calcium sulphate at 300 atms is plotted in Fig 4, showing that the effect is to extend the region of scaling. It is concluded that with the usual designs displacement of the transition zone cannot be fully effective, as a good deal of the scaling occurs outside this zone. The position is still further complicated by interaction between different salts. Experiments at the Moscow Division of the Central Boiler Turbine Institute indicate that scale should not be allowed to become thicker than 0.1 to 0.2 mm, otherwise it will be difficult to wash off. This may correspond to a temperature rise of up to 60°C, which is not serious except in the most intensely heated parts of the tube. Therefore, it should be possible to arrange for reliable operation of the boiler without displacement of the transition zone although, of course, the region of maximum scaling should be kept away from the hottest part of the flame, and this is usually not difficult to accomplish. Thus there is no need to displace the transition zone in boilers near or above the critical pressure. It would be desirable to

The Influence of Displacing the Transition Zone in Once-Through Boilers for Super-Critical Pressure

make a further study of scale formation when the feed water contains a number of different impurities. There are 4 figures, 2 tables and 3 Soviet references.

ASSOCIATION: Moskovskiy energeticheskiy institut (The Moscow Power Institute)

SMIRNOV, O. K., Cand Tech Sci (diss) -- "Experimental investigation of the behavior of calcium compounds in the lines of uniflow boilers with superhigh and supercritical steam parameters". Moscow, 1960. 20 pp (Min Higher and Inter Spec Educ RSFSR, Moscow Order of Lenin Power Engineering Inst), 250 copies (KL, No 11, 1960, 134)

SEROV, Ye.P., kand.tekhn.nauk; MOZHAROV, N.A., kand.tekhn.nauk; SMIRNOV, O.K., kand.tekhn.nauk

Analyzing the efficiency of basic circuits of separator type once-through boilers. Teploenergetika 8 no.12:16-21 D '61. (MIRA 14:12)

1. Moskovskiy energeticheskiy institut.
(Boilers) (Electric power plants)

MARTYNOVA, O.I. (Moskva); SEROV, Ye.P. (Moskva); SMIRNOV, O.K. (Moskva)

Solubility of magnesium hydroxide in water vapor at superhigh parameters. Izv. AN SSSR. Energ. i transp. no.4:555-560 Jl-Ag '63. (MIRA 16:11)

MARTYNOVA, O.I.; SEROV, Ye.P.; SMIRNOV, O.K.; TSKHVIRASHVILI, D.G.; GOTSIRIDZE, V.D.

Solubility of iron oxides in steam at high and superhigh parameters. Izv. AN SSSR. Energ. i transp. no.6:759-762 N-D '63. (MIRA 17:1)

MARTYNOVA, O.I., kand. tekhn. nauk; SEROV, Ye.P., kand. tekhn. nauk;
SMIRNOV, O.K., kand. tekhn. nauk

Study of the entrainment of iron oxide by superheated steam at supercritical pressures. Teploenergetika 10 no.7:54-57 Jl '63. (MIRA 16:7)

1. Moskovskiy energeticheskiy institut.
(Boilers)

MARTYNOVA, O.I.; SMIRNOV, O.K.

Solutions of inorganic compounds in a steam of supercritical parameters. Zhur. neorg. khim. 9 no.2:264-269 F'64.
(MIRA 17:2)

1. Moskovskiy energeticheskiy institut.

SEROV, Ye.P.; SMIRNOV, O.K.

Determining the boundaries of existence of a region of stable conditions of a flow in vapor generating tubes connected in parallel. Teplofiz. vys. temp. 2 no.4: 623-627 Jl-Ag '64. (MIRA 17:9)

1. Moskovskiy energeticheskiy institut.

SEROV, Ye.F., kand. tekhn. nauk; SMIRNOV, O.K., kand. tekhn. nauk;
LEZIN, V.I., inzh.

Effect of mass flow rate on the stability boundary of a flow in parallel connected steam generating pipes. Trudy MEI no.63:153-162 '65. (MIRA 18:12)

L 56018-65 EWT(m)/EWA(d)/T/EWP(t)/EWP(z)/EWP(b)/EWA(c) MJW/JD

ACCESSION NR: AP5013322 UR/0148/65/000/005/0070/0075
669.15-194 : 539.214 : 548.33

22
21
B

AUTHOR: Okhrimenko, Ya. M.; Zalesskiy, V. I.; Smirnov, O. M.

TITLE: Temperature and rate conditions of deformation in ShKh15 steel during polymorphic transformation

SOURCE: IVUZ. Chernaya metallurgiya, no. 5, 1965, 70-75

TOPIC TAGS: steel, polymorphism, phase transformation, metal deformation

ABSTRACT: The authors aim was to verify and follow up some previous work on the kinetics of the superplastic phenomenon and their effect on resulting strength and plasticity properties. Three stages of the investigation involved clarifying the following three relationships: the character of the anomoly of mechanical properties (tensile strength) in the region of the transformation temperature; the effect of $\alpha \rightarrow \gamma$ and $\gamma \rightarrow \alpha$ transformation speed under uniaxial tensile stress (change in transformation rate was effected by varying the heating and cooling rates through the transformation range); and the effect of deformation rate during $\alpha \rightarrow \gamma$ and $\gamma \rightarrow \alpha$ transformations. Transformation was detected by magnetic measurement using a coil

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L 56018-65

ACCESSION NR: AP5013322

surrounding the furnace heating coil in which a current would be induced at transformation in the specimen (core). With constant transformation and strain rate, plasticity properties were noticeably lower and strength higher for a specimen cooled rather than heated through the transformation range. This effect is related to the formation of a cementite network for the cooled specimen. An experiment was also conducted attempting to duplicate common practice conditions. These results confirmed the property changes of the laboratory experiments. Orig. art. has: 5 figures.

ASSOCIATION: Moskovskiy institut stali i splavov. (Moscow Institute of Steel and Alloys)

SUBMITTED: 30Jun64 ENCL: 00 SUB CODE: MM, SS

NO REF SOV: 006 OTHER: 004

Card 2/2 csc

L 55200-65 EWG(j)/EWT(m)/EWP(e)/EWP(i)/EPF(c)/EPF(n)-2/EWA(d)/EPR/T/EWP(t)/
EWP(k)/EWP(b)/EWP(z)/EWA(c) Pf-4/Pr-4/Pu-4/Ps-4 IJP(c) MJW/JD/WW/HW/JG/DJ/WH

ACCESSION NR: AP5015825 UR/0182/65/000/006/0001/0004
621.892

AUTHOR: Zalesskiy, V. I.; Okhrimenko, Ya. M.; Smirnov, O. M.; Vasil'yeva, R. S.

TITLE: A lubricant based on lithium salts for semi-hot gauging

SOURCE: Kuznechno-shtampovochnoye proizvodstvo, no. 6, 1965, 1-4

TOPIC TAGS: hot working, lithium, pressing, precision finishing, lubricant

ABSTRACT: Lithium coatings were studied as a method for lubrication during semi-hot gauging of ring blanks at the 1GPZ factory. The lubricant now used at the factory is a mixture of graphite and chalk in a soap solution. This is a fairly good lubricant but it clogs up the press and pollutes the air in the shop. Lithium coating produces a dense layer of lubricant on the surface of the blank which does not peel off during transportation and gauging. The samples used in the study were rings made of ShKh15 steel. The rings were coated in a hot lithium atmosphere; they were then cooled and held for several days at room temperature. After this they were again heated in an electric furnace to 700-750°C and gauged on a hot crankpress with a force of 750 tons. The deformation forces were measured during

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L 55200-65
ACCESSION NR: AP5015825

guaging on a bar type strain gauge. Vaporization of a mixture of 60% AlI_2CO_3 + 40% LiCl gives the best quality coatings. The optimum temperature range in the vaporizer is 1100-1150°C. Gauging should be done immediately after coating. Orig. art. has: 2 figures, 2 tables.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: IE, MM

NO REF SOV: 000 OTHER: 003

Card 2/2

L 3025-66 EWT(m)/EWP(j)/EWP(k)/EWP(z)/EWA(c)/ETC(m)/EWP(b)/EWP(e)/EWP(t)/EWP(t)

ACC NR: AP5027045 IJP(c) RM/WH SOURCE CODE: UR/0120/65/000/005/0246/0246

AUTHOR: Dyuzhev, G. A.; Martsinovskiy, A. M.; Smirnov, O. M.; Yur'yev, V. G.

WW/JD/HM

ORG: Institute of Semiconductors, AN SSSR, Leningrad. (Institut poluprovodnikov AN SSSR)

TITLE: The increase in stability of metal-glass joints in cesium vapors

SOURCE: Pribory i tekhnika eksperimenta, no. 5, 1965, 246

TOPIC TAGS: metal joining, oxidation reduction reaction, oxide formation, glass, cesium, glass coating

ABSTRACT: The increased use of cesium vapors in various instruments at relatively high pressures (~0.1 Torr and higher) made necessary the protection of metal-glass joints from the destructive action of cesium. Tests carried out by the authors showed that the preparation of joints with a supplementary thin glass coating of the metal makes them cesium resistant to a certain degree. The metal part is covered by a thin 0.05 — 0.3 mm) glass coating 10 — 30 mm wide (placed across the region of the contemplated joint). When the joint is completed and subjected to cesium vapor, the process of reduction of the oxide film slows down and almost stops some 5 mm from the point of first contact with cesium. This is apparently due to the extreme slowness with which cesium advances over the already reduced auxiliary region of the joint. Detailed recommendations for the actual production of a satisfactory joint of this type are provided. Authors thank Ye. A. Kolenko for valuable advice and help.

