DINNIK A. A.
p. 3, 4 8

PHASE I BOOK EXPLOITATION SOV/3611

Dnepropetrovsk. Metallurgicheskiy institut

Obrabotka metallov davleniyem (Metal Forming) Khar'kov, Metallurgizdat, 1960. 326 p. (Series: Its: Nauchnyye trudy, vyp. 39) 2,100 copies printed.

Ed.: A.P. Chekmarev; Ed. of Publishing House: R.A. Belina; Tech. Ed.: S.P. Andreyev.

PURPOSE: This collection of articles is intended for technical and scientific personnel in metallurgy and in mechanical engineering. It will also be of interest to designers of rolling equipment.

COVERAGE: This collection of articles treats the theory of rolling. It discusses such factors as the total and the unit pressures of the work on rolls, moments of rolling, forward slip, spread, etc. It also includes results obtained from investigation of rail quality, rolling of cast iron sheets, and other problems. No personalities are mentioned. References follow each article.

Card 1/9

TABLE OF CONTENTS:

S/137/60/000/011/015/043
A006/A001

Translation from: Referativnyy zhurnal, Metallurgiya, 1960, No.11, p.116, # 26130

AUTHOR: Dinnik, A.A.

TITLE: True Yield Limits in the Hot Rolling of Steel

PERIODICAL: Tr. Mezhvuz. nauchno-tekhn. konferentsii na temu: "Sovrem. dostizh. prokatn. proiz-va", Vol. 2, Leningrad, 1959, pp. 64 - 70

TEXT: The true yield limit, σ_{true}, depends on the chemical composition of the metal, the grain size, temperature, the degree and speed of deformation. Experimental data are presented on σ_{true} for 11 steel grades at 600 - 1,200°C, deformation speeds as high as 10^{-3} - 10^{-2} 1/sec and 30% deformation degree. The difference in the mechanical properties of industrial ingots and billets and laboratory specimens is taken into account by using the coefficient of similarity n. In extrusion > 2, $n = 1$. The effect of the deformation degree is taken into account by using the coefficient K which varies, depending on the steel grade, within 0.55-1.05 with an increase of the deformation degree from 0 to 70%.

L.M.

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

DINNIK, A.A., kand.tekhn.nauk

Selecting a β coefficient in plasticity equation for calculating metal pressure on rolls. Nauch. trudy DMI no.39:89-92 '60. (MIRA 13:10)

(Rolling mills) (Plasticity)

DINNIK, A.A., kand.tekhn.nauk

Calculating forces on tube straightening mills with inclined rolls. Nauch. trudy DMI no.39:117-126 '60. (MIRA 13:10)
(Pipe mills)

18.8200 24583 S/137/61/000/005/037/060
A006/A106

AUTHOR: Dinnik, A. A.

TITLE: True yield limits of steel at higher temperatures and deformation speeds

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 5, 1961, 28, abstract 52h222 ("Nauchn. tr. Dnepropetr. metallurg. in-t", 1960, no. 39, 311-327)

TEXT: The author presents results of experiments on the determination of true yield limits σ_μ of 15 carbon and alloy steel grades at high temperatures (600 - 1,200°C) and various deformation speeds. For low deformation speeds when the testing time is extended and the specimen temperature is difficult to maintain even during upsetting in a heated container, the method of static tension was employed on a lever- perpendicular type machine. A specimen of 6 mm diameter and 60 mm rated length was placed into an electric resistance furnace, heated to a given temperature for 10 minutes prior to the tests, and was then stretched at 10 mm/min. The determination of σ_μ at mean deformation speeds of 2 - 4 sec^{-1} was performed on an excentric mechanical press by upsetting of a cylindrical specimen (20 mm in diameter, 40 mm height) to 30 and 50%. Tests at high deforma-

Card 1/2

True yield limits of steel ... 24583 S/137/61/000/005/037/060
A006/A106

tion speeds (50 - 300 sec^{-1}) were performed on a vertical Amsler ram with 10.3 and 100 kg drop weight and up to 5 m lifting height. It was established that the degree of relative deformation affect considerably δ_M, simultaneously with the temperature and the deformation speed. At a lower degree of deformation the value δ_M decreases by 40 - 50%. It is pointed out that the data on δ_M obtained during hot deformation of basic structural steel grades may be widely used when calculating the forces in various processes of pressure working of metals. There are 11 references.

L. G.

[Abstracter's note: Complete translation]

Card 2/2

S/137/61/000/006/027/092
A006/A101

AUTHOR: Dinnik, A.A.

TITLE: Selection of coefficient β in the equation of plasticity when calculating the metal pressure on rolls

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 6, 1961, 1-2, abstract 6D5 ("Nauchn. tr. Dnepropetr. metallurg. in-t", 1960, no. 39, 89 - 92)

TEXT: The author derives the dependence of coefficient β, on the magnitude of mean main deformation and the ratio of relative widening to relative reduction $\varepsilon_2/\varepsilon_3$ by taking into account the effect of the mean main stress in a simplified equation of plasticity. A graph is plotted showing changes of coefficient β as a function of the mean main deformation. It is calculated that coefficient β changes from $\beta = 1$, when rolling sheets with widening (at $\varepsilon_2/\varepsilon_3 = -0.5$) up to $\beta = 1.155$ when rolling sheets without widening (at $\varepsilon_2/\varepsilon_3 = 0$) and $\beta = 1.15 - 1.08$ for section rolled metal (at $\varepsilon_2/\varepsilon_3$ = from -0.1 to -0.35), instead of the conventional value $\beta = 1.15$ for all cases of rolling.

[Abstracter's note: Complete translation]

V. Pospekhov

Card 1/1

18.8200

27920
S/123/61/000/017/003/024
A004/A101

AUTHOR: Dinnik, A. A.

TITLE: The true yield strength of steel at high temperatures and deformation rates

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 17, 1961, 13, abstract 17A86 ("Nauchn. tr. Dnepropetr. metallurg. in-t", 1960, no. 39, 311-327)

TEXT: The author presents the results of tests to determine the true yield strength of carbon and alloyed steels at high temperatures (up to 1,000°C), various rates (2-300 1/sec) and degrees of deformation (0-50%) during tensile and compression (upsetting) tests. The obtained data are presented in a graph showing deformation rate versus the mean value of the true yield strength. It was found that, apart from the temperature and deformation rate, the degree of relative deformation affects the true yield strength, which is being reduced by 40-50% if the relative deformation decreases.

V. Kolesnik

[Abstracter's note: Complete translation]

Card 1/1

S/793/62/000/000/001/006
A004/A126

AUTHOR: Dinnik, A.A., Docent, Candidate of Technical Sciences

TITLE: The true yield point of steel in hot rolling

SOURCE: Teoriya prokatki; materialy konferentsii po teoreticheskim voprosam prokatki. Moscow, Metallurgizdat, 1962, 157 - 173

TEXT: The author gives a definition of the true yield point of steel which depends on various factors and shows the effect of these factors by means of a number of tables. He presents formulae for calculating the coefficient of force similitude, the mean specific pressure in hot rolling, and describes in detail the investigation methods. The true yield point of heated steel at different deformation rates can be determined by 1) tensile tests and 2) compression tests. The former method is preferred because of the possibility of obtaining the yield point under the condition of a linear-stressed state (uniaxial tension) in the relatively small deformation range of 15 - 20%. The author, however, is of the opinion that the true yield point should be determined under conditions that are analogous to those of deformation in production processes, i.e., in compression.

Card 1/2

The true yield point of steel in hot rolling

S/793/62/000/000/001/006
A004/A126

He gives a detailed description of the tensile and compression tests, enumerates the various specimens tested and presents some additional formulae of the impact work in upsetting and mean value of the deformation rate during upsetting. As a result of the tests, the author considers it experimentally proven that considerable changes of the true yield point along the arc of bite are taking place, owing to a simultaneous process of hardening and softening. There are 17 figures and 3 tables.

ASSOCIATION: Dnepropetrovskiy metallurgicheskiy institut (Dnepropetrovsk Metallurgical Institute)

Card 2/2

DINNIK, A. A., kand. tekhn. nauk

Engineering methods for calculating metal pressure on rolls and the torque in hot rolling with smooth rolls. Nauch. trudy DMI no.48:55-78 '62. (MIRA 15:10)

(Rolling mills)

DINNIK, A. A., kand. tekhn. nauk

Contact arc and the torque arm coefficient considering the elastic compression of the rolls. Nauch. trudy DMI no.48: 206-215 '62. (MIRA 15:10)

(Rolling mills) (Torque)

DINNITS, Ye.G.

Traumatic dislocation of the testicle. Urologiia 21 no.1:68 Ja-Mr '56. (MLRA 9:12)

1. Iz gospital'noy khirurgicheskoy kliniki (zav. - prof. I.L.Bregadze) Novosibirskogo meditsinskogo instituta.

(TESTES, dislocation
caused by trauma)
(DISLOCATION
testes, caused by trauma)

DINNYES, F.

"Planning, Directing, and Checking the Progress of Production by Means of Graphic Representation; from the Experiences of the Wilhelm Pieck Freight Car and Machine Works." p. 12 (TOBBTERMELES. Vol. 8, No. 12, Dec. 1958; Budapest, Hungary.)

So: Monthly List of East European Accessions, (EEAL) LC, Vol. 4, No. 4, April 1955, Uncl..

DENNYES, F.

"Brigade of the Association in the Nagytetany Rubber Works." p. 15
(TOBBTERMELES. Vol. 8, No. 12, Dec. 1954; Budapest, Hungary.)

So: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 4, April 1955, Uncl..

DINNYES, F.

"Teaching the Direction, Planning, and Organization of Production." p. 17 (TOBBTERMELES. Vol. 8, No. 12, Dec. 1954; Budapest, Hungary.)

So: Monthly list of East European Accessions, (EEAL), LC, Vol. 4, No. 4, April. 1955, Uncl..

DINNYES, Katalin

Diploma theses on mining industry economics. Bany Lap 20 no. 7: 511-512 Jl '64.

DIMO, P.

Separation of junction points by use of short-circuit currents; unitary method for the analysis of electric-power systems. Pt.3. Dynamic operating conditions; use of digital computers. Rev electrotechn energet 5 no.1:41-55 '60. (EEAI 10:4)
(Electric currents) (Short circuits)
(Electronic digital computers) (Graphic methods)

DINOCHOWSKI, A.

POL.

Quantitative determination of adenine and guanine in the scales of psoriasis vulgaris. A. Dinoctowski and Halina Padzik (Univ. Łódzki, Łódź, Poland). *Acta Biochim. Polon.* 1, 75-80(1954).—The scales, dried at 105°, were hydrolyzed in 10-15 vols. of 5% H_2SO_4 for 8 hrs. at 100°. Purines were isolated from the filtrate of the hydrolyzate by adding excess of $NaHSO_3$ and then hot 1% $CuSO_4$, liberating the purines from the ppt., and repeating the pptn. once or twice. In some cases the redissolved purines then were pptd. with Ag_2O, decompd. with hot *N* HCl. From the clear filtrate (I) guanine was pptd. by addn. of concd. NH_4 and purified by dissolving in 0.1*N* NaOH and repptn. with 2% AcOH. Adenine was pptd. from I as the picrate (at pH 4) and recrystallized. Freshly collected samples and samples 2 weeks old, and many months old were analyzed. The total N of I was 137 mg. %, adenine N 39-69 mg. %, and guanine N 47.5-73 mg. %.

I. Z. Roberts

(1)

POL.

Micro-iodometric determination of guanine. A. Dinochowski and H. Panusz (Univ. Łódzki, Łódź, Poland). *Acta Biochim. Polon.* 1, 81–92 (1954).—A 0.1 ml. soln., contg. 30–60 γ guanine (I) in a 5-ml. volumetric flask was mixed with 0.2 ml. 0.02*N* iodine and 0.1 ml. 40% NaOH and left for 1.5–2 hrs. A blank soln. was treated identically. An excess of 2*N* H_2SO_4 (approx. 0.8 ml.) was added and the soln. titrated with 0.005*N* $Na_2S_2O_3$ with starch as indicator, 1 ml. of thiosulfate is equiv. to 126 γ iodine. The effect of excess NaOH, H_2SO_4, temp. variations and the time of addn. of indicator on the values of blank titrations was negligible. The oxidation of I was slower in more dil. iodine soln. In acid soln. no reaction takes place; in slightly alk. soln. the oxidation proceeds rapidly and 3 moles of iodine are used for 1 mole I; in 10% NaOH or more I is oxidized quantitatively in 40 min. using 3 moles of iodine for one of I. Raising the temp. does not change the 3:1 ratio. Adenine is not oxidized under any of the above conditions. By this method the I content of scales of psoriasis vulgaris was 290 mg. %. I. Z. R.

(1)

L 13853-66 EWT(m)/EWP(j)/T/EWP(t)/EWP(b)/ETC(m) IJP(c) DS/JD/WW/RM

ACC NR: AP6002815 (N) SOURCE CODE: UR/0078/66/011/001/0207/0209

AUTHORS: Diogenov, G. G.; Gimel'shteyn, V. G.

48
B

ORG: none

TITLE: The system Rb, Cs || NO_3, CH_3COO

SOURCE: Zhurnal neorganicheskoy khimii, v. 11, no. 1, 1966, 207-209

TOPIC TAGS: phase equilibrium, phase diagram, phase composition, rubidium compound, cesium compound, acetate, nitrate

ABSTRACT: The ternary reciprocal system of acetates and nitrates of rubidium and cesium was studied. The investigation is a continuation of previously reported work G. G. Diogenov, T. I. Bruk, and N. N. Nurminskiy (Zh. neorgan. khimii, 10, 1496, 1965). The experimental results are presented in graphs and tables (see Fig. 1). It was found that the system represents a reversible-reciprocal system without a pronounced shift in the equilibrium toward any one of the components.

Card 1/2 UDC: 541.123+546.175+547.29

L 13853-66

ACC NR: AP6002815

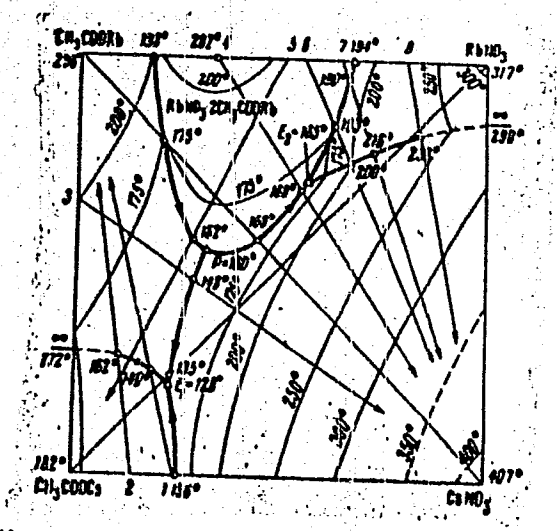


Fig. 1. Projection of the crystallisation surface of the system Rb, Cs || NO_3, CH_3COO on to the base plane.

Orig. art. has: 2 tables and 2 graphs.

SUB CODE: 07/ SUBM DATE: 15Feb65/ ORIG REF: 003

Card 2/2

DINOV, B.

"Methods for Producing Salt from the Sea", P. 44, (MINNO DELO, Vol. 9, No. 4, April 1954, Sofiya, Bulgaria)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No.1, Jan. 1955, Uncl.

DINOV, B.

Measures Increasing our Sea Salt Output (Marine Salt). Minno Delo (Mining) #12:33:Dec 54

DINOV, B.

MINING AND GEOLOGICAL DEPOSIT STUDIES. Minno Delo (Mining), #12:Dec 54

DINOV,D.

