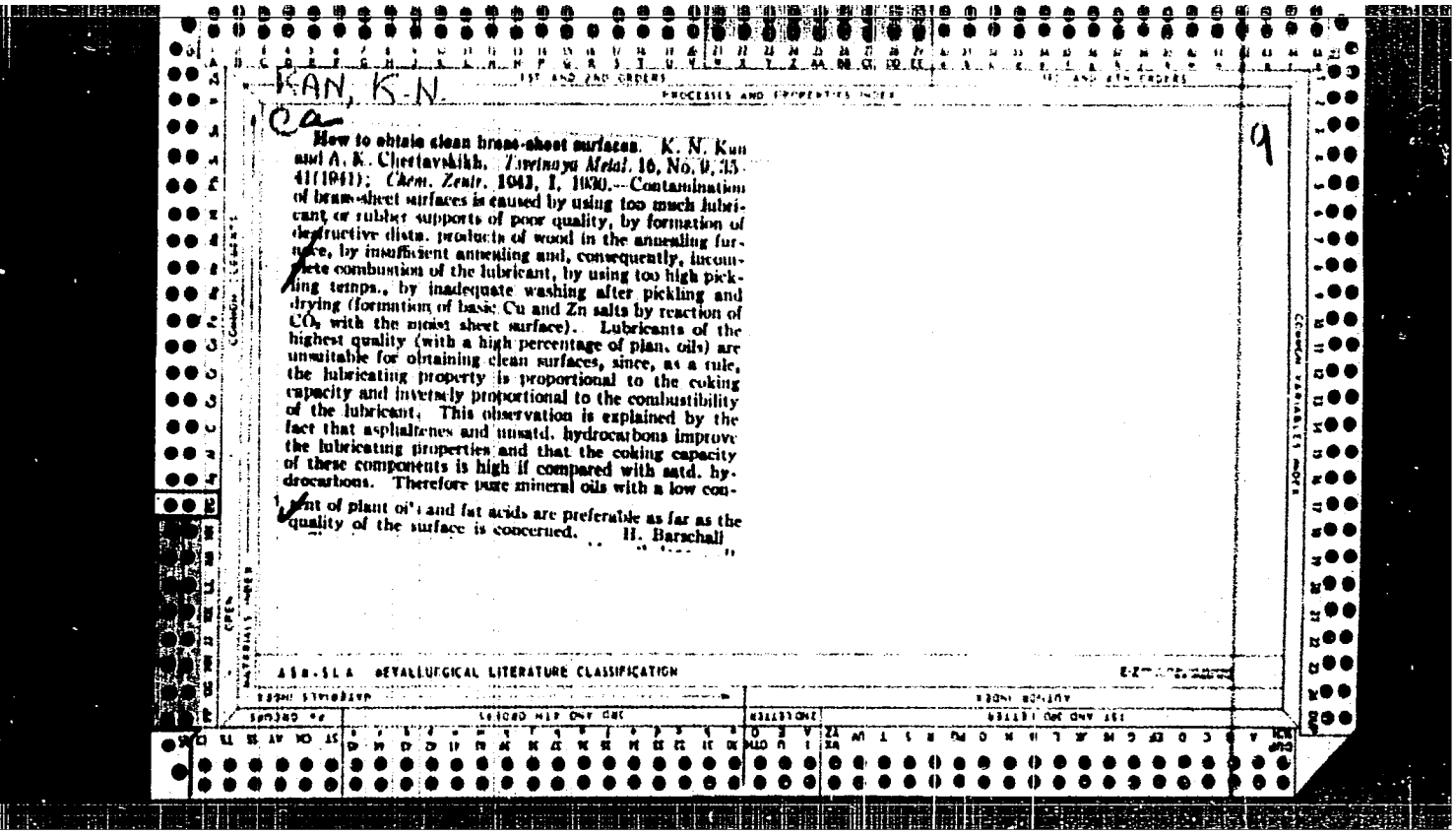
Investigating the refrigeration compressor operated with Freon-143. Khol.tekh. 40 no.3:5-9 My-Je '63. (MIRA 16:9)

1. TSentral'noye konstruktorskoye byuro kholodil'nogo mashinostroyeniya (for Kan, Mak). 2. Gosudarstvennyy institut prikladnoy khimii (for Marshak, Yevtseyeva).
(Refrigerants) (Refrigeration and refrigerating machinery)

BOBROV, B.S.; KAN, K.N.

Automatic recording of stress relaxation curves for polymers.
Zav.lab. 31 no.10:1265 '65. (MIRA 19:1)

1. Leningradskiy institut aviatsionnogo priborostroyeniya.

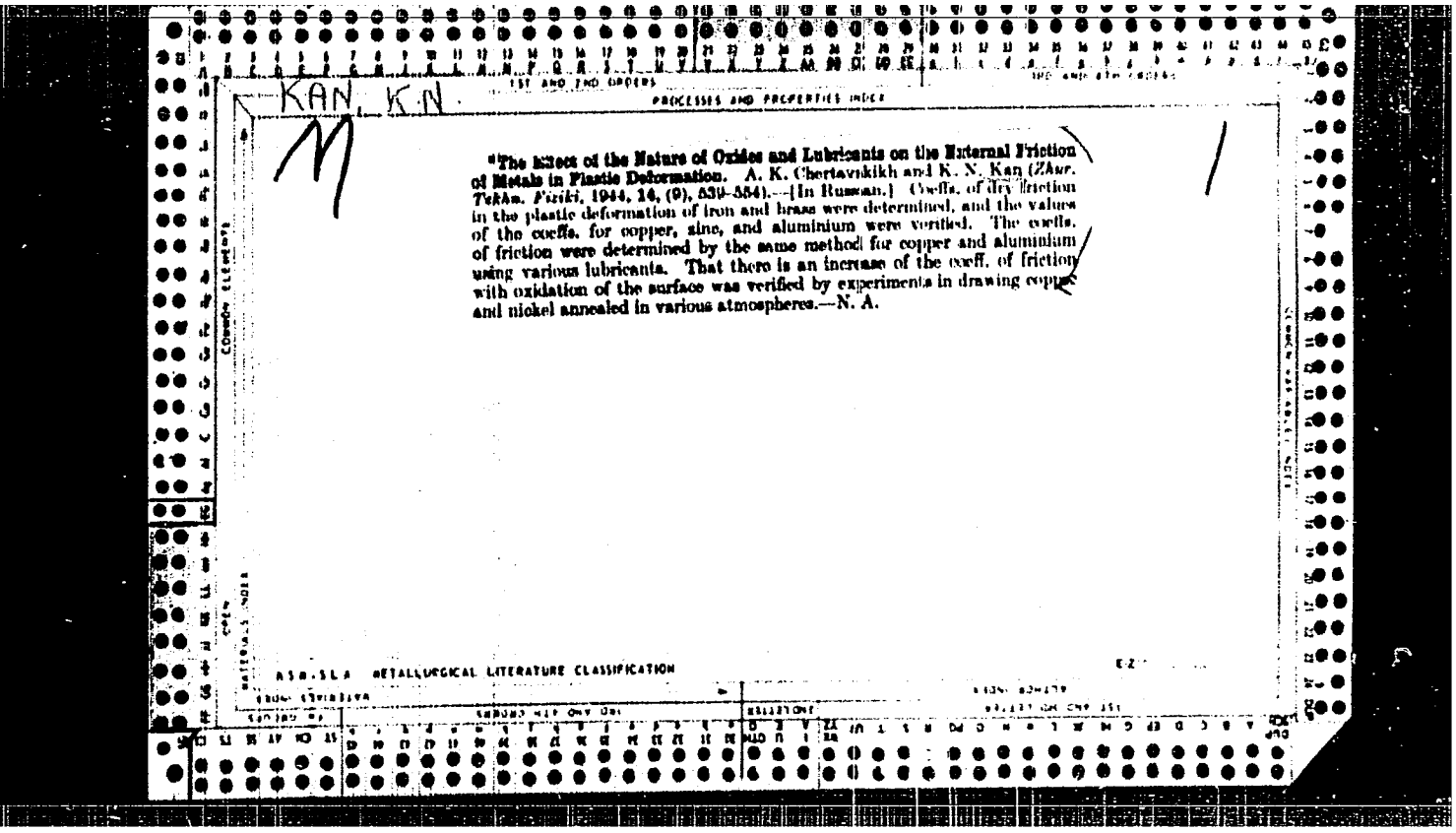


KAN, K. N.

Ca

How to obtain clean brass-sheet surfaces. K. N. Kan and A. K. Chertavskikh. *Tsvetnye Metal.* 16, No. 9, 35-41 (1941); *Chem. Zentr.* 1943, I, 1030.—Contamination of brass-sheet surfaces is caused by using too much lubricant or rubber supports of poor quality, by formation of destructive distn. products of wood in the annealing furnace, by insufficient annealing and, consequently, incomplete combustion of the lubricant, by using too high pickling temps., by inadequate washing after pickling and drying (formation of basic Cu and Zn salts by reaction of CO_2 with the moist sheet surface). Lubricants of the highest quality (with a high percentage of plan. oils) are unsuitable for obtaining clean surfaces, since, as a rule, the lubricating property is proportional to the coking capacity and inversely proportional to the combustibility of the lubricant. This observation is explained by the fact that asphaltenes and unsatd. hydrocarbons improve the lubricating properties and that the coking capacity of these components is high if compared with satd. hydrocarbons. Therefore pure mineral oils with a low content of plant oils and fat acids are preferable as far as the quality of the surface is concerned. H. Barschall

9



KAN, K N

PROCESSES AND PROPERTIES INDEX

"The Effect of the Nature of Oxides and Lubricants on the External Friction of Metals in Plastic Deformation. A. K. Chertavskikh and K. N. Kan (*ZAnr. Tekhn. Fiziki*, 1944, 14, (9), 539–554).—[In Russian.] Coeffs. of dry friction in the plastic deformation of iron and brass were determined, and the values of the coeffs. for copper, zinc, and aluminium were verified. The coeffs. of friction were determined by the same method for copper and aluminium using various lubricants. That there is an increase of the coeff. of friction with oxidation of the surface was verified by experiments in drawing copper and nickel annealed in various atmospheres.—N. A.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

KAN, K. N. (Engr)

KAN, K. N. (Engr) -- "Effect of the Nature of Lubricants and Oxide on the Coefficient of Friction in the Plastic Deformation of Metals," Sub 5 Jun 52, Moscow Aviation Technological Inst (Dissertation for the Degree of Candidate in Technical Sciences)

SO: Vechernaya Moskva, January-December 1952

ACCESSION NR: AP4009837 S/0191/64/000/001/0059/0062

AUTHOR: Shannikov, V. M.; Kan, K. N.

TITLE: Investigation of the static strength of rigid plastics in the horizontal stressed state

SOURCE: Plasticheskiye massy*, no. 1, 1964, 59-62

TOPIC TAGS: plastics, rigid plastics, phenoplast, strength calculation of plastics, rigid plastics static strength, horizontal stressed state

ABSTRACT: For the investigation of rigid plastics in the horizontal stressed state, two kinds of phenoplasts, such as K-18-2 and Monolith-1 were used. The preparation of samples and the testing apparatus are described. The criterion of strength expressed in a formula gives a good approximation of theoretical data of maximum stresses with the experimental data and can be used for the calculation of strength of plastic parts. The formulas derived from the strength

Card 1/2

ACCESSION NR: AP4009837

criteria of rigid plastics are used for the calculation of threaded plastic products. Data of maximum stresses for five loadings and values of constant parameters for the two types of phenoplasts are tabulated.

