SMITH, [illegible]

"Profile of a Tool Over[illegible] by the Rolling Method" Standard Instrument 19, No. 2 1[illegible]. EMIS.

Report [illegible], [illegible]. 1[illegible].

SHISHKOV, . A., Engineer

"Measuring Worm with Rollers", Stanki i Instrument, M., no.2. 1953.

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[redacted], . A., Engineer

"Setting Up the Profile of a Tool or Work Piece by the Graphic Folding Method", [redacted] Instrument, 1k, No. 3, 1943.

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Podbor zubchatykh koles. Moskva, Mashgiz, 1946. 206 p. diagrs.

Matching gear wheels.

DLC: TJ184.S5

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

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"Cutting Angles of Tools in Complex Movements."
Stanki i Instrument, 17, no. 10, 1946.

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SHISHKOV, V. A.

Shishkov, V. A. - "Determination of the profile linked with a given profile when burnishing," Trudy ENIMS(Eksperim. nauch.-issled. in-t metallorezhushchikh stankov), Issue 1, 1948, p. 3[illegible]-65

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949.)

SHTSHKOV, V. A.

Korrigirovanie kontakta globoidnykh peredach. (Vestn. Mash., 1950, no. 11, p. 12-16)

Adjusting the contact of cone drives.

DLC: TN4.V4

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

SHISHKOV, V.A.,doktor tekhn.nauk

Using the kinematic method in investigating pairs of gears and their machining. Izv.vys.ucheb.zav.; mashinostr. no.5:121-131 '58. (MIRA 12:5)

1. Moskovskiy vecherniy mashinostroitel'nyy institut.
(Gearing) (Gear cutting)

SOV/115-58-6-6/15

AUTHOR: Shishkov, V.A.

TITLE: Determination of the Errors in Mechanisms with Lower Pairs (Opredeleniye oshibok mekhanizmov s nizshimi parami)

PERIODICAL: Izmeritel'naya tekhnika, 1958, Nr 6, pp 12-15 (USSR)

ABSTRACT: If there are errors in the design of a mechanism consisting of links etc., the error multiplies in the following links. Academician N.G. Bruyevich proposed a graphical method for determining the small shifts caused by the leading link. The diagram of small shifts has much in common with a diagram of speeds. The difference, however, is that every point is moved by the wrong shift from its ideal position. In Figure 1 the point B may be shifted along the line AB due to a change in length of the link and perpendicularly to line AB due to a change of the angle. Tangential shifts are determined by the proportion of their distances from the center of turning (Figure 2). The plotting of a diagram of small shifts for a crank mechanism is shown in Figure 3. More complicated

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Determination of the Errors in Mechanisms with Lower Pairs

cases are illustrated in Figures 4 and 5. The described method may be used for finding the influence of the error of the various links on the error of the leading link as well as on the error of any other link.
There are 5 diagrams.

SHISHKOV, V.A.

Fundamentals for precision design of gear-cutting and screw-cutting machines. Stan.i instr. 29 no.1:4-7 Ja '58. (MIRA 11:1)
(Gear-cutting machines)
(Screw-cutting machines)

AVRUTIN, S.V., inzh.; BAKLUNOV, Ye.D., kand.tekhn.nauk; GLEYZER, L.A., kand.tekhn.nauk; YEFIMOV, V.P., kand.tekhn.nauk; KARTSEV, S.P., inzh.; KEDRINSKIY, V.N., inzh., laureat Leninskoy premii; KORZINKIN, V.I., inzh.; KOSILOVA, A.G., kand.tekhn.nauk; MALOV, A.N., kand.tekhn.nauk; MATYUSHIN, V.M., doktor tekhn.nauk; OSTRETSOV, G.V., kand.tekhn.nauk; PANCHENKO, K.P., kand.tekhn. nauk; PARFENOV, O.D., kand.tekhn.nauk; ROZHDESTVENSKIY, L.A., kand. tekhn.nauk; ROMANOV, V.F., kand.tekhn.nauk; SAVERIN, M.M., doktor tekhn. nauk; SAKHAROV, G.N., kand.tekhn.nauk; SOKOLOVSKIY, I.A., inzh.; FRUMIN, Yu.L., inzh.; SHISHKOV, V.A., doktor tekhn.nauk; ACHERKAN, N.S., prof., doktor tekhn.nauk, glavnyy red.; VLADISLAVLEV, V.S., red. [deceased]; POZDNYAKOV, S.N., red.; ROSTOVYKH, A.Ya., red.; STOLBIN, G.B., red.; CHERNAVSKIY, S.A., red.; KARGANOV, V.G., inzh., red. graficheskikh rabot; GIL'DENBERG, M.I., red.izd-va; SOKOLOVA, T.F., tekhn.red.

[Metalworking handbook; in five volumes] Spravochnik metallista v piati tomakh. Chleny red.soveta: V.S.Vladislavlev i dr. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry. Vol.5. 1960. 1184 p. (MIRA 13:5)

(Metalwork)

SHISHKOV, V.A., doktor tekhn.nauk, prof.

Analyzing errors in kinematic chains of machinery. Vzaim.i tekh. izm.v mashinostr.; mezhvuz.sbor. no.3:102-121 '61. (MIRA 14:8)

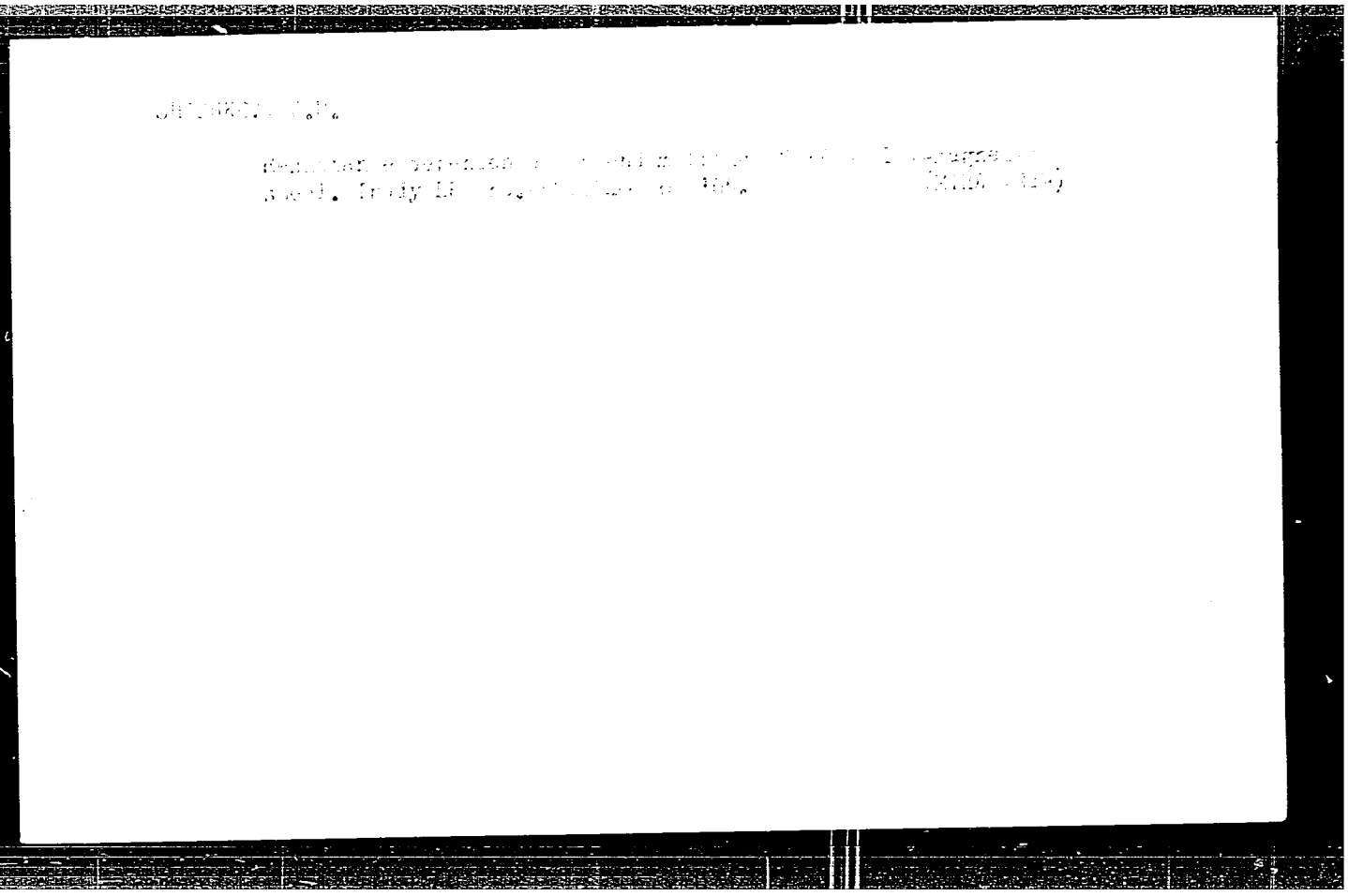
(Machinery, Kinematics of)

SHISKHOV, V.A.; SHILOVA, Ye.A.

Analyzing cyclic errors of thread-grinding and screw-cutting machines.
Stan. i instr. 34 no.2:22-24 F '63. (MIRA 16:5)
(Screw-cutting machines)

PETRIK, M.I.; SHISHKOV, V.A.

[Tables for the selection of cog wheels] Tablitsy dlia podbora zubchatykh koles. Izd.2., perer. i dop. Moskva, Izd-vo "Mashinostroenie," 1964. 450 p.
(MIRA 17:6)



GOROSHKOV, Yu.N., kand. tekhn. nauk; KUPTSOV, Yu.Ye., inzh. SHISHKOV, V.F., inzh.

Boltless clip for contact conductors developed by the Central Scientific Research Institute of the Ministry of Railroad Transportation. Vest. TSNII MPS 18 no.7:61-63 N '59. (MIRA 13:2)

(Electric railroads--Wires and wiring)

GOROSHKOV, Yu.I., kand.tekhn.nauk; SHISHKOV, V.F., inzh.