DINOV, D. Using the tractors during the winter. p. 6. Vol. 7 no. 11. NOV. 1956
MASHINIZIRANO ZEMEDELIE. Sofiia, Bulgaria

SOURCE: East European Accessions List (EEAL) Vol. 6, No. 4--April 1957

YUNUSOV, A.Yu., akademik, otv.red.; VOLYNSKIY, A.S., prof., red.; IZRAEL', A.I., prof.; red.; KAMILOV, I.K., kand., red.; KRYZHENKOV, A.N., kand. biol.nauk, red.; SADYKOV, A.S., prof., red.; SAGATOV, R.S., kand. med.nauk, red.; TURAKULOV, Ya.Kh., kand.biol.nauk, red.; KHAYRUT-DINOV, Kh.Sh., kand.biol.nauk, red.; KHASHIMOV, A.Kh., prof., red.; YAKOVENKO, Ye.P., red.izd-va; SHARIKOVA, V.P., tekhn.red.

[Papers from the First Conference of Physiologists, Biochemists, and Pharmacologists of Central Asia and Kazakhstan] Materialy I Konferentsii fiziologov, biokhimikov i farmakologov Srednei Azii i Kazakhstana. Tashkent, Izd-vo Akad.nauk Uzbekskoi SSR, 1958. 647 p. (MIRA 12:3)

(Continued on next card)

YUNUSOV, A. Yu.---(continued) Card 2.

1. Konferentsiya fiziologov, biokhimikov i farmakologov Sredney Azii i Kazakhstana. 1st, Tashkent, 1957. 2. Akademiya nauk Uzbekskoy SSR, Tashkent (for Yunusov, Turakulov, Khayrutdinov). 3. Meditsinskiy institut, Tashkent (for Volynskiy, Sadykov, Khashimov). 4. Sredneaziatskiy gosudarstvennyy universitet, Tashkent (for Izrael').

(PHYSIOLOGY) (BIOCHEMISTRY)
(PHARMACOLOGY)

DINOV, St.

Results of the treatment of tuberculous meningitis. Suvrem. med., Sofia 6 no.12:61-68 1955.

1. Iz Detskata protivotuberkulozna bolnitsa-Kniazhevo (gl. lekar: St. Dinov).

(TUBERCULOSIS, MENINGEAL, therapy, chemother. (Bul))

DINOV, S.; SHIVAROV, I.

Destructive forms of primary tuberculosis in early childhood.
Suvrem. med., Sofia 7 no.12:63-75 1956.

1. Iz Detskata protivotuberkulozna bolnitsa - Sofia - Kniazhevo
(Gl. lekar: St. Dinov).
(TUBERCULOSIS, MILIARY, in inf. & child
primary, destructive forms (Bul))
(TUBERCULOSIS, PULMONARY, in infant and child,
same))

DINOV, S.; TODOROV, P.

Artificial pneumothorax in the treatment of primary tuberculosis in infant and young children. Suvrem. med., Sofia 9 no.7:64-71 1958.

1. Iz Detskata protivotuberkulozna bolnitsa-Sofiia (Gl. lekar: St. Dinov).
(PNEUMOTHORAX, ARTIFICIAL,
in inf. & child. (Bul))

DINOV, V.: POPADIN, S.

"Determining the computed power of condenser-asynchronous electric motors with permanent connected condenser"

Tezhka Promishlenost. Sofiia, Bulgaria. Vol. 8, no. 2, Feb. 1959

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 6, Jun 59, Unclas

ANGELOV, Angel; DINOV, Ventseslav

New system for switching the auxiliary coil of single-phase condensator asynchronous motor. Elektroenergiia 12 no.6:16-20 '61.

(Electric motors, Synchronous)
(Electric coils)

DINOV, Ventseslav, inzh.

Higher harmonics in the spatial distribution of magnetizing force in the two-phase and single-phase machines. Godishnik mash elekt 12 no. 2:65-74 '62 [publ. '63].

DIMITROV, D.; DINOV, V.

Study of a nonsymmetrical two-phase machine. Mashinostroene 12 no. 11:18-20 N '63.

D[illegible]KOV, V.A.; DIMITROV, D. Al.

Generalization of the method of symmetrical components in electric machines. Godishnik mash elekt 13 no.2:197-206 '63. [publ. '64]

DINOVIC, KATICA

YUGOSLAVIA / Chemical Technology. Chemical Products and Their Application. Dyeing and Chemical Treatment of Textiles. H-34

Abs Jour : Ref Zhur - Khim., No 3, 1958, No 10,091

Author : Popovic, Petar; Dinovic, Katica
Inst : Not given
Orig Pub : Tekstilna ind., 1956, 4, No 6-7, 199-203

Title : Stretching and Shrinkage of Cotton Fabrics in the Finishing Process.

Abstract : The stretching and shrinkage of fabrics subjected to mechanical treatment (calendering, combing) and to wet finishing were investigated as functions of the nature of the fibers (cotton, regenerated cellulose) the number of the yarn, the twist of the threads, the close weave of the woof and the warp, the pattern of interweaving, and other factors. Regenerated cellulose fabrics stretched more than cotton fabrics in mechanical finishing. The degree of stretching is directly proportional to the close weave of the woof and the pressure in calendering (upon

Card 1/2

YUGOSLAVIA / Chemical Technology. Chemical Products and Their Application. Dyeing and Chemical Treatment of Textiles. H-34

Abs Jour : Ref Zhur - Khim., No 3, 1958, No 10,091

: calendering, the circular cross-section of the thread became an ellipse with its semi-major axis parallel to the warp). Shrinkage was investigated after washing in a soap solution (5 gm/l) at 60° C and drying at 65° C; Shrinkage took place primarily along the warp (while the dimension along the woof even increased somewhat). The magnitude of the shrinkage was inversely proportional to the close weave of the woof of the fabric; the shrinkage of rayon fabrics was higher than that of cotton fabrics.

Card 2/2

23

USSR/General Problems of Pathology - Tumors. Comparative Oncology - Human Neoplasms. U.

Abs Jour : Ref Zhur - Biol., No 19, 1958, 89703

Author : Dinovska, N.G., Shkola, I.E.
Inst : [redacted]
Title : A Case of Primary Carcinoma of the Bulbus Duodeni.

Orig Pub : Vestn. khirurgii, 1957, 79, No 8, 116-117.

Abstract : No abstract.

Card 1/1

DINOVSKAYA, N. G.

DINOVSKAYA, N.G. (Dnepropetrovsk, Amur-Nizhnedneprovskiy rayon, Manuilovka, pereulok No.1); SHKOLA I.Ye. (Dnepropetrovsk, Amur-Nizhnedneprovskiy rayon, Manuilovka, pereulok No.1)

Primary carcinoma of the duodenal papilla. Vest.khir. 79 no.8:116-117 Ag '57. (MIRA 10:10)

1. Iz kliniki fakul'tetskoy khirurgii sanitarno-gigiyenicheskogo i pediatricheskogo fakul'teta (zav. - prof. M.F.Kamayev) Dnepropetrovskogo meditsinskogo instituta i rentgenovskogo otdeleniya (zav. - I.Ye.Shkola) 9-y gorodskoy bol'nitsy (glavnyy vrach - L.P.Dubovskaya)
(DUODENUM, neoplasms
of bulbus duodeni)

1. L. G. DINSEMAN

2. USSR (600)

4. Batrachia

7. Cannibalism of amphibia. Biul. MOIP. Otd. biol. 57 no. 6. 1952.

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

DINSTBIR, Z

RASHKOVA, G.; SHKROBAL, D.; DINSTBIR, Z.

Detoxicating effects of ATP. Physiol. bohem. 5 no.4:444-447 1956.

(ADENYLPYROPHOSPHATE, eff.
detoxicating eff. (Rus))

DINTEANU, C.

DINTEANU, C. Some facts relative to diffusion of documentary material on standardization. p. 35. Vol. 7, no. 10, Oct. 1955. INDUSTRIA TEXTILA. Bucuresti, Rumania.

SOURCE: East European Accessions List (EEAL) LC Vol. 5, no. 6 June 1956

DINTER, Oskar, prof. inz.

New trends in the crushing and grinding of mineral raw materials. Rudy 12 no.7/8:291-296 Jl-Ag'64 (MIRA 17:8)

1. Higher School of Mining, Ostrava.

DINTER, O., prof. inz.; HOLBEIN, M., inz.

The ZVIL heavy medium jig. Paliva 44 no.10:302-307 O '64.

1. Higher School of Mining, Ostrava (for Dinter). 2. Research Institute of Coal-PPK, Ostrava-Radvanice (for Holbein).

DINTER, O.

"Separate Ventilation of Ore Mines." p. 100.
(Rudy, Vol.1, No.7, Sept. 1953, Praha.)

SO: Monthly List of East European Accessions, Vol. 3, No. 3. Library of Congress, March 1954, Uncl.

DUNTER, O.

"Mine cars with a large capacity."
Uhli, Praha, Vol 3, No 5, May 1953, p. 141

SO: Eastern European Accessions List, Vol 3, No 10, Oct 1954, Lib. of Congress

DINTNER, O.

DINTNER, O. Problems related to the dressing of iron ore. p. 23

Vol. 4, no. 1, Jan. 1956
RUDY
TECHNOLOGY
Praha, Czechoslovakia

So: East European Accession, Vol. 6, No. 2, 1957

DINTER, O.

Losses in processing mineral raw materials. p. 54.
TECHNICKÁ PRACA. (Slovenske nakladatelstvo technickej literatury) Bratislava. Vol. 8, no. 2, Feb. 1956.

SOURCE: East European Accessions List, (EEAL). Library of Congress. Vol. 5, no. 12, December 1956.

DINTNER, O.

TECHNOLOGY

periodicals: RUDY Vol. 6, no. 7, July 1958

DINTNER, O. Special methods of ore dressing and definition of the term ore dressing. p. 246.

Monthly List of East European Accessions (ELAI) LC Vol. 8, no. 5 May 1959, Unclass.

DINTNER, O.

"Mutual relation between losses in mining, dressing and metallurgical processing of ores."

RUDY. Praha, Czechoslovakia, Vol. 7, No. 4, April, 1959

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 9, September, 1959
Unclas

DINTER, O., prof., inz.

Flotation terminology. Rudy 10 no.9:330 S '62.

DINTER, O., prof., inz.

Note on the symbols for preparation equipment and processes.
Rudy 11 no.1:25-26 Ja '63.

1. Katedra upravnictvi, Vysoka skola banska.

DINTER, O., prof., inz.

The DISA dense liquid separator. Paliva 43 no.4:114-116 Ap '63.

DINTER, O., prof.

"Dewatering of preparation products and water circulation in washing" by A. Battaglia. Reviewed by O. Dinter. Paliva 43 no. 9:294 S '63.

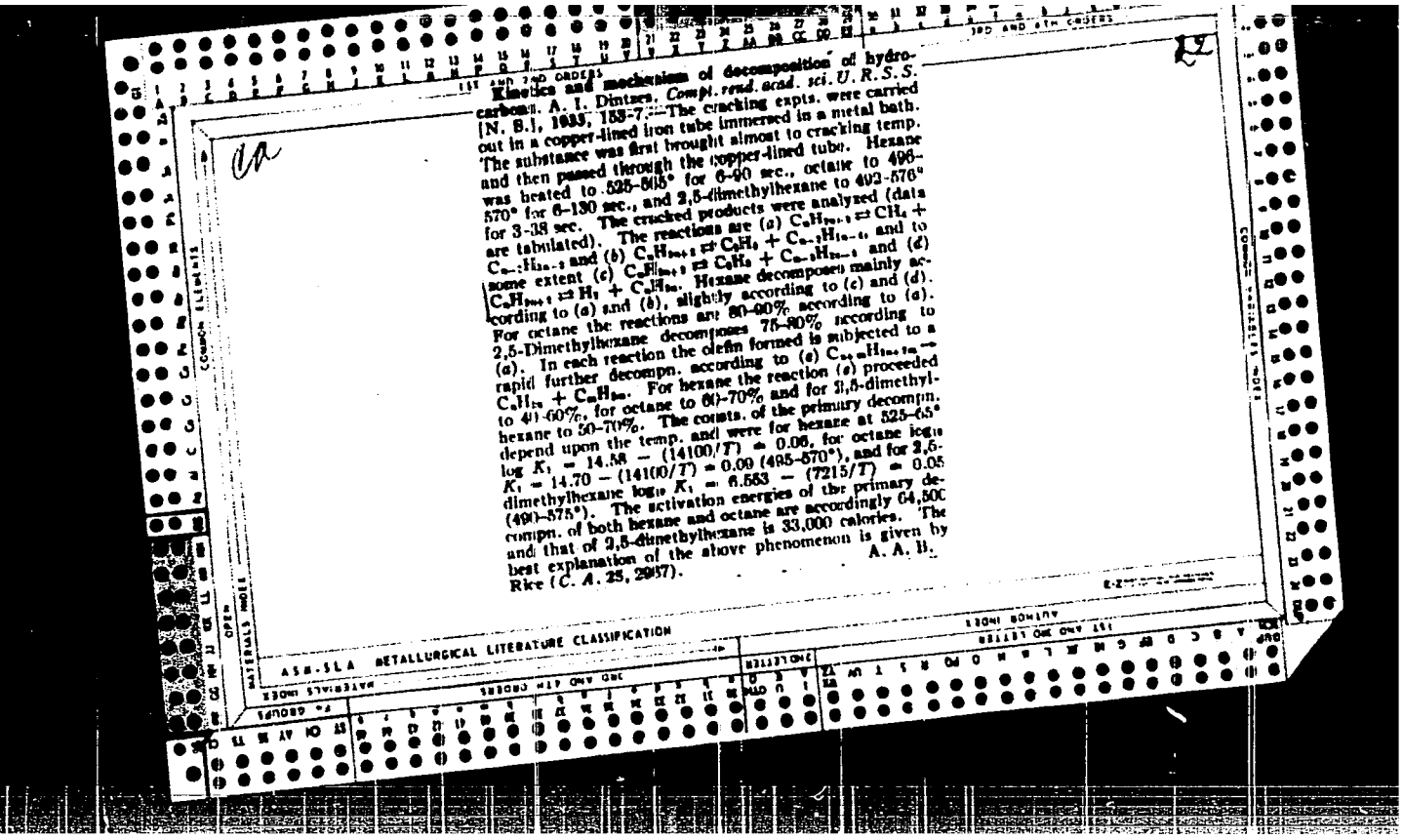
"Coal flotation" by V. I. Klassen. Reviewed by O. Dinter. 294-295

1. Katedra uprávnictvi, Vysoka skola banska.

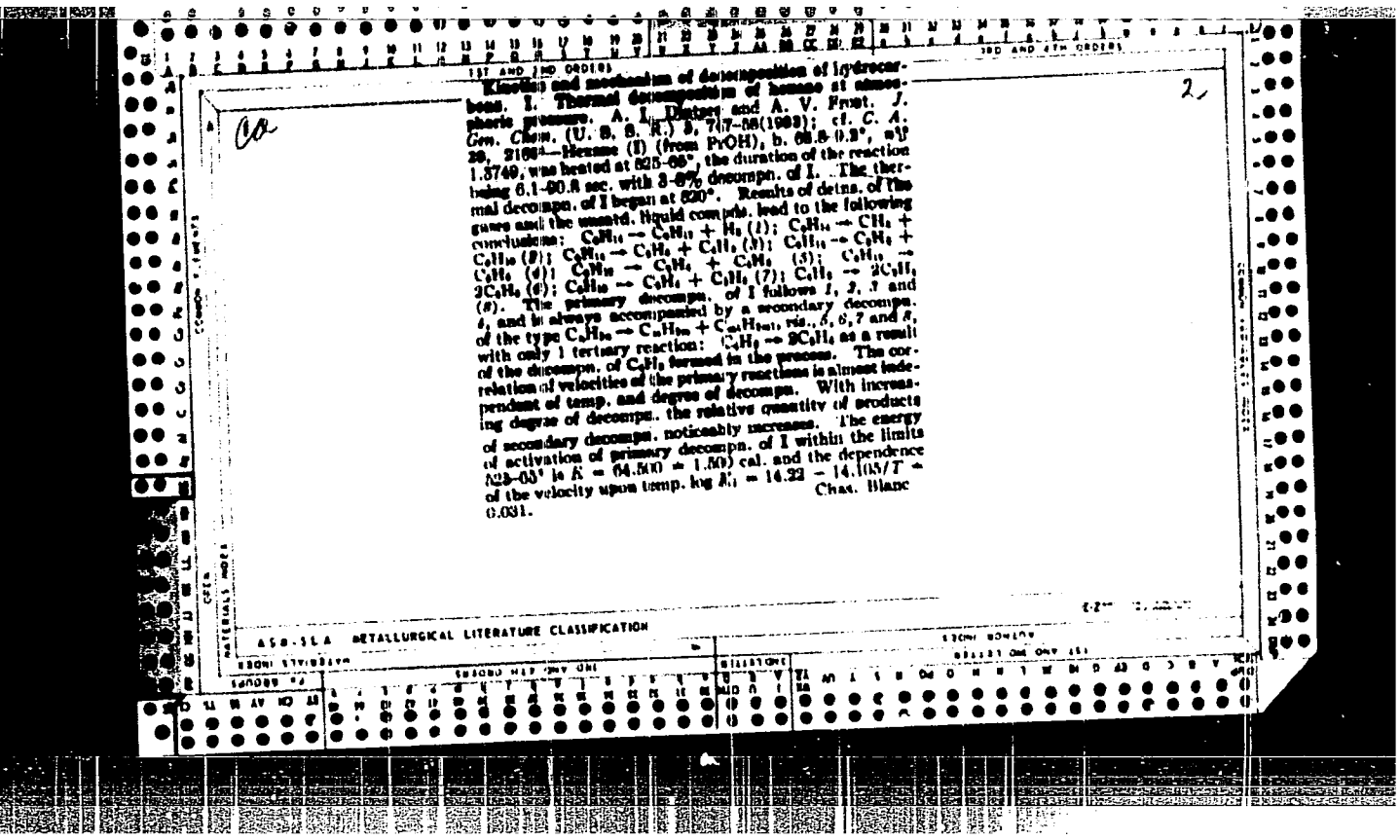
DINTSEN, E.L.

