KUDRYAVTSEV, Boris Vasil'yevich; FRUMKIN, B.A., red.; MEL'NIKOVA, Ye.E., red.izd-va; TYSHKEVICH, Z.V., tekhn.red.

[Nepal; economy and foreign trade] Nepal; ekonomika i vneshniaia torgovlia. Moskva, Vneshtorgizdat, 1959. 115 p. (MIRA 12:10)
(Nepal--Economic conditions) (Nepal--Commerce)

GALITSKIY, Nikolay Fedorovich; MOISEYEV, Anatoliy Aleksandrovich; OGLOBLIN, Georgiy Aleksandrovich; PASENKO, Igor' Aleksandrovich; FRUMKIN, Boris Solomonovich; ZOTIKOV, G.I., doktor tekhn. nauk, retsenzent; SHAURAK, Ye.N., red.; FRUMKIN, P.S., tekhn. red.

[Designs of gas turbine systems; album of drawings] Konstruktsii gazoturbinnykh ustanovok; al'bom illiustratsii. Leningrad, Sudpromgiz, 1962. 99 p. ___[Description] Opisanie. 163 p.
(MIRA 15:6)
(Gas turbines--Design and construction)

GALITSKIY, Nikolay Fedorovich; MOISEYEV, Anatoliy Aleksandrovich; OGLOBLIN, Georgiy Aleksandrovich; PASENKO, Igor' Aleksandrovich; FRUMKIN, Boris Solomonovich; ZOTIKOV, G.I., doktor tekhn. nauk, retsenzent; MOISEYEV, A.A., nauchnyy red.; SHAURAK, Ye.N., red.; FRUMKIN, P.S., tekhn. red.

[Design of gas-turbine plants]Konstruktsii gazoturbinnykh ustanovok; opisanie. [By] N.F.Galitskii i dr. Leningrad, Sudpromgiz, 1962. 163 p. (MIRA 15:9)
(Gas turbines--Design and construction)

FRUMKIN, Boris Solomonovich; REBROV, B.V., kand. tekhn. nauk, dots., retsenzent; VASIL'YEV, V.K., nauchn. red.; SHAURAK, Ye.N., red.

[Diagram TSJ for the calculation of marine gas turbines] Diagramma TSJ dlia rascheta sudovykh gazoturbinnykh ustanovok. Leningrad, Sudostroenie, 1965. 62 p. (MIRA 18:8)

FRUMKIN, F.D.

KITAYTSEV, G.P. inzhener [deceased]; KOSOROTOV, I.V., inzhener; TULIAYEV, N.P., inzhener; FRUMKIN, F.D., inzhener; YAKOVLEV, V.N., inzhener, redaktor; TURKOV, G.A., inzhener, redaktor; TIKHANOV, A.Ya., tekhnicheskiy redaktor

[Assembling machine tools; a concise reference manual] Montazh metallorezhushchego oborudovaniia; kratkoe spravochnoe posobie. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 123 p. (MLRA 10:3)

(Machine tools)

FRUMKIN, F.D.

Universal magnetic table. Mod. metallorezh stan. no.1:22-23 '58.
(MIRA 12:12)
(Factories--Equipment and supplies)

FRUMKIN, Froim Davidovich.

Machining bed guides during repair. Mod.metallorezh.stan. no.5:3 '59. (MIRA 13:5)
(Machine tools--Maintenance and repair)

FRUMKIN, F.D.; NEVSKIY, A.A.

Analyzing troubles and breakdowns of machine tools.
Mashinostroitel' no.9:22 S '65. (MIRA 18:12)

FRUMKIN, G.; VODOP'YANOV, I.; KOROBKOV, A.

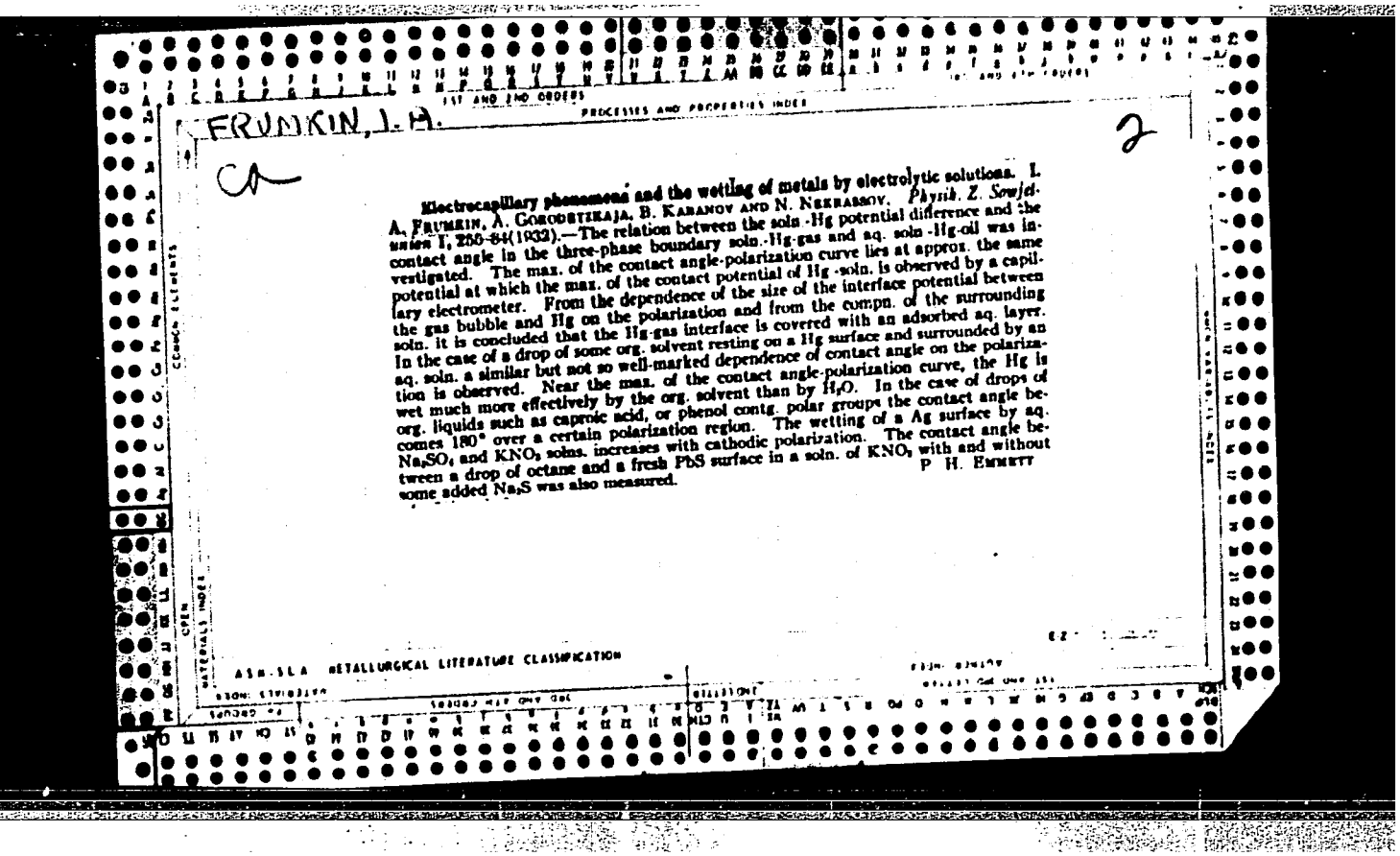
Building control by State Bank branches. Den. i kred. 21 no.3: 39-46 Mr '63. (MIRA 16:3)

1. Nachal'nik tekhnicheskogo otdela Leningradskoy gorodskoy kontory Gosbanka (for Frumkin). 2. Nachal'nik tekhnicheskogo otdela Stavropol'skoy krayevoy kontory Gosbanka (for Vodop'yanov). 3. Starshiy inzh. Stavropol'skoy krayevoy kontory Gosbanka (for Korobkov).

(Construction industry--Auditing and inspection)
(Banks and banking)

FRUMKIN, Georgiy Davydovich; LEVITIN, Ye.A., retsenzent; FROLOV, A.D., retsenzent; GOROKHOVA, S.S., tekhn. red.

[Design and construction of radio apparatus] Raschet i konstruirovanie radioapparatury. Moskva, Izd-vo "Vysshaia shkola," 1963. 318 p. (MIRA 17:2)



FRUMKIN, I. A.

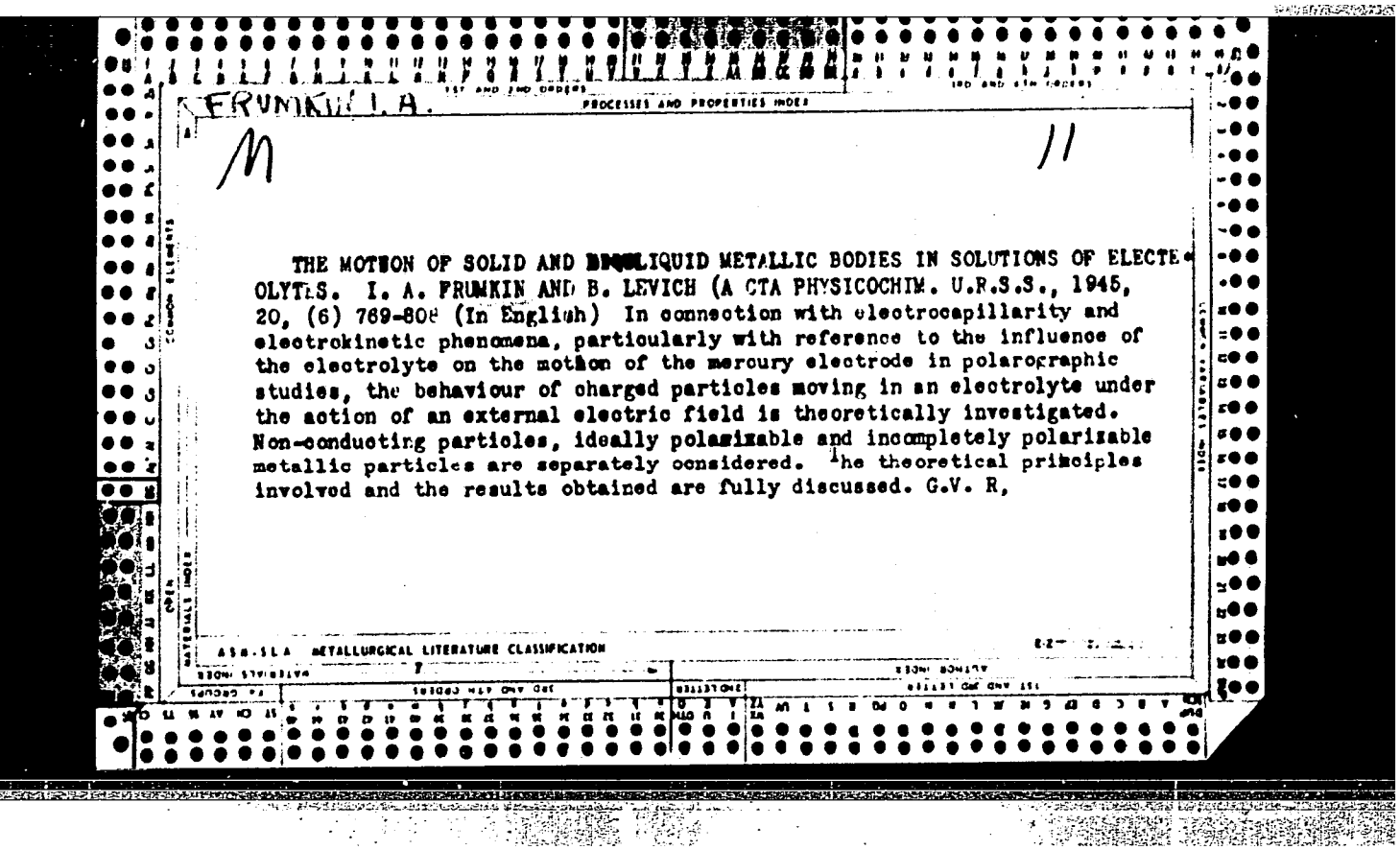
CA

2

Electrocapillary phenomena and the wetting of metals by electrolytic solutions. I. A. FRUMKIN, A. GORODETZKAJA, B. KARANOV AND N. NEKRASSOV. *Physik. Z. Sowjet-Union* I, 255-84(1932).—The relation between the soln.-Hg potential difference and the contact angle in the three-phase boundary soln.-Hg-gas and aq. soln.-Hg-oil was investigated. The max. of the contact angle-polarization curve lies at approx. the same potential at which the max. of the contact potential of Hg-soln. is observed by a capillary electrometer. From the dependence of the size of the interface potential between the gas bubble and Hg on the polarization and from the compn. of the surrounding soln. it is concluded that the Hg-gas interface is covered with an adsorbed aq. layer. In the case of a drop of some org. solvent resting on a Hg surface and surrounded by an aq. soln. a similar but not so well-marked dependence of contact angle on the polarization is observed. Near the max. of the contact angle-polarization curve, the Hg is wet much more effectively by the org. solvent than by H_2O. In the case of drops of org. liquids such as caproic acid, or phenol contg. polar groups the contact angle becomes 180° over a certain polarization region. The wetting of a Ag surface by aq. Na_2SO_4 and KNO_3 solns. increases with cathodic polarization. The contact angle between a drop of octane and a fresh PbS surface in a soln. of KNO_3 with and without some added Na_2S was also measured.

P. H. EMMETT

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



FRUMKIN, L. A.

M

11

THE MOTION OF SOLID AND LIQUID METALLIC BODIES IN SOLUTIONS OF ELECTROLYTES. I. A. FRUMKIN AND B. LEVICH (ACTA PHYSICOCHIM. U.R.S.S., 1945, 20, (6) 769-808 (In English) In connection with electrocapillarity and electrokinetic phenomena, particularly with reference to the influence of the electrolyte on the motion of the mercury electrode in polarographic studies, the behaviour of charged particles moving in an electrolyte under the action of an external electric field is theoretically investigated. Non-conducting particles, ideally polarizable and incompletely polarizable metallic particles are separately considered. The theoretical principles involved and the results obtained are fully discussed. G.V. R,

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ANDREYEV, I.A., prof.; GLUSKIN, L.Ya., kand.tekhn.nauk; LITVINOV, V.D., inzh.; KOVACHICH, V.A., inzh.; FRUMKIN, I.A., inzh.; MOSHCHUK, Ya.I., inzh.; DOLBILKIN, V.I., inzh.; ROMANOV, P.A., inzh.; SOYKO, A.B.

Using furnaces with basic high-refractory arches to improve the quality of chromium steel. Stal' 20 no.10:896-898 O '60. (MIRA 13:9)

1. TSentral'nyy nauchno-issledovatel'skiy institut i Izhorskiy zavod. (Chromium steel--Metallurgy) (Open-hearth furnaces)

ACC NR: AP6031708 (A) SOURCE CODE: UR/03[illegible]/66/000/007/0041/0042

AUTHOR: Frumkin, I. A. (Engineer); Kozlov, V. I. (Engineer); Kuznetsova, A. V. (Engineer); Ostanin, V. G. (Engineer)

ORG: none

TITLE: Attempt to construct a high-pressure reactor for operation at high temperatures

SOURCE: Khimicheskoye i neftyanoye mashinostroyeniye, no. 7, 1966, 41-42

TOPIC TAGS: metal heat treatment, thermal fatigue, pressure vessel, metallurgic process, chemical reactor / 25Kh2MF steel, 25Kh3MF steel

ABSTRACT: The design of a reactor for operation at 1500 atm and 400°C (for the production of synthetic minerals) is described. The reactor (autoclave) body was made of 25Kh2MF steel and the cover was made of 25Kh3MF steel. After forging, both pieces were subjected to lengthy, multi-stage thermal treatment at 150-1010°C and 4-56 hr duration. After this treatment, both the reactor body and the cover had higher mechanical properties than those required for operation at 1500 atm and 400°C. The assembled reactor passed the 1875 atm test. Orig. art. has: 3 figures, 2 tables.