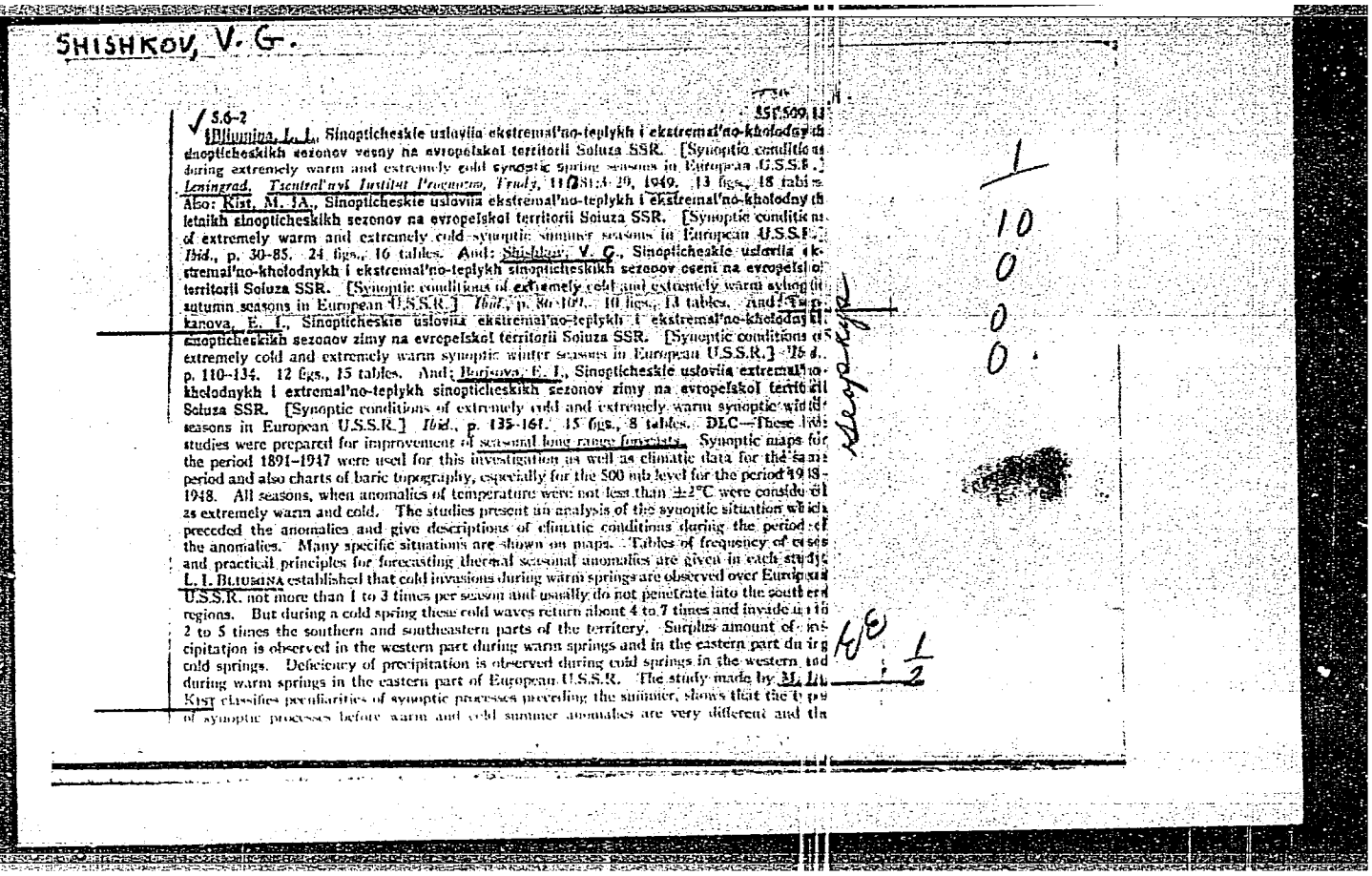
Small sectional insulators with insulating inserts made from glass textolite. Vest. TSNII MPS 17[i.e. 19] no.7:38-40 '60. (MIRA 13:11)

(Electric insulators and insulation)
(Glass reinforced plastics)

BILIK, Sh.M., doktor tekhn.nauk; GOROSHKOV, Yu.I., kand.tekhn.nauk;
SHISHKOV, V.F., inzh.

Plastic wire clamps. Elek. i tepl. tiaga 4 no.11:12-14 N '60.
(MIRA 13:12)

(Electric railroads—Wires and wiring)



SHISHKOV, V. G.

5.6-2

551.509.11

Bliumina, L. L., Sinopticheskie uslovila ekstremal'no-teplykh i ekstremal'no-kholodnykh sinopticheskikh sezonov vesny na evropeiskoi territorii Soiuza SSR. [Synoptic conditions during extremely warm and extremely cold synoptic spring seasons in European U.S.S.R.] Leningrad, Tsentral'nyi Institut Prognozov, *Trudy*, 11(81):3-29, 1949. 13 figs., 18 tables. Also: Kist, M. IA., Sinopticheskie uslovila ekstremal'no-teplykh i ekstremal'no-kholodnykh letnikh sinopticheskikh sezonov na evropeiskoi territorii Soiuza SSR. [Synoptic conditions of extremely warm and extremely cold synoptic summer seasons in European U.S.S.R.] *Ibid.*, p. 30-85. 24 figs., 16 tables. And: Shishkov, V. G., Sinopticheskie uslovila ekstremal'no-kholodnykh i ekstremal'no-teplykh sinopticheskikh sezonov oseni na evropeiskoi territorii Soiuza SSR. [Synoptic conditions of extremely cold and extremely warm synoptic autumn seasons in European U.S.S.R.] *Ibid.*, p. 86-109. 10 figs., 13 tables. And: Tsyplakova, E. I., Sinopticheskie uslovila ekstremal'no-teplykh i ekstremal'no-kholodnykh sinopticheskikh sezonov zimy na evropeiskoi territorii Soiuza SSR. [Synoptic conditions of extremely cold and extremely warm synoptic winter seasons in European U.S.S.R.] *Ibid.*, p. 110-134. 12 figs., 15 tables. And: Berjsova, E. I., Sinopticheskie uslovila extremal'no-kholodnykh i extremal'no-teplykh sinopticheskikh sezonov zimy na evropeiskoi territorii Soiuza SSR. [Synoptic conditions of extremely cold and extremely warm synoptic winter seasons in European U.S.S.R.] *Ibid.*, p. 135-161. 15 figs., 8 tables. DLC—These investigations studies were prepared for improvement of seasonal long range forecasts. Synoptic maps for the period 1891-1947 were used for this investigation as well as climatic data for the same period and also charts of baric topography, especially for the 500 mb level for the period 1918-1948. All seasons, when anomalies of temperature were not less than ±2°C were considered as extremely warm and cold. The studies present an analysis of the synoptic situation which preceded the anomalies and give descriptions of climatic conditions during the period of the anomalies. Many specific situations are shown on maps. Tables of frequency of cases and practical principles for forecasting thermal seasonal anomalies are given in each study. L. I. Bliumina established that cold invasions during warm springs are observed over European U.S.S.R. not more than 1 to 3 times per season and usually do not penetrate into the south of regions. But during a cold spring these cold waves return about 4 to 7 times and invade 2 to 5 times the southern and southeastern parts of the territory. Surplus amount of precipitation is observed in the western part during warm springs and in the eastern part during cold springs. Deficiency of precipitation is observed during cold springs in the western and during warm springs in the eastern part of European U.S.S.R. The study made by M. Ia. Kist classifies peculiarities of synoptic processes preceding the summer, shows that the types of synoptic processes before warm and cold summer anomalies are very different and the

[illegible] , . .

"Problem of the Principal Synoptic Method for Long-Range Forecasts of Weather"
Meteorol. i Gidrol, Iya, No 1, [illegible], 1954

Polemic with P. S. Astapenko in connection with his article on the same theme. (See RZhMet, 1954, [illegible].) (RZhMeteorol, No 1, 1955)

SO: Sum. 402, 12 May 55

SHISHKOV, V. G.

"Certain Refinements in the Procedure for Forecasting the Extremely Warm and Extremely Cold Synoptic Seasons of Autumn".
Tr. Tsentr. in-ta, prognozov, No 36, pp 19-36, 1954.

The types of synoptic processes observed and predominating in synoptic seasons of the second half of summer which precede extremely warm autumnal seasons are determined, together, with indications as to the frequency of those processes that ensure temperature extremes in autumn. (RZhGeol, No 9, 1955)

SO: Sum No 884, 9 Apr 1956

SHISHKOV, V.G.

AID P - 2602

Subject : USSR/Meteorology

Card 1/2 Pub. 71-a - 5/26

Author : Shishkov, V. G.

Title : Importance of certain features of current seasonal periods based on synoptic charts for the prognostication of the next seasonal period

Periodical : Met i gidr, 4, 28-31, Jl/Ag 1955

Abstract : The article deals with short-range weather forecasting based on synoptic charts of previous seasonal weather conditions. The author maintain that analogous conditions at a given period are not necessarily followed by analogous seasonal weather conditions in the next period. A table listing errors in forecasting based on synoptic charts is given. The use of synoptic chart forecasting is recommended only for long-range weather prognosis. Three Russian references, 1940-1950.

SHISHKOV, V.G.

Regularities in the development of atmospheric processes. Meteor. i gidrol. no.7:12-16 Jl '57. (MLRA 10:8)
(Atmosphere)

SHISHKOV, V.G.

Method of preparing monthly weather forecasts based on the repetition of synoptic processes. Trudy TSIP no.71:17-26 '58. (MIRA 11:12)

(Weather forecasting)

SHISHKOV, V.G.

Studying analogous conditions in atomspheric ciruclation and weather. Trudy TSIP no.89:150-157 '60. (MIRA 14:3)
(Weather forecasting)

SHISHKOV, V.G.

Use of foreign methods in monthly weather forecasting under conditions prevailing in the European part of the U.S.S.R. and Western Siberia. Meteor. i gidrol. no.9:29-33 S '61. (MIRA 14:8)

(Weather forecasting)

ACCESSION NR: AP4022214 S/0050/64/000/003/0036/0041

AUTHOR: Shishkov, V. G. (Candidate of geographical sciences)

TITLE: Some questions on the synoptic method of long range weather forecasting

SOURCE: Meteorologiya i gidrologiya, no. 3, 1964, 36-41

TOPIC TAGS: synoptic method, weather forecasting, long range weather forecasting, analogue characteristic, reciprocal characteristic, reciprocal synoptic process, analogue process

ABSTRACT: The author has examined critically some methods of weather forecasting, particularly the method of Z. L. Turketti, who maintains that an analysis of the similarity of average values of H_{500} on maps for a synoptic period by means of the parameter ρ_Σ is more objective and more fundamental in weather prediction than any other method yet employed. This parameter represents the total characteristics of coincidence in direction of the zonal (ρ_λ) and meridional (ρ_φ) components of flow on two charts of At_{500}. Since the components range from +1 to -1, ρ_Σ ranges

Card 1/2

ACCESSION NR: AP4022214

from -2 to +2. The author considers this parameter in various aspects and numerical values, from analogue and reciprocal approaches. He computes the value from maps showing average values of H_{500} for synoptic periods, and he demonstrates from this that the parameter cannot reflect the analogue character of weather development during a synoptic period. His analysis of results obtained by using the parameter indicates that these results very commonly distort actual similarity during development of two synoptic periods, especially when one employs reciprocal synoptic processes. The author concludes, therefore, that ρ_Σ is not satisfactory in forecasting. He discusses other factors that indicate Turketti's criteria for prediction are invalid. Orig. art. has: 1 figure and 1 table.

ASSOCIATION: Tsentral'ny*y institut prognozov (Central Forecasting Institute)

SUBMITTED: 00 DATE ACQ: 08Apr64 ENCL: 00

SUB CODE: AS NO REF SOV: 008 OTHER: 000

Card 2/2

SHISHKOV, V.G., kand. geogr. nauk

Spring. Zem.i vsel. 1 no.2:84-85 Mr-Ap '65. (MIRA 18:8)

ACC NR: AP6035695 (N) SOURCE CODE: UR/0413/66/000/019/0043/0043

INVENTOR: Vorontsov, Ye. S.; Pashkeyev, I. Yu.; Mikhaylov, G. G.; Shishkov, V. I.

ORG: none

TITLE: Method of copper foil production. Class 18, No. 186527 [announced by the Chelyabinsk Polytechnic Institute (Chelyabinskiy politekhnicheskiy institut)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 19, 1966, 43

TOPIC TAGS: copper foil, ~~shaped copper foil~~, ~~shaped copper foil production~~ copper, metal foil, sheet metal

ABSTRACT: This Author Certificate introduces a method of copper-foil production. To obtain foil of various thicknesses and configurations without strain hardening, the copper blank is subjected to oxidation at 750—800C for 1—1.5 hr with subsequent reduction of the oxide film in a hydrogen atmosphere at 500—600C for 3—5 min, and separation of cooled foil from the blank.