Deviation of analytic functions form the mean arithmetic quotients of sums of Faber's series. Dokl. AN SSSR 157 no.2: 250-253 Jl '64. (MIRA 17:7)

1. Predstavleno akademikom S.N.Bernshteynom.

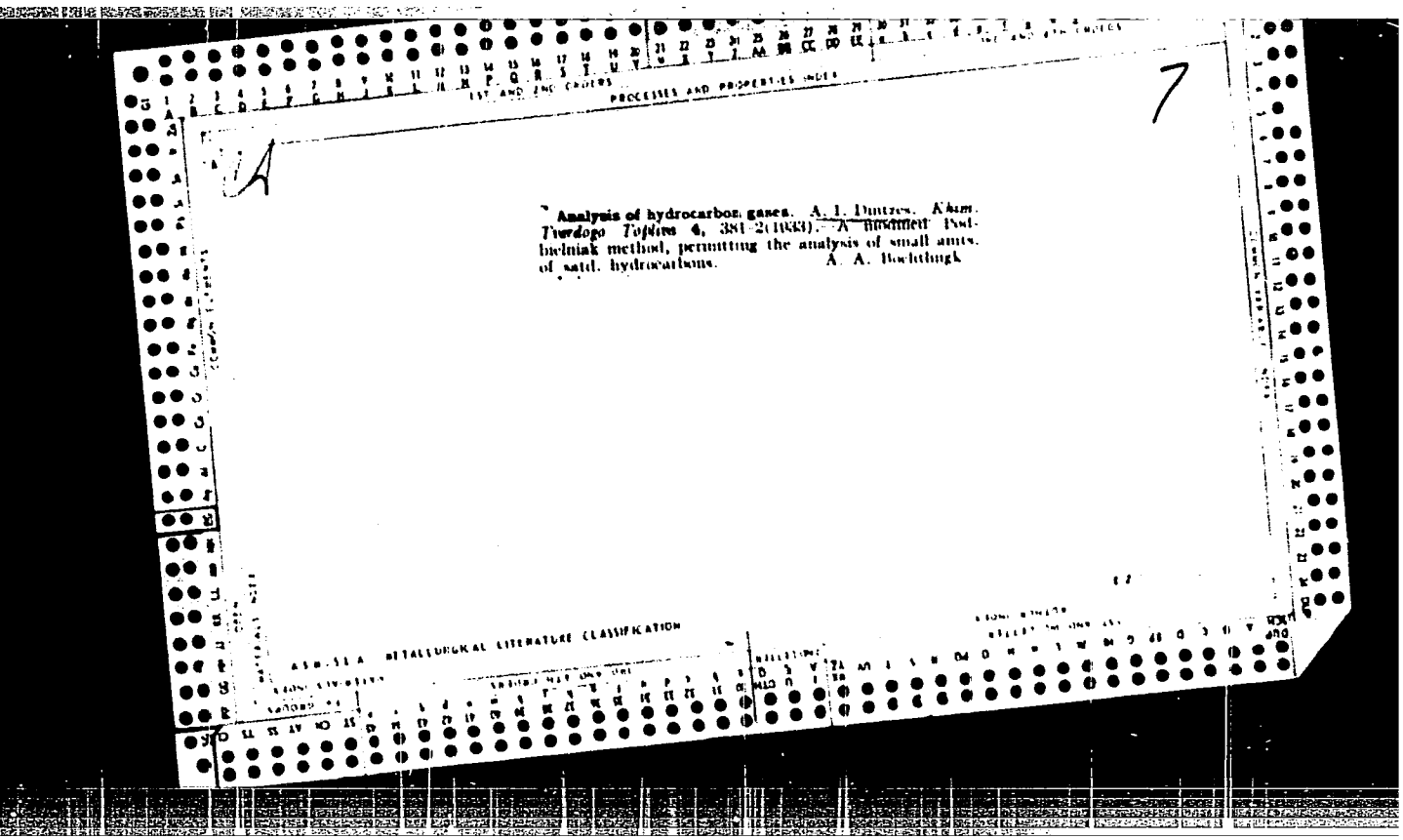


Kinetics and mechanism of decomposition of hydrocarbons. A. I. Dintses. *Compt. rend. acad. sci. U. R. S. S.* [N. S.], 1935, 153–7.—The cracking expts. were carried out in a copper-lined iron tube immersed in a metal bath. The substance was first brought almost to cracking temp. and then passed through the copper-lined tube. Hexane was heated to 525–615° for 6–90 sec., octane to 496–570° for 6–130 sec., and 2,5-dimethylhexane to 492–576° for 3–38 sec. The cracked products were analyzed (data are tabulated). The reactions are (*a*) $C_nH_{2n+2} \rightleftarrows CH_4 + C_{n-1}H_{2n-2}$ and (*b*) $C_nH_{2n+2} \rightleftarrows C_2H_4 + C_{n-2}H_{2n-4}$ and to some extent (*c*) $C_nH_{2n+2} \rightleftarrows H_2 + C_nH_{2n}$. Hexane decomposes mainly according to (*a*) and (*b*), slightly according to (*c*) and (*d*). For octane the reactions are 80–90% according to (*a*). For 2,5-Dimethylhexane decomposes 75–80% according to (*a*). In each reaction the olefin formed is subjected to a rapid further decompn. according to (*e*) $C_nH_{2n} \rightarrow C_mH_{2m} + C_pH_{2p}$. For hexane the reaction (*a*) proceeded to 40–60%, for octane to 60–70% and for 2,5-dimethylhexane to 50–70%. The consts. of the primary decompn. depend upon the temp. and were for hexane at 525–65° $\log K_1 = 14.58 - (14100/T) = 0.06$, for octane $\log K_1 = 14.70 - (14100/T) = 0.09$ (495–570°), and for 2,5-dimethylhexane $\log K_1 = 6.553 - (7215/T) = 0.05$ (490–575°). The activation energies of the primary decompn. of both hexane and octane are accordingly 64,500 and that of 2,5-dimethylhexane is 33,000 calories. The best explanation of the above phenomenon is given by Rice (*C. A.* 25, 2957). A. A. B.

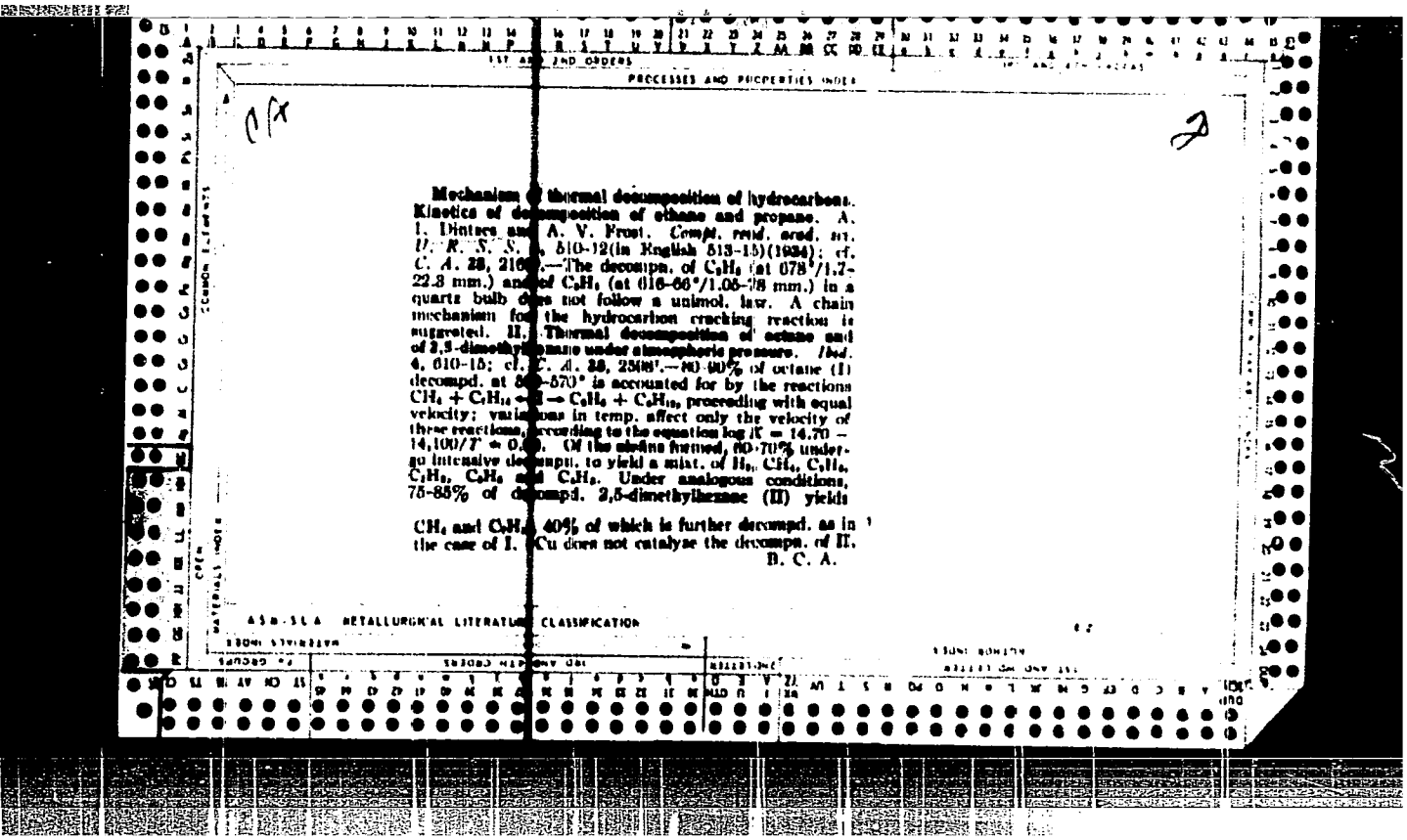


Kinetics and mechanism of decomposition of hydrocarbons. I. Thermal decomposition of hexane at atmospheric pressure. A. I. Dintses and A. V. Frost. *J. Gen. Chem.* (U. S. S. R.) 9, 717-88(1939); cf. *C. A.* 29, 2166⁴.—Hexane (I) (from PrOH), b. 68.8-9.2°, n_D^{20} 1.3749, was heated at 625-68°, the duration of the reaction being 6.1-90.8 sec. with 3-6% decompn. of I. The thermal decompn. of I began at 620°. Results of detns. of the gases and the unsatd. liquid compds. lead to the following conclusions: $C_6H_{14} \rightarrow C_6H_{12} + H_2$ (1); $C_6H_{14} \rightarrow CH_4 + C_5H_{10}$ (2); $C_6H_{14} \rightarrow C_2H_6 + C_4H_8$ (3); $C_6H_{14} \rightarrow C_3H_8 + C_3H_6$ (4); $C_6H_{14} \rightarrow C_4H_{10} + C_2H_4$ (5); $C_6H_{14} \rightarrow 2C_3H_7$ (6); $C_6H_{14} \rightarrow C_5H_{12} + CH_3$ (7); $C_6H_{14} \rightarrow 2C_3H_7$ (8). The primary decompn. of I follows 1, 2, 3 and 4, and is always accompanied by a secondary decompn. of the type $C_nH_{2n} \rightarrow C_mH_{2m} + C_{n-m}H_{2(n-m)}$, viz., 5, 6, 7 and 8, with only 1 tertiary reaction: $C_3H_6 \rightarrow 2C_2H_4$ as a result of the decompn. of C_4H_8 formed in the process. The correlation of velocities of the primary reactions is almost independent of temp. and degree of decompn. With increasing degree of decompn. the relative quantity of products of secondary decompn. noticeably increases. The energy of activation of primary decompn. of I within the limits 625-65° is $K = 64,500 \pm 1,500$ cal. and the dependence of the velocity upon temp. is $\log K_1 = 14.22 - 14,105/T \pm 0.031$.

Chas. Blanc



Analysis of hydrocarbon gases. A. I. Dintzes. *Khim. Tverdogo Topliva* 4, 381–2 (1933). A fractional Podbielniak method, permitting the analysis of small amts. of satd. hydrocarbons. A. A. Boelsingh



PROCESSES AND PROPERTIES INDEX

Mechanism of thermal decomposition of hydrocarbons. Kinetics of decomposition of ethane and propane. A. I. Dintses and A. V. Frost. *Compt. rend. acad. sci. U. R. S. S.*, 510-12(in English 513-15)(1934); cf. *C. A.* 28, 2160.—The decompn. of C_2H_6 (at 078°/1.7-22.8 mm.) and of C_3H_8 (at 616-66°/1.06-38 mm.) in a quartz bulb does not follow a unimol. law. A chain mechanism for the hydrocarbon cracking reaction is suggested. II. Thermal decomposition of octane and of 2,5-dimethylhexane under atmospheric pressure. *Ibid.* 4, 610-15; cf. *C. A.* 28, 2588.—80-90% of octane (I) decompd. at 5[illegible]-570° is accounted for by the reactions $CH_4 + C_7H_{14} \rightarrow I \rightarrow C_3H_6 + C_5H_{10}$, proceeding with equal velocity; variations in temp. affect only the velocity of these reactions, according to the equation $\log K = 14.70 - 14,100/T$ ± 0.[illegible]. Of the olefins formed, 60-70% undergo intensive decompn. to yield a mixt. of H_2, CH_4, C_2H_4, C_3H_6, C_4H_8 and C_5H_{10}. Under analogous conditions, 75-85% of decompd. 2,5-dimethylhexane (II) yields CH_4 and C_8H_{16}, 40% of which is further decompd. as in the case of I. Cu does not catalyse the decompn. of II.