SUB CODE: 18, 13 SUBM DATE: none/ ORIG REF: 001

UDC: 66.023.7-987.002.2

Card 1/1

L 10075-67 EWT(d)/EWT(l)/EWP(f)/EWP(c)/EWP(v)/EWP(k)/EWP(h)/EWP(l) IJP(c) TG
ACC NR: AT6024296 (A) SOURCE CODE: UR/2057/66/000/058/0089/0100

AUTHOR: Neymark, A. I. (Doctor of technical sciences, Professor); Frumkin, L. P.

ORG: none

TITLE: Mathematical programming in the formulation and solution of production line reliability problems

SOURCE: Leningrad. Inzhenerno-ekonomicheskiy institut. Trudy. no. 58, 1966, Matematiko-ekonomicheskiye problemy (Mathematical and economic problems); trudy Mezhvuzovskoy nauchnoy konferentsii Primeneniye matematiki i elektronno-vychislitel'noy tekhniki v ekonomike, 1964 g., 89-100

TOPIC TAGS: linear programming, reliability engineering

ABSTRACT: Production line reliability is defined in terms of volume, quality, and rate of output. These properties are assessed in application to each unit position in the line, to the totality of units, and to the line as a whole. Three aspects of reliability are distinguished: a) extensive reliability, defined by the reliability of the operation of equipment; b) intensive reliability, defined by the stability of output in a unit of time and c) reliability in quality control. In the first, parameters of rejects and those of reparability are taken into account. The following formula is used to define extensive reliability:

Card 1/2

L 10075-67
ACC NR: AT6024296

$$p = \frac{t_p}{t_p + t_n}$$

for the case of a single working place; here, t_p is the average time between two rejects and t_n is the average time lost in removing the reject. Graphical illustration is used to show how production may be programmed in order to increase the reliability of production on the basis of a study of extremal problems. Orig. art. has: 4 figures, 42 formulas, 1 table.

SUB CODE: 12,13/ SUBM DATE: none

Card 2/2

L 12015-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 ASD(m)-3 RM
ACCESSION NR: AP4046467 S/0032/64/030/010/1222/1224

AUTHOR: Voyutskiy, S. S.; Yagnyatinskaya, S. M.; Frumkin, L. S.; Yepiseyeva, S. N.; Rayevskiy, V. G.

TITLE: Method for determining the adhesion of polymers to powder fillers

SOURCE: Zavodskaya laboratoriya, v. 30, no. 10, 1964, 1222-1224

TOPIC TAGS: adhesion, polymer, filler, powder filler, sodium butadiene rubber, nitrite rubber, chalk, chemical black

ABSTRACT: A new method has been developed for determining the adhesion of polymers to any powder filler. The method is based on the use of substrates prepared from mixtures of various amounts of a powder filler with a binder. The surface of the substrate must be mechanically pretreated and cleaned to ensure close contact between the filler particles and the polymer. The adhesion of the polymer to the pure filler was determined by graphic extrapolation of experimental curves of adhesion values versus binder/filler ratio to a zero binder content. The results of experiments conducted with: 1) sodium buta-

Card 1/4

L 12015-65
ACCESSION NR: AP4046467

diene (CKB-35) rubber as the polymer and mixtures of poly(vinyl alcohol) (binder) and chalk (inactive filler) as the substrate, and 2) with nitrite (CKN-40) rubber as the polymer and mixtures of poly(vinyl alcohol) (binder) and chemical black (active filler) as the substrate are given in Figs. 1 and 2 of the Enclosure. The dotted lines are the curve sections extrapolated to a zero binder content. Their intersections with the ordinate indicate the adhesion of the polymer to the pure filler. Orig. art. has: 2 figures.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova (Institute of Fine Chemical Technology)

SUBMITTED: 00 ENCL: 02 SUB CODE: GC

NO REF SOV: 003 OTHER: 004 ATD PRESS: 3124

Card 2/4

L 12015-65
ACCESSION NR: AP4046467

ENCLOSURE: 01

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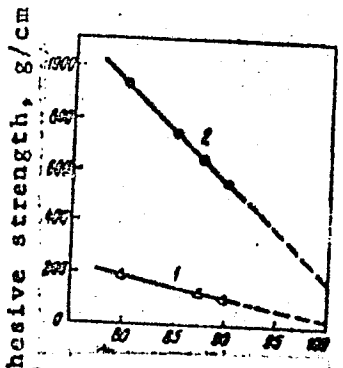

Fig. 1. Adhesive strength of CKB-35 to substrate depending on its chalk content

1 and 2 - adhesive joints prepared at 20 and 70C, respectively.

Card 3/4

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ACCESSION NR: AP4046467

ENCLOSURE: 02

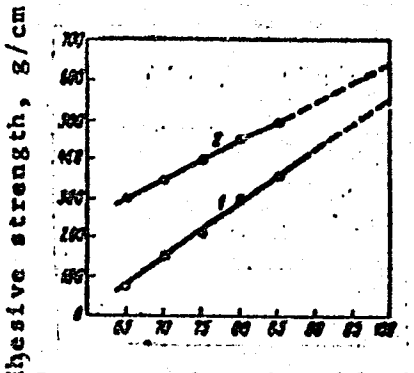
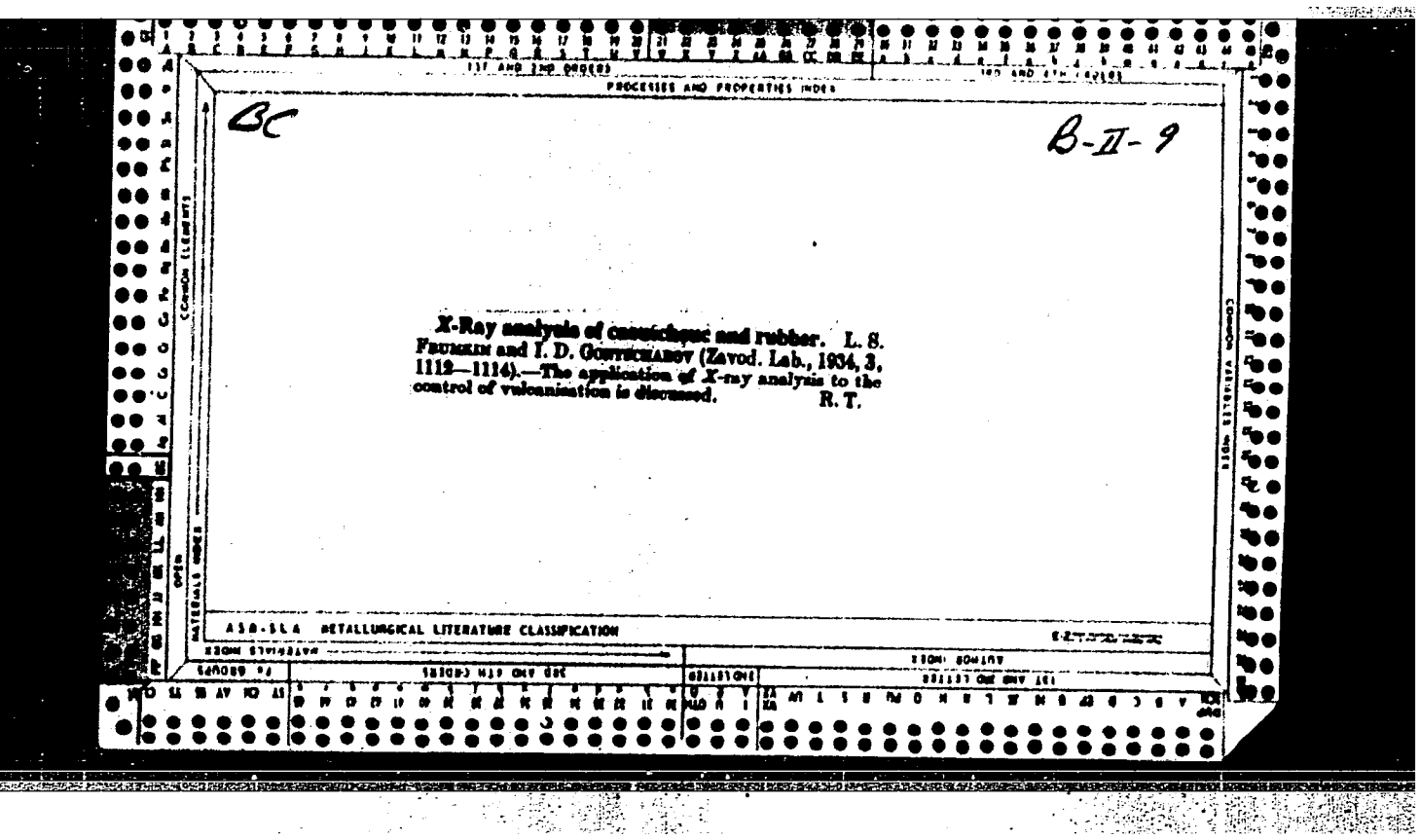


Fig. 2. Adhesive strength of CKN-40 to substrate depending on its carbon black content

1 and 2 - adhesive joints prepared at 20 and 70C, respectively.

Card 4/4



BC

B-II-9

X-Ray analysis of caoutchouc and rubber. L. S. FRUMKIN and I. D. GOSTISCHAROV (Zavod. Lab., 1934, 3, 1112—1114).—The application of X-ray analysis to the control of vulcanisation is discussed. R. T.

The shock-absorbing quality of rubber. L. Frumkin and V. Margaritov. *J. Rubber Ind.* (U. S. S. R.) 11, No. 8, 213-22, No. 5, 424-9, No. 7, 113-15(1934).—The shock-absorbing quality of the "first degree" can be expressed by the equation: $W = 100(E - E_1)/E$ where E is the energy expended in deforming the rubber, E_1 is the energy returned by the rubber, and W is the energy the rubber transforms into heat during 1 cycle of deformation. The shock-absorbing quality of the "second degree" is denoted by τ, the total time elapsed for deformation of the rubber and resumption of its original form, and shows the tendency of rubber to decrease the force of the shock by increasing its elapsed time. A special *appn.* was constructed (by Chlabovskii and Taibulakii) to det. W and τ. It consists essentially of a pile-drive-like pendulum, with a wt. of 1 kg. at its lower end. Ring samples of rubber (inside diam. 16 mm., outside diam. 29 mm., thickness 2 mm.) are put on 2 rods of different lengths. One of the rods is stationary and the other (of greater length) is movable. The pendulum on moving forward strikes at a movable rod and stretches the rubber; when the pendulum moves backward the rod takes its former position. The oscillations are registered on an evenly movable tape and are recorded as curves. Different rubbers give different curves. Calcn. and nomographs are given to det., by means of these curves, W and τ. To det. the effect of fillers on W and τ, the tests were made with mixts. of smoked sheet 100, S 3, ZnO 5, stearic acid 0.5, mercaptobenzothiazole 0.6, tetramethylthiuram disulfide 0.08 and lampblack, ZnO, kaolin and chalk in proportions of 2.5, 5, 10, 15, 20 and 30 parts by vol. (per 100 parts of rubber). The products were first tested 24 hrs. after cure and before any deformation. W and τ depended on the energy of the stroke; with an increase of energy from 10 to 20 kg. per cm. W did not change in the mixt. contg. no filler or in the one with kaolin; it decreased with ZnO and increased with chalk and C black. τ was greater at small energies. W and τ depended on the proportion of fillers (the curves given were detd. at an energy of 12 kg. per cm.). W depended upon the temp. effect of deformation and with C black (30 vol.) was 34% (10°); with kaolin 31% (5.5°); with chalk 22% (3°); and with ZnO 32% (3°). To det. W in rubber after it had been worked and rested, the rubber rings were stretched and contracted on a Schopper machine at the rate of 100 cycles per min., and with a max. elongation of ring of 275%. The curves show W at the start, after 10 and 500 cycles, after 2, 4, 8, 24 and 48 hrs. of rest, after 500 cycles more and after more rest. After 10 cycles W decreased for the C black mixts. and for ZnO (2.5–15 vols.) and increased for ZnO (30 vols.) and chalk (10–30 vols.). After 500 cycles W decreased for C black and ZnO, increased for chalk (20–30 vols.) and did not change for kaolin. During the first 2–4 hrs. of rest, W decreased for C black, ZnO and kaolin. After 48 hrs. of rest, W almost reached its original value, except for

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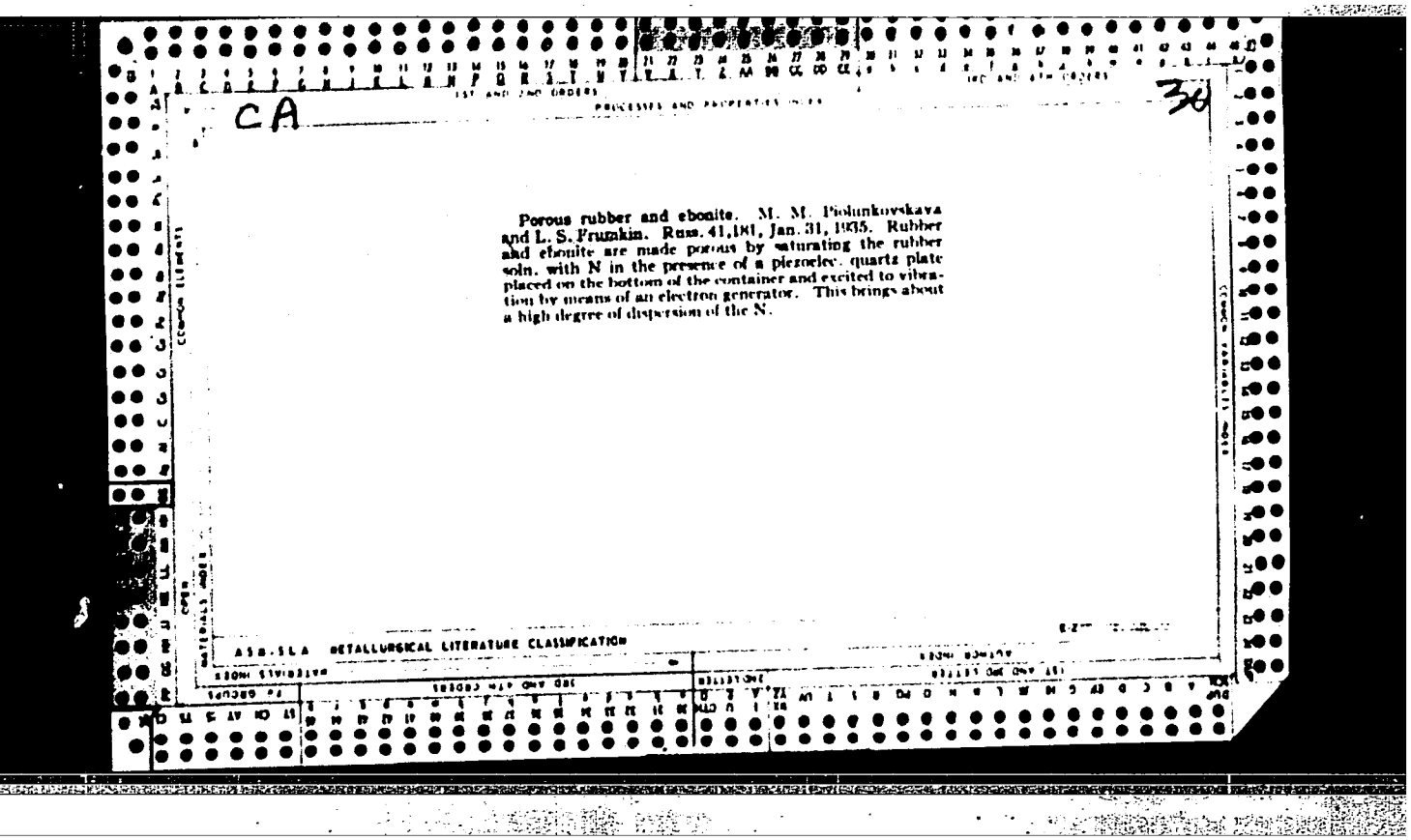
high-vol. chalk mixts. After the 2nd cycle of work and rest the curves showed the reverse conditions of W for C black and ZnO with 2.5–10 vols. and similarly with 1.5–30 vols. and 2.5–10 vols. with kaolin. In all mixts., W decreased after the 2nd cycle of rest. The 1000 cycles decreased W more than two 500 cycles with rest between. In the mixt. contg. no filler after 48 hrs. of its first rest W increased; after the 2nd cycle of work W decreased, but after the 2nd rest it increased to its value after its 1st rest. Conclusions. The great changes in W (sometimes reverse) after cycles of work throw doubt on the value of the results of ordinary standard methods of testing undeformed samples. The decrease in W during the first 2–4 hrs. of rest after 500 cycles of work is named "*fatigue inertia*." The d. increased after 500 cycles of work, *e. g.*, that of the mixt. contg. no filler was 0.950 before and 0.978 after. t was not affected by the type of filler, but depended on the quality of the base vulcanizate.