Card 1/2

UDC: 666.1.037.5:621.387

PONOMAREV-STEPNOY, N. N.; SMIRNOV, O. N.; KULEVA, R. V.

"Investigation on System with Zirconium Hydride Moderator."

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

PONOMAREV-STEPNOY, N. N.; SMIRNOV, O. N.; KOSOVSKIY, V. G.

"Neutron-physical characteristics of zirconium hydride-moderated systems."

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

SMIRNOV, O.P.

Half-humps operated on the principle of continuous classification.
Zhel. dor. transp. 41 no.10:63-64 O '59. (MIRA 13:2)

1.Glavnyy inzhener stantsii g. Groznyy.
(Railroads--Hump yards)

SMIRNOV O. S.

BRONSHTEYN, L.A., kandidat tekhnicheskikh nauk; NAMOKONOV, K.G., shofer; SMIRNOV, O.S., retsenzent; LIV'YANT, Ya.A., retsenzent; NIKITIN, V.I., shofer, retsenzent; BAUMAN, I.M., inzhener, redaktor; TIKHONOV, A.Ya., tekhnicheskiy redaktor

[Improving the operation of trucks and lowering the cost of transport] Uluchshenie ispol'zovaniia avtomobilei i snizhenie sebestoimosti perevozok. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry, 1954. 146 p. (MLRA 7:10)
(Motor trucks) (Transportation, Automotive)

BASIN, S.; ZYAZEV, V.; SMIRNOV, O.; SHUSTOV, A.

Organizing centralized intercity freight haulage by means of public automotive transportation. Avt. transp. 36 no. 6:4-9 Je '58. (MIRA 11:7)

(Transportation, Automotive)

SMIRNOV, O.

Automotive transportation in Paris. Avt. transp. 36 no. 7:53-55 Jl '58. (MIRA 11:8)

(Paris--Transportation, Automotive)

SMIRNOV, O.

Direct mixed railroad and automotive transportation of freight. (MIRA 12:4)
Avt.transp. 37 no.3:8-10 Mr '59.
(Transportation, Automotive) (Railroads, Freight)

GVOZDEV, Anatoliy Petrovich ; CHERNYAVSKIY, Leonid Markur'yevich; SMIRNOV, O.S., red.; STRYZHKOVA, N.I., red.; GALAKTIONOVA, Ye.N., tekhn. red.

[Organizing a centralized operation service]Organizatsiia tsentralizovannoi ekspluatatsionnoi sluzhby. Moskva, Avtotransizdat, 1962. 79 p. (MIRA 15:9)
(Transportation, Automotive)

SEDOV, Anatoliy Ivanovich; DUGIN, Sergey Aleksandrovich; SMIRNOV, O.S., red.; GORYACHKINA, R.A., tekhn. red.

[Motorbus passenger traffic census] Obsledovanie passazhiropotokov avtobusov. Moskva, Avtotransizdat, 1963. 77 p. (MIRA 16:6)

(Motorbus lines) (Traffic surveys)

KARPUNENKOV, Vladimir Pavlovich; SMIRNOV,O.S., red.; BODANOVA, A.P., tekhn. red.

[Effect of the concentration of a motor vehicle fleet on the development of automotive transportation] Vliianie kontsentratsii gruzovogo parka na razvitie avtomobil'nogo transporta. Moskva, Avtotransizdat, 1963. 109 p. (MIRA 16:7)

(Transportation, Automotive--Management)

PAVLOVICHEV, Mikhail Stepanovich; SINEGUBOV, Yulian Konstantinovich; SMIRNOV, O.S., red.; GALAKTIONOVA, Ye.N., tekhn. red.

[Automotive transportation rates in the U.S.S.R.] Tarify na avtomobil'nom transporte SSSR. Moskva, Avtotransizdat, 1963. 215 p. (MIRA 16:6)
(Transportation, Automotive--Rates)

SMIRNOV, O.V., inzh.; CHASOVITIN, P.A., kand.tekhn.nauk; CHERKASOV, N.Ye., kand.tekhn.nauk

Operational tests of a powered tunnel shield. Transp.stroi. 11 no.3:47-49 Mr '61. (MIRA 14:3)
(Tunneling—Equipment and supplies)

SMIRNOV, O.V.

New species Spirochaeta nereensis sp.n. transmitted by the burrow tick of Central Asia (Ornithodorus nereensis Pavlovsky, 1941). Med.zhur.Uzb. no.5:35-39 My '58. (MIRA 13:6)

1. Iz kafedry obshchey biologii i parazitologii imeni akad. Ye.N. Pavlovskogo (nachal'nik - akad. Ye.N. Pavlovskiy), Voyenno-meditsinsko ordena Lenina akademii imeni S.M. Kirova.
(SPIROCHETOSIS) (TICKS AS CARRIERS OF DISEASE)

SMIRNOV, O.V.; PRAVDIN, N.D.; KURIS, M.V.; CHAGIN, K.P.

DDT for protecting man from Xenopsylla cheopsis. Med.paraz. i paraz. bol.27 no.1:104-105 Ja-F '58. (MIRA 11:4)

(FLEAS,
human infestation by cat's fleas, DDT ther. (Rus))
(DDT, therapeutic use
human infestation by cat's fleas, results (Rus))

SMIRNOV, O.V., kand.med.nauk, polkovnik med.sluzhby; BOCHAROV, A.P., kapitan meditsinskoy sluzhby

Combined method for protecting man agains blood-sucking insects. Voen.-med.zhur. no.8:32-35 Ag '59. (MIRA 12:12)
(INSECT CONTROL)

SMIRNOV, O.V.; SUVOROV, V.S.; BOCHAROV, A.P.

Recent data on testing some repellents against fleas. Med.paraz. i paraz.bol. no.5:613-614 '61. (MIRA 14:10)
(INSECT BAITS AND REPELLENTS) (FLEAS)

SMIRNOV, O.V.; BOCHAROV, A.P.

Combined method for protecting man from bloodsucking insects. Voen.-med. zhur. no.7:48-49 Jl '61. (MIRA 15:1)
(INSECT BAITS AND REPELLENTS) (FLEAS)

ANDREYEVSKIY, Vasiliy Yakovlevich[Andriievs'kyi, V.IA.], kand. vet. nauk; SMIRNOV, O.V.[Smyrnov, O.V.], red.; GULENKO, O.I. [Hulenko, O.I.], tekhn. red.

[Sterility in cows and measures for its control] Neplidnist' koriv ta zakhody borot'by z neiu. Kyiv, Derzhsil'-hospvydav URSR, 1962. 149 p. (MIRA 16:5)
(Sterility in animals)
(Ukraine--Cows--Diseases and pests)

SHTUN', Feofil Aleksandrovich [Shtun'. F.O.], kand. veter. nauk; SMIRNOV, O.V.[Smyrnov, O.V.], red.; NEMCHENKO, I.Yu., tekhn. red.

[Protection of sheep against parasitoses] Ozdorovlennia ovets' vid parazytoziv. Kyiv, Derzhsil'hospvydav URSR, 1963. 98 p. (MIRA 17:1)

SIMONENKO, Nikolay Mikhaylovich [Symonenko, M.M.], kand. biol. nauk; SMIRNOV, O.V.[Smyrnov, O.V.], red.

[Pharmacology and toxicology] Farmakologiia z toksykologiieiu. Kyiv, Urozhai, 1964. 175 p. (MIRA 17:11)

SMIRNOV, O.Ya.; GILYAREVSKIY, S.V., nauchnyy sotrudnik; USHANOV, G.P., nauchnyy sotrudnik

Modernized driving of tentering and drying machines. Tekst. prom. 25 no.4:67-69 Ap '65. (MIRA 18:5)

1. Nachal'nik otdelochnogo proizvodstva l'nokombinata imeni V.I. Lenina (for Smirnov). 2. Kostromskoy tekhnolcgicheskiy institut (for Gilyarevskiy, Ushanov).

SMIRNOV, P.

Introducing precast reinforced concrete construction in building.
Mias.ind. SSSR 24 no.6:44-48 '53. (MLRA 6:12)

1. Direktor Gipromyasomolproma.
(Precast concrete construction)

SMIRNOV, P.

"Refrigerator" of the earth. Znan.ta pratsia no.3:9-11 Mr '60. (MIRA 13:6)

1. Glavnoye upravleniye Severnogo morskogo puti.
(Antarctic regions)

L 32729-66 EWT(1) GW

ACC NR: AP6010814 (N) SOURCE CODE: UR/0213/65/005/006/0959/0968

16
B

AUTHOR: Smirnov, P.; Sarukhanyan, E. I.