ASSOCIATION: none

SUBMITTED: 00	DATE ACQ: 10Feb64	ENCL: 00
SUB CODE: MA, CH	NO REF SOV: 000	OTHER: 000

Card 2/2

L 2555-65 EWT(d)/EWT(l)/EWT(m)/EPF(c)/EWP(v)/EWP(j)/T/EWP(k)/EWP(h)/EWP(l) JD/
ACCESSION NR: AP5024825 JAJ/RM UR/0032/65/031/010/1262/1263
620.178.35:678.5.06:1.05

AUTHOR: Vdovin, Ye. D.; Kan, K. N.

TITLE: Spring device for long-time tests of rigid plastics

SOURCE: Zavodskaya laboratoriya, v. 31, no. 10, 1965, 1262-1263

TOPIC TAGS: polymer, tensile test, static load test

ABSTRACT: A portable spring-loading device has been developed to simplify determination of the rupture strength of rigid plastics. The device is intended for loading specimens on any testing machine (e.g., the TsDM-10 machine, for 10 to 15 min, with subsequent holding under load outside the machine. The device is described in the source; its diagram is given in Fig. 1 of the Enclosure. The new device is being used for testing such plastics as K-18-2, FKPM-15T, AG-4V, and Voloknit. Orig. art. has: 1 figure. [BO]

ASSOCIATION: Leningradskiy institut aviatsionnogo priborostroyeniya (Leningrad Institute of Aircraft Instrument Building)

SUBMITTED: 00 ENCL: 01 SUB CODE: MT,AS
NO REF SOV: 000 OTHER: 000 ATD PRESS: 4708
Card 1/2

L 2555-66

ACCESSION NR: AP5024825

ENCLOSURE: 01

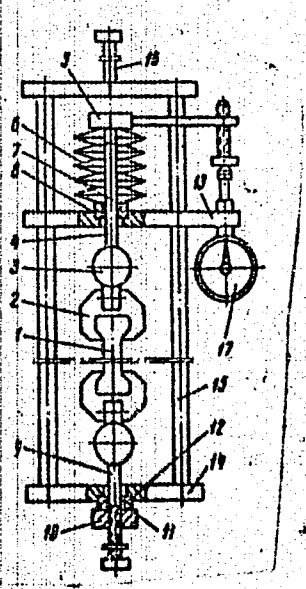


Fig. 1. Diagram of the spring device

Card 2/2

L 3821-66 EWT(d)/EWT(l)/EWI(m)/EWP(w)/T/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWP(l)/EWP(v)
ACCESSION NR: AP5024827 EWA(c) JD/EM UR/0032/65/031/010/1265/1265
620.17:678 5.06:1.05

58
57
B

AUTHOR: Bobrov, B. S.; Kan, K. N.

TITLE: A device for automatically recording stress relaxation curves in polymers

SOURCE: Zavodskaya laboratoriya, v. 31, no. 10, 1965, 1265

TOPIC TAGS: polymer, relaxation process, stress relaxation

ABSTRACT: The article describes an attachment for a Gagarin press which can be used for recording stress relaxation curves. The device is shown in fig. 1 of the Enclosure. A loading head is attached to the crossbeam of the press 1 for deformation of specimen 2 to a predetermined value. The loading head is a differential screw with different thread pitches in the housing 3 and on the body of the loading rod 4. The small difference between the thread pitches (0.25 mm) makes manual loading possible by rotation of nut 5. Pin 6 prevents reverse motion of rod 4. The specimen is placed between the end of the loading rod and base 7 which is mounted on press table 8. Indicators 9 give the deformation reading. Stress relaxation is studied at constant absolute deformation of the specimen. There is a continuous reduction in the

Card 1/3

L 3821-66
ACCESSION NR: AP5024827

internal stresses due to upsetting in the balance of lever *10*. The lever is continually balanced automatically by the servosystem of the press which consists of carriage *11*, weights *12* and *13*, chain drive *14* and electromagnetic automatic device *15*. The relaxation curve is recorded on graph drum *16* by pen *17* connected to the carriage. Motion of the pen along the vertical is proportional to the stress drop in the specimen. The second coordinate (time) is determined by uniform rotation of the drum. This is done by rotation of worm wheel *18* through the Gagarin press drive. In addition to compressive relaxation curves, tensile and bending relaxation curves may be recorded by adding special attachments. Orig. art. has: 1 figure.

ASSOCIATION: Leningradskiy institut aviatsionnogo priborostroyeniya (Leningrad Institute of Aviation Instrument Building)

SUBMITTED: 00 ENCL: 01 SUB CODE: IE, MT

NO REF SOV: 000 OTHER: 000

Card 2/3

L 3821-66
ACCESSION NR: AP5024827

ENCLOSURE: 01

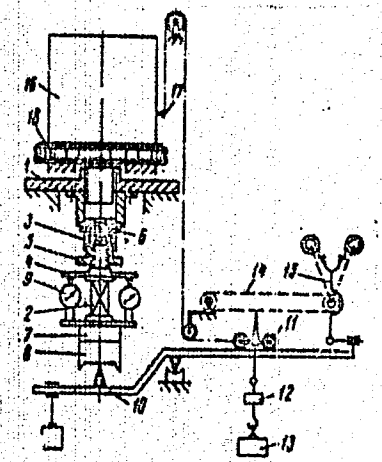


Fig. 1. Diagram of the attachment to the Gagarin press

Card 3/3

SHANNIKOV, Vladimir Mikhaylovich; MOSKALEV, Nikolay Dmitriyevich; KAN, Kliment Nikolayevich; BRAGINSKIY, V.A., red.

[Strength calculations for parts made of thermosetting plastics with thread and metal reinforcement] Raschety na prochnost' detalei iz termoreaktivnykh plastmass s rez'boi i metallicheskoi armaturoi. Leningrad, 19 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Primenenie plastmass, sinteticheskikh kauchukov i kremniiorganicheskikh soedinenii v mashinostroenii i priborostroenii, no.3) (MIRA 17:7)

AUTHOR: Kan, K.V., Engineer

SOV-91-58-4-4/29

TITLE: On the Article of S.S. Gadzhiyev "On the Increase of the Number of Consumer Lines Connected with One Common Switch of 6 and 10 kv" (Po povodu stat'i S.S. Gadzhiyeva "Ob uvelichenii chisla potrebitel'skikh liniy, podklyuchayemykh pod odin vyklyuchatel' 6 i 10 kv)

PERIODICAL: Energetik, 1958, Nr 4, p 6 (USSR)

ABSTRACT: The number of 6 and 10 kv outgoing lines from substations must be increased with the load increase of certain town districts. Because of the lack of reserve units, additional installations and even new distribution stations must be built. In this case, it is more advisable to increase the number of lines connected with a common switch. The problems approached by Engineer S.S. Gadzhiyev mainly concern the distribution systems of stations and substations having a power reserve of electric equipment, and also stations and substations which supply towns. In this case, small loads should be supplied through individual lines. The author outlines the cases in which common switch circuits are more advisable and conditions required for utilizing these circuits.

Card 1/2

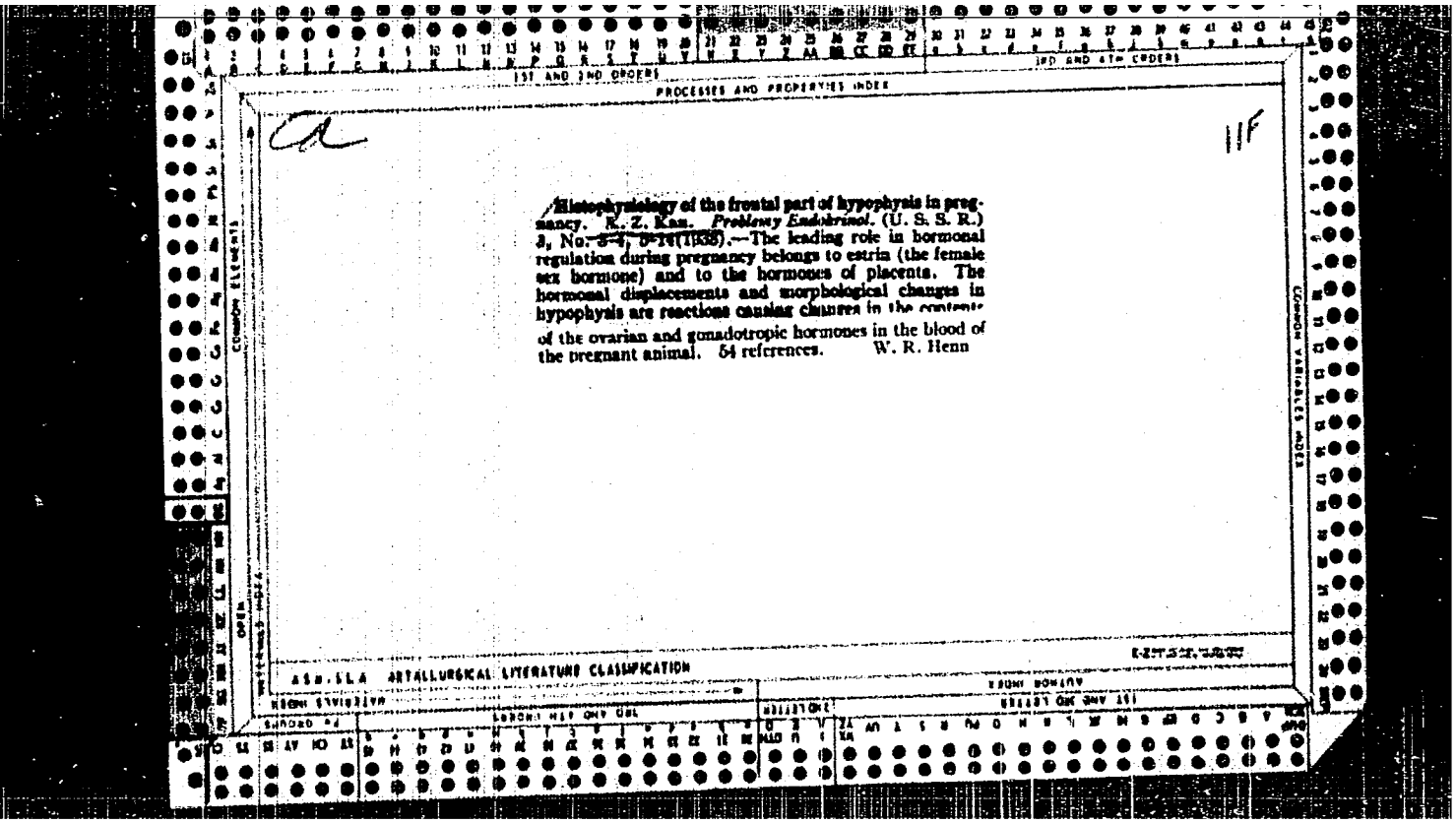
SOV-91-58-4-4/29

On the Article of S.S. Gadzhiyev "On the Increase of the Number of Consumer Lines Connected with One Common Switch of 6 and 10 kv

He states that common switch circuits comprising more than 2 lines will certainly be utilized in practice, but he mentions also the difficulties caused by their utilization.