B. C. A.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

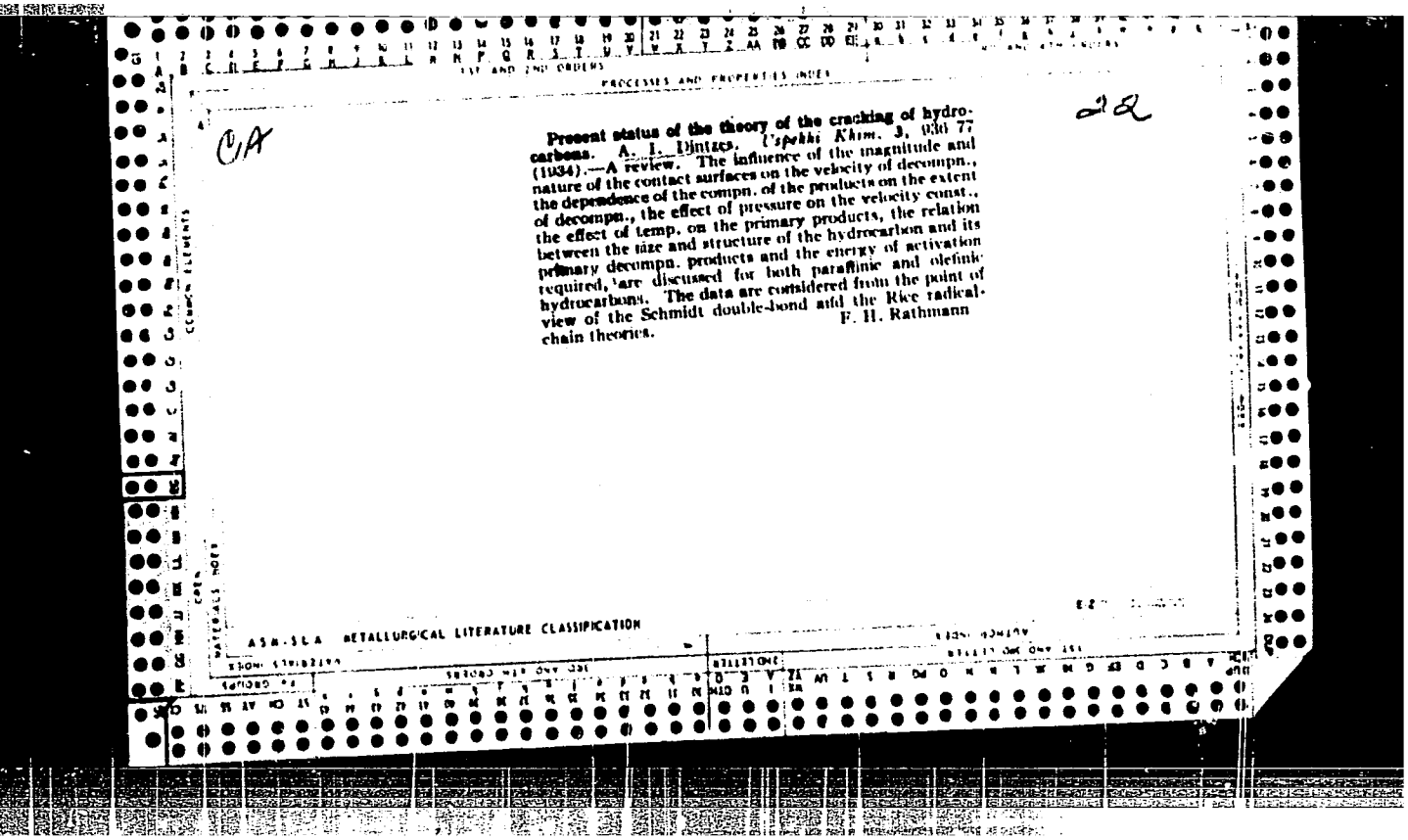
PROCESSES AND PROPERTIES INDEX

BC

A-1

Kinetics and mechanism of decomposition of hydrocarbons. II. Thermal decomposition of octane and of 2,5-dimethylhexane under atmospheric conditions. A. I. Dintses and A. V. Frost (J. Gen. Chem. Russ., [illegible], [illegible], 610—615).—80—90% of n-octane (I) decomp. at 500—570° is accounted for by the reactions $CH_4 + C_7H_{14} \longleftarrow (I) \longrightarrow C_2H_6 + C_6H_{12}$, proceeding with equal velocity; variations in temp. influence only the velocity of these reactions, according to the equation $\log K = 14.70 - 16,100/T \pm 0.03$. Of the olefines formed, 60—80% undergo intensive decomp. to yield a mixture of H_2, CH_4, C_2H_4, C_3H_6, C_2H_6, and C_4H_8. Under analogous conditions, 75—85% of decomposed 2,5-dimethylhexane (II) yields CH_4 and C_7H_{14}, 40% of which is further decomposed as in the case of (I). Cu does not catalyse the decomp. of (II). R. T.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

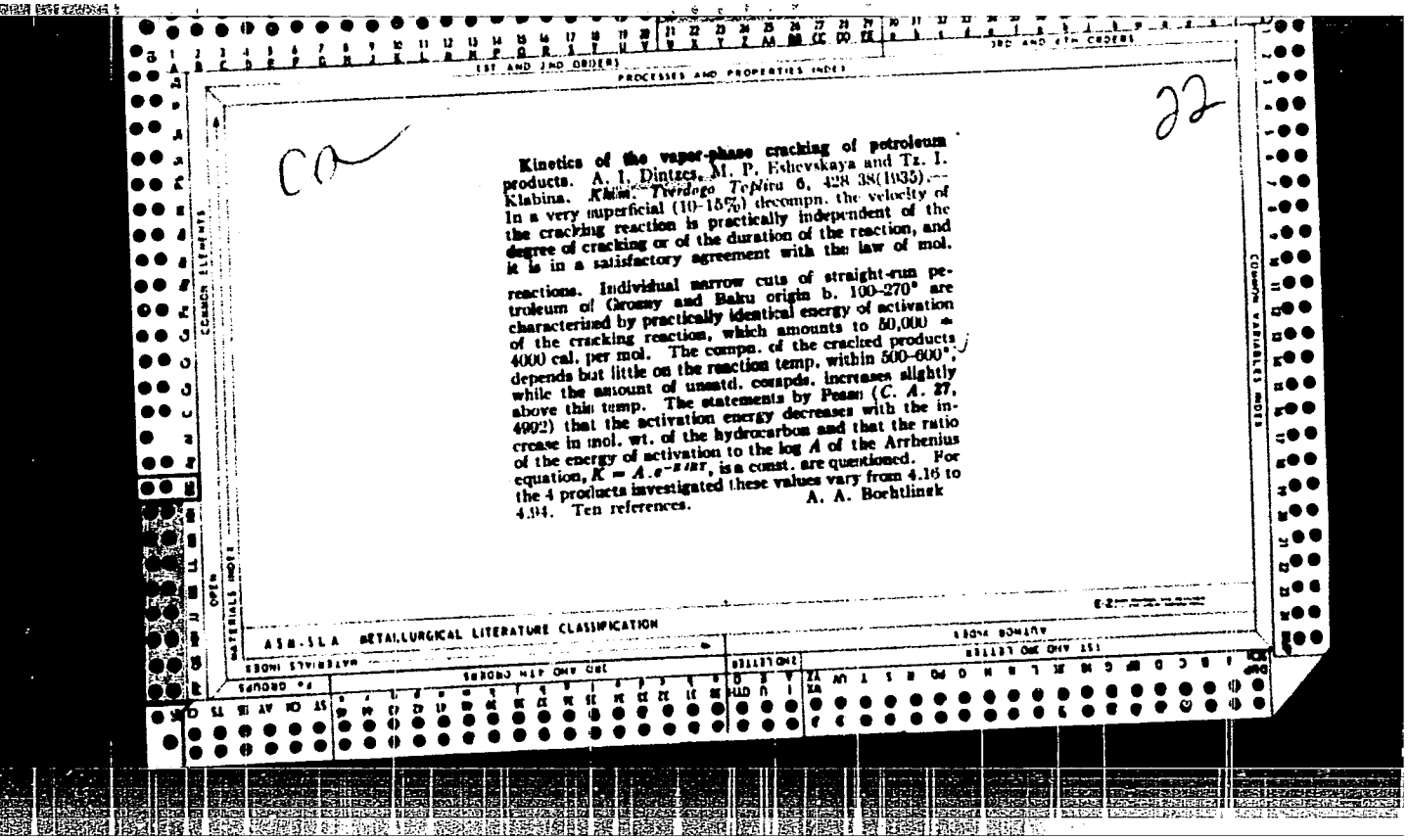


CA

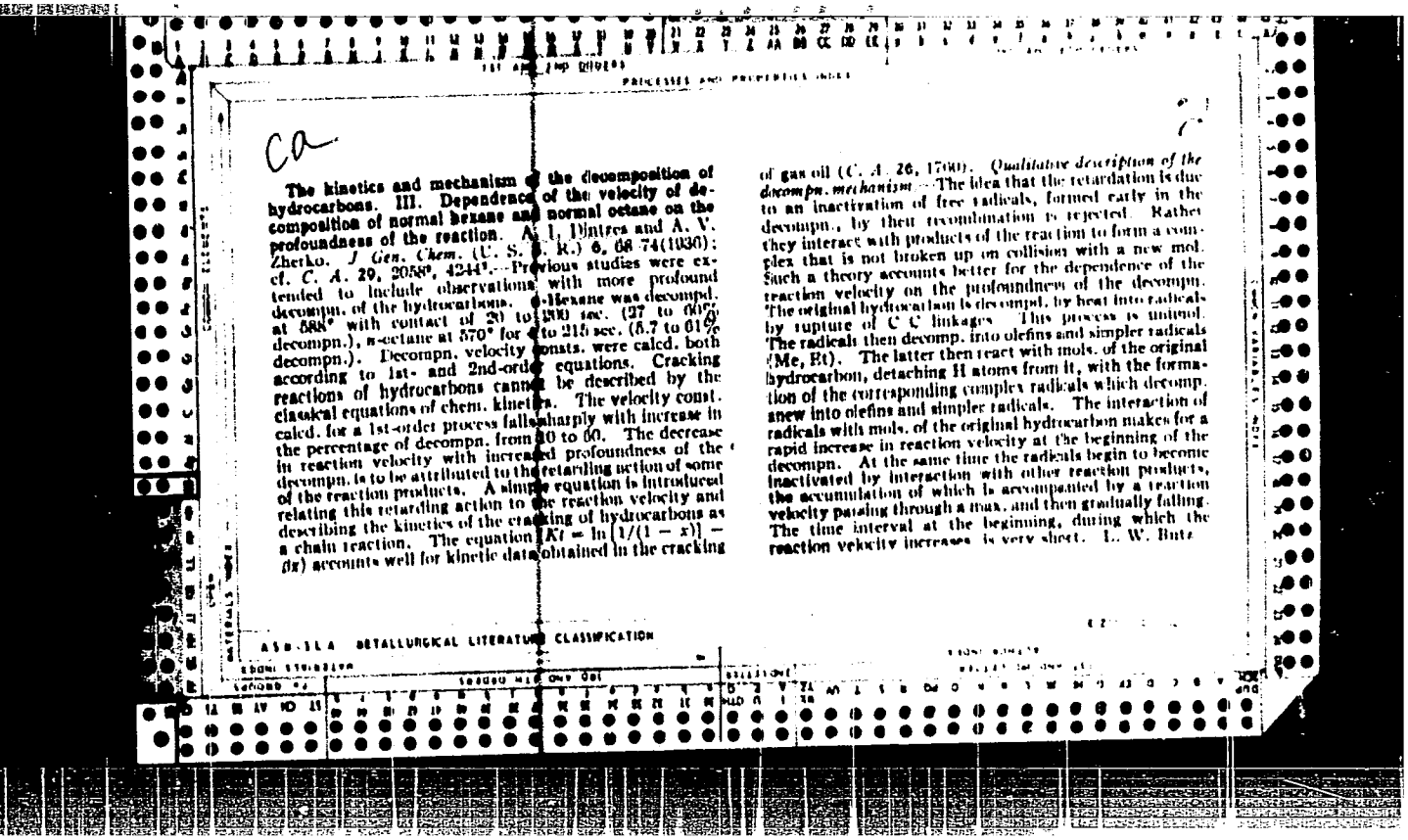
22

Present status of the theory of the cracking of hydrocarbons. A. I. Dintses. *Uspekhi Khim.* 3, 930 77 (1934).—A review. The influence of the magnitude and nature of the contact surfaces on the velocity of decompn., the dependence of the compn. of the products on the extent of decompn., the effect of pressure on the velocity const., the effect of temp. on the primary products, the relation between the size and structure of the hydrocarbon and its primary decompn. products and the energy of activation required, are discussed for both paraffinic and olefinic hydrocarbons. The data are considered from the point of view of the Schmidt double-bond and the Rice radical-chain theories.
F. H. Rathmann

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

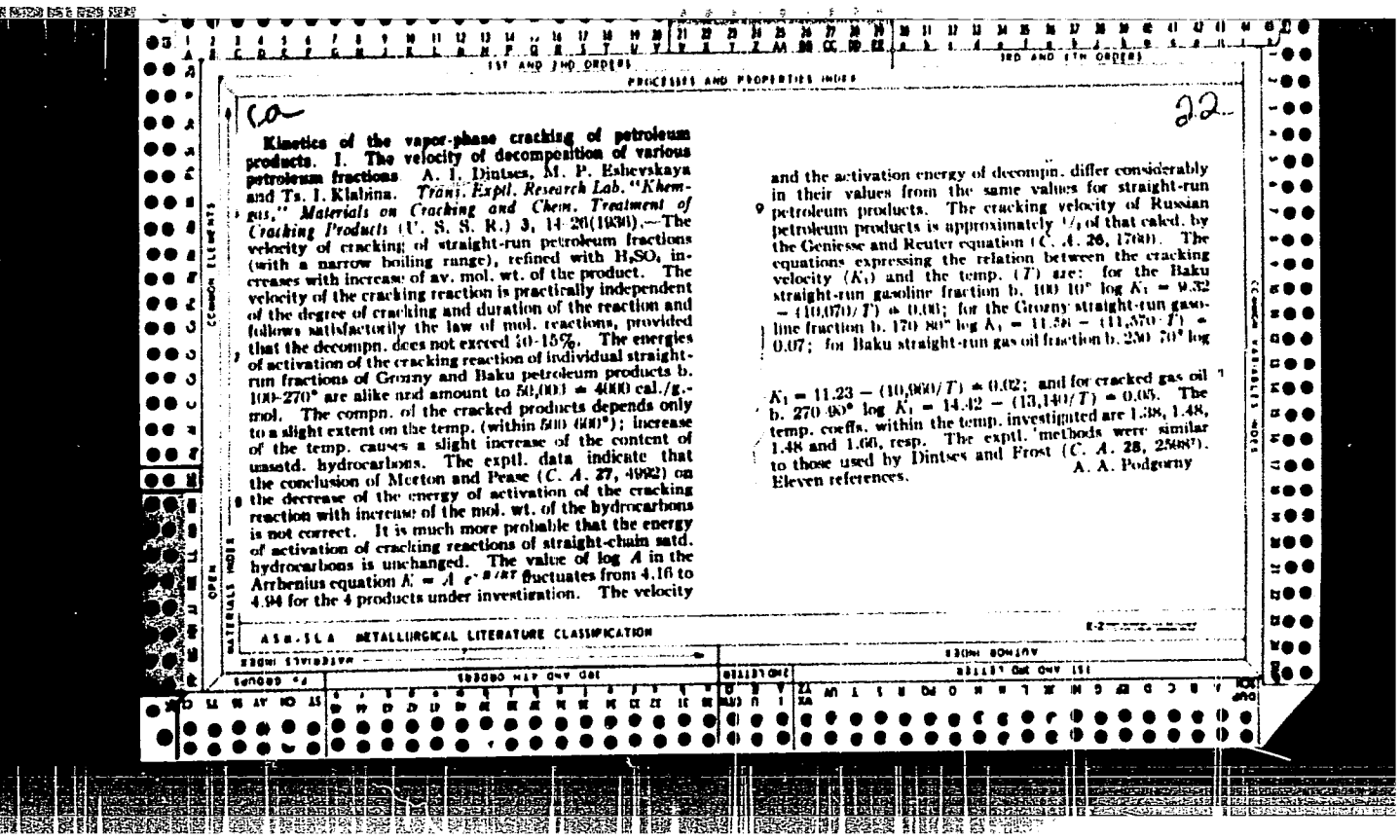


Kinetics of the vapor-phase cracking of petroleum products. A. I. Dintzes, M. P. Eshevskaya and Tz. I. Klabina. *Khim. Tverdogo Topliva* 6, 428-38(1935).—In a very superficial (10-15%) decompn. the velocity of the cracking reaction is practically independent of the degree of cracking or of the duration of the reaction, and it is in a satisfactory agreement with the law of mol. reactions. Individual narrow cuts of straight-run petroleum of Grozny and Baku origin b. 100-270° are characterized by practically identical energy of activation of the cracking reaction, which amounts to 50,000 ± 4000 cal. per mol. The compn. of the cracked products depends but little on the reaction temp. within 500-600°, while the amount of unsatd. compds. increases slightly above this temp. The statements by Pease (*C. A.* **27**, 4902) that the activation energy decreases with the increase in mol. wt. of the hydrocarbon and that the ratio of the energy of activation to the log *A* of the Arrhenius equation, $K = A.e^{-E/RT}$, is a const. are questioned. For the 4 products investigated these values vary from 4.16 to 4.94. Ten references. A. A. Boehtlingk



