GORSKIY, B.Ye., kand.tekhn.nauk; CHERNYAVSKIY, Ya.L., inzh.

Methods of determining the rigidity of the spring in cam mechanisms with a spring-loaded driven link. Izv.vys.ucheb.zav.; tekh.leg.prom. no.3:145-150 '61. (MIRA 14:7)

1. Kiyevskiy tekhnologicheskiy institut legkoy promyshlennosti. Rekomendovana kafedroy teoreticheskoy mekhaniki i teorii mekhanizmov i mashin.

(Cams)

CHERNYAVSKIY, Ya.L., inzh.

Theoretic and experimental study of the cam system of KZAM-160 automatic mechanisms. Trudy KHIIT no.41:37-47 '61. (MIRA 15:2)
(Gams)
(Automatic control)

CHERNYAVSKIY, Ya.L.; GORSKIY, B.Ye.

Twin coaxial cams instead of grooved cams. Mashinostroitel' no.1:17 Ja '61. (MIRA 14:3)
(Cams)

[redacted]

[illegible], M.Ye., kand. tekhn. nauk, dotsent; [illegible], Ye.L., inzh.

Mounting cam mechanisms on springs with kinematic fastening. Izv. vys. ucheb. zav.; mashinostr. no.8:[illegible] '62.

(MIRA 17:12)

1. Kiyevskiy tekhnologicheskiy institut legkoy promyshlennosti.

GORSKIY, B.Ye.; CHERNYAVSKIY, Ya.L.; KREMENSHTEYN, L.I., kand. tekhn. nauk, retsenzent; MAKLAKOV, N.A., inzh., red.

[Modernization of cam mechanisms of machines] Modernizatsiia kulachkovykh mekhanizmov mashin. Moskva, Izd-vo "Mashinostroenie," 1964. 97 p. (MIRA 17:5)

BALUYEV, A.; ISAYEV, Ye.; CHERNYAVSKIY, Ya.

"Photograph" of a working day made by the worker himself is an important method in discovering latent possibilities of production increase. Sots.trud 4 no.1:83-90 Ja '59. (MIRA 12:2)
(Siberia--Efficiency, Industrial)

CHERNYAVSKIY, Ya.

Conference on the location and use of potentialities for increased production. Sots.trud 4 no.9:148-149 S '59. (MIRA 13:1)

(Efficiency, Industrial)

CHERNYAVSKIY, Ya. M.

[Team of efficiency experts in a rolling mill; the experience of the "Sibtiazhmash" plant] Kompleksnaia ratsionalizatorskaia brigada v prokatnom tsekhe; iz opyta zavoda "Sibtiazhmash". Moskva, Gos. nauchno-tekhn. izd-vo mashinostroitel'noi lit-ry, 1954. 19 p. (MLRA 8:7)

(Rolling mills)

CHERNYAVSKIY, Ya.M.

Improving the design of heating furnaces. Metallurg no.10:31-32 O '56. (MLRA 9:11)

1. Nachal'nik prokatnogo tsekha zavoda "Sibtyazhmash".
(Rolling (Metalwork)) (Furnaces)

CHERNYAVSKIY, Ya.M., inzh.

Use collective efficiency promotion. Izobr.v SSSR 2 no.12:47-49 D '57. (MIRA 10:12)
(Krasnoyarsk--Incentives in industry)

BIRYUKOV, I.; CHERNYAVSKIY, Ya.

Balance sheet of the expenditure of work time at a plant. Sots. trud. 5 no.3:117-122 Mr '60. (MIRA 13:6)

1. Glavnyy inzhener Krasnoyarskogo sudostroitel'nogo zavoda (for Biryukov). 2. Starshiy inzhener Krasnoyarskoy laboratorii Instituta ekonomiki i organizatsii promyshlennogo proizvodstva (for Chernyavskiy).
(Krasnoyarsk--Shipbuilding)
(Time study)

CHERNYAVSKIY, Yakov Mikhaylovich; KAIMYK, V.A., red.; PONOMAREVA, A.A., tekhn. red.

[Balance of the expenditure of working time in a plant; the work practice of enterprises of the Krasnoyarsk Economic Council] Balans zatrat rabochego vremeni na zavode; opyt raboty predpriiatii Krasnoiarskogo sovnarkhoza. Moskva, Gos. izd-vo planovo-ekon. lit-ry, 1961. 87 p. (MIRA 14:8)

(Krasnoyarsk Territory—Time study)

CHERNYAVSKIY, Ye.A.

New devices and observations on the balloelectric effect in hydroaerocionization. Trudy Uz.ges.nauch.-issl. inst.kur. i fizioter. 13:113-124 '55. (MIRA 18:2)

S/115/62/000/005/003/006
E140/E435

AUTHORS: Smirnov, N.A., Smolov, V.B., Fomichev, V.S., Chernyavskiy, Ye.A.

TITLE: Transistorized digital-analogue converter

PERIODICAL: Izmeritel'naya tekhnika, no.5, 1962, 29-32

TEXT: A digital-analogue converter developed at the LETI im. V.I.Ul'yanova (Lenina) in 1960-1961 is described. The system operates at frequencies not exceeding 50 kc/s, in the temperature range ± 60°C, with a precision of 0.01%. The full-scale voltage into loads of 10 to 250 k[illegible] is of the order of 0.020 V. The relatively high precision is obtained by the use of saturated transistor switches in a balanced configuration (Fig.6) and a divided resistance summation network (Fig.5). The power supplies are stabilized to 0.05%; wire-wound resistors of the same tolerance are used. There are 7 figures and 1 table.

L 11599-63 EWT(d)/FCC(w)/BDS ASD/ESD-3/APGC/SSD Pg-4/Pk-4/Po-4/
Pq-4 GG/IJP(C)

ACCESSION NR: AP3001370 S/0144/63/000/005/0597/0604 76

AUTHOR: Smirnov, N. A.; Smolov, V. B.; Fomichev, V. S.; Chernyavskiy, Ye. A.

TITLE: "Number-angle" decoder with intermediate conversion 16

SOURCE: IVUZ. Elektromekhanika, no. 5, 1963, 597-604

TOPIC TAGS: digital decoder, binary decoder

ABSTRACT: A simplified circuit is proposed for the decoding of binary-coded shaft rotation data, for the case where the angular resolution can be relatively low (8-11 bits). The design uses an intermediate conversion whereby the digital input is in effect converted to conductance and the variation in conductance controls the a-c voltage to the output motor. The basic operation is as follows: A double-ended a-c reference voltage with grounded center tap is connected across a parallel bank of transistor pairs. Each pair has a common emitter and collectors connected to opposite ends of the a-c bus. Each pair also represents one digital order. In a given pair one or the other transistor is switched on depending on whether the total input digital command has a "positive" or

Card 1/2

L 11599-63
ACCESSION NR: AP3001370

"negative" sense of angular rotation; thus the a-c current which is switched on has a forward or reverse phase sense. The sum of switched currents flows through a precision summing resistor, developing the control voltage for the output motor. The "positive" or "negative" condition is determined by the state of the highest order digit in the input code. Feedback is provided by a 20-turn potentiometer driven from the output shaft. An experimental model was built using standard parts for which a schematic is given including component values for the output a-c amplifier preceding the motor. Test results show that conversion error with a 10-digit code is about 0.1%, maintainable within a range of -50 to +60C. Reliability and the absence of reactive elements are cited as further advantages of the design. Orig. art. has: 3 tables, 5 figures, and 6 formulas.

ASSOCIATION: none

SUBMITTED: 19Jul62 DATE ACQ: 01Jul63 ENCL: 00

SUB CODE: CP, CO NO REF SOV: 002 OTHER: 000

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Card 2/2

L 17912-63 EWT(d)/FCC(w)/BDS ASD/ESD-3/APGC/IJP(C) Pg-4/Pk-4/Po-4
Pq-4 GG
ACCESSION NR: AP3005678 S/0146/63/006/004/0054/0062

AUTHOR: Smirnov, N. A.; Smolov, V. B.; Fomichev, V. S.; Chernyavskiy, Ye. A.

TITLE: Universal voltage-to-digital converter for d-c and a-c control systems

SOURCE: IVUZ. Priborostroyeniye, v. 6, no. 4, 1963, 54-62

TOPIC TAGS: code converter, volts-to-digits converter, control system, analog-to-digital converter, encoder

ABSTRACT: Results are reported of developing a universal voltage-binary-code converter intended for conveying input information to a digital computer from d-c and a-c sensors; the latter may have any frequency and phase. The compensation principle is used for the encoding method, the input voltage being balanced against a feedback voltage which is obtained from decoding a selected code in the register. The direction of every balancing step is determined by repeated tests

Card 1/2

L 17912-63
ACCESSION NR: AP3005678

at the half-cycle of the input voltage. A circuit diagram is presented and discussed of an encoder capable of encoding d-c voltages, slow-varying voltages, and 400-cps amplitude voltages. It is intended for a special-purpose digital computer. Orig. art. has: 5 figures and 6 formulas.

ASSOCIATION: Leningradskiy elektrotekhnicheskiy institut im. V. I. Lenina (Leningrad Electrotechnical Institute)

SUBMITTED: 07Jan63 DATE ACQ: 06Sep63 ENCL: 00

SUB CODE: CP NO REF SOV: 003 OTHER: 000

Card 2/2

SMIRNOV, Nikolay Alekseyevich, starshiy prepodavatel'; SMOLOV, Vladimir Borisovich, kand.tekhn.nauk, dotsent; FOMICHEV, Vladimir Stepanovich, assistent; CHERNYAVSKIY, Yevgeniy Aleksandrovich, kand.tekhn.nauk

Decoding "number-angle" converter with intermediate transformation. Izv. vys. ucheb. zav.; elektromekh. 6 no.5:597-604 '63. (MIRA 16:9)

1. Kafedra vychislitel'noy tekhniki Leningradskogo elektrotekhnicheskogo instituta.

(Electronic computers)

SMOLOV, Vladimir Borisovich; SMIRNOV, Nikolay Alekseyevich; FOMICHEV, Vladimir Stepanovich; CHERNYAVSKIY Yevgeniy Aleksandrovich; MAMAYEV, V.M., red.

[Reliability of a coding converter] Nadezhnost' kodiruiushchego preobrazovatelia. Leningrad, 1964. 15 p. (MIRA 17:7)

ACC NR: AR7004320 SOURCE CODE: UR/0271/66/000/011/B024/B024

AUTHOR: Balashov, Ye. P.; Genkin, V. L.; Smolov, V. B.; Chernyavskiy, Ye. A.