1. Electrical networks--Design 2. Transmission lines--Design

Card 2/2



1ST AND 2ND ORDERS

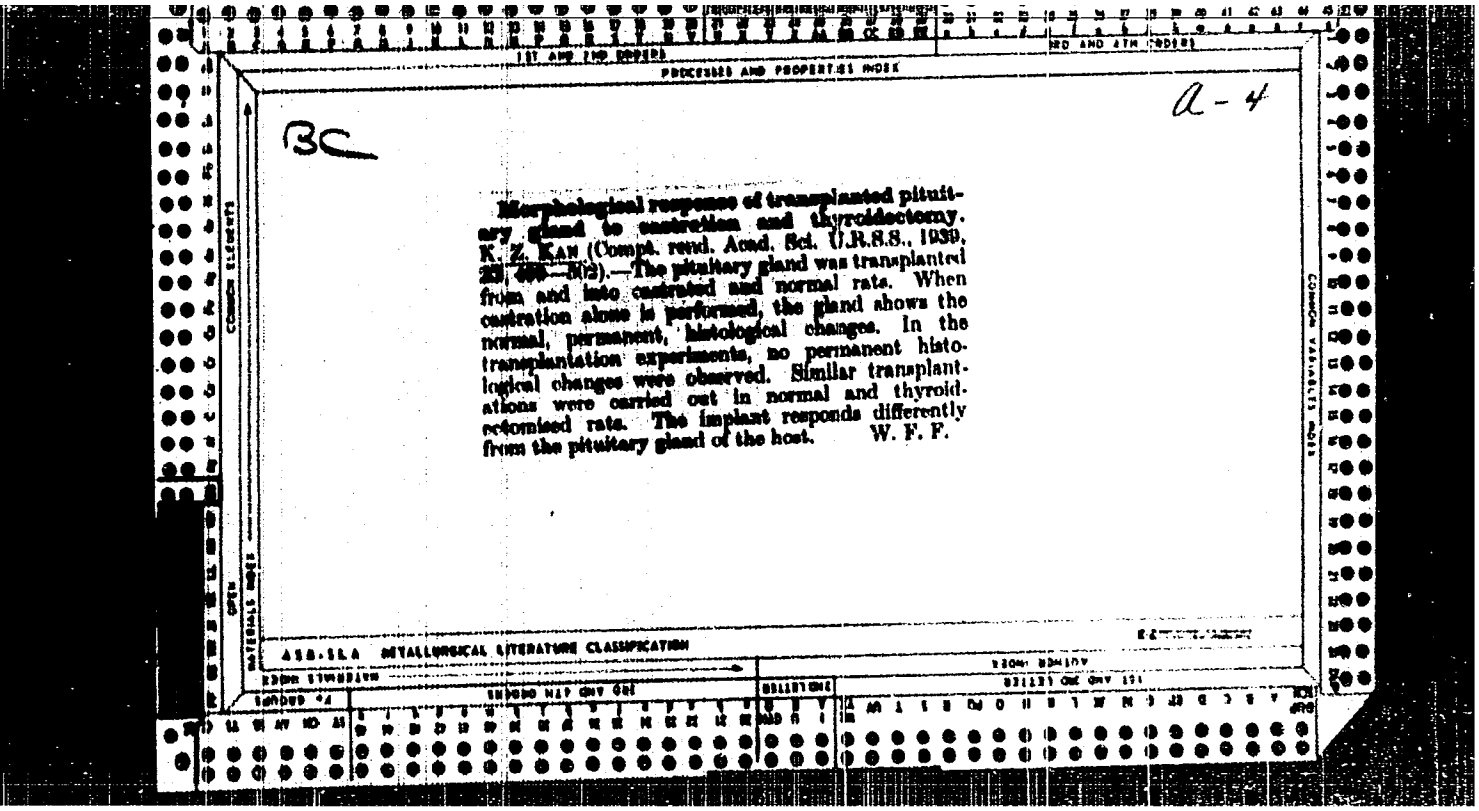
3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

11F

Histophysiology of the frontal part of hypophysis in pregnancy. K. Z. Kan. *Problemy Endokrinol.* (U. S. S. R.) 3, No. 3-4, 5-16(1938).—The leading role in hormonal regulation during pregnancy belongs to estrin (the female sex hormone) and to the hormones of placenta. The hormonal displacements and morphological changes in hypophysis are reactions causing changes in the contents of the ovarian and gonadotropic hormones in the blood of the pregnant animal. 54 references. W. R. Henn

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



a-4

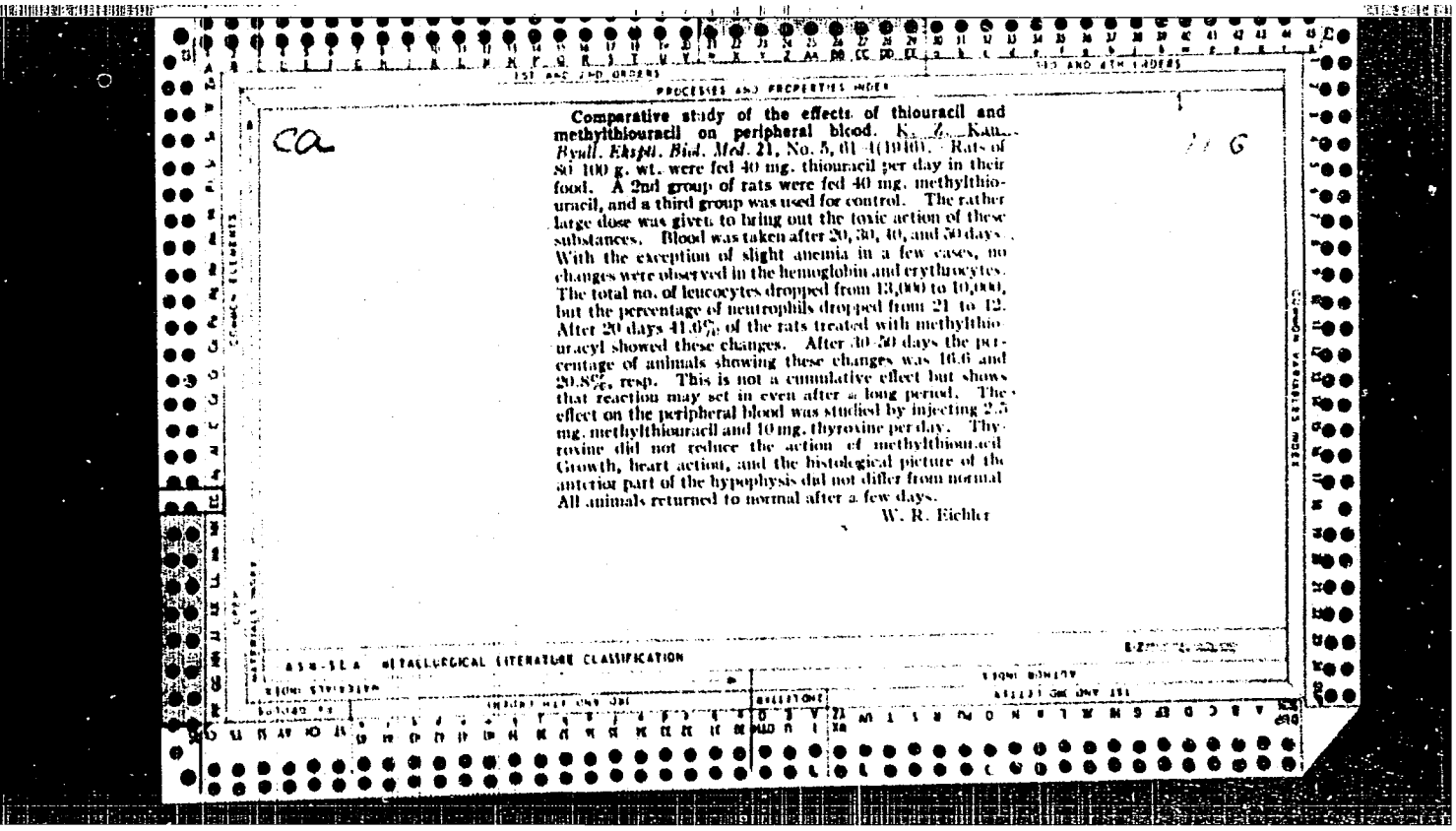
BC

Morphological response of transplanted pituitary gland to castration and thyroidectomy. K. Z. KAN (Compt. rend. Acad. Sci. U.R.S.S., 1939, 23, 695—703).—The pituitary gland was transplanted from and into castrated and normal rats. When castration alone is performed, the gland shows the normal, permanent, histological changes. In the transplantation experiments, no permanent histological changes were observed. Similar transplantations were carried out in normal and thyroidectomised rats. The implant responds differently from the pituitary gland of the host. W. F. F.

KAN, K. Z.

"The Present State of the Problem of Endocrine Gland Transplantation" (p. 219) by Kan. K. Z. (Moscow)

SO: Advances in Modern Biology (Uspekhi Sovremennoi Biologii) Vol. XIX, No. 2, 1945.



CA

Comparative study of the effects of thiouracil and methylthiouracil on peripheral blood. K. Z. Kan. *Byull. Eksptl. Biol. Med.* 21, No. 5, 61–4(1946). Rats of 80–100 g. wt. were fed 40 mg. thiouracil per day in their food. A 2nd group of rats were fed 40 mg. methylthiouracil, and a third group was used for control. The rather large dose was given to bring out the toxic action of these substances. Blood was taken after 20, 30, 40, and 50 days. With the exception of slight anemia in a few cases, no changes were observed in the hemoglobin and erythrocytes. The total no. of leucocytes dropped from 13,000 to 10,000, but the percentage of neutrophils dropped from 21 to 12. After 20 days 41.0% of the rats treated with methylthiouracyl showed these changes. After 40–50 days the percentage of animals showing these changes was 16.6 and 20.8%, resp. This is not a cumulative effect but shows that reaction may set in even after a long period. The effect on the peripheral blood was studied by injecting 2.5 mg. methylthiouracil and 10 mg. thyroxine per day. Thyroxine did not reduce the action of methylthiouracil. Growth, heart action, and the histological picture of the anterior part of the hypophysis did not differ from normal. All animals returned to normal after a few days.

W. R. Eichler

KAN, K. Z.

USSR/Medicine - Thyroid Transplantation May 1947
Medicine - Chemotherapy

"The Reaction of the Transplanted Thyroid Gland to Methylthiouracil," K. Z. Kan, 3 pp

"Byul Eksp Biol i Med" Vol XXIII, No 6

Detailed discussion of data, with micro-photographs and a table.

14T12

KAN. K. Z.

PA 11/49T59

USSR/Medicine - Thyroid, Preparations Jul 48
Medicine - Thyroid, Physiology

"Morphological Changes in Thyroid Glands Due to the Action of Methylthiouracile and the Relation Between the Dosage and Variability in the Changes," K. Z. Kan, All-Union Inst Experimental Endocrinol, 4 pp

"Dok Ak Nauk SSSR" Vol LXI, No 2

Reports experiments on rats. Methylthiouracile was administered in 10, 20 and 40 mg/day doses and the thyroid glands examined. Tabulates results. Includes three microphotographs. Submitted 6 May 48.

11/49T59

KAN, K. Z.

