Semenescu, M.

SEMENESCU, M.

SEMENESCU, M. Considerations on depths which shall be ensured in Rumanian maritime harbors. I. p. 449.

Vol. 3, no. 12, Dec. 1956.
REVISTA TRANSPORTURILOR.
TECHNOLOGY
RUMANIA

So: East European Accession, Vol. 6, No. 5, May 1957

Semenescu, M.

SEMENESCU, M.

SEMENESCU, M. Considerations on depths which shall be ensured in Rumanian maritime harbors. II. p. 1.

Vol. 4, no. 1, Jan. 1957.
REVISTA TRANSPORTURILOR.
TECHNOLOGY
RUMANIA

So: East European Accession, Vol. 6, No. 5, May 1957

[redacted], V.

Considerations on the assurance of maritime navigation through the Sulina estuary.

P. 476 (REVISTA TRANSPORTURILOR) (Bucuresti, Rumania) Vol. 4, no. 11, Nov. 1957

SO: Monthly Index of East European Accessions (EEAI) LC Vol. 7, No. 5. 1958

SEMENESCU, M., ing.

Freezing phenomenon at the Iron Gates section. Pt. 2. Meteorologia hidrol gosp 6 no.1:3-12 '61.

SEMENESCU, M., ing.

Pushing, a new navigation method and its possible application on the Danube River. Rev transport 8 no. 8:333-342 Ag '61.

SEMENETS, A.

Control of the educational process. Prof.-tekh obr. 14 no.2:20-21 F '57. (MLRA 10:4)

1. Zamestitel' direktora uchilishcha mekhanizatsii sel'skogo khozyaystva no.2, Sumskaya oblast'.
(Farm mechanization--Study and teaching)

SEMENETS, G.L., inzh.

Manual for calculating elements of rail and ballast sections ("Static calculation of elements of rail and ballast sections" by V.I.Kuznetsov. Reviewed by G.L.Semenets.) Transp.stroi.7 no.5:32 My '57. (MIRA 10:11)
(Railroads--Tracks--Handbooks, manuals, etc.)
(Kuznetsov, V.I.)

SEMENETS, G.L., inzh.

"Designing girders on solid elastic bases" by I.A. Simvulidi. Reviewed by G.L. Semenets. Transp.stroi. 9 no.6:60-61 Je '59. (MIRA 12:11)
(Girders) (Simvulidi, I.A.)

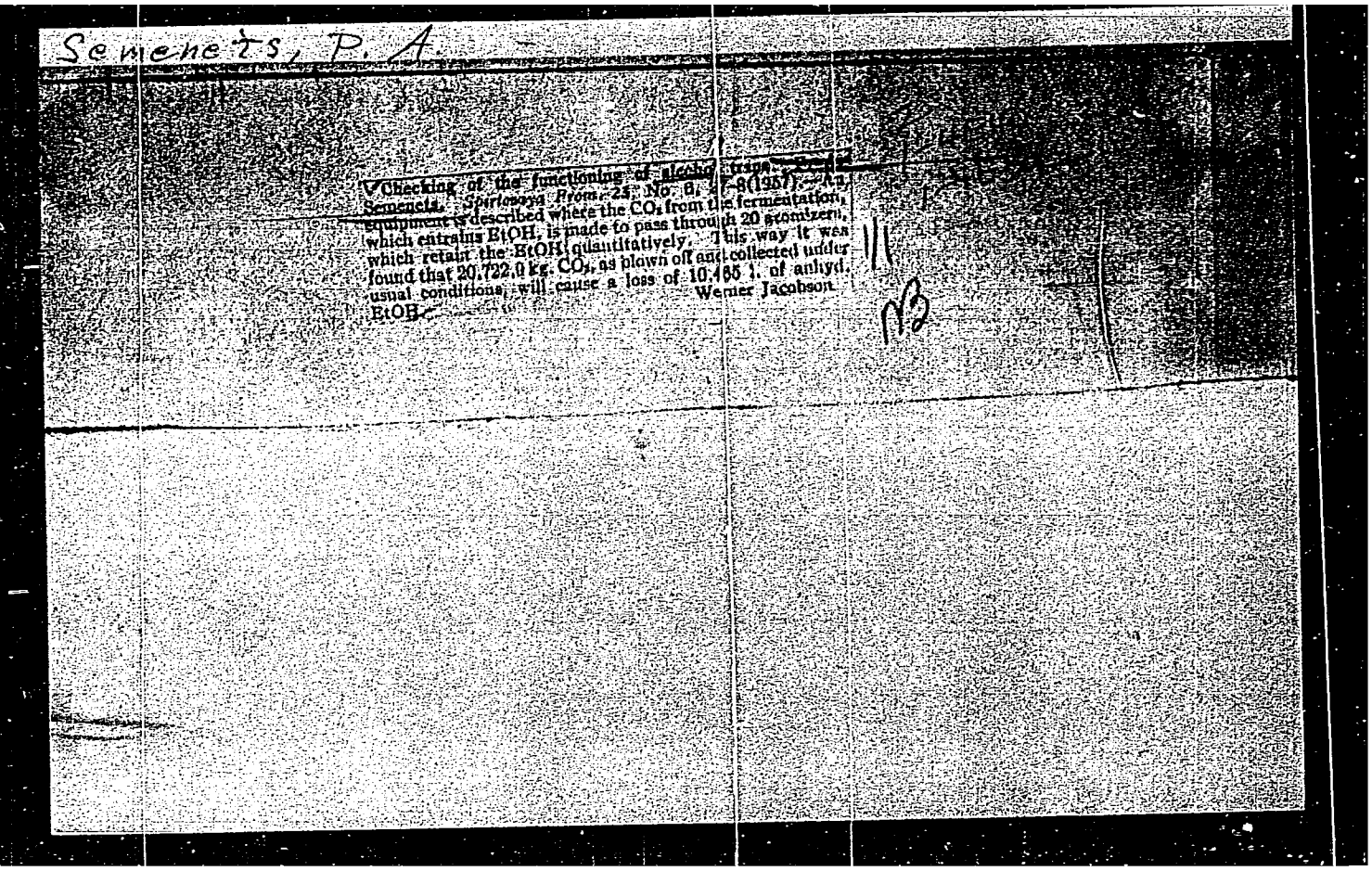
SEMENETS, L.V.; MOISEYEV, L.S.; KULIK, V.A.

Calculating the actual spatial function of bridge spans.
Avt.dor. 22 no.11:17-18 N '59. (MIRA 13:2)
(Bridges)

BARADANOV, M.; SEMENETS, P.

Educational significance of collective forms of wage payment. (MIRA 14:6)
Sots. trud 5 no.12:116-121 D '60.

1. Nachal'nik normativno-issledovatel'skoy laborartorii po trudu konservnogo zavoda imeni 1-go Maya (for Baradanov).
(Tiraspol' —Canning industry)
(Moscow—Bearing industry)
(Wage payment systems)



Semenets, P. A.

Checking of the functioning of alcoho[illegible] traps. [illegible]
Semenets. Spirtovaya Prom., 25, No. 8, [illegible]-8(1957).—An
equipment is described where the CO_2 from the fermentation,
which entrains EtOH, is made to pass through 20 scrubbers,
which retain the EtOH quantitatively. This way it was
found that 20,722.0 kg. CO_2, as blown off and collected under
usual conditions, will cause a loss of 10.165 l. of anhyd.
EtOH.—

Werner Jacobson

SEMENETS, P.A.

Brewing of sugar-beet molasses into alcohol. Spirt. prom. 25 no.6:29-31 '59. (MIRA 12:12)
(Andrushevka--Alcohol)

SEMENETS, P.A.; DOKIYENKO, O.I.

Growing of feed yeast on molasses worts. Spirt. prom. 29 no.8:22-24 '63. (MIRA 17:2)

1. Andrushevskiy spirtovoy zavod.

RAYEV, Z.A.; DROTYANKO, A.S.; KORDYUKOVA, N.S.; SEMENETS, P.A.; KOVALENKO, A.D.; PARKHOMENKO, M.R.

Treatment of yeast milk with malt wort for the improvement of the quality of compressed yeast. Ferm. i spirt. prom. 31 no.7:18-22 '65. (MIRA 18:11)

1. Ukrainsky nauchno-issledovatel'skiy institut spirtovoy i likero-vodochnoy promyshlennosti (for Rayev, Drotyanko, Kordyukova). 2. Andrushevskiy spirtokombinat (for Semenets, Kovalenko, Parkhomenko).

ACC NR: AP6011588 SOURCE CODE: UR/0256/66/000/003/0082/0085

AUTHOR: Semenets, P. M. (Engineer; Major)

ORG: None

TITLE: What drawing numbers mean

SOURCE: Vestnik protivovozdushnoy oborony, no. 3, 1966, 82-85

TOPIC TAGS: servicing technique, ~~military personnel~~, industrial production, MILITARY ENGINEERING

ABSTRACT: The use of manufacturer's drawing numbers is explained to assist engineering and technical personnel in understanding their application when placing orders for replacement parts. Of particular concern are those numbers associated with special products and which differ from those listed in the All-Union State Standards. The system is designed so drawings and specifications can be transferred from one plant in the military production system to another without copying or reworking. The manner in which this is done is explained, with specific examples given as illustrative of the process. The system can classify 10,000 different product types, with 1,000 individual varieties within each type.

SUB CODE: 15,13/SUBM DATE: None

Card 1/1

VARFOLOMEYEV, F.G.; GEL'FENBOYM, M.Sh.; KOTOVICH, Yu.V.; OSTANOVSKIY, T.S.; SEMENETS, V.M.; SHIROKOVA, Ye.A.; EYGINSON, Ye.N.; VVEDENSKIY, S.F., red.; SINEL'NIKOVA, TS.B., red.; TSESARKIN, L.D., red.

[Study of goods serving cultural needs] Tovarovedenie kul'ttovarov. [By] F.G.Varfolomeev i dr. Moskva, Izd-vo Ekonomika, 1964. 471 p. (MIRA 17:5)

SEMENETS, Ye. P.

50-2-12/22

AUTHOR: Semenets, Ye. P.

TITLE: Working Experience of the Agrometeorological Station in Kolkhoz imeni Karl Liebknecht (Odessa Oblast) (Opyt raboty agrometeorologicheskogo posta v kolkhoze im. Karla Libknekhta (Odesskoy oblasti))

PERIODICAL: Meteorologiya i Gidrologiya, 1958, Nr 2, pp. 42-43 (USSR)

ABSTRACT: The Kolkhos imeni Karl Liebknecht lies in one of the suburbs Odessa and in November 1955 an agrometeorological station was established there. This station is working now in the third year, the observation results are, however, already exploited in a series of agrotechnical measurements with reference to concrete agrometeorological conditions in various fields.
Systematic meteorological observations with reference to the weather forecast help the Kolchose to protect the seed against possible damage by spring frosts.
In order to help the meteorological station and the agronomists of this kolchose the meteorological station of Odessa made up a series of agrometeorological tables

Card 1/2

INIKHOV, Georgiy Sergeyevich, zasluzhennyy deyatel' nauki i tekhniki, doktor khimicheskikh nauk, professor; PEROV, S.S., retsenzent; SEMENETS, Z.F., retsenzent; GORYAYEV, M.I., spetsredaktor; AKIMOVA, L.D., redaktor; GOTLIB, E.M., tekhnicheskiy redaktor

[Biochemistry of milk and milk products] Biokhimiia moloka i molochnykh produktov. Moskva, Pishchepromizdat, 1956. 294 p. (MLRA 10:1)

(Milk--Analysis and examination)

INIKHOV, Georgiy Sergeyevich, Zasl. deyatel' nauki i tekhniki, doktor khim. nauk, prof.; BRIO, N.P., retsenzent; SEMENETS, Z.F., retsenzent; BOGATAYA, L.M., red.; ZARSHCHIKOVA, L.N., tekhn. red.

[Biochemistry of milk and milk products]Biokhimiia molcka i molochnykh produktov. 2. izd. Moskva, Pishchepromizdat, 1962. 287 p. (MIRA 15:12)
(Dairy products--Analysis and examination)

SEMENEV, G.

Organic link between science and production. Podnik organizace 17 no.2:94-95 F '63.

SEMENICHENKO, V. K.

Semenichenko, V. K. - "Type II phase transitions as a generalization of the critical phenomenon," Vestnik Mosk. un-ta, 1948, No. 11, p. 103-10 -- Bibiog: p. 110

So: U-3566, 15 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 13, 1949)

SEMENICHEVA, A.A.

2406. Determination of atropine sulphate in eye drops. A. A. Semenicheva (*Aptechnoe Delo*, 1953, 2 [4], 18–21).—Atropine sulphate in neutral soln. is treated with sodium picrate, and the atropine picrate formed is extracted with $CHCl_3$; after removal of the $CHCl_3$, the picrate is treated with sodium sulphide solution and the colour of the sodium picramate formed is compared with standards prepared by reducing picric acid solutions in the same way. E. HAYES

Lab. Pharmaceut. Analysis,
Central Sci. Res. Pharm. Inst., Moscow

SEMENIDO, G. Ye.; IL'INA, D. Ye.; SHISHKINA, M. V.; KRENTSEL', B. A.

Polymerization of trichloroacetaldehyde in the presence of an organometallic catalyst. Dokl. AN SSSR 147 no.6:1386-1388 D '62. (MIRA 16:1)

1. Institut neftekhimicheskogo sinteza AN SSSR. Predstavleno akademikom A. V. Topchiyevym.

(Acetaldehyde) (Polymerization)
(Catalysts)

S/190/63/005/004/013/020
B101/B220

AUTHORS: Krentsel', B. A., Semenido, G. Ye., Il'ina, D. Ye.

TITLE: Degradation of polymers containing chlorine. I. Degradation of chlorinated polypropylene

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 5, no. 4, 1963, 558-563

TEXT: Chlorinated polypropylene (CPP) containing 3 - 75.25 % Cl was heated in vacuo at 100 - 250°C and the gases evolved were determined chromatographically, while the HCl liberated was measured argentometrically. Up to 238°C only HCl is liberated in quantities increasing with the temperature. The rate of CPP degradation is constant for the first 10 - 20 min, after which the degradation reaches a certain degree and then ceases at the given temperature. This is attributed to possible intramolecular and intermolecular dehydrochlorination, in the latter case with crosslinking. For the intramolecular process $k_1 = A_1 \exp(-E_1/RT)$, for the intermolecular process $k_2 = A_2 \exp(-E_2/RT)$, where $E_2 < E_1$, $A_2 > A_1$. Hence, at low temperatures $k_2 > k_1$, intermolecular dehydrochlorination sets in, and

Card 1/2

S/190/63/005/004/013/020
B101/B220

Degradation of polymers ...

since HCl liberation from the crosslinked polymer is made difficult it ceases at a given temperature. The mean effective activation energy of this dehydrochlorination is E = 8 kcal/mole. CPP with 45 % Cl, in which thus all H atoms bound to tertiary C atoms are substituted by Cl, shows the lowest heat resistance. There are 6 figures and 2 tables.

ASSOCIATION: Institut neftekhimicheskogo sinteza AN SSSR (Institute of Petrochemical Synthesis of AS USSR)

SUBMITTED: October 2, 1961

Card 2/2

S/190/63/005/004/014/020
B101/B220

AUTHORS: Krentsel', B. A., Semenido, G. Ye., Il'ina, D. Ye., Shishkina, M. V.

TITLE: Degradation of polymers containing chlorine. II. Dehydrochlorination mechanism of chlorinated polypropylene

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 5, no. 4, 1963, 564-567

TEXT: The IR spectra of chlorinated polypropylene were studied after thermal treatment at 120 and 238°C. A comparison with the IR spectrum of polypropylene shows that chlorine substitutes mainly the H atoms bound to the tertiary C atoms. Thermal treatment at 120°C had almost no effect on the IR spectrum. At 238°C, however, several bands were observed which confirmed crosslinking by intermolecular dehydrochlorination. A discussion of the possible reaction processes shows that a radical mechanism is improbable since its activation energy, E = 36.5 kcal/mole, is higher than the activation energy of dehydrochlorination, E = 8 kcal/mole, and the radical process sets in only above 140°C. Hence an ionic mechanism is assumed. The polarizing effect of chlorine induces positive charges at the α and β

Card 1/2

Degradation of polymers ...

C atoms so that protons are knocked out and crosslinking sets in. There is 1 figure.