TITLE: Efficiency and reliability of magnetic internal storages

SOURCE: Ref. zh. Avtomat. telemekh. i vychisl. tekhn., Abs. 11B189

REF SOURCE: Izv. Leningr. elektrotekhn. in-ta, ch. 2, vyp. 56, 1966, 117-120

TOPIC TAGS: digital computer, computer reliability, computer storage device, computer design, reliability engineering

ABSTRACT: Criteria for evaluating magnetic internal storages of digital computers are defined. Informational efficiency is a product of storage capacity and access rate. Design efficiency is determined by the size, weight, and power consumption per unit efficiency of informational capacity. Information reliability is a ratio of maximum noise to minimum desirable signal in destroyed-information readout. Design reliability is a product of initial operable-condition probability and a probability of operable condition over the work period. The above criteria determine the technical oprability of storages from various aspects. Bibliography of 2 titles.Ye. P.
[Translation of abstract]

SUB CODE: 09, 14

Card 1/1 UDC: 681.142.652.2

PA 41T48

CHERNYAVSKIY, YE. A.

USSR/Geophysics Mar/Apr 1948
Meteorology
Earth - Electrical Properties

"The Charge of the Earth's Surface," Ye. A. Chernyavskiy, Tashkent Geophys Observatory, 7¼ pp

"Izv Akad Nauk SSSR, Ser Geograf i Geofiz" Vol XII, No 2

Presents some new facts on the anticurrent in thunder regions with negative gradients of electric potential. Among these facts is the effect resulting from snowfalls in glacial regions with winds of 10- to 12-meter per-second velocity. Submitted by Academician L. S. Leybenzon, 17 Jul 1947.

41T48

[redacted]

CHERNYAVSKIY, YE. A.

PA 53/49T92

USSR/Physics Sep/Oct 48
Atmosphere

"Range of Vision and Its Geophysical Characteristics," Ye. A. Chernyavskiy, Tashkent Geophys Obs, 16 pp

"Iz Ak Nauk SSSR, Ser Geog i Geofiz" Vol XII, No 5

Developed method, similar to turbidimetric analysis, to determine range of vision by measuring the intensity of dispersion of an electric charge by a conductor set in free atmosphere. Pointed out the influence of meteorological and geophysical elements on transparency of the air, which is reflected in the ionization state of the atmosphere. Considers the dynamic character of range of vision, linking it with

[redacted] 53/49T92

USSR/Physics (Contd) Sep/Oct 48

dynam[illegible] and circulation processes occurring in free atmosphere. Submitted by Acad L. S. Leybenzon, 25 Sep 48.

53/49T92

CHERNYAVSKIY, YE. A.

Chernyavaskiy, Ye. A. "Local visibility distance", Trudy Tashk. Geofiz. observatorii, Issue 2, 1949, p. 47-55.

SO: U-4392, 19 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 21, 1949).

CHERNYAVSKIY, Ye. A. Prof.

"A Rare Case of an Atmospheric Electric Discharge (Linear Ball Lightning - 29 June 1947, near Tashkent)," Priroda, No.7, 1949

CHERNYAVSKIY, Ye. A. Prof.

"A Rare Case of an Atmospheric Electric Discharge (Linear Ball Lightning - 29 June 1947, near Tashkent)," Priroda, No.7, 1949

CHERNYAVSKIY, YE. A.

36846. Unipolyarno-otritsatel'naya ionizatsiya v usloviyakh estestvennogo i iskusstvennogo raspyleniya vody. Trudy Uzbed. gos. nauch-issled. in-ta kurortologii i fizioterapii im. Semashko, sb. 11, 1949, c. 14-27

SO: Letopis' Zhurnal'nykh Statey, Vol. 50, Moskva, 1949

Unipolar - negative ionization in natural artificial conditions of water dispersion.

CHERNYAVSKIY, Ye.A.

Atmospheric electrical characteristics of synoptic situations. Trudy SAGU no.22:43-68 '50. (MLRA 9:5)
(Atmospheric electricity)

CHERNYAVSKIY

CHERNYAVSKIY, Ye.A.

Electrical field of Central Asiatic regions. Trudy Tashk.geofiz. obser. no.9:42-72 '54. (MLRA 8:11)
(Soviet Central Asia--Atmospheric electricity)

CHERNYAVSKIY, Ye.A.

Electric fields of various regions in Central Asia. Trudy Tashk. geofiz. obser. no.13:162-203 '57. (MLRA 10:8)
(Tashkent region--Atmospheric electricity)

CHERNYAVSKIY, Ye.A., prof.

Meterological, actinometric, and atmospheric-electrical observations at the Tashminvody Health Resort. Trudy Uz. gos. nauch.-issl. inst. kur. i fizioter no.15:19-29 '59. (MIRA 14:9)
(TASHKENT PROVINCE--HEALTH RESORTS, WATERING PLACES, ETC.)

OBROSOV, A.N., otv. red.; MUMINOV, Ya.K., zam. otv. red.; BULATOV, P.K., red.; VASIL'YEV, L.L., red.; DALIMOV, Z.A., red.; KATSENOVICH, R.A., red.; KETKO, M.I., red.; MINKH, A.A., red.; CHERNYAVSKIY, Ye.A., prof., red.; SHRAMKOVA, G.A., red.; TSAY, A.A., tekhn. red.

[Aeroionization and hydroaeroionization in medicine] Aeroionizatsiia i gidroaeroionizatsiia v meditsine; materialy. Red. kollegiia: A.N.Obrosov i dr. Tashkent, Medgiz, 1962. 305 p. (MIRA 16:6)

1. Vsesoyuznaya konferentsiya po aero- i gidroaeroionizatsii, Tashkent, 1960. 2. TSentral'nyy institut kurortologii i fizioterapii, Moskva (for Obrosov). 3. Kafedra fiziologii cheloveka i zhivotnykh Leningradskogo gosudarstvennogo universiteta (for Vasil'yev). 4. Uzbekskiy gosudarstvennyy nauchno-issledovatel'skiy institut kurortologii i fizioterapii im.N.A.Semashko (for Katsenovich). 5. Gospital'naya terapevticheskaya klinika Leningradskogo gosudarstvennogo meditsinskogo instituta im. I.P.Pavlova (for Bulatov).

(AIR, IONIZED--THERAPEUTIC USE)

CHERNYAVSKIY, Ye.A., prof.

Solar radiation and its expedient use in helioaerotherapy. Sbor.trud.Uz.gos.nauch.-issl.inst.kur. i fizioter. 17:99-112 '62.

Biomicroclimatic zones and their use under different climatic conditions. Ibid.:168-171 (MIRA 17:7)

CHERNYAVSKIY, Ye.A.

Physicochemical and geophysical conception of atmospheric ionization. Vop. kur., fizioter. i lech. fiz. kul't. 27 no.1:3-8 '62. (MIRA 15:5)

1. Iz Uzbekskogo instituta kurortologii i fizioterapii imeni Semashko (dir. - dotsent Ya.K.Muminov).

(AIR, IONIZED)

CHERNYAVSKIY, Ye.A., prof.

Letter to the editor. Vop. kur., fizioter. i lech. fiz. kul't. 29 no.1:82 '64. (MIRA 17:9)

CHERNYAVSKIY, Ye.Kh.

Microflora of the urinary bladder after plastic surgery of its defect using a segment of the small intestine. Urologiia no.5: 27-31 '61. (MIRA 14:11)

1. Iz kafedry mikrobiologii (zav. - prof. Ye.I. Demikhovskiy) i kafedry operativnoy khirurgii s topograficheskoy anatomiyey (zav. - dotsent M.Ye. Damko) Dnepropetrovskogo meditsinskogo instituta.

(BLADDER—SURGERY) (INTESTINES—TRANSPLANTATION)

CHERNYAVSKIY, Ye.Kh.

Method and technique of exposing the external opening of the urethra in dogs. Eksper. khir. i anest. 7 no.4:50-51 Jl-Ag '62. (MIRA 17:5

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomii (zav. - dotsent M.Ye. Demko) Dnepropetrovskogo meditsinskogo instituta.

CHERNYAVSKIY, Ye.Kh.

Vascularization of the vesicoenteral anastomosis in ileocystoplasty. Urologiia 28 no.2:33-35 Mr-Ap'63. (MIRA 16:6)

1. Iz urologicheskoy kliniki (zav. - zasluzhennyy deyatel' nauki prof. A.P.Frumkin [deceased] TSentral'nogo instituta usovershenstvovaniya vrachey i kafedry operativnoy khirurgii (zav. - dotsent M.Ye.Demko) Dnepropetrovskogo meditsinskogo instituta.

(BLADDER—SURGERY) (INTESTINES—SURGERY)

YARNEFEL'T, G. [Jarnefelt, H.]; CHERNYAVSKIY, Ye.M. [translator]

Astronomy in Finland. Ist.-astron.issl. no.8:241-267 '62.
(MIRA 16:3)
(Astronomy, Finnish)

CHERNYAVSKIY, Yevgeniy Vladimirovich; SMIRNOV, Ye.V., otvetstvennyy redaktor; VASICH, I.N., redaktor izdatel'stva; SOSNIN, A.P., tekhnicheskiy redaktor

[Manufacture of cement and sandstone tiles by local industries of Voronezh Province] Proizvodstvo tsementno-peschanoi cherepitsy na predpriiatiiakh mestnoi promyshlennosti Voronezhskoi oblasti. Moskva, Gos.izd-vo mestnoi promyshl. RSFSR, 1957. 62 p. (MLRA 10:7)
(Voronezh Province--Tiles)

CHERNYAYEV, A.A.

On A.G.Matveeva's article. Zav.lab.21 no.6:757 '55. (MLRA 8:9)

1. Nachal'nik Glavuchtekhproma Ministerstva prosveshcheniya RSFSR
(Matveeva, A.G.) (Metallurgical laboratories)

RYZHKOV, I.I., kand.ekon.nauk; CHERNYAYEV, A.A.

Growth prospects for the bast fiber industry in the Ukrainian S.S.R.
Tekst. prom. 18 no.6:5-6 Je '58. (MIRA 11:7)

1.Starshiy inzhener Gosplana Ukrainskoy SSR.
(Ukraine--Bast)

CHERNYAYEV, A.A.

Introduction of new methods at Ukrainian flax factories. Tekst. prom. 18 no.9:54 S '58. (MIRA 11:10)

1. Zamestitel' nachal'nika pervichnoy obrabotki syr'ya Gosplana USSR.
(Ukraine--Flax)

RYZHKOV, I.I., kand.ekon.nauk; CHERNYAYEV, A.A.

Type of factory for the initial treatment of flax. Tekst.prom. 18 no.10:57-58 O '58. (MIRA 11:11)

1. Starshiy insh. Gosplana USSR (for Chernyayev).
(Flax) (Textile factories)

PALETSKIY, G.V.; DANCHENKO, B.K.; CHERNYAYEV, A.F.; ZAGRANICHNOV, G.A.; VAYSHERG, S.E.; YERISKIN, K.I.

Decreasing the distance between electrodes in electrolyzers. Prom.energ. 15 no.3:20 Mr '60. (MIRA 13:6)
(Electrolysis) (Hydrogen)

CHERNYAYEVA, L.Ye.; CHERNYAYEV, A.M.