CA

The kinetics and mechanism of the decomposition of hydrocarbons. III. Dependence of the velocity of decomposition of normal hexane and normal octane on the profoundness of the reaction. A. I. Dintres and A. V. Zherko. *J. Gen. Chem.* (U. S. S. R.) 6, 68-74(1936); cf. *C. A.* 29, 2058⁹, 4244⁹.—Previous studies were extended to include observations with more profound decompn. of the hydrocarbons. *n*-Hexane was decompd. at 588° with contact of 30 to 330 sec. (27 to 60% decompn.), *n*-octane at 570° for 4 to 215 sec. (5.7 to 61% decompn.). Decompn. velocity consts. were calcd. both according to 1st- and 2nd-order equations. Cracking reactions of hydrocarbons cannot be described by the classical equations of chem. kinetics. The velocity const. calcd. for a 1st-order process falls sharply with increase in the percentage of decompn. from 30 to 60. The decrease in reaction velocity with increased profoundness of the decompn. is to be attributed to the retarding action of some of the reaction products. A simple equation is introduced relating this retarding action to the reaction velocity and describing the kinetics of the cracking of hydrocarbons as a chain reaction. The equation $Kt = \ln [1/(1-x)] - \beta x$) accounts well for kinetic data obtained in the cracking of gas oil (*C. A.* 26, 1760). *Qualitative description of the decompn. mechanism.*—The idea that the retardation is due to an inactivation of free radicals, formed early in the decompn., by their recombination is rejected. Rather they interact with products of the reaction to form a complex that is not broken up on collision with a new mol. Such a theory accounts better for the dependence of the reaction velocity on the profoundness of the decompn. The original hydrocarbon is decompd. by heat into radicals by rupture of C C linkages. This process is unimol. The radicals then decomp. into olefins and simpler radicals (Me, Et). The latter then react with mols. of the original hydrocarbon, detaching H atoms from it, with the formation of the corresponding complex radicals which decomp. anew into olefins and simpler radicals. The interaction of radicals with mols. of the original hydrocarbon makes for a rapid increase in reaction velocity at the beginning of the decompn. At the same time the radicals begin to become inactivated by interaction with other reaction products, the accumulation of which is accompanied by a reaction velocity passing through a max. and then gradually falling. The time interval at the beginning, during which the reaction velocity increases is very short. L. W. Butz



1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

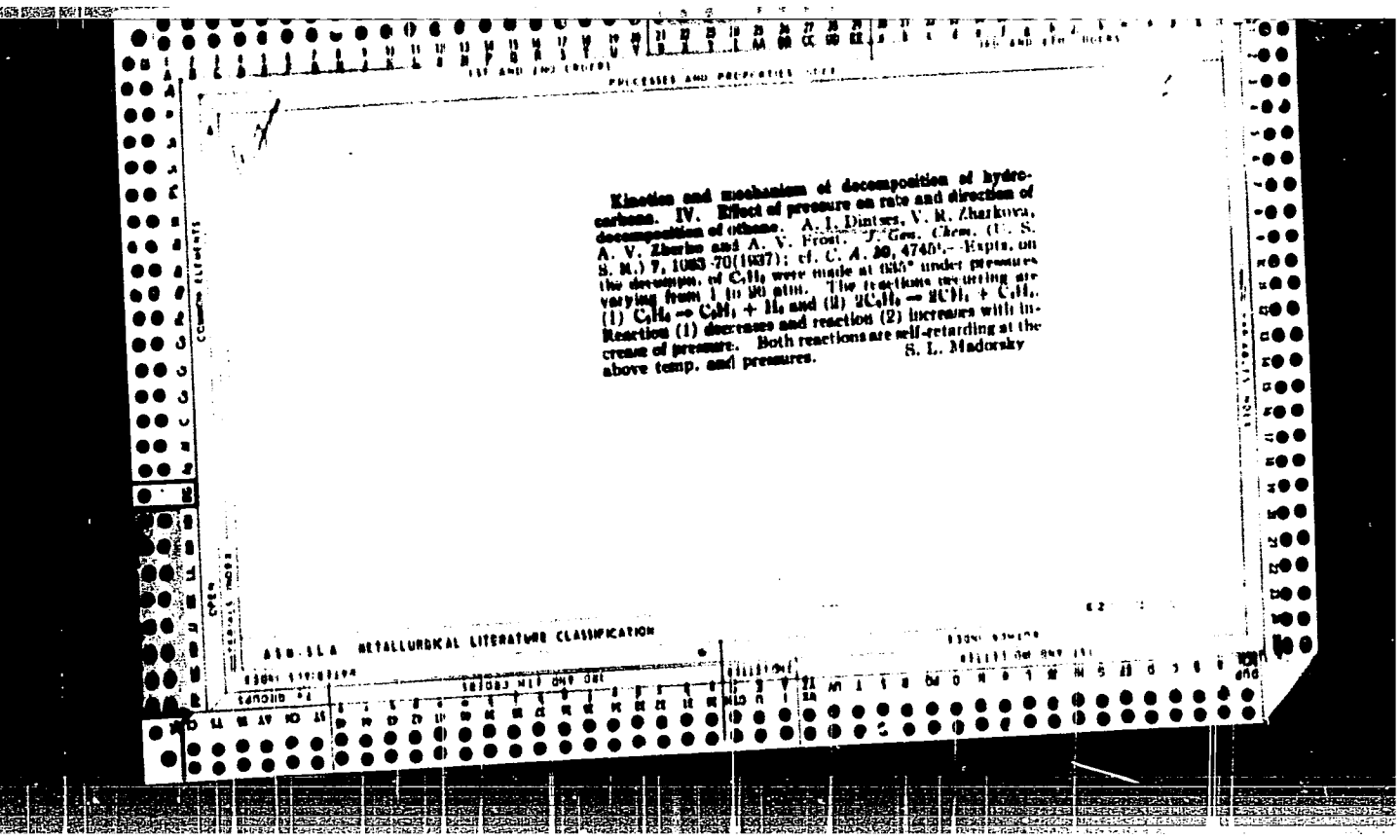
3RD AND 4TH ORDERS

22

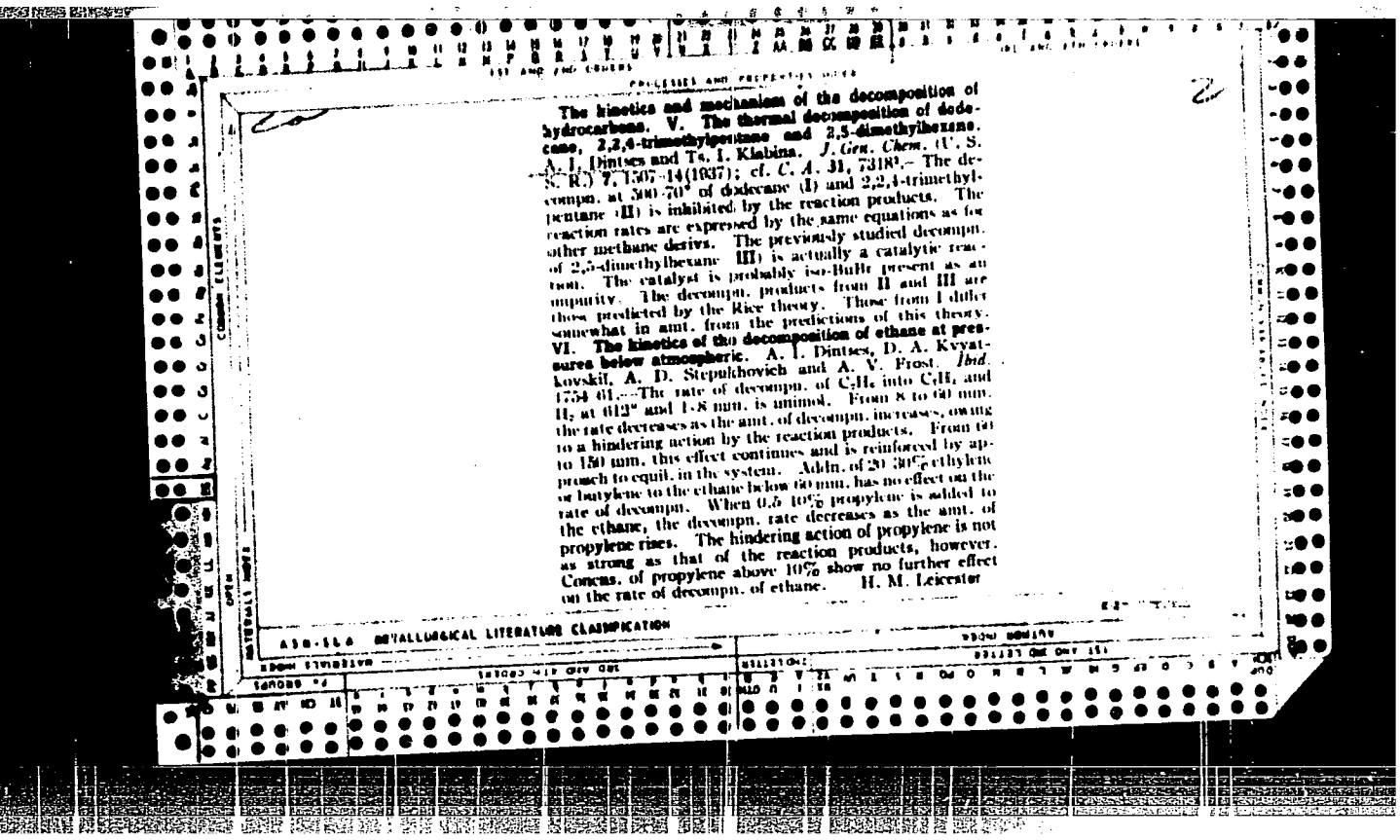
Kinetics of the vapor-phase cracking of petroleum products. I. The velocity of decomposition of various petroleum fractions A. I. Dintses, M. P. Eshevskaya and Ts. I. Klabina. *Trans. Exptl. Research Lab. "Khemgas," Materials on Cracking and Chem. Treatment of Cracking Products* (U. S. S. R.) 3, 14-26(1930).—The velocity of cracking of straight-run petroleum fractions (with a narrow boiling range), refined with H_2SO_4, increases with increase of av. mol. wt. of the product. The velocity of the cracking reaction is practically independent of the degree of cracking and duration of the reaction and follows satisfactorily the law of mol. reactions, provided that the decompn. does not exceed 10-15%. The energies of activation of the cracking reaction of individual straight-run fractions of Grozny and Baku petroleum products b. 100-270° are alike and amount to 50,000 ± 4000 cal./g.-mol. The compn. of the cracked products depends only to a slight extent on the temp. (within 500-600°); increase of the temp. causes a slight increase of the content of unsatd. hydrocarbons. The exptl. data indicate that the conclusion of Morton and Pease (*C. A.* **27**, 4992) on the decrease of the energy of activation of the cracking reaction with increase of the mol. wt. of the hydrocarbons is not correct. It is much more probable that the energy of activation of cracking reactions of straight-chain satd. hydrocarbons is unchanged. The value of log A in the Arrhenius equation $K = A\,e^{-E/RT}$ fluctuates from 4.16 to 4.94 for the 4 products under investigation. The velocity and the activation energy of decompn. differ considerably in their values from the same values for straight-run petroleum products. The cracking velocity of Russian petroleum products is approximately ½ of that calcd. by the Geniesse and Reuter equation (*C. A.* **26**, 1780). The equations expressing the relation between the cracking velocity (K_1) and the temp. (T) are: for the Baku straight-run gasoline fraction b. 100-10° $\log K_1 = 9.32 - (10{,}070/T) = 0.08$; for the Grozny straight-run gasoline fraction b. 170-80° $\log K_1 = 11.58 - (11{,}570/T) = 0.07$; for Baku straight-run gas oil fraction b. 250-70° $\log K_1 = 11.23 - (10{,}900/T) = 0.02$; and for cracked gas oil b. 270-90° $\log K_1 = 14.42 - (13{,}140/T) = 0.05$. The temp. coeffs. within the temp. investigated are 1.38, 1.48, 1.48 and 1.60, resp. The exptl. methods were similar to those used by Dintses and Frost (*C. A.* **28**, 2588[7]). Eleven references.

A. A. Podgorny

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Kinetics and mechanism of decomposition of hydrocarbons. IV. Effect of pressure on rate and direction of decomposition of ethane. A. I. Dintses, V. N. Zharkova, A. V. Zberbo and A. V. Frost. *J. Gen. Chem.* (U. S. S. R.) 7, 1083-70(1937); cf. C. A. 30, 4745⁵.—Expts. on the decompn. of C_2H_6 were made at 695° under pressures varying from 1 to 90 atm. The reactions occurring are (1) $C_2H_6 \rightarrow C_2H_4 + H_2$ and (2) $2C_2H_6 \rightarrow 2CH_4 + C_2H_2$. Reaction (1) decreases and reaction (2) increases with increase of pressure. Both reactions are self-retarding at the above temp. and pressures. S. L. Madorsky