ORG: Leningrad Advanced Engineering Marine School im. admiral S. O. Makarov (Leningradskoye vyssheye inzhenernoye morskoye uchilishche)

TITLE: Study of the nutation variation of activity of the Gulf Stream system 12

SOURCE: Okeanologiya, v. 5, no. 6, 1965, 959-968

TOPIC TAGS: oceanography, ocean current, temperature distribution, OCEAN PROPERTY,

ABSTRACT: The present work is devoted to a more detailed analysis of the phenomenon of nutation-caused variation of the meridional flows relative to the activity of the Gulf Stream system. For the analysis, the authors select the mean-monthly temperature anomalies of the ocean surface between 1900 and 1934 in the region 60—65° N 0—10° W, a region which is entirely under the influence of the waters of the North Atlantic. To calculate the nutation component of the temperature anomaly of the water surface, the mean monthly values of this quantity were analyzed by the method proposed by I. V. Maksimov and N. P. Smirnov (K izucheniyu prichin mnogoletnikh izmenenii deyatel'nosti Gol'fstrima. Okeanologiya, vol. 5, No. 2, 1965). The mean monthly values of the temperature anomalies were introduced

Card 1/3 UDC 551.465.535 (27)

into the analysis as individual seven-year series. In all, five such series were analyzed. At the same time, the data on the variations of component X of the radius vector of the instantaneous pull of the rotation of the earth at the Greenwich meridian were analyzed in the same manner for the same seven-year periods. The published values of X in hundredths of a sound of arc from 1900 to 1958 were used. From the results of the analysis, equations were derived for the 14-month nutation variations of temperatures of the surface waters in the region of the Faeroe-Shetland Strait and the 14-month variations of the component of the radius vector of the pull of rotation of the earth at the Greenwich meridian. The data demonstrated that there is a distinct 14-month component, whose amplitude reaches 0.14°, in the changes of the surface temperature in the region of the Faeros-Shetland Strait. This indicates that during individual years the temperature anomalies can increase or decrease by 0.3° as a consequence of the free oscillations of the axis of rotation of the earth. The character of the nutation changes of the water temperature is opposite in phase to the 14-month free oscillations of the axis of rotation of the earth. This indicates that when the radius vector passes through the Greenwich meridian the surface temperature of the ocean drops. The character of the change in temperature of the water surface is very intimately associated with the character of the change of the 14-month variations of the instantaneous pull of the earth. This is indicated by a fact that upon increase with time of the phase of nutation variations of the instanteous pull of rotation of the earth the phase of nutation changes of the temperature of the water surface correspondingly increases, so that the

DOROKHOV, M.P.; LOPATIN, Ye.D.; SMIRNOV, P.A. [redacted]

[Industrial hygiene and safety measures in municipal services; collection of the most important government regulations, orders of the Ministry of Municipal Services of the R.S.F.S.R. and rules for safety measures] Okhrana truda i tekhnika bezopasnosti v kommunal'nom khoziaistve; sbornik vazhneishikh postanovlenii pravitel'stva, prikazov Ministerstva kommunal'nogo khoziaistva RSFSR i pravil po tekhnike bezopasnosti. Pod red. M.P.Dorokhova. Moskva, Izd-vo M-va kommun.khoz.RSFSR. Pt.2. 1963. 422 p. (MIRA 17:4)

1. Russia (1917- R.S.F.S.R.) Ministerstvo kommunal'nogo khozyaystva.

60/49T11

SMIRNOV, P. A.

USSR/Biology
Plants
Lepidium

Jul/Aug 48

"Lepidium Meyeri Claus," P. A. Smirnov, 7 pp

"Byul Mosk Obshch Ispytat Prirod, Otdel Biol" Vol LIII, No 4

Stresses task of Soviet botanists to conduct thorough studies of chalky flora in southwest USSR which has not received sufficient attention although it exists only in USSR. Concentrates on one of the more unique endemic types, Lepidium Meyeri Claus, which resembles, as Claus' observations

60/49T11

USSR/Biology (Contd)

Jul/Aug 48

showed, the mountainous xerophilous semiundergrowth. Describes features of this plant, and reviews Claus' work in this field (1851). Indicates locations of this variety in USSR.

60/49T11

GUBONINA, Z.P.; MALEYEV, V.P.; SMIRNOV, P.A.; STANKOV, S.S.

Report on pollen species of the genus Tilia L. which occur in the U.S.S.R. (MLRA 7:1)
Trudy Inst.geog. no.52:104-126 '52.
(Pollen, Fossil)

SMIRNOV, P.A.

Botanical work in the Crimea mountains in 1951-1952. Biul.MOIP Otd.biol. 58 no.4:57-58 '53. (MLRA 6:11)

(Crimea--Botany) (Botany--Crimea)

SMIRNOV, P.A.

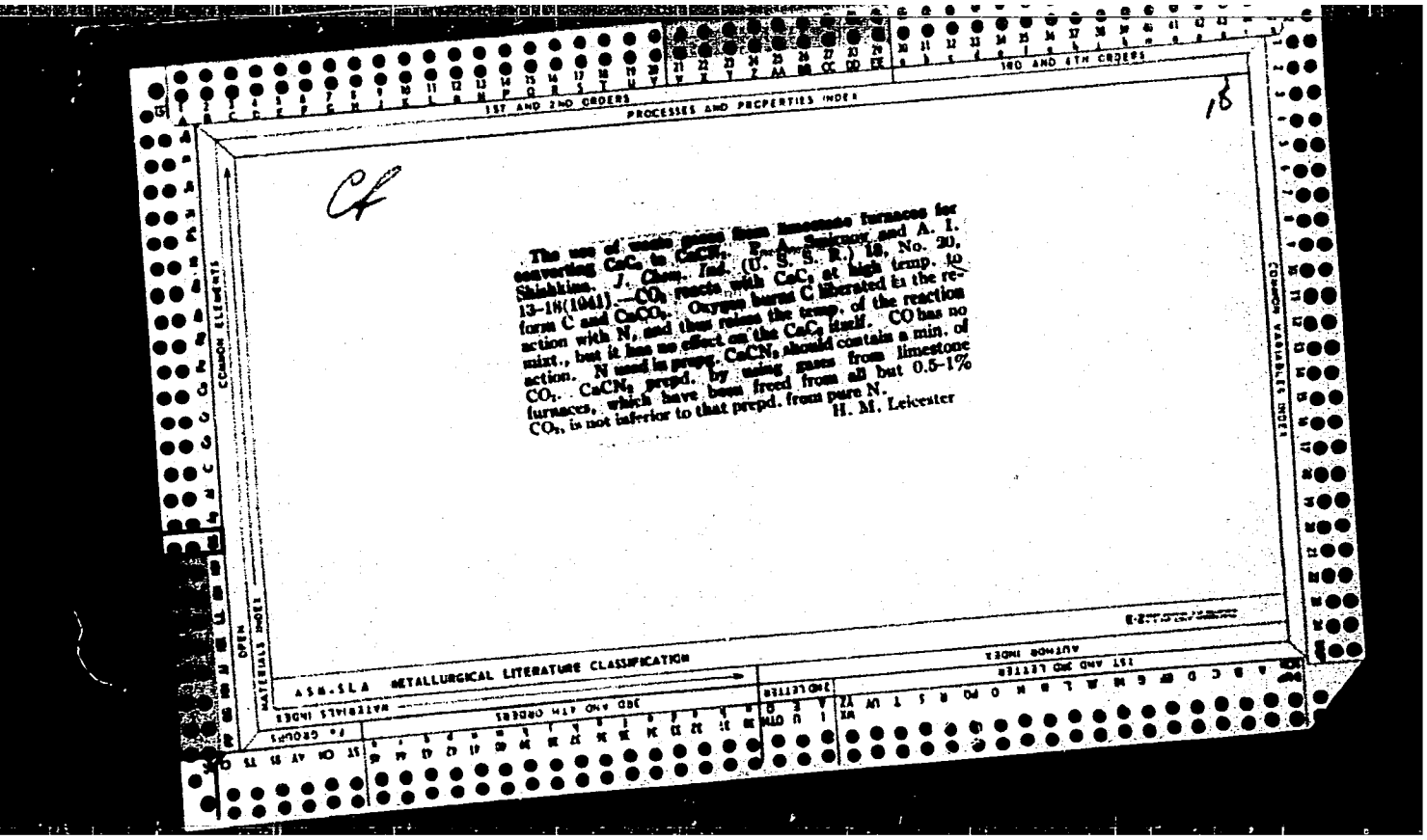
Morphologic investigation of grasses. Biul.MOIP Otd.biol.58 no.6:71-75 '53. (MLRA 7:1) (Grasses)

SMIRNOV, P.A.; LOBANOV, V.I.; MIKHAYLOV, P.M.; NEVEDOMSKAYA, A.V.

Wetting raw materials in flax and hemp mills. Tekst.prom.16 no.4: 20-22 Ap. '56. (Hemp) (Flax) (MLRA 9:7)

SMIRNOV, P.A.