A. Pertoff



CA

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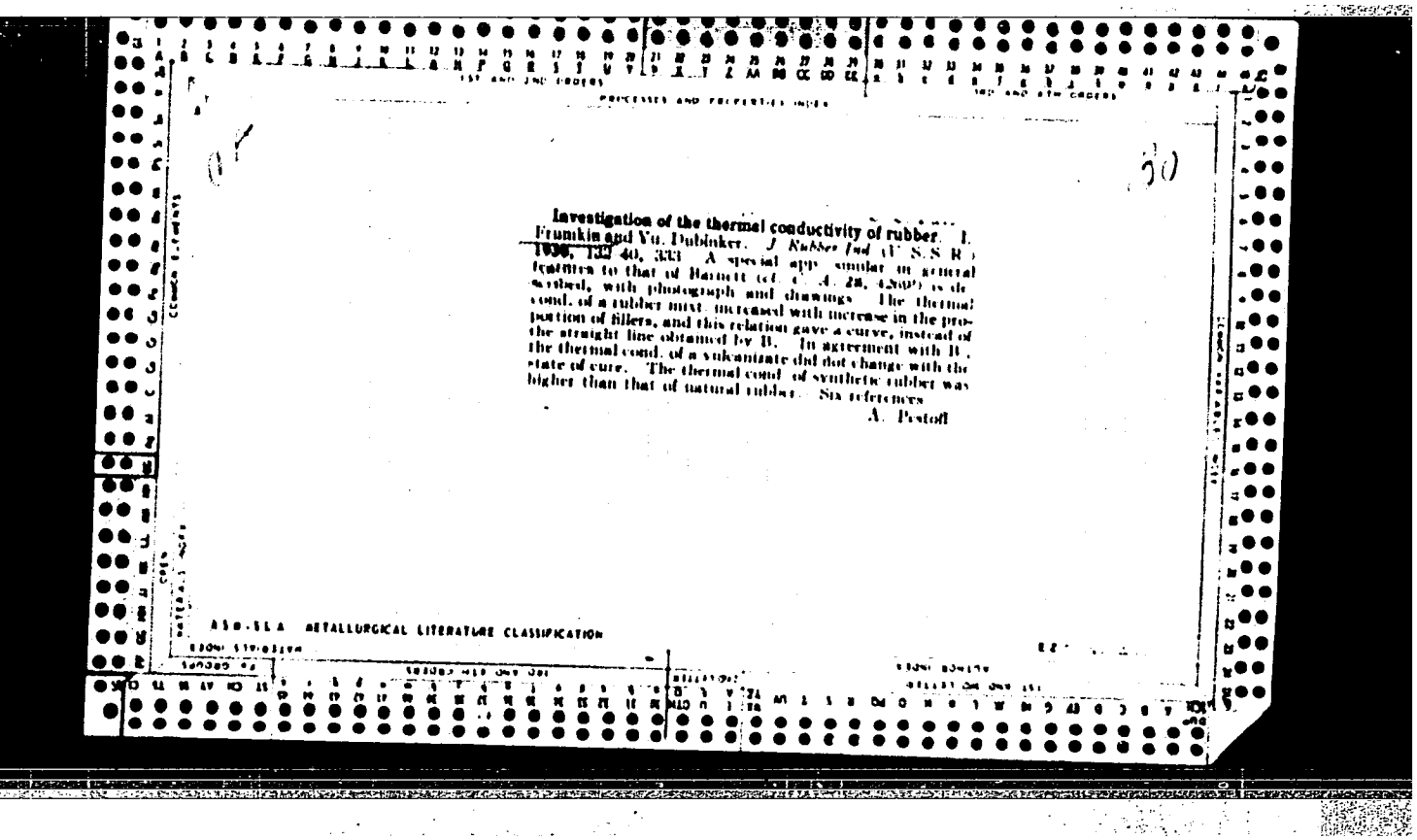
Porous rubber and ebonite. M. M. Podunkovskaya and L. S. Fruzkin. Russ. 41,181, Jan. 31, 1935. Rubber and ebonite are made porous by saturating the rubber soln. with N in the presence of a piezoelec. quartz plate placed on the bottom of the container and excited to vibration by means of an electron generator. This brings about a high degree of dispersion of the N.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



Investigation of the thermal conductivity of rubber. I. Frumkin and Yu. Dubinker. *J Rubber Ind* (U.S.S.R.) 1936, 13, 40, 333. A special app. similar in general features to that of Barnett (cf. C. A. 28, 4209) is described, with photograph and drawings. The thermal cond. of a rubber mixt. increased with increase in the proportion of fillers, and this relation gave a curve, instead of the straight line obtained by B. In agreement with B., the thermal cond. of a vulcanizate did not change with the state of cure. The thermal cond. of synthetic rubber was higher than that of natural rubber. Six references.

A. Pestoff

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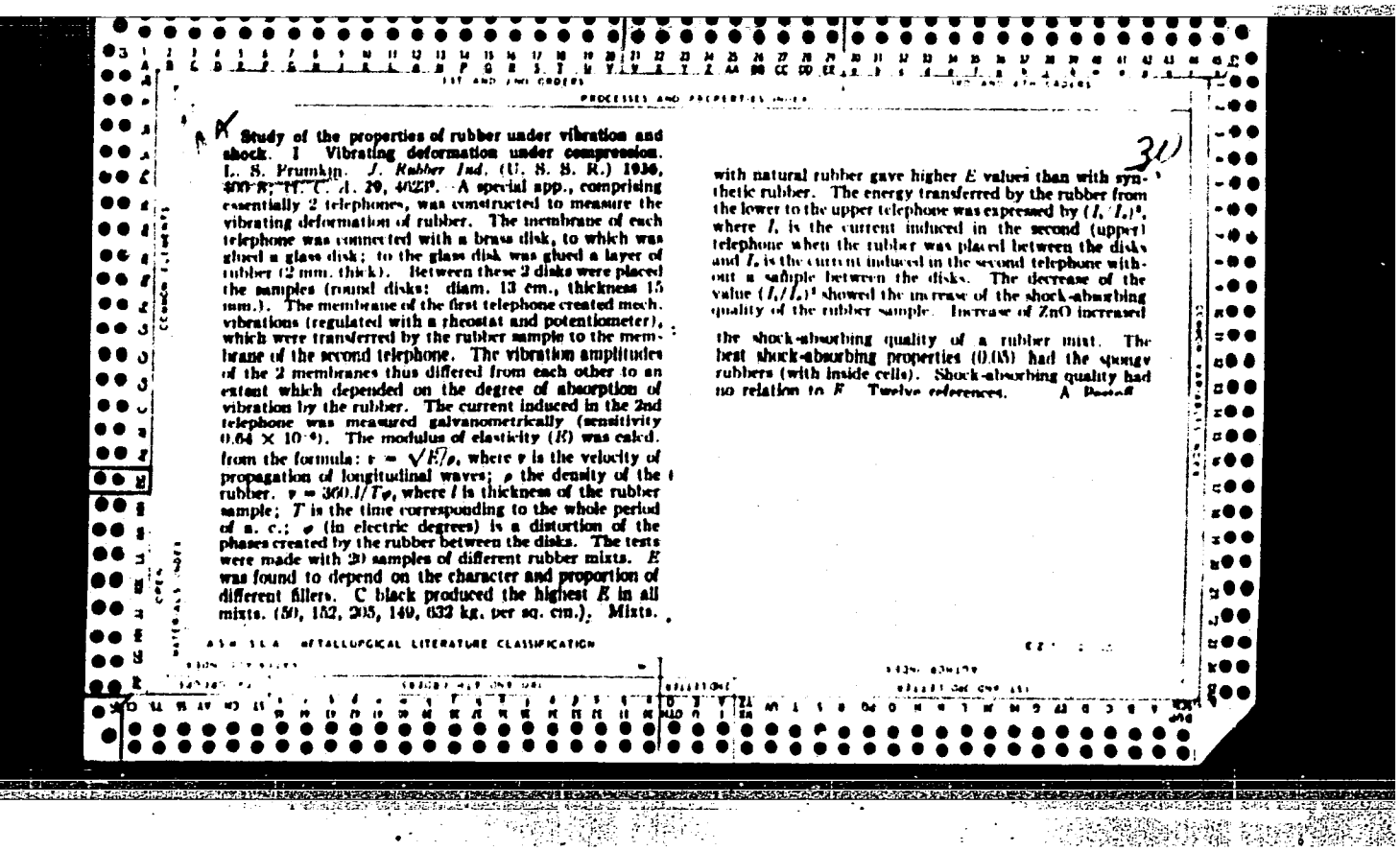
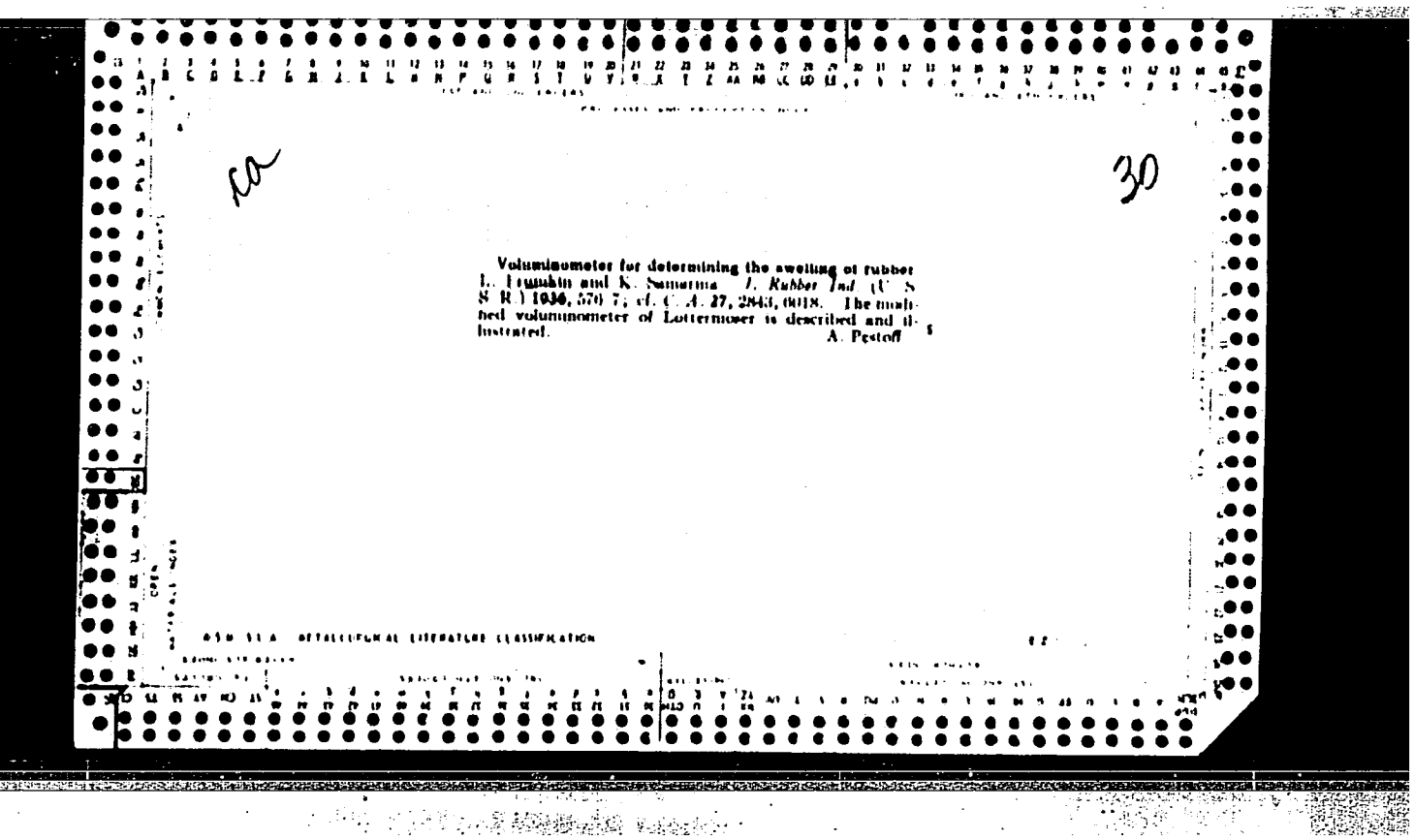
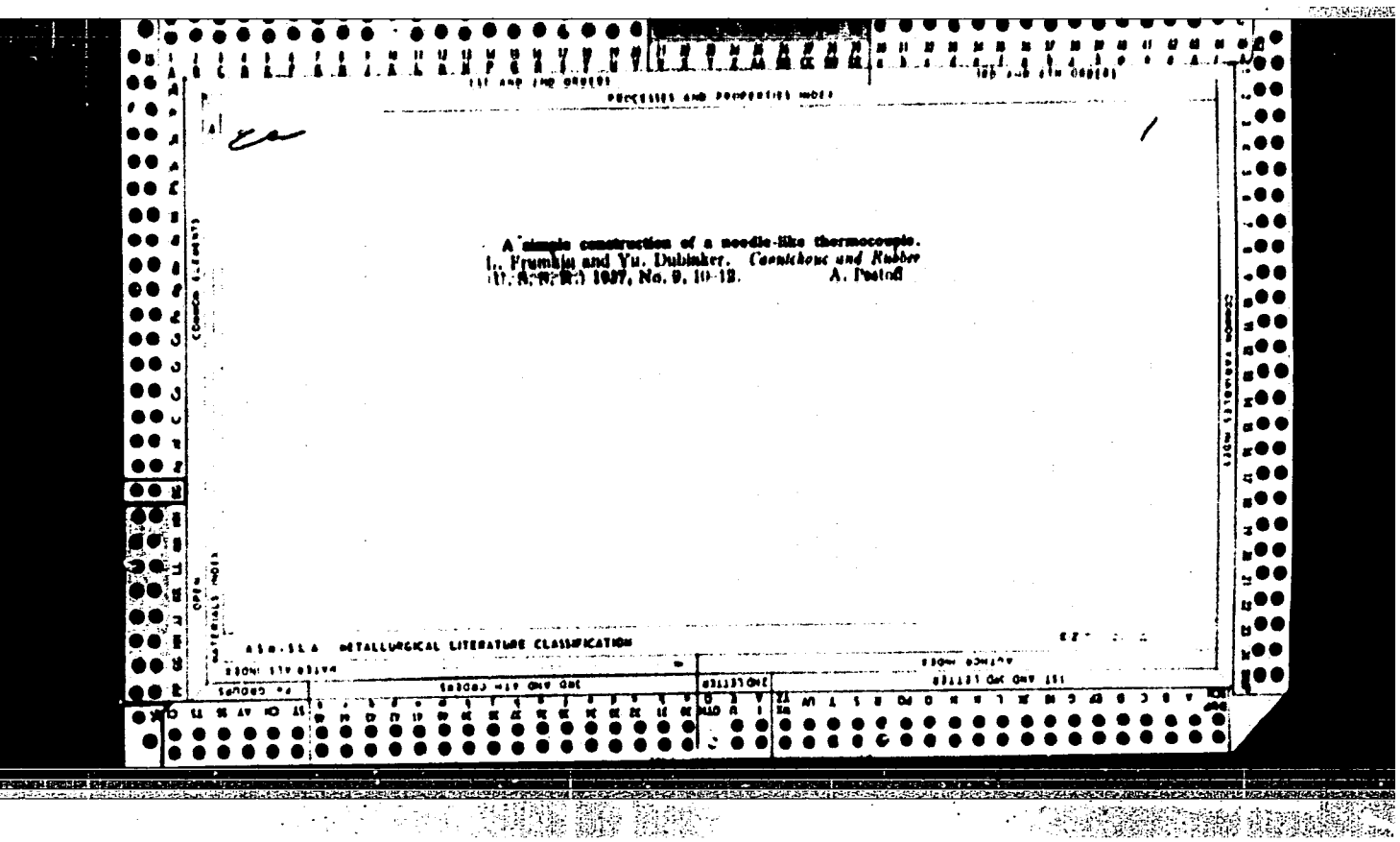