Practice of compiling maps of natural underground water resources in fold-mountain areas. Razved. i okh. nedr 27 no.8:44-46 Ag '61. (MIRA 16:7)

1. Gayskaya geologorazvedochnaya ekspeditsiya.
(Ural Mountains--Water, Underground)

CHERNYAYEV, A.M.; CHERNYAYEVA, L.Ye.

Some geochemical problems of underground waters in the supergene zone of the Gay copper pyrite deposit. Geokhimiia no.10: 904-914 '62. (MIRA 16:4)

1. Kafedra obshchey geologii i gidrogeologii Sverdlovskogo gornogo instituta imeni V.V. Vakhrusheva.
(Gay region(Orenburg Province)—Water, Underground)
(Gay region(Orenburg Province)—Chalcopyrite)

S/169/63/000/002/068/127
D263/D307

AUTHOR: Chernyayev, A. M.

TITLE: Assessment of hydrogeochemical conditions of a region for the correct interpretation of anomalies

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 2, 1963, 10, abstract 2D61 (Razvedka i okhana nedr., 1962, no. 3, 36 - 41).

TEXT: Hydrogeochemical studies were carried out in the steppe part of the eastern slope of southern Ural. Samples of underground waters were taken and analyzed from 600 points. Cu and Zn were found almost everywhere, whilst other microelements (As, Ag, Mo) were considerably rarer. Correct interpretation of the results of hydrogeochemical surveying is only possible when the geological characteristics of the studied region are taken into account. It is, therefore, necessary to pay attention to background values and to anomalous concentrations in every individual area. It is also necessary to consider that increased concentrations of microelements

Card 1/2

Assessment of hydrogeochemical ...

frequently result from their accumulation during increased overall mineralization. It is therefore essential during the assessment of hydrogeochemical anomalies to consider the entire complex of elements, particularly those which are unaffected by a change in the overall mineralization or in the composition of underground waters. [Abstracter's note: Complete translation.]

CHERNYAYEV, A.M.; CHERNYAYEVA, L.Ye.

Characteristics of the formation of underground waters in the eastern regions of Orenburg Province. Sov.geol. 6 no.3:147-151 Mr '63. (MIRA 16:3)

1. Sverdkovskiy gornyy institut.
(Orenburg Province—Water, Underground)

CHERNYAYEV, A.M.; CHERNYAYEVA, L.Ye.; TOKMACHEV, Ye.I.

Formation of the vitriol Lake of Gay. Trudy Sver. gor. inst. no.43:141-145 '63. (MIRA 18:7)

CHERNYAYEV, A.M.

Metal potential in the underground waters of the Buribay-Bay structural zone. Trudy Sver. gor. inst. no.43:146-159 '63.
(MIRA 18:7)

CHERNYAYEV, A.M.; CHERNYAYEVA, L. Ye., aspirantka

Hydrochemistry of the underground waters of ultrabasic massifs in the Buribay-Gay structural zone. Izv. vys. ucheb. zav.; geol. i razv. 7 no.1:109-115 Ja '64 (MIRA 18:2)

KOVALEV, V.F.; CHERNYAYEV, A.M.

Basic characteristics of the formation of underground waters in the Buribay-Gay region. Trudy Inst. geol. UFAN SSSR no.69. Gidrogeol. sbor. no.3:49-77 '64.

(MIRA 17:11)

MALAKHOV, A.A.; PIL'SHCHIKOV, B.I.; CHERNYAYEV, A.M.

New data on the age of the Samarskoye and Ulutau series in the Urals. Dokl. AN SSSR 161 no.1:183-186 Mr '65.
(MIRA 18:3)

1. Sverdlovskiy gornyy institut im. V.V. Vakhrusheva. Submitted August 14, 1964.

CHERNYAYEV, A.M.; KOVALEV, V.I.; [illegible]

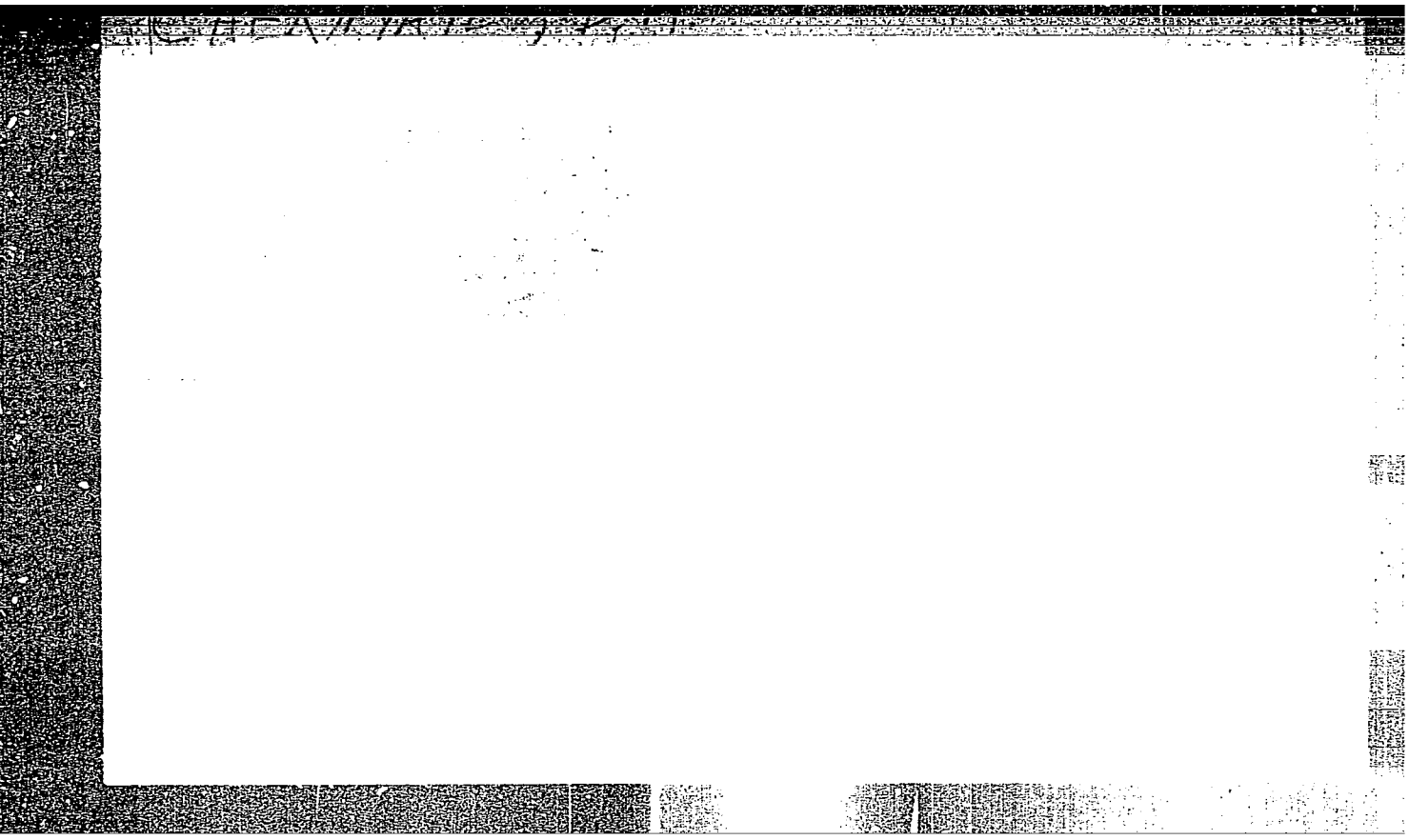
Geochemistry of microcomponents in underground waters of the recent weathering surface of intrusive rocks in the Ural Mountain portion of the Ural region. Geokhimiia no.4:456-465 Ap '65. (MIRA 18:7)

1. Kafedra obshchey geologii i gidrogeologii Sverdlovskogo gornogo instituta imeni [illegible] i Laboratoriya regional'noy gidrogeologii Instituta geologii Ural'skogo filiala AN SSSR.

CHERNYAYEV, A.S.

Combatting losses of petroleum and petroleum products. Neftianik 2 no.6:14-16 Je '57. (MIRA 10:10)

1. Starshiy inzhener tsekha No.7 tovarno-transportnoy kontory ob'yedineniya Groznefteavody.
(Petroleum products)



APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308620009-3"

CHERNYAYEV, D.A.; AKHATOV, Sh.N.

Some problems in designing petroleum pipelines and turning them over to industrial exploitation. Neft. khoz. 40 no.5:54-59 My '62. (MIRA 15:9)
(Petroleum--Pipelines--General)

CHERNYAYEV, D.A.

Optimal speeds in consecutive pipelining of petroleum and petroleum products. Neft.khoz. 41 no. 12:54-59 D '63.
(MIRA 17:6)

GALEYEV, Vil' Bareyevich; CHERNYAYEV, Davyd Aleksandrovich; SOSHCHENKO, Yevgeniy Maksimovich; NOVIKOVA, M.M., ved. red.

[Repair of pipelines and equipment of petroleum pumping stations] Remont magistral'nykh truboprovodov i oborudovaniia nefteperekachivaiushchikh stantsii. Moskva, Nedra, 1965. 207 p. (MIRA 18:7)

CHERNYAYEV, E.G.

Characteristics of the structure of the vena cava posterior in some Insectivora. Dokl. AN SSSR 157 no.6:1483-1485 Ag '64.
(MIRA 17:9)

1. Institut zoologii AN UkrSSR. Predstavleno akademikom Ye.N. Pavlovskim.

CHERNIAEV, E.L.

NESTEROV, Ye.N.; CHERNYAYEV, E.L.

Case of isolated lymphogranulomatosis of the spermatic cord. Nov. khir.arkh. no.2:79 Mr-Ap '57. (MLRA 10:8)

1. Kafedra patologicheskoy anatomii i fakul'tetskoy khirurgii Krymskogo meditsinskogo instituta
(SPERMATIC CORD--TUMORS)

CHERNYAYEV, G.

"Cables Over the Volga," Tekh. Molod., 20, No.4, 1952

KOZOREZOV, Ye.; MOROZOVA, G.; GOL'd, M.; CHERNYAYEV, G.

In the oil regions of our country. Neftianik 7 no.2:30-31 F '62. (MIRA 15:2)

(Petroleum industry)

CHERNYAYEV, G.I.

Petroleum workers' settlement in the Zol'noye gully.
Neftianik 1 no.4:33-34 Ap '56. (MLRA 9:10)

(Zol'noye--Petroleum workers)

CHERNYAYEV, G. I.

All-Union conference of workers on oil production. (MLRA 9:11)
Neftianik 1 no.8:28-29 Ag '56.