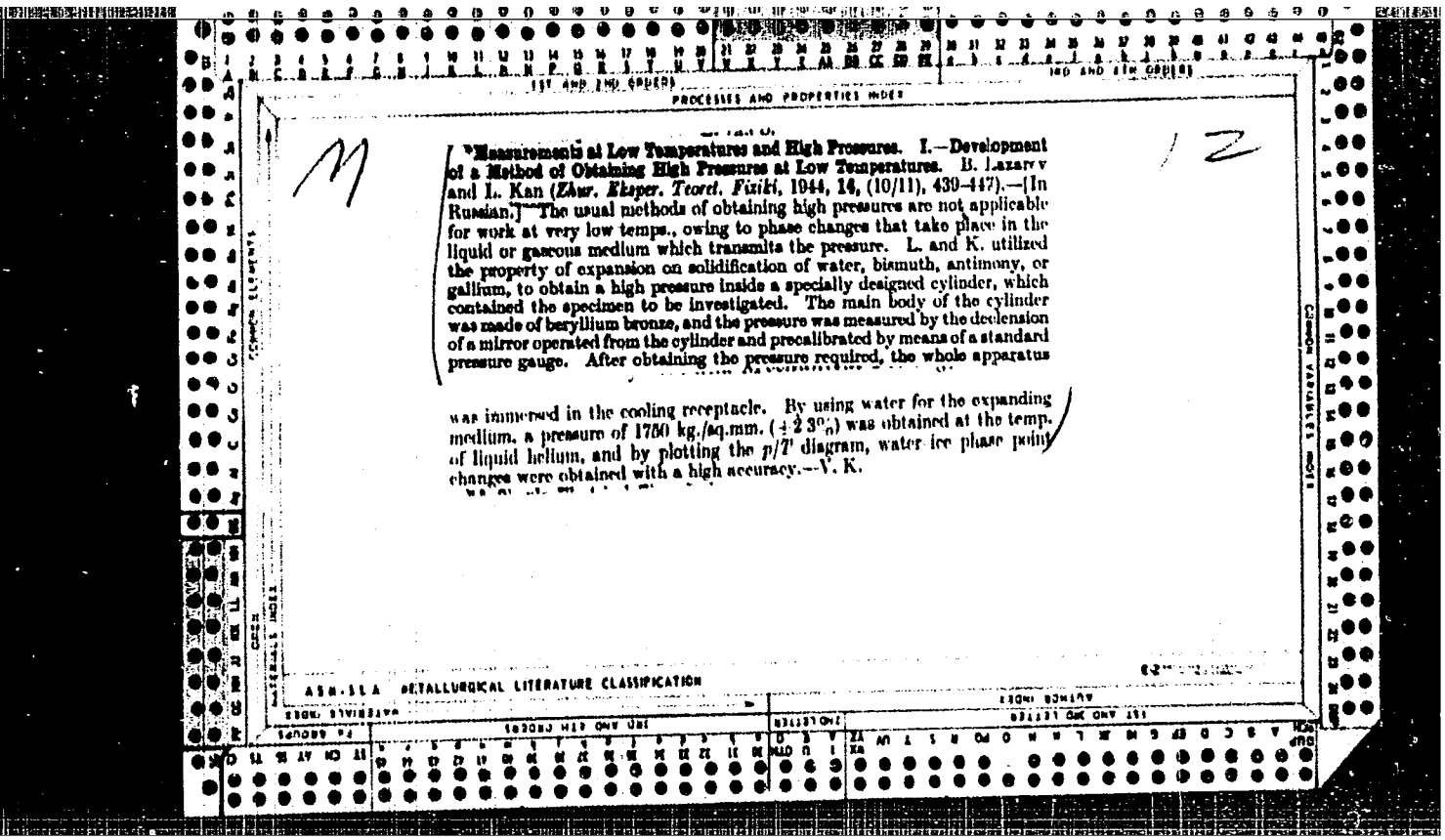
29917

Vzaimodyeystviye myezhdy koroy nadpochyechnika I shchitovidnoy zhyelyezoy na fonye blokady funktsii shchitovidnoy zhyelyezy myetiltiouratsilom. Doklady akad. Nauk sssr, novaya syeriya, T. LXVIII, No 3, 1949, s. 633-36. -- Bibliogr: 8 Nazv.

SO: LETOPIS' NO. 40

KAN, K.Z.

Effect of methylthiouracil-inhibition of thyroid function on regeneration of islets of Langerhans in alloxan diabetes. C.R. Acad. Sci. U.R.S.S., '49, 69, 877-880. (MLRA 2:12)
(BA - A III Mr '53:303)



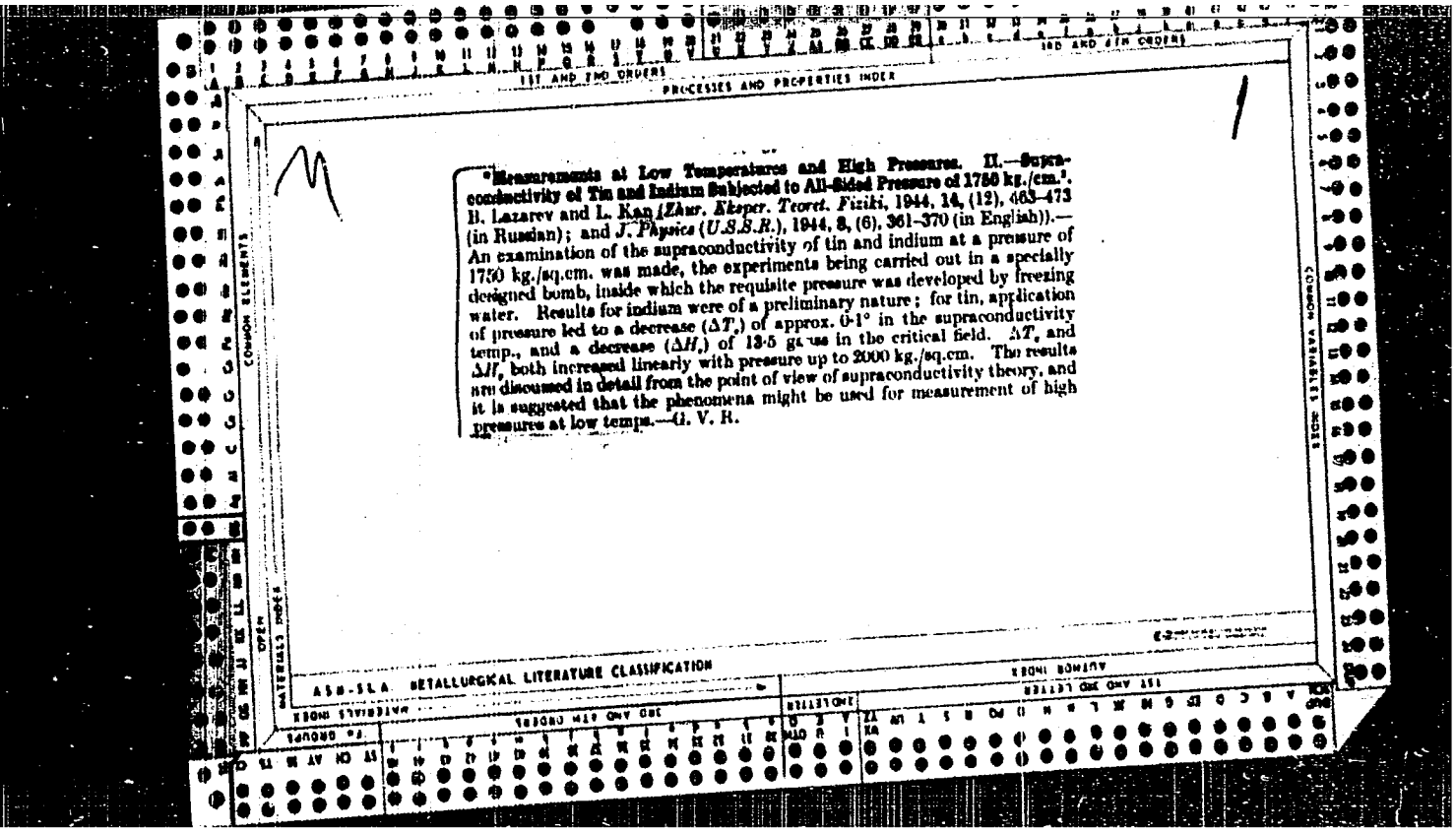
PROCESSES AND PROPERTIES INDEX

M

12

"Measurements at Low Temperatures and High Pressures. I.—Development of a Method of Obtaining High Pressures at Low Temperatures. B. Lazarev and L. Kan (*Zhur. Eksper. Teoret. Fiziki*, 1944, 14, (10/11), 439–447).—[In Russian.] The usual methods of obtaining high pressures are not applicable for work at very low temps., owing to phase changes that take place in the liquid or gaseous medium which transmits the pressure. L. and K. utilized the property of expansion on solidification of water, bismuth, antimony, or gallium, to obtain a high pressure inside a specially designed cylinder, which contained the specimen to be investigated. The main body of the cylinder was made of beryllium bronze, and the pressure was measured by the deflexion of a mirror operated from the cylinder and precalibrated by means of a standard pressure gauge. After obtaining the pressure required, the whole apparatus was immersed in the cooling receptacle. By using water for the expanding medium, a pressure of 1760 kg./sq.mm. (± 2 3%) was obtained at the temp. of liquid helium, and by plotting the p/T diagram, water ice phase point changes were obtained with a high accuracy.—V. K.

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



"Measurements at Low Temperatures and High Pressures. II.—Superconductivity of Tin and Indium Subjected to All-Sided Pressure of 1750 kg./cm.². B. Lazarev and L. Kan (*Zhur. Eksper. Teoret. Fiziki*, 1944, 14, (12), 465–473 (in Russian); and *J. Physics* (*U.S.S.R.*), 1944, 8, (6), 361–370 (in English)).—An examination of the supraconductivity of tin and indium at a pressure of 1750 kg./sq.cm. was made, the experiments being carried out in a specially designed bomb, inside which the requisite pressure was developed by freezing water. Results for indium were of a preliminary nature; for tin, application of pressure led to a decrease (ΔT_c) of approx. 0·1° in the supraconductivity temp., and a decrease (ΔH_c) of 13·5 gauss in the critical field. ΔT_c and ΔH_c both increased linearly with pressure up to 2000 kg./sq.cm. The results are discussed in detail from the point of view of supraconductivity theory, and it is suggested that the phenomena might be used for measurement of high pressures at low temps.—G. V. R.

KAN, L. A.

PA 9/49T49

USSR/Electricity
Superconductivity
Indium

Sep 48

"Measurements Made Under Conditions of High Pressures and Low Temperatures. II. The Superconductivity of Indium and Tin at Pressures of 1370 and 1730 kg/cc Acting Equally From All Sides," L. A. Kan, B. G. Lazarev, A. I. Sudovtsov, Phys-Tech Inst, Acad Sci Ukrainian SSR, 8 pp

"Zhur Eksper i Teoret Fiz" Vol XVIII, No 9

Studies in detail effect of given pressure on superconductivity of polycrystallic indium and

[redacted] 9/49T49

USSR/Electricity (Contd)

Sep 48

monocrystallic tin. Establishes displacement of critical temperature T_k appropriate for given temperatures; for indium, 0.063 and 0.080° and for tin, 0.080 and 0.097°. In this range of pressures T_k and H_k are proportional to pressure. Displacement of critical magnetic field decreases with reduction of temperature. Considers reasons for different conversion intensities of these metals when free of pressure and when subjected to pressure. Shows considerable improvements in measuring methods.

[redacted] 9/49T49

KAN, L. S. PA 157T79

USSR/Physics - Low Temperature
Superconductivity 11 Nov 49

"Variation in the Superconducting Properties of Thallium Under Pressure," L. S. Kan, B. B. Lazarev, A. I. Sudovtsov, Physicotech Inst, Ukrainian Affilate, Acad Sci USSR, Khar'kov, 2 pp

"Dok Ak Nauk SSSR" Vol LXIX, No 2

Pressure of 1,730 kg/sq cm (on all sides) displaced upward critical temperature of thallium 0.02° C, as opposed to lowering of critical temperature in the case of Sn, In, Pb, Hg, Ta. Submitted 10 Sep 49 by Acad L. D. Landau.