Hierochloa odorata in the works on Central Russian flora [with summary in German]. Biul.MOIP. Otd.biol. 63 no.5:77-82 S-O '58 (MIRA 11:12)
(HOLY GRASS)



The use of waste gases from limestone furnaces for converting CaC_2 to $CaCN_2$. E. A. Smirnov and A. I. Shishkina. *J. Chem. Ind.* (U. S. S. R.) 18, No. 20, 13–16(1941).—CO_2 reacts with CaC_2 at high temp. to form C and $CaCO_3$. Oxygen burns C liberated in the reaction with N, and thus raises the temp. of the reaction mixt., but it has no effect on the CaC_2 itself. CO has no action. N used in prepg. $CaCN_2$ should contain a min. of CO_2. $CaCN_2$ prepd. by using gases from limestone furnaces, which have been freed from all but 0.5–1% CO_2, is not inferior to that prepd. from pure N.

H. M. Leicester

SMIRNOV P.A.

USSR/Chemical Technology - Chemical Products and Their Application. Treatment of Natural Gases and Petroleum. Motor and Jet Fuels. Lubricants. I-8

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2526

Author : Smirnov, P.A.

Inst : -

Title : The Course of Future Development of Petroleum Chemistry.

Orig Pub : Khimiya i tekhnologiya topliva i masel, 1957, No 6, 12-16

Abstract : The possible trends are pointed out, in the chemical treatments at petroleum processing plants, which make it possible to improve, at the same time, quality and yield of light products. Chemical processing must be applied to those petroleum products which are not extensively utilized in the production of fuels, such as the solid and liquid paraffins, light hydrocarbons, H_2S. It is pointed out that it is necessary to process, first of all, those kinds of raw materials which can provide substitutes for

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Card 2/2

The Separation of Gases in Petroleum Refineries. 65-2-2/12

the preparation of liquid propane-propylene fractions, the unstabilised gasoline is introduced into the stabilising butane column. At the head of the column a fraction consisting of a mixture C_2, C_3 and C_4 hydrocarbons is formed, and the residue is stabilised gasoline. Plants erected during 1941 - 1945 did not provide for the manufacture of propane-propylene fractions, and only envisaged the separation of butane-butylene fractions. Table 1 gives data on this process. Processes developed in later years are outlined. Tables 2 and 3 give data on the composition and of the products obtained, also the conditions under which the experiments were carried out. A method for the separation of gas obtained by catalytic cracking in two other plants by compressing of the gas and its absorption with the aid of unstabilised gasoline are described. The saturated gasoline is subjected to debutanisation in a stabilisation column to separate the butane, propane and ethane. The top product from the stabilisation column is led, after condensation, into an ethane column in which the ethane and part of the propane are distilled off. The residue is led into a propane column where it is separated into propane and into a butane-butene fraction which is drawn

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off from the bottom of the column. Tables 4 and 5 give experimental data on the separation of gases. Approximately 80% separation of the butane-butylene fraction can be achieved. The various stages of the development of gas separating plants are discussed. The first plants worked on the basis of stabilisation of gasoline, and the stabilisation of butane-butylene fractions. Later on cooling methods were employed. These plants employed a method of rectifying the cooled gas and condensate. The product was separated into propane-propylene and butane-butylene fractions. This method, however, was cumbersome. A further stage was reached when no stabilisation device was employed. The unstabilised gasoline was saturated with gas under pressure, and subjected to distillation to separate the ethane, propane and butane. Later on, an ethane column was included in the design which made it possible to obtain a liquid propane-propylene fraction besides the butane-butylene fraction. Other methods employed instead of ethane columns are absorbers which separate the ethane. The unstabilised gasoline was used as an absorbent.

Card 3/4

SOV/65-58-9-1/16

AUTHOR: Smirnov, P. A.

TITLE: Lay-Outs of Gas-Separating Plants in Petroleum Refineries. (Skhemy gazorazdelitel'nykh ustanovok na neftepererabatyvayushchikh zavodakh).

PERIODICAL: Khimiya i Tekhnologiya Topliv i Masel, 1958, Nr 9, pp 1 - 7, (USSR)

ABSTRACT: The theories of gas separation make it possible to define the parameters of separation in each separate column and to determine its dimensions. The differences between the various lay-outs were clarified and the characteristics of the lay-outs analysed. The gas-separating plants were differentiated according to (1) the preparation of gaseous separation products, (2) the method of separating the methane-ethane fraction and (3) the presence or absence of absorption. In accordance with this classification four main schemes of gas separation were investigated. Scheme A (Figs. 1 and 2): the distillation separation consists in the stabilisation of benzene, the combustion of gaseous cracking products and subsequent separation in three interconnected columns. The fractions comprise the ethane-propane-butane mixtures at the head of the stabilisation column, the condensate

Card 1/4

Lay-Outs of Gas-Separating Plants in Petroleum Refineries.

assumed that these products possess the same degree of purification. These assumptions made it possible to compare the results and draw conclusions as to the advantages of the various schemes. The material balance is given in Table 1, and conditions of the process are tabulated in Table 2; energy-characteristics of the process (in percentage relation) are given in Table 3.. It can be seen (i) that the heat losses in scheme A and C are equal, but A requires large mechanical energy and high energy compressors; (ii) scheme D is most satisfactory when considering heat consumption; (iii) scheme B differs from scheme C by larger heat consumption but smaller consumption of mechanical energy; (iv) scheme C is the most suitable process because it secures total heat exchange. The preliminary stabilisation causes over-expenditure of heat on secondary evaporation. It can be used only in small plants. Due to the incurred benzene losses whilst using stable benzene, it is preferable to use unstable benzene for absorption. Kerosene can be used for the subsequent absorption for achieving the required degree of separation of the propane-

Lay-Outs of Gas-Separating Plants in Petroleum Refineries.

propylene fraction. High compression of the gas and cooling of the condensor of the ethane column do not give better results during gas separation and lead to excessive mechanical energy losses without lowering simultaneously the heat consumption. There are 3 Tables and 4 Figures.

ASSOCIATION: Giproneftezavody.

1. Gases--Separation 2. Petroleum--Processing 3. Refineries --Performance

SMIRNOV, P.A.

Critical notes on Crimean plants. Biul. MOIP. Otd. biol. 70 no.3:95-101 My-Je '65. (MIRA 18:10)

SMIRNOV, P.A.; SHAVKIN, G.B., inzhener, redaktor; KHITROV, P.A., tekhnicheskiy redaktor

[Manual on safety measures for railroad switchmen] Pamiatka po tekhnike bezopasnosti strelochniku. 2-e izd. Moskva, Gos. transp. zhel-dor. izd-vo, 1954. 47 p. (MLRA 7:11)
(Switchmen) (Railroads--Safety measures)

SMIRNOV, Petr Alekseyevich; PRIGOROVSKIY, V.F., inzhener, redaktor; KHITROV, P.A., tekhnicheskiy redaktor.

[Manual on safety measures for railroad switchmen] Pamiatka po tekhnike bezopasnosti strelochniku. Izd. 3-e. Moskva, Gos.transp. zhel-dor.izd-vo, 1956. 50 p. (MLRA 9:6)
(Railroads--Safety measures)

DOROKHOV, M.P.; SMIRNOV, D.V. [deceased]; SAKEYEV, V.S.; SMIRNOV, P.A.; YAROSHEVSKIY, V.M., red.izd-va; FONBERSHTEYN, A.D., red.izd-va; LELYUKHIN, A.A., tekhn.red.

[Protection of labor in housing and service industries; collection of government decrees, orders of the Ministry of Municipal Services of the R.S.F.S.R. on the protection of labor, norms and regulations on safety engineering, and industrial hygiene and labor legislation] Okhrana truda v zhilishchno-kommunal'nom khoziaistve; sbornik postanovlenii Pravitel'stva, prikazov Ministerstva kommunal'nogo khoziaistva RSFSR po okhrane truda, norm i pravil po tekhnike bezopasnosti, promyshlennoi sanitarii i trudovogo zakonodatel'stva. Pod obshchei red. M.P.Dorokhova. Moskva, 1959. 510 p. (MIRA 13:1)

1. Russia (1917- R.S.F.S.R.) Ministerstvo kommunal'nogo khozyaystva.
(Safety engineering) (Municipal services)

SMIRNOV, P. A

Carrying out collective labor agreements. Zhil.-kom.khoz. 9 no.10:9-10 '59. (MIRA 13:2)

1. Starshiy inzhener Otdela shtatov, truda i zarabotnoy platy Ministerstva kommunal'nogo khozyaystva RSFSR.
(Collective labor agreements) (Municipal services)

SMIRNOV, P.A

Pay more attention to safety engineering and industrial safety. Zhil.-kom.khoz. 9 no.12:4-5 '59. (MIRA 13:4)

1. Starshiy inzhener Otdela shtatov, truda i zarabotnoy platy Ministertva kommunal'nogo khozyaystva RSFSR.
(Woodworking industries--Safety measures)

SMIRNOV, Petr Alekseyevich; TSARENKO, A.P., red.; MEDVEDEVA, M.A., tekhn.red.