SUB CODE: 13/ SUBM DATE: 25Jun65/

Card 1/1 UDC: 621.785.33:621.785.34.062-416.002.2

SHISHKOV, V.I. (Deputy Chief), IVANTSOV, L. I. (Head Veterinary Doctor, Administration of Veterinary Medicine, Ministry of Agriculture, RSFSR).

"Timely implementation of measures in cases of subcutaneous Tabanus..."
Veterinariya, vol. 39, no. 3, March 1962 pp. 9.

[illegible], G.F. [Ivymin, H.F.]; [illegible], V.I. [Shyshko, V.I.]; [illegible], P.I.

Use of porous glass in filtration. Khim. prom. [Ukr.] no.4:71-72 [illegible]. (MIRA 17:6

SHISHKOV, V.M., inzh.; SOCHENOV, V.N., inzh.; ANDREYEV, M.M., inzh.; BUGLAYEV, V.I., inzh.

Studying the full-scale section of a plate type regenerator of gas-turbine locomotives. Trudy BITM no.21:94-100 '64.
(MIRA 18:8)

YEVSEYEV, V.V., kand. tekhn.nauk, dotsent; SHISHKOV, V.M., inzh.

Study of the heat exchange and resistance of tubes finned with corrugated strips. Izv. vys. ucheb. zav.; energ. 8 no.5:106-110 My '65. (MIRA 18:6)

1. Bryanskiy institut transportnogo mashinostroyeniya. Predstavlena kafedroy teplotekhniki.

MITROFANOV, Yuriy Mikhaylovich. Prinimali uchastiye: SHISHKOV, V.N., inzh.; KRESTNIKOV, I.L., inzh.; IVANOVSKAYA, K.M., red.; BODANOVA, A.P., tekhn. red.

[Reinforced concrete sectional spans] Zhelezobetonnye chlenennye proletnye stroeniia. Moskva, Avtotransizdat, 1963. 55 p. (MIRA 17:4)

SHISHKOV, V.F., Cand Vet Sci--(diss) "Pathomorphologic changes of the cardio-vascular system in highly productive cows [illegible] disturbances of metabolism." [illegible]s, 1958. 18 pp (Mos Vet Acad of Agr USSR), 140 copies (KL, 28-58, 117)

-32-

VERTINSKIY, K. I. (Professor), SHISHKOV, V. P. (Candidate of Veterinary Sciences, Moscow Veterinary Academy).

"Diagnosis and pathogensis of serious forms of acetonemia..."
Veterinariya, vol. 39, no. 2, February 1962 pp. 43

SHISHKOV, V. P. and SHATKINA, T. N. (Acad of Medical Sci USSR)

"Synthesis of Organic Preparations, Tagged With Isotope C^{14}, From Acetylene"

Isotopes and Radiation in Chemistry, Collection of papers of 2nd All-Union Sci. Tech. Conf. on Use of Radioactive and Stable Isotopes and Radiation in National Economy and Science, Moscow, Izd-vo AN SSSR, 1958, 380pp.

This volume published the reports of the Chemistry Section of the 2nd AU Sci Tech Conf on Use of Radioactive and Stable Isotopes and Radiation in Science and the National Economy, sponsored by Acad Sci USSR and Main Admin for Utilization of Atomic Energy under Council of Ministers USSR Moscow 4-12 Apr 1957.

SHISHKOV V. P.

PHASE I BOOK EXPLOITATION SOV/4563

Metody polucheniya i issledovaniya radioaktivnykh preparatov; sbornik statey (Methods for the Production and Measurement of Radioactive Preparations; Collection of Articles) Moscow, Atomizdat, 1960. 307 p. Errata slip inserted. 6,000 copies printed.

General Ed.: Valeriy Viktorovich Bochkarev; Ed.: M.A. Saguro; Tech. Ed.: N.A. Vlasova.

PURPOSE: This collection of articles is intended for scientific and technical personnel working in the production of radioactive isotopes.

COVERAGE: The collection contains original studies on methods of obtaining and measuring radioactive preparations. According to the foreword, the articles contain new data and are of theoretical or practical interest to the extent that they discuss methods or give process information. In addition to several survey articles the collection contains discussions on the production of radioactive isotopes and inorganic radioactive preparations, including a number of carrier-free isotopes and several methods for preparing therapeutic preparations. Also discussed are methods for preparing a number of tagged organic compounds, problems in the analysis of tagged organic compounds, the absolute and relative measurement of activity, and the radiometric analysis of preparations. New instruments and equipment are described and instructions for operating measurement methods and technique are included. V.I. Gervin, Candidate of Chemical Sciences, V.P. Shishkov, Candidate of Technical Sciences, I.N. Bukharov, Candidate of Chemical Sciences, and V.I. Shostak, Candidate of Chemical Sciences, are mentioned as having helped directly in the selection and preparation of the material for publication. References accompany each article.

TABLE OF CONTENTS:

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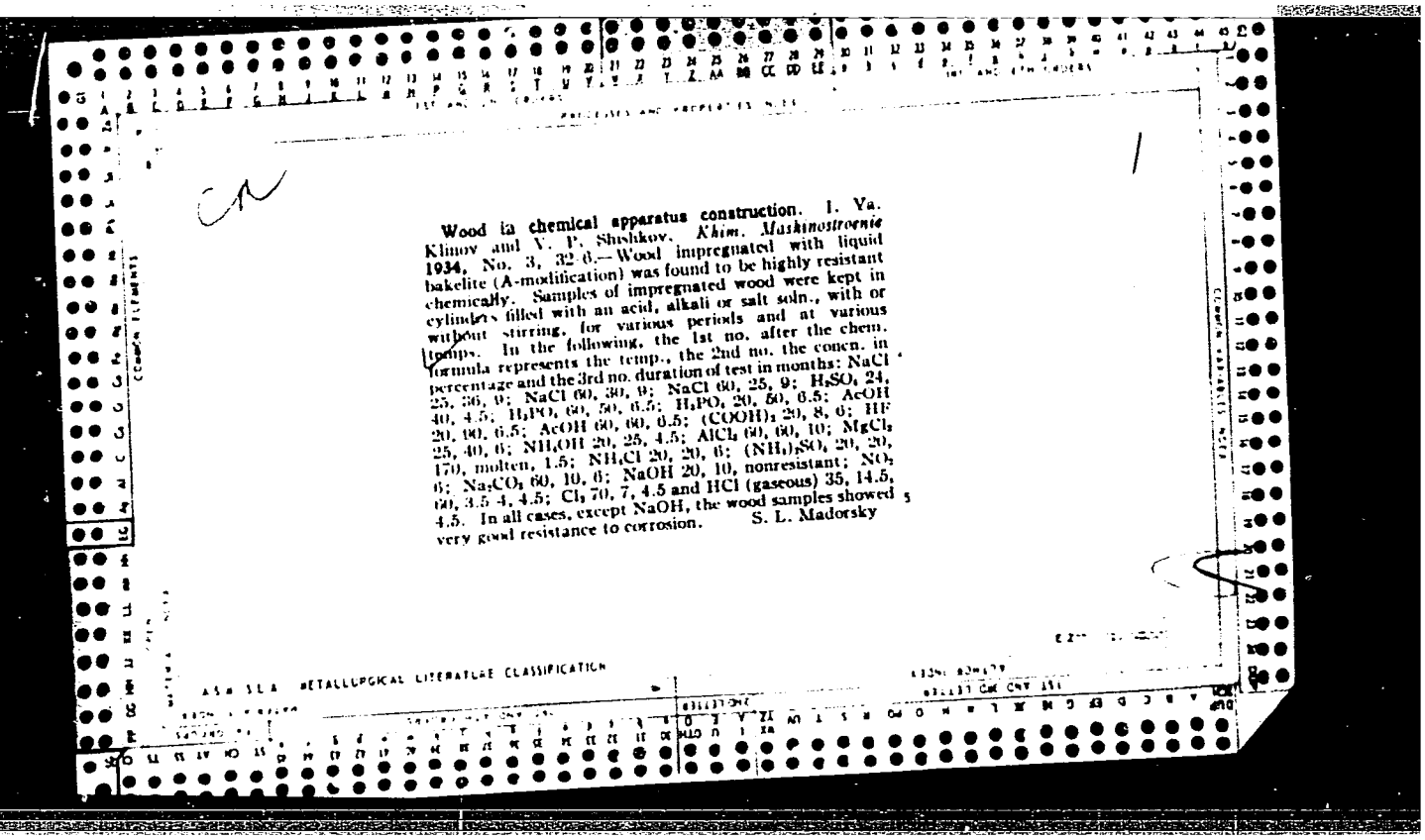
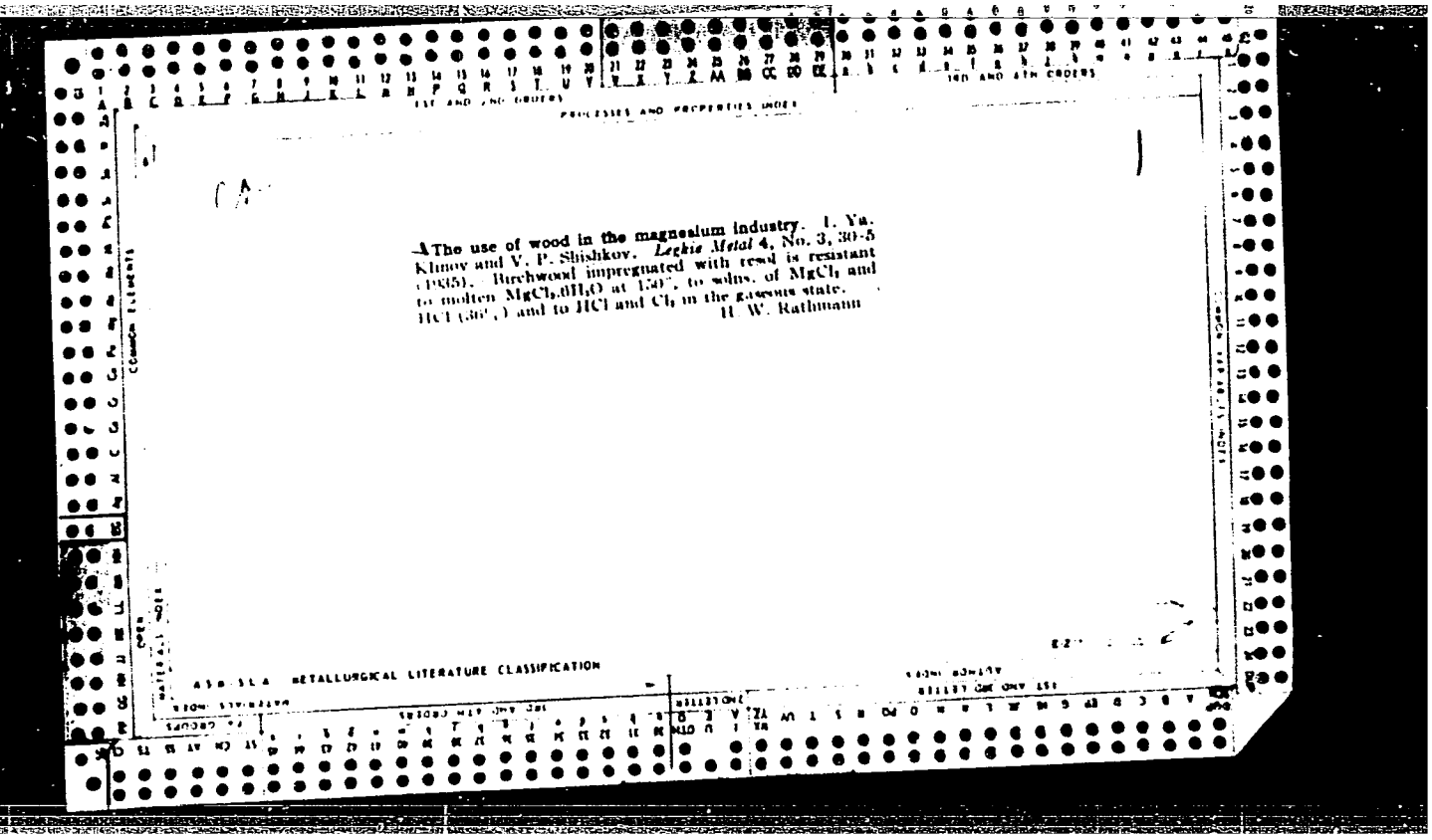
SHISHKOV, V.P., dotsent; BABAK, I.M., aspirant; SOLOV'YEV, F.A., dotsent; DANILEVSKIY, V.M., dotsent; VISHNYAKOV, S.I., dotsent; TITOV, G.I.; OKUNTSOV, L.P.; AFANAS'YEV, V.P.; ZHAROV, A.V., assistent; SLUGIN, V.S.; KRYLOV, O.N., aspirant