157T79

Sect. A

Crystallography

548.733

6175. A low-temperature X-ray camera. J. S. KAN AND B. G. LAZAREV. *Zh. Tekh. Fiz.*, 21, 1542-3 (*No.* 12, 1951) *In Russian.*

A small powder camera was constructed for use at the temperature of liquid N or H. The metal camera complete with slits and with the film held to the outside cylindrical surface by a metal band was suspended inside a metal Dewar flask and was maintained at the temperature of the liquid by conduction through a Cu rod. Four Be windows permitted the X-ray beam to pass through the apparatus. No provision was made for rotating the specimen. A. L. MACKAY

KAN, L.S.

USSR/Physics - Resistance at Low Tempera- 21 Dec 51
tures

"Problem Concerning the Minimum Resistance of Magnesium at Low Temperatures," L. S. Kan, B. G. Lazarev, Phys-Tech Inst, Acad Sci Ukrainian SSR

"Dok Ak Nauk SSSR" Vol LXXXI, No 6, pp 1027-1029

The results of expts by the authors on magnesium and gold indicate the absence of subject min in the temp behavior of resistance at low temps in the case of pure metals. The phenomenon of such a min remains incomprehensible in the case where there are very insignificant amts of admixts in the metal. Submitted by Acad M. A. Leontovich 3 Oct 51.

215T68

KAN, L. S.

AUTHORS: Kan, L. S., Lazarev, B. G. 56-1-53/56

TITLE: The Influence of Universal Compression Upon the Electric Conductivity of Metals at Low Temperatures (Vliyaniye vsestoronnego szhatiya na elektroprovodnost' metallov pri nizkikh temperaturakh)

PERIODICAL: Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1958, Vol. 34 Nr 1, pp. 258 - 259 (USSR)

ABSTRACT: At first reference is made to papers dealing with the same subject. The present paper gives some results of the investigation of the influence mentioned in the title. Measurements were made with zinc, tin, gold and bismuth. All samples (with the exception of gold) were produced in the form of monocrystals. The metals used here were highly pure. Bismuth was only investigated, in order to compare the results obtained here with the results obtained by N. Ye. Alekseyevskiy and collaborators (reference 4). According to the authors' measurements, too, pressure in bismuth causes an increase in resistance in the entire temperature range investigated. But the other metals examined here behaved differently. The increase in resistance un-

Card 1/2

The Influence of Universal Compression Upon the Electric Conductivity of Metals at Low Temperatures 56-1-53/56

der pressure at sufficiently low temperatures is common to them. On a temperature increase this increase of the resistance becomes smaller and at a certain temperature (characteristic of every metal) the increase becomes equal to zero. Upon further rise in temperature the effect changes its sign. Numerical data on this effect for zinc, tin and gold are given. In all metals investigated here the authors observed an increase in resistance under the influence of universal compression. This phenomenon is reversible. No explanation for the effect observed could hitherto be given. But the mechanism of this effect is probably different from the mechanism of the influence exerted by pressure upon the electric resistance at high temperatures. Under the influence of pressure similar conditions as in semiconductors are supposed to occur for part of the electrons. There are 7 references, 6 of which are Slavic.

ASSOCIATION: Physical-Technical Institute AN Ukrainian SSR (Fiziko-tekhnicheskiy institut Akademii nauk Ukrainskoy SSR)

SUBMITTED: October 31, 1957

AVAILABLE: Library of Congress

Card 2/2

L. S. KAN

24(0)
AUTHOR: Chentsov, R. SOV/53-67-4-7/7

TITLE: The Fifth All-Union Conference on the Physics of Low Temperatures (5-ye Vsesoyuznoye soveshchaniye po fizike nizkikh temperatur)

PERIODICAL: Uspekhi fizicheskikh nauk, 1959, Vol 67, Nr 4, pp 743-750 (USSR)

ABSTRACT: This Conference took place from October 27 to November 1 at Tbilisi; it was organized by the Otdeleniye fiziko-matematicheskikh nauk Akademii nauk SSSR (Department of Physico-mathematical Sciences of the Academy of Sciences, USSR), the Akademiya nauk Gruzinskoy SSR (Academy of Sciences, Gruzinskaya SSR), and the Tbilisskiy gosudarstvennyy universitet im. Stalina (Tbilisi State University imeni Stalin). The Conference was attended by about 300 specialists from Tbilisi, Moscow, Khar'kov, Kiyev, Leningrad, Sverdlovsk, and other cities as well as by a number of young Chinese scientists at present working in the USSR. About 50 lectures were delivered which were divided according to research fields.

III. Galvanomagnetic phenomena (10 lectures). I. M. Lifshits and V. D. Peschanskiy (KhFTI, Khar'kov Physico-technical Institute, Khar'kov University) showed that the most important part in connection with the galvanomagnetic properties of metals is played by the concrete form of the Fermi surface of conductivity electrons. N. Ye. Alekseyevskiy (IFP) spoke about experiments he carried out together with Yu. P. Gaydukov. He investigated the variation of the resistance in the transversal magnetic field at helium temperatures of Au, Cu, Pb, Ta, Ga, Nu and (together with T. I. Kostina) of Bi. Ye. S. Borovik and V. G. Volotskaya (KhFTI) investigated the galvanomagnetic properties at low temperatures of chromium and zirconium and found that the resistance of chromium grows with field strength without attaining a saturation value. L. S. Kan and B. G. Lazarev (KhFTI) investigated the resistance minimum in gold at low temperatures and found that if the sample is heated, the minimum disappears. Yu. P. Gaydukov (IFP) said in this connection in the course of the discussion that the minimum effect does not occur in gold in the case of very pure samples; the disappearance of the minimum is explained by the plastic deformation of the sample at helium temperatures. M. Ya. Azbel' (KhFTI) gave a report of his work in connection with the quantum theory of the high-frequency resistance of metal in a constant magnetic field at low temperatures. M. I. Kaganov and V. M. Tsukernik (KhFTI) spoke about a theoretical investigation of the influence exercised by thermoelectric forces upon the skin effect in various conductors. B. I. Verkin and B. N. Aleksandrov (KhFTI) spoke about measurements of the electric resistance of thin wires made from highly-pure tin, indium and cadmium, and computed the free length of path at 4.2°K in these metals as amounting to 1/3 to 2/3 mm. N. B. Brandt (MGU) and B. I. Verkin and I. F. Dmitrenko (KhFTI) investigated the influence exercised by the hydrostatic pressure (of 1000 atmospheres absolute pressure) upon the behavior of metals at low temperatures and investigated the quantum oscillations of the magnetic susceptibility of bismuth at 1.6 - 4.2°K. G. Ye. Zil'berman and A. M. Kosevich (KhFTI) gave a theoretical explanation of the fact that already relatively small deformations exercise considerable influence upon oscillation effects in metals. IV. Magnetism. A. S. Borovik-Romanov (IFP) delivered a report on investigations he carried out of the anisotropy of the weak ferromagnetism in monocrystal samples of the antiferromagnetic $MnCO_3$ (the effect of anisotropy was predicted by the thermodynamical theory developed by Dzyaloshinskiy). In the course of the discussion R. A. Alikhanov (IFP) spoke about neutronographical investigations he carried out of the magnetic structure of $MnCO_3$ and $FeCO_3$ at low temperatures. P. L. Kapitsa stressed the importance of the method based upon Dzyaloshinskiy's theory. N. M. Kreynes (VNIIFTRI), whose lecture was read by A. S. Borovik-Romanov, reported on measurements carried out by him (in the IFP) of the magnetic anisotropy of the antiferromagnetic $CuSO_4$- and $CoSO_4$-monocrystals. Ye. A. Turov (IFM AN SSSR, Sverdlovsk) spoke about his theore-

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B127/B102

AUTHORS: Krasovitskaya, R. M., Kantor, P. B., Kan, L. S., Kandyba, V. V., Kutsyna, L. M., and Fomichev, Ye. N.

TITLE: Determination of enthalpy and specific heat of boron oxide in the range 1000-2200°K

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 7, 1961, 1499-1501

TEXT: The authors studied a sample prepared by the Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii im. D. I. Mendeleyeva (All-Union Scientific Research Institute of Metrology imeni D. I. Mendeleyev). In order to dry the preparation which contained 0.01-0.02% Mg and water, it was slowly heated within 7-8 hr to 600-700°C at a pressure of 10^{-2} mm Hg. It was kept for about 5 hr at this temperature. A formation of bubbles was initially observed which ceased during heating. The sample was then heated up to 1000°C, during one hour, and looked then like colorless transparent glass. Investigation was carried out by means of a massive calorimeter

Card 1/4

Determination of enthalpy and specific ...

which consisted of an aluminum block 30 kg with lateral Pt-resistance thermometer. The aluminum block was hermetically enclosed in a vessel which was connected with a vacuum system. Cooling was performed by a double water jacket kept at 25 ± 0.05°C. A vacuum furnace was used for heating, consisting of an electric heater (a graphite tube of 600 mm length and 45 mm diameter), which was surrounded by coaxially arranged cylindric screens of graphite, tantalum, molybdenum and steel. The temperature was measured by means of a Pt-Rh-Pt thermocouple and an optical ЭОП-51 (EOP-51) pyrometer. Visual readings were made through a window in the furnace. The error of temperature measurement did not exceed 0.1% up to 1700°K and 0.3% up to 2300°K. The apparatus was evacuated to 10^{-4} mm Hg and then filled with argon (15-20 mm Hg) during the experiment. The ampuls were made from platinum which does not react with B_2O_3 up to 1650°K. Molybdenum was also suitable. At temperatures above 1600°K the argon pressure was increased to 600-700 mm Hg. The results of measurement are summarized in the Table. The following interpolation formula was used: $H_T - H_{298.16} = 30.54T - 11920$ cal/mole and $C_p = 30.54$ cal/mole·degree (1000-2150°K). There are 1 table and

Card 2/4

Determination of enthalpy and specific...

9 references: 6 Soviet-bloc and 3 non-Soviet-bloc. The most recent references to English-language publications read as follows: Ref. 4: K. Keller, Contributions to the data of theor. Metallurgy, X, 1949. Ref. 2: I. C. Southard: J. Amer. Chem. Soc., 63, 3147, 1941.

ASSOCIATION: Institut mer i izmeritel'nykh priborov (Institute of Measures and Measuring Instruments)

SUBMITTED: October 17, 1959

Card 3/4

24.2140 (1072, 1160, 1395)
24.7100 1055 1138, 1559 also 1418

20456
S/056/61/040/002/010/047
B102/B202

AUTHORS: Kan, L. S., Lazarev, B. G., Makarov, V. I.