Study of the properties of rubber under vibration and shock. I Vibrating deformation under compression. L. S. Prunkin. *J. Rubber Ind.* (U. S. S. R.) **1936**, 800-8; *C. A.* **30**, 4028⁹. A special app., comprising essentially 2 telephones, was constructed to measure the vibrating deformation of rubber. The membrane of each telephone was connected with a brass disk, to which was glued a glass disk; to the glass disk was glued a layer of rubber (2 mm. thick). Between these 2 disks were placed the samples (round disks: diam. 13 cm., thickness 15 mm.). The membrane of the first telephone created mech. vibrations (regulated with a rheostat and potentiometer), which were transferred by the rubber sample to the membrane of the second telephone. The vibration amplitudes of the 2 membranes thus differed from each other to an extent which depended on the degree of absorption of vibration by the rubber. The current induced in the 2nd telephone was measured galvanometrically (sensitivity 0.64×10^{-9}). The modulus of elasticity (E) was calcd. from the formula: $v = \sqrt{E/\rho}$, where v is the velocity of propagation of longitudinal waves; ρ the density of the rubber. $v = 360.l/T\varphi$, where l is thickness of the rubber sample; T is the time corresponding to the whole period of a. c.; φ (in electric degrees) is a distortion of the phases created by the rubber between the disks. The tests were made with 20 samples of different rubber mixts. E was found to depend on the character and proportion of different fillers. C black produced the highest E in all mixts. (50, 152, 205, 149, 632 kg. per sq. cm.). Mixts. with natural rubber gave higher E values than with synthetic rubber. The energy transferred by the rubber from the lower to the upper telephone was expressed by $(I_1/I_2)^2$, where I_1 is the current induced in the second (upper) telephone when the rubber was placed between the disks and I_2 is the current induced in the second telephone without a sample between the disks. The decrease of the value $(I_1/I_2)^2$ showed the increase of the shock-absorbing quality of the rubber sample. Increase of ZnO increased the shock-absorbing quality of a rubber mixt. The best shock-absorbing properties (0.05) had the spongy rubbers (with inside cells). Shock-absorbing quality had no relation to E. Twelve references. A Pentoff



Volumenometer for determining the swelling of rubber
L. Ermakin and K. Samarina. *J. Rubber Ind.* (U.S.S.R.) **1936**, 570-7; cf. *C. A.* **27**, 2843, 6018. The multiplied volumenometer of Lottermoser is described and illustrated.
A. Pestoff



A simple construction of a needle-like thermocouple.
L. Frumkin and Yu. Dubinker. *Caoutchouc and Rubber*
(U.S.S.R.) 1937, No. 9, 10-12. A. Postnikoff

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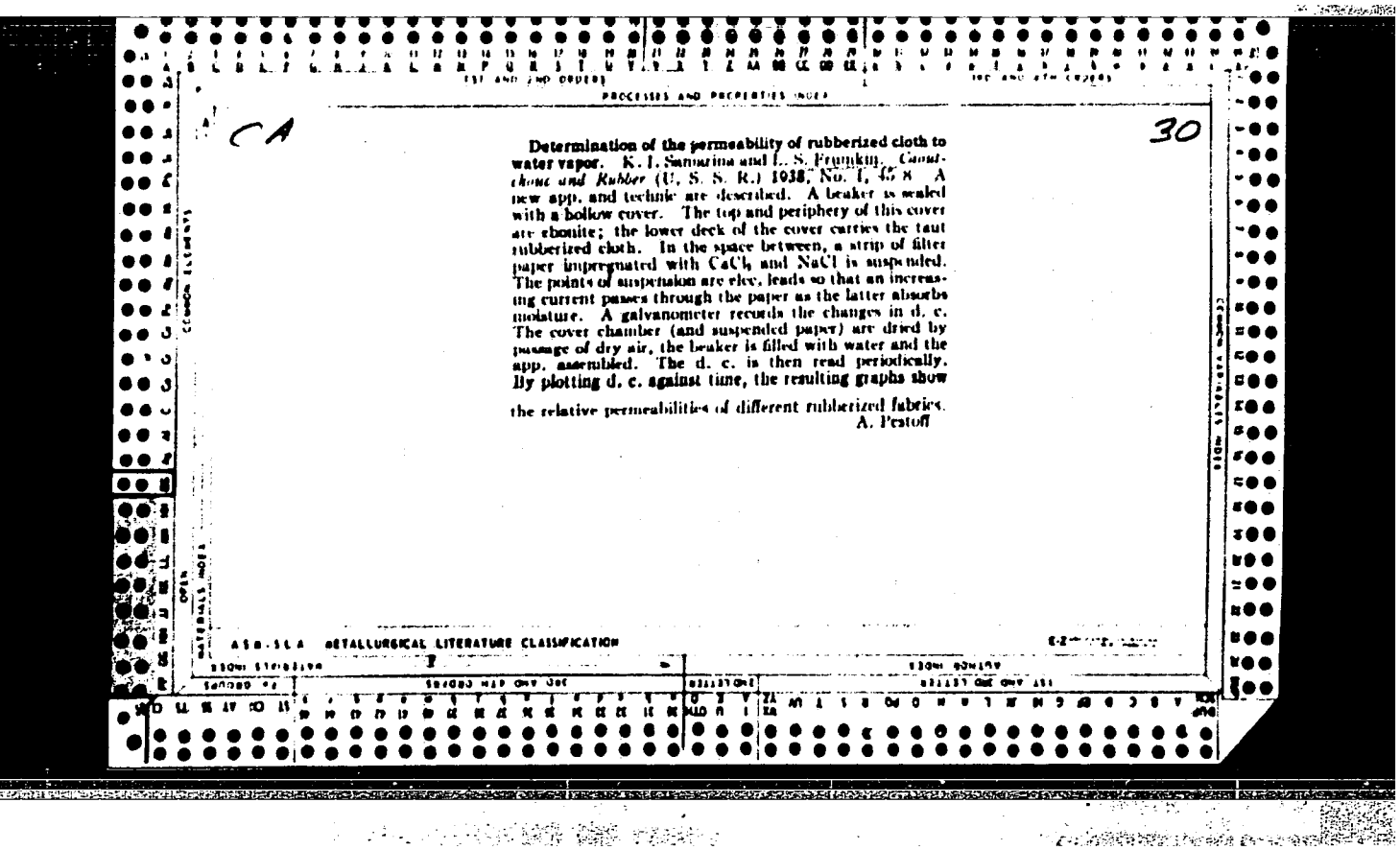

CA

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Determination of the permeability of rubberized cloth to water vapor. K. I. Samarina and L. S. Frumkin. *Caoutchouc and Rubber* (U. S. S. R.) 1938, No. 1, 45-8. A new app. and technic are described. A beaker is sealed with a hollow cover. The top and periphery of this cover are ebonite; the lower deck of the cover carries the taut rubberized cloth. In the space between, a strip of filter paper impregnated with $CaCl_2$ and NaCl is suspended. The points of suspension are elec. leads so that an increasing current passes through the paper as the latter absorbs moisture. A galvanometer records the changes in d. c. The cover chamber (and suspended paper) are dried by passage of dry air, the beaker is filled with water and the app. assembled. The d. c. is then read periodically. By plotting d. c. against time, the resulting graphs show the relative permeabilities of different rubberized fabrics.

A. Pestoff

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

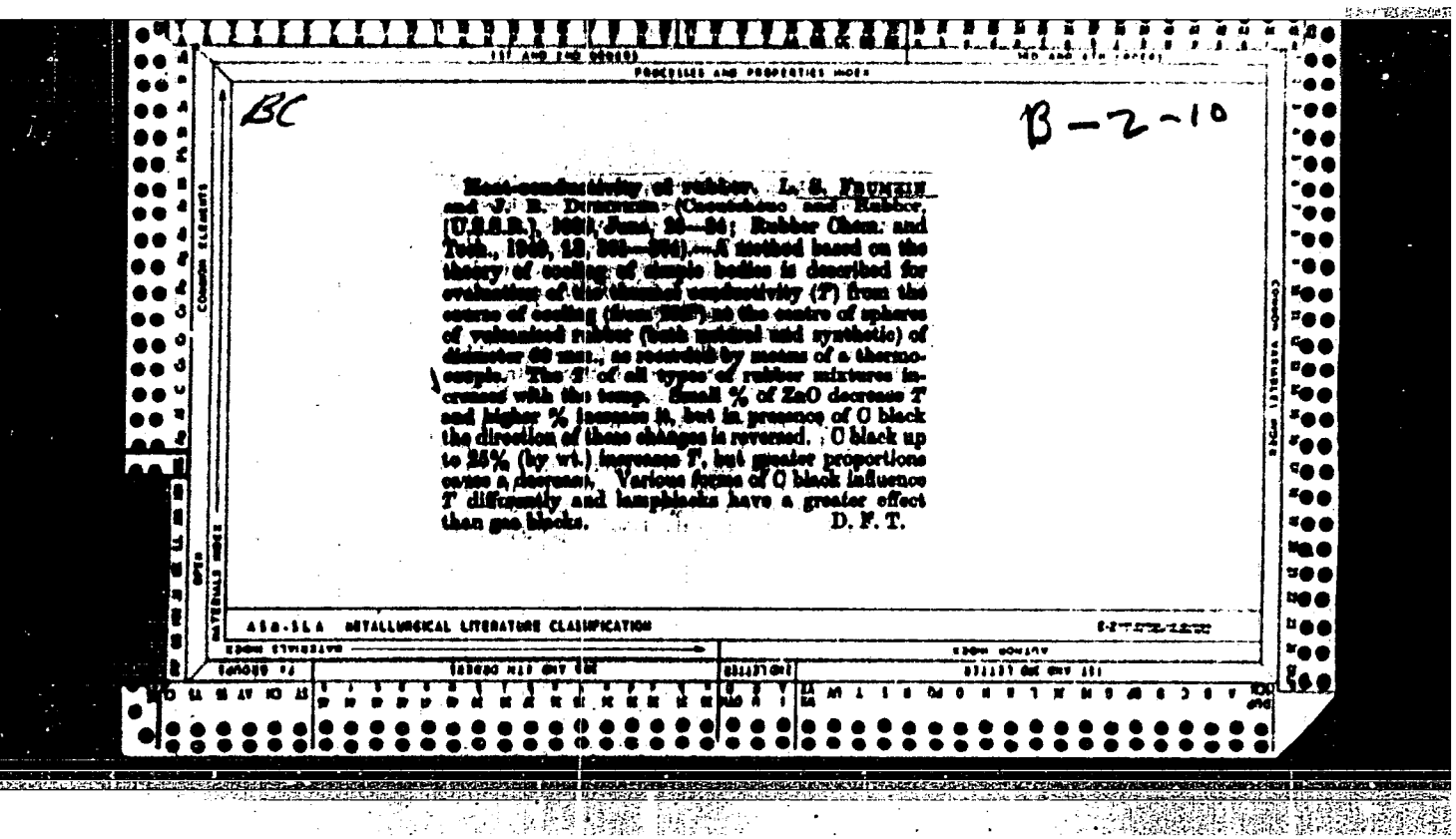
PROCESSES AND PROPERTIES INDEX

CA

30

Direct determination of the plasticity of rubber batches on running rolls. I. S. Lemkin and Yu. B. Dubinker. *Caoutchouc and Rubber* (U. S. S. R.) 1938, No. 12, 8-30. A new 3-roll, 2-disk type plastometer for the direct detn. of the temp. and plasticity of rubber on running rolls is described. Results with this app. are compared with those of a Karrer plastometer. Bernard Kilberg