Noninfectious diseases. Veterinariia 41 no.4:64-80 Ap '64. (MIRA 17:8)

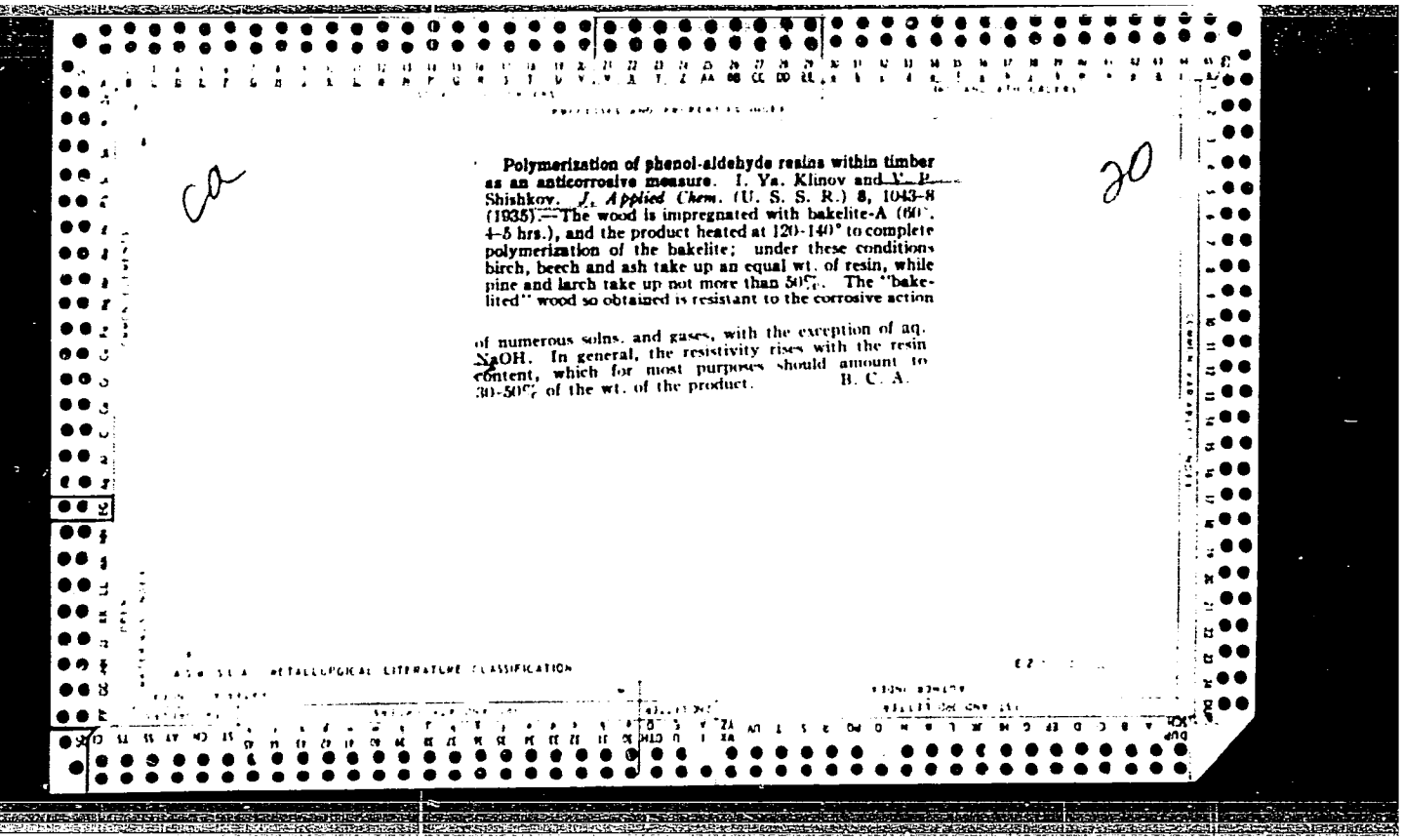
1. Moskovskaya veterinarnaya akademiya (for Shishkov, Zharov). 2. Belotserkovskiy sel'skokhozyaystvennyy institut (for Babak). 3. Velikolukskiy sel'skokhozyaystvennyy institut (for Solov'yev). 4. Kurskiy sel'skokhozyaystvennyy institut (for Vishnyakov). 5. Zaveduyushchiy otdelom nezaraznykh zabolevaniy Buryatskoy nauchno-proizvodstvennoy veterinarnoy laboratorii (for Titov). 6. Zaveduyushchiy Berezovskoy veterinarnoy laboratoriyey, Volgogradskaya obl. (for Okuntsov). 7. Nauchno-issledovatel'skiy institut sel'skogo khozyaystva Kraynego Severa (for Afanas'yev). 8. Pushkinskiy zverosovkhoz Moskovskoy oblasti (for Slugin). 9 Leningradskiy veterinarnyy institut (for Krylov).



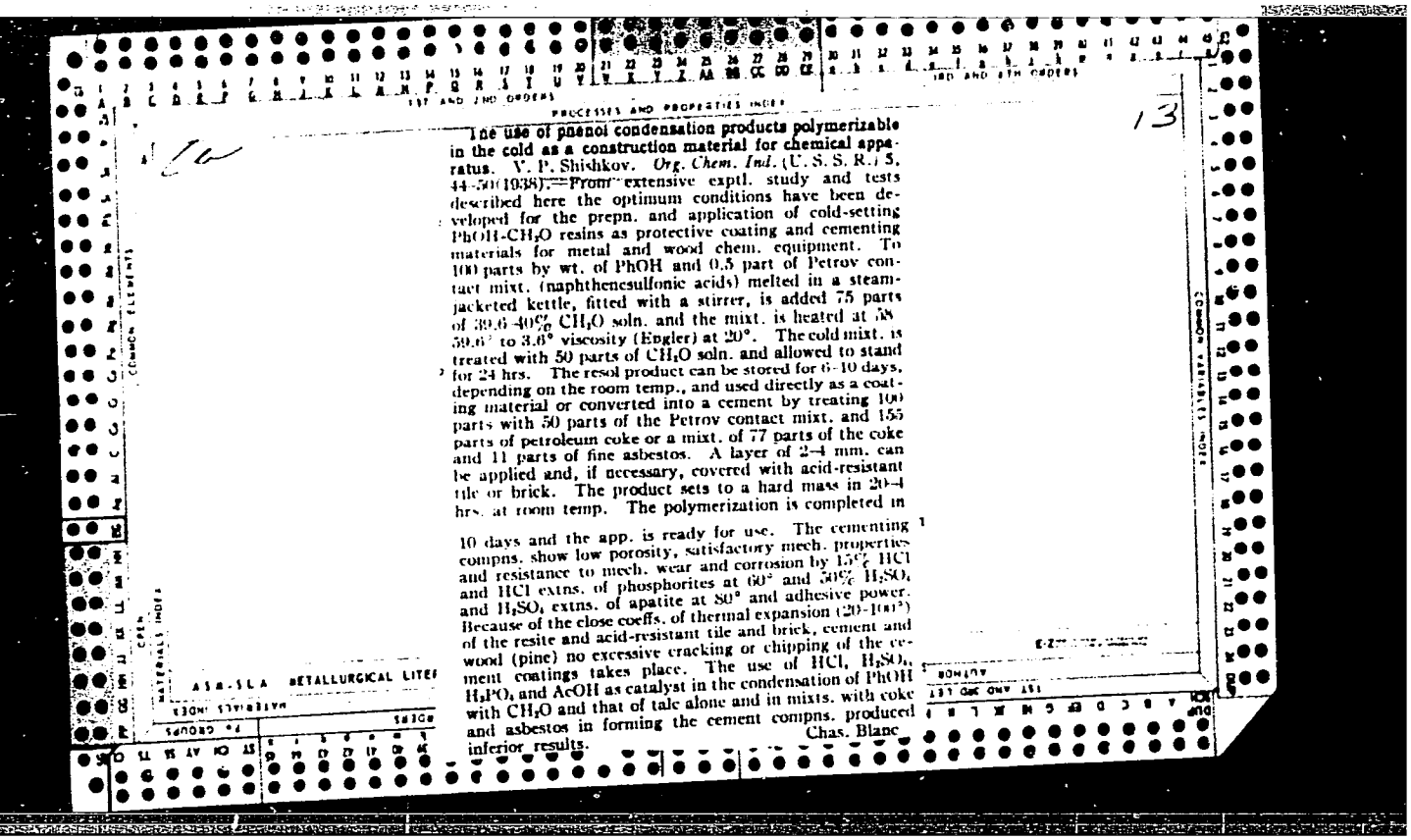
Wood in chemical apparatus construction. I. Va. Klinov and V. P. Shishkov. *Khim. Mashinostroenie* **1934**, No. 3, 32-6.—Wood impregnated with liquid bakelite (A-modification) was found to be highly resistant chemically. Samples of impregnated wood were kept in cylinders filled with an acid, alkali or salt soln., with or without stirring, for various periods and at various temps. In the following, the 1st no. after the chem. formula represents the temp., the 2nd no. the concn. in percentage and the 3rd no. duration of test in months: NaCl 25, 36, 9; NaCl 60, 30, 9; NaCl 60, 25, 9; H_2SO_4 24, 40, 4.5; H_3PO_4 60, 50, 0.5; H_3PO_4 20, 50, 0.5; AcOH 20, 90, 0.5; AcOH 60, 60, 0.5; $(COOH)_2$ 20, 8, 6; HF 25, 40, 6; NH_4OH 20, 25, 4.5; $AlCl_3$ 60, 60, 10; $MgCl_2$ 170, molten, 1.5; NH_4Cl 20, 20, 6; $(NH_4)_2SO_4$ 20, 20, 6; Na_2CO_3 60, 10, 6; NaOH 20, 10, nonresistant; NO_2 60, 3.5 4, 4.5; Cl_2 70, 7, 4.5 and HCl (gaseous) 35, 14.5, 4.5. In all cases, except NaOH, the wood samples showed very good resistance to corrosion. S. L. Madorsky