TITLE: Superconductivity of tin and indium under pressure

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 40, no. 2, 1961, 457 - 459

TEXT: In previous papers (ZhETF, 14, 463, 944 and 18, 825, 1948), the authors described studies of the effect of pressure on the critical temperature of tin and indium at 1730 and 1370 kg/cm^2. They observed shifts (ΔT_c) of less than 0.1°. If dT_c/dp is assumed to proceed linearly, the following shift rates are obtained: $(-5.7 \pm 0.2) \cdot 10^{-5}$ deg/atm for tin, and $(-4.6 \pm 0.2) \cdot 10^{-5}$ deg/atm for indium. In recent times, the correctness of these values has been doubted. For this reason, the measurements were repeated in the range of from 0 to 1730 kg/cm^2. For indium, $T_c(p)$ was linear also in this range, and it was found that $dT_c/dp = (-4.4 \pm 0.3) \cdot 10^{-5}$ deg/atm (see solid line in Fig.2). Tin, however, showed a linear

Card 1/03

Superconductivity of tin ...

course of $T_c(p)$ with $dT_c/dp = (-4.4 \pm 0.2) \cdot 10^{-5}$ deg/atm in the range of from 0 - 100 atm. At higher temperatures, a deviation from linearity was observed (see Fig.2, dashed curve, obtained from two tin specimens Δ and o; the dashed line corresponds to $dT_c/dp = (-5.7 \pm 0.2) \cdot 10^{-5}$ deg/atm.). The measurements were made by the differential and the ice method (the latter in the range 500 - 1200 atm). In the range of from 800 to 1730 atm, dT_c/dp was $(-4.6 \pm 0.2) \cdot 10^{-5}$ deg/atm. Since this curve runs in paralell with the indium curve, it can be assumed that between 100 amd 800 atm a transition takes place from one straight line to the other. The effect of pressure on superconductivity has hitherto not been fully explained. The new theory of superconductivity gives the relation $T_c \sim \Theta \exp(-2/gv)$, where Θ is the Debye temperature, g the electron-phonon interaction constant, and v the electron density. Compression on all sides of the metals leads to an increase of Θ and, thus, to a linear increase of T_c. To explain the course of $T_c(p)$, the pressure-dependent change of the electro-

KAN, L.V.

Some species of the genus Hypericum L. to be introduced in Uzbekistan. Vop. biol. i kraev. med. no.4:210-214 '63. (MIRA 17:2)

BELYANSKIY, I.M., inzhener; KAN, M.I., inzhener.

Using smooth measuring wires in checkrow planting and sowing.
Sel'khozmashina No.4:9-11 Ap '56. (MLRA 9:7)

1.Zavod Belinksel'mash.
(Panters (Agricultural machinery))

KAN, M.I., inzhener.

Calculation of kinematic factors and establishing an efficient system for the working parts of potato planters. Sel'khozmashina no.4:8-11 Ap '57. (MLRA 10:4)

1. Zavod Belinskosel'mash.
(Planters(Agricultural machinery))

KAN, M.I., inzh.

Parameters and calculations for the rotary plowshares of potato planters. Trakt. i sel'khozmash. no.10:28-30 O '64.
(MIRA 17:12)

1. Gosudarstvennoye spetsial'noye konstruktorskoye byuro po mashinam dlya vozdelyvaniya i uborki kartofelya.

KASHINTSEV, A.A.; LIPETSKIY, S.S.; KAN, M.I.; GOLOVITSYN, S.K.

The MG-1 hydraulic markers. Trakt. i sel'khozmash. no.10: 35-36 O '64. (MIRA 17:12)

1. Gosudarstvennoye spetsial'noye konstruktorskoye byuro po mashinam dlya vozdelyvaniya i uborki kartofelya.

KAN, M.I., inzh.

Use of the synchronized power take-off of a tractor for the drive of the mechanisms of potato planters. Trakt. i sel'khozmash. no.12:17-18 D '64 (MIRA 18:2)

1. Gosudarstvennoye spetsial'noye konstruktorskoye byuro po mashinam dlya vozdelyvaniya i uborki kartofelya.

GOLOVITSYN, S.K., inzh.; KAN, M.I., inzh.

Methods for comparing the parameters of potato planters. Trakt. i sel'khozmash. no.12:19 D '65. (MIRA 18:12)

1. Gosudarstvennoye spetsial'noye konstruktorskoye byuro po mashinam dlya vozdelyvaniya i uborki kartofelya.

KAN, M.S.

Thermal waters of the Ili Depression. Izv.AN Kazakh.SSR. Ser.geol. 22 no.5:56-64 S-O '65.

(MIRA 18:12)

1. Kazakhskiy institut mineral'nogo syr'ya, g. Alma-Ata.

KAN, P.M.

NAZAROV, Vasiliy Stratonikovich; MUROMTSEV, Alekney Mikhaylovich; DRAL-KIN, A.G., redaktor; KAN, P.M., redaktor; KRASNAYA, A.K., tekhnicheskiy redaktor.

[Oceanography] Okeanografiia. Moskva, Izd-vo "Morskoi transport," 1954. 165 p.
(Oceanography) (MLRA 7:12)

AICHKIN, Il'ya Il'ich; KAMENEVICH, V.Ye., retsenzent; OSIPOV, L.L., retsenzent; KATYS, G.P., doktor tekhn. nauk, red.; KAN, P.M., red.

[Transducers in marine remote control systems] Datchiki sudovyk' sistem distantsionnogo kontrolia. Moskva, Izd-vo "Transport, 1964. 209 p. (MIRA 17:8)

AYZENVARG, Khaim Vol'fovich; POSTNIKOV, S.A., inzh., retsenzent; YAS'KOV, A.A., inzh., retsenzent; RZHECHITSKIY, B.D., inzh., red.; KAN, P.M., red.

[Textbook for electric harbor crane operators] Uchebnik kranovshchiku portal'nogo elektricheskogo krana. Izd.2., ispr. i dop. Moskva, Transport, 1964. 241 p. (MIRA 17:12)

POLONSKIY, Vladimir Ivanovich; KHOMYAKOV, N.M., doktor tekhn. nauk prof., retsenzent; GRITSENKO, P.I., kand. tekhn. nauk, dots. retsenzent; FRIK, A.O., inzh., nauchn. red.; KAN, P.M., red.

[Electric equipment and electric propulsion of ships] Elektrooborudovanie i elektrodvizhenie sudov. Moskva, Transport, 1965. 321 p. (MIRA 18:12)

NIKITIN, Gennadiy Mikhaylovich; KHOKHLOV, G.P., retsenzent; ROZHDESTVENSKIY, A.P., retsenzent; GRITSENKO, P.I., red.; KAN, P.M., red.

[Organizing the operation of the electric equipment of ships] Organizatsiia ekspluatatsii elektrooborudovaniia sudov. Moskva, Transport. 1965. 109 p. (MIRA 18:7)

TIKHOMIROV, Nikolay Alekseyevich. Prinimal uchastiye VITSINSKIY, V.V., dots.; KAN, P.M., red.

[Theory and equipment of a ship for inland navigation] Teoriia i ustroistvo sudna vnutrennego plavaniia. Moskva, Transport, 1965. 273 p. (MIRA 18:5)

NORNEVSKIY, Boris Ivanovich; TARATYNOV, Ivan Afanas'yevich [deceased]; MORDOVIN, B.M., prof., retsenzent; PAIN, B.S., dots., retsenzent; MURATOV, I.I., kand. tekhn. nauk, retsenzent; FRIK, A.O., inzh., red.; KAN, P.M., red.

[Electrical equipment of ship and shore stations and substations] Elektricheskoe oborudovanie beregovykh i sudovykh stantsii i podstantsii. Moskva, Transport, 1965. 334 p. (MIRA 18:5)

DUBOVOY, Anatoliy Aleksandrovich; POPOV, Aleksandr Vasil'yevich; NIKITIN, G.M., doktor tekhn. nauk, red.; KAN, P.M., red.

[Electric propelling machinery; servicing and maintenance] Elektrogrebnye ustanovki; obsluzhivanie i ukhod. Pod red. G.M.Nikitina. Moskva, Transport, 1965. 63 p. (MIRA 18:12)

KAN, R.A.; KELAREVA, N.A.

Oriented conduction of excitation in the atrioventricular region of the heart. Nauch. dokl. vys. shkoly; biol. nauki no.1:51-55 '60. (MIRA 13:2)

1.Rekomendovana kafedroy fiziologii zhivotnykh Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova.
(HEART--INNERVATION)

KOZLOV, A.I.; KAN, S.A.

Resources and means of lowering the production costs at the Kansk Hydrolysis Plant. Gidroliz.i lesokhim.prom. 12 no.8:23-24 '59. (MIRA 13:4)

1. Nauchno-issledovatel'skiy institut gidroliznoy sul'fitno-spirtovoy promyshlennosti (for Kozlov). 2. Kanskiy gidroliznyy zavod (for Kan).
(Kansk--Wood-using industries--Costs) (Hydrolysis)

IVANCHENKO, G.Ye.; TIKHONOV, V.Ya.; BYR'KA, V.F.; KAN, Sh.U.

Determining the transient process in a stepped-relay system of automatic control with a multiple series operation of the regulator. Nauch. trudy KNIUI no.15:196-221 '64. (MIRA 18:8)

KAN, S. I. Cand. Tech. Sci.

Dissertation: "Method for Short-Range Forecasting of a Level in the North Part of the Caspian Sea." Central Inst of Weather Forcasting, 17 Jun 47.

SO: Vechernyaya Moskva, Jun, 1947 (Project #17836)

KAN S. I.

"Method for Short-term Prediction of the Level in the Northern Section of the Caspian Sea", Trudy TsIP, no 3 (30), 1948 (3-50)

SO: U-3030, 11 Mar 1953

KAN, S.I.

Nonperiodic currents in the straits of Kuril Islands and possibilities for their prediction. Trudy TSIP no.57:132-143 '57. (MLRA 10:9)

(Kuril Islands region--Ocean currents)

KAN, S.I.

3(7) PHASE I BOOK EXPLOITATION SOV/2113

Tsentral'nyy institut prognozov

Voprosy morskikh gidrometeorologicheskikh prognozov (Problems of Marine Hydrometeorological Forecasting) Moscow, Gidrometeoizdat (otd-niye), 1958. 88 p. Errata slip inserted. (Series: Its: Trudy, vyp. 76) 1,000 copies printed.

Sponsoring Agency: USSR. Glavnoye upravleniye gidrometeorologicheskoy sluzhby.

Ed. (Title page): N.A. Belinskiy; Ed. (Inside book): N.N. Goryushkin; Tech. Ed.: I.M. Zarkh.

PURPOSE: This issue of the Institute's Transactions is intended for hydrometeorologists and advanced students in the field.

COVERAGE: This collection of articles deals with the problem of forecasting the onset of seasonal ice phenomena. Individual papers treat conditions in the Japanese, Bering, White, and Caspian Seas, the Dvina, Bug, and Dnepr Rivers. No personalities are mentioned. References accompany each article.

TABLE OF CONTENTS:

KAN, S. I.

~~KAHN~~, S. I.

"A Modified Method for Speedy Level and Current Forecasts." report to be submitted for the Intl. Cong. Oceanographic. New York City, 31 Aug - 11 Sep 1959.

(Central Weather Forecast Institute)

KAN, S.I.

Improving the method for current prediction in the Kerch Strait. (MIRA 13:11)
Meteor. i gidrol. no.12:25-27 D '60.
(Kerch Strait--Ocean currents)

ISTOSHIN, Yu.V., kand.tekhn.nauk; KAN, S.I., kand.tekhn.nauk

Calculating and predicting physical phenomena in the sea.
Vest.AN SSSR 30 no.7:95-96 Jl '60. (MIRA 13:7)
(Ocean)

KAN, S.I.

Calculating and forecasting currents in the Kerch Strait. Trudy Okean.kom. 11:130-141 '61. (MIRA 14:7)
(Kerch Strait—Ocean currents)

L 00804-67 EWT(1) GW

ACC NR: AT6026449 (N) SOURCE CODE: UR/2546/66/000/156/0105/0120

AUTHOR: Kan, S. I.