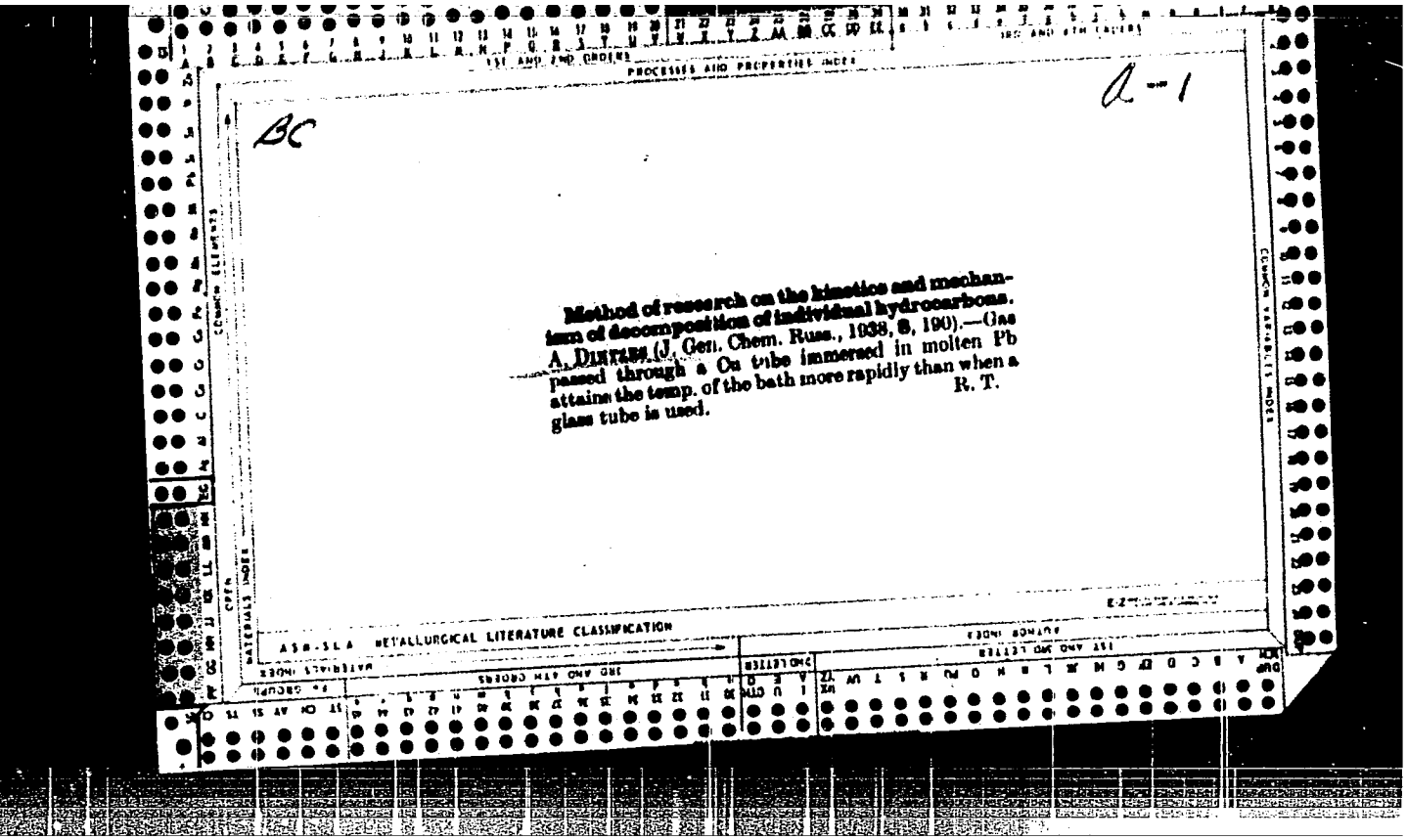


The kinetics and mechanism of the decomposition of hydrocarbons. V. The thermal decomposition of dodecane, 2,2,4-trimethylpentane and 2,5-dimethylhexane. A. I. Dintses and Ts. I. Klabina. *J. Gen. Chem.* (U. S. S. R.) 7, 1307–14(1937); cf. *C. A.* 31, 7319⁹.— The decompn. at 500–70° of dodecane (I) and 2,2,4-trimethylpentane (II) is inhibited by the reaction products. The reaction rates are expressed by the same equations as for other methane derivs. The previously studied decompn. of 2,5-dimethylhexane (III) is actually a catalytic reaction. The catalyst is probably iso-BuH present as an impurity. The decompn. products from II and III are those predicted by the Rice theory. Those from I differ somewhat in amt. from the predictions of this theory. **VI. The kinetics of the decomposition of ethane at pressures below atmospheric.** A. I. Dintses, D. A. Kvyatkovskii, A. D. Stepukhovich and A. V. Frost. *Ibid.* 1754–61.—The rate of decompn. of C_2H_6 into C_2H_4 and H_2 at 612° and 1–8 mm. is unimol. From 8 to 60 mm. the rate decreases as the amt. of decompn. increases, owing to a hindering action by the reaction products. From 60 to 150 mm. this effect continues and is reinforced by approach to equil. in the system. Addn. of 20–30% ethylene or butylene to the ethane below 60 mm. has no effect on the rate of decompn. When 0.5–10% propylene is added to the ethane, the decompn. rate decreases as the amt. of propylene rises. The hindering action of propylene is not as strong as that of the reaction products, however. Concns. of propylene above 10% show no further effect on the rate of decompn. of ethane. H. M. Leicester

DINTZES, A. N.

"Cinetique et mecanisme de la destruction des hydrocarbues. VI. Cinetique de la destruction de l'ethane sous pression reduite." A. N. Dintzes, D. A. Kwjatkowskij, A. D. Stepoukhowitch, A. W. Frost. (p. 1754)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii). 1937, Volume 7, No. 12.



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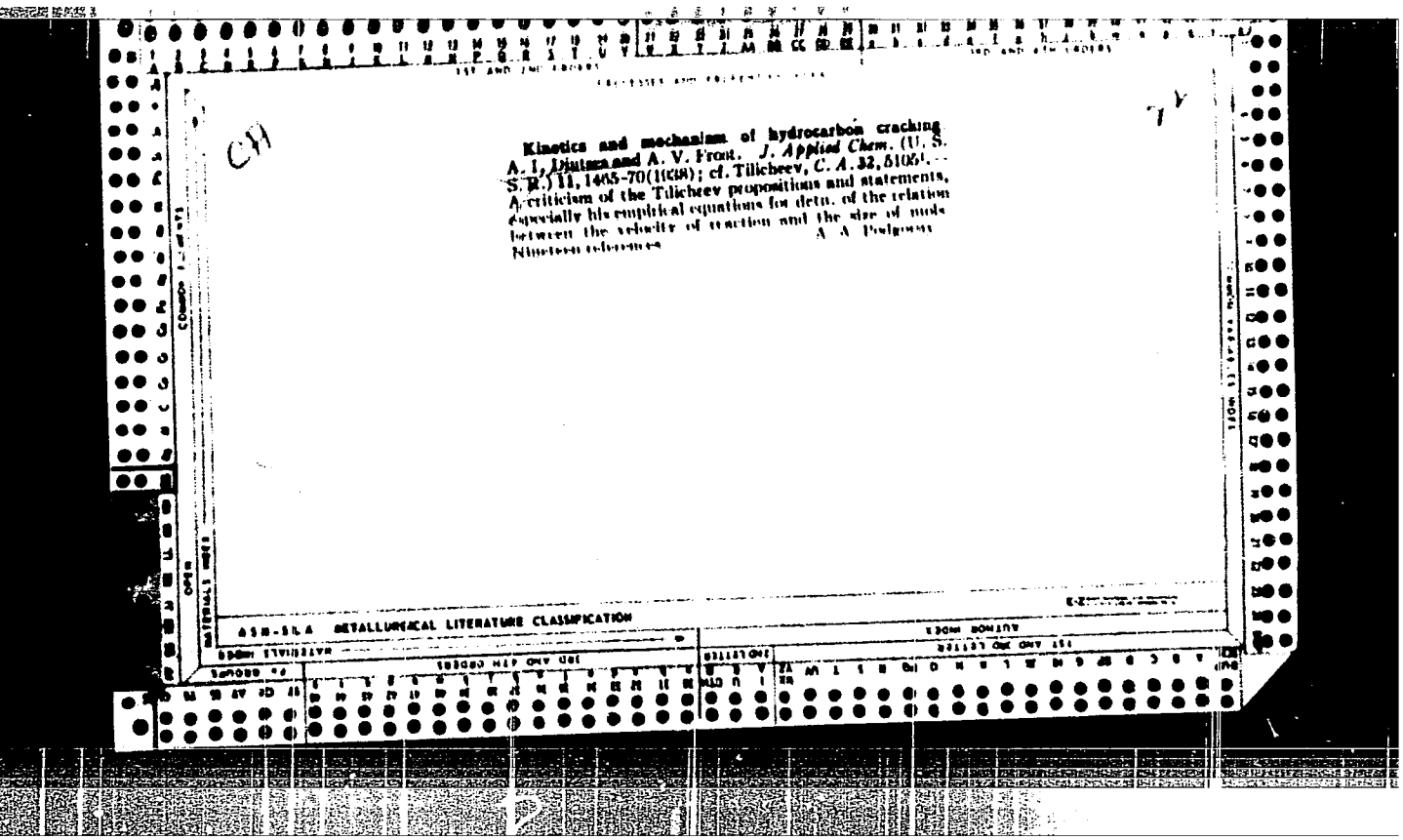
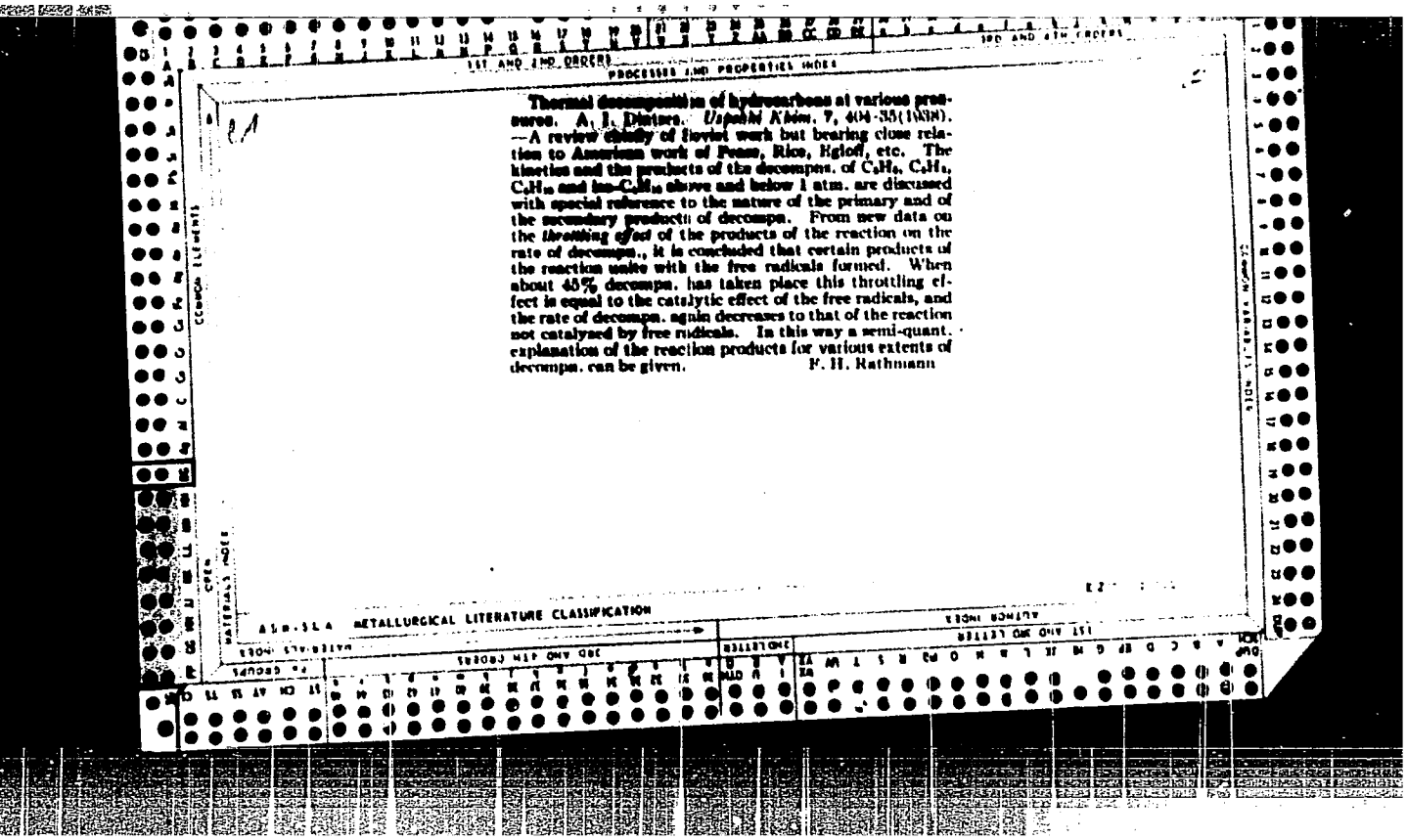
A-1

Method of research on the kinetics and mechanism of decomposition of individual hydrocarbons. A. Dintses (J. Gen. Chem. Russ., 1938, 8, 190).—Gas passed through a Cu tube immersed in molten Pb attains the temp. of the bath more rapidly than when a glass tube is used. R. T.

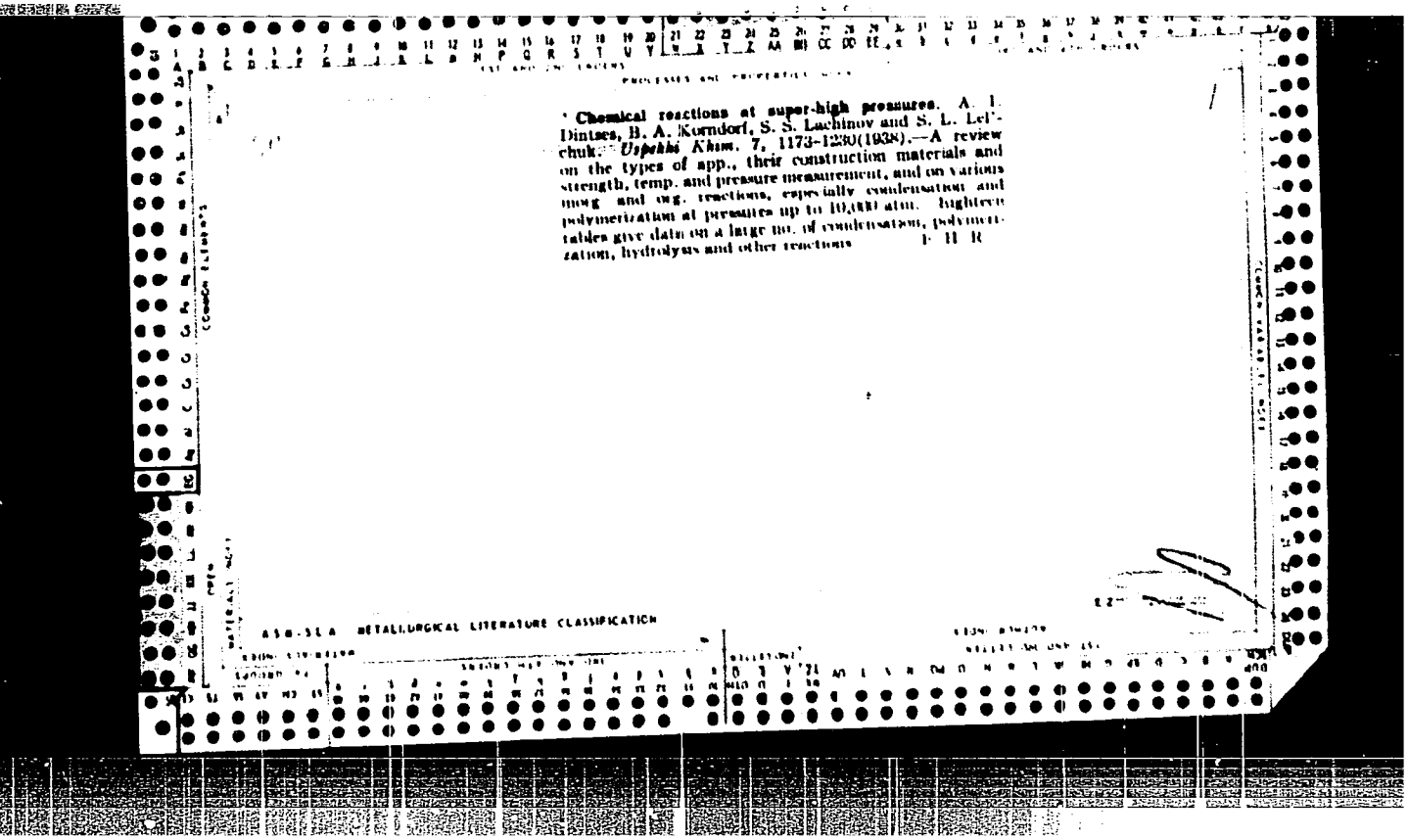


Kinetics and mechanism of hydrocarbon cracking. A. I. Dintses and A. V. Frost. *J. Applied Chem.* (U. S. S. R.) 11, 1465-70(1938); cf. Tilicheev, *C. A.* 32, 8105⁴. A criticism of the Tilicheev propositions and statements, especially his empirical equations for detn. of the relation between the velocity of reaction and the size of mole Nineteen references A. A. Podgorny

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Thermal decomposition of hydrocarbons at various pressures. A. I. Dintses. *Uspekhi Khim.* 7, 404-35(1938). —A review chiefly of Soviet work but bearing close relation to American work of Frey, Rice, Kglopf, etc. The kinetics and the products of the decompn. of C_2H_6, C_3H_8, C_4H_{10} and iso-C_4H_{10} above and below 1 atm. are discussed with special reference to the nature of the primary and of the secondary products of decompn. From new data on the *throttling effect* of the products of the reaction on the rate of decompn., it is concluded that certain products of the reaction unite with the free radicals formed. When about 45% decompn. has taken place this throttling effect is equal to the catalytic effect of the free radicals, and the rate of decompn. again decreases to that of the reaction not catalyzed by free radicals. In this way a semi-quant. explanation of the reaction products for various extents of decompn. can be given. F. H. Rathmann



Chemical reactions at super-high pressures. A. I. Dintses, B. A. Korndorf, S. S. Lachinov and S. L. Lel'chuk. *Uspekhi Khim.* 7, 1173-1230(1938).—A review on the types of app., their construction materials and strength, temp. and pressure measurement, and on various inorg and org. reactions, especially condensation and polymerization at pressures up to 10,000 atm. Eighteen tables give data on a large no. of condensations, polymerization, hydrolyses and other reactions. I. H. R.