The use of wood in the magnesium industry. I. Ya. Klinov and V. P. Shishkov. *Legkie Metal* 4, No. 3, 30-5 (1935). Birchwood impregnated with resol is resistant to molten $MgCl_2.6H_2O$ at 150°, to solns. of $MgCl_2$ and HCl (36%) and to HCl and Cl_2 in the gaseous state.
H. W. Rathmann

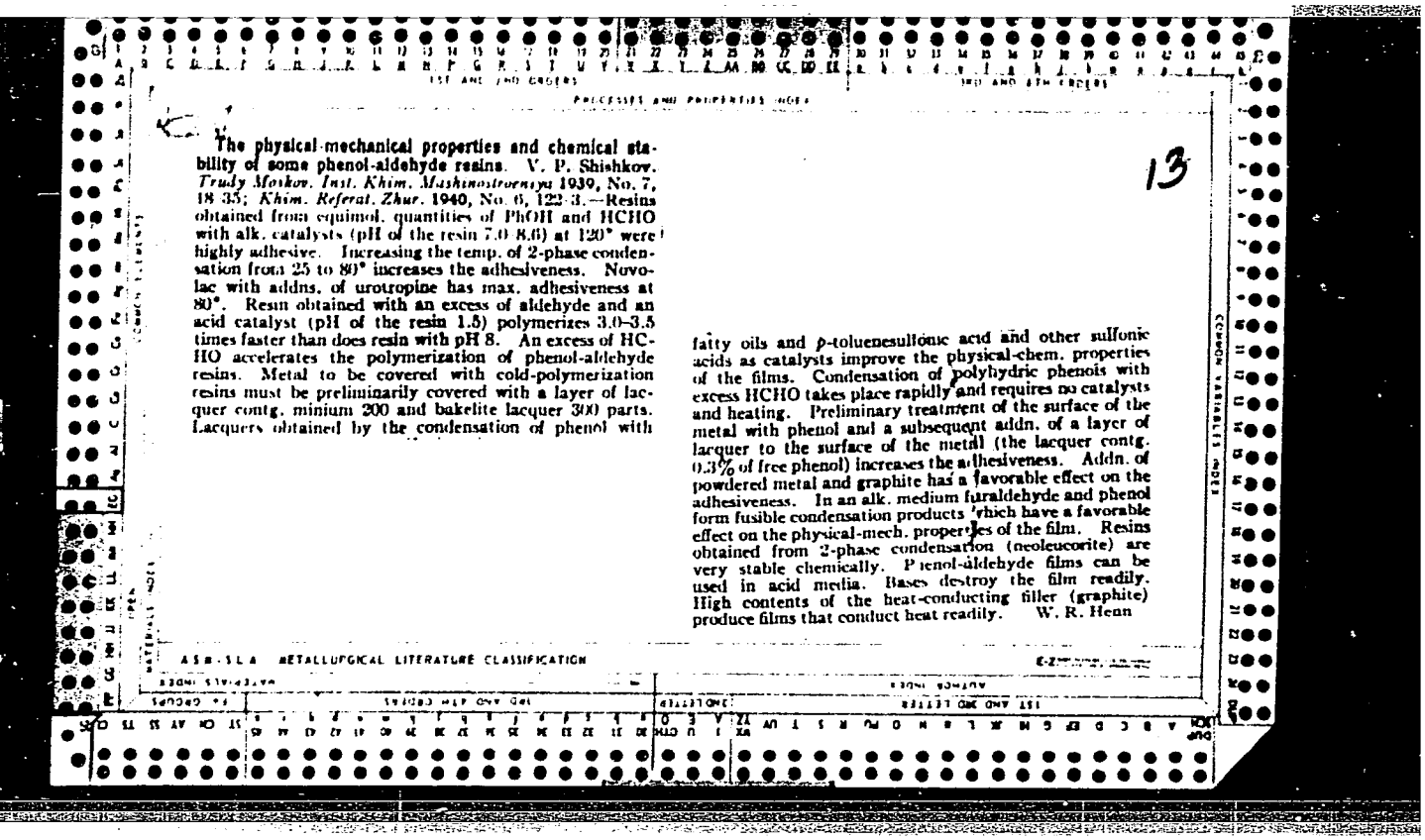


Polymerization of phenol-aldehyde resins within timber as an anticorrosive measure. I. Ya. Klinov and V. P. Shishkov. *J. Applied Chem.* (U. S. S. R.) **8**, 1043–8 (1935).—The wood is impregnated with bakelite-A (60°, 4–5 hrs.), and the product heated at 120–140° to complete polymerization of the bakelite; under these conditions birch, beech and ash take up an equal wt. of resin, while pine and larch take up not more than 50%. The "bakelited" wood so obtained is resistant to the corrosive action of numerous solns. and gases, with the exception of aq. NaOH. In general, the resistivity rises with the resin content, which for most purposes should amount to 30–50% of the wt. of the product. B. C. A.



The use of phenol condensation products polymerizable in the cold as a construction material for chemical apparatus. V. P. Shishkov. *Org. Chem. Ind.* (U. S. S. R.) 5, 44–50 (1938).—From extensive exptl. study and tests described here the optimum conditions have been developed for the prepn. and application of cold-setting PhOH-CH_2O resins as protective coating and cementing materials for metal and wood chem. equipment. To 100 parts by wt. of PhOH and 0.5 part of Petrov contact mixt. (naphthenesulfonic acids) melted in a steam-jacketed kettle, fitted with a stirrer, is added 75 parts of 39.6–40% CH_2O soln. and the mixt. is heated at 58–59.6° to 3.6° viscosity (Engler) at 20°. The cold mixt. is treated with 50 parts of CH_2O soln. and allowed to stand for 24 hrs. The resol product can be stored for 6–10 days, depending on the room temp., and used directly as a coating material or converted into a cement by treating 100 parts with 50 parts of the Petrov contact mixt. and 155 parts of petroleum coke or a mixt. of 77 parts of the coke and 11 parts of fine asbestos. A layer of 2–4 mm. can be applied and, if necessary, covered with acid-resistant tile or brick. The product sets to a hard mass in 20–4 hrs. at room temp. The polymerization is completed in 10 days and the app. is ready for use. The cementing compns. show low porosity, satisfactory mech. properties and resistance to mech. wear and corrosion by 15% HCl and HCl extns. of phosphorites at 60° and 50% H_2SO_4 and H_2SO_4 extns. of apatite at 80° and adhesive power. Because of the close coeffs. of thermal expansion (20–100°) of the resite and acid-resistant tile and brick, cement and wood (pine) no excessive cracking or chipping of the cement coatings takes place. The use of HCl, H_2SO_4, H_3PO_4 and AcOH as catalyst in the condensation of PhOH with CH_2O and that of talc alone and in mixts. with coke and asbestos in forming the cement compns. produced inferior results.

Chas. Blanc



The physical-mechanical properties and chemical stability of some phenol-aldehyde resins. V. P. Shishkov. *Trudy Moskov. Inst. Khim. Mashinostroeniya* 1939, No. 7, 18-35; *Khim. Referat. Zhur.* 1940, No. 6, 122-3.—Resins obtained from equimol. quantities of PhOH and HCHO with alk. catalysts (pH of the resin 7.0-8.6) at 120° were highly adhesive. Increasing the temp. of 2-phase condensation from 25 to 80° increases the adhesiveness. Novolac with addns. of urotropine has max. adhesiveness at 80°. Resin obtained with an excess of aldehyde and an acid catalyst (pH of the resin 1.5) polymerizes 3.0-3.5 times faster than does resin with pH 8. An excess of HCHO accelerates the polymerization of phenol-aldehyde resins. Metal to be covered with cold-polymerization resins must be preliminarily covered with a layer of lacquer contg. minium 200 and bakelite lacquer 300 parts. Lacquers obtained by the condensation of phenol with fatty oils and *p*-toluenesulfonic acid and other sulfonic acids as catalysts improve the physical-chem. properties of the films. Condensation of polyhydric phenols with excess HCHO takes place rapidly and requires no catalysts and heating. Preliminary treatment of the surface of the metal with phenol and a subsequent addn. of a layer of lacquer to the surface of the metal (the lacquer contg. 0.3% of free phenol) increases the adhesiveness. Addn. of powdered metal and graphite has a favorable effect on the adhesiveness. In an alk. medium furaldehyde and phenol form fusible condensation products which have a favorable effect on the physical-mech. properties of the film. Resins obtained from 2-phase condensation (neoleucorite) are very stable chemically. Phenol-aldehyde films can be used in acid media. Bases destroy the film readily. High contents of the heat-conducting filler (graphite) produce films that conduct heat readily. W. R. Henn

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SHISHKOV, V. P.

Chemically stable materials from polyatomic phenols and formaldehyde. V. P. Shishkov. *J. Chem. Ind.* (U. S. S. R.) 18, No. 3, 21-8(1941); *Chem. Zentr.* 1943, I, 216; cf. *C. A.* 36, 4930⁴.—Resorcinol (I)-PhOH-CH_2O resins and graphite at 20–5° become completely insol. and nonfusing. The product is satisfactory in chem. stability, mech. hardness and heat cond. Resin formation in polyphenols goes fastest with the *m*-compds. I and pyrogallol, slower with hydroquinone, and slower still with pyrocatechol. In all cases the presence of another group between the OH groups increases the chem. stability. In the first step of the reaction between I, PhOH and CH_2O, all the I reacts before any PhOH begins to react. The I-CH_2O resin is a catalyst for the further steps. H. M. L.

Saran-molded and extruded products and their application. W. C. Goggin. *Can. Chem. Process Inds.* 28, 225-7, 231(1944). W. H. Boynton

S. [illegible], V. .

Acid aldehyde. M. F. Shostakovskiĭ and V. P. Shishkov. U.S.S.R. 77,418, Dec. 31, 1949. Complex vinylates are hydrolyzed in the presence of H_2O_2. M. Hosch

SHOSTAKOVSKIY, M.F.; SHISHKOV, V.P.; NETERMAN, V.A.

The role of peroxides in processes of polymerization of vinyl compounds. Khim. i Fiz. Khim. Vysokomolekul. Soedineniy, Doklady 7-oy Konf. Vysokomolekul. Soedineniyam '52, 28-34. (MLRA 5:7)
(CA 47 no.15:7819 '53)

ISAGULYANTS, V.I.; MEDZYKHOVSKAYA, N.A.; SHISHKOV, V.P.; BABOTINA, V.P.