(Kuybyshev--Petroleum industry--Congresses)

CHERNYAYEV, G. [illegible]

On their own initiative and with their own hands. Neftianik 2 no.4:32 Ap '57. (MLRA 10:5)

(Petroleum workers) (Building)

CHERNYAYEV, G.

Operator Sergei Vakhorkin. Neftianik 5 no.5:5 My '60.
(Vakhorkin, Sergei Semenovich)

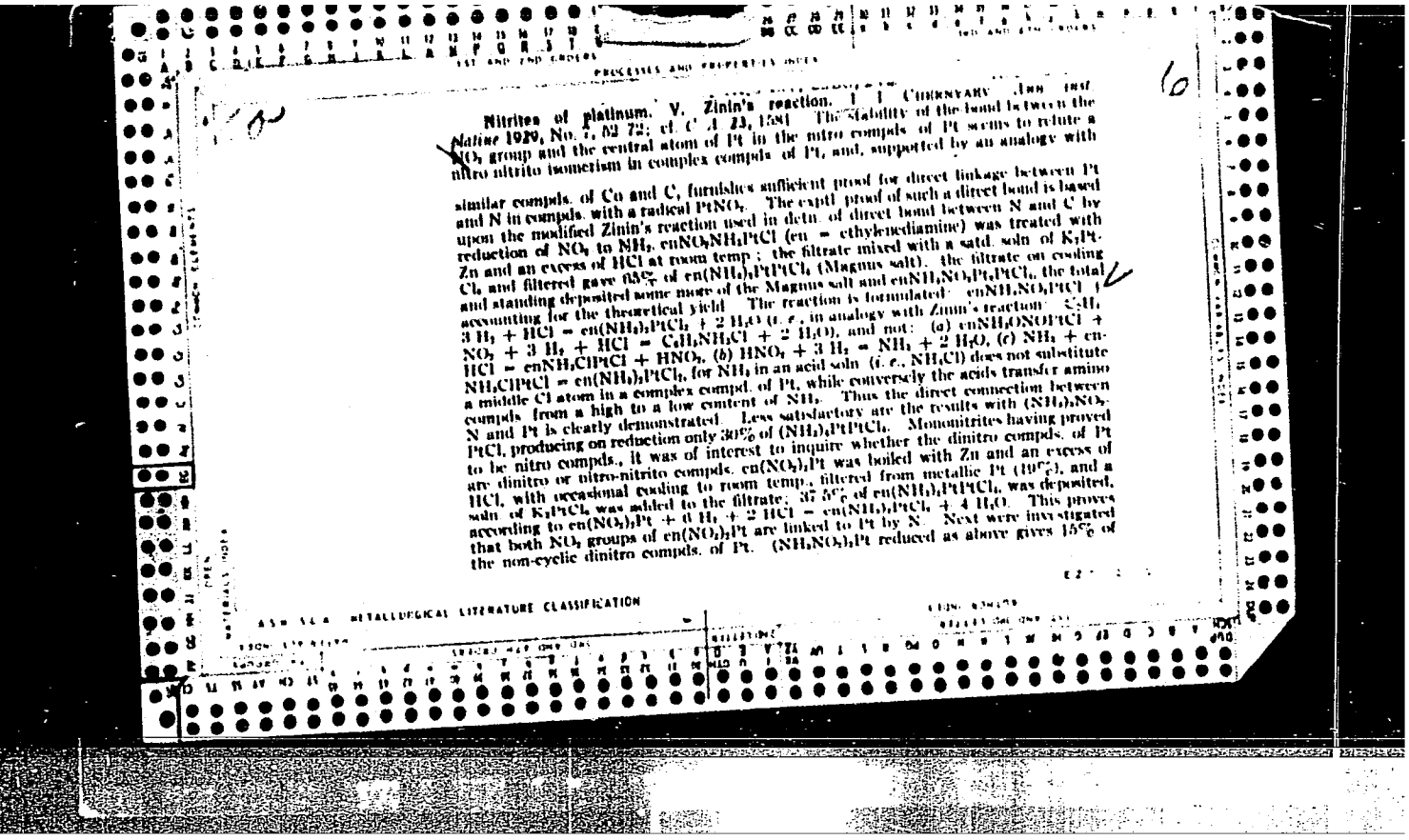
CHERNYAYEV, G.

Vehicle for transporting electric subsurface pumps. (MIRA 14:9)
Neftianik 5 no.3:21 Mr '60.
(Oil well pumps--Transportation)

CHERNYAYEV, G.

Simultaneous oil and gas pipelining. Neftianik 7 no.3:26 Mr '62. (MIRA 15:5)
(Pipelines)

EARLIER PUBLICATIONS FOR THIS AUTHOR ARE AVAILABLE IN THE INACTIVE FILE -- WE WILL PULL THEM UPON REQUEST.



Nitrites of platinum. V. Zinin's reaction. I. Chugaev. *Ann. inst. platine* 1929, No. 7, 52-72; cf. *C. A.* 23, 1581. The stability of the bond between the NO_2 group and the central atom of Pt in the nitro compds. of Pt seems to refute a nitro-nitrito isomerism in complex compds. of Pt, and, supported by an analogy with similar compds. of Co and C, furnishes sufficient proof for direct linkage between Pt and N in compds. with a radical $PtNO_2$. The exptl. proof of such a direct bond is based upon the modified Zinin's reaction used in detn. of direct bond between N and C by reduction of NO_2 to NH_2. $enNO_2NH_2PtCl$ (en = ethylenediamine) was treated with Zn and an excess of HCl at room temp.; the filtrate mixed with a satd. soln. of K_2PtCl_4 and filtered gave 85% of $en(NH_2)_2PtPtCl_4$ (Magnus salt). the filtrate on cooling and standing deposited some more of the Magnus salt and $enNH_2NO_2Pt_2PtCl_4$, the total accounting for the theoretical yield. The reaction is formulated: $enNH_2NO_2PtCl + 3\ H_2 + HCl = en(NH_2)_2PtCl_2 + 2\ H_2O$ (*i. e.*, in analogy with Zinin's reaction: $C_6H_5NO_2 + 3\ H_2 + HCl = C_6H_5NH_2Cl + 2\ H_2O$), and not: (*a*) $enNH_2ONOPtCl + HCl = enNH_2ClPtCl + HNO_2$, (*b*) $HNO_2 + 3\ H_2 = NH_3 + 2\ H_2O$, (*c*) $NH_3 + enNH_2ClPtCl = en(NH_2)_2PtCl_2$, for NH_3 in an acid soln. (*i. e.*, NH_4Cl) does not substitute a middle Cl atom in a complex compd. of Pt, while conversely the acids transfer amino compds. from a high to a low content of NH_3. Thus the direct connection between N and Pt is clearly demonstrated. Less satisfactory are the results with $(NH_3)_2NO_2PtCl$, producing on reduction only 30% of $(NH_3)_2PtPtCl_4$. Mononitrites having proved to be nitro compds., it was of interest to inquire whether the dinitro compds. of Pt are dinitro or nitro-nitrito compds. $en(NO_2)_2Pt$ was boiled with Zn and an excess of HCl, with occasional cooling to room temp., filtered from metallic Pt (10%), and a soln. of K_2PtCl_4 was added to the filtrate; 37.5% of $en(NH_2)_2PtPtCl_4$ was deposited, according to $en(NO_2)_2Pt + 6\ H_2 + 2\ HCl = en(NH_2)_2PtCl_2 + 4\ H_2O$. This proves that both NO_2 groups of $en(NO_2)_2Pt$ are linked to Pt by N. Next were investigated the non-cyclic dinitro compds. of Pt. $(NH_3NO_2)_2Pt$ reduced as above gives 15% of