ORG: Central Institute of Weather Forecasting (Tsentral'nyy institut prognozov)

TITLE: Forecasting and calculation of sea ice in the Sea of Okhotsk

SOURCE: Moscow. Tsentral'nyy institut prognozov. Trudy, no. 156, 1966, Raschet i prognoz elementov rezhima morya (Observing and forecasting characteristics of sea phenomena), 105-120

TOPIC TAGS: sea ice, ocean property, atmospheric pressure, Tschebyshev polynomial

ABSTRACT: Methods of forecasting and calculating sea ice in the Sea of Okhotsk are discussed. The reference points in prognosis equations are the fields of atmospheric pressure over a broad region presented as analytical series expansions according to the Tschebyshev polynomial. Orig. art. has: 4 figures and 5 tables. [Based on author's abstract] [NT]

SUB CODE: 08/ SUBM DATE: none/ ORIG REF: 019/

Card 1/1 vlr

KAN, S.N.

Raschet kryla na sdvig. (Tekhnika vozdushnogo flota, 1941, v. 14, no.4. p.5-20, diagrs.)

Title tr.: Calculation of shear in the stress analysis of the wing.

TL504. T4 1941

GO: Aeronautical sciences and Aviation in the Soviet Union, Library of Congress, 1955

KAN, S. N.

Raschet kryla na sdvig. (Tekhnika vozdushnogo flota, 1941, v. 15, no. 4, p. 5-20, diagrs.)

Title tr.: Calculation of shear in the stress analysis of the wing.

TL504.T4 1941

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

KAN, S. N. , SVERDLOV, I. A.

Calculation of the Strength of Aircraft, Moscow 1945

KAN, S. N.
PHASE II

TREASURE ISLAND BIBLIOGRAPHICAL REPORT

AID 46 - II

Call No.: TI671.2.K33

BOOK

Author: KAN, S. N.
Full Title: AIRCRAFT STRENGTH
Transliterated Title: Prochnost' samoleta

Publishing Data

Originating Agency: None
Publishing House: State Publishing House of the Defense Industry (Oborongiz)
Date: 1946 No. pp.: 292 No. of copies: 15,000

Editorial Staff

Editor: None
Editor-in-Chief: None

Tech. Ed.: None
Appraisers: Cheremukhin, A. M., Professor, Doctor Technical Sciences
Rostovtsev, G. G., Professor, Doctor Technical Sciences

Text Data

Coverage: This is an enlarged synopsis of lectures given in advanced courses for USSR Air Force practicing engineers by the author in the Military Air Academy imeni Zhukovskiy. The book might be used by readers without special technical education to help them understand problems of aircraft design. (Diagrams, graphs, tables).

Preface: None

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000620320009-9"

Prochnost' samoleta

Introduction: A comparatively long introduction (23 pp.) gives a review of fundamental laws of mechanics (Newton, D'Alembert), with simple examples illustrating their application. The air-load distribution and its effect on the aircraft are briefly described. Traction, compression, shear, bend, torsion, and flexure are shown in their simple form, and fundamental formulae are given.

Abstract: In Chapter I (25 pages), the author gives the basic formulae for the calculation of the external load of aircraft in various kinds of flight and in landing. In each case numerical examples of the application of formulae are given. In section 6 (p. 45-47), the definition of the safety coefficient is given, and in section 7 (p. 47-51), aircraft strength standards are analyzed. All aircraft are divided into three classes: 1) Maneuverable aircraft, with which all acrobatic flights are permitted without restriction, 2) Aircraft of limited maneuverability, with which restricted acrobatic flights are permitted and 3) Non-maneuverable aircraft. Six cases illustrating the distribution of stresses and their intensity and direction are given.

Wings and empennages are discussed in Chapters II-VII (110 pages).

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The author describes the choice of an airfoil, the dihedral of the wing, the spanwise air-load distribution, the determination of inertia forces due to the mass of the wings, the direction of the force resulting from the air-load, the distribution of loads of various components, the direction of the resulting force from the wing's inertia and the mass of the components, the position of these various forces, bending moments, torsion, etc. Section 11 describes braced wings, wings with corrugated skin, double spar wings, and box-structure wings. Normal tensions in monospar wings, in two-spar wings, and in box-structure wings are described. Section 13 describes the shear due to diagonal forces and to torsion. Section 15 describes flanges, webs, reinforcing webs, birch-veneer spars, etc. Section 16 describes flange stiffeners, truss spars, etc. Section 17 describes the approximate calculation of ribs, external forces and bending moments, and the determination of stresses. Section 18 describes wooden and metal ribs. Section 20 describes aerodynamic compensations, balancing loads, flettners, trimmers, etc. Sections 21 and 22 describe the external load of the ailerons, their attachment and their work. Sections 25-27 describe slats and flaps, split flaps, simple flaps, zap flaps, flower flaps, etc. Sections 38-31 describe empennages, their surfaces, airfoil, shape and position, and balancing methods, external loads, and reaction determination. 3/8

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Chapters VIII-XII (102 pages) deal with fuselages and landing gears. Sections 33 and 34 describe the design of truss and monocoque fuselages and the determination of normal and diagonal stresses. Sections 41-46 describe basic defects of conventional and tricycle landing gear, wheel types, shock struts, and various cases of irregular functioning of oleo-pneumatic struts. Sections 47 and 48 describe and give diagrams of shock-absorbing struts of the following types: IL-2, Pe-2 and Yakovlev, and of the landing gear of the MiG-3, La-5, Yak-9, IL-2 or Pe-2 types. Sections 49 and 50 describe main stresses in landing gears.

Chapter XIII (20 pages) starts with a brief explanation of the phenomena of vibration, and then describes vibration in various parts of the aircraft.

At the end of the book, 4 tables give specifications of physical and mechanical characteristics of materials used in aircraft construction. The following materials are described: low-carbon steel, medium-carbon steel, Chromansil, duraluminium, improved wood and improved veneer (referred to in the text, page 97, as "Delta-drevesina") and plywood. The last table enumerates eleven

Prochnost' samoleta

kinds of normal grade woods used in aircraft production, the regions of their growth, and their specifications.

Evaluation: It is a well written and well-presented popular textbook. The table giving specifications of different kinds of Soviet wood might be interesting, but otherwise the book does not contain any original information.

Purpose: This is a textbook for aviation technicians, and a manual for practicing engineers and technicians of the USSR Air Force.

TABLE OF CONTENTS

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KAN, S.N.

KAN, S. N., and A. G. PANOVKO.

Elementy stroitel'noi mekhaniki tonkostennykh konstruktsii. Pod red. A. M. Cheremukhina. Dopushcheno v kachestve ucheb. posobiia dlia aviats. vuzov. Moskva, Glav. red. aviats. lit-ry, 1949, 126 p., diagrs.

Title tr.: Elements of mechanics of thin-walled structures. Approved as a textbook for schools of advanced aeronautical studies.

TL671.2.K3

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

Kan, S. N.

Elementy Stroitel'noy Mekhaniki Tonkostennykh Konstruktsiy (Elements of Structure Mechanics in Thin-Walled Construction) Izd. 2., Perer. I Dop., By S. N. Kan and Ya. G. Panovko. Moskva, Oborongiz, 1952.
161 P. Diagrs., Graphs, Tadles.

SO: N/5
666.2
.KI
1952

KAN, S. N.

PHASE I Treasure Island Bibliographic Report

00000046

Call No.: TL 671.2.K33

BOOK

Author: KAN, S.N.

Full Title: AIRCRAFT STRENGTH. 3rd edition.

Transliterated Title: Prochnost' samoleta

Publishing Data

Originating Agency: None.

Publishing House: State Publishing House of the Defense Industry (Oborongiz).

Date: 1953. No. pp.: 302 No. copies: None.

Editorial Staff

Editor: None. Technical Editor: None.

Editor-in-Chief: None. Appraiser: None.

Others: The author expresses thanks for valuable help to Baykov, V.T., Zaytsev, V.N., Lipovskiy, D.E., Karnozhitskiy, V.F., and Kots, N.M.

Text Data

Coverage: The stresses acting on aircraft and the strength of construction required to meet these stresses are discussed. Recent changes in aircraft construction and outside form walls are outlined. Methods of determining the strength of aircraft construction are explained by specific examples. To evaluate correctly the strength of construction the following factors are studied: the purpose of the construction, external stresses acting on the aircraft, the stability of the construction, and, finally, its strength. This is the third edition, revised and expanded to include considerations important for jet propulsion and sonic speeds. Discussion of maintenance

1/2

Card 2/2

Full Title: AIRCRAFT STRENGTH. 3rd edition. Call No.: TL 671.2.K33 00000046

Text Data

Coverage: (continued)
problems given in earlier editions is not reprinted. Instead the reader is referred to the 1951 Oborongiz publication Principles of Construction Mechanics, which should be considered as the first part of this book. Numerous charts, tables, and diagrams appear in the text.

Purpose: A textbook for a course of aircraft strength for students of Technical Schools, and for students of Technical Aviation Schools. It may also be used as a manual for the aviation auxiliary technical staff.

Facilities: Shishkin, S.N., Goryainov, A.A., Kuz'min, G.I., and Makarevskiy, A.M., are cited for their achievement in formulating norms of strength.

No. Russian and Slavic References: Only one reference is mentioned in a footnote. (Sutugin, L.I. Proyektirovaniye chastey samoleta. 1947).

Available: Library of Congress.

KAN, S. N.

"Pressurized Cabins," represents a translation of the Sub-Chapter 43 (Germeticheskiye Kabiny) of the book "Stress Analysis of Airplane" (Prochnost'-Samoleta), published by the State Publishing House of Defense Industry in Moscow, 1953.

Report D-102898, 12 Oct 54

KAN, S. N.

"Catapult Pilot Chair," a slightly condensed translation of Chapter 44 (pp. 202-210) of the monograph, "Airplane Stress Analysis," published by the State Publishing House of the Defense Industry, Moscow, 1953.

Report D-102897, 12 Oct 54

KAN, S.N.

Vibratsii samoleta. (In his Prochnost'samoleta. Moskva, Oborongiz, 1953. p. 278-294, diagrs.)

Title tr.: Aircraft vibration.

TL671.2.K33 1953

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

KAN, S. N

PHASE I BOOK EXPLOITATION

Kan, Savelly Nakhimovich

Prochnost' samoleta (Structural Strength of Aircraft) 4th Ed. Moscow, Oborongiz, 1955. 285 p.

Reviewers: Rostovtsev, G. G., Doctor of Technical Sciences, Professor; Scientific Ed.: Gimmel'farb, A. L., Candidate of Technical Sciences, Docent; Ed. of Publishing House: Suvorova, I. A.; Tech. Ed.: Zudskin, I.M.; Managing Ed.: Sokolov, A. I.

PURPOSE: The present book is a textbook on the subject of "Structural Strength of Aircraft" for students of aviation tekhnikums, technical schools and readers with a secondary school preparation.

COVERAGE: The book deals chiefly with the analysis of aircraft design considering purpose, layout, and the character of external loads. The statement of problems is given in an elementary form. The fourth edition has a number of significant changes. It contains new sections on aileron efficiency, brake flaps and hydroboosters.

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Structural Strength of Aircraft

In the new edition each chapter is based on the analysis of structural stresses and deformations of high-speed jet aircraft. Special attention has been given to hydroboosters, aileron efficiency, tricycle landing gears and other modern structural devices. The author states that in structural computations not only strength problems but rigidity problems must be considered. The rigidity of a structure governs the extent of deformation. The rigidity affects the stability and controllability characteristics. Insufficient rigidity may cause vibrations of the separate parts of an aircraft. The problems of autovibrations of the wing, the empennage, and the landing-gear nose wheel were investigated fully by Soviet scientists M. V. Keldysh, S.I. Krichevskiy, E.P. Grossman, and others. The book contains one table and 295 figures. The author expresses gratitude for valuable assistance to A.L. Gimmel'farb, Candidate of Technical Sciences, Docent, and V.M. Kots.