Synthesis and properties of the vinyl ether of 2-decahydro-2-naphthol.
Doklady Akad. Nauk S.S.S.R. 85, 329-30 '52. (MLRA 5:8)
(CA 47 no.15:7470 '53

Chem Abs v 48
1-25-54
Organic Chemistry

butoxyethyl acetate. M. F. Shostakovskiĭ, N. A. Gershtein, A. V. Bogdanova, and V. P. Shishkov. *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk, Sintezy Org. Soedinenii, Sbornik* 2, 25–8 (1952); cf. *C.A.* 42, 4519*f*; 43, 3785*i*.—Three methods are described. To 100 g. BuOCH:CH_2 was added with stirring at room temp. 60 g. AcOH, after which the mixt. was kept 4–5 hrs. at 60° and allowed to stand overnight; distn. in der. N atm. gave 91% *MeCH(OBu)OAc*, (I), b. 51.5–1.5°. To 11 g. AcOH was added dropwise 20 g. MeCHClOBu at below 20°, after which the mixt. was stirred 2 hrs. at 55° and allowed to stand overnight; distn. gave 23 g. crude product, b_{14} 67–70°, which was washed 3 times with 5% $NaHCO_3$ and dried; distn. gave 85% I, b_{20} 67–8°. To 15 g. AcOCH:CH_2 and 150 g. BuOH 0.21 g. H_2SO_4 was added and the homogeneous soln. was kept in impal 30 days at 20° (heating yields insol. resin). Distn. gave 16% I, b_{14} 52–3.5°, and 1 g. polyvinyl acetate. Pure I, b_{14} 51.5–1.5°, b_{760} 167.8°, d_{20} 0.9182, n_D^{20} 1.4040. Similarly were prepd.: 82% *EtCH(OEt)OAc* (from EtOCHBrMe and NaOAc in dioxane) or 83.4% from AcOCH:CH_2 and EtOH with H_2SO_4; the product, b_{14} 42°, b_{61} 48–50°, d_{20} 0.9142, n_D^{20} 1.4050; 29% *PrCH(OEt)Me* (from AcOCH:CH_2 and PrOH with H_2SO_4), b_{14} 52.5°, d_{20} 0.9038, n_D^{20} 1.3980; 47% *iso-BuCH(OEt)Me* (from AcOCH:CH_2 and iso-AmOH with H_2SO_4), b_{14} 57°, d_{20} 0.8930, n_D^{20} 1.4242. G. M. Kosolapoff

MF
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Synthesis of vinyl ether of guaiacol and a study of its properties M. F. Shostakovskii, V. P. Shishkov, and M. G. Zelenskaya. *Zhur. Prikład. Khim.* (J. Applied Chem.) 24, 1169-72(1952).—Heating guaiacol in an autoclave with acetylene and 50% aq. KOH under 15 atm. H 36 hrs. to 180–200° gave after steam distn. 62% *vinyl ether of guaiacol* (I), b_{760} 200.5–2.0°, b_{20} 112–13°, d_4^{20} 1.0048, n_D^{20} 1.5356. Heating 450 g. guaiacol with 450 g. $(CH_2Cl)_2$ and 75 g. KOH 10 hrs. at 140–50° gave 20% *o-MeOC$_6$H$_4$OCH$_2$CH$_2$Cl*, b$_{10}$ 140–1°, b. 250–1°, m. 44°, which, treated with alc. KOH 4 hrs. at 80°, gave 52% I, identical with the above. Hydrolysis of I in 10% H_2SO_4 at 60° is rather slow and in 6 hrs. 46% remains unreacted; addn. of dioxane as a mutual solvent hastens the hydrolysis to some extent; at 100° the hydrolysis is 60% complete in 5 hrs. without and 80% complete with dioxane. I polymerizes slowly with a $FeCl_3$ catalyst at room temp. but at 80° it forms a blue viscous mass within 3 hrs.

G. M. Kosolapoff

SHISHKOV, V. P.

21 Jul 52

USSR/Chemistry - Plastics

"Some Derivatives of the Vinyl Ether of Beta-Decalol," V.I. Isagulyants Act Mem, Acad Sci Armenian SSR, M. A. Medzyzhovskaya, V. P. Shishkov, "Dok Ak Nauk SSSR" Vol 85, No 3, pp 567-570.

The vinyl ether of beta-decalol reacts with nbutyl alc to give butyl-beta-decalylacetal, which disproportionates on distn and apparently on standing. The vinyl ether of beta-decalol adds bromine. It polymerizes very easily in the presence of acid catalysts (BF_3, $FeCl_3$, $AlCl_3$) or benzoly peroxide. The polymers formed are hard, resinous substances. With BF_3 catalyst, the reaction goes at neg temps; on heating to 45-70° the reaction proceeds violently; at high temps, a low mol polymer results. The polymer is non-thermoreactive, hard, clear, colorless to light yellow in color, and sol in a number of org solvents. In connection with Polymerization under use of catalytically acting quantities of benzoly peroxide, a cryst substance was extracted. According to its mol wt, it is a compd formed from 2 gram mols of the vinyl ether of decalol and one gram mol of oxygen.

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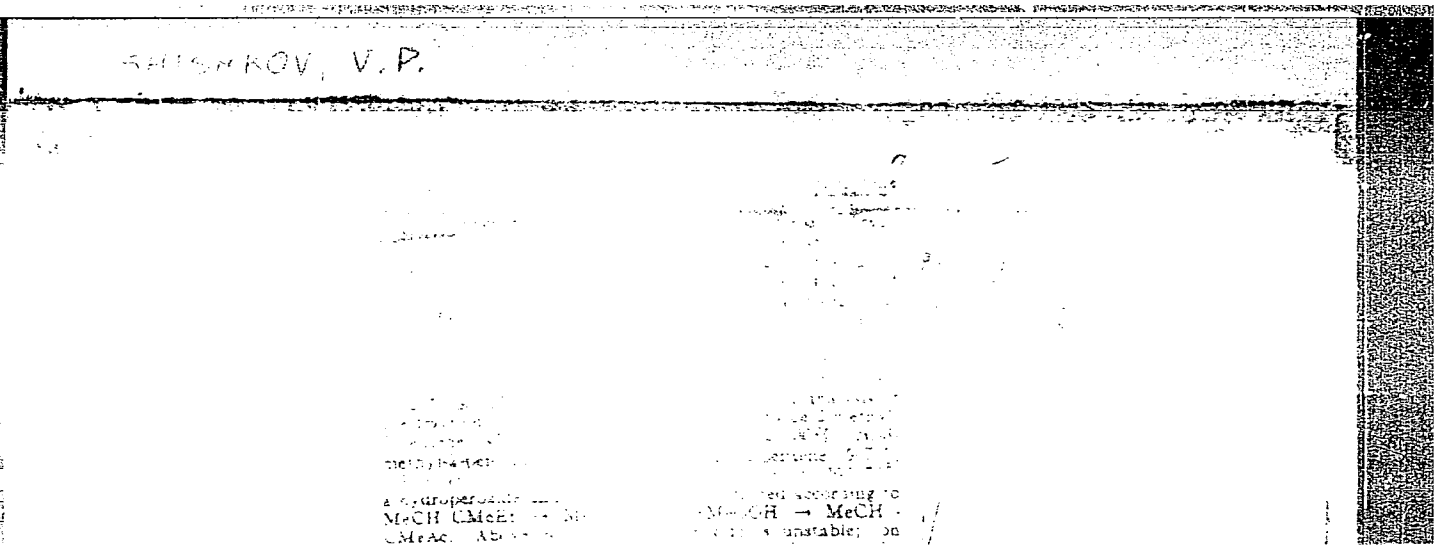

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27.1150
(2220)

AUTHORS: Anorova, G. A., Shishkov, V. P.

TITLE: Synthesis of some S^{35}-tagged organic compounds

SOURCE: Metody polucheniya radioaktivnykh preparatov; sbornik statey (Methods of producing radioactive preparations; collection of articles). Moscow, Gosatomizdat, 1962. 170 p. illus., biblio 5 - 26

TEXT: Methods were devised for synthetizing S^{35}-tagged 4-methyl-2--thiouracil (I), 2-aminothiazole (II), acetylthiocholine iodide (III), and mercaptan (IV) via several intermediate links or by isotopic exchange. I was synthesized with an activity yield of 30 - 35% from a mixture of 1.3 g metallic Na and [illegible] of absolute alcohol with an addition of 3.3 ml acetoacetic ester and 2 g thiourea. S^{35}. First the Na salt arises from which, in turn, the pure I (C 42.27, H 4.55, N [illegible]) is obtained. Using thiourea without elemental S^{35} impurities the yield was 35.3 - 41.5%. An attempt was made to produce I by isotopic exchange from methyl thiouracil and Na_2S^{35} in aqueous medium or S^{35} in $(NH_4)_2S$.

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APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549610013-1

Synthesis of some S^{35}-tagged...

II was produced from 2 - 10 g thiourea, 10 ml H_2O and 3 - 16 ml dichloro-diethyl ester by a 30-min heating on the boiling water bath, precipitating the free base from the solution of II hydrochloride, with NaOH, and purifying by adding excess benzene which was then evaporated in vacuo. The chemical yield was 40 - 60%, the activity yield was approximately 25%. Synthesis of III: $(CH_2)_2S^{35} + ICOCH_3 \xrightarrow{CCl_4} I(CH_2)_2S^{35}COCH_3 \xrightarrow{(CH_3)_3N}$ $(CH_3)_2NCH_2CH_2S^{35}COCH_3 \cdot CH_3I$. A new general reaction scheme is given for the synthesis of thioesters: $CH_3COSH + S^{35} \rightleftharpoons CH_3COS^{35}H + KOH \rightarrow CH_3COS^{35}K$ $\xrightarrow{ClCH_2CH_2N(CH_3)_2}$ $CH_3COS^{35}CH_2CH_2N(CH_3)_2 \xrightarrow{CH_3I} CH_3COS^{35}CH_2CH_2N(CH_3)_2 \cdot CH_3I$. The ethylene sulfide used for synthetizing III is obtained from potassium thiocyanate: $KS^{35}CN + (CH_2)_2O \xrightarrow{H_2O} (CH_2)_2S^{35} + KCNO$. The activity yield in III with respect to KSCN was 9%. IV was produced by isotopic exchange: $C_6H_5CH_2SH + S^{35} \rightleftharpoons C_6H_5CH_2S^{35}H + S$ and synthetically:

Card 2/3

L 11159-63 EPR/EWP(j)/EPF(c)/EWT(m)/BDS--AFFTC/ASD--Ps-4/Pc-4/Pr-4--RM/WW

ACCESSION NR: AT3002182 S/2917/62/000/242/0112/0133

80
78

AUTHOR: Bilik, Sh. M. (Dr. of technical sciences); Goroshkov, Yu. I. (Candidate of technical sciences); Luk'yanchikov, I. K. (Engineer); Shishkov, V. F. (Engineer)

TITLE: Insulating plastic bars as a small-size sectionalizing insulator

SOURCE: Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta. Trudy, no. 242, 1962. Primeneniye plastmass na zheleznodorozhnom transporte, 112-133

TOPIC TAGS: plastic sectionalizing insulator, KAST plastic, ISS-27,5 porcelain sectionalizing insulator

ABSTRACT: Extensive experimental investigations are reported of plastic materials for and design of a sectionalizing insulating bar intended for overhead contact wires in electrical railroad systems. Mechanical tests permitted to choose a 16-plyglass-textolite bonded by BF-2 resin as the most suitable material for the bar. Its breaking load was 1.375 kg/sq cm. This material is manufactured (trademark KAST) by the Orekhovo-Zuyevo plant "Karbolit" according to the standard specifications TU285-54. Its electrical characteristics are reported in the article. The KAST bars were given 3 coats (ED-5 epoxy resin, E-4020 sealer based on ED-6 epoxy,

Card 1/2

[redacted], M.V., prof.; [redacted], V.P., doktor; [redacted], L.G., pidiatr

Clinical and anatomical changes in cattle due to leukemia. Veterinariia 40 no.8:32-37 Ag '63. (MIRA 17:10)

1. Voronezhskaya veterinarnaya akademiya.

ADOMAYTENE, S.V.; SLADKOV, A.M.; SHISHKOV, V.P.