ASSOCIATION: Institut neftekhimicheskogo sinteza AN SSSR (Institute of Petrochemical Synthesis of AS USSR)

SUBMITTED: October 2, 1961

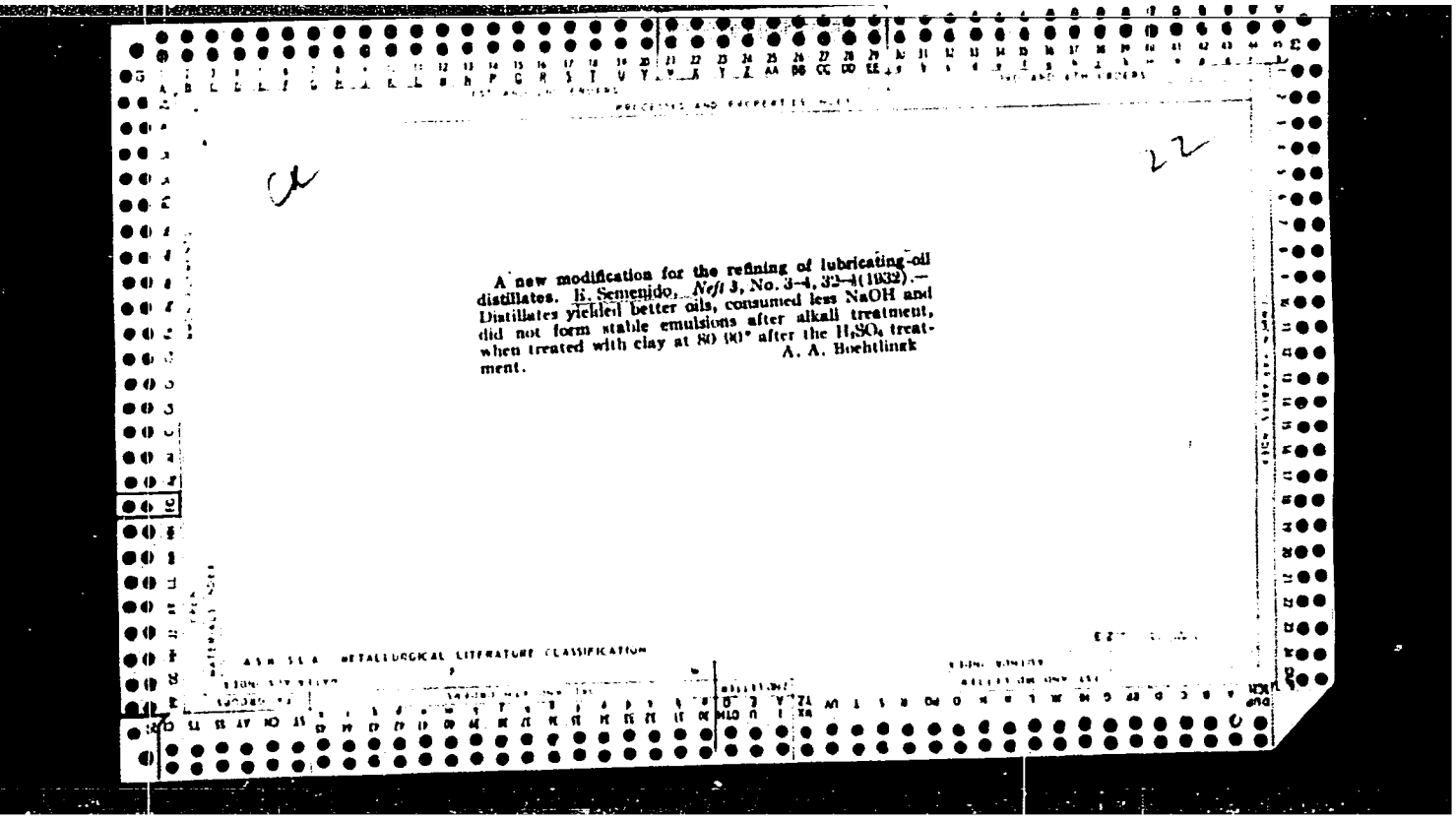
Card 2/2

SEMENIDO, V.I., kandidat tekhnicheskikh nauk.

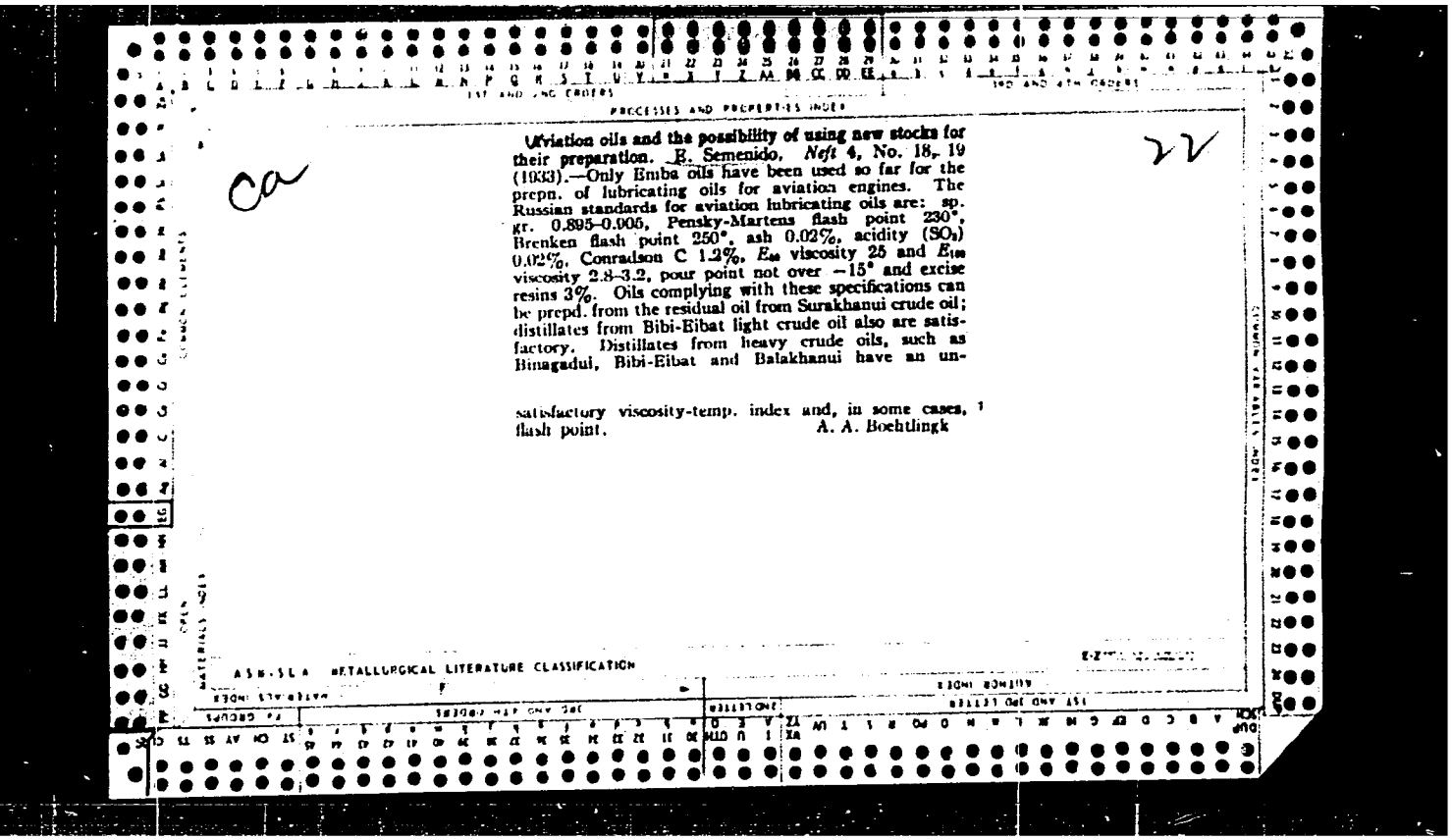
Checking calculations of unsteady motion in an open channel.
Gidr.i mel. 8 no.7:51-52 Jl '56. (MLRA 9:9)
(Fluid dynamics)

KAMINSKIY, I.Ya.; SEMENIDO, V.I.

Covering peak loads in the Tashkent electric power system.
Izv. AN Uz. SSR. Ser. tekh. nauk 7 no.4:75-76 '63.
(MIRA 16:11)



A new modification for the refining of lubricating-oil distillates. B. Semenido. *Neft* 3, No. 3–4, 33–4 (1932).—Distillates yielded better oils, consumed less NaOH and did not form stable emulsions after alkali treatment, when treated with clay at 80 (90)° after the H_2SO_4 treatment.
A. A. Boehtlingk

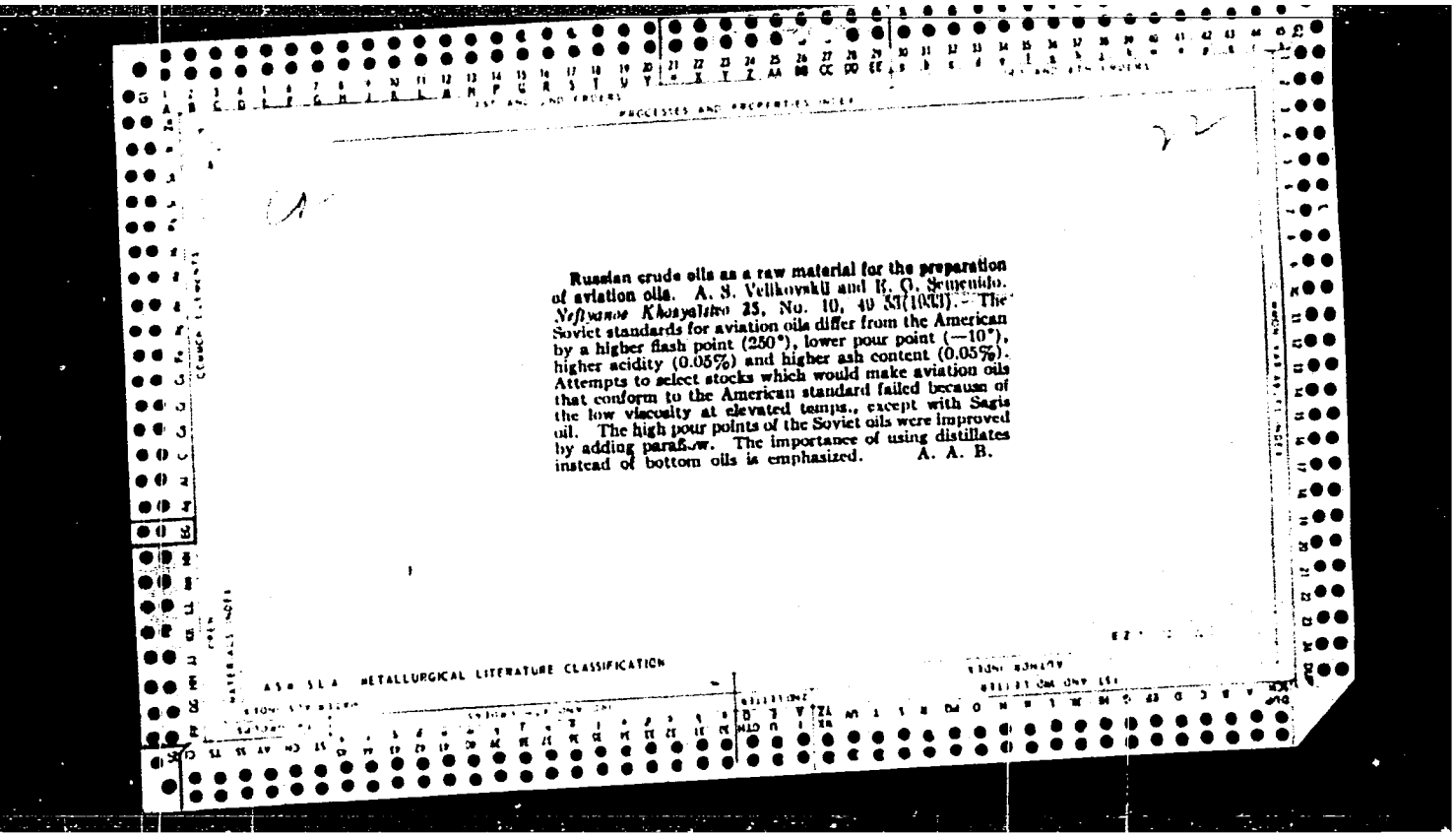


PROCESSES AND PROPERTIES INDEX

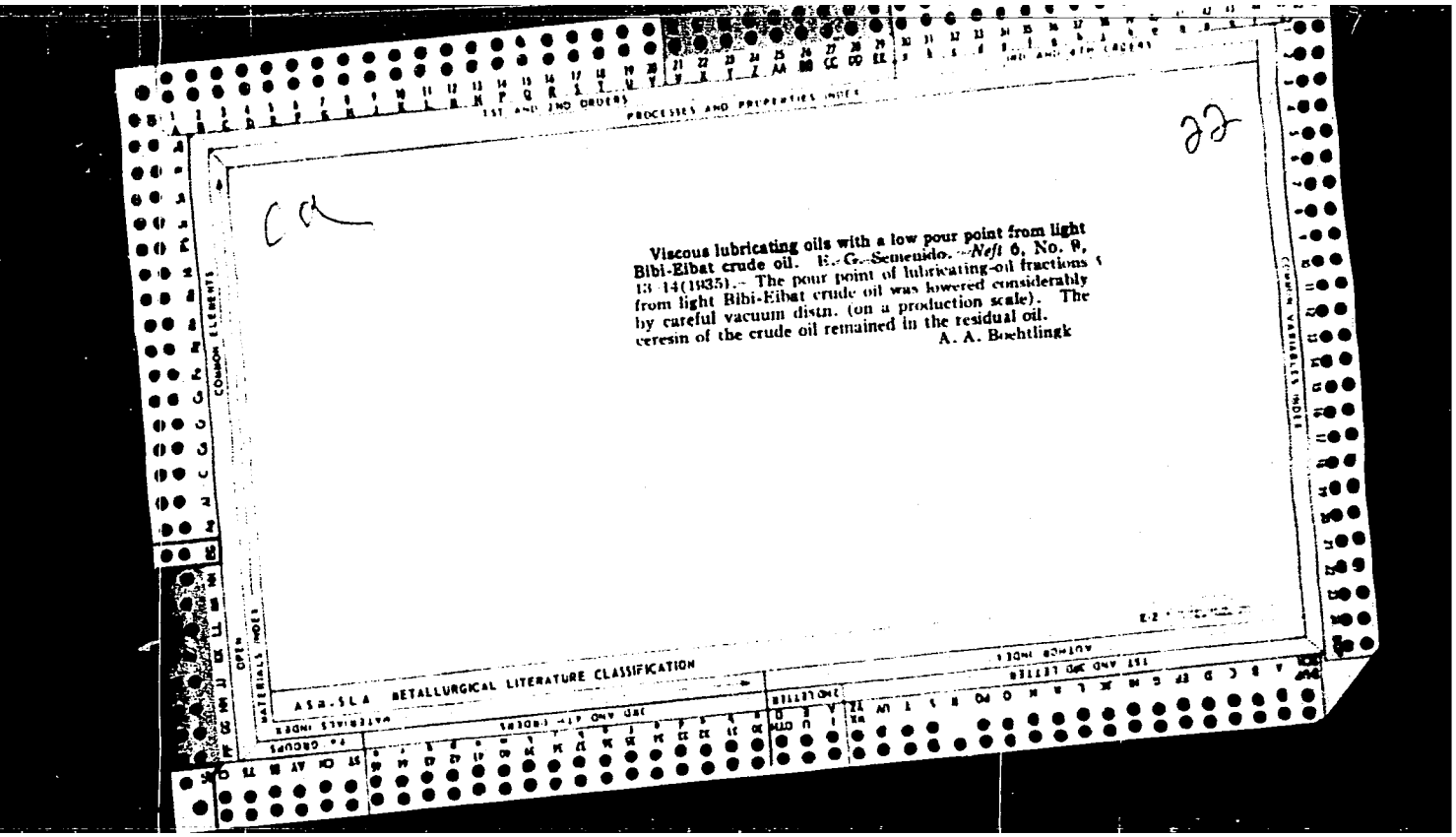
Aviation oils and the possibility of using new stocks for their preparation. E. Semenido, *Neft* 4, No. 18, 19 (1933).—Only Emba oils have been used so far for the prepn. of lubricating oils for aviation engines. The Russian standards for aviation lubricating oils are: sp. gr. 0.895–0.905, Pensky-Martens flash point 230°, Brenken flash point 250°, ash 0.02%, acidity (SO_3) 0.02%, Conradson C 1.2%, E_{50} viscosity 25 and E_{100} viscosity 2.8–3.2, pour point not over −15° and excise resins 3%. Oils complying with these specifications can be prepd. from the residual oil from Surakhanui crude oil; distillates from Bibi-Eibat light crude oil also are satisfactory. Distillates from heavy crude oils, such as Binagadui, Bibi-Eibat and Balakhanui have an unsatisfactory viscosity-temp. index and, in some cases, flash point.