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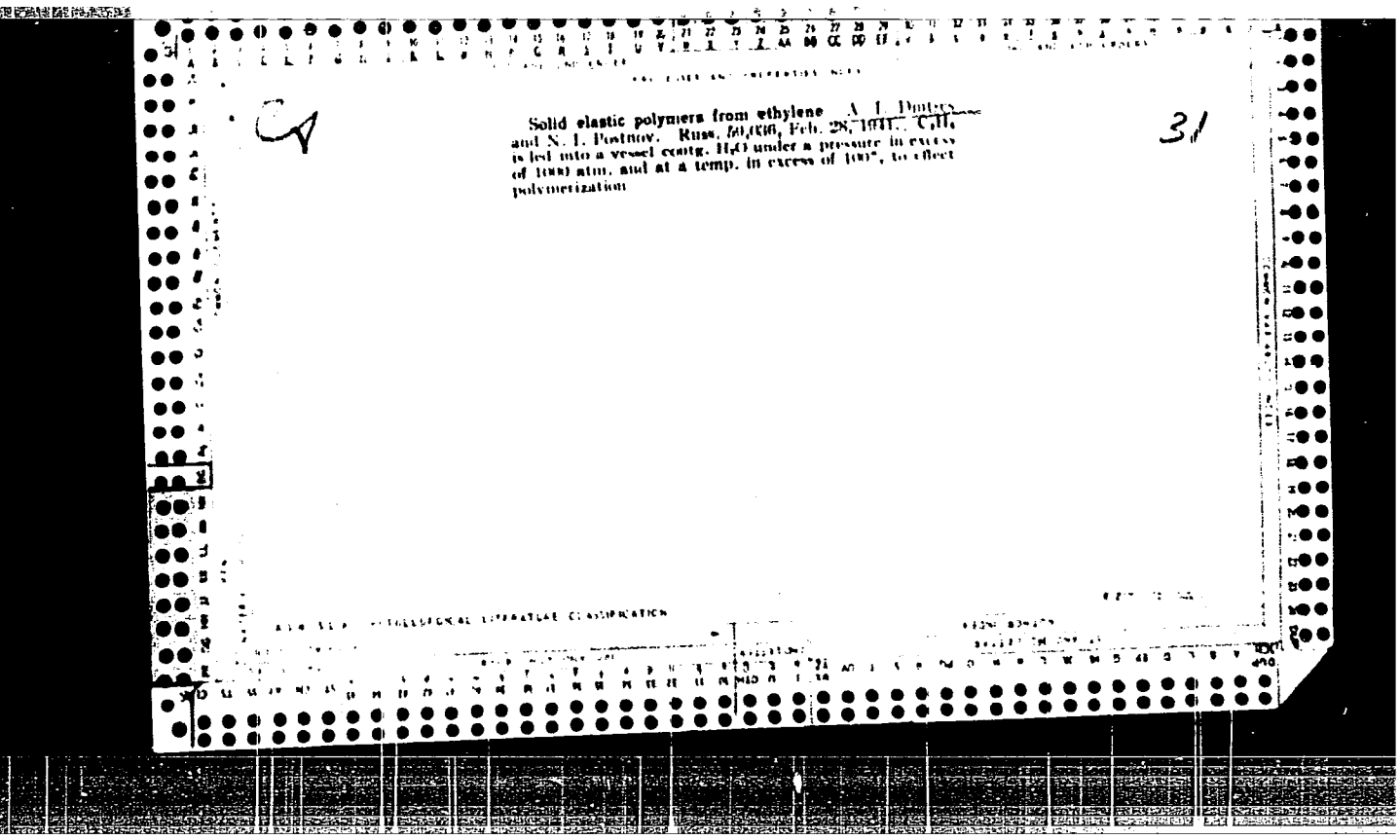
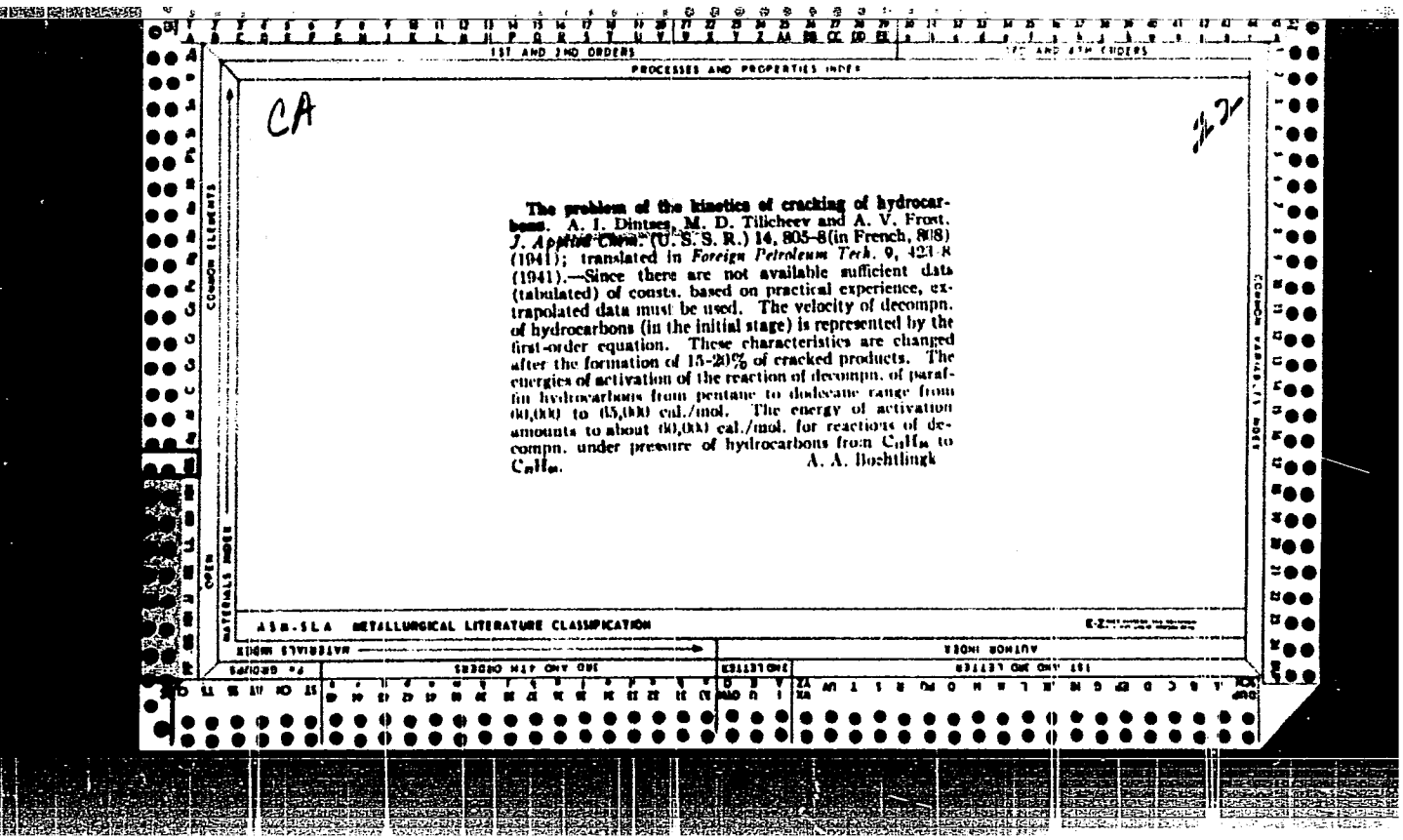


Solid elastic polymers from ethylene. A. I. Dontsov and N. I. Postnov. Russ. 50,656, Feb. 28, 1941. C.II. is led into a vessel contg. H_2O under a pressure in excess of [illegible] atm. and at a temp. in excess of 100°, to effect polymerization



1ST AND 2ND ORDERS

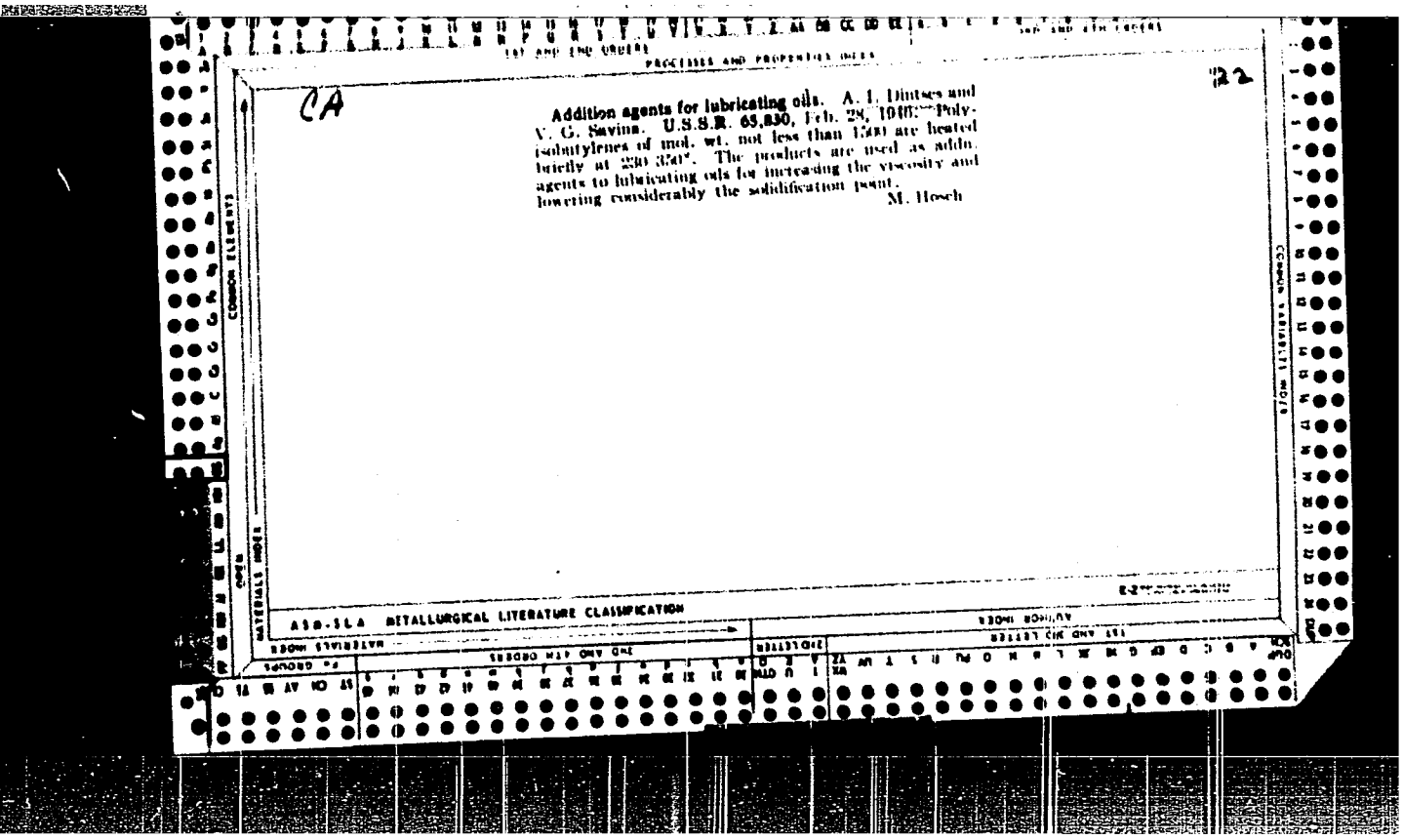
PROCESSES AND PROPERTIES INDEX

CA

The problem of the kinetics of cracking of hydrocarbons. A. I. Dintses, M. D. Tilicheev and A. V. Frost. *J. Applied Chem.* (U. S. S. R.) 14, 805–8 (in French, 808) (1941); translated in *Foreign Petroleum Tech.* 9, 423–8 (1941).—Since there are not available sufficient data (tabulated) of consts. based on practical experience, extrapolated data must be used. The velocity of decompn. of hydrocarbons (in the initial stage) is represented by the first-order equation. These characteristics are changed after the formation of 15–20% of cracked products. The energies of activation of the reaction of decompn. of paraffin hydrocarbons from pentane to dodecane range from 60,000 to 65,000 cal./mol. The energy of activation amounts to about 60,000 cal./mol. for reactions of decompn. under pressure of hydrocarbons from $C_{11}H_{24}$ to $C_{16}H_{34}$.

A. A. Boshtlingk

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



CA

Addition agents for lubricating oils. A. I. Dintses and V. G. Savina. U.S.S.R. 65,830, Feb. 28, 1946. Polyisobutylenes of mol. wt. not less than 1500 are heated briefly at 230-320°. The products are used as addn. agents to lubricating oils for increasing the viscosity and lowering considerably the solidification point.

M. Hosch

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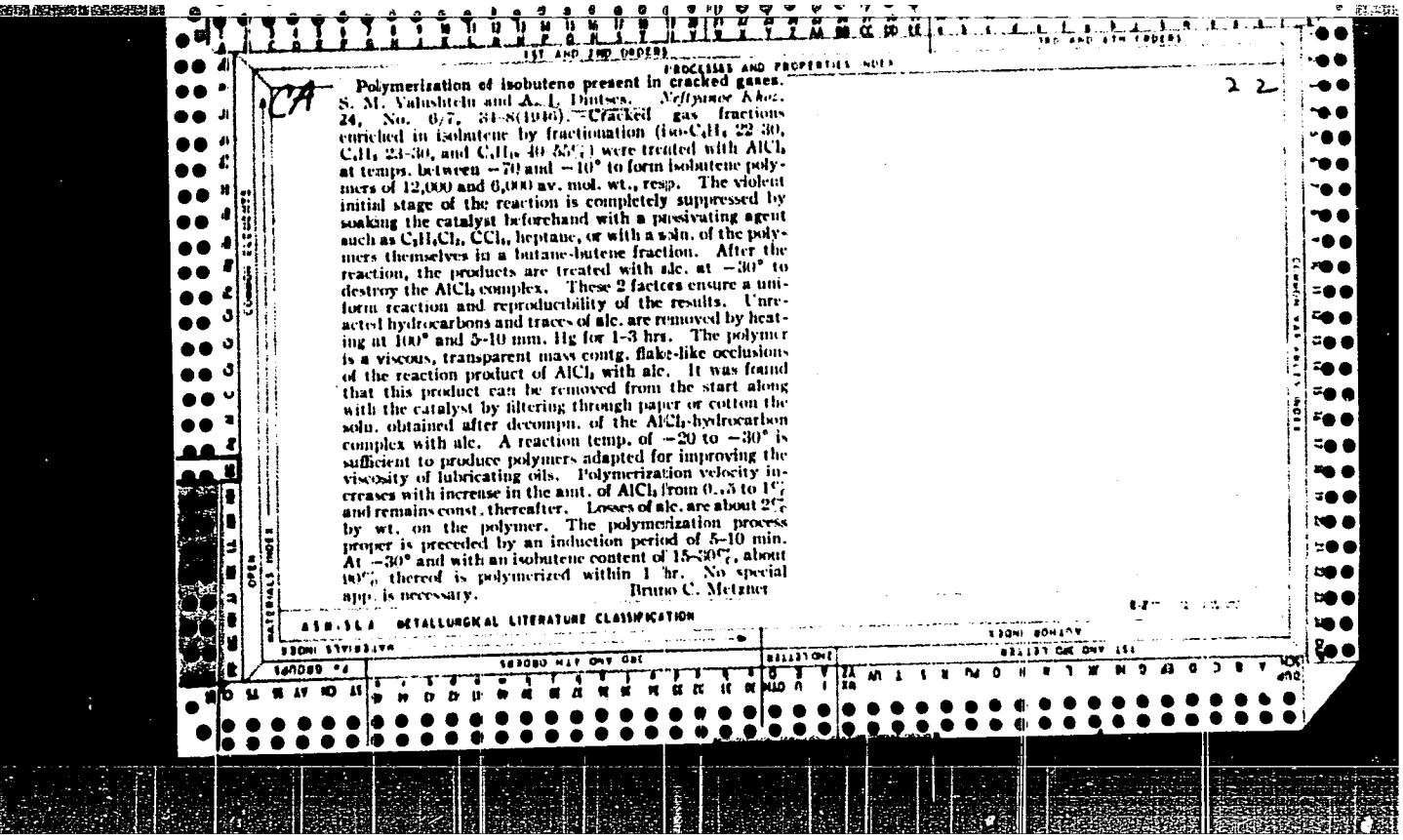
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Polymerization of isobutylene. A. L. Dintses and S. M. Vaushtein. U.S.S.R. 60,304, May 31, 1940. Isobutylene is polymerized at a temp. below −15° over a catalyst of $AlCl_3$ treated with an org. Cl deriv., e.g., CCl_4, or preferably with polyisobutylene. A good yield of a product of mol. wt. 2000–20,000 is obtained. M. Hosch