[Guide on safety engineering for the switchman] Pamiatka po tekhnike bezopasnosti strelochniku. Izd.4, perer. Moskva, Vses.izdatel'sko-poligr.ob"edinenie M-va putei soobshcheniia, 1960. 45 p. (MIRA 13:11)
(Switchmen) (Railroads--Safety measures)

SMIRNOV, P.A., starshiy inzhener

For the improvement of working conditions and industrial safety. Zhil.-kom.khoz. 10 no.9:10-11 '60. (MIRA 13:9)

1. Otdel shtatov, truda i zarabotnoy platy Ministerstva kommunal'nogo khozyaystva RSFSR.
(Municipal services) (Industrial safety)

BAKHMETOVA, T.Ye.; DOVGER, F.F.[deceased]; SMIRNOV, P.A.; PROKHOROV, A.N.; SHUMAKOV, I.A.; MIROSHINA, Yu.N.; SHAGALOV, Ye.S., red.;

[Album of sketches of [illegible]ak equipment for the erection of structural elements]Al'bom chertezhei inventarnykh prisposoblenii dlia vozvedeniia stro[illegible]'nykh konstruktsii. Moskva. Pt.1.[Cradles, stagings, la[illegible]. guard rails. Approved by a resolution of the technic[illegible]inistration No.163 of Dec. 30, 1959]Liul'ki, ploshcha[illegible], lestnitsy, ograzhdeniia. Utverzhden resheniem tekhnicheskogo upravleniia No.163 ot 30 dekabria 1959 g. 1962. 141 p. (MIRA 15:10)

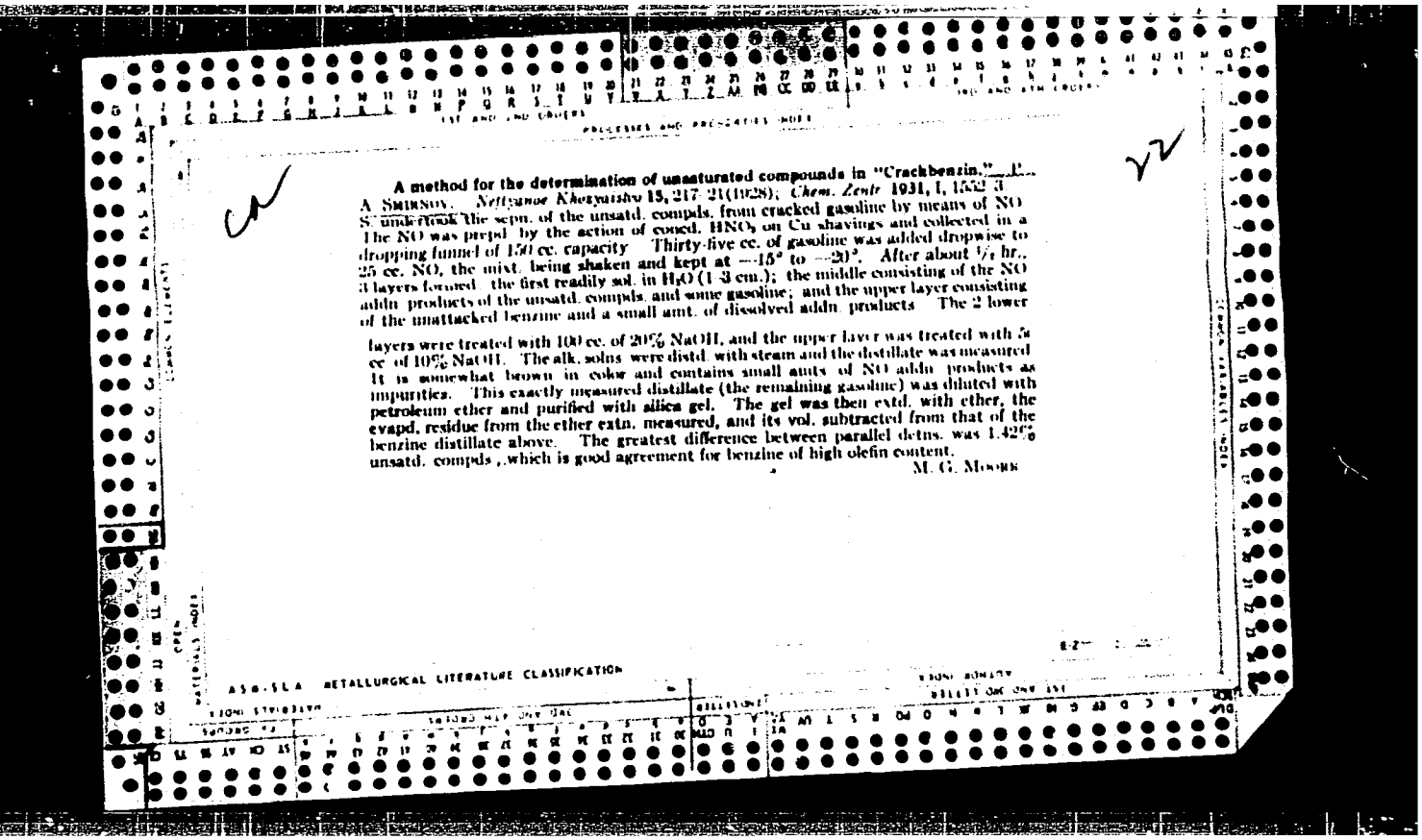
1. Vsesoyuznyy institut po proyektirovaniyu organizatsii energeticheskogo stroitel'stva "ORGENERGOSTROI." Moskovskiy filial.

(Building)

DOROKHOV, M.P.; LAPATIN, Ye.D.; SMIRNOV, P.A.; YEVDOKIMOVA, Ye.D., red.izd-va; SMIRNOVA, R.N., red. izd-va; SALAZKOV, N.P., tekhn. red.

[Labor protection and safety engineering in municipal economy; the most important government decrees, orders of the ministry of municipal economy of the R.S.F.S.R., and safety engineering regulations] Okhrana truda i tekhnika bezopasnosti v kommunal'nom khoziaistve; sbornik vazhneishikh postanovlenii pravitel'stva, prikazov Ministerstva kommunal'nogo khoziaistva RSFSR i pravil po tekhnike bezopasnosti. Pod obshchei red. M.P.Dorokhova. Moskva, Izd-vo M-va kommun.khoz.RSFSR. Pt.1. 1963. 509 p. (MIRA 16:7)

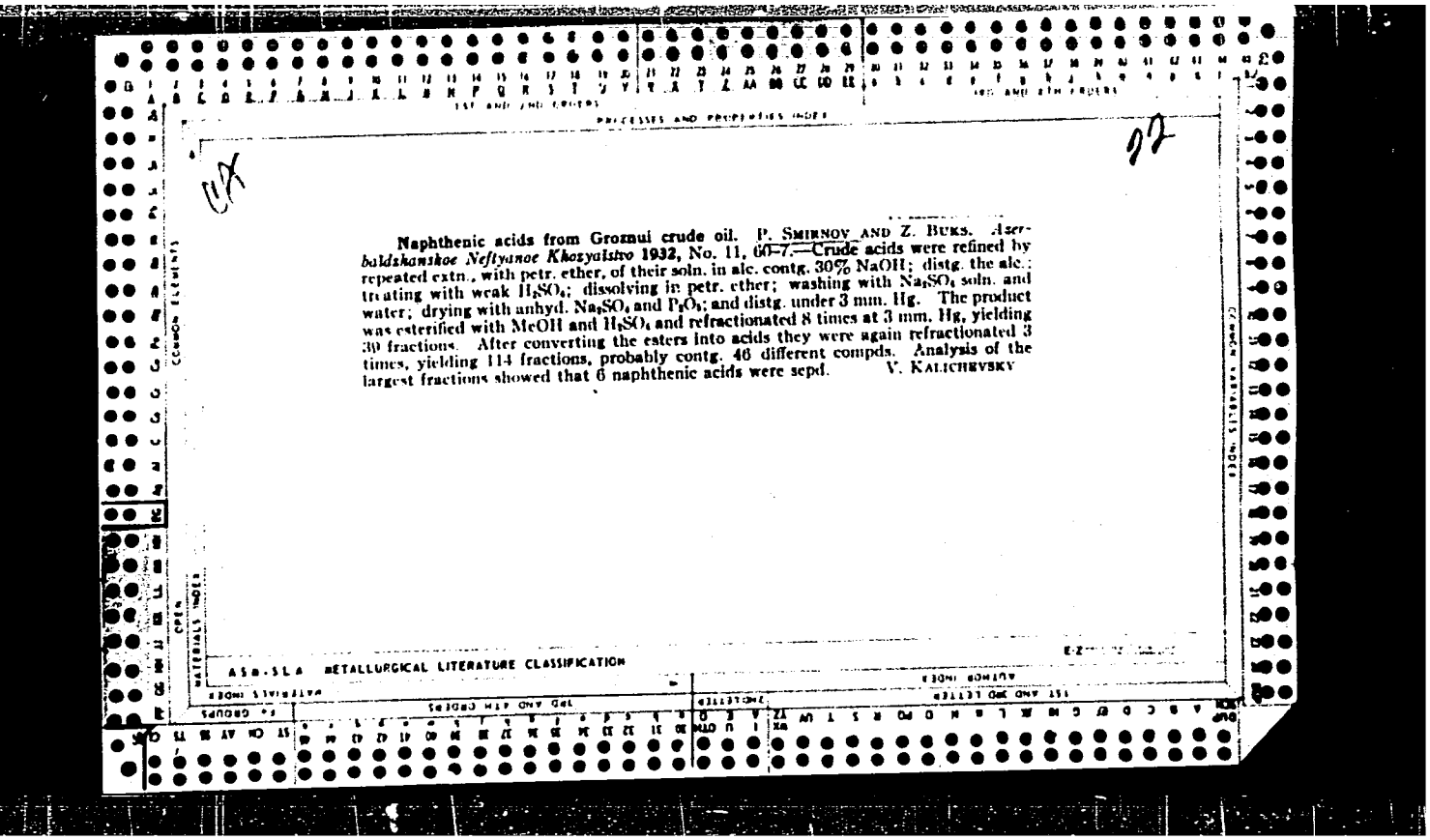
1. Russia (1917- R.S.F.S.R.)Ministerstvo kommunal'nogo khozyaystva.
(Municipal engineering--Safety measures)