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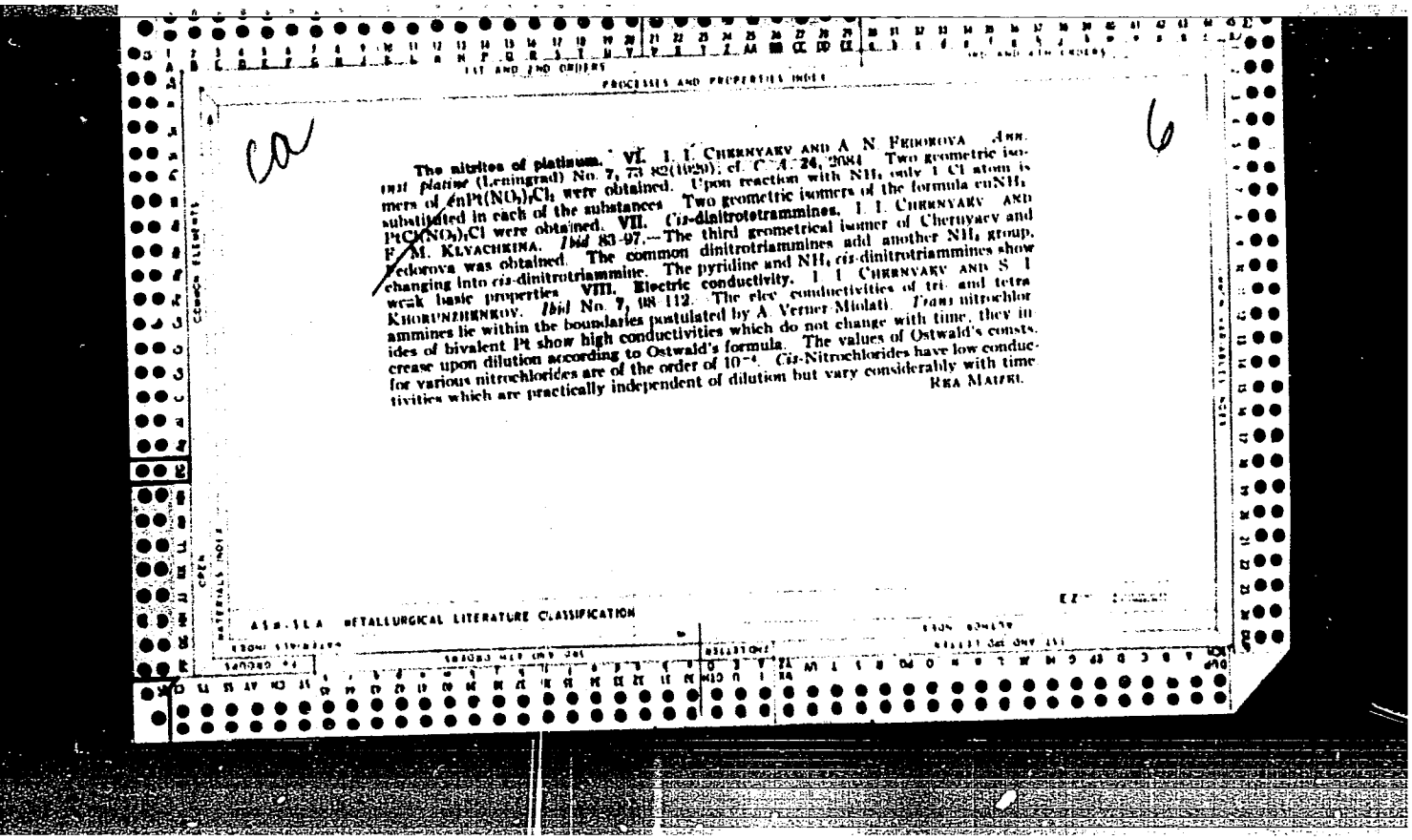
$(NH_3)_4PtCl_2$, the reaction proceeding according to the equation: $(NH_3NO_2)_2Pt + 6H_2 + 2\ HCl = (NH_3)_4PtCl_2 + 4\ H_2O$. The corresponding geometrical isomer $(NH_3)_2(NO_2)_2Pt$ behaves differently toward Zn and HCl, whereby HCl splits off HNO_2: $(NH_3)_2(NO_2)_2Pt + HCl \rightleftarrows (NH_3)_2NO_2ClPt + HNO_2$, which oxidizes the complex to quadrivalent Pt resulting in a mixt. of $(NH_3)_2NO_2ClPt$, $(NH_3)_2NO_2Cl_2Pt$ and metallic Pt. On substituting AcOH for HCl in the reduction there are formed $[(NH_3)_2NO_2Pt]_2PtCl_4$ and Magnus salt, both products showing that the 2 NO_2 groups in the trans dinitrite have nitro and not nitrito functions, and that the reaction of reduction unlike that with the *cis*-isomer proceeds in 2 stages: (*a*) $(NH_3)_2(NO_2)_2Pt + 3\ H_2 + HCl = (NH_3)_2NO_2PtCl + 2\ H_2O$; (*b*) $(NH_3)_2NO_2PtCl + 3\ H_2 + HCl = (NH_3)_2PtCl_2 + 2\ H_2O$. $K_2Pt(NO_2)_4$ having 2 mobile NO_2 groups behaves as a *trans*-dinitrite, being easily reduced to metallic Pt, the liberal discharge of oxides of N indicating an intermediary reaction: $K_2Pt(NO_2)_4 + 2\ HCl \rightleftarrows (NO_2Cl)_2PtK_2 + 2\ HNO_2$. This was proved by reducing $(NO_2Cl)_2PtK_2$ with AcOH and Zn; Pt was deposited on Zn and Zn platinonitrite was pptd., according to $2\ (NO_2Cl)_2PtK_2 + Zn = 2\ KCl + ZnCl_2 + K_2Pt(NO_2)_4 + Pt$, the NO_2 group migrating from one atom of Pt to another. This reaction may explain why in the reduction of the nitrites of noble metals in acid solns. there are formed metallic products and not the NH_3 derivs. $K_2Pt(NO_2)_4H_2O$ when reduced with Zn and AcOH produces 20% of metallic Pt and a mixt. consisting of *cis*- and some *trans*-isomers of dinitrites. $(NH_2OH)_2PtCl_2$ reduced with Zn and HCl gives on addn. of K_2PtCl_6 47% of Magnus salt, indicating the reaction: $(NH_2OH)_2PtCl_2 + 4\ H_2 = (NH_3)_4PtCl_2 + 4\ H_2O$. Conclusions: The action of acids and metallic Zn on the nitrites and hydroxylamines of bivalent Pt reduces them to corresponding NH_3 complexes, *i. e.*, in accordance with Zinin's reaction. The bond of Pt with NO_2 group and NH_2OH is attained through N. The direct bond of the NO_2 groups is not affected by their number in the inner sphere and geometrical isomerism. The isomeric *cis*- and *trans*-dinitrites are unlike in their reduction mechanism. When NH_2OH and NO_2 groups are jointly present in the inner sphere, the former is reduced first. In the process of reduction the hydroxylamines do not change their position of coordination.

CHAS. BLANC



PROCESSES AND PROPERTIES INDEX

The nitrites of platinum. VI. I. I. CHERNYAEV AND A. N. FEDOROVA. *Inst. platine* (Leningrad) No. 7, 73-82(1929); cf. C. A. 24, 2084. Two geometric isomers of *cis*-$Pt(NO_2)_2Cl_2$ were obtained. Upon reaction with NH_3 only 1 Cl atom is substituted in each of the substances. Two geometric isomers of the formula *cis*-$NH_3Pt(NO_2)_2Cl$ were obtained. VII. ***Cis*-dinitrotetrammines.** I. I. CHERNYAEV AND F. M. KLYACHKINA. *Ibid* 83-97.—The third geometrical isomer of Chernyaev and Fedorova was obtained. The common dinitrotriammines add another NH_3 group, changing into *cis*-dinitrotriammine. The pyridine and NH_3 *cis*-dinitrotriammines show weak basic properties. VIII. **Electric conductivity.** I. I. CHERNYAEV AND S. I. KHORUNZHENKOV. *Ibid* No. 7, 98-112. The elec. conductivities of tri- and tetra ammines lie within the boundaries postulated by A. Verner-Miolati. *Trans*-nitrochlorides of bivalent Pt show high conductivities which do not change with time, they increase upon dilution according to Ostwald's formula. The values of Ostwald's consts. for various nitrochlorides are of the order of 10^{-4}. *Cis*-Nitrochlorides have low conductivities which are practically independent of dilution but vary considerably with time.

REA MAIER.