A. A. Boehtlingk

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



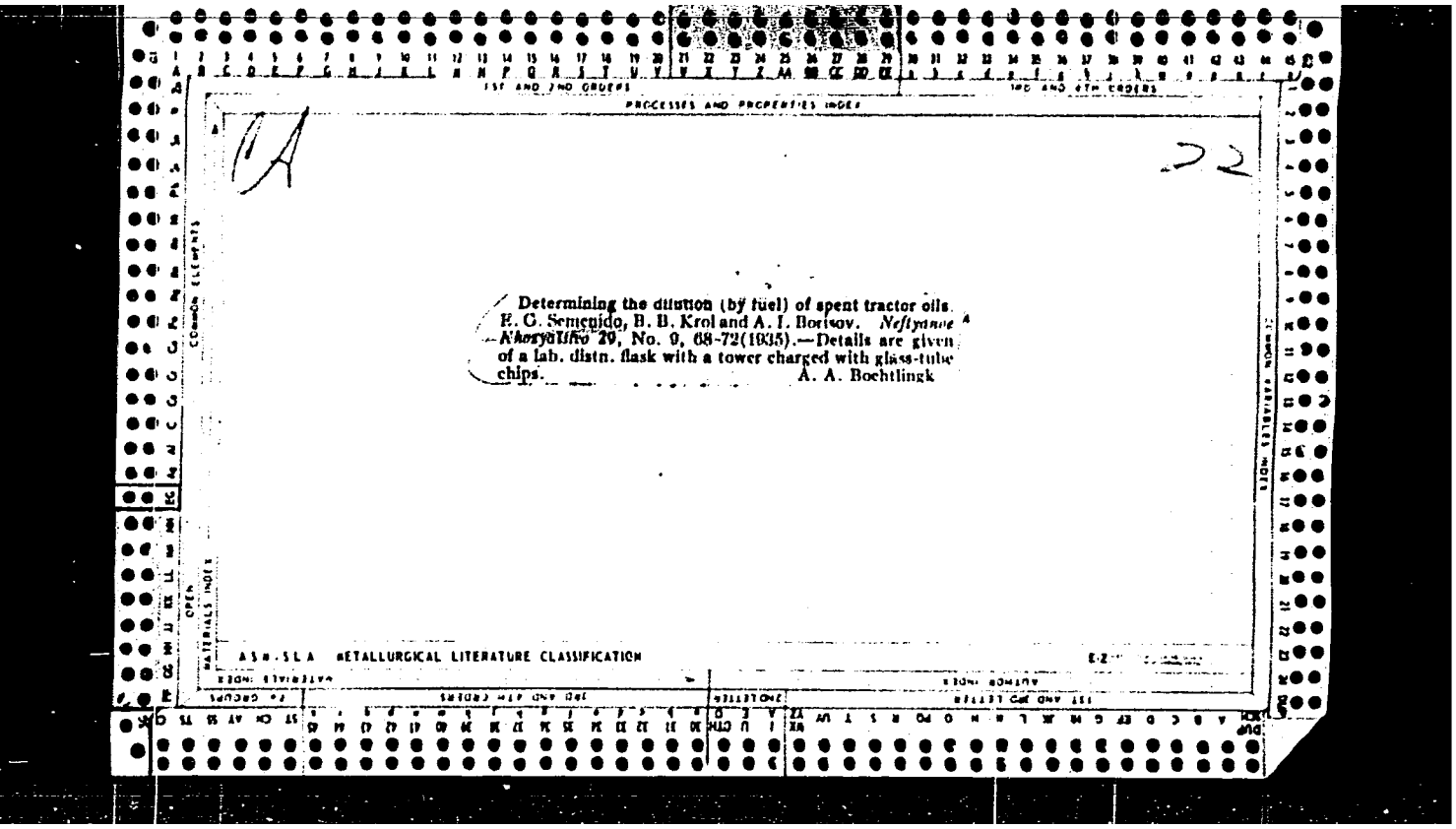
Russian crude oils as a raw material for the preparation of aviation oils. A. S. Velikovskii and K. O. Semenido. *Neftyanoe Khozyaistvo* 25, No. 10, 49-57(1937).—The Soviet standards for aviation oils differ from the American by a higher flash point (250°), lower pour point (−10°), higher acidity (0.05%) and higher ash content (0.05%). Attempts to select stocks which would make aviation oils that conform to the American standard failed because of the low viscosity at elevated temps., except with Sagis oil. The high pour points of the Soviet oils were improved by adding paraffin wax. The importance of using distillates instead of bottom oils is emphasized. A. A. B.



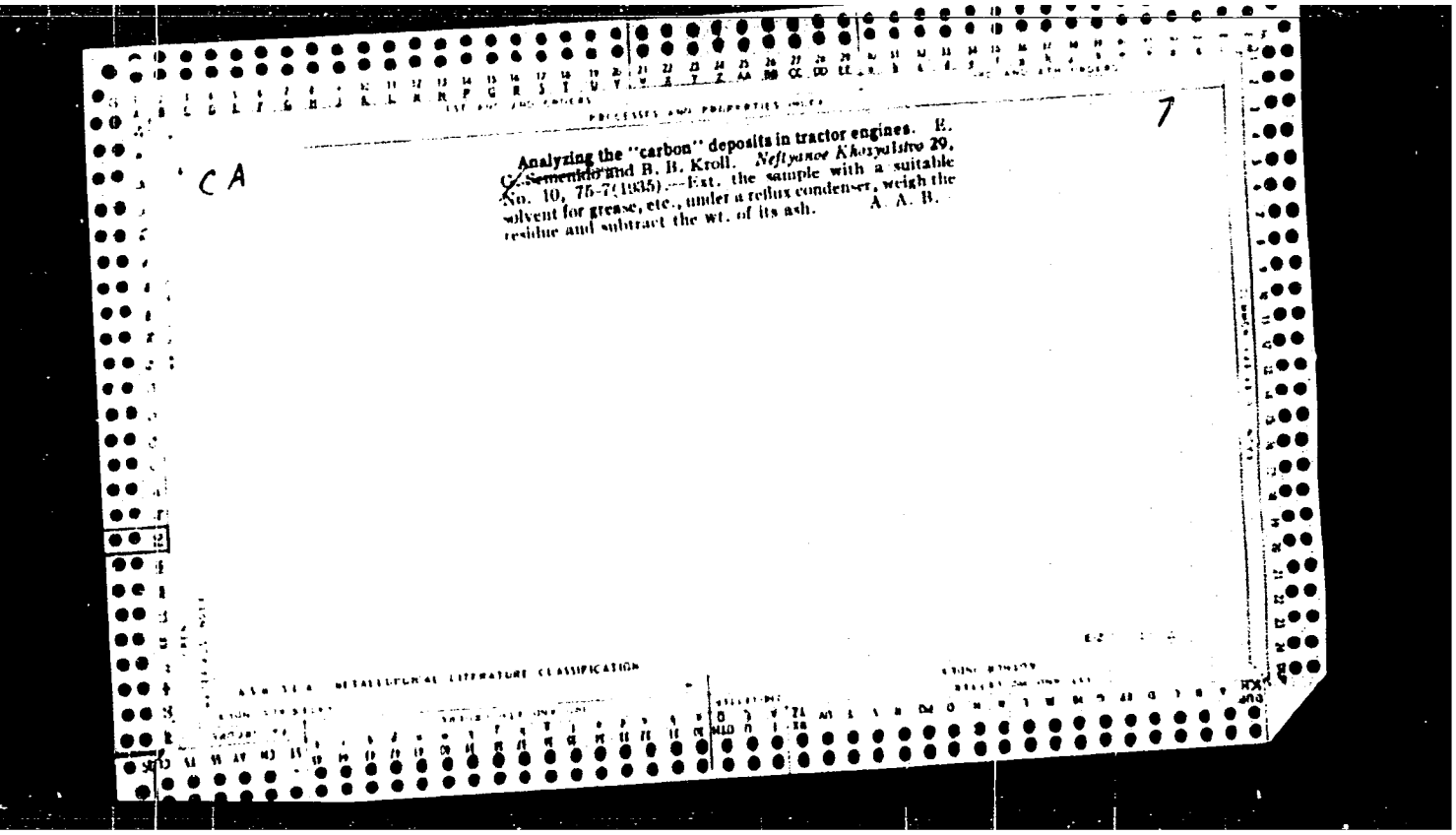
Viscous lubricating oils with a low pour point from light Bibi-Eibat crude oil. E. G. Semeniido. *Neft* 6, No. 9, 13–14(1935).— The pour point of lubricating-oil fractions s from light Bibi-Eibat crude oil was lowered considerably by careful vacuum distn. (on a production scale). The ceresin of the crude oil remained in the residual oil.
A. A. Boehtlingk

Working out a standard for tractor oils. E. G. Semenido. *Neft* 6, No. 9, 14-15(1935). The following specifications were developed for two tractor oils ("avtol 10" and "avtol T"): sp. gr. 0.925, 0.935; Brenken flash 205, 215°; E_{50} 10-12, not over 18; E_{100} not less than 1.8, 2.2-2.5; pour point not over 5° and 0°; ash not over 0.02 and 0.003%; acidity (% SO_3) not over 0.02 and 0.03%; mech. admixts. none; and Dubosc color not lower than 5 mm. and 3 mm. A. A. Bochtlingk

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



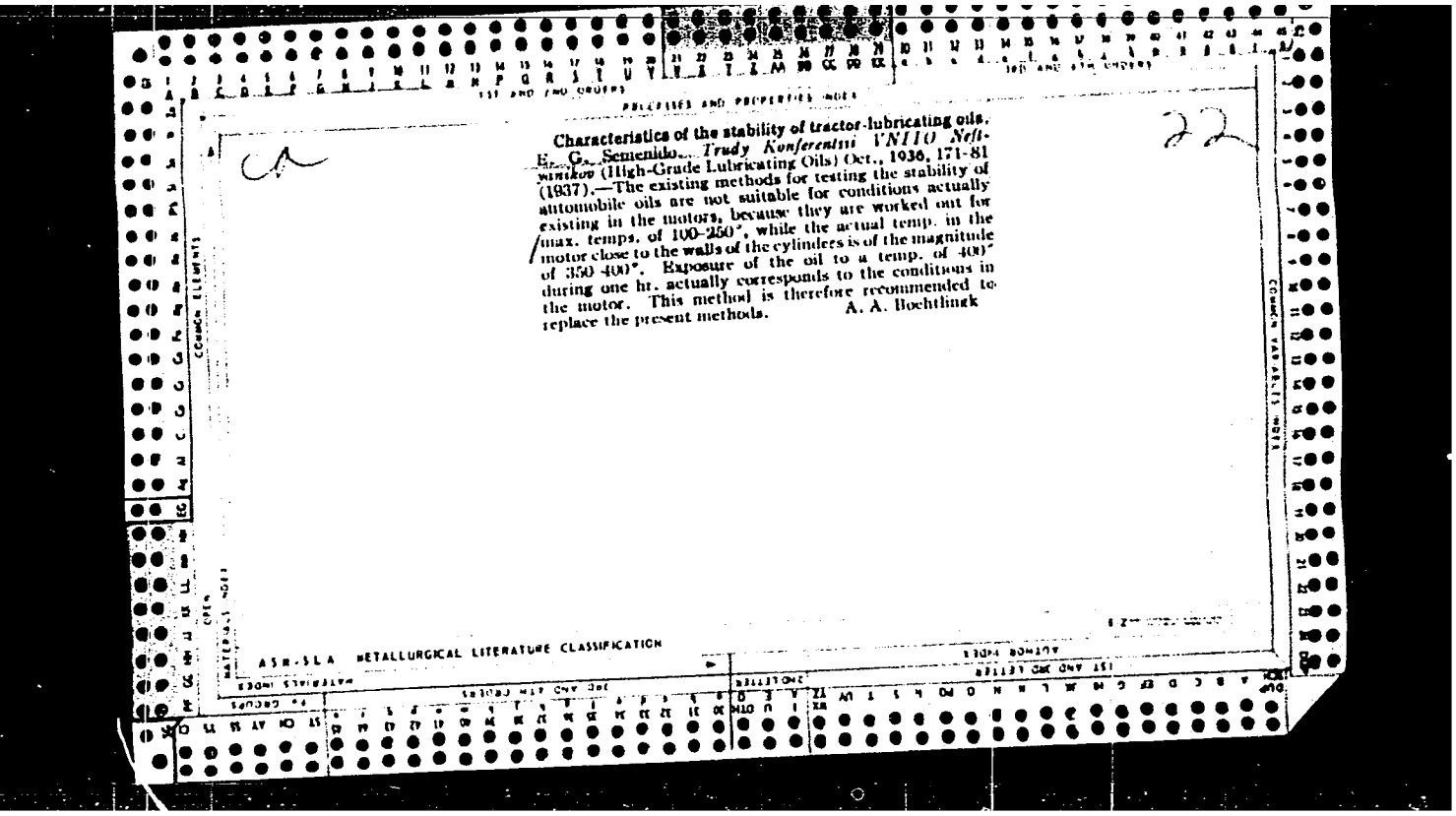
Determining the dilution (by fuel) of spent tractor oils. P. G. Semenido, B. B. Krol and A. I. Borisov. *Neftyanoe Khozyaistvo* 29, No. 9, 68-72(1935).—Details are given of a lab. distn. flask with a tower charged with glass-tube chips. A. A. Boehtlingk



CA

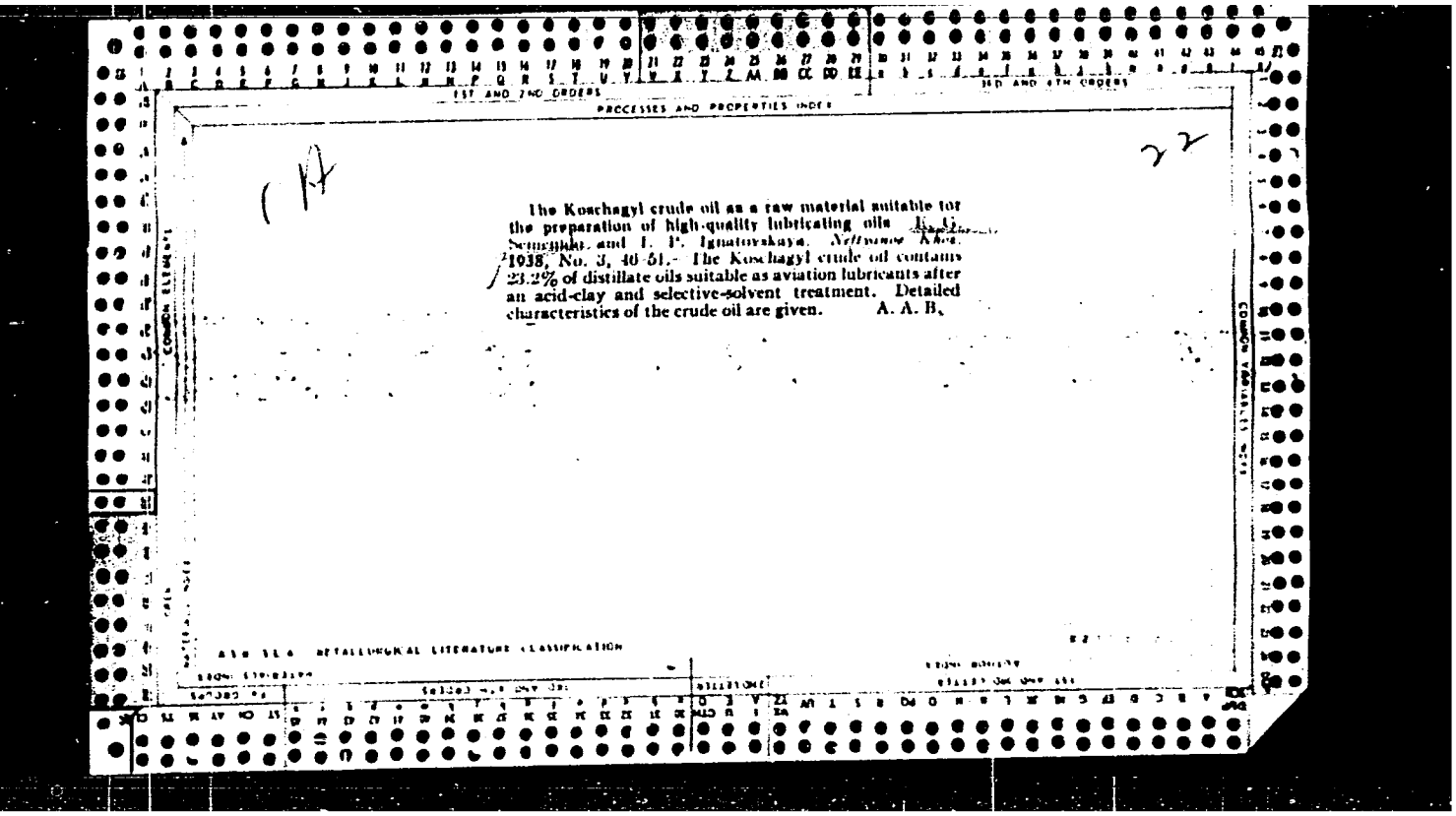
Analyzing the "carbon" deposits in tractor engines. E. C. Semendio and B. B. Kroll. *Neftyanoe Khozyaistvo* 29, No. 10, 75-7(1935).—Ext. the sample with a suitable solvent for grease, etc., under a reflux condenser, weigh the residue and subtract the wt. of its ash. A. A. B.