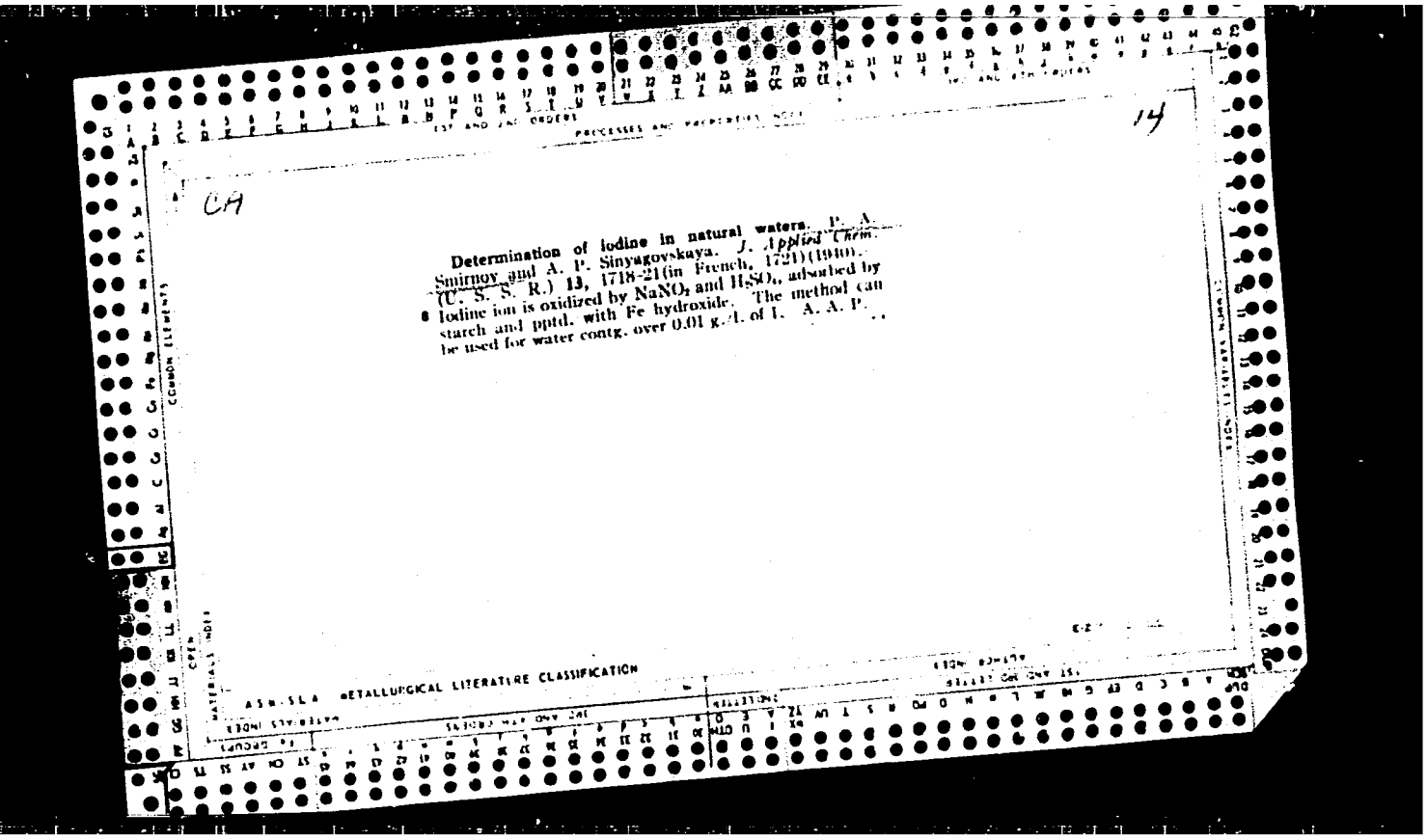
A method for the determination of unsaturated compounds in "Crackbenzin." I. A. Smirnov. *Neftyanoe Khozyaistvo* 15, 217–21(1928); *Chem. Zentr* 1931, I, 1552–3. S. undertook the sepn. of the unsatd. compds. from cracked gasoline by means of NO. The NO was prepd. by the action of concd. HNO_3 on Cu shavings and collected in a dropping funnel of 150 cc. capacity. Thirty-five cc. of gasoline was added dropwise to 25 cc. NO, the mixt. being shaken and kept at −15° to −20°. After about ½ hr., 3 layers formed: the first readily sol. in H_2O (1-3 cm.); the middle consisting of the NO addn. products of the unsatd. compds. and some gasoline; and the upper layer consisting of the unattacked benzine and a small amt. of dissolved addn. products. The 2 lower layers were treated with 100 cc. of 20% NaOH, and the upper layer was treated with 5 cc. of 10% NaOH. The alk. solns. were distd. with steam and the distillate was measured. It is somewhat brown in color and contains small amts. of NO addn. products as impurities. This exactly measured distillate (the remaining gasoline) was diluted with petroleum ether and purified with silica gel. The gel was then extd. with ether, the evapd. residue from the ether extn. measured, and its vol. subtracted from that of the benzine distillate above. The greatest difference between parallel detns. was 1.42% unsatd. compds., which is good agreement for benzine of high olefin content.

M. G. Moore

A50-SLA METALLURGICAL LITERATURE CLASSIFICATION



Naphthenic acids from Grozni crude oil. P. SMIRNOV AND Z. BUKS. *Azerbaidzhanskoe Neftyanoe Khozyaistvo* 1932, No. 11, 60–7.—Crude acids were refined by repeated extn., with petr. ether, of their soln. in alc. contg. 30% NaOH; distg. the alc.; treating with weak H_2SO_4; dissolving in petr. ether; washing with Na_2SO_4 soln. and water; drying with anhyd. Na_2SO_4 and P_2O_5; and distg. under 3 mm. Hg. The product was esterified with MeOH and H_2SO_4 and refractionated 8 times at 3 mm. Hg, yielding 30 fractions. After converting the esters into acids they were again refractionated 3 times, yielding 114 fractions, probably contg. 46 different compds. Analysis of the largest fractions showed that 6 naphthenic acids were sepd. V. KALICHEVSKY



CA

14

Determination of iodine in natural waters. P. A. Smirnov and A. P. Sinyagovskaya. *J. Applied Chem.* (U. S. S. R.) **13**, 1718-21(in French, 1721)(1940). Iodine ion is oxidized by $NaNO_2$ and H_2SO_4, adsorbed by starch and pptd. with Fe hydroxide. The method can be used for water contg. over 0.01 g./l. of I. A. A. P.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

SMIRNOV, P. A.

CH

Cryoscopic investigation of the system naphthalene–iodine–mercuric iodide. I. P. A. Smirnov. *Zhur. Obshchei Khim.* 23, 1085-9(1953).—The mol. wt. of HgI_2 in molten naphthalene, detd. by cryoscopic methods, is const. and is independent of the quantity of I added initially. This value is equal to 679 instead of the 454 calcd. from the formula. The difference shows that HgI_2 does not form polyiodine compds. The increase in mol. wt. can be explained by assocn. of the mols. of HgI_2 equal to 1.5. The mol. wt. of HgI_2 detd. in the absence of I is 407, which is less than that calcd. This indicates dissocn. of HgI_2 dissolved in molten naphthalene. The expts. showed that the mol. wt. of HgI_2 does not change if I is added to the soln. In the naphthalene soln. the HgI_2 is solvated, and the solvated mols. cannot be assocd. afterward with I. Cryoscopic investigation of the system naphthalene–iodine–mercuric chloride. II. *Ibid.* 1089–92.—The $HgCl_2$ in molten naphthalene forms complexes with I. The ratios of $HgCl_2$ to I were 4:1, 3:1, 1:1, and 1:2. M. Charmandarian

SMIRNOV, P.A.