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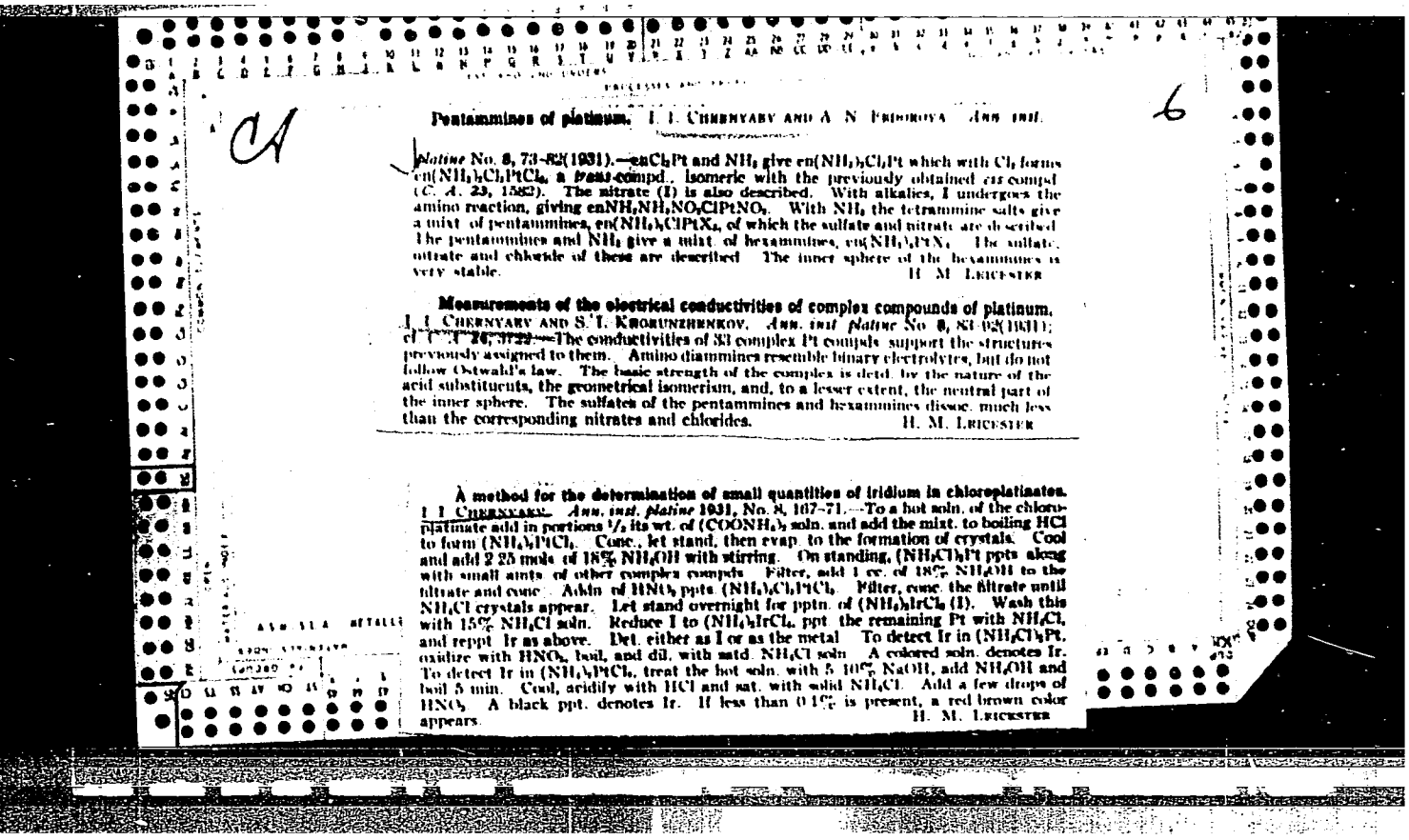
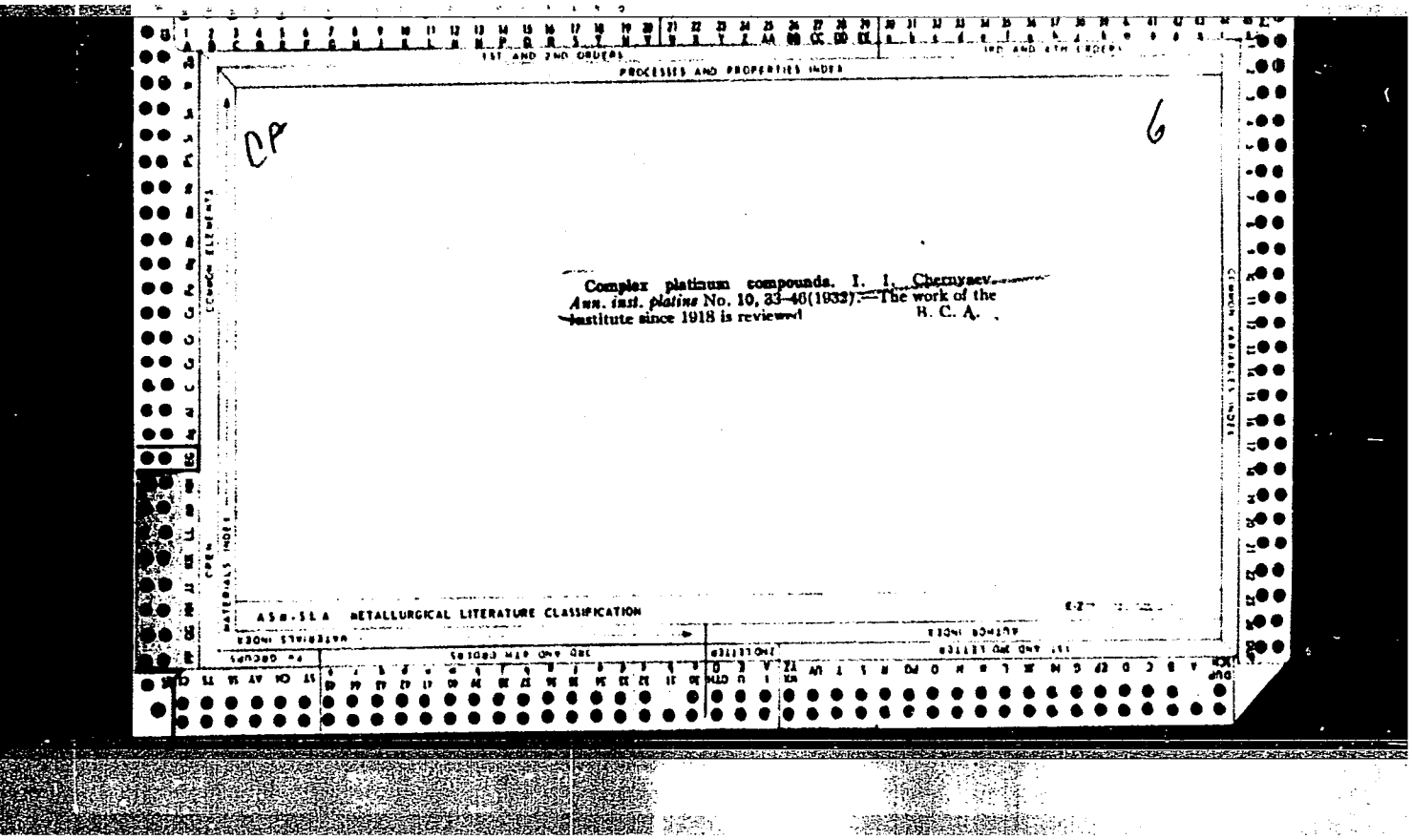
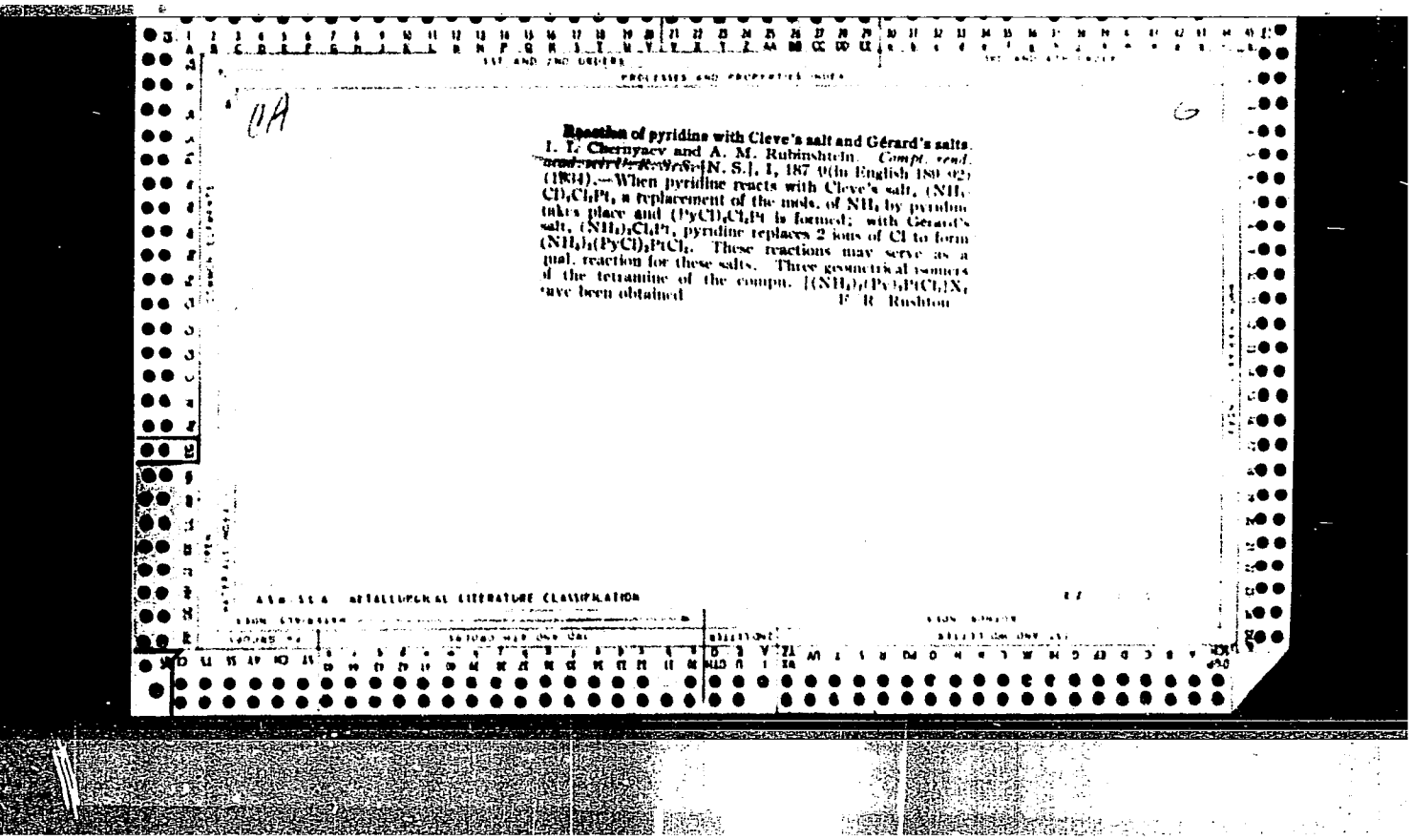


Pentammines of platinum. I. I. Chernyaev and A. N. Frishkova. *Ann. inst. platine* No. 8, 73–82 (1931).—$enCl_2Pt$ and NH_3 give $en(NH_3)_2Cl_2Pt$ which with Cl_2 forms $en(NH_3)_2Cl_2PtCl_2$, a *trans*-compd., isomeric with the previously obtained *cis* compd. (*C. A.* **25**, 1583). The nitrate (I) is also described. With alkalies, I undergoes the amino reaction, giving $enNH_2NH_2NO_2ClPtNO_2$. With NH_3 the tetrammine salts give a mixt. of pentammines, $en(NH_3)ClPtX_2$, of which the sulfate and nitrate are described. The pentammines and NH_3 give a mixt. of hexammines, $en(NH_3)_2PtX_4$. The sulfate, nitrate and chloride of these are described. The inner sphere of the hexammines is very stable. H. M. Leicester

Measurements of the electrical conductivities of complex compounds of platinum. I. I. Chernyaev and S. T. Khorunzhenkov. *Ann. inst. platine* No. 8, 83–93 (1931); cf. *C. A.* **26**, 3722.—The conductivities of 33 complex Pt compds. support the structures previously assigned to them. Amino diammines resemble binary electrolytes, but do not follow Ostwald's law. The basic strength of the complex is detd. by the nature of the acid substituents, the geometrical isomerism, and, to a lesser extent, the neutral part of the inner sphere. The sulfates of the pentammines and hexammines dissoc. much less than the corresponding nitrates and chlorides. H. M. Leicester

A method for the determination of small quantities of iridium in chloroplatinates. I. I. Chernyaev. *Ann. inst. platine* **1931**, No. 8, 167–71.—To a hot soln. of the chloroplatinate add in portions ½ its wt. of $(COONH_4)_2$ soln. and add the mixt. to boiling HCl to form $(NH_4)_2PtCl_6$. Conc., let stand, then evap. to the formation of crystals. Cool and add 2.25 mols of 18% NH_4OH with stirring. On standing, $(NH_3Cl)_2Pt$ ppts. along with small amts. of other complex compds. Filter, add 1 cc. of 18% NH_4OH to the filtrate and conc. Addn. of HNO_3 ppts. $(NH_4)_2Cl_2PtCl_6$. Filter, conc. the filtrate until NH_4Cl crystals appear. Let stand overnight for pptn. of $(NH_4)_2IrCl_6$ (I). Wash this with 15% NH_4Cl soln. Reduce I to $(NH_4)_2IrCl_4$, ppt. the remaining Pt with NH_4Cl, and reppt. Ir as above. Det. either as I or as the metal. To detect Ir in $(NH_3Cl)_2Pt$, oxidize with HNO_3, boil, and dil. with satd. NH_4Cl soln. A colored soln. denotes Ir. To detect Ir in $(NH_4)_2PtCl_6$, treat the hot soln. with 5–10% NaOH, add NH_4OH and boil 5 min. Cool, acidify with HCl and sat. with solid NH_4Cl. Add a few drops of HNO_3. A black ppt. denotes Ir. If less than 0.1% is present, a red brown color appears. H. M. Leicester





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Reaction of pyridine with Cleve's salt and Gérard's salts. I. I. Chernyaev and A. M. Rubinshtein. *Compt. rend. acad. sci. U.R.S.S.* [N. S.], I, 187-9 (in English 189-92) (1934).—When pyridine reacts with Cleve's salt, $(NH_3Cl)_2Cl_2Pt$, a replacement of the mols. of NH_3 by pyridine takes place and $(PyCl)_2Cl_2Pt$ is formed; with Gérard's salt, $(NH_3)_2Cl_2Pt$, pyridine replaces 2 ions of Cl to form $(NH_3)_2(PyCl)_2PtCl_2$. These reactions may serve as a qual. reaction for these salts. Three geometrical isomers of the tetramine of the compn. $[(NH_3)_2(Py)_2Pt]Cl_2X_2$ have been obtained. F. R. Rushton