7

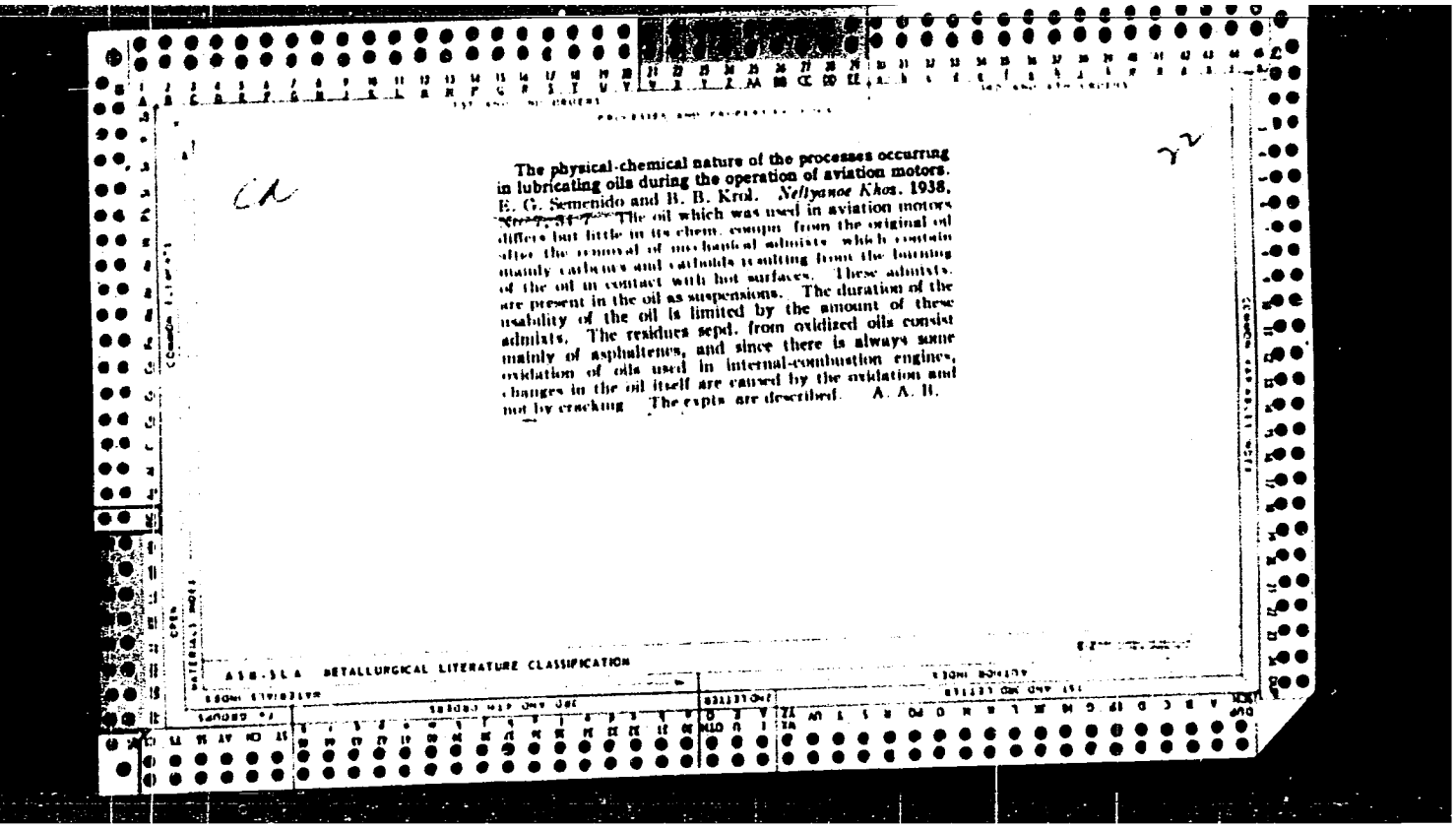


Characteristics of the stability of tractor-lubricating oils. E. G. Semenido. *Trudy Konferentsii VNIIO Neftyanikov* (High-Grade Lubricating Oils) Oct., 1936, 171-81 (1937).—The existing methods for testing the stability of automobile oils are not suitable for conditions actually existing in the motors, because they are worked out for max. temps. of 100-250°, while the actual temp. in the motor close to the walls of the cylinders is of the magnitude of 350-400°. Exposure of the oil to a temp. of 400° during one hr. actually corresponds to the conditions in the motor. This method is therefore recommended to replace the present methods. A. A. Boehtlingk

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

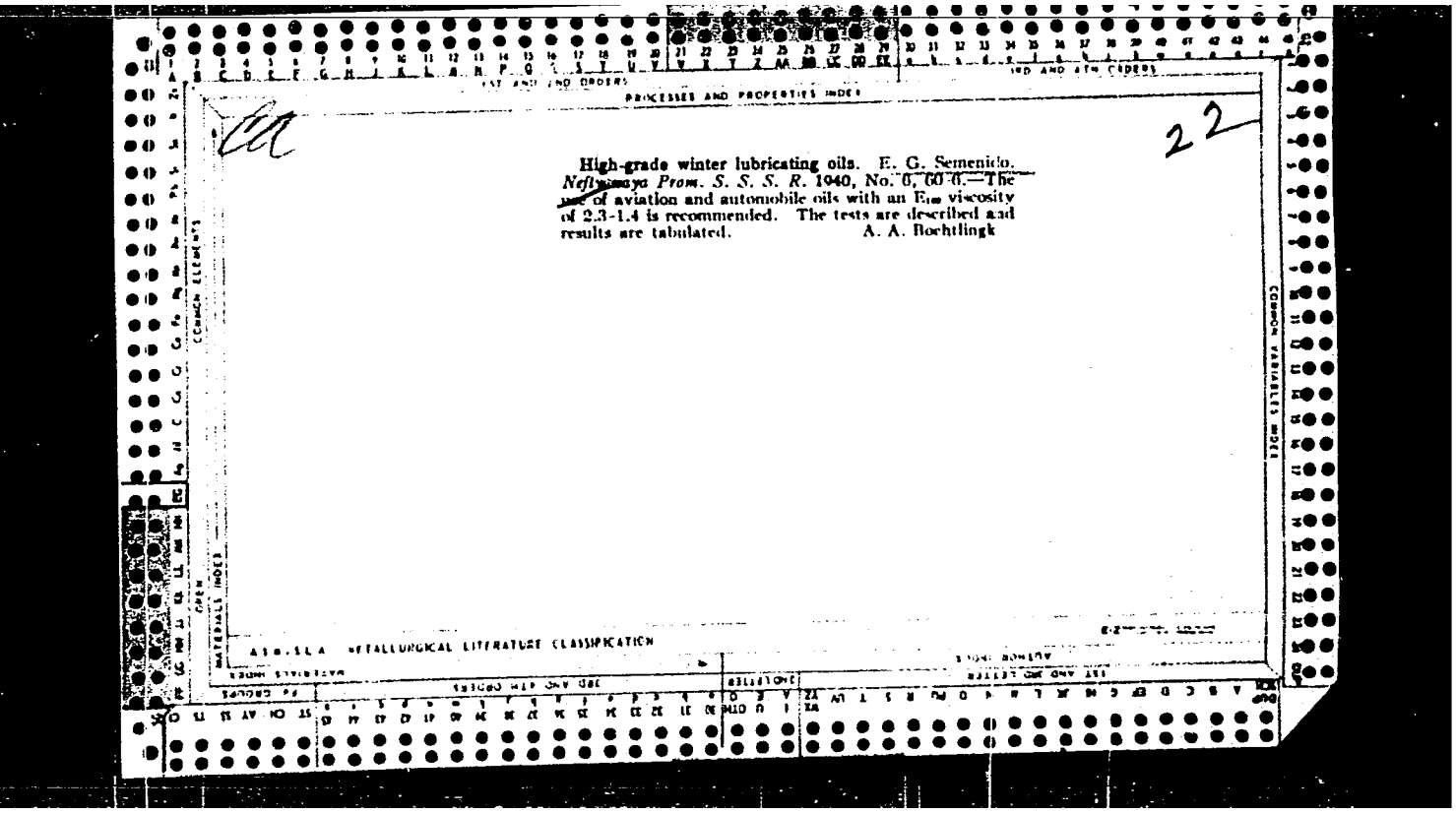


The Koschagyl crude oil as a raw material suitable for the preparation of high-quality lubricating oils [illegible] Sernigina and I. F. Ignatovskaya. *Neftyanoe Delo*, 1938, No. 3, 40–51.—The Koschagyl crude oil contains 23.2% of distillate oils suitable as aviation lubricants after an acid-clay and selective-solvent treatment. Detailed characteristics of the crude oil are given. A. A. B.



The physical-chemical nature of the processes occurring in lubricating oils during the operation of aviation motors. E. G. Semenido and B. B. Krol. *Neftyanoe Khoz.* 1938, [illegible] The oil which was used in aviation motors differs but little in its chem. compn. from the original oil after the removal of mechanical admixts. which contain mainly carbenes and carboids resulting from the burning of the oil in contact with hot surfaces. These admixts. are present in the oil as suspensions. The duration of the usability of the oil is limited by the amount of these admixts. The residues sepd. from oxidized oils consist mainly of asphaltenes, and since there is always some oxidation of oils used in internal-combustion engines, changes in the oil itself are caused by the oxidation and not by cracking. The expts. are described. A. A. B.

A58-51A METALLURGICAL LITERATURE CLASSIFICATION



High-grade winter lubricating oils. E. G. Semenido. *Neftyanaya Prom. S. S. S. R.* 1940, No. 6, 60-6.—The use of aviation and automobile oils with an E_{50} viscosity of 2.3-1.4 is recommended. The tests are described and results are tabulated. A. A. Boehtlingk

PROCESSES AND PROPERTIES INDEX

CA

22

Viscosity as the characteristic property of lubricating emulsions under service conditions in internal combustion engines. R. O. Semenklo. *Akad. Nauk S.S.S.R., Otdel. Tekh. Nauk, Inst. Mashinovedeniya, Soveshchanie Vyazkosti Zhidkostei i Kolloid. Rastvorov* (Conf. on Viscosity of Liquids and Colloidal Solns.) 2, 217-21(1941)

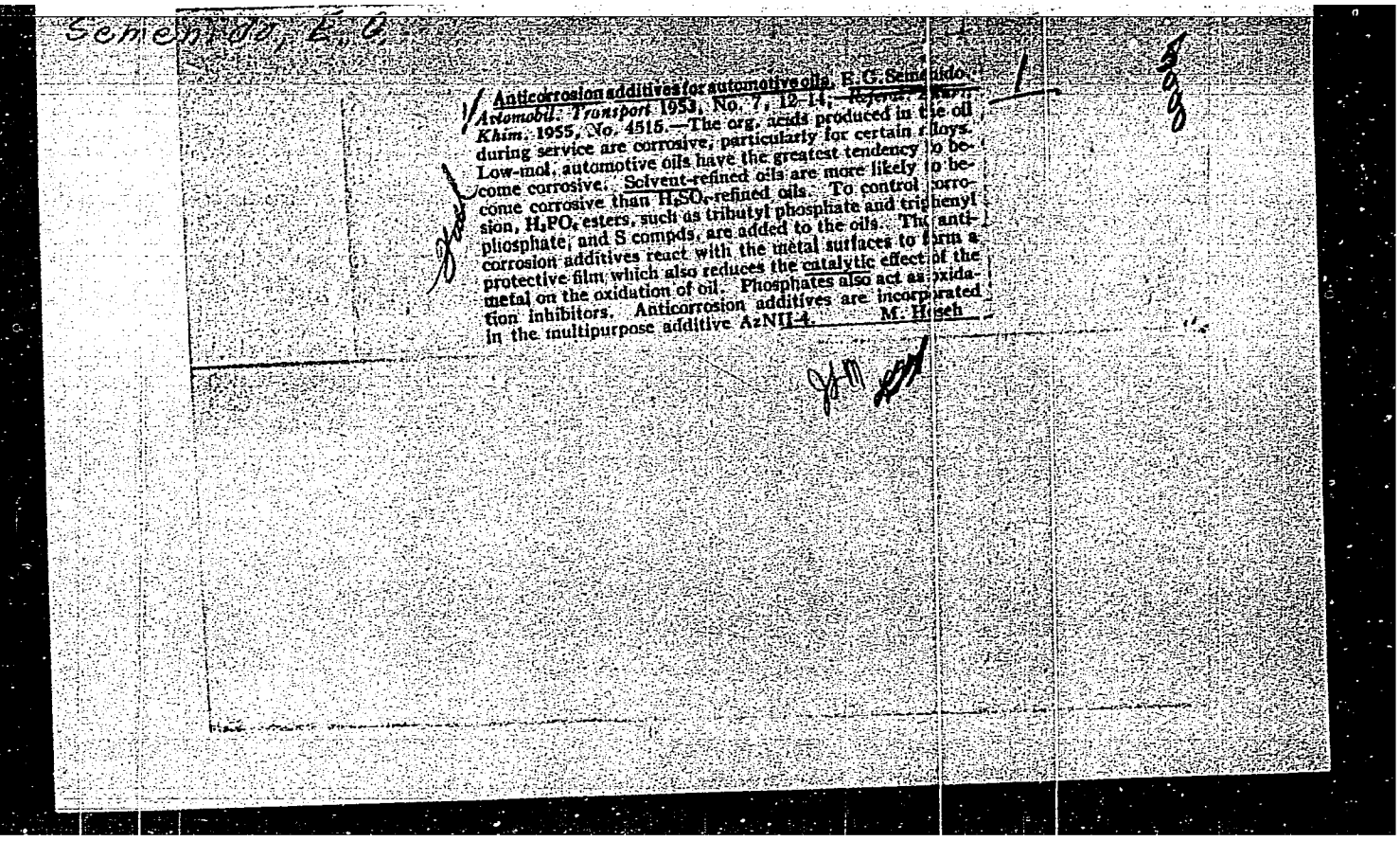
In all cases, lubricating oils show an initial slight drop in
viscosity during the first few hrs. of work in an engine,
followed by subsequent steady increase. The latter effect
is attributed to the directly observed accumulation of
mechanically suspended carbidic matter reaching, e.g.,
about 3% in 40 hrs. Filtration restores the original lower
viscosity of the fresh oil. The initial drop, owing to diln.
by fuel oil, is more pronounced in tractor lubricants, example:
from ν_{50} 77.8 to 13.8 in 24 hrs., ν_{50} down to about
3 in 24 hrs., independently of ν_{50} at the outset; it is much
less marked, if at all, in automobile oils. The suspended
matter forming in the oil consists of only 10-15% coarsest
particles of 0.003-0.004-mm. diam. and finest particles of
0.0004 to 0.0008 mm., the bulk, 85-90%, of the particles
have medium diam. from 0.0008 to 0.0015 mm. This
suspended matter has proved not to cause wear of motor parts.