Cryoscopic investigation of the system naphthalene - iodine - mercury chloride. Part 2. Zhur.ob.khim. 23 no.7:1089-1092 Jl '53. (MLRA 6:7)
(Systems (Chemistry)) (Cryoscopy) (Naphthalene) (Iodide)

USSR/Chemistry - Anhydrous Solutions

Card : 1/1

Authors : Smirnov, P. A.

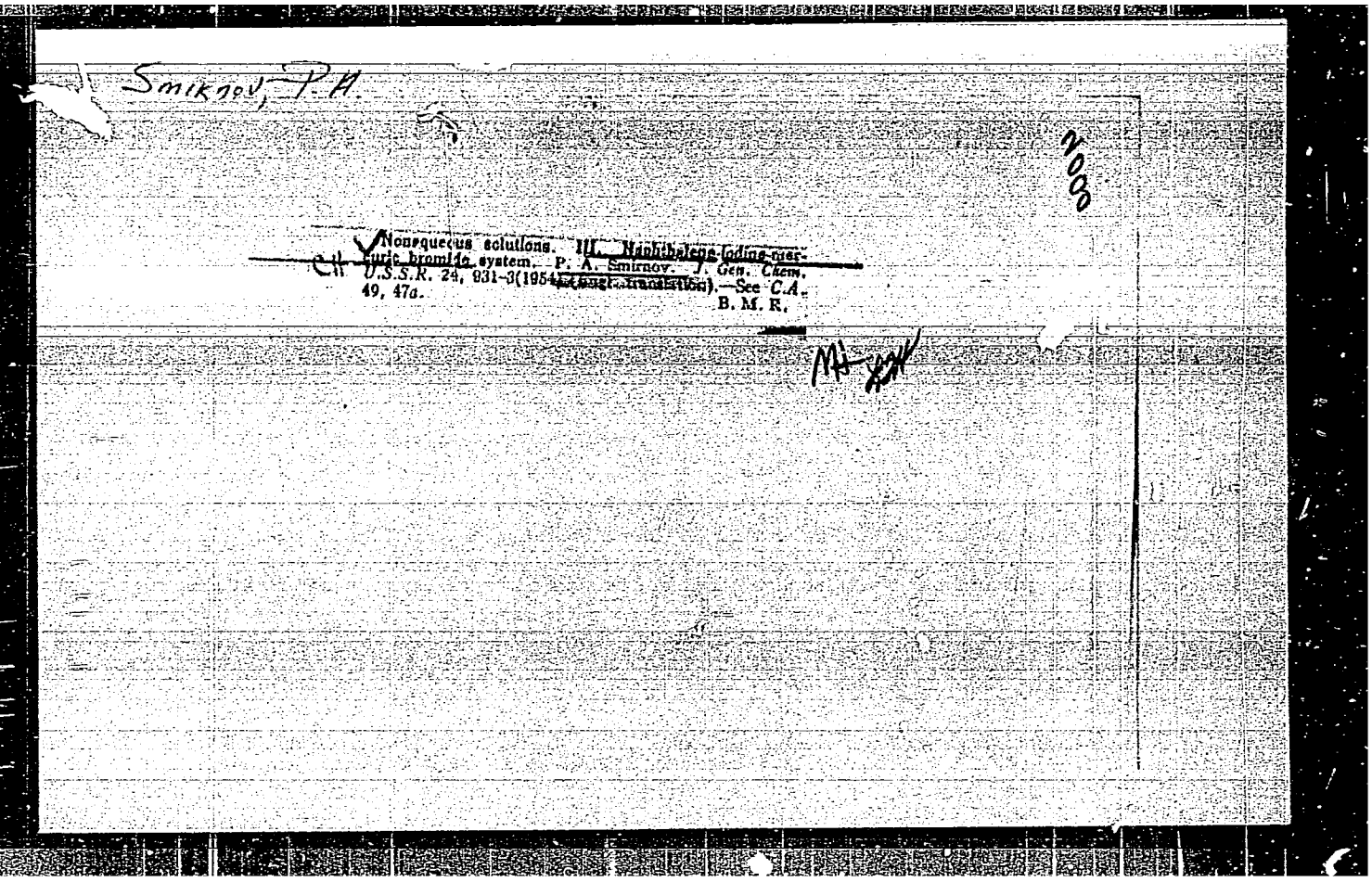
Title : Investigation of anhydrous solutions. Part 3. - The naphthalin-iodine-mercuric bromide system

Periodical : Zhur. Ob. Khim., 24, Ed. 6, 926 - 930, June 1954

Abstract : Two series of experiments with a naphthalin-iodine-mercuric bromide system are described. Literature data are cited regarding the polarizing force of Cl^- and Br^- ions which indicate that $HgBr_2$ and J_2 molecules form complexes in melted naphthalin. Cryoscopic investigations show that $HgBr_2$ with iodine form polyhalides the probable formula of which is: $HgBr_2 \cdot J_2$ or $2HgBr_2 \cdot 3J_2$. In some cases the formulas for mercuric bromide-polyhalides were identical to the formulas of mercuric chloride polyhalides. Three references. Tables.

Institution : ...

Submitted : ...



Smirnov, P. A.

Nonaqueous solutions. III. Naphthalene-iodine-mercuric bromide system. P. A. Smirnov. J. Gen. Chem. U.S.S.R. 24, 931-3(1954)(Engl. translation).—See C.A. 49, 47a.

B. M. R.

KRYUCHKOV, Fedor Ivanovich; SMIRNOV, Pavel Alekseyevich; SHATALINA, M.A., red.; PRESNOVA, V.A., tekhn. red.

[Division commander Solodukhin] Nachdiv Solodukhin. Leningrad, Lenizdat, 1961. 219 p. (MIRA 14:12)
(Russia—Revolution, 1917-1921)
(Solodukhin, Petr Adrianovich, d.1920)

SMIRNOV, P.D.

Changes in the mechanical properties of warp threads during weaving.
Izv.vys.ucheb.zav.; tekh.tekst.prom. no.4:45-49 '58.
(MIRA 11:11)

1. Ivanovskiy tekstil'nyy institut.
(Yarn) (Weaving)

PROKOP'YEV, M.N., kand. sel'khoz. nauk, otv. red.; BERGER, D.S., zam. otv. red.; SYSOYEV, Ye.P., kand. sel'khoz. nauk, red.; SMIRNOV, P.D., red.; LALETINA, M.Ye., red.; KHOROSHAVIN, A., tekhn. red.

[Efficient methods of cutting and reestablishing taiga forests in the European part of the U.S.S.R.; collection of reports of the Kirov Interprovincial Scientific Technical Conference] Ratsional'nye priemy rubok i vosstanovleniia taezhnykh lesov evropeiskoi chasti SSSR; sbornik rabot Kirovskoi mezhoblastnoi nauchno-tekhnicheskoi konferentsii. Kirov, Kirovskoe obl. upr. nauchno-tekhn. ob-va lesnoi promyshl. i lesnogo khoz., 1962. 136 p. (MIRA 17:1)

1. Zaveduyushchiy laboratoriyey lesovodstva i lesovosstanovleniya Kirovskogo nauchno-issledovatel'skogo instituta lesnoy promyshlennosti (for Prokop'yev). 2. Nachal'nik Otdela nauchno-tekhnicheskoy informatsii Kirovskogo nauchno-issledovatel'skogo instituta lesnoy promyshlennosti (for Berger).

SMIRNOV, P.F., inzh.

Develop the open pit mining of coal in the Moscow Basin. Mekh. trud.rab. 11 no.9:20-21 S '57. (MIRA 10:11)
(Moscow Basin--Caol mines and mining)

SMIRNOV, P.F.

On the outside of an important task. Metallurg 5 no.6: 37-38 Je '60. (MIRA 13:8)

1. TSentral'nyy komitet profsoyuza rabochikh metallurgicheskoy promyshlennosti.
(Ural Mountains—Metallurgical plants)

SMIRNOV, P.F., starshiy instruktor

More energy in the finding of production potentialities. Metallurg 5 no.10:32-33 O '60. (MIRA 13:9)

1. TSentral'nyy komitet profsoyuza rabochikh metallurgicheskoy promyshlennosti.
(Metallurgical plants)

SMIRNOV, P.F.

Public designing office at the Chelyabinsk Metallurgical Plant.
Metallurg 6 no.11:32-33 N '61. (MIRA 14:11)

1. TSentral'nyy komitet profsoyuza rabochikh metallurgicheskoy promyshlennosti.
(Chelyabinsk--Rolling mills)
(Design, Industrial)

SMIRNOV, P.F.

At the Fifth Congress of Metallurgical Workers' Trade Union.
TSvet. met. 33 no.7:1-4 Jl '60. (MIRA 13:7)
(Trade unions--Congresses) (Nonferrous metals--Metallurgy)

ANDERS, Vasiliy Rudol'fovich; SMIRNOV, P.F., retsenzent; GOR'KOVA, A.A., ved. red.; VORONOVA, V.V., tekhn. red.