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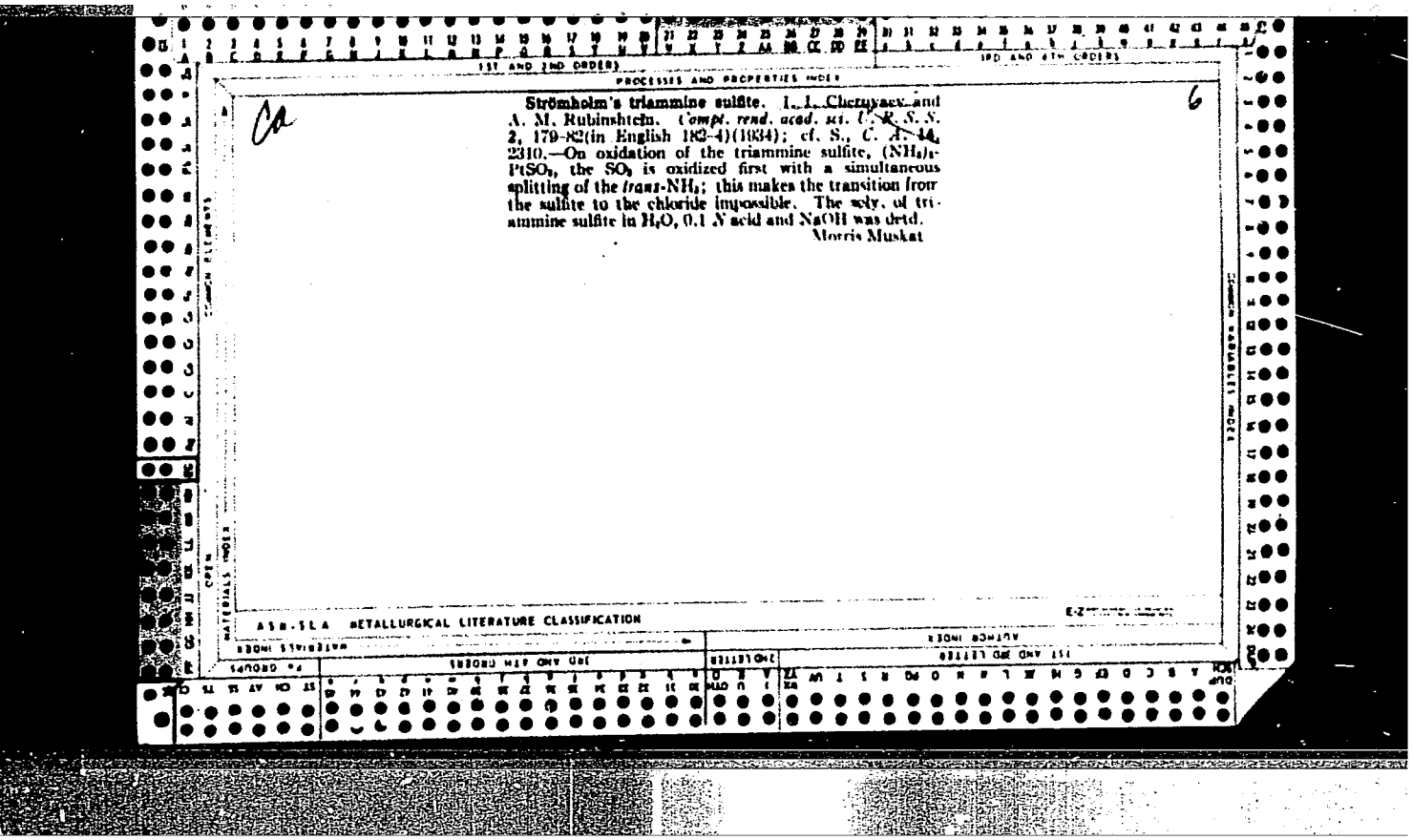

PROCESSES AND PROPERTIES INDEX

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Strömholm's triammine sulfite. I. I. Chernyaev and A. M. Rubinshtein. *Compt. rend. acad. sci. U.R.S.S.* 2, 179-82(in English 182-4)(1934); cf. S., *C. A.* 44, 2310.—On oxidation of the triammine sulfite, $(NH_3)_3PtSO_3$, the SO_3 is oxidized first with a simultaneous splitting of the *trans*-NH_3; this makes the transition from the sulfite to the chloride impossible. The sely. of triammine sulfite in H_2O, 0.1 *N* acid and NaOH was detd.

Morris Muskat

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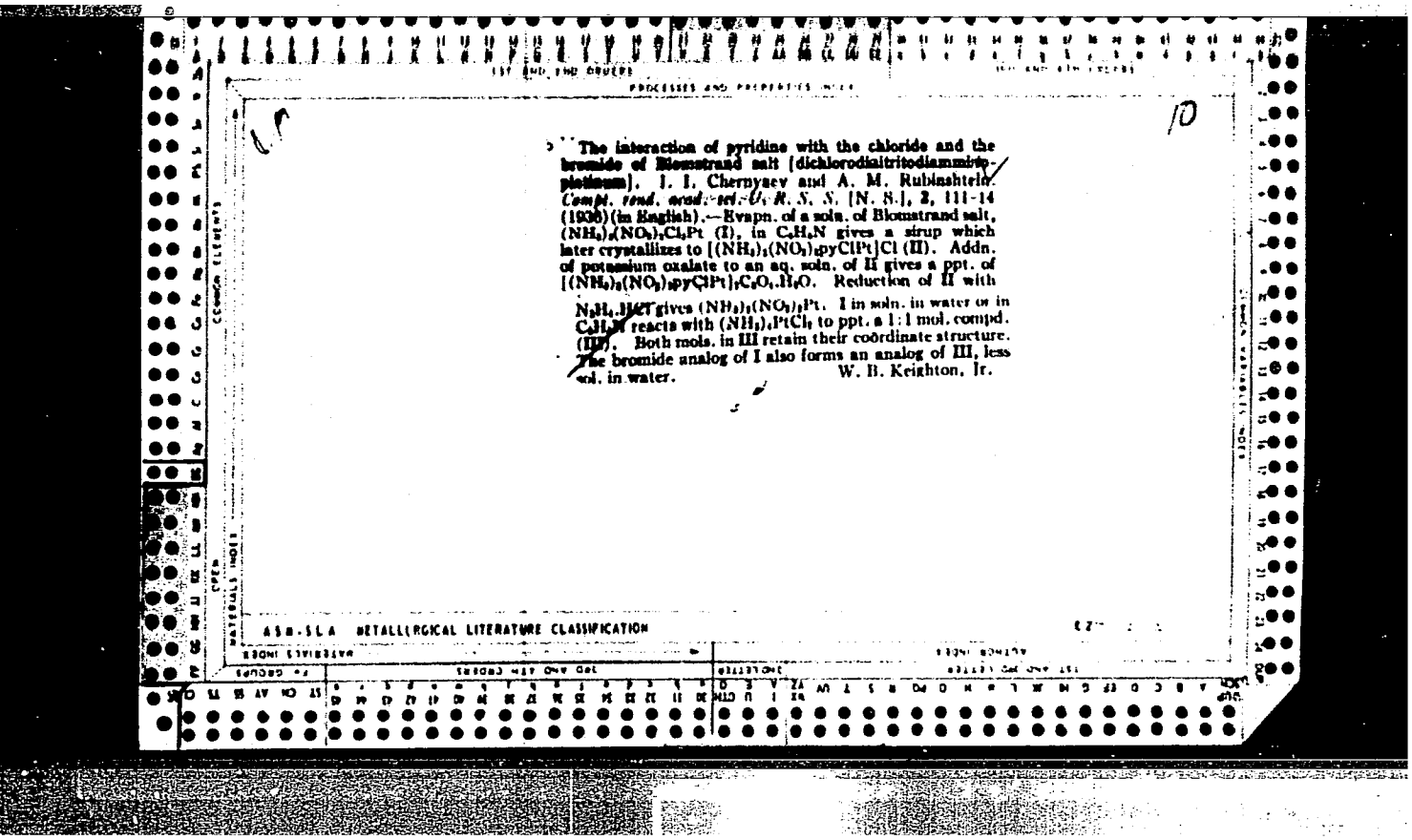
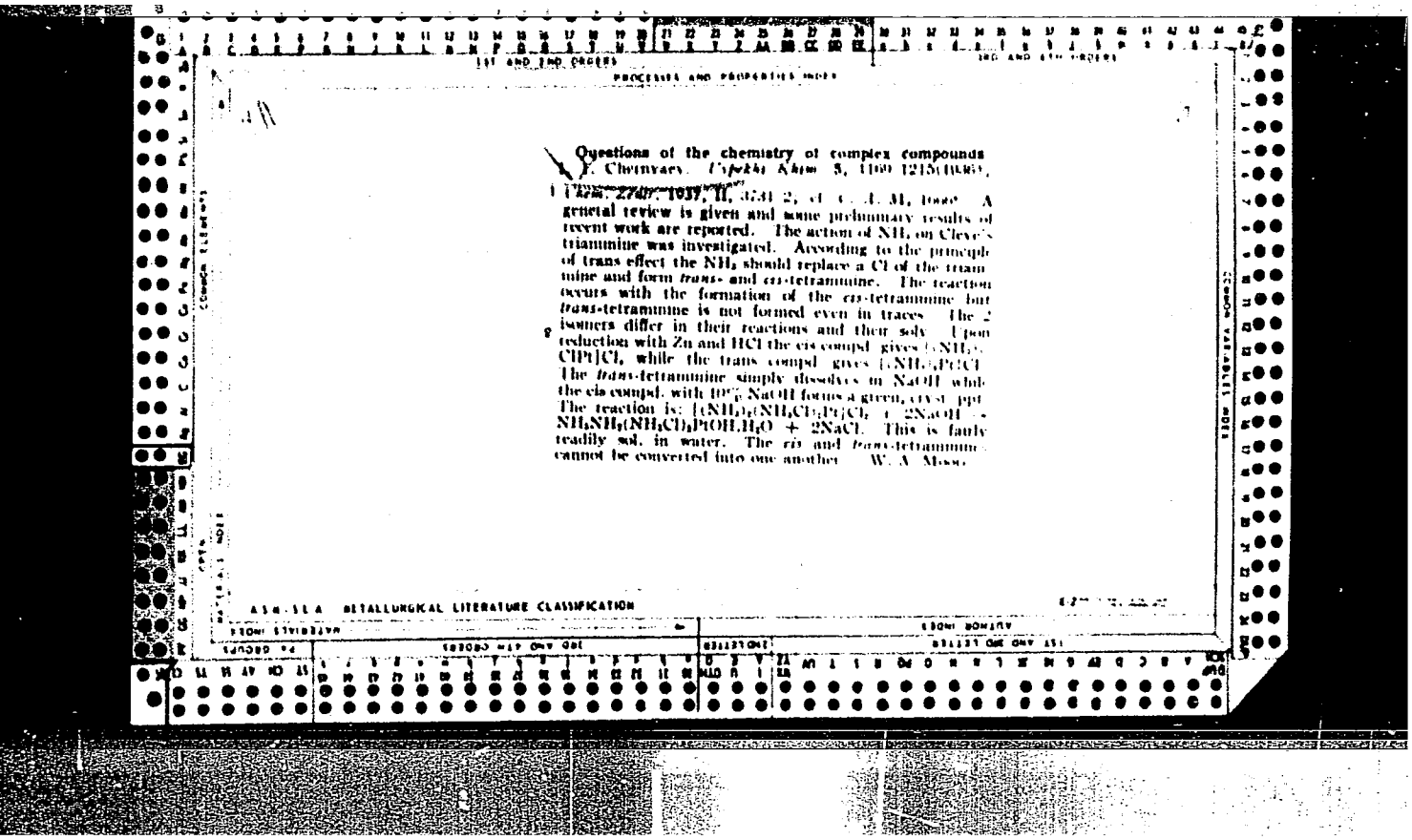


The interaction of pyridine with the chloride and the bromide of Bloomstrand salt [dichlorodiaitritodiammintetrapiatinum]. I. I. Chernyaev and A. M. Rubinshtein. *Compt. rend. acad. sci. U. R. S. S.* [N. S.], 2, 111-14 (1936) (in English).—Evapn. of a soln. of Bloomstrand salt, $(NH_3)_4(NO_3)_2Cl_2Pt$ (I), in C_5H_5N gives a sirup which later crystallizes to $[(NH_3)_3(NO_3)_2pyClPt]Cl$ (II). Addn. of potassium oxalate to an aq. soln. of II gives a ppt. of $[(NH_3)_3(NO_3)_2pyClPt]_2C_2O_4.H_2O$. Reduction of II with $N_2H_4.HCl$ gives $(NH_3)_3(NO_3)_2Pt$. I in soln. in water or in C_5H_5N reacts with $(NH_3)_4PtCl_2$ to ppt. a 1:1 mol. compd. (III). Both mols. in III retain their coördinate structure. The bromide analog of I also forms an analog of III, less sol. in water.