N. Thon

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

PAPOK, K.K., professor, doktor tekhnicheskikh nauk; SEMENIDO, Ye.J., kandidat tekhnicheskikh nauk, redaktor; L'VOVA, L.A., vedushchiy redaktor; POLOSINA, A.S., tekhnicheskiy redaktor

[Motor fuels, oils, and fluids] Motornye topliva, masla i zhidkosti. 2-e perer. i dop. izd. Moskva, Gos. nauchno-tekhn. izd-vo neftianoi i gorno-toplivnoi lit-ry. Vol.1.[Motor fuels] Motornye topliva. 1953. 338 p. (MLRA 7:9)
(Motor fuels)



Semenidi, E. G.

1/ Anticorrosion additives for automotive oils. E. G. Semenidi. *Avtomobil. Transport* 1953, No. 7, 12-14; *Referat. Zhur. Khim.* 1955, No. 4515.—The org. acids produced in the oil during service are corrosive, particularly for certain alloys. Low-mol. automotive oils have the greatest tendency to become corrosive. Solvent-refined oils are more likely to become corrosive than H_2SO_4-refined oils. To control corrosion, H_3PO_4 esters, such as tributyl phosphate and triphenyl phosphate, and S compds. are added to the oils. The anti-corrosion additives react with the metal surfaces to form a protective film which also reduces the catalytic effect of the metal on the oxidation of oil. Phosphates also act as oxidation inhibitors. Anticorrosion additives are incorporated in the multipurpose additive AzNII-4. M. Hirsch

SEMENIDO, E. G.

AID - P-195

Subject : USSR/Engineering

Card : 1/1

Author : Semenido, E. G.

Title : Mechanism of Action of Viscous Additives (Part I)

Periodical : Neft. khoz., v. 32, #2, 52-56, F 1954

Abstract : A review of various mechanisms of action of viscous additives to lubricating oils is presented and analysed in respect to variation of relative viscosities at 50° and 100°C. 4 tables, 2 charts (For Part II, see next issue #3, p. 38).

Institution : None

Submitted : No date

SEMENIDO, YE.G.

USSR/Chemical Technology - Chemical Products and Their Application. Treatment of Natural Gases and Petroleum. Motor Fuels. Lubricants, I-13

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62624

Author: Semenido, Ye. G., Ivanov, I. A., Kaverina, N. I.

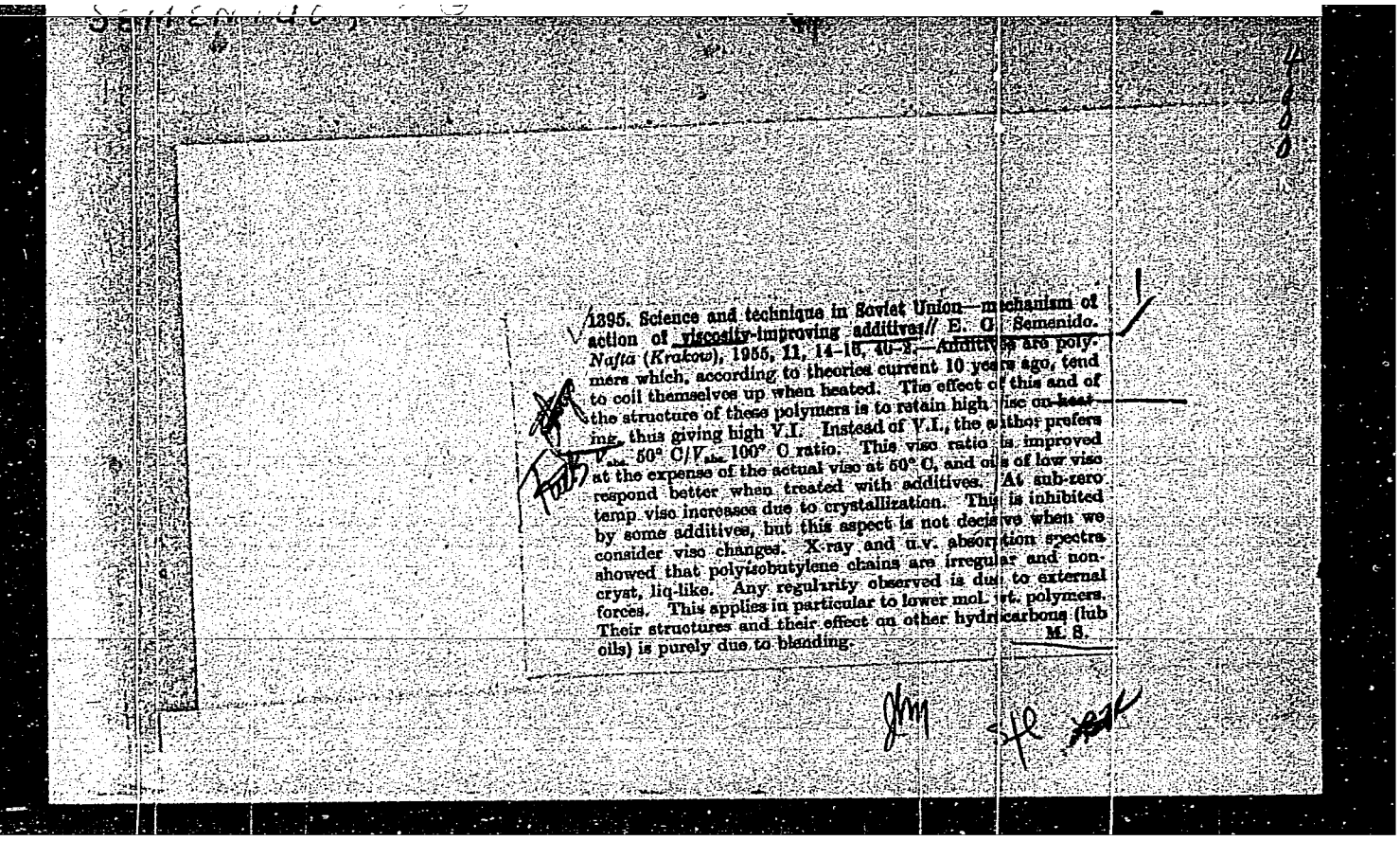
Institution: None

Title: Fractional Composition of Motor Oils

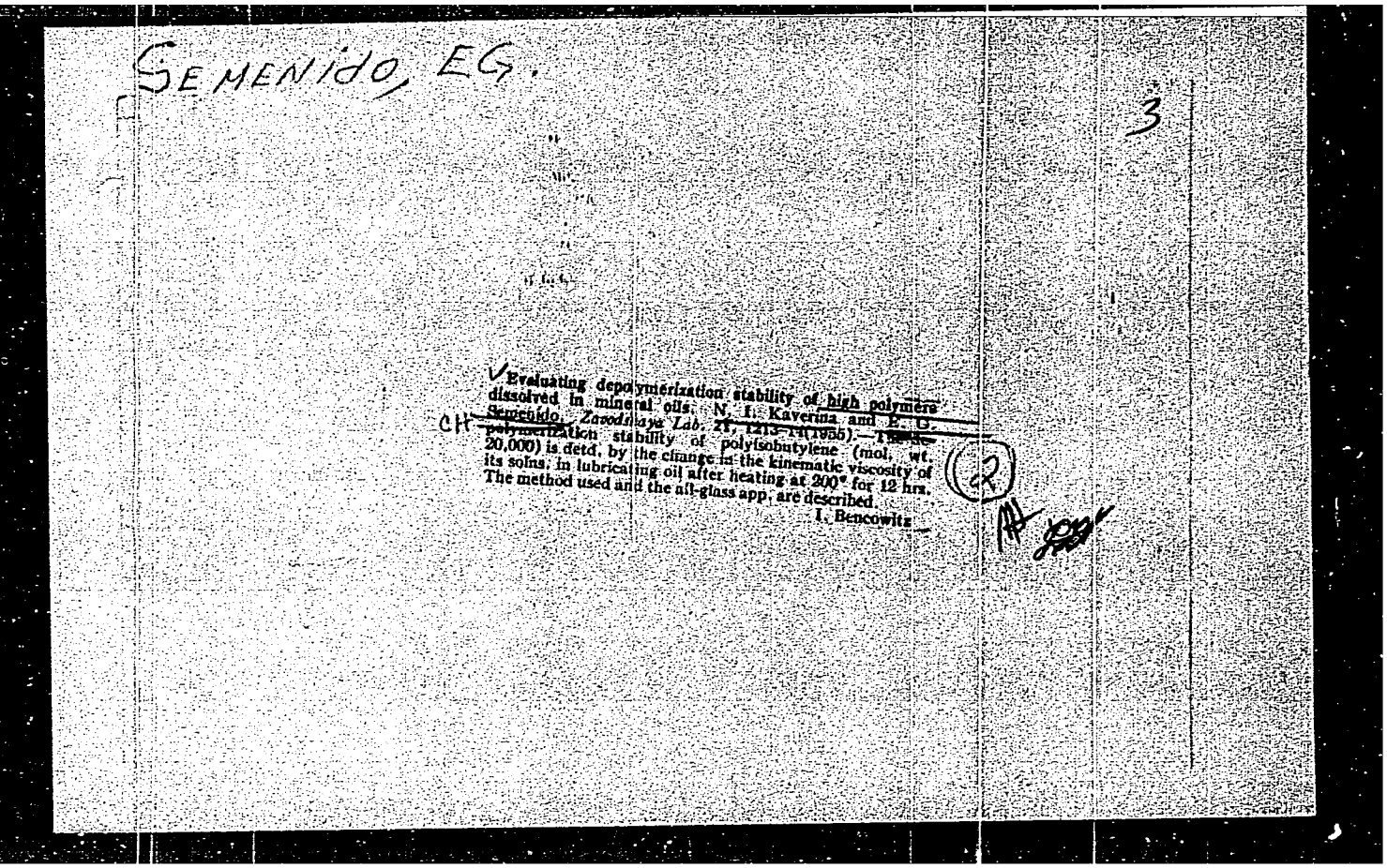
Original Periodical: Neft. kh-vo, 1955, No 1, 71-76

Abstract: Determined were the optimal fractional composition of oils, for carburetor and diesel automobile engines and aircraft carburetor engines, that ensure a practically complete absence of evaporation of the oil during operation. Oil that distills over up to 340° in an amount not exceeding 5% underwent no change during operation of GAZ-51, and the boiling range of subsequent fractions had no effect on evaporation of the oil in the engine. For V-2 and YaAZ-204 diesels can be used oils containing lower boiling fractions, namely not more

Card 1/2



1395. Science and technique in Soviet Union—mechanism of action of viscosity-improving additives// E. G. Semenido. *Nafta (Krakow)*, 1955, 11, 14-18, 40-2.—Additives are polymers which, according to theories current 10 years ago, tend to coil themselves up when heated. The effect of this and of the structure of these polymers is to retain high viso on heating, thus giving high V.I. Instead of V.I., the author prefers $V_{abs.}$ 50° C/$V_{abs.}$ 100° C ratio. This viso ratio is improved at the expense of the actual viso at 50° C, and oils of low viso respond better when treated with additives. At sub-zero temp viso increases due to crystallization. This is inhibited by some additives, but this aspect is not decisive when we consider viso changes. X-ray and u.v. absorption spectra showed that polyisobutylene chains are irregular and non-cryst, liq-like. Any regularity observed is due to external forces. This applies in particular to lower mol. wt. polymers. Their structures and their effect on other hydrocarbons (lub oils) is purely due to blending. M. S.



SEMENIDO, E.G.

3

Evaluating depolymerization stability of high polymers dissolved in mineral oils. N. I. Kaverina and E. G. Semenido. *Zavodskaya Lab.* 22, 1213–14(1956).—The depolymerization stability of polyisobutylene (mol. wt. 20,000) is detd. by the change in the kinematic viscosity of its solns. in lubricating oil after heating at 200° for 12 hrs. The method used and the all-glass app. are described.
I. Bencowitz

SEMENIDO, E.G.

USSR

Fractional analysis of motor lubricants. B. G. Semenido, I. A. Ivanov, and N. I. Kaverina. *Neftyanoe Khoz.* 33, No. 1, 71–7(1955).—Spindle oil and nonviscous neutral oil are used in low-viscosity motor oils to improve their low-temp. performance and to increase the supply of these oils. Lubricants for gasoline and Diesel engines should contain not over 5% of fractions b. below 600–608°F regardless whether they are of petroleum origin or are synthetic hydrocarbons, esters, or ethers.

W. M. Sternberg

SEMENIDO, YE. G.

AID P - 3969

Subject : USSR/Chemistry

Card 1/1 Pub. 78 - 14/27

Author : Semenido, Ye. G.

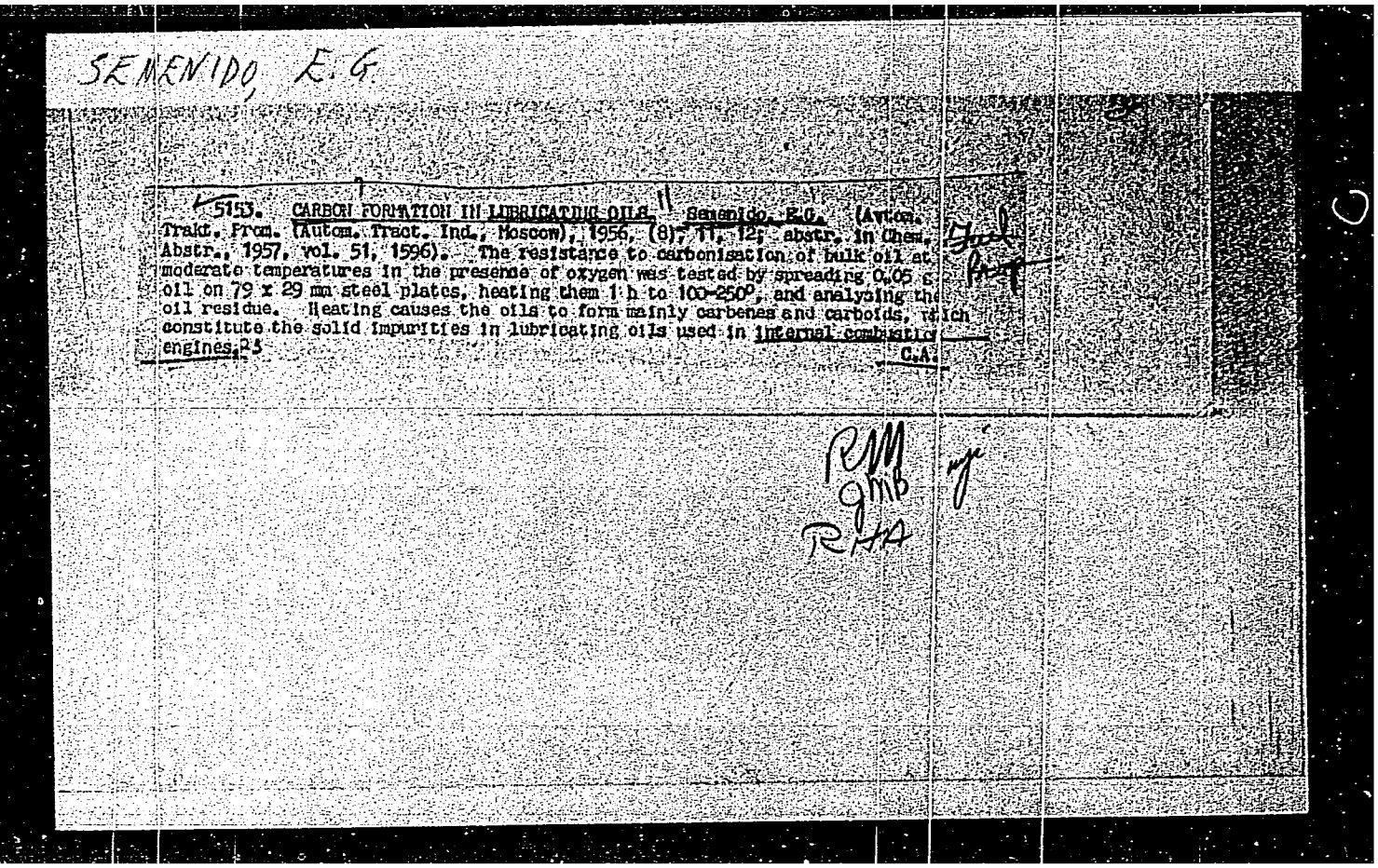
Title : Once more on one of the new trends in motor oil production.