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

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Polymerization of isobutene present in cracked gases. S. M. Yalushtein and A. I. Dintses. *Neftyanoe Khoz.* 24, No. 6/7, 84–8(1946).—Cracked gas fractions enriched in isobutene by fractionation (iso-C_4H_8 22–30, C_4H_8 23–30, and C_4H_{10} 40–55%) were treated with $AlCl_3$ at temps. between −70 and −10° to form isobutene polymers of 12,000 and 6,000 av. mol. wt., resp. The violent initial stage of the reaction is completely suppressed by soaking the catalyst beforehand with a passivating agent such as $C_2H_4Cl_2$, CCl_4, heptane, or with a soln. of the polymers themselves in a butane-butene fraction. After the reaction, the products are treated with alc. at −30° to destroy the $AlCl_3$ complex. These 2 factors ensure a uniform reaction and reproducibility of the results. Unreacted hydrocarbons and traces of alc. are removed by heating at 100° and 5–10 mm. Hg for 1–3 hrs. The polymer is a viscous, transparent mass contg. flake-like occlusions of the reaction product of $AlCl_3$ with alc. It was found that this product can be removed from the start along with the catalyst by filtering through paper or cotton the soln. obtained after decompn. of the $AlCl_3$-hydrocarbon complex with alc. A reaction temp. of −20 to −30° is sufficient to produce polymers adapted for improving the viscosity of lubricating oils. Polymerization velocity increases with increase in the amt. of $AlCl_3$ from 0.5 to 1% and remains const. thereafter. Losses of alc. are about 2% by wt. on the polymer. The polymerization process proper is preceded by an induction period of 5–10 min. At −30° and with an isobutene content of 15–30%, about 10% thereof is polymerized within 1 hr. No special app. is necessary.

Bruno C. Metzner

A S.M.S.A METALLURGICAL LITERATURE CLASSIFICATION

DINTSES, A. I.

USSR/Chemistry - Plastics Jul/Aug 51
Synthetic Elastomers

"Polyethylene and Its Halogen Derivatives," A.I. Dintses, I.P.Losev, Moscow

"Uspekh Khim" Vol XX, No 4, pp 430-449

Discusses structure, physicochem (including mech) properties, chem resistance, dielec properties, applications, methods of production, and fabricating of polyethylene; also its halogen derivs (polytetrafluoroethylene and chlorine derivs). Lists elastomers and plastics with which polyethylene is compatible. Mentions USSR work on dielec properties and earlier USSR descriptions

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USSR/Chemistry - Plastics (Contd) Jul/Aug 51

of high-pressure equipment used in the production of polyethylenes (majority of references are foreign). Details process used at Ludwigshaven (2 USSR publications on subject, one referring to German synthetic lubricating oil) and Standard Oil Co process for the production of solid polyethylenes.

(CA 48 no. 2: 542 '54)

191T3

DINTSES, A.I.

DINTSES, A.I.

KARGIN, V.A.

5(3) p4 PHASE I BOOK EXPLOITATION SOV/1589

Akademiya nauk SSSR.

Khimiya bol'shikh molekul; sbornik statey (Chemistry of Large Molecules; Collection of Articles) Moscow, Izd-vo AN SSSR, 1958. 299 p. (Series: Akademiya nauk SSSR. Nauchno-populyarnaya seriya) 30,000 copies printed.

Compiler: O.V. Sklovskiy; Resp. Ed.: A.V. Topchiyev, Academician; Ed. of Publishing House: V.A. Boyarskiy; Tech. Ed.: I.N. Guseva.

PURPOSE: This book is intended for a wide circle of readers including those who have had no training in chemistry. It can also serve as a manual for propagandists, teachers, and journalists.

Card 1/8

Chemistry of Large Molecules (Cont.) SOV/1589

COVERAGE: This collection of articles reflects the trend for the future development of the Soviet chemical industry as indicated by the May plenary session of the Central Committee of the Communist Party within the framework of the new Seven Year Plan. These articles were published in newspapers and journals. The authors, scientists and industry workers, developed the theme of accelerated development of the chemical industries, and sciences, with stress on the manufacture of synthetic fibers, plastics, and other materials. Some of the articles were abridged, revised, or enlarged. The articles were selected so as to give an adequate survey of the chemistry and technology of high-molecular-weight compounds and their use in industry, agriculture, and in the manufacture of consumers' goods. Mentioned are raw materials for the production of polymers. This book belongs to the popular-science series of the Academy of Sciences. Similar volumes are intended for future publication. No references are given.

TABLE OF CONTENTS:

Chemistry of Large Molecules (Cont.) SOV/1589

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PHASE I BOOK EXPLOITATION 558

Dintses, Arkadiy Il'ich, and Druzhinina, Aleksandra Vasil'yevna

Sinteticheskiye smazochnyye masla (Synthetic Lubricants) Moscow, Gostoptekhizdat, 1958. 350 p. 4,000 copies printed.

Chief Ed.: L'vova, L.A.; Tech. Ed.: Polosina, A.S.

PURPOSE: The book is intended for specialists in the field of selecting, synthesizing and using lubricants for instruments and machines operating under high and low temperatures and heavy loads. The book may also be used by students specializing in the preparation and use of lubricants.

COVERAGE: The author discusses synthetic lubricants for equipment and engines which operate under high and low temperatures, and under heavy loads where a high coefficient of friction is present. The author examines synthetic hydrocarbon oils, polysiloxane liquids (silicones), esters prepared from carboxylic acids, polyalkylene glycols, fluorine and carbon chlorofluoride.

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He also discusses additives used in preparing lube oils. A short account is also given on obtaining compounds, giving their physical and chemical characteristics. Chapter 4, "Polyalkylene glycols and their use as a lubricant," was written by Candidate of Technical Sciences A.I. L'vova. The section of Chapter 7 entitled "Additives which improve the lubricating properties of oil," was written by Candidate of Technical Sciences A.M. Ravikovich. The subsections on autoxidation of hydrocarbons, esters, and the mechanism of the function of antioxidants was written by Junior Scientific Associate P.B. Terent'yev. The bibliography contains 306 references, 55 of which are Soviet, 218 English, 29 German, 4 French.

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66953

SOV/65-59-8-8/17

AUTHORS: Gromova, L.G. and Dintses, A.I.

TITLE: Preparation of Lithium-Silicone Lubricating Oils with High Polymeric Additives

PERIODICAL: Khimiya i tekhnologiya topliv i masel, 1959, Nr 8, pp 32-40 (USSR)

ABSTRACT: Various disadvantages of lubricants are discussed; these can be overcome by introducing different types of additives. The authors investigated the production of stable lithium-silicone lubricants when using various additives. They prepared samples of four standard silicone liquids (liquid 3, 3-L, 4 and 5) and of the residual fraction of liquid 3 obtained by vacuum distillation of the latter at a pressure of 1 mm. The liquids 3, 4 and 5 were cyclic ethyl polysiloxanes and the liquid 3-L a linear ethyl polysiloxane; the properties of the samples are given (Table 1). Phenyl-α-naphthylamine (0.25%) was used as an anti-oxidant and added to all samples. Syneresis at 100°C after 24 hours (GOST 2633-48), the effective adhesion and strength (according to the VNII NP method) and the degree of evaporation of a 0.2 mm layer at 100°C after 24 hours were determined.

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Preparation of Lithium-Silicone Lubricating Oils with High Polymeric Additives

Stable compositions were obtained when 10% of a thickening agent was added to the silicone lubricants 3 and 4. The stabilizing action of water on the structure of the composition was investigated and it was found that the addition of 10 to 15% of water gave the best results. Experiments were carried out on the quality of lithium compositions prepared from various silicone liquids and also from dioctyl-sebacate and industrial lubricants Tsiatim-201 and Tsiatim-221 (Table 2). It was shown that compositions based on liquid 3 (which has a linear structure) and on the residue of liquid 3 have better low temperature properties and show a relatively low degree of evaporation (3 to 6%). A comparison of the properties of lithium-silicone and lithium lubricants showed that the former had a high degree of evaporation but a lower degree of syneresis. The lithium-silicone lubricants were also compared with the industrial product Tsiatim-221. The second part of the investigation was devoted to ascertaining the influence of polymeric additives on the properties of lithium-silicone lubricants.

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Preparation of Lithium-Silicone Lubricating Oils with High Polymeric Additives

polyisobutylene (M W 12000), polyisooctylmethacrylate (M W 14000) (PMA), Vinipol VB-2 (T U 2590-53). The additives were found to dissolve easily in the liquid 3 and 4 and also in the residue of liquid 3 at a temperature of 100 to 130°C. Homogeneous transparent substances were formed. VB-2 showed the greatest degree of solubility and PMA the lowest. Best results were achieved when 2 to 3% of the various substances were added. The effect of the polymer additives on the properties of lithium-silicone lubricants when using phenyl-α-naphthylamine as anti-oxidant are given in Table 3. 10% of lithium stearate was used as thickening agent in all lubricants. The adhesive properties of the lubricants were tested according to GOST 6037-54 and it was found that the "creep" temperature increased by 30 to 50°C when 2% of any of the aforementioned polymers were added. Curves showing the logarithm of the effective adhesion as influenced by the temperature and by the quantity of polymeric additive at temperatures of +50°C and -50°C: see Fig 1 and 2. Data in Fig 2 and

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Preparation of Lithium-Silicone Lubricating Oils with High Polymeric Additives

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Table 3 show that the addition of polymeric compounds increases the effective adhesion of lubricants at 50°C by 1.5 to 3 times, that the highest increase in adhesion is ensured when using the additives PMA and VB-2. At -50°C, the effective adhesion is increased by 5% when the additive PMA is used. Literature data (Ref 6) indicate that polymeric additives cause depolymerisation, ie that long polymeric molecules are split into shorter chains. The authors carried out experiments on the decrease of effective adhesion of lubricants containing polymeric additives and ascertained the degree of adhesion on a Pavlov viscosimeter at 20°C (Fig 3). It was found that after 30 minutes, the adhesion of the investigated samples decreased to about one third but that the degree of adhesion remained unchanged when using Tsiatim-221. There are 3 figures, 3 tables and 7 references, 5 of which are Soviet and 2 English.

ASSOCIATION: VNII NP

Card 4/4

FROST, Andrey Vladimirovich, prof. [deceased]. Prinimali uchastiye: BUSHMAKIN, I.N.; VVEDENSKIY, A.A.; GRYAZNOV, V.M.; DEMENT'YEVA, M.I.; DINTSES, A.I.; DOBRONRAVOV, R.K.; ZHARKOVA, V.R.; ZHERKO, A.V.; IPAT'YEV, V.N.; KVYATKOVSKIY, D.A.; KOROBOV, V.V.; MOOR, V.G.; NEMTSOV, M.S.; RAKOVSKIY, A.V.; REMIZ, Ye.K.; RUDKOVSKIY, D.M.; RYSAKOV, M.V.; SEREBRYAKOVA, Ye.K.; STEPUKHOVICH, A.D.; STRIGALEVA, N.V.; TATEVSKIY, V.M.; TILICHEYEV, M.D.; TRIFEL', A.G.; FROST, O.I.; SHILYAYEVA, L.V.; SHCHEKIN, V.V.; DOLGOPOLOV, N.N., sostavitel'; GERASIMOV, Ya.I., otv.red.; SMIRNOVA, I.V., red.; TOPCHIYEVA, K.V.; YASTREBOV, V.V., red.; KONDRASHKOVA, S.P., red. izd-va; LAZAREVA, L.V., tekhn.red.

[Selected scientific works] Izbrannye nauchnye trudy. Moskva, Izd-vo Mosk.univ., 1960. 512 p. (MIRA 13:5)

1. Chlen-korrespondent AN SSSR (for Gerasimov).
(Chemistry, Physical and theoretical)

DINTSES, A I.

p 2, 13, 14, 19

PHASE I BOOK EXPLOITATION SOV/4659

Osnovy tekhnologii neftekhimicheskogo sinteza (Fundamentals of Synthesis Technology in Petroleum Chemistry) Moscow, Gostoptekhizdat, 1960. 852 p. 3,800 copies printed.

Eds.: Dintses, Arkadiy Il'ich, Professor, and Lev Aleksandrovich Potolovskiy, Professor; Executive Ed.: L.A. L'vova; Tech. Ed.: E.A. Mukhina.

PURPOSE: This book is intended for engineers and chemists of petroleum refineries and chemical plants, for councils of the national economy, planning organizations and scientific research institutes engaged in chemical processing and large-scale utilization of petroleum stock for the production of synthetic products.

COVERAGE: The book describes important commercial methods of producing hydrocarbon petroleum and gas stock and coal stock for the manufacture of alcohols, aldehydes, ketones, acids, detergents, synthetic fibers, and synthetic rubber. Flow sheets are included, and the basic equipment of the petrochemical industry is described. The physicochemical properties and use of intermediate and end synthetic products are also described. The state of the petrochemical industry outside the USSR and prospects for its development are covered. No personalities are mentioned. References follow each chapter.

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Fundamentals of Synthesis Technology (Cont.) SOV/4659

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15.4000, 15.6000

77553
SOV/65-60-2-13/15

AUTHORS: Braudo, Ye. Ye., Dintses, A. I.

TITLE: Lubricating Oils Based on Fluoro-Organic Compounds

PERIODICAL: Khimiya i tekhnologiya topliv i masel, 1960, Nr 2, pp 58-70 (USSR)

ABSTRACT: This is a review article in which the following topics are discussed: (1) Physical and chemical properties of fluorocarbons; (2) Fluorochlorocarbon oils and their physical and chemical properties; (3) Properties and uses of fluorocarbon and fluorochlorocarbon lubricating materials; (4) Fluorine-containing esters; and (5) Other fluoro-organic compounds. There are 7 tables; 2 figures; and 133 references, 109 U.S., 1 Canadian, 10 Soviet, 3 German, 9 U.K., 1 French. The 5 most recent U.S. references are: Murphy, C. M., O'Rear, J. G., Ravner, H., Sniegorski, P. J., Timmons, C. O., Ind. Eng. Chem., 51, 52-A (1959); Buckly, D. H., Johnson,

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Lubricating Oils Based on Fluoro-Organic Compounds

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SOV/65-60-2-13/15

R. L., Ind. Eng. Chem., 51, 52-A (1959); Moreton, D. H., Seil, C. A., Ind. Eng. Chem., 51, 52-A (1959); Baer, D. R., Ind. Eng. Chem., 51, 52-A (1959); Chem. Eng. News, 37, Nr 20, 68 (1959).

ASSOCIATION: All-Union Scientific Research Institute of Petroleum Industry (VNII NP)

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