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

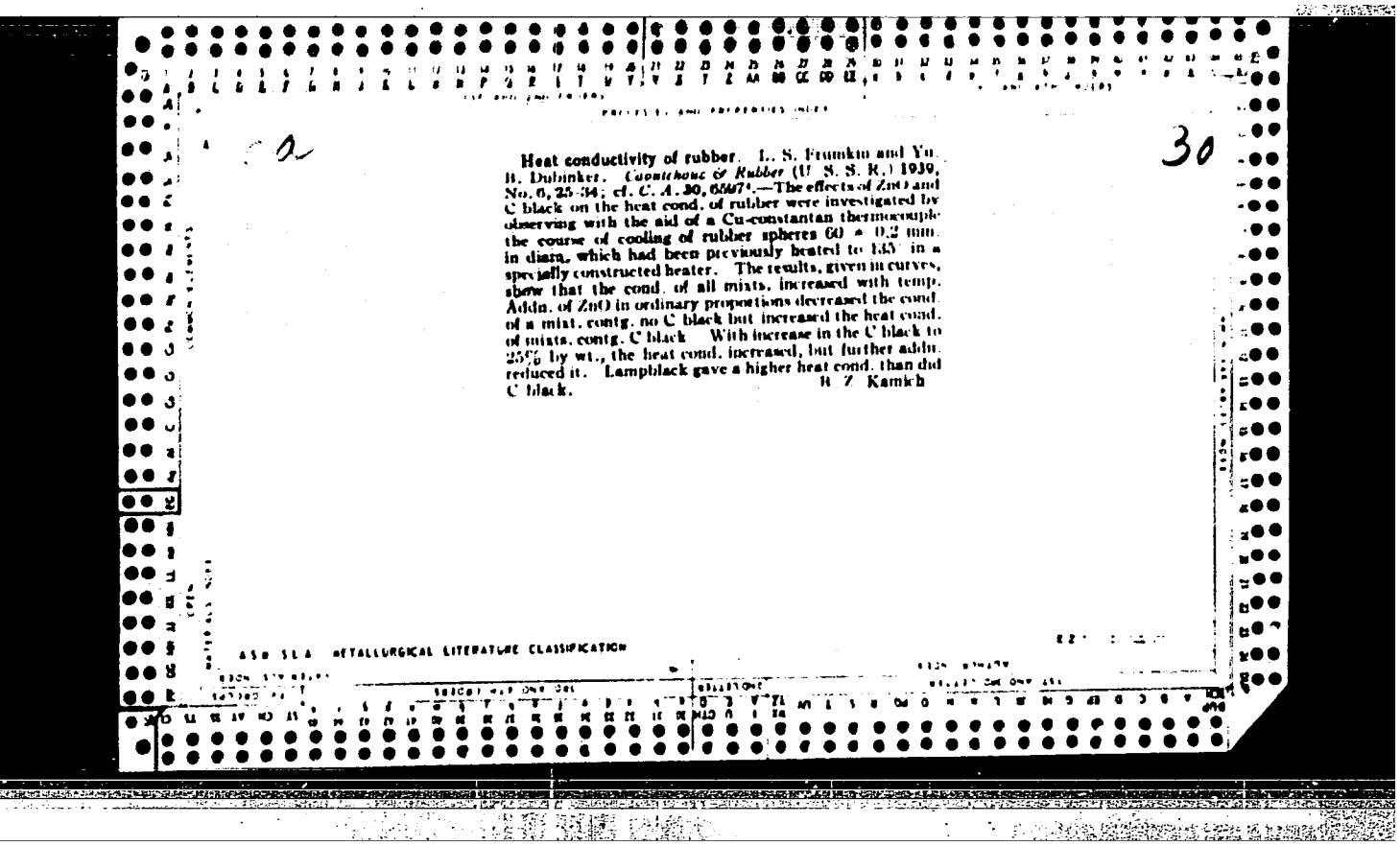


BC

B-2-10

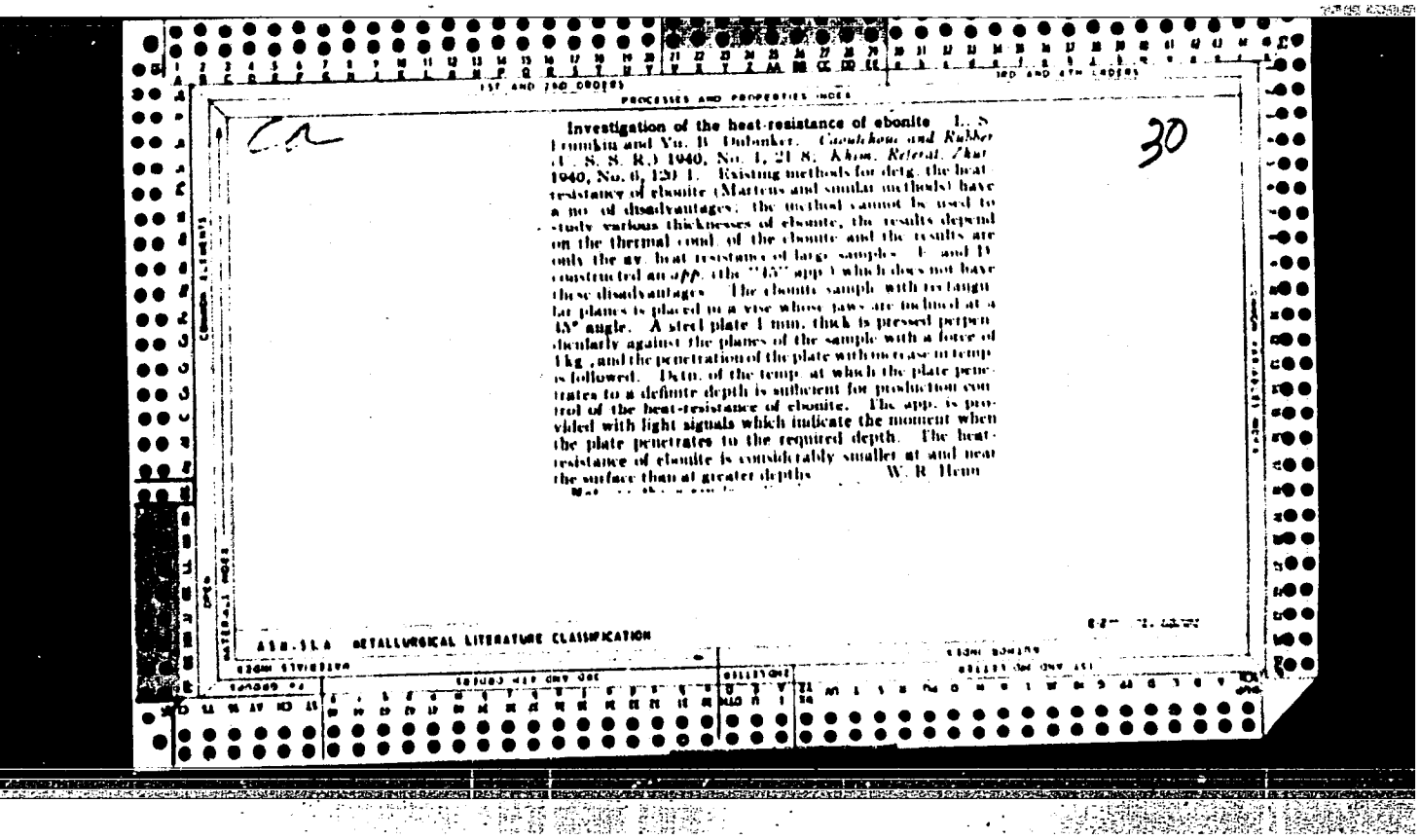
Heat-conductivity of rubber. L. S. Frumkin and V. R. Dymarskii. (Caoutchouc and Rubber (U.S.S.R.), 1939, June, 24—26; Rubber Chem. and Tech., 1940, 13, 366—374).—A method based on the theory of cooling of simple bodies is described for evaluation of the thermal conductivity (T) from the course of cooling (from 100°) at the centre of spheres of vulcanised rubber (both natural and synthetic) of diameter 60 mm., as recorded by means of a thermo-couple. The T of all types of rubber mixtures increased with the temp. Small % of ZnO decrease T and higher % increase it, but in presence of C black the direction of these changes is reversed. C black up to 25% (by wt.) increases T, but greater proportions cause a decrease. Various forms of C black influence T differently and lampblacks have a greater effect than gas blacks. D. F. T.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



Heat conductivity of rubber. L. S. Frumkin and Yu. B. Dubinker. *Caoutchouc & Rubber* (U. S. S. R.) 1939, No. 6, 25-34; cf. *C. A.* **30**, 6567⁸.—The effects of ZnO and C black on the heat cond. of rubber were investigated by observing with the aid of a Cu-constantan thermocouple the course of cooling of rubber spheres 60 ± 0.2 mm. in diam., which had been previously heated to 135° in a specially constructed heater. The results, given in curves, show that the cond. of all mixts. increased with temp. Addn. of ZnO in ordinary proportions decreased the cond. of a mixt. contg. no C black but increased the heat cond. of mixts. contg. C black. With increase in the C black to 25% by wt., the heat cond. increased, but further addn. reduced it. Lampblack gave a higher heat cond. than did C black.

R. Z. Kamich



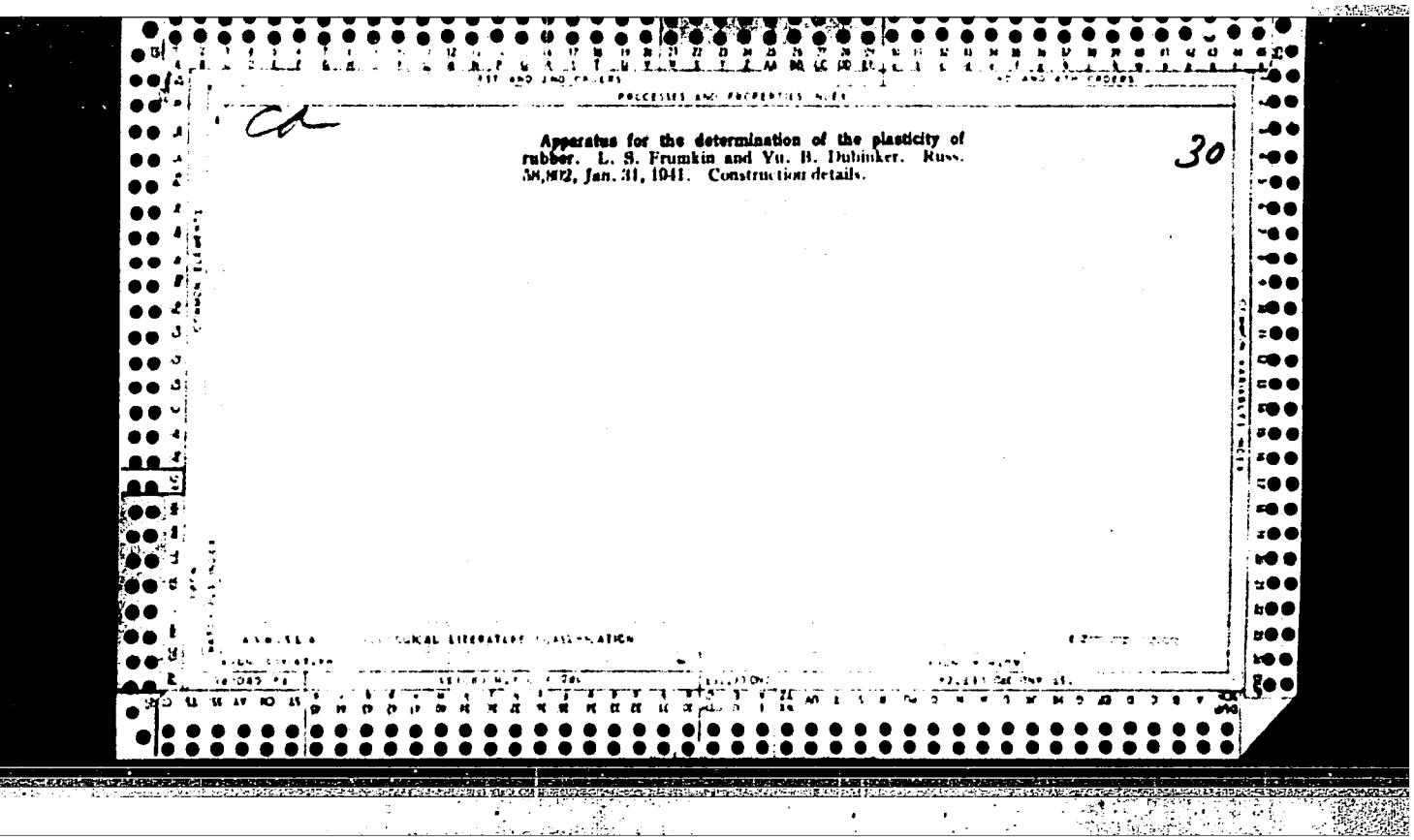
PROCESSES AND PROPERTIES INDEX

CR

30

Investigation of the heat-resistance of ebonite L. S. Frumkin and Yu. B. Dubenker. *Caoutchouc and Rubber* (U. S. S. R.) 1940, No. 1, 21-8; *Abstr. Referat. Zhur.* 1940, No. 6, 120-1. Existing methods for detg. the heat resistance of ebonite (Martens and similar methods) have a no. of disadvantages; the method cannot be used to study various thicknesses of ebonite, the results depend on the thermal cond. of the ebonite and the results are only the av. heat resistance of large samples. L. and D. constructed an *app.* (the "45" app.) which does not have these disadvantages. The ebonite sample with rectangular planes is placed in a vise whose jaws are inclined at a 45° angle. A steel plate 1 mm. thick is pressed perpendicularly against the planes of the sample with a force of 1 kg., and the penetration of the plate with increase in temp. is followed. Detn. of the temp. at which the plate penetrates to a definite depth is sufficient for production control of the heat-resistance of ebonite. The app. is provided with light signals which indicate the moment when the plate penetrates to the required depth. The heat-resistance of ebonite is considerably smaller at and near the surface than at greater depths. W. R. Henn

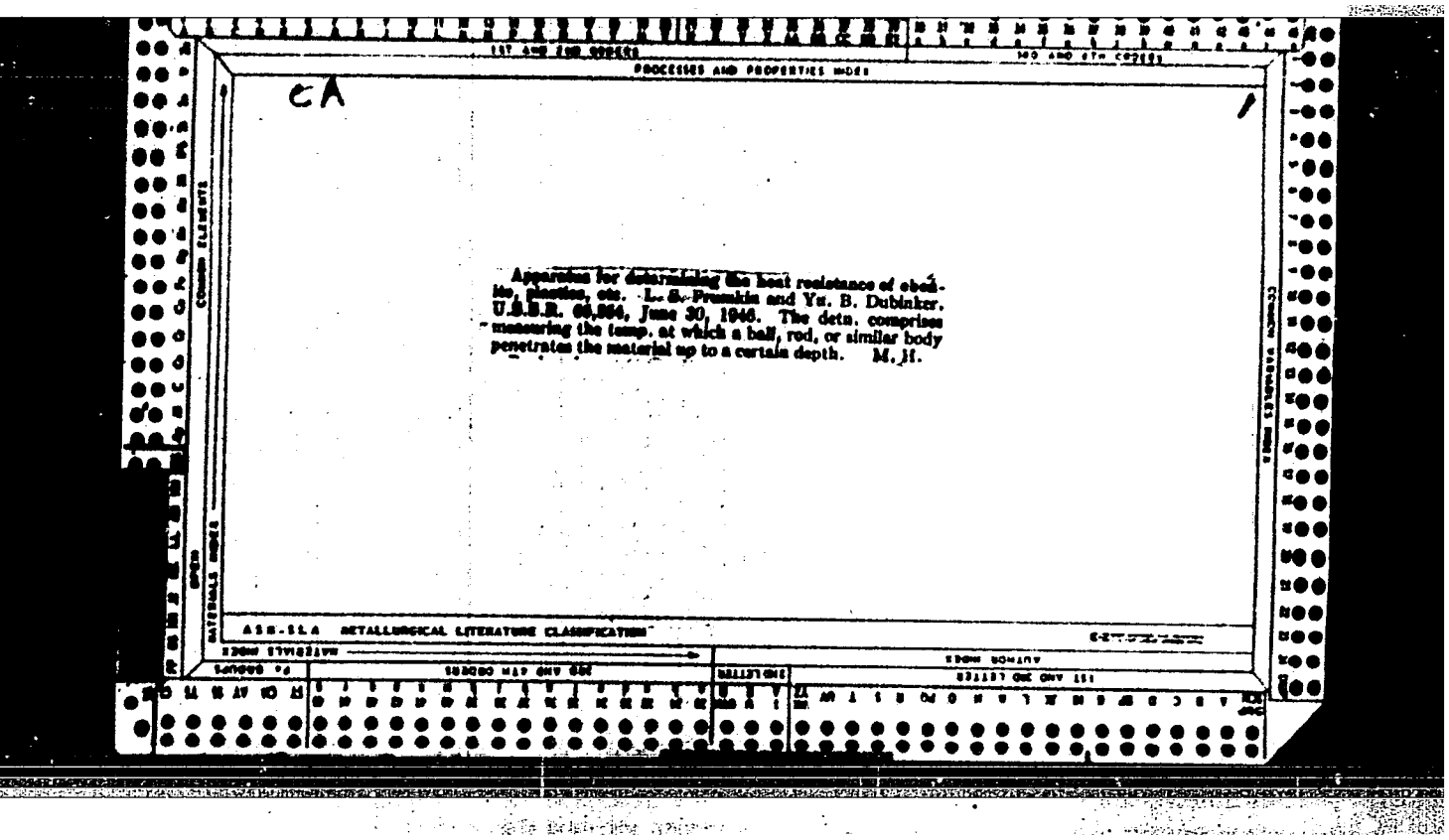
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Ca

Apparatus for the determination of the plasticity of rubber. L. S. Frumkin and Yu. B. Dubinker. Russ. 58,812, Jan. 31, 1941. Construction details.

30



Dog C.L. Road Building Abstracts

Apparatus for determining the heat resistance of ebonite, plastics, and the like. L. S. FRUMKIN and Y. B. DUBINKER (U.S.S.R.P. 66554, Chem. Abs., 1947, 41, 1508).- The determination consists in measuring the temperature at which a ball, rod, or similar body penetrates the material to a given depth. 60Z4432

1947

YAGNYATINSKAYA, S.M.; RAYEVSKIY, V.G.; FRUMKIN, L.S.; VOYUTSKIY, S.S.

Effect of vulcanization on the stripping resistance of filled rubber stocks and on elastomer to filler adhesion. Vysokom. soed. 7 no.9:1510-1514 S '65. (MIRA 18:10)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova i Moskovskiy tekhnologicheskiy institut myasnoy i molochnoy promyshlennosti.

L 1721-66 EWT(m)/EPF(c)/EWP(j). RM

ACCESSION NR: AP5022592

UR/0190/65/007/009/1510/1514
678.01:53

AUTHOR: Yagnyatinskaya, S. M.; Bayevskiy, V. O.; Frumkin, L. S.; Voyutskiy, S. S.

TITLE: Effect of vulcanization on the tear resistance of filled rubber mixtures and on elastomer-to-filler adhesion

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 9, 1965, 1510-1514

TOPIC TAGS: filler, elastomer, vulcanizate, adhesion, adhesion strength, vulcanizate strength

ABSTRACT: A study has been made of the effect of vulcanization on the tear resistance of filled elastomers and on the elastomer-to-filler adhesion strength. The experiments were conducted with sodium butadiene (SKB-35) butadiene-methylstyrene (SKMS-30) and nitrile (SKN-40) rubbers, and with such fillers as chalk, channel black, or furnace black. A comparison was made of the effect of structure formation in the course of vulcanization on elastomer-to-filler adhesion with this effect on the tear resistance of filled and unfilled elastomers. It was shown that the elastomer-to-filler bond strength is one of the factors which determine the strength of filled elastomers. It is stressed, therefore, that improvement of elastomer-to-filler ad-

Card 1/2

L 1721-66

ACCESSION NR: AP5022592

6

hesion should be given greater weight as a means of increasing the strength of filled vulcanizates. Orig. art. has: 5 figures. [BO]

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova (Moscow Institute of Fine Chemical Technology); Moskovskiy tekhnologicheskiy institut myasnoy i molochnoy promyshlennosti (Moscow Institute of the Meat and Dairy Industry)

SUBMITTED: 19Sep64 ENCL: 00 SUB CODE: MT

NO REF SOV: 009 OTHER: 001 ATD PRESS: 4096

Card 1/2

FRUMKIN, M.