Periodical : Neft. khoz., v. 33, #12, 55-60, D 1955

Abstract : To obtain motor lubricanting oils of lower viscosity for the freezing temperatures prevailing in Russia in winter conditions, the author suggests instead of lubricants properly viscous at normal temperatures to which special additives must be added to lower their viscosity for lower temperatures, the use of lubricants of lower viscosity which must be increased for higher temperatures by adding different special additives. Tables. 11 references, 10 Russian, 1941-1955.

Institution : None

Submitted : No date



SEMENIDO, E. G.

5153. CARBON FORMATION IN LUBRICATING OILS. Semenido, E.G. (Avtom. Trakt. Prom. (Autom. Treat. Ind., Moscow), 1956, (8), 11, 12; abstr. in Chem. Abstr., 1957, vol. 51, 1596). The resistance to carbonisation of bulk oil at moderate temperatures in the presence of oxygen was tested by spreading 0.05 g oil on 79 x 29 mm steel plates, heating them 1 h to 100-250°, and analysing the oil residue. Heating causes the oils to form mainly carbenes and carboids, which constitute the solid impurities in lubricating oils used in internal combustion engines. 25

C.A.

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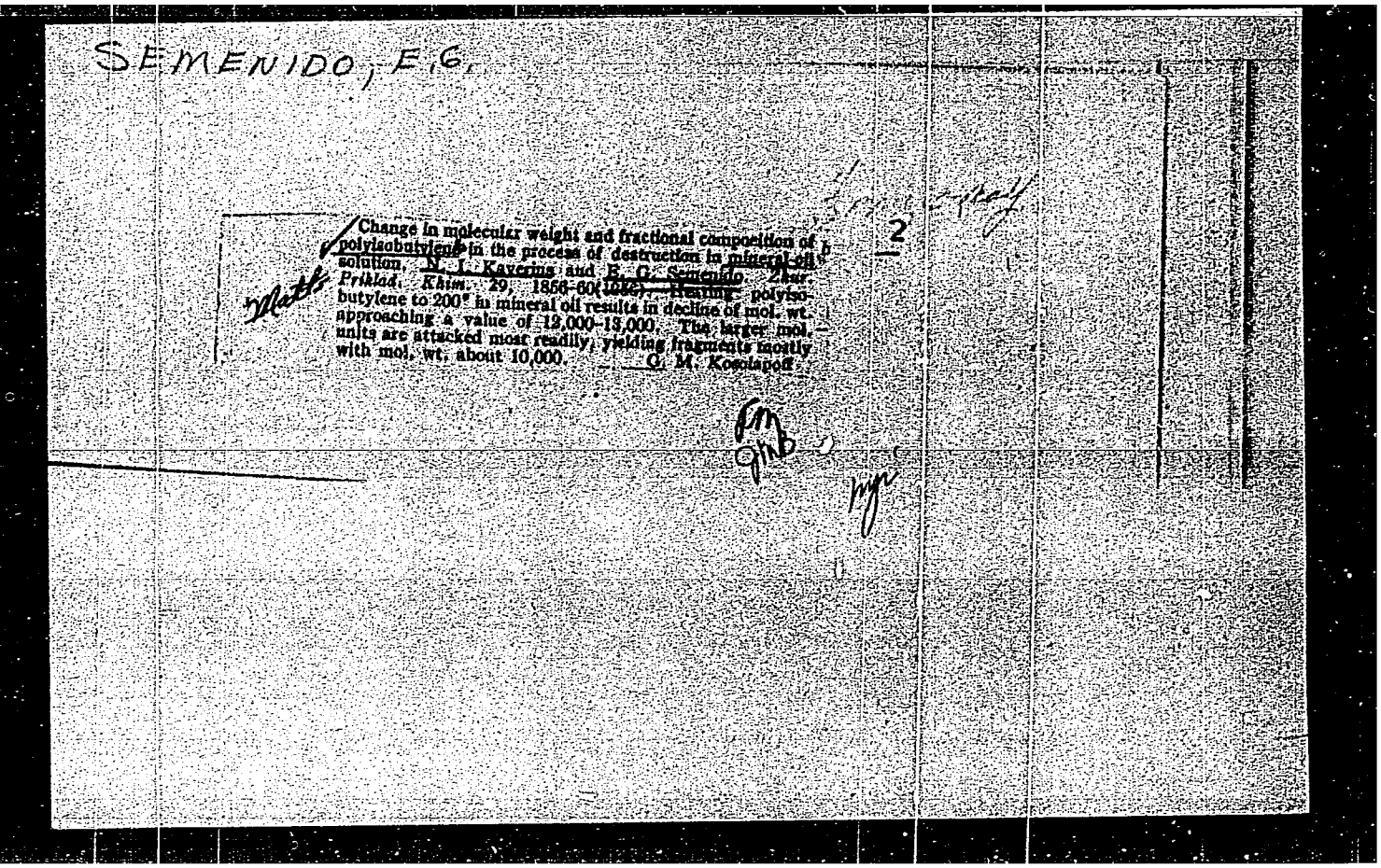

SEMENIDO, F.G.

Change in molecular weight and fractional composition of polyisobutylene in the process of destruction in mineral-oil solution. N. I. Kaverina and F. G. Semenido. Zhur. Prikład. Khim. 29, 1856-60(1956).—Heating polyisobutylene to 200° in mineral oil results in decline of mol. wt. approaching a value of 12,000–13,000. The larger mol. units are attacked most readily, yielding fragments mostly with mol. wt. about 10,000. —G. M. Kosolapoff.

SEMENIDO, Ye.G.

Physicochemical state of lubricating oils used in internal combustion engines. Azerb.neft.khoz. 35 no.8:30-32 Ag '56. (MLRA 9:10)

(Lubrication and lubricants)

SEMENIDO, Ye. G.

PAPOK, K.K., professor, doktor tekhnicheskikh nauk, redaktor; SEMENIDO, Ye.G. professor, doktor tekhnicheskikh nauk, redaktor; L'VOVA, L.A. vedushchiy redaktor; POLOSINA, A.S., tekhnicheskiy redaktor

[Motor fuels, oils and fluids] Motornye topliva, masla i zhidkosti] Izd. 3-oe, perer. i dop. Moskva, Gos. nauchno-tekhn. izd-vo neft. i gorno-toplivnoi lit-ry. Vol. 1. [Motor fuels] Motornye topliva. 1957. 512 p. Vol. 2. [Oils, greases and fluids]Masla, konsistentnye smazki i zhidkosti. 1957. 528 p. (MLRA 10:5)

(Motor fuels) (Lubrication and lubricants)

SHCHEGOLEV, N.V.;SEMENIDO, Ye. G.

Quantitative determination of polyisobutylene in thickened oils.
Khim. i tekh. topl. i masel no.3:62-64 Mr '57. (MLRA 10:4)

1. Nauchno-issledovatel'skiy institut goryuche-smazochnykh materialov.
(Propene) (Oil analysis)

SEMENDO, Ye. G.

PHASE I BOOK EXPLOITATION SOV/5055

Vsesoyuznaya konferentsiya po treniyu i iznosu v mashinakh. 3d, 1958.

Gidrodinamicheskaya teoriya smazki. Opory skol'zheniya. Sbornik materialy (Hydrodynamic Theory of Lubrication. Lubrication and Lubricant Materials) Moscow, 1959. Lubrication and Slip Bearings. Lubrication and Lubricant Materials) Moscow, Izd-vo AN SSSR, 1959. 422 p. Errata slip inserted. 3,800 copies printed. (Series: Its: Trudy, v. 1)

Sponsoring Agency: Akademiya nauk SSSR. Institut mashinovedeniya.

Resp. Eds. for the Section "Hydrodynamic Theory of Lubrication and Slip Bearings": Ye. M. Gut'yar, Professor, Doctor of Technical Sciences, and A. K. D'yachkov, Professor, Doctor of Technical Sciences; Resp. Ed. for the Section, Lubrication and Lubricant Materials: G. V. Vinogradov, Professor, Doctor of Chemical Sciences; Ed. of Publishing House: M. Ya. Kiebanov; Tech. Ed.: O. M. Gus'kova.

PURPOSE: This collection of articles is intended for practicing engineers and research scientists.

COVERAGE: The collection, published by the Institut mashinovedeniya AN SSSR (Institute of Science of Machines, Academy of Sciences USSR) contains papers presented at the III Vsesoyuznaya konferentsiya po treniyu i iznosu v mashinakh (Third All-Union Conference on Friction and Wear in Machines) which was held April 9-15, 1958. Problems discussed were in Hydrodynamic Theory (Cont.) [illegible] SOV/5055

Use of Lubricant Materials

Kolesnikov, A. I. Special Features of the Behavior of Plastic Lubricants in Roller Bearings 291

Kuznetsov, Ye. S. On a Rational Regime for Lubricating Automobiles Through Pressure Lubricators 299

Lebedev, V. G., K. F. Stepanov, and V. A. Gerasimenko. Selection of Lubricant Materials for Reduction Gears Operating Under Low-Temperature Conditions 306

Lebedev, S. A. (deceased), and M. A. Grigor'yev. Wear of Components With Various Methods of Cleaning the Oil in the Lubrication System of an Automobile Engine 313

Semendo, Ye. G. and V. I. Sharapov. Oils Produced by a New Method, and Their Effect on the Wear of Engines 321

Traktovenko, I. A., and A. S. Lozar. Investigation of the Wear of the Components of Automobile Engines Operating With Various Oils 328

Elkovich, I. I. Theoretical Foundation of the Requirements for the Operational Qualities of Oils Used in Internal-Combustion Engines 338

Chemical Composition and Operational Lubrication Materials

Drushinina, A. V. Reduction of Wear in Engines Operating on Sulfurous Diesel Oil by Means of Alkaline Additives 344

Zaplavskiy, Yu. S., G. I. Shor, and R. M. Shneyerova. Mechanism of Protecting Friction Surfaces From Corrosion Wear With the Aid of Additives to the Oils 348

Kreyn, S. E., and G. P. Yevdokimov. Oils of Optimal Chemical Composition [illegible] 356

[illegible] 417

AUTHOR: Ye. G. Semenido 65-58-4-1/12

TITLE: New Trends in the Motor Oil Industry, Properties and Advantages of New Oils (Novoye napravleniya v proizvodstve motornykh masel, svoystva i preimushchestva novykh masel)

PERIODICAL: Khimiya i Tekhnologiya Topliv i Masel, 1958, No 4, pp 1 - 9 (USSR)

ABSTRACT: Low-viscosity, low-molecular fractions of optimum fractional composition and additives are used by the industry. This review covers publications from 1941 onwards, and discusses Russian, American, English, French, Italian, German and Swedish methods. Table 1 shows the influence of the fractional composition and viscosity of the bases on the viscosity - temperature properties of the oils, which were prepared from polyisobutylene with a molecular weight of 20,000. The oil will have better viscosity-temperature properties when its viscosity is low (at a given fractional composition of the bases). The properties of the oils are given in Table 2, which shows the influence of the amount of fractions and bases boiling above 400°C on the viscosity-temperature properties of the oil. Experiments in this field were carried out by V. I. Shamayeva. Table 3: the influence of the

Card 1/3

New Trends in the Motor Oil Industry, Properties and Advantages of New Oils

fractional composition of the base on the viscosity-temperature properties of oils in the region of low temperatures. The tendency of oils to form deposits depends in an analagous way on the fractional composition of the base. The magnitude of scale formation can be determined by their coking capacity (Table 4). The oils 1, 2, 3, 4 and 5 differed in their content of head fractions boiling up to a temperature of 340°. The oils were tested on the engine ZIS-51 under identical conditions: the duration of test = 12 hours, the number of revolutions of the engine = 2,500 revs/minute, charge = 40 l.s. A petroleum - spindle oil fraction (of given fractional composition) from low paraffin or paraffin-petroleum, purified by acid-contact or selective methods, was used as motor oil. Synthetic hydrocarbon - and some non-hydrocarbon products (esters, diesters and polyalkylene glycols) can also be used. Alkylation of cyclic hydrocarbons was used during this investigation. To increase the degree of viscosity of the oils up to a standard value for motor oils, viscosity improvers are added, mainly polymers or copolymers of isobutylene, methacrylates, and acrylates with a molecular weight of an order of 15,000 - 30,000. Detergents and multi-functional additives

Card 2/3

SEMENIDO, Ye.

SEMENIDO, Ye.; SHARAPOV, V.

All-weather motor oils. Avt. transp. 36 no.2:15-16 F '58.
(Automobiles--Lubrication) (MIRA 11:2)

SHLYAKHOV, L.G., PAPOK, K. K., PUCHKOV, N. G., KREYN, S. E., PANOV, V.V.

"Investigation of Motor Oil Stability and Methods of Its Evaluation."
Report to be submitted at the Fifth World Petroleum Congress, 30 May - 5 June 1959. New York.

Semenido Ye. G.

PHASE I BOOK EXPLOITATION SOV/3663

Akademiya nauk SSSR. Institut khimicheskoy fiziki

Okisleniye uglevodorodov v zhidkoy faze; sbornik statey (Oxidation of Hydrocarbons in the Liquid Phase; Collection of Articles) Moscow, Izd-vo AN SSSR, 1959. 334 p. Errata slip inserted. 2,200 copies printed.

Ed.: N. M. Emanuel', Corresponding Member, Academy of Sciences USSR; Ed. of Publishing House: K. M. Dyumayev; Tech. Ed.: I. F. Kuz'min.

PURPOSE: This collection of articles is intended for chemists interested in hydrocarbon oxidation reactions, particularly for those specializing in petroleum fuels.

COVERAGE: This collection of 35 articles represents the results of investigations over a period of several years on problems of hydrocarbon oxidation. The authors present their own theoretical and experimental data and also draw from current literature. No personalities are mentioned. References accompany most of the articles.

AVAILABLE: Library of Congress

b.

Card 18/18

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S/081/61/000/021/073/094
B138/B10

AUTHORS: Semenido, Ye. G., Sharipov, V. I.

TITLE: Oils produced by the new method, and their effect on engine wear

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 21, 1961, 405, abstract 21M111 (Tr. 3-y Vses. konferentsii po treniyu i iznosu v mashinakh, M., AN SSSR, v. 3, 1960, 321 - 328)

TEXT: Using low-viscosity high-molecular petroleum and synthetic hydrocarbons of a certain composition, automobile engine oils - Ak3p-6 (AKZp-6) and Ak3p-10 (AKZp-10)- and diesel engine oil AMT-14p (AMT-14p) have been produced by a new method which eliminates evaporation in the engines. Bench and operational trials of these new oils show them to be better than the ordinary ones. Trials with AKZp-10 in automobiles working throughout all the seasons of the year show that engine wear is considerably less with this oil than with the ordinary different winter and summer grades. In diesels, AMT-14p also gives better results as regards engine wear. [Abstracter's note: Complete translation.]