Condensation of vinyl ethers with amides of substituted carboxylic acids. Part 1. Zhur.ob.khim. 34 no.2:432-434 F '64. (MIRA 17:3)

VERTINSKIY, K.I., prof.; SHISHKOV, V.P., dotsent; STREL'NIKOV, A.P., assistent

Aspergillosis in ducklings. Veterinariia 41 no.9:48-50 S '64. (MIRA 18:4)

1. Moskovskaya veterinarnaya akademiya.

ADOMAYTENE, S.V.; SLADKOV, A.M.; SHISHKOV, V.P.

Condensation of vinyl ethers with amides. Part 2. Zhur. ob. khim. 34 no.9:2958-2960 S '64. (MIRA 17:11)

VERTINSKIY, K.I., prof.; ALIKAYEV, V.A., dotsent; PODKOPAYEV, V.M., dotsent; SHISHKOV, V.P., dotsent; ANDREYEV, I.A., veterin. vrach (Moskovskaya obl.); VLASOV, V.P., veterin. vrach (Moskovskaya obl.); MAMAYEV, A.P., veterin.vrach (Moskovskaya obl.); SHUL'GOVSKIY, I.P., veterin. vrach (Moskovskaya obl.)

Diagnosis, therapy, and prophylaxis of toxic dyspepsia in calves. Veterinariia 41 no.1:59-64 Ja '65. (MIRA 18:2)

1. Moskovskaya veterinarnaya akademiya (for Vertinskiy, Alikayev, Podkopayev, Shishkov).

SHISHKOV, V.P., dotsent

Fluorescence microscopic determination of vitamin A in the liver. Veterinariia 41 no.10:92-94 O '64. (MIRA 18:11)

1. Moskovskaya veterinarnaya akademiya.

PEREVOSHCHIKOVA. K.A.; BELOUSOV, A.P.; SHISHKOV, V.P.

Accumulation of glutamine by tumors and its inclusion in the proteins of tumorous and normal cells. Vop. med. khim. 11 no.2:32-36 Mr-Ap '65. (MIRA 18:10)

1. Biokhimicheskaya laboratoriya Gosudarstvennogo onkologicheskogo instituta imeni P.A.Gertsena, Moskva.

SHISHKOV, V.S.

Summer activities for physics teachers. Fiz.v shkole no.6:71-73 '53.
(MLRA 6:10)

1. Moscow, 627-ya shkola.
(Physics--Study and teaching) (Teachers, Training of)

SHISHKOV, V.S., inzhener.

Device for resetting electropneumatic valves. Elek.i tepl.tiaga no.5:24-25 My '57. (MLRA 10:7)
(Electric locomotives)

SAVCHENKO, A.N., inzh.; SHISHKOV, V.S., inzh.

Special structural features of the high-voltage switch of the transformer stages of the N-80 electric locomotive. Vest. elektroprom. 33 no.5:8-11 My '62. (MIRA 15:5)
(Electric locomotives) (Electric switchgear)

SHISHKOV, V.Ye.

Conduct warble fly control measures in an organized manner. Veterinariia 34 no.3:8-12 Mr '57. (MLRA 10:4)

1. Zamestitel' nachal'nika Glavnogo upravleniya veterinarii Ministerstva sel'skogo khozyaystva RSFSR.
(Warble flies) (Veterinary hygiene)

SHISHKOV, V.Ye.

SHISHKOV, V.Ye.

Improving the work of meat, dairy and food product control stations. Veterinariia 34 no.9:32-35 S '57. (MLRA 10:9)

1. Glavnyy epizootolog, zamestitel' nachal'nika upravleniya veterinarii Glavnoy inspektsii po zhivotnovodstvu Ministerstva sel'skogo khozyaystva RSFSR.
(Food adulteration and inspection)

NASAROV, V. P. (Senior Scientific Co-Worker of GNKI [State Scientific Control Institute for Veterinary Preparations]) and SHISHKOV, V. E. (Deputy Chief of Veterinary Department of the Ministry of Agriculture of RSFSR)

"Rabies and prophylactic immunization of animals"

Veterinariya, vol. 39, no. 5, May 1962 p. 58

SHISHKOV, V. E. (Assistant Chief) and YEFIMOV, V. A. (Chief Veterinary Sanitary Inspector, Veterinary Department of the Ministry of Production and Stockpiling of Agricultural Products of RSFSR)

"Organization of veterinary - sanitary practices at the base - model farms"
Veterinariya, vol. 39, no. 6, June 1962 p. 58

SHISHKOV, V.Ye.

Further improvement of veterinary service in the animal husbandry of the R.S.F.S.R. Veterinariia 37 no.7:5-9 Jl '60. (MIRA 16:2)

1. Zamestitel' nachal'nika Upravleniya veterinarii Ministerstva sel'skogo khozyaystva RSFSR.
(Veterinary medicine)

NAZAROV, V.P., starshiy nauchnyy sotrudnik; SHISHKOV, V. Ye.

Rabies and the prophylactic immunization of animals. Veterinariia 39 no.5:58-61 My '62 (MIRA 18:1)

1. Gosudarstvennyy nauchno-kontrol'nyy institut veterinarnykh preparatov (for Nazarov). 2. Zamestitel' nachal'nika Upravleniya veterinarii Ministerstva sel'skogo khozyaystva RSFSR (for Shishkov).

SHISHKOV, V.Ye.; YEFIMOV, V.A.

Planning of veterinary and sanitary measures on demonstration farms. Veterinariia 39 no.6:58-61 Je '62 (MIRA 18:1)

1. Zamestitel' nachal'nika Upravleniya veterinarii Ministerstva proizvodstva i zagotovok sel'skokhozyaystvennykh produktov RSFSR (for Shishkov). 2. Glavnyy veterinarno-sanitarnyy inspektor Upravleniya veterinarii Ministerstva proizvodstva i zagotovok sel'skokhozyaystvennykh produktov RSFSR (for Yefimov).

SHISHKOV, V.Ye.

Improve the veterinary service on collective and state farms of the Russian Federation. Veterinariia 40 no.6:11-15 Je '63. (MIRA 17:1)

1. Zamestitel' nachal'nika Upravleniya veterinarii Ministerstva proizvodstva i zagotovok sel'skokhozyaystvennykh produktov RSFSR.

SHISHKOV, Ye.N.; IVANOV, V.M., inzh.

Laboratory of the Dzerzhinskii Glass Works as a communist labor team. Zav.lab. 29 no.5:631 '63. (MIRA 16:5)
(Glass factories) (Chemical laboratories)

SHISHKOV, Ye.N.; IVANOV, V.M.

Laboratory of communist labor. Stek. i ker. 20 no.7:43-44 Jl '63. (MIRA 17:2)

1. Gusevskoy stekol'nyy zavod imeni Dzerzhinskogo.

USANOV, V.V., inzh.; Prinimali uchastiye: NAURITS, L.N., inzh.; TSIKLAURI, G.V.; SHISHOV, Ye.V.; VSEKHSVYATSKIY, V.N.; tekhnik; PONOMAREVA, T.A.; tekhnik; SHCHERBAKOV, V.D.; tekhnik; SPESIVYKH, A.F., tekhnik

Heat exchange and resistance in an axisymmetric nozzle at low supersonic speeds. Trudy VNIIKIMASH no.5:61-83 '62. (MIRA 18:3)

AUTHOR: Shishkov, Yu. A. SOV/50-58-6-19/24

TITLE: On Normal Linear Vector Correlation (O normal'noy lineynoy korrelyatsii vektorov)

PERIODICAL: Meteorologiya i gidrologiya, 1958, Nr 6, pp. 55-58 (USSR)

ABSTRACT: The theory of the correlation of scalar quantities is rather distributed in hydrometeorology. Inspite of this, it is always considered inadequate since vector quantities are always used (wind, flow, pressure gradient, ice drift, and others more) which are connected with one another. This analytic connection cannot always be expressed since many factors cannot be determined. The theory of vector quantities must help in this case. However, this theory has hitherto been worked out only to an extremely small extent (Ref 1). Most regrettable is the fact that the achievements of this theory are used practically only to a very small extent since the latter deters by its seeming complicatedness. This is, however, not true. It is the object of the present paper to establish the mentioned theory in a form which can be used by the experts. First the tensors of regression

Card 1/2

and correlation are explained and then the correlation exponent. Finally a method for the calculation of the correlation of two chance vectors is given. Table 1 gives an example of the correlation of the wind vector and the ice drift. There are 1 table and 1 reference, 1 of which is Soviet.

1. Meteorology--USSR 2. Hydrology--Applications 3. Hydrology --Analysis

SHISHKOV, Yu.A.

Ice conditions in the southwestern part of the Kara Sea and meridional heat transport in the atmosphere. Probl. Sev. no.4:131-137 '61. (MIRA 15:1)

(Kara Sea--Sea ice)

ROMANOVA, N.A.; SHISHKOV, Yu.A.

Method of calculating the meridional transport indices of heat and cold. Trudy Inst. okean. 57:47-49 '62. (MIRA 16:10)

SHISHKOV, Yu.A.

Meridional heat transport in the lower troposphere and the anomalies of temperature conditions in the northern part of the Atlantic Ocean. Trudy Inst. okean. 57:156-199 '62.
(MIRA 16:10)

L 06544-67 EWT(1) GW

ACC NR: AP6020981 (N) SOURCE CODE: UR/0213/66/006/003/0416/0429

AUTHOR: Shishkov, Yu. A.

ORG: Institute of Oceanography, AN SSSR (Institut okeanologii AN SSSR)

TITLE: Temperature anomalies in the northern Pacific Ocean

SOURCE: Okeanologiya, v. 6, no. 3, 1966, 416-429

TOPIC TAGS: physical oceanography, water temperature, ~~areal~~ temperature distribution, temparal temperature distribution, OCEAN PROPERTY / NORTH PACIFIC OCEAN

ABSTRACT: Results are presented of a study carried out to locate the position and time-wise distribution of the most significant water-temperature anomalies (by month and year) in surface waters of the North Pacific. The data used in the study were voluminous and consisted of data obtained in 1940—1960 from 48 shore- and island- based stations, 3 weather ships, and materials selected from Katalog sudovykh okianograficheskikh nablyudeniy (Catalog of oceanographic ship observations), compiled by the Institute of Oceanography, Academy of Sciences of the USSR. These data also included observations made at American Pacific coast and island stations. The study indicated that the northern Pacific, when large temperature anomalies are observed in the surface waters of the open sea, they also are observed in the offshore waters. Geographically, the area is divided into two regions, the southeastern and northwestern areas, in which opposite anomalies occur. The position of the

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ACC NR: AP6020981

interface between these areas shifts from year to year, but, in general, the anomaly observed in the southeastern region exerts the predominant influence on the signs of the water-temperature anomalies averaged for the entire ocean. Changes in the sign of the anomaly in the southeastern region occur first in the southern portion of the area, moving gradually toward the north; in the northwestern region, the change takes place simultaneously along the entire coast. Charts compiled to show the distribution of water-temperature anomalies for the month of August during years in which the anomalies were largest indicate that this distribution cannot be attributed only to oceanic circulation. Orig. art. has 2 figures and 4 tables. [ER]

SUB CODE: 08/ SUBM DATE: 10Nov64/ ORIG REF: 004/ OTH REF: 013

Card 2/2 mkE

S/074/60/029/06/03/005
B022/B003

AUTHORS: Shishkov, Yu. D., Opalovskiy, A. A.