[Monitoring and automating the refining of oil and gas] Kontrol' i avtomatizatsiia protsessov pererabotki nefti i gaza. Moskva, Izd-vo "Nedra," 1964. 390 p. (MIRA 17:4)

1. Nachal'nik tsekha Kontrol'no-izmeritel'nykh priborov i avtomatiki zavoda Neftegaz (for Smirnov).

ACC NR: AP6036718 SOURCE CODE: UR/0119/66/000/011/0021/0025

AUTHOR: Brushteyn, A. S. (Engineer); Smirnov, P. F. (Engineer)

ORG: none

TITLE: Present state and prospects of pneumatic actuators

SOURCE: Priborostroyeniye, no. 11, 1966, 21-25

TOPIC TAGS: pneumatic actuator, pneumatic control system

ABSTRACT: The present state of affairs is reported as follows: "At present, many actuators (control valves and shutters) are being fabricated in the country; they largely satisfy the demand for general industrial actuators. These valves and shutters were designed by various organizations 10-15 years ago and are largely obsolete. Valves of the same type are not standardized and do not meet requirements with respect to their workmanship, static and dynamic characteristics. This can be explained by the fact that the design organizations and manufacturing plants under the Ministry of Chemical and Petroleum Machine Construction have regarded the control valves as hardware, not as apparatae." The prospects include a classification of all

Card 1/2 UDC: 62.525

SMIRNOV, P. F.

"The flight personnel of military medical institutions study the material of the Twenty First Congress of the CPSU" - p. 64

Voyenno Meditsinskiy Zhurnal, No. 3, 1962

USACHEV, A.S., inzhener; SMIRNOV, P.G., inzhener.

Efficiency promoters of the Leningrad Fat Combine. Masl.-zhir. prom. 22 no.8:28-30 '56. (MLRA 10:1)
(Oil industries)

[redacted], F. I.

Seed Industry - Tajikistan

Selection and seed culture work at the Tajik State Seed Culture Station, Sel. i sem., 19, No. 8, 1952.

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

TAYCHINOV, S.N., doktor sel'skokhozyaystvennykh nauk; GAYSIN, Sh.A., kandidat sel'skokhozyaystvennykh nauk; VANYUKOV, Ya.I., kandidat sel'skokhozyaystvennykh nauk; SMIRNOV, P.I.

Agricultural system in Bashkiria. Zemledelie 5 no.7:14-20 Jl '57. (MLRA 10:8)
(Bashkiria--Agriculture)

SMIRNOV, P.I., inzhener.

Method of anchoring radiators and piping by means of dowels. Biul.stroi. tekh. 10 no.13:23-24 Ag '53. (MLRA 6:10)

1. VNIIOMPromzhilstroy. (Heating pipes) (Radiators)

SMIRNOV, N.I.; SMIRNOV, P.I.; SMIRNOV, S.I.; SHARAYEVA, K.M.

Automatic mixer. Kons.i ov.prom. 17 no.2:38-39 F '62. (MIRA 15:5)

(Mixing machinery)

SMIRNOV P.I.

AID P - 4584

Subject : USSR/Aeronautics - bibliography

Card 1/1 Pub. 135 - 19/23

Author : Zhakovich, I. A., Eng.-Lt.Col., Candid. Geogr. Sci.

Title : Study aid in aviation meteorology

Periodical : Vest. vozd. flota, 2, 86-88, F 1956

Abstract : Critical review of the book: Matveyev, L. T. and Smirnov, P. I. Osnovy Aviatsionnoy Meteorologii (Fundamentals of aviation meteorology), published by the Defense Ministry of USSR, Moskva, 1955, 336 p.

Institution : None

Submitted : No date

A. S. Zverev, "Synoptic Meteorology". Gidrometeoizdat, Leningrad 1957 SOV/50-58-11-19/25

Masses", the author should give a more detailed representation of the results of theoretical investigations in the field of transformation; 3) it would be more useful to discuss the transformation at the beginning of the chapter; 4) chapter 24, "Analysis of Air Masses", is represented to a very limited extent; 5) the schemes of fronts are represented without taking into proper account the latest experimental results; 6) the historical aspect of the formation of cyclones and anti-cyclones should be discussed in a somewhat more limited way. Modern views on this problem should be discussed in a closer connection with the theory of pressure variation; 7) the authors gave an unsatisfactorily detailed representation of the forecasts of cloud formations and thunderstorms.

Card 2/2

MATVEYEV, L.T.; SMIRNOV, P.I.; ASTAPENKO, P.D.; IGNAT'YEV, N.I., red.; SRIBNIS, N.V., tekhn. red.

[Principles of aviation meteorology] Osnovy aviatsionnoi meteorologii; odobreno Glavnym Shtabom Voenno-Vozdushnykh Sil v kachestve uchebnogo posobiia dlia kursantov aviatsionnykh uchilishch i shkol VVS Sovetskoi Armii. Moskva, Voenizdat, 1955. 334 p. (MIRA 16:11)
(Meteorology in aeronautics)

KHAYASI, K.[Hayashi, K.]; ANDO,T., prof.; KIMURA,K.; ZLOMANOV,V.A., [translator]; ZORIN , A.Ye.[translator]; LEVIN, L.Z. [translator]; PASHKOVSKIY, A.A.[translator]; SMIRNOV, P.I., red.; BUKOVSKAYA, N.A., tekhn. red.

[Ordnance rockets and Japan; military bases are a war threat] Raketnoe oruzhie i IAponiia; voennye bazy - ugroza miru. Vstup. stat'ia i kommentarii B.G.Sapozhnikova. Moskva, Voen. izd-vo M-va oborony SSSR, 1961. 246 p. Abridged translation from the Japanese. (MIRA 15:2)

1. Tokiyskiy universitet (for Ando).
(Japan—Rockets (Ordnance))

AKIYAMA, Kh. [Akiyama, Hiroshi]; GUSEV, M.A. [translator]; ZLOMANOV, V.A. [translator]; RYABKIN, A.G. [translator]; TULINOV, N.N. [translator]; SMIRNOV, P.I., red.; KHOMYAKOV, A.D., tekhn.red.

[Special detachment 731] Osobyi otriad 731. Moskva, Izd-vo inostr.lit-ry, 1958. 151 p. Translated from the Japanese. (MIRA 12:8)

(Manchuria--Bacteriological warfare)

GORYACHKO, K.V., podpolkovnik meditsinskoy sluzhby; [illegible], podpolkovnik meditsinskoy sluzhby; GAPONYUK, P.I., podpolkovnik meditsinskoy sluzhby; SMIRNOV, P.I., mayor meditsinskoy sluzhby; VASILENKO, P.V., mayor meditsinskoy sluzhby

Characteristics of an influenza outbreak among garrison personnel. Voen. - med. zhur. no.1:54-56 1963. (MIRA 17:8)

SMIRNOV, P.I.

25(5) PHASE I BOOK EXPLOITATION SOV/1317

Kirovskiy rayon Leningrada v bor'be za tekhnicheskiy progress; [sbornik statey] (The Kirov District of Leningrad Strives for Technological Progress; Collection of Articles) Leningrad, Sudpromgiz, 1957. 171 p. 1,100 copies printed.

Resp. Ed.: Popilov, L.Ya.; Tech. Ed.: Kuznetsova, P.A.

PURPOSE: This book may be useful to personnel of the shipbuilding, instrument-making, machinery, chemical and metallurgical industries, and to personnel of the maritime and river fleets.

COVERAGE: This collection of articles describes the progressive experience of the industrial plants of the Kirov district of the city of Leningrad in the fields of shipbuilding, machine building, instrument-making, casting, hydrolytic and other industries. New manufacturing methods are discussed in the articles by V.F. Kovyzhkin, V.P. Kuznetsov, A.Kh. Starostenko, I.A. Maslov, A.L. Labutin, and Ya.M. Shmekker. It is stated that the plant "Krasnyy khimik" has developed and is using a new improved method of making citric acid with the use of tagged atoms. This method has increased production by 48 percent. The plant also makes use

Card 1/4

KUL'SKIY, L.A.; SMIRNOV, P.I.

Installation for disinfecting water drawn from well shafts. Vod. i san.tekh. no.2:17-18 F '56. (MLRA 9:6)
(Water--Purification)

KUL'SKIY, L.A.; SMIRNOV, P.I.

Schemes of installations for the discoloration and disinfection of water in low-capacity water-supply systems. Vod. i san.tekh. no.2:27-30 F '59. (MIRA 12:2)
(Water--Purification)

SMIRNOV, P. I.

Cand Tech Sci - (diss) "Technology of purifying colored slightly turbid waters by an oxidative method in water lines of low productivity." Novosibirsk, 1961. 24 pp with diagrams; (Ministry of Higher and Secondary Specialist Education RSFSR, Novosibirsk Construction Engineering Inst imeni V. V. Kuybyshev); number of copies not given; price not given; (KL, 6-61 sup, 225)

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