Two weeks with highway transport workers in Poland. Avt. transp. 38 no. 12:9-12 D '60. (MIRA 13:12)

1. Korrespondent zhurnala "Avtomobil'nyy transport."
(Russia--Relations (General) with Poland)
(Poland--Transportation, Automotive)

FRUMKIN, M.

That is "Avtodoroshnik Ukrainy." Avt.transp. 41 no.4:58 Ap '63. (MIRA 16:5)
(Ukraine--Transportation, Automotive--Periodicals)

SHUMOV, A., inzh.; FRUMKIN, M.; DMITRIYEV, I.

Traffic organization and safety. Avt. transp. 43 no.2:42-46 F '65. (MIRA 18:6)

FRUMKIN, M.

If the objectives of construction industry and automotive transportation workers are common. Avt. transp. 43 no.8:52-53 Ag '65.
(MIRA 18:9)

1. Spetsial'nyy korrespondent zhurnala "Avtomobil'nyy transport".

FRUMKIN, M.

Chemistry in automotive transportation. Avt. transp. 43 no.12: 53-56 D '65. (MIRA 18:12)

MARKOSYAN, A.A., red.; FRUMKIN, M.I., red.; TARASOVA, V.V., tekhn.red.

[Age morphology and physiology] Vozrastnaia morfologiia i fiziologiia. Pod red. A.A.Markosiana. Moskva, 1959. 386 p. (MIRA 13:2)

1. Akademiya pedagogicheskikh nauk RSFSR, Moscow. Institut fizicheskogo vospitaniya i shkol'noy gigiyeny. 2. Chlen-korrespondent APN RSFSR (for Markosyan).
(Age)

FRUMKIN, M. I.

"Application of High-Frequency Sterilization for Improving the Quality of Fruit Preserves." Sub 28 Dec 51, Moscow Inst of National Economy imeni G. V. Plekhanov

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

CHERNYAYEV, N.D.; FRUMKIN, M.L.

Use of high-frequency currents in the canning industry.
[Izdaniia] LONITOMASH no.30:449-453 '52. (MLRA 8:1)
(Canning industry)

FRUMKIN, M.L.

Corrosive effect of the wild rose. Nauka i zhizn' 23 no.10:63 O '56. (MLRA 9:11)

(Corrosion and anticorrosives)
(Rose hips)

FRUMKIN, M.L.; KOVAL'SKAYA, L.P.

Discussion of methods for the preparation of potatoes for dehydration. Kons.i ov.prom. 12 no.9:26-31 S '57. (MLRA 10:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut konservnoy i ovoshchesushil'noy promyshlennosti.
(Potato--Drying)

FRUMKIN, M.L.; KOVAL'SKAYA, L.P.

Reduction of sugar content of potatoes for dehydration. Kons. i ov. prom. 13 no.3:6-10 Mr '58. (MIRA 11:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut konservnoy i ovoshchesushil'noy promyshlennosti.
(Potatoes--Drying)

FRUMKIN, M.L.; KOVAL'SKAYA, L.P.

Nonfermentative darkening of dried vegetables and potatoes during storage. Kons. i ov. prom. 13 no.8:20-23 Ag '58. (MIRA 11:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut konservnoy i ovoshchesushil'noy promyshlennosti.
(Vegetables, Dried--Storage) (Potatoes--Storage)

FRUMKIN, M.L., starshiy nauchnyy sotrudnik; KOVAL'SKAYA, L.P., starshiy nauchnyy sotrudnik; YEPIKHINA, N.V., mladshiy nauchnyy sotrudnik

Steam-heating method of preparing potatoes for drying. Trudy VNIIKOP no.9:53-67 '59. (MIRA 14:1)
(Potatoes—Drying)

FRUMKIN, M.L.; KOVAL'SKAYA, L.P.

Role of sugars in the processes responsible for the darkening of potatoes in drying. Kons.i ov.prom. 14 no.12: 13-16 D '59. (MIRA 13:3)

1. TSentral'nyy nauchno-issledovatel'skiy institut konservnoy i ovoshchesushil'noy promyshlennosti.
(Potatoes--Drying)

ROGACHEV, V.I.; FRUMKIN, M.L.; KOVAL'SKAYA, L.P.; DOROFEYEVA, Ye.V.

Changes in the coloring matter of beets sterilized by ionized radiations and heat. Kons.i ov.prom. 15 no.2: 13-16 F '60. (MIRA 13:5)

1. TSentral'nyy nauchno-issledovatel'skiy institut konservnoy i ovoshchesushil'noy promyshlennosti.
(Beets--Sterilization) (Coloring matter)

FRUMKIN, M.L., starshiy nauchnyy sotrudnik; KOVAL'SKAYA, L.P., starshiy nauchnyy sotrudnik

Storage of dehydrated vegetables and potatoes. Trudy VNIIKOP no.9: 99-118 '59. (MIRA 14:1)
(Vegetables, Dried--Storage)

ROGACHEV, V.I.; FRUMKIN, M.L.; PAVLOVA, G.L.; DOZORETS, D.P.

Biochemical changes taking place in meat subjected to irradiation and during subsequent storage. Kons.i ov. prom. 15 no.6:13-15 Je '60. (MIRA 13:9)

1. TSentral'nyy nauchno-issledovatel'skiy institut konservnoy i ovoshchesushil'noy promyshlennosti.
(Meat--Sterilization)

ROGACHEV, V.I.; FRUMKIN, M.L.; KOVAL'SKAYA, L.P.; YEGOROVA, K.V.; DOROFEYEVA, Ye.V.

Certain factors causing the darkening of the tuber tissues of potatoes sterilized by ionizing radiation. Kons.i ov.prom. 15 no.8:11-15 Ag '60. (MIRA 13:8)

1. TSentral'nyy nauchno-issledovatel'skiy institut konservnoy i ovoshche-sushil'noy promyshlennosti.
(Potatoes) (Radiation sterilization)

ROGACHEV, V.I.; FRUMKIN, M.L.; KOVAL'SKAYA, L.P.; YEGOROVA, K.V.

Transformations of coloring matter in green peas during sterilization by heat and gamma rays. Kons.i ov.prom. 15 no.9:19-24 S '60. (MIRA 13:9)

1. TSentral'nyy nauchno-issledovatel'skiy institut konservnoy i ovoshchesushil'noy promyshlennosti.
(Peas--Sterilization) (Coloring matter)

FRUMKIN, M.L.; KOVAL'SKAYA, L.P.; DOROFEYEVA, Ye.V.

Transformations of fruit and berry anthocyanins in the course of sterilization by heat and γ-rays. Kons.i ov.prom. 16 no.5: 8-12 My '61. (MIRA 14:5)

1. TSentral'nyy nauchno-issledovatel'skiy institut konservnoy i ovoshchesushil'noy promyshlennosti.
(Fruit--Sterilization) (Anthocyanins)

FRUMKIN, M.L.; KOVAL'SKAYA, L.P.; YEGOROVA, K.V.; DOROFEYEVA, Ye.V.

Effect of the ionizing radiation on the amount and quality of grape juice. Konn. i ov. prom. 16 no.7:16-20 Jl '61. (MIRA 14:8)

1. TSentral'nyy nauchno-issledovatel'skiy institut konservnoy i ovoshchesushil'noy promyshlennosti.

(Grape juice) (Gamma rays--Industrial application)

FRUMKIN, M.L.; KOVAL'SKAYA, L.P.; YEGOROVA, K.V.; POVALYAYEVA, I.P.

Duration of clarification and the quality of grape juice treated with X-rays. Kons. i ov. prom. 16 no.9:8-13 S '61. (MIRA 14:8)

1. TSentral'nyy nauchno-issledovatel'skiy institut konservnoy i ovoshchesushil'noy promyshlennosti.
(Grape juice) (Gamma rays--Industrial application)

FRUMKIN, M.L.; PAVLOVA, G.L.; DOZORETS, D.P.

Qualitative changes of free amino acids of irradiated meat during storage. Kons. i ov. prom. 16 no.11:14-16 N '61. (MIRA 14:11)

1. TSentral'nyy nauchno-issledovatel'skiy institut konservnoy i ovoshchesushil'noy promyshlennosti.
(Meat—Preservation)
(Gammay rays—Industrial application)

FRUMKIN, M.L.; PAVLOVA, G.L.; DOZORETS, D.P.

Autolytic changes in irradiated meat in storage. Kons.i ov.prom. 17 no.2:4-6 F '62. (MIRA 15:5)

1. TSentral'nyy nauchno-issledovatel'skiy institut konservnoy i ovoshchesushil'noy promyshlennosti.
(Meat--Preservation)

FRUMKIN, M.L.; SHCHEGOLEVA, G.I.; BARSKAYA, E.M.

Use of rays for the disinfestation of food products. Kon.i ov. prom. 17 no.11:23-26 N '62. (MIRA 15:11)

1. TSentral'nyy nauchno-issledovatel'skiy institut konservnoy i ovoshchesushil'noy promyshlennosti.
(Insects in food)

FRUMKIN, M.L.; PAVLOVA, G.L.; DOZORETS, D.P.

Effect of gamma rays on some protein fractions of beef. Kons.i ov.prom. 18 no.1:19-22 Ja '63. (MIRA 16:2)

1. TSentral'nyy nauchno-issledovatel'skiy institut konservnoy i ovoshchesushil'noy promyshlennosti.
(Protein--Analysis) (Radiation sterilization)

FRUMKIN, N.B.; SKOPAROV, I.Ya.

Unify the efforts in constructing local roads. Avt. dor. no.10:20-21 O '64. (MIRA 17:12)

1. Starshiy inzh. otdela mestnykh dorog Glavnogo upravleniya shosseynykh dorog pri Sovete Ministrov BSSR (for Frumkin).

LEVCHENKO, G.I., admiral, otvetstvennyy red.; DEMIN, L.A., dots., kand. geogr. nauk, inzh.-kontr-admiral, glavnyy red.; [illegible], polkovnik, zamestitel' otvetstvennogo red.; ABAN'KIN, P.S., admiral, red.; ALAFUZOV, V.A., prof., kand. voenno-morskikh nauk, admiral, red.; ANAN'ICH, V.Ye., kontr admiral zapasa, red.; ACHKASOV, V.I., kand. istor. nauk, kapitan 1 ranga, red.; BARANOV, A.N., red.; BELLI, V.A., prof., kontr-admiral v otstavke, red.; BESKROVNYY, L.G., prof., doktor istor. nauk, polkovnik zapasa, red.; BOLTIN, Ye.A., kand. voen. nauk, general-mayor, red.; VERSHININ, D.A., kapitan 1 ranga, red.; VITVER, I.A., prof., doktor geogr. nauk, red.; GEL'FOND, G.M., dots., kand. voenno-morskikh nauk, kapitan 1 ranga, red., GLINKOV, Ye.G., inzh.-kontr-admiral v otstavke, red.; YELISEYEV, I.D., vitse-admiral, red.; ZOZULYA, F.V., admiral, red.; ISAKOV, I.S., prof., Admiral Flota Sovetskogo Soyuza, red.; KAVRAYSKIY, V.V. [deceased], prof., doktor fiz.-mat. nauk, inzh.-kontr-admiral v otstavke, red.; KALESNIK, S.V., red.; KOZLOV, I.A., dots. kand. voenno-morskikh nauk, kapitan 1 ranga, red.; KOMAROV, A.V., vitse-admiral, red.; KUDRYAVTSEV, M.K., general leytenant tekhnicheskikh voysk, red.; LYUSHKOVSKIY, M.V., dots., kand. istor. nauk, polkovnik, red.; MAKSIMOV, S.N., dots., kand. voenno-morskikh nauk, kapitan 1 ranga, red.; OKUN', S.B., prof., doktor istor. nauk, red.; ORLOV, B.P., prof., doktor geogr. nauk, red.; PAVLOVICH, N.B., prof., kontr-admiral v otstavke, red.; PANTELEYEV, Yu.A., admiral, red.; PITERSKIY, N.A., kand. voenno-morskikh nauk, kontr-admiral, red.; PLATONOV, S.P., general-leytenant, red.; POZNYAK, V.G., dots., general leytenant, red.; SALISHCHEV, K.A., prof., doktor tekhn. nauk,

(Continued on next card)

LEVCHENKO, G.I.---(continued) Card 2.

red.; SIDOROV, A.L., prof., doktor istor. nauk., red.; SKORODUMOV, L.A., kontr-admiral, red.; SNEZHINSKIY, V.A., prof., doktor voenno-morskikh nauk, inzh.-kapitan 1 ranga, red.; SOLOV'YEV, I.N., dots., kand. voenno-morskikh nauk, kapitan 1 ranga, red.; STALBO, K.A., kontr-admiral, red.; STEPANOV, G.A. [deceased], dots., vitse-admiral, red.; TOMASHEVICH, A.V., prof., doktor voenno-morskikh nauk, kontr-admiral v otstavke, red.; TRIBUTS, V.F., kand. voenno-morskikh nauk, admiral, red.; CHERNYSHOV, F.I., kontr-admiral, red.; SHVEDE, Ye.Ye., prof. doktor voenno-morskikh nauk, kontr-admiral, red.; CHURBAKOV, A.I., tekhn. red.; VASIL'YEVA, Z.P., tekhn. red.; VIZIROVA, G.N., tekhn. red.; GOROKHOV, V.I., tekhn. red.; GRIN'KO, A.M., tekhn. red.; KUBLIKOVA, M.M., tekhn. red.; MALINKO, V.I., tekhn. red.; SVIDERSKAYA, G.V., tekhn. red.; CHERNOGOROVA, L.P., tekhn. red.; GUREVICH, I.V., tekhn. red.; BUKHANOVA, N.I., tekhn. red.; NIKOLAYEVA, I.N., tekhn. red.; RADOVIL'SKAYA, E.O., tekhn. red.; TIKHOMIROVA, A.S., tekhn. red.; BELOCHKIN, P.D., tekhn. red.; LOYKO, V.I., tekhn. red.; ROMANYUK, I.G., tekhn. red.; YAROSHEVICH, K.Ye., tekhn. red.

[Sea atlas] Morskoi atlas. Otv. red. G.I. Levchenko. Glav. red. L.A. Demin. [Moskva] Izd. Glav. shtaba Voenno-morskogo flota. Vol.3. [Military and historical. Pt.1. Pages 1-45] Voenno-istoricheskii. Zamestitel' otv. red. po III tomu N.S. Frumkin. Pt.1. Listy 1-45. 1958. ____ [Military and historical maps, pages 46-52]

(Continued on next card)

LEVCHENKO, G.I.---(continued) Card 3.
Voenno-istoricheskie karty, listy 46-52. 1957. (MIRA 11:10)

1. Russia (1923- U.S.S.R.) Ministerstvo oborony. 2. Nachal'nik Glavnogo upravleniya geodezii i kartografii Ministerstva vnutrennikh del SSSR (for Baranov). 3. Chlen-korrespondent Akademii nauk SSSR (for Kalesnik). 4. Deystvitel'nyy chlen Akademii pedagogicheskikh nauk RSFSR (for Orlov).

(Ocean--Maps)

MUSTAFIN, I.S.; FRUMINA, N.S.; KOVALEVA, V.S.

Determination of copper in various substances with the aid of 2,2'-bicinchoninic acid. Zav.lab. 29 no.7:782-785 '63. (MIRA 16:8)

1. Nauchno-issledovatel'skiy institut khimii pri Saratovskom gosudarstvennom universitete.
(Copper--Analysis) (Cinchoninic acid)

BERG, S.L., polkovnik; VOROB'YEV, V.I., kapitan pervogo ranga; GIL'BO, G.M., kapitan pervogo ranga; ANANCHENKO, A.A.; BALAKSHINA, M.M.; BANNIKOV, B.S., kapitan vtorogo ranga; BAKHTINA, G.F.; BERENSHTAM, N.V.; BUTYRINA, N.Ya.; VOROB'YEV, V.I., kapitan pervogo ranga; GASS, I.P.; GINEVSH, N.S.; GLADIN, D.F., polkovnik; GOLOVANOVA, L.G., kand. ist. nauk; GOLUBEVA, Z.D., kand. filol. nauk; GONCHAROVA, A.I.; ZANADVOROVA, R.N.; IVANOVA, N.G.; KARAMZIN, G.B.; KOVAL'CHUK, A.S.; KRONIDOVA, V.A.; LITOVA, Ye.I.; MOLCHANOVA, T.I.; OKUN', L.S.; POCHEBUT, A.N.; RAYTSES, V.I.; SAVINOVA, G.N.; SENICHKINA, T.I.; SKRYNNIKOV, R.G., kand. ist. nauk; FURAYEVA, I.I.; CHIZHOVA, N.N.; YASINSKAYA, L.F.; GLADIN, D.F., polkovnik; LABETSKIY, Ye.F., podpolkovnik; LEBEDEV, S.M., kapitan pervogo ranga; ORDYNSKIY, N.I., kapitan pervogo ranga; NADVODSKIY, V.Ye., podpolkovnik; DEMIN, L.A., inzh.-kontr-admiral, glav. red.; FRUNKIN, N.S., polkovnik, zam. otv. red.; LEVCHENKO, G.I., admiral, red.; BAKHTINA, G.F., tekhn. red.