Card 1/1

S/122/60/000/007/004/011
A161/A029

AUTHORS: Semenido, Ye.G., Professor, Doctor of Technical Sciences; Shchegolev, N.V., Candidate of Chemistry; Sharapov, V.I., Engineer

TITLE: Application of High Polymers in Lubrication Oils

PERIODICAL: Vestnik mashinostroyeniya, 1960, No. 7, pp. 38 - 41

TEXT: The article contains brief general information on the applications, properties and advantages of high-polymer additives to lubricant oils. The information sources referred to are mostly US and German (West Germany) patents and the proceedings of the 1957 International Petroleum Congress. It is claimed that the best effect is obtained by application of polymer additives used in Soviet high-quality motor oils on low-molecular base, produced by a Soviet method and specified in the ГОСТ 1862-51 (GOST 1862-51) standard "Technical Standards for Petroleum Products" (Ref. 1), Gostoptekhizdat, 1956. It is pointed out that a series of additives to oils ЦИАТИМ-339 (TsIATIM-339), ВНИИ НП-361 (VNII NP-361), ВНИИ НП-360 (VNII NP-360), ВНИИ НП-361а (VNII NP-361a), ИП-22 (IP-22) and other (Table 3) proved to be not applicable with polyacrylates, though in oil compositions including poly-isobutylene they behave normally; polyacrylate in its turn,

Card 1/2

Application of High Polymers in Lubrication Oils

in other combinations (i.e., with antioxidant additives), is a valuable viscous additive. These data are recommended to take into account. There are 7 graphs, 3 tables and 17 references: 4 Soviet, 9 English and 4 German.

variation in wear tempo", which is the ratio of tan α of a standard oil (industrial 50 + 3 % ЦИАТИМ-330 (TsIATIM-330)) and tan α of the test specimen expressed in percentages. The high wear resistance of the oils was found to be determined by the S-concentration of the Novo-Ufimka oil base fraction. The thickened oils showed better wear resistance than ordinary oils with additives and the sulfurous ones produced by the Novo-Ufimka NPZ were somewhat better than those from Baku. [Abstracter's note: Complete translation.]

Regulation of the fractional ....

0 °C for 130-300 days, and January temperatures are around -20 to -50 °C. For Arctic and winter grades, viscosities at -30 °C should be specified. The final boiling point was increased in 25 °C intervals from 350 to 425 °C for oil cuts from five crudes; Makat-Jurassic, Baku commercial mixture, Buzovny, Binagady, and commercial Eastern mixture from the NKPZ. For the first two and the last one, the ratio of viscosity at 50 °C to that at 100 °C rose by about one, from values around 2.4 or 2.7 to around 3.7 to 3.8, but for the Buzovny and Binagady the rise was much greater. By adsorption of the Buzovny over silica gel, it was found that only the aromatics caused the rise, and the naphtheno-paraffinic components had excellent viscosity indices. The aromatics were similarly the prime cause of carbon deposits. Such results also hold with thickened oils (using polyisobutylene, MW around 20 000). By altering cut point, viscosity additives, and thickener ratio, a wide range of satisfactory oils was obtained. For automobile engines, up to 50% of material up to 500 °C could also be added, provided the ON were also increased by 7-8 by using additives. There are 5 figures, 3 tables and 10 references: 3 Soviet and 7 non-Soviet.

Card 2/3

The four most recent English language references read as follows:

Ref.4: I. Bidwell, R. Williams. SAE Trans., Vol.63, 349, 1955.

Ref.5: Eree Withers I. Automob. Eng., Vol.45, No.1, 21, 1955.

Ref.6: I. Groff. Bull. Assoc. Tranc. Technic Petrol. No.116, 103, 1956.

Ref.9: Z. Raynond, I. Socolofsky. Petrol Refin., Vol.33, No.34, 10, 1954.

Card 3/3

S/081/62/000/004/069/087
B138/B110

AUTHORS: Semenido, Ye. G., Ramayya, K. S., Sharapov, V. I., Sil's, R. Kh., Shchegolev, N. V.

TITLE: Low-viscosity fractions of sulfurous crudes as a base for thickened oils

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 4, 1962, 482, abstract 4M179 (Sb. "Khimiya seraorgan. soyedineniy, soderzhashchikhsya v neftyakh i nefteproduktakh. v. 4", M., Gostoptekhizdat, 1961, 217-221)

TEXT: With the aim of selecting bases for the production of thickened oils investigation has been made of the sulfur base of the Novo-Ufimka NPZ fractions which boil in the ranges 325-350°C, 325-375°C, 325-400°C and 325-425°C. The sulfurous base investigated, which has a total S content of up to 1 %, has been found to have better viscosity properties, group chemical composition, antioxidation properties etc. than the oil base used in Baku production. For this reason the sulfurous base of the Novo-Ufimka NPZ is recommended for the production of thickened oils which might then undergo motor trials. [Abstracter's note: Complete translation.]

Card 1/1

S/262/62/000/006/017/021
I007/I207

Authors Semenido, Ye G and Sharipov, V I

Title NEW TYPES OF LUBE OILS AND THEIR INFLUENCE ON ENGINE WEAR

Periodical *Referativnyy zhurnal, otdel'nyy vypusk* 42 *Silovye ustanovki*, no 6, 1962, 78 abstract 42 Ж 375 (*"Tr 3-y Vses. konferentsii po treniyu i iznosu v mashinakh"* v 3, *Moscow, AS USSR*, 1960, 321-328)

Text Industrial production of lube oils according to a new method (production of low-viscosity hydrocarbon fractions with addition of polymers having a molecular weight of about 20,000) started in the Soviet Union in 1951 and covers automobile lube oils of the АКЗп-6 (AKZp-6) АКЗп-10 (AKZp-10) type and Diesel oil of the АМТ-14п (AMT-14p) type. The influence of these oil types on the engine wear was investigated on the ГАЗ-51 (GAZ-51) engine (investigations on the test bench for 500 hours) and on the ЗИС-120 (ZIS-120) ЗИС-150 (ZIS-150) and ЗИС-50 (ZIS-50) engines (car road tests carried out for a run of 20,000 to 24,000 km under summer and winter conditions). It was found that the lube oils of the new type ensure greater wear resistance of the engine compared to other oil types. There are 5 diagrams.

[Abstractor's note: Complete translation.]

Card 1/1

SEMENIDO, Ye.G.

SOV/5968

PHASE I BOOK EXPLOITATION

Papok, K. K., Doctor of Technical Sciences, Professor, and Ye. G. Semenido, Doctor of Technical Sciences, Professor, eds.

Motornyye, reaktivnyye i raketnyye topliva (Motor, Jet, and Rocket Fuels) 4th ed., rev. and enl., Moscow, Gostoptekhizdat, 1962. 741 p. Errata slip inserted. 7000 copies printed.

Exec. Eds.: Ye. S. Levina and B. F. Titskaya; Tech. Ed.: I. G. Fedotova.

PURPOSE: This book is intended for engineers and technicians in fuel handling, engine operation, and petroleum refining.

COVERAGE: This is the fourth edition, revised and enlarged, of the original book published in 1957. The large amount of new material included, the editors believe, justifies considering it an entirely new book. It deals with the physical, chemical, and service properties of propellants and fuels for aircraft piston engines, turbojets, ramjets, rockets, automobiles,

Card 1/

SEMENIDO, Ye.G., prof., doktor tekhn. nauk; ENGLIN, B.A.; PAPOK, K.K., prof. doktor tekhn. nauk; ZARUBIN, A.P.; RAGOZIN, N.A.; SHIMONAYEV, F.S.; CHERTKOV, Ya.B.; LIVSHITS, S.M.; BESSMERTNYY, K.I.; LOSIKOV, B.V.; SABLINA, Z.A.; ROZHKOV, I.V.; GUREYEV, A.A.; FAT'YANOV, A.D.; ZRELOV, V.N.; ZARUDNYY, P.P.; BRATKOV, A.A.; BARON, I.G.; LEVINA, Ye.S., ved. red.; TITSKAYA, B.F., ved. red.; FEDOTOVA, I.G., tekhn. red.

[Motor, jet, and rocket fuels] Motornye, reaktivnye i raketnye topliva. 4., perer. i dop. izd. Moskva, Gos. nauchno-tekhn. izd-vo neftianoi i gorno-toplivnoi lit-ry, 1962. 741 p. (MIRA 15:2)

(Rockets (Aeronautics))—Fuel)
(Jet propulsion)
(Motor fuels)

S/065/62/000/010/002/004
E075/E136

AUTHOR: Semenido, Ye.G.

TITLE: On the theory of application of viscosity improvers in oils

PERIODICAL: Khimiya i tekhnologiya topliv i masel, no.10, 1962, 52-55

TEXT: The object of the work was to describe and interpret the more important characteristics of oils thickened with polymers. In a cold starting engine the oils are subjected to low rates of shear, and high shearing stresses. Under such conditions the viscosity of the oil may decrease to that of the base oil. It is probable that at the low temperatures molecules of the polymers are mechanically destroyed, which leads to a permanent loss of viscosity. At higher engine speeds and temperatures the effect of shearing rate on viscosity is markedly smaller. Consequently the observed fall in the viscosity of the oils during engine operation reaches only 21-46% of the original viscosity. It follows from the consideration of the hydrodynamic theory that

Card 1/2

ILINA, D.YE., KRENTSEL, B.A., SEMENIDO, YE.G.,

Low-temperature polymerization of chlorine-substituted aldehydes.

Report submitted for the International Symposium of Macromolecular chemistry, Paris, 1-6 July 63

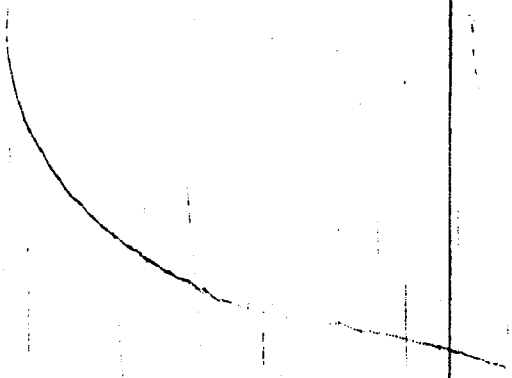
SEMENIDO, Ye. G.

4

BLAGOVIDOV, I.F., KREYN, S.E., SEMENIDO, YE.G., PUCHKOV, N.G., ZASLAVSKIY, YU.S.

Investigation of motor oil performance and methods of evaluation

Report to be sumitted for the Sixth World Petroleum Congress, Frankfurt, 16-26 June 63



SEMENIDO, Ye.G.

Industrial characteristics of thickened oils. Azerb. neft. khoz. no.1:37-38,46 Ja '63. (MIRA 16:10)

(Lubrication and lubricants)

PAPOK, K.K., prof., doktor tekhn. nauk, red.; SEMENIDO, Yo.G., prof., doktor tekhn. nauk, red.; DZHORDZHI, A.N., ved. red.; LEVINA, Ye.S., ved. red.; TITSKAYA, B.F., ved. red.

[Motor and jet-engine oils and fluids] Motornye i reaktivnye masla i zhidkosti. 4. perer. i dop. izd. Moskva, Izd-vo "Khimiia," 1964. 704 p. (MIRA 17:4)

SEMENIDO, Ye., doktor tekhn. nauk; MILYUTIKOV, Yu., kand. tekhn. nauk; SHCHEGOLEV, N., kand. khimicheskikh nauk; RUNENKOV, A., inzh.; SHEREMET, M., inzh.; SOZONTOV, Yu., inzh.

All-year oil for diesel engines. Avt. transp. 43 no.4:19-22 Ap '65. (MIRA 18:5)

SEMENIKHIN, A. D.,

SUBJECT: Soviet Technicians Going to Afghanistan and India

Photographs of the following Soviet citizens passing through Kabul during latter part of April 1958 have been deposited in the CIA Graphics Register:

B. To remain in Afghanistan for one month in connection with Pul-i-Khumri and Naglu hydroelectric projects:

A. D. Semenikhin, Hydrotechnical (hydraulic?) (P-107487) Engineer, sent by Ministry of Electric Power Stations.

SOURCE: CIA, CSLT-3,681,345, 9 July 1958, Conf/Noform/Cont. Control.

PEH/dm

MOTYAKHOV, M.A., inzh.; SOLUKVADZE, V.S., inzh.; SEMENIKHIN, A.G., inzh.

Cleaning hot-rolled metal with a stiff metal brush. Svar. proizv. no.10:40-41 O '63. (MIRA 16:11)

1. Moskovskiy zavod po obrabotke tsvetnykh metallov (for Motyakhov). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov (for Sokukvadze). 3. Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-tekhnologicheskiy institut ufol'nogo mashinostroyeniya (for Semenikhin).

25 (1) SOV/145-58-7/8-23/24

AUTHORS: Pluzhnikov, A.I., Candidate of Technical Sciences, Semenikhin, A.I., and Shavrin, Yu.T., Engineers

TITLE: Cutting Multiturn Non-Round Toothed Wheels with Chasing Tool by the Method of Rolling

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy - Mashinostroyeniye, 1958, Nr 7-8, pp 202-206 (USSR)

ABSTRACT: Non-round toothed wheels find application in certain branches of precision machine building. Up to the present, manufacturing of such wheels was performed by the method of copying with the application of slotting tool. This method possesses a number of shortcomings; reference F.L. Litvin and N.S. Yablonskiy, "Designing and Cutting Teeth on Multiturn Non-Round Wheels", "Priborostroyeniye", Nr 6, 1957 [1]. The cutting by the method of rolling was firstly introduced by the firms "Fellow" and "Bopp and Reyter". Later on, this method was developed in the USSR. Reference: F.L. Litvin, "Non-Round Toothed Wheels",

Card 1/3

Cutting Multiturn Non-Round Toothed Wheels with Chasing Tool by the Method of Rolling

Mashgiz, 1956 [2]; F.L. Litvin, "Non-Round Toothed Wheels", "Stanki i instrument", Nr 9, 1956 [3]. The present article deals with the multiturn toothed wheel cutting by the method of rolling offered by the authors. The general outlay of the cutting machine is illustrated in Fig 1. The main components of this machine are a toothed calibrating pair consisting of a rack 3 and wheel 4, and a cam calibrating pair comprising the smooth rack 5 and cam 6. These two pairs represent the rolling mechanism; it ensures both the reception of the required pitch on the wheel surface and the obtaining of given dividing radii. The kinematic outlay of the cutting machine is given in Fig 2; its cross section in Fig 3. The installation is intended for a large serial production. It is expected that after the introduction of this method of cutting, the labor efficiency will be increased by, approximately, 15 times as compared to what it was

IGUMNOV, A.N., red.; OVCHINNIKOV, L.N., red.; SEMENIKHIN, A.I., red.; SHTEYNBERG, D.S., otv. red.; EBERGARDT, M.S., red. izd-va; SEREDKINA, N.F., tekhn. red.

[Guidebook for the Tagil-Kushva field trip] Putevoditel' Tagilo-Kushvinskoi ekskursii. Sverdlovsk, 1961. 128 p. (MIRA 14:8)

1. Ural'skoye petrograficheskoye soveshchaniye. 1st. (Ural Mountains—Geology—Field work)

STREN[illegible], ..N.; GORBACHEV, S.V.

Effect of the flow rate on the kinetics of electroreduction of nitrobenzene-m-sulfonic acid. Zhur.fiz.khim. 39 no.11:2769-2772 N '65. (MIRA 18:12)

1. Moskovskiy khimiko-tekhnicheskiy institut imeni D.I. Mendeleyeva.

S/755/61/000/003/018/027

AUTHORS: Semenikhin, A.N., Gruzin, P.L., Skorov, D.M.

TITLE: The modulus of elasticity of beryllium at elevated temperatures.

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Metallurgiya i metallovedeniye chistykh metallov. no.3. 1961, 190-192.

TEXT: The paper describes measurements of the dynamic modulus of normal elasticity (E) of Be at temperatures (T) up to 800°C. Be is an excellent nuclear moderator and neutron reflector; it has a small thermal-neutron-capture cross-section. Its major drawback is its brittleness, the reasons for which are as yet unknown. The E was calculated from the resonance frequency of flexural oscillation of a freely suspended cylindrical specimen. Measurements were made in a 10^{-4}-torr vacuum on the equipment described by Bychkov, Yu. F., et al., in Atomnaya energiya, v.II, no.2, 1957. The specimens were 100 mm long, 5-mm diam, and were sintered of Be powder 99.8% pure. A mean E of 3 specimens at room T is 28,500 500 kg/mm^2. The variation of E with T is linear up to 600°C, decreasing at a rate of 5.6 kg/mm^2 per °C. The steeper decrease in E in the 600-750° interval proceeds at 13.5 kg/mm^2 per °C. Comparison measurements on Zr, Ti, and X18H9T (Kh18N9T), steel indicate that the E of Be at 600° is about 3x that

Card 1/2

of Zr and 1.5x that of Kh18N9T steel. This elevated value of the E of Be at both room T and high T points to the great strength of the interatomic bond in Be and is consistent with the existence of a very small atomic diameter in Be reported by other authors. This advantageous quality of Be becomes even more outstanding when it is referred to a unit weight. There are 2 figures, 2 tables, and 4 references (the 1 above-cited Russian-language Soviet paper, 1 English-language, and 2 Russian-language translations of presumably English-language originals by Beaver, W., Wickle, K., and by Hume-Rosary, W., Raynor, G. W., – all four names retransliterated from Russian transliteration).