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AVAILABLE: Library of Congress

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8/12/58

KAN, S. N. (Engr.-Col)

"Temperature Stresses in the Framework of a Casing (v korpuse obolochki) Partially Filled with Liquid," report presented at the Ninth Scientific-Technical Conference, held at the Khar-kov Higher Aviation-Engineering Military School, Dec 1958.

PHASE I BOOK EXPLOITATION 786

Kan, Saveliy Nakhimovich and Sverdlov, Iosif Abramovich

Raschet samoleta na prochnost' (Analysis of Aircraft for Structural Strength) 4th ed., rev. Moscow, Oborongiz, 1958. 291 p. 11,000 copies printed.

Reviewers: Odinokov, Yu.G., Doctor of Physical and Mathematical Sciences, Professor, and Cheremukhin, A.M., Doctor of Technical Sciences, Professor; Ed.: Yarmain, A.M., Engineer; Ed. of Publishing House: Sheynfayn, L.I.; Tech. Ed.: Rozhin, V.P.; Managing Ed.: Sokolov, A.I., Engineer.

PURPOSE: This book is approved by the Ministry of Higher Education of the USSR as a textbook for aviation vuzes. It may also serve as a drafting manual in design offices of aircraft factories, and as an aid in improving the qualifications of designers.

COVERAGE: The 1945 edition of this book has been radically revised and greatly supplemented. Problems in determining aircraft loads and calculation methods for the separate aircraft components are considered. Completely new sections have been added on aerodynamic heating and thermal stresses, calculation of sweptback and delta wings and tail assemblies, calculation of frames with consideration of their elasticity, vibrations of aircraft components, etc. For

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SOV/86-58-7-23/38

AUTHOR: Kan, S. N., Engr Col, Professor, Doctor of Technical Sciences

TITLE: One Heat Barrier Problem (Odna iz problem teplovogo bar'yera)

PERIODICAL: Vestnik vozdushnogo flota, Nr 7, 1958, pp 56-61 (USSR)

ABSTRACT: The author states that the heating up of modern high speed aircraft or rockets can be defined as the rise in temperature in the boundary layer. The law governing the distribution of heat in the aircraft depends essentially on the duration of flight. He gives some heat temperatures which an aircraft may reach at certain speeds, altitudes and during certain flight durations. Analyzing the diagrams which represent the variation of the temporary resistance and the modulus of elasticity of some materials depending on the temperature, he points out that one way which may solve the problem of heating-up is the use of heat-resistant materials. The effect

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KAN, S.N.

Analyzing cylindrical shells with large cutouts. Izv. vys. uchab. zav.; av.tekh. 2 no.1:32-37 '59. (MIRA 12:3)

1. Khar'kovskoye vysshoye aviatsionnoye inzhenernoye voyennoye uchilishche.

(Elastic plates and shells)

KAN, S.N. (Khar'kov); SHKOL'NYY, P.A. (Khar'kov)

Strength of open prismatic shells. Prykl. mekh. 5 no.353-370 '59.
(MIRA 13:3)

(Elastic plates and shells)

report presented at the 1st All-Union Congress of Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb '60.

134. A. A. Il'yushin (Moscow): Problems of the theory of plasticity under combined loading.

135. V. K. Kabulov (Tashkent): Elastic-plastic vibrations of rods of non-circular cross section.

136. V. A. Kalinin (Leningrad): The forced non-linear flexural vibrations of a homogeneous prismatic rod and a very long rectangular plate.

137. S. Kaliski (Warsaw): On a method of solving the equations of motion for an infinite anisotropic medium in the presence of a magnetic field.

138. G. N. Kan, V. A. Shtainl (Kharkov): An engineering method for the design of open prismatic shells.

139. I. I. Kandaurov (Leningrad): The distribution of vertical compressive stresses and strains in foundations in homogeneous or stratified soils.

140. B. Ia. Kantor (Kharkov): Bending of cantilever plates of variable stiffness.

141. K. S. Karapetian (Erevan): The effect of aging and anisotropy on the creep of concrete.

142. L. M. Kachanov (Leningrad): On the time of rupture in creep.

143. L. M. Kachanov (Leningrad): On some variational principles and methods in the theory of plasticity.

144. K. A. Kerimov (Baku): A procedure of determining an impact tension diagram for large deformations.

145. M. A. Kil'chevskii (Kiev): Some generalizations of the formulation of elastostatic and elasto-dynamic contact problems and methods for their solution.

146. A. Kh. Kim (Omsk): The flow of a visco-plastic medium in a cone.

147. L. A. Kitover (Leningrad): On the elastic equilibrium of thin, infinite orthotropic plates.

148. K. V. Kovalev (Kharkov): Models of the influence surfaces for the intensity of the bending moment in thin plates and shells.

149. A. D. Kovalenko (Kiev): Shallow shells of revolution of variable thickness in a three-dimensional temperature field.

150. M. Kozarov (Sofia): Dynamic stability of cylindrical and spherical shells.

151. M. Kozarov (Sofia): The influence of initial imperfections of shape on the stability of thin elastic cylindrical sandwich shells under axial compression.

152. W. T. Koiter (Delft): Elastic stability and post-buckling behavior.

153. A. S. Kondrat'ev (Kuibyshev), Yu. P. Borisov (Orenburg): The effect of support elasticity on the natural vibrations of rods.

154. I. M. Kopev, L. A. Oding (Moscow): Strength and plasticity of "whiskers".

155. B. G. Korenev (Moscow): The design of flexible plates and beams on elastic foundation.

156. M. S. Kornishin (Kazan): Bending of rectangular shallow shells with elastic ribs.

157. M. S. Kornishin (Kazan): On the solution of the nonlinear algebraic equations of shell theory.

158. V. G. Korotkin, D. M. Tartakovskii (Leningrad): The one-dimensional problem of the consolidation of a sediment layer with variable specific weight and variable water permeability.

159. A. S. Kosmodamianskii (Saratov): The elastic equilibrium of anisotropic plate with a finite number of elliptical holes.

160. Yu. I. Kosterin (Iaroslavl), I. V. Kragel'skii (Moscow): Rheological phenomena in dry friction.

161. Yu. V. Kretov (Stalinsk): Lateral stability of coupled arches with double curvature.

162. A. I. Kuznetsov (Leningrad): On the theory of plane plastic stress.

163. V. N. Kukudzhanov, L. V. Nikitin (Moscow): Propagation of elastic, visco-plastic waves in bars.

164. V. D. Kupradze (Tbilisi): The investigation of contact problems in the theory of elasticity by the method of singular integral equations.

165. N. V. Lazovskaia (Moscow): The investigation of the deformations of drains on models by the X-ray method.

166. A. Langenbach (Berlin): Application of the non-linear variational principle to some problems of the theory of elastic-plastic strains.

167. S. M. Levi (Moscow): The investigation of rheological properties of gelatin solutions.

KAN, Savelliy Nakhimovich

Designing an aircraft for stren th, by S. N. Kan and I. A. Sverdlov. Wright-Patterson Air Force Base, Ohio, 1960.

424 l. illus., diagrs., graphs (F-TS-9905/V)

Translated from the original Russian: Raschet samoleta na prochnost'., Moscow, 1958

Earlier Russian language editions have title: Prochnost' samoleta.

Bibliography: l. 4-5

VINOKUROV, Lev Pinkhusovich; KAN, S.N., prof., doktor tekhn.nauk, retsenzent; DERKACH, V.F., dotsent, kand.tekhn.nauk, retsenzent; DAVIDOV, I.V., dotsent, kand.tekhn.nauk, otv.red.; KURILOVA, T.M., red.; TROFIMENKO, A.S., tekhn.red.

[Structural mechanics of rod systems; theory of the deformation of rod systems] Stroitel'naia mekhanika sterzhnevykh sistem; teoriia deformirovaniia sterzhnevykh sistem. Khar'kov, Izd-vo Khar'kovskogo gos.univ.im.A.M.Gor'kogo. Pt.1. [Statics] Statika. 1960. 387 p. (MIRA 13:10)
(Structural frames)

VINOKUROV, Lev Pinkhusovich; KOLESNIKOV, L.A., kand. tekhn. nauk, retsenzent; CHERKASOV, A.P., kand. tekhn. nauk, retsenzent; ALEKSEYEV, Yu.N., kand. tekhn. nauk, retsenzent; KAN, S.N., prof., doktor tekhn. nauk, otv. red.; KURILOVA, T.M., red.; SMILYANSKAYA, T.M., tekhn. red.

[Structural mechanics of rod systems; theory of the deformation of rod systems] Stroitel'naia mekhanika sterzhnevykh sistem; teoriia deformirovaniia sterzhnevykh sistem. Khar'kov, Izd-vo Khar'kovskogo gos. univ. im. A.M.Gor'kogo. Pts. 2-3. 1961. 198 p. (MIRA 14:11)
(Beams and girders)

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E031/E135

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AUTHORS: Kan, S.N., and Silant'yev, A.V. (Khar'kov)

TITLE: Fuselage Bending Calculations in the Region of a Mid-wing Junction

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Aviatsionnaya tekhnika, 1961, No. 1, pp. 46-60

TEXT: It appears from strain gauge data that neither in the region of the junction of a mid-wing with a fuselage nor beyond the boundaries of the region do the normal stresses obey the plane law of distribution. There is therefore a need to find a more accurate method of calculating this distribution. The present paper describes some of the results of investigations made at the Nauchno-issledovatel'skiy laboratorii Khar'kovskiy vysshego aviatsionno-inzhenernogo uchilishcha (Scientific Laboratory of the Khar'kov Higher Aviation Engineering College) with that end in view. It was assumed that the fuselage and wing were held rigid along their contour. The fuselage is regarded as a multiply statically indeterminate structure. Only axial forces on the transverse sections of the fuselage, bending moments on the ribs

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Fuselage Bending Calculations in the Region of a Mid-wing Junction

and the bending of the side wing ribs will be considered in the deformation equations. Consider the problem of determining the fundamental stresses σ and q when the fuselage and wing are joined along their common contour, so that the fuselage can be considered a shaft with a cantilever in the elastic state. Only the central part of the fuselage need be discussed and this is assumed loaded by a bending moment from either the front or rear part of the system. To determine the distribution of normal stresses along the length of the wing, σ is written as the product $\sigma_{ef}\,\varphi(x)$, where σ_{ef} represents the normal stresses at a section of the fuselage coinciding with the reinforced frame, and x is measured along the axis of the fuselage. Substituting this value for σ in the equation for the equilibrium of an element of the fuselage we obtain a differential equation for q. Initially it is assumed that the twisting moment of the wing is taken out through the reinforced frame. The fundamental stresses can easily be found after solving a very simple variational problem for $\varphi(x)$. By setting up the expression for the potential

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energy of the system and fulfilling the conditions for its extremum an inhomogeneous differential equation with constant coefficients is obtained for $\varphi(x)$. In solving this equation it is assumed that the moment of inertia of a section of a side rib is infinite. The boundary conditions are determined by the rigidity of the reinforced frames of the fuselage, which analysis of the solution shows to have a significant effect on the fundamental stresses at the central section. Calculations show that even if the reinforced frames are elastic, the assumption of their absolute rigidity gives sufficient accuracy in practice. The determination of the supplementary stresses is considered next. These stresses may be found from the condition that the deformations of the central section are shared with the front and rear sections. They can be written in the form $A_i \Phi(\psi) \varphi_i(x)$, where the A_i are amplitudes, Φ gives the variation of the supplementary stresses at cross-sections of the section, and φ_i gives their variation along the length of the section. The coefficients A_i are found from the deformation condition given above. The determination of

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