[Naval atlas] Morskoi atlas. n.p. Izd. Glavnogo Shtaba Voenno-Morskogo Flota. Vol.3. [Naval history] Voenno-istoricheskii. Pt.1. [Text for the maps] Opisaniia k kartam. 1959. xxii, 1942 p. (MIRA 15:5)

1. Russia (1923- U.S.S.R.) Ministerstvo oborony. (Naval history)

FRUMKIN, N.S., polkovnik zapasa

Who is the main culprit of the catastrophe at Pearl Harbor.
Mor. sbor. 46 no.10:90-94 O '63.

(MIRA 18:12)

FRUMKIN, O., akademik

Rebirth of electrochemistry. Nauka i zhyttia 12 no.3:26-29 Mr '63. (MIRA 16:11)

FRUMKIN, P.A.

Who discovered Cape Prince of Wales? Geog. v shkole no.6:59-61 N-D '53. (MLRA 6:12)
(Prince of Wales, Cape--Discoveries (in geography))
(Discoveries (in geography)--Prince of Wales, Cape)

FRUMKIN, P. A.,

"Notes on the History of Spitzbergen," Chronicles of the North; Yearbook of Historical Geography, History of Geographical Discoveries and Exploration of the North) v. 2, Moscow, Geografgiz, 1957. 279 p. (Akademiya nauk SSSR. Kommisiya po problemam Severa).

Editorial Borad: Andreyev, A. I., Belov, M. I., Burkhanov, V. F., Yefimov, A. V. (Resp. Ed.), Chernenko, M. B. (Deputy Resp. Ed.) and Shcherbakov, D. I.; Ed.: Vorontsova, A. I.; Tech. Ed.: Kosheleva, S. M.: Map. Ed.: Mal'chevskiy, G. N.

PURPOSE: The book is intended for readers interested in the Soviet Arctic.

COVERAGE: The present volume, the second of a series of three, is a collection of 27 articles by various authors presenting an hsitorical account of the exploration and economic development of the Soviet North. A small part of the book is devoted to Arctic areas beyond the confines of the Soviet Union. The aim of the book is to contribute to an understanding ofthe physical geography, cartography, ethnography, and economy of the Soviet North through a historical survey of these factors. A large number of authors explorers, scientists, travellers, pilots, navigators, etc., are cited.

FRUMKIN, P.A.

For the history of the discovery of Spitsbergen. Let. Sev. 2:142-147 '57. (MIRA 10:12)

1. Institut aeroklimatologii Glavnogo upravleniya gidrometeorologicheskoy sluzhby pri Sovete ministrov SSSR.
(Spitsbergen--Discovery and exploration)

FRUMKIN, P. B.

3800

Frumkin, P. B. On a theorem of D. F. Egorov on measurable functions. Doklady Akad. Nauk SSSR (N.S.) 66, 973–975 (1948). (Russian)

G. Tolstov has shown [C. R. (Doklady) Acad. Sci. URSS (N.S.) 22, 305–307 (1939)] that Egoroff's theorem does not hold for a continuous parameter. Now the author proves the following generalization of the theorem. If $f(t, s)$, $0 \leq t, s \leq 1$, is for every t measurable and almost everywhere finite, and if $\lim_{t \to t_0} f(t, s) = f(t_0, s)$ for almost all s, then to every $\epsilon, \delta > 0$ there exists a set E and a positive number φ such that $m(E) > 1 - \delta$ and $|t - t_0| < \varphi$ imply that ess bd $|f(t, s) - f(t_0, s)|$, for $s \in E$, is less than ϵ. Formally this theorem differs from Egoroff's theorem by the use of the essential bound in place of the bound. The proof uses Kantorovich's semi-ordered spaces and the following lemma. If (i) $f(t, s) \in L_s^p(0, 1)$, $p \geq 1$, for every t in $(0, 1)$, (ii) $\lim_{t_n \to t_0} f(t_n, s) = f(t_0, s)$ almost everywhere, (iii) $\sup_t f(t, s) \in L^p$, then for arbitrary $\epsilon, \delta > 0$ there exist a set E and a $\varphi > 0$ such that ess bd $|f(t, s) - f(t_0, s)| < \epsilon$ $(s \in E)$ for all $t \in (t_0 - \varphi, t_0 + \varphi)$. *František Wolf.*

Source: Mathematical Reviews, Vol 10 No. 4

FRUMKINA, R. A.

Flotation of oxidized lead minerals. S. I. Mitrofanov, V. G. Kuibnikova, and R. A. Frumkina. *Sbornik Nauch. Trudov Vsesoyuz. Nauch.-Issledovatel. Inst. Tsvetnykh Metal.* 1955 ... 1956

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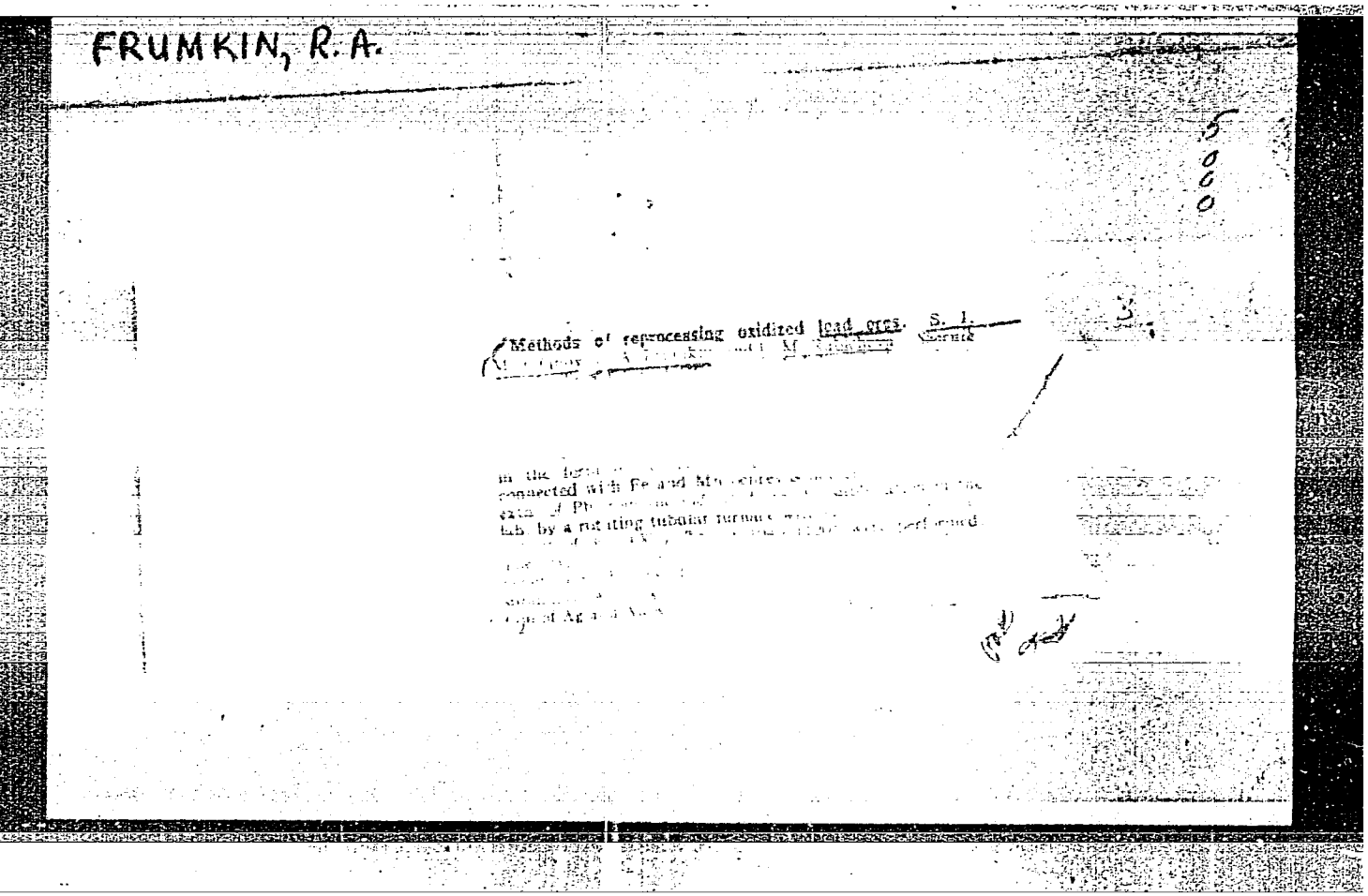

FRUMKIN, R.A.

Methods of reprocessing oxidized lead ores. S. I.

~~FROUMKINE, A~~

FROUMKINE, V. FRUMKIN, VA.

"La sulfidine dans la therapie des maladies internes." Froumkine, V., et Piacetskaia, A., (p. 423)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1940, Volume 18, no. 5.

FRUMKIN, V. A.

Arteries - Diseases

Intra-vitam diagnosis of periarteritis nodosa. Klin. med. 31, No. 1, 1953.

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

FRUMKIN, V.A. (Moskva)

Errors in the diagnosis of digestive intoxication. Fel'd i akush. 24 no.8:11-12 Ag '59. (MIRA 12:12)
(FOOD POISONING)

AP6035760 DJ

AUTHOR: Med, G. D.; Frumkin, V. B.

SOURCE CODE: UR/0413/66/000/019/0131/0131

ORG: none

TITLE: Fuel turbopump regulator. Class 60, No. 186863. [announced by Central Scientific Research Design and Planning Boiler and Turbine Institute im. I. I. Polzunov (Tsentral'nyy nauchno-issledovatel'skiy i proektno-konstruktorskiy kotloturbinnyy institut)

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 19, 1966, 131

TOPIC TAGS: fuel pump, aircraft fuel system, aircraft fuel pump, turbopump

ABSTRACT: The proposed regulator for maintaining a constant pressure in the pump pressure line contains a pressure transducer which transmits a pulse through an intermediate hydraulic amplifier to a spring loaded one-way servomotor. To increase stability and operational reliability, the servomotor piston imcorporates a bushing with a slide valve mounted in it which receives a pulse from the rpm transducer; the slide valve is connected by a rigid feedback to the intermediate amplifier for automatic continuous operation of the regulator according to the pressure and the rpm. In a variation of this device, to operate the regulator from the air speed transducer only, the intermediate amplifier is made in the form of a housing containing a movable bushing with a movable slide valve inside; the bushing also contains a limiter for the displacement of the slide valve of the transducer only, the servomotor has an immovable speed regulator slide (see Fig. 1). Orig. art. has:

UDC: 621.646.45; 621.675

SUB CODE: 21/ SUBM DATE: 26Apr65/ ATD PRESS: 5103

Card 1/2

S/115/61/000/003/010/013
B124/B204

9.4320 (1141,1143,1154)

AUTHOR: Frumkin, V. D.

TITLE: Particular features in the operation of thermistors during the action of a pulsed ultrahigh-frequency signal

PERIODICAL: Izmeritel'naya tekhnika, no. 3, 1961, 45-51

TEXT: The examination of the behavior of thermistors on feeding with alternating current of a frequency of several kcps showed that they may behave as elements of low inertia, which then results in the phenomena as deformation of the shape of the voltage in the thermistor fed with purely sinusoidal current, phase shift of voltage to current etc. The authors performed an exact calculation of the non-uniform current density (first described by M. V. Abrosimov and L. A. Lyubimov) over the cross section of a cylindrical semiconductor thermistor, assuming that 1) the length of the thermistor as compared to its radius is sufficiently great in order to make the heat transfer along the axis negligible; 2) the thermistor is fed with current limiting the energy liberated in the thermistor (and thus also limiting temperature), and 3) the temperature

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Particular features in the....

coefficient of conductivity does not depend on temperature. The thermal equilibrium equation and the boundary condition are then given in the form $d^2T/dr^2 + (1/r)\cdot(dT/dr) + (1/\varkappa)F = 0$ (1) and $(dT/dr + hT)_{r=a} = T_{av}$ (2), where T denotes temperature, $\varkappa$ the thermal conductivity coefficient, a the radius of the thermistor, h the heat exchange coefficient, T_{av} the surrounding temperature, $F = \sigma E^2$ the density of heat sources, σ the conductivity, and E the electrical field. The solution of (1) with consideration of (2) is given by the equation

$$T = T_{av} + \frac{1}{a}\left[\frac{I_0(pr)}{I_0(pa) - \frac{p}{h} I_1(pa)} - 1\right]. \qquad (3)$$

where a stands for the coefficient of temperature conductivity, $p = E\sqrt{\sigma_0 a/\varkappa}$, σ_0 the conductivity of the semiconductor at the temperature of the surrounding medium, I_0, I_1 the Bessel functions of zeroth and of first order, respectively. From (3) the author determined the maximum

Particular features in the...

current density ratio over the cross section of the thermistor whose parameters were identical to those of the TSh-2 (TSh-2) thermistor. The equation $T(r,t) = (P/4\pi^2\varkappa r)\sum_n (1/n)[\sin n\Omega t_i - j(1-\cos n\Omega t_i)]e^{-a_n r} \cdot e^{j(\Omega nt - a_n r)}$ (10), where t_i denotes the pulse duration, $n = 0,1,2,3..$, Ω the angular frequency of the pulse sequence, and $a_n = \sqrt{\Omega nc\varrho/2\varkappa}$ the expansion constant, shows that the heat propagation from a point source has the nature of a wave; a_n increases in proportion with $\sqrt{n}$, and with rising number of harmonics attenuation increases. When the energy dissipated periodically by short-time pulses is concentrated in a relatively small region of the semiconductor, heat exchange during one pulse sequence may be regarded a heat exchange between the active domain of the semiconductor and the remaining mass of the thermistor. The thermal balance equation $C(d\theta/dt) + K\theta = P(t)$ (C denoting the total heat content of the zone, K the heat transfer coefficient, θ the temperature change, P(t) the measured energy) (11) holds on the assumption that the energy transduced to the thermistor by a ultrahigh-frequency pulse signal is uniformly

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dissipated in the volume of the active zone, that the temperature of the active zone is equal at every moment, and that the specific heat and the coefficient of heat transfer between the zone and its environment do not depend on temperature. In the case of $t \to \infty$,

$$\theta_1 = \theta_0 \left[1 - e^{-\frac{t}{\tau}} \frac{1 - e^{-\frac{t_c - t_u}{\tau}}}{1 - e^{-\frac{t_c}{\tau}}} \right] \qquad (nt_c < t < nt_c + t_u) \qquad (12)$$

holds for the duration of pulse action, and

$$\theta_2 = \theta_0 \frac{1 - e^{-\frac{t_u}{\tau}}}{1 - e^{-\frac{t_c}{\tau}}} \cdot e^{-\frac{t - t_u}{\tau}} \qquad (nt_c + t_u < t < [n+1]t_c) \qquad (13)$$

for the time intervals between the pulses, where $\theta_0 = P/K$, and $\tau = C/K$ the time constant of heat exchange. On the condition $t_i \leqslant 0.1\tau$ and $\tau \leqslant 0.1t_c$,

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Particular features in the...