ASSOCIATION: MIFI (Moscow Engineering Physics Institute).

DASHKOVSKIY, A.I.; SEMENIKHIN, A.N.; GRUZIN, P.L.

Internal friction and the elasticity modulus of cold-worked zirconium. Met. i metalloved. chist. met. no. 4:41-46 '63. (MIRA 17:5)

ACCESSION NR: AT4005959 S/2755/63/000/004/0058/0063

AUTHOR: Yemel'yanov, V. S.; Yevstyukhin, A. I.; Leont'yev, G. A.; Semenikhin, A. N.

TITLE: Growing of molybdenum single crystals and their properties

SOURCE: Msocow. Inzhenerno-fizicheskiy institut. Metallurgiya i metallovedeniye chisty*kh metallov, no. 4, 1963, 58-63

TOPIC TAGS: molybdenum single crystal, molybdenum single crystal property, molybdenum single crystal growing, molybdenum single crystal microhardness, molybdenum elasticity modulus, molybdenum internal friction, molybdenum property, single crystal growing, single crystal property

ABSTRACT: For the majority of low-melting point metals the methods of growing single crystals are well established and described in the literature. On the other hand, growing of single crystals of high-melting point metals, such as Mo, W, Cb, and Ta, presents some experimental difficulties. In this connection, the authors tried to grow molybdenum single crystals from the gaseous phase of an appropriate compound by the method of thermal dissociation. As bases for deposition, single-crystal filaments 0.1 mm in diameter were prepared from polycrystalline molybdenum wire by recrystallization, applying heat at 1550-1650C for

Card 1/3

ACCESSION NR: AT4005959

4-5 hours.. Such monocrystalline filaments could be obtained in 10 to 90 mm lengths. The method and test equipment used are described in the paper of V. S. Yemel'yanov et al. (Yemel'yanov, V. S., Leont'yev, G. A., Yevstyukhin, A. I.: "Metallurgiya i metallovedeniye chisty*kh metallov," vy* p. III. M., Gosatomizdat, 1961, str. 137). The subsequent growing of crystals was performed from the gaseous state of $MoCl_5$ at temperatures of 1500-1600C in the beginning of the process, and then at 1280-1300C. A higher rate of deposition occurred at the higher temperatures. Molybdenum single crystals were grown up to 3 mm thick and 90 mm long. The single crystals obtained showed high ductility at room temperature, could be easily bent to a large angle and cold-rolled. In contrast to this, polycrystalline deposits obtained from the same gaseous phase were brittle in bending. In addition, tests were made to determine hardness, modulus of elasticity, and internal friction values of molybdenum single crystals. The hardness of molybdenum single crystals was considerably lower than that of the commercial metal. The microhardness of monocrystals was 180-200 kg/mm^2 (under 200 gr load), while that of the common commercial metal in an annealed state was 230-260 kg/mm^2. The modulus of elasticity was determined from resonance frequencies of flexural vibrations of freely suspended cylindrical specimens. Single crystals showed somewhat higher E values than samples of commercial metal. The internal friction was determined from the damping of flexural vibrations. Quenched single crystals

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810010-4"

ACCESSION NR: cAT4005959

showed low values of internal friction. After a slight plastic bending deformation, a considerable increase of internal friction was observed. In plastic bending the number of dislocations increased, causing an increase of internal friction. When a crystal contained an abundant number of points of disorder subject to fixing by quenching, the latter might migrate to the dislocations and fix them, decreasing thus the level of internal friction. Orig. art. has: 5 figures and 3 tables.

ASSOCIATION: Inzhenerno-fizicheskiy institut, Moscow (Engineering-Physics Institute)

SUBMITTED: 00 DATE ACQ: 17Jan64 ENCL: 00

SUB CODE: ML NO REF SOV: 002 OTHER: 004

Card 3/3

GRUZIN, P.L.; SEMENIKHIN, A.N.; ANDREYEV, V.I.

Equipment for measuring internal friction in metals. Met. i metalloved. chist. met. no. 4:194-197 '63. (MIRA 17:5)

L 14996-65 EWT(m)/EWP(w)/EPF(c)/EPF(n)-2/EWA(d)/EWP(t)/EWP(b) Pr-4/Pu-4
BSD/ASD(m)-3/AS(mp)-2/AFMDC JD/WW/JG/GG/MLK

ACCESSION NR: AT4048131 S/0000/63/000/000/0236/0242

AUTHOR: Gruzin, P. L., Semenikhin, A. N.

TITLE: Effect of nuclear radiation and plastic deformation on internal friction in zirconium

SOURCE: Vsesoyuznaya konferentsiya po relaksatsionny*m yavleniyam v metallakh i splavakh. 3d, Voronezh, 1962. Relaksatsionny*ye yavleniya v metallakh i splavakh (Relaxation phenomena in metals and alloys); trudy* konferentsii, Moscow, Metallurgizdat, 1963, 236-242

TOPIC TAGS: zirconium, internal friction, zirconium irradiation, plastic deformation, neutron irradiation, Gamma irradiation

ABSTRACT: The investigation dealt with the effect of plastic deformation, annealing, and irradiation by neutrons and gamma rays on the internal friction and modulus of elasticity of polycrystalline zirconium. Internal friction and the modulus of elasticity were measured by the high frequency method. The internal friction was calculated from the damping of natural bending oscillations (the logarithmic decrement divided by pi), while the modulus of elasticity was calculated from the resonance frequency, density and geometrical dimensions of the samples. The diagram of the device used for measuring internal friction is shown in Fig. 1 of the Enclosure. The samples were 4-5 mm cylinders up to 100 mm in length made

Card 1/4

L 14996-65

ACCESSION NR: AT4048131

of iodide zirconium with a purity of 99.8% and containing 0.04% Hf, 0.01% Fe and 0.01% Mo. A wide maximum was observed on the internal friction curve at about -30C. This maximum was investigated for different deflections of the sample. As the deflection increased, the height of the maximum also increased, and this increase became very noticeable at small deformations. The height of the maximum internal friction was studied for isochronous annealing at 100, 150 and 300C for samples deformed 1%. After annealing, the maximum was shifted toward lower temperatures. Samples annealed at 800C were then exposed to neutron irradiation in a reactor and to gamma rays from cobalt-60. Neutron irradiation lowered the height of the low-temperature maximum of internal friction and led to the appearance of a sharp maximum of internal friction at 60C. The irradiated samples were then annealed at 200C for 20 hours, after which both maxima disappeared. The authors conclude that maxima of internal friction are observed when the frequency of the applied stress coincides with the frequency of deflection formation. The tests showed that the process of formation of sharp maxima of internal friction for zirconium is different at low temperatures. Similar results for internal friction maxima are observed with neutron irradiation of copper, only the causes have not been completely elucidated. It is possible that the appearance of the maxima is connected with migration of vacancies under elastic stress. Orig. art. has: 7 figures.

Card 2/4

L 14996-65

ACCESSION NR: AT4048131

ASSOCIATION: Moskovskiy inzhenerno-fizicheskiy institut (Moscow Engineering Physics Institute)

SUBMITTED: 10Nov63 ENCL: 01 SUB CODE: MM

NO REF SOV: 000 OTHER: 010

Card 3/4

L 14996-65

ACCESSION NR: AT4048131

ENCLOSURE: 01

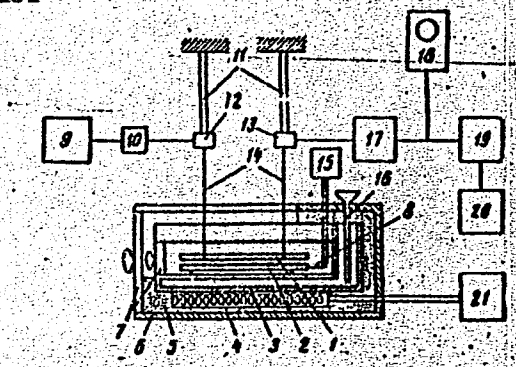


Fig. 1. Diagram of device for measuring internal friction and modulus of elasticity.

1 - sample; 2 - control sample; 3 - cryostat; 4 - heater; 5 - heat insulation; 6 - housing; 7 - cover; 8 - thermocouple; 9 - sonic generator; 10 - tumbler switch; 11 - shock absorbers; 12 - loud speaker; 13 - piezo-crystal; 14 - hanger; 15 - potentiometer; 16 - funnel; 17 - amplifier; 18 - oscillograph; 19 - discriminator; 20 - register; 21 - auto-transformer.

Card 4/4

L 14999-65 EWT(m)/EWP(w)/EPF(n)-2/EWA(d)/EWP(t)/EWP(b) Pu-4
ASD(f)-2/AFWL/BSD/ASD(m)-3/AS(mp)-2/ESD(t) JD/JG/MLK
ACCESSION NR: AT4048135 S/0000/63/000/000/0258/0262

AUTHOR: Gruzin, P.L., Semenikhin, A.N.

TITLE: Recovery of internal friction in molybdenum single crystals

SOURCE: Vsesoyuznaya konferentsiya po relaksatsionnym yavleniyam v metallakh i splavakh. 3d, Voronezh, 1962. Relaksatsionnyye yavleniya v metallakh i splavakh (Relaxation phenomena in metals and alloys); trudy konferentsii. Moscow, Metallurgizdat, 1963, 258-262

TOPIC TAGS: molybdenum, molybdenum single crystal, internal friction, molybdenum irradiation, plastic deformation

ABSTRACT: Small plastic deformations usually increase internal friction and lower the modulus of elasticity in crystalline materials. Two processes may explain the recovery of internal friction: first, elimination and re-grouping of dislocations; and second, securing of dislocations by point defects. The present authors investigated the recovery of internal friction and modulus of elasticity in molybdenum single crystals. The devices employed and the method of obtaining the crystals were described previously (V.S. Yemel'yanov et al., Atomizdat, 1963). Recovery of internal friction and modulus of elasticity were observed in hardened molybdenum single crystals which were then de-

Card 1/3

L 14999-65

ACCESSION NR: AT4048135

formed. The crystals were hardened by electrical heating at 1500-1600C. The crystals were then bent, after the internal friction and modulus of elasticity had been measured. The crystals were then annealed at 600C, and the samples were heated to 120 and 150C. Neutron irradiation was found to lower the internal friction of a previously annealed molybdenum single crystal. Previous publications by N. F. Matt, J. Friedel, A. Granato and K. Lucke noted that the modulus defect in deformed metals is connected with the dislocation density and the effective dislocation length. A comparison of published data with those of the authors showed that the internal friction is recovered at lower temperatures than the electrical resistance. This is explained either by the sensitivity of internal friction to the securing of dislocations by vacancies, or by the higher purity of these single crystals than the molybdenum used for testing electrical resistance. The presence of impurities in the metal raises the recovery temperature by 50C. The tests also indicated that the minimum internal friction reached after each annealing-deformation cycle constantly increases, showing that the vacancies are decreased to secure the dislocations. An excessive quantity of vacancies may be formed not only during hardening but also during irradiation. Finally, it was noticed that radiation resulted in the recovery of internal friction, probably due to heating of the

Card 2/3

L 14999-65

ACCESSION NR: AT4048135

2

metal to the recovery temperature. "The crystals were prepared by Engineer G.A. Leont'yev." Orig. art. has 5 figures and 1 formula.

ASSOCIATION: Moskovskiy inzhenerno-fizicheskiy institut (Moscow Engineering Physics Institute)

SUBMITTED: 10Nov63 ENCL: 00 SUB CODE: MM

NO REF SOV: 005 OTHER: 011

Card 3/3

SEMENIKHIN, A.M.; GROMOV, B.V.

Extractive purification of beryllium with the aid of acid alkyl orthophosphates. Zhur. neorg. khim. 9 no.5:1272-1279 My '64. (MIRA 17:9)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni D.I. Mendeleyeva.

SEMENIKHIN, A.N.

21 (0), 24 (0) SOV/89-7-2-18/24

AUTHOR: Tyagunov, G. A.

TITLE: Scientific Conference of the MIFI (Nauchnaya konferentsiya MIFI)

PERIODICAL: Atomnaya energiya, 1959, Vol 7, Nr 2, pp 176-177 (USSR)

ABSTRACT: The yearly scientific meeting was held from 17 April to 15 May 1959 in the Moskovskiy inzhenerno-fizicheskiy institut (Moscow Physical Engineering Institute). More than 600 participants from 100 different institutes attended the 2 plenary and 18 sectional conferences. A total of 148 lectures were held. The following lectures are specially mentioned: M. K. Romanovskiy on the thermo-nuclear examinations, N. G. Basov on the physical foundations of molecular generators and amplifiers, A. I. Leypunskiy on the construction of a fast reactor, I. Ya. Pomeranchuk on the theory of the peripheral collision of mesons and nucleons, A. B. Migdal on superfluidity and momentum of inertia of the nuclei, A. S. Kompaneyets on the strong electromagnetic gravity wave, V. I. Gol'danskiy on levels which are excited within the nucleus shell and methods of comprehending them, L. L. Rozental' and L. A. Prokhorova on the analysis of the possible experiments for the determination of the measurements of the μ-mesons, Yu. L. Dianov-Klokov on the spectrum of liquid and crystalline hydrogen under pressure (8000-10000 atm) and an instrument for measuring the absorption curves, V. I. Lyapidevskiy and O. V. Glamazdina on new application possibilities of the diffusion chamber, A. V. Mal'nov on calculation methods for linear electron accelerators with migratory waves, P. A. Ryazin, A. B. Minervin and A. I. Zaboyev on new theories of the electron capture under betatron conditions of the acceleration, Ya. G. Pryanov on optimum wave length for a generator, S. P. Lomnev and G. A. Tyagunov on magnetic focussing in a linear electron accelerator, O. A. Val'dner, P. A. Dmitrovskiy, D. V. Zorin, Yu. V. Il'in on the 3 mev linear accelerators of the MIFI, and V. V. Kuznetskiy, O. A. Val'dner, V. V. Kotov and V. N. Chesnokov on examination of the electron movement in the system of the elutron with consideration of the scattering fields, O. A. Krayev on impulse method for measuring the heat conduction capacity of liquids and the theory of this method, Ya. F. Khabakhpashev, Yu. M. Il'in and D. A. Chirov on heat transmission to the eutectic Na-K which flows in a circular space, V. I. Petrovichev on heat transmission to circulating mercury, M. M. Royzin on special conditions when working with a flat triode in the impulse technique, O. S. Pofurayev on calculation methods and construction of an impulse transformer for instruments with semi-conductor elements, Ya. A. Khetagurov on a possibility judge the characteristics of magnetic recording of impulses, B. I. Kal'nin on the element system for a universal digital computer, V. S. Malov on multiple control of the parameters of technologic processes, P. I. Popov on analysis of several systems with which physical energy apparatus can be automatically started, Yu. I. Topchayev on a method to examine the quality of a reactor control when the reactivity changes stepwise or linearily. G. A. Leont'yev and A. I. Yevstyukhin on examination of the iodine method of refining niobium and characteristics of the metal obtained, P. L. Gruzin and G. G. Ryabova on examination of the micro-distribution of carbon, tungsten, iron and other elements in zirconium and its alloys by use of autoradiography, G. B. Fedorov on determination of the sublimation heat of zirconium and nickel by using radioactive indicators and G. B. Fedorov and A. N. Semenikhin on determination of the diffusion coefficients of chromium, nickel, iron and chromium nickel steels. The literature for all these lectures will be published by the MIFI in a symposium.

Card 1/3

Card 2/3

Card 3/3

FEDOROV, G.B.; SEMENIKHIN, A.N.

Effect of alloying on the diffusion of elements in chromium-nickel steels. Met. i metalloved. chist. met. no. 2:252-258 '60. (MIRA 13:12)

(Chromium-nickel steel--Metallography)

GRUZIN, P.L.; SEMENIKHIN, A.N.

Effect of internal irradiation on the damping constant in zirconium. Atom. energ. 15 no.2:169-171 Ag '63. (MIRA 16:8)
(Dielectrics--Effect of radiation on) (Zirconium)