TITLE: Physical and Chemical Properties of Chlorotrifluoride

PERIODICAL: Uspekhi khimii, 1960, Vol. 29, No. 6, pp. 760-773

TEXT: Since all halogen fluorides are extremely reactive, the determination of their physical and chemical properties was very difficult, and was made possible only recently due to the improvement of the experimental technique. Several physical constants of known halogen fluorides are mentioned in Table 1. The sequence for the reactivity of halogen fluorides is as follows: $ClF_3 > BrF_5 > IF_7 > ClF > BrF_3 > IF_5 > BrF$.

It results that chlorotrifluoride is the most reactive one. This compound is mainly used as a fluorination agent for preparing uranium hexafluoride which is utilized as a reactor fuel. Hitherto no survey of publications has provided data on the systems basing on chlorotrifluoride, since such investigations were made only lately, and were published in the press in connection with the work of the Second International Conference on the

Physical and Chemical Properties of Chlorotrifluoride

S/074/60/029/06/03/005
B022/B003

Peaceful Uses of Atomic Energy. The methods mentioned in publications for the production of chlorotrifluoride and its physical properties are discussed. Fig. 1 illustrates the results of determination of the melting point of chlorotrifluoride with different degrees of purity. The vapor pressure of chlorotrifluoride is given in Fig. 2. Data on the molar thermal capacity of chlorotrifluoride are compiled in Table 2. The viscosity of chlorotrifluoride is indicated in Table 3; the values of the equilibrium constants K_e for the reaction $ClF_3 \rightleftharpoons ClF_2 + F_2$, in Table 4; the K_e-values for the reaction $2ClF_3 \rightleftharpoons (ClF_3)_2$, in Table 5. Further, data are supplied on the association of ClF_3, nuclear magnetic resonance spectra, infrared absorption spectra, and Raman spectra. The most important chemical reactions of chlorotrifluoride are listed, and especially the interaction of ClF_3 with metallic uranium is dealt with in detail. The diagram of the equilibrium between the solid and the liquid phase in the system ClF_3 - HF is shown in Fig. 3; the liquid - gas equilibrium for the system ClF_3 - HF, in Fig. 4; and the solid - liquid equilibrium for the system ClF_3 - UF_6, in Fig. 5. The liquid - gas equilibrium for the system ClF_3 - UF_6 is graphed in Fig. 6; the solid -

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Card 2/3

GALKIN, N.P.; PONOMAREV, L.A.; SHISHKOV, Yu.D.; PODOSHVINA, V.A., red.; VLASOVA, N.A., tekhn. red.

[Plutonium hexafluoride, its preparation and properties] Geksaftorid plutoniia, ego poluchenie i svoistva. Moskva, Gos.izd-vo lit-ry v oblasti atomnoi nauki i tekhniki, 1961. 34 p. (MIRA 15:2)

(Plutonium fluoride)

SHISHKOV, Yu. D.

2

PHASE I BOOK EXPLOITATION SOV/5820

Galkin, N. P., A. A. Mayorov, U. D. Veryatin, B. N. Sudarikov, N. S. Nikolayev, Yu. D. Shishkov, A. B. Krutikov

Khimiya i tekhnologiya ftoristykh soyedineniy urana (Chemistry and Technology of Uranium Fluoride Compounds) Moscow, Gosatomizdat, 1961. 347 p. Errata slip inserted. 4500 copies printed.

Ed. (Title page): N. P. Galkin, Doctor of Technical Sciences, Professor; Ed.: N. A. Korobtsova; Tech. Ed.: S. M. Popova.

PURPOSE: This book is intended for chemical and nuclear engineers and workers and students of schools of higher education.

COVERAGE: The monograph reviews Soviet and non-Soviet literature published up to June 1960 on the physicochemical properties of uranium fluorides and methods of producing them from salts, oxides, and metallic uranium. Methods of processing uranium chemical concentrates to the tetra- and hexafluorides, which are initial products in the production of nuclear fuel,

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Chemistry and Technology of Uranium (Cont.) SOV/5820

... primary interest. Fluoride methods are preferred to hydrometal-... because volatile waste solutions in the former are ... or eliminated. No personalities are men-... chapters.

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S/020/62/143/001/023/030
B106/B138

21.42.0

AUTHORS: Nikolayev, N. S., and Shishkov, Yu. D.

TITLE: Fluorination reaction of uranium tetrafluoride with chlorine trifluoride

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 1, 1962, 130 - 132

TEXT: The reaction was studied between 18 - 300°C. Under the experimental conditions (action of ClF_3 on UF_4 in a certain period at the temperatures investigated) uniform residues of the UF_4 fluorination were found. It was inferred from the results of chemical and of X-ray analyses of these residues that intermediate stages exist via which the reaction takes place. The UF_6 yield served as a criterion for the reaction intensity. The results are shown in Fig. 1. The first reaction step (up to 50°C) follows the pattern $3UF_4 + 2ClF_3 \rightarrow 3UF_6 + Cl_2$ (1). The reactions $12UF_4 + ClF_3 \rightarrow 3U_4F_{17} + 1/2\ Cl_2$ (2), and $3U_4F_{17} + ClF_3 \rightarrow 6U_2F_9 + 1/2\ Cl_2$ (3) take place from 50°C onward. These two reactions are predominant up

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Fluorination reaction of...

to 100°C. If temperatures are still higher, UF_5 is formed as a result of the reaction $3U_2F_9 + ClF_3 \rightarrow 6UF_5 + 1/2\ Cl_2$ (4). The dipping part of the curves in Fig. 1 corresponds to a decrease in the amount of UF_4 and to the predominance of the U_2F_9 phase in solid residues. This phase is fluorinated in the course of the reaction following Eq. (4). Finally, the almost pure phase UF_5 is found at 150°C. It continues to react with chlorine trifluoride, following the pattern $3UF_5 + ClF_3 \rightarrow 3UF_6 + 1/2\ Cl_2$ (5). This reaction shows a much lower intensity than reaction (1) so that the UF_6 yield diminishes and finally reaches a minimum. Within this minimum, the formation of UF_6 takes place exclusively via uranium pentafluoride. The higher UF_6 yield with increased temperature (up to 300°C) is caused by an increase in the intensity of reaction (5). The fluorination of UF_4 was compared with the well known reaction of uranium tetrafluoride with gaseous fluorine (Ref. 4: see below). When fluorine acts

on UF_4 at room temperature no hexafluoride is formed, whereas fluorination with ClF_3 under the same conditions renders considerable yields of UF_6. Comparable yields of the two fluorination reactions are observed at temperatures >300°C, but even here, the process with ClF_3 shows a noticeably higher intensity. Thus, ClF_3 is more active in fluorination under similar conditions than fluorine. The equilibrium constants for reaction (1) and for the reaction $UF_4 + ClF_3 \longrightarrow UF_6 + ClF$ (7), which might possibly be taken into consideration were calculated:

$K_{(1)} = \begin{cases} 4.4 \cdot 10^{94} \text{ (for 25°C)} \\ 1.4 \cdot 10^{56} \text{ (for 300°C)} \end{cases}$ $K_{(7)} = \begin{cases} 3 \cdot 10^{34} \text{ (for 25°C)} \\ 1.6 \cdot 10^{21} \text{ (for 300°C)} \end{cases}$. The authors concluded from these high values that no values of thermodynamic constants were involved. A comparison of the two value couples, however, shows a predominance of reaction (1). Furthermore, chlorine was the predominant component of the gaseous reaction products in all conducted

experiments. ClF was only formed in unimportant small amounts which were probably caused by secondary reactions. There are 1 figure and 5 non-Soviet references. The four most recent references to English-language publications read as follows: H. R. Leech, Chem. and Ind., 1960, 5, 242; V. Y. Labaton, J. Inorg. and Nucl. Chem., 10, 86 (1959); Ref. 4: V. Y. Labaton, K. D. Johnson, J. Inorg. and Nucl. Chem., 10, 74 (1959); L. Stein, R. Vogel, Ind. and Eng. Chem., 48, No. 3 (1956).

PRESENTED: October 11, 1961, by I. V. Tananayev, Academician

SUBMITTED: October 11, 1961

L 14925-63 EWP(q)/EWT(m)/BDS JD/JW/JG

ACCESSION NR: AP3003988 S/0089/63/015/001/0081/0081

AUTHORS: Nikolayev, N. S.; Shishkov, Yu. D.

TITLE: Fluorination of uranium sulfate by chlorine trifluoride

SOURCE: Atomnaya energiya, v. 15, no. 1, 1963, 81

TOPIC TAGS: fluorination, uranium sulfate, chlorine trifluoride

ABSTRACT: The authors have studied the fluorination reaction of uranium sulfate by a gaseous chlorine trifluoride in a horizontal cylindrical nickel reactor. ClF_3 acted on $U(SO_4)_2$ for an hour at various temperatures. The composition of the solid phase was analyzed chemically and by X-ray diffraction. The yield of reactions was measured by UF_6. The results are given in a table. The fluorination reaction is described by a chemical formula. Orig. art. has: 1 formula and 1 table.

ASSOCIATION: none

SUBMITTED:	01Nov62	DATE ACQ:	08Aug63	ENCL:	00
SUB CODE:	PH	NO REF SOV:	001	OTHER:	004

Card 1/1

[redacted]

Interaction of metallic uranium with hydrogen. Trudy [illegible]
no.3:67-71 '63. (MIRA 17:3)

[redacted], Yu.N.; TARASOV, V.I.; SUDARIKOV, B.N.

Interaction of metallic uranium with water vapor. Trudy MKHTI no.43:72-77 '63. (MIRA 17:10)

GALKIN, N. P.; TARASOV, V. I.; SHISHKOV, Yu. D.

"Thermochemical properties of oxides, halides, oxyhalides and mixed halides of uranium."

report submitted for 3rd Intl Conf, Peaceful Uses of Atomic Energy, Geneva, 31 Aug-9 Sep 64.

L 41372-65 EWT(1)/EWT(m)/EPF(n)-2/EWP(t)/EWP(b) Pu-4 IJP(c) ES/JD/WW/
JG/GW

ACCESSION NR AM5004510 BOOK EXPLOITATION S/ 29

Galkin, N. P. (Doctor of Technical Sciences); Sudarikov, B. N.; (Candidate of Chemical Sciences); Veryatin, U. D.; Shishkov, YU. D.; Mayorov, A. A. 28 BH

Technology of uranium (Tekhnologiya urana), Moscow, Atomizdat, 1964, 308 p. illus., biblio. 173, 650 copies printed.

TOPIC TAGS: uranium, uranium compound, geochemistry, nuclear fuel

PURPOSE AND COVERAGE: The book is intended for training engineers in the specialty "technology of natural radioactive elements". In the course that is offered in the Moscow Order of Lenin Chemical Engineering Institute imeni D. I. Mendeleyev. The description of the technological processes is preceded by a section covering the history of the uranium industry, the use of uranium, the chemical and physical-chemical properties of metallic uranium and its most important compounds, and some problems of the geochemistry of uranium. The technological processes for processing uranium or to obtain metallic uranium and its compounds used for nuclear fuel are presented in sequence, beginning from the ore beneficiation plant and ending in the specialized plants producing the finished product. Basic attention in this text is given to the chemical and physical-chemical bases of the processes and their equipment.

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SUBMITTED: 28Oct64 SUB CODE: MM, GC

NO REF SOV: 010 OTHER: 002

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