Eq. (12) is simplified to $\theta_1 = (P/C)t$ (15) and Eq. (13) to

$$\theta_i = \theta_0 \frac{t_u}{\tau} e^{-\frac{t-t_u}{\tau}} = \frac{Pt_u}{C} e^{-\frac{t-t_u}{\tau}} \quad (16)$$

whereas for temperature increase the expression $\theta_i = Pt_i/C = W_i/C$ holds (W_i denotes the energy of one pulse). The maximum change in resistance of the thermistor is described by the equation $\Delta R_\theta = R(0)-R(t_i) = R(t_i)-R(t_c)$ (22), or simpler by $R_o = a_o \theta_i R_o$ (a denotes the relative temperature sensitivity of the thermistor, R_o the d.c. resistance of the thermistor). The dependence of the change in d.c. resistance of the thermistor as caused by a high-voltage field arising from the applied ultrahigh-frequency energy is expressed by $R_i(P) = 2R_o k_1 U_o / n\left[\sqrt{(P/P_n) - 1} - \arccos \sqrt{(P_n/P)}\right]$ (29), where R_o denotes the resistance of the thermistor; k_1, U_o, and P_n are constants; n stands for the carrier concentration. There are 5 figures and 2 references: 1 Soviet-bloc and 1 non-Soviet-bloc.

Card 5/5

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9.3275

35643
S/589/61/000/053/001/008
B109/B104

AUTHOR: Frumkin, V. D.

TITLE: Error of the VIM-1 thermistor bridge in pulse power measurements

SOURCE: USSR. Komitet standartov, mer i izmeritel'nykh priborov. Trudy institutov Komiteta. no. 53(113). 1961. Issledovaniya v oblasti radiotekhnicheskikh izmereniy.. 21 - 28

TEXT: Pulse power measurements with the B.M-1(VIM-1) bridge have an error of up to 20% for pulse repetition frequencies between 50 and 400 pulses/sec. This is due to the fact in spite of the delayed action of the thermistor, every single pulse causes a slight change in the resistance of the thermistor (of the order of some ohms for the type Tsh-2(TSh-2) for pulse powers of approximately 10-5 joules). Apart from the high thermal time constant of some tenths of seconds, thermistors have another smaller time constant of 10 to 100 microseconds which is due to the low heat capacity between the current-carrying part and the remaining mass of the semiconductor. In the VIM-1 instrument (Fig. 2), the thermistor is in the main bridge CH, and its resistance is affected by the UHF signal to be measured. The feed-

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Error of the VIM-1 thermistor ...

back of the output voltage of the amplifier PY causes the formation of natural oscillations with lacking UHF signal (approximately 10^4 cps). If a UHF field is applied, these natural oscillations cease for t_{cp} seconds since the bridge is accurately tuned by the heating of the thermistor, the input voltage at the amplifier vanishes and controlling by the feedback mechanism is excessively delayed. The duration of cessation of natural oscillations, at a given pulse period t_c, only depends on the mean pulse power but not on the power of a single pulse so that $U_{\sim} = U_{=} \sqrt{t_c/(t_c - t_{cp})}$, where $U_{\sim}$ is the bridge voltage for pulse modulation in the keying intervals, $U_{=}$ is the bridge voltage for the nonmodulated signal of the same mean power as that of the pulse modulated signal. The ratio between the power of the nonmodulated signal $P_{изм}$ indicated by the millivoltmeter MB and the power of the pulse modulated signal $P_{изм\sim}$ is $\frac{P_{изм}}{P_{изм\sim}} = \sqrt{1 - t_{cp}/t_c}$. Since both signals actually have the same mean power, $P_{изм\sim} = P_{изм}$. The error

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Error of the VIM-1 thermistor ...

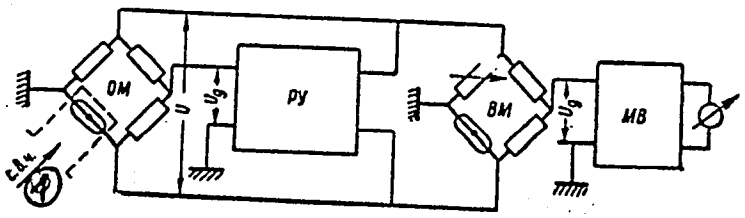
therefore is $\delta_{\text{п}} = \frac{P_{\text{изм}_{\text{п}}} - P_{\text{изм}}}{P_{\text{изм}}} = \sqrt{1-t_{\text{ср}}/t_{\text{с}}} - 1$.

The dependence of the error $\delta_{\text{п}}$ on $t_{\text{с}}$ and the pulse repetition frequency $F_{\text{п}}$ is shown in Fig. 6. There are 6 figures and 2 Soviet references.

ASSOCIATION: VNIIFTRI

SUBMITTED: January 8, 1960

Fig. 2. Circuit diagram of the bridge
Legend: OM - main bridge; PY - feedback amplifier; BM - auxiliary bridge; MB - millivoltmeter; (1) - UHF.



Card 3/4

BRYANSKIY, Lev Nikolayevich; FRUMKIN, V.D., kand. tekhn. nauk, nauchn. red.

[Exact microwave measurement of the coefficients of standing waves of voltage and total resistances] Tochnoe izmerenie koeffitsienta stoiachei volny napriazheniia i polnykh soprotivlenii na santimetrovykh volnakh. Moskva, Standartgiz, 1963. 141 p. (MIRA 17:5)

L 19676-65 EWT(d)/EWT(1)/EEC(k)-2/SEC-4/EWA(h) Po-4/Pq-4/Pe-4/Feb/Pk-4/Pl-4
SSD/AFWL

ACCESSION NR: AP4049082 S/0115/64/000/009/0043/0045

AUTHOR: Pronenko, V. I.; Frumkin, V. D.

TITLE: Checking power meters 26 B

SOURCE: Izmeritel'naya tekhnika, no. 9, 1964, 43-45

TOPIC TAGS: power meter, power measurement, SHF power measurement gm

ABSTRACT: An outfit for checking SHF-power meters is described; it consists (see Enclosure 1) of signal generator 1, directional coupler 2, fixed attenuator 3, thermistor head 4, thermistor bridge 5, coupling member 6, and wavemeter 7. The outfit can operate as a reference generator after an "attestation" is given to its power calibrator. The "attestation" includes determining, at rated frequencies, the ratio of the output power at attenuator 3 terminated by a matched load to the actual value of the equivalent power in head 4. Formulas for checking procedures, for the reflection factor of a reference power meter, and for the

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ACCESSION NR: AP4049082

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errors involved are presented. The principal purpose of the power calibrator is an overall check of low-power meters; however, the calibrator can also be used for checking (with an error of ± 0.25 db) the measuring receivers. "Engineers V. R. Grigorova and V. M. Samsonov, Designer A. F. Fedorova and Technician T. I. Politenkova took part in developing and testing the power calibrators." Orig. art. has: 1 figure and 12 formulas.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 01

SUB CODE: EC

NO REF SOV: 000

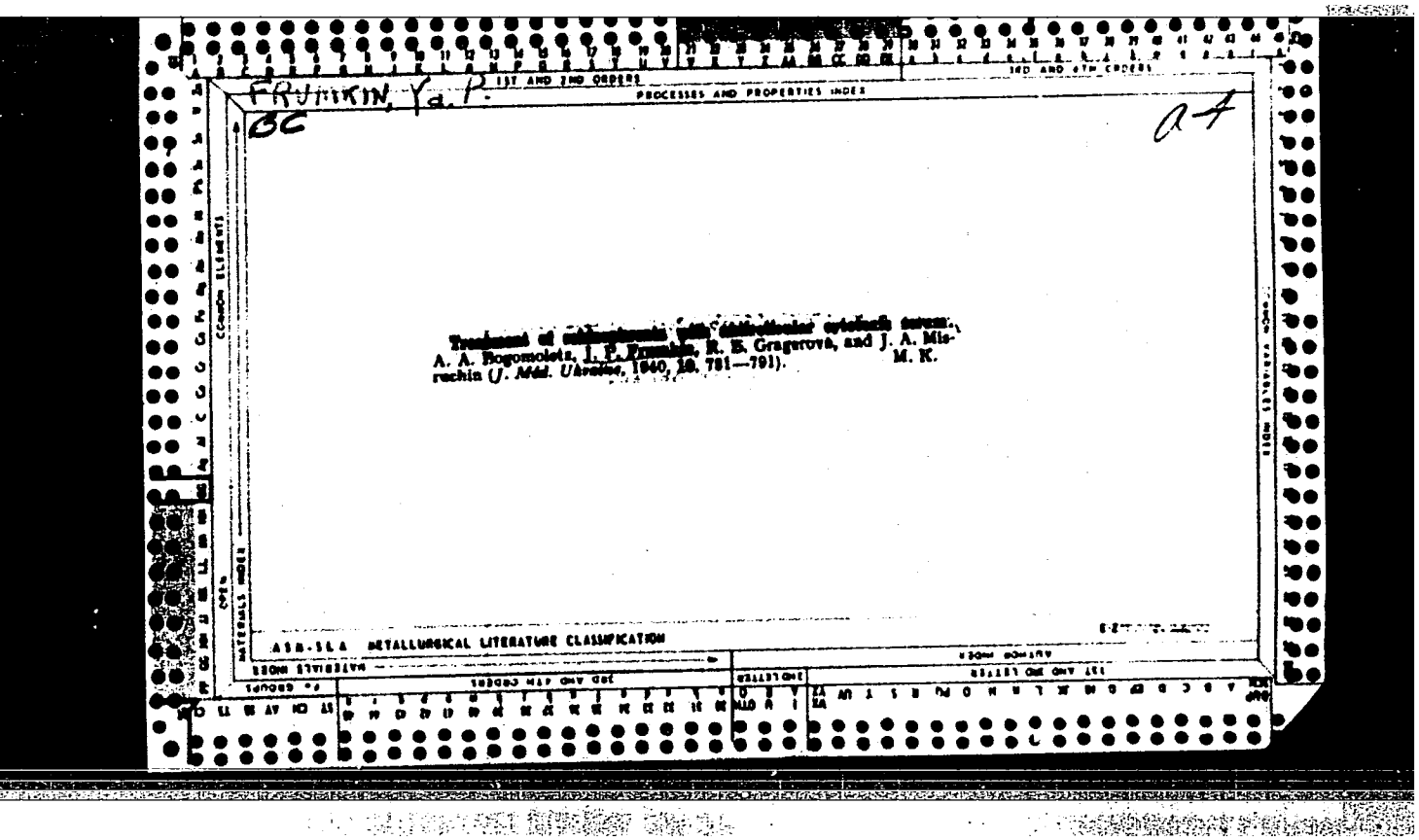
OTHER: 000

Card 2/3

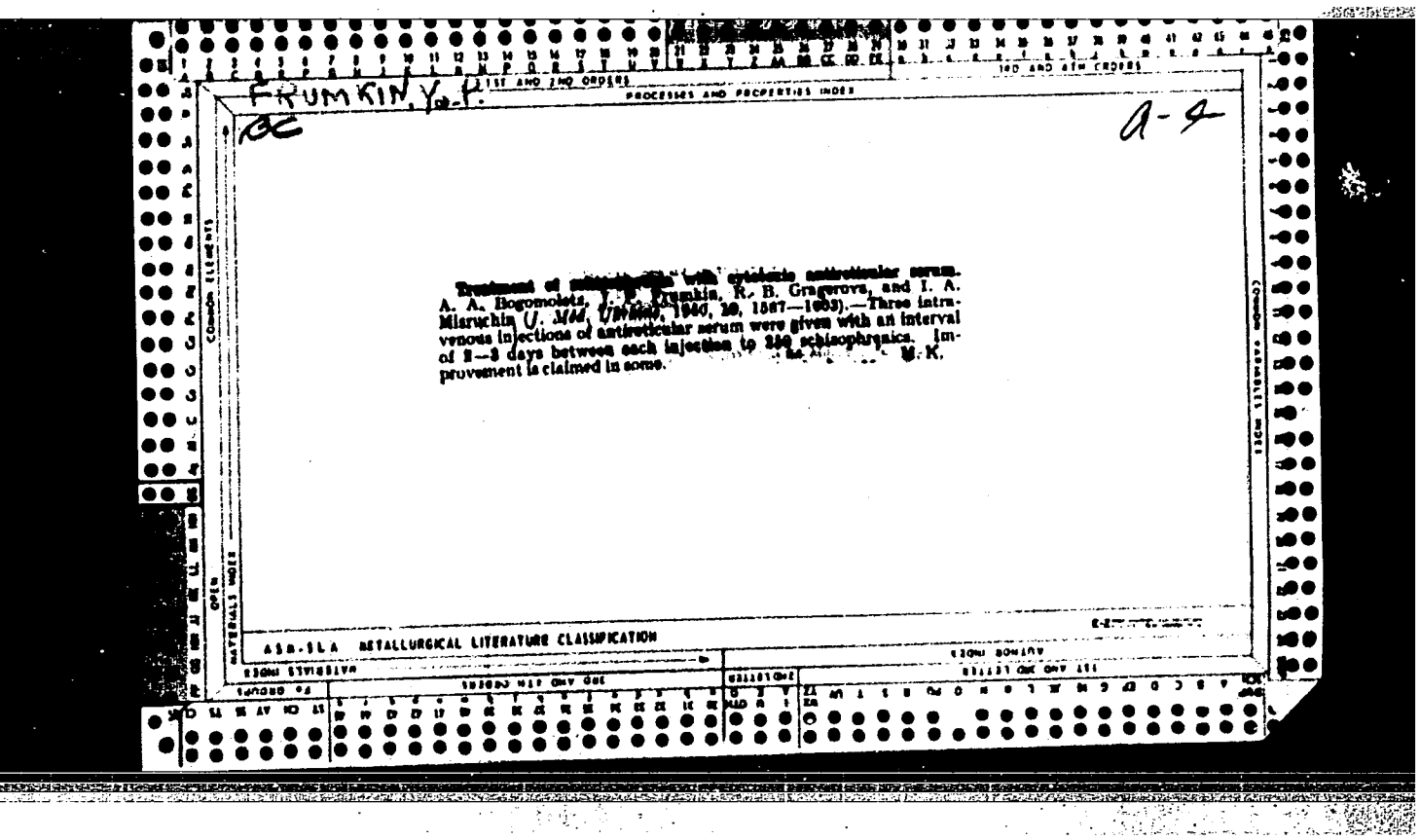
ERATUS', V.B., prof. red.; ZAYKO, N.I., prof. red.; [illegible],
L.B., prof., red.; PAMYAK, F.Ya., prof.red.; [illegible],
M.S., prof.red.; FRENKEL', Ya.I., prof. red.; [illegible]
Ye.I., prof. red.; CHERNYY, L.V., red.; [illegible],
P.Ya., red.

[Physiology and pathology of connective tissues] Fiziologiia i patologiia soedinitel'noi tkani. Kiev, Zdorov'ia, 1964. 251 p. (MIRA 18:1)

1. Kiev. Medychnyy instytut.



A. A. Bogomolets, I. P. Frumkin, R. E. Gregorova, and J. A. Mis-rechin *U. Mikr. Ukraine*, 1940, 10, 781—791). M. K.



FRUMKIN, YA. P., MAN'KOVSKIY, B.N.

35436. Opyt Prakticheskoy svyazi Kafedr /Kievskogo/ Med. Instituta s rayonnymi organizashchchyami zdravookhraneniya. Vrachsb. Delo, 1949, No. 11, stb. 1045-46.

Letopis' Zhurnal'nykh Statey, Vol. 48, Moskva, 1949

FRUMKIN, Ya. F.

32806. Frumkin, Ya. F.; Olivo, I. V.; i Mizrukhin, I. A. Elektrokaryvistyy son, elektroshok i elektro-narkoshok v lechenii i izuchenii shizofrenii i T. Nar. Tunkstional'noy psikhichyeskoy patologii. Trudy Kiyevsk. Nauch. - issled. Psikhonevrol. In-ta, T. XII, 1949, s. 175-82

SO: Letopis' Zhurnal'nykh Statey, Vol. 44, Moskva, 1949

FRUMKIN, Ya.P.

Lectures on psychiatry" delivered to students of the Dept. of Therapeutics of the Second Moscow Stalin Medical Institute during the fall semester 1952/53; selected chapters. O.V. Kerbikov. Reviewed by Ia. P. Frumkin. Zhur.nevr. i psikh. 55 no.11:869-870 '55. (MLRA 8:11)
(PSYCHIATRY) (KERBIKOV. O.V.)