W. B. Keighton, Jr.



Questions of the chemistry of complex compounds
L. Chernyaev. *Uspekhi Khim.* 5, 1169-1215(1936).
[illegible] 1937, II, 3731-2, cf. C. A. 31, [illegible]. A general review is given and some preliminary results of recent work are reported. The action of NH_3 on Cleve's triammine was investigated. According to the principle of trans effect the NH_3 should replace a Cl of the triammine and form *trans*- and *cis*-tetrammine. The reaction occurs with the formation of the *cis*-tetrammine but *trans*-tetrammine is not formed even in traces. The 2 isomers differ in their reactions and their solv. Upon reduction with Zn and HCl the cis compd. gives $[(NH_3)_4ClPt]Cl$, while the trans compd. gives $[(NH_3)_4Pt]Cl$. The *trans*-tetrammine simply dissolves in NaOH while the cis compd. with 10% NaOH forms a green, cryst. ppt. The reaction is: $[(NH_3)_4(NH_2Cl_2)Pt]Cl_2 + 2NaOH \rightarrow NH_2NH_2(NH_3Cl_2)PtOH.H_2O + 2NaCl$. This is fairly readily sol. in water. The *cis* and *trans*-tetrammine cannot be converted into one another. W. A. Mosev

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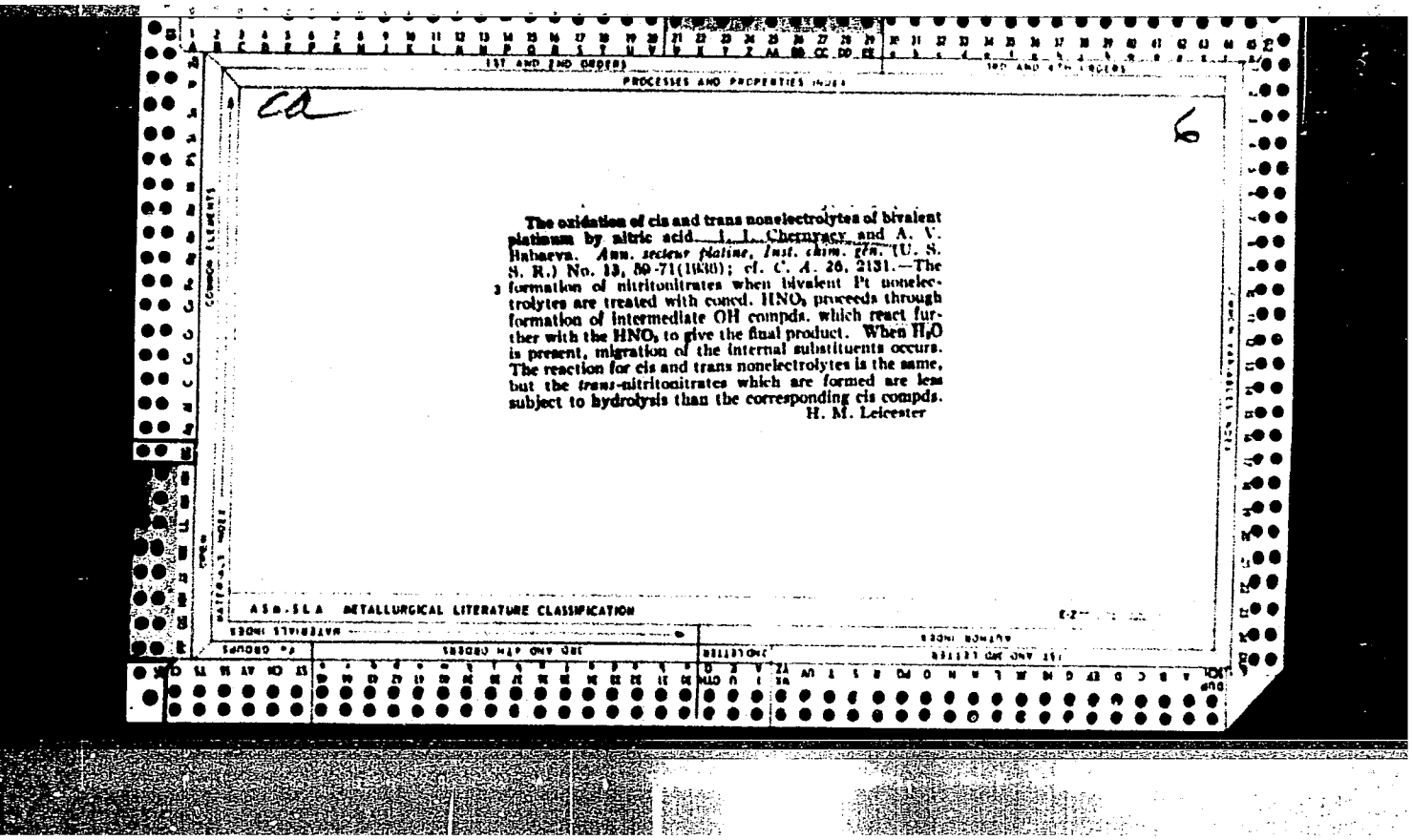

PROCESSES AND PROPERTIES INDEX

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The oxidation of cis and trans nonelectrolytes of bivalent platinum by nitric acid. I. I. Chernyaev and A. V. Habaeva. *Ann. sector platine, Inst. chim. gén.* (U. S. S. R.) No. 13, 59-71(1936); cf. C. A. 26, 2131.—The formation of nitritonitrates when bivalent Pt nonelectrolytes are treated with concd. HNO_3 proceeds through formation of intermediate OH compds. which react further with the HNO_3 to give the final product. When H_2O is present, migration of the internal substituents occurs. The reaction for cis and trans nonelectrolytes is the same, but the *trans*-nitritonitrates which are formed are less subject to hydrolysis than the corresponding cis compds.
H. M. Leicester

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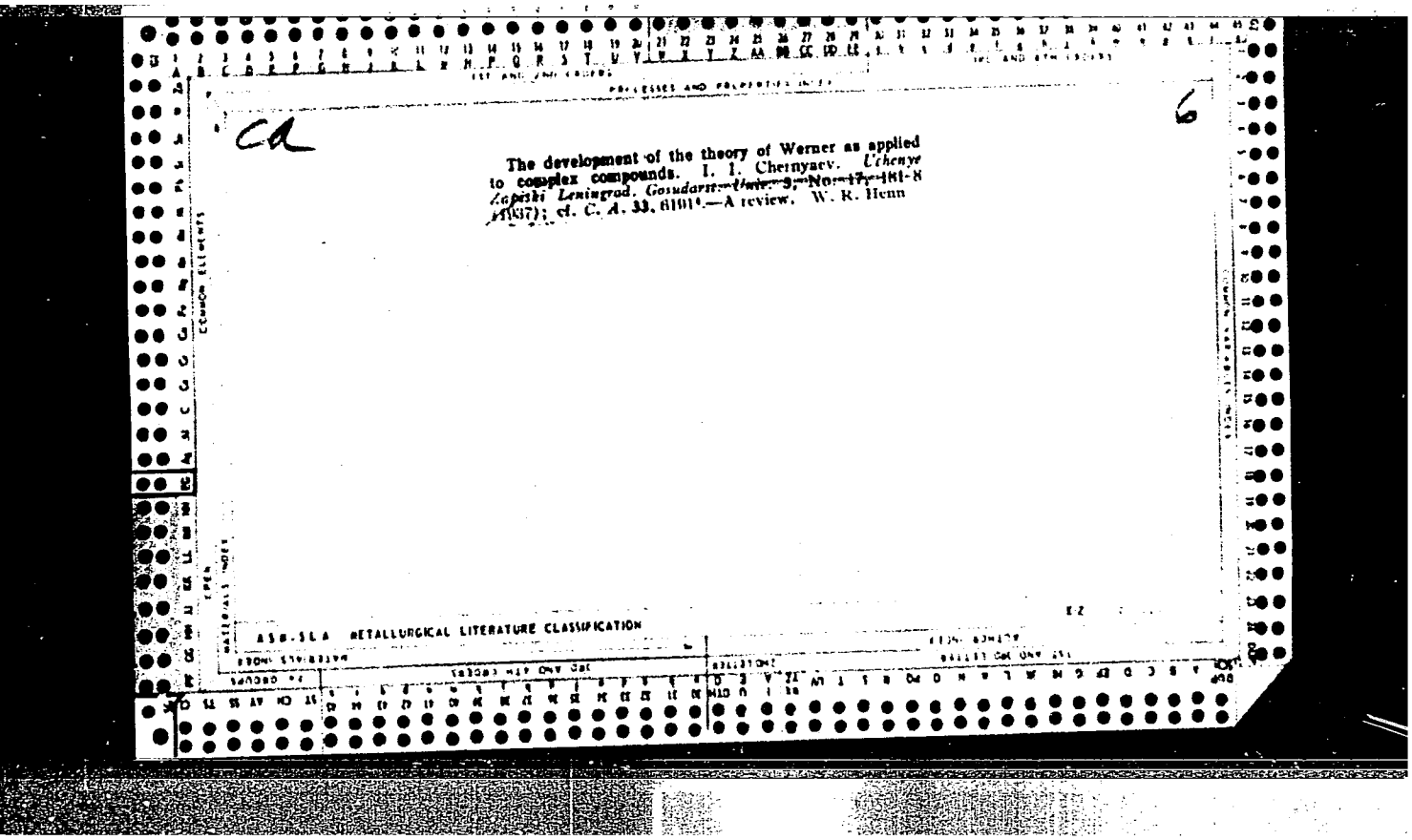

The development of the theory of Werner as applied to complex compounds. I. L. Chernyaev. *Uchenye Zapiski Leningrad. Gosudarst. Univ.* 3, No. 17, 181-8 (1937); cf. *C. A.* 33, 6101⁴.—A review. W. R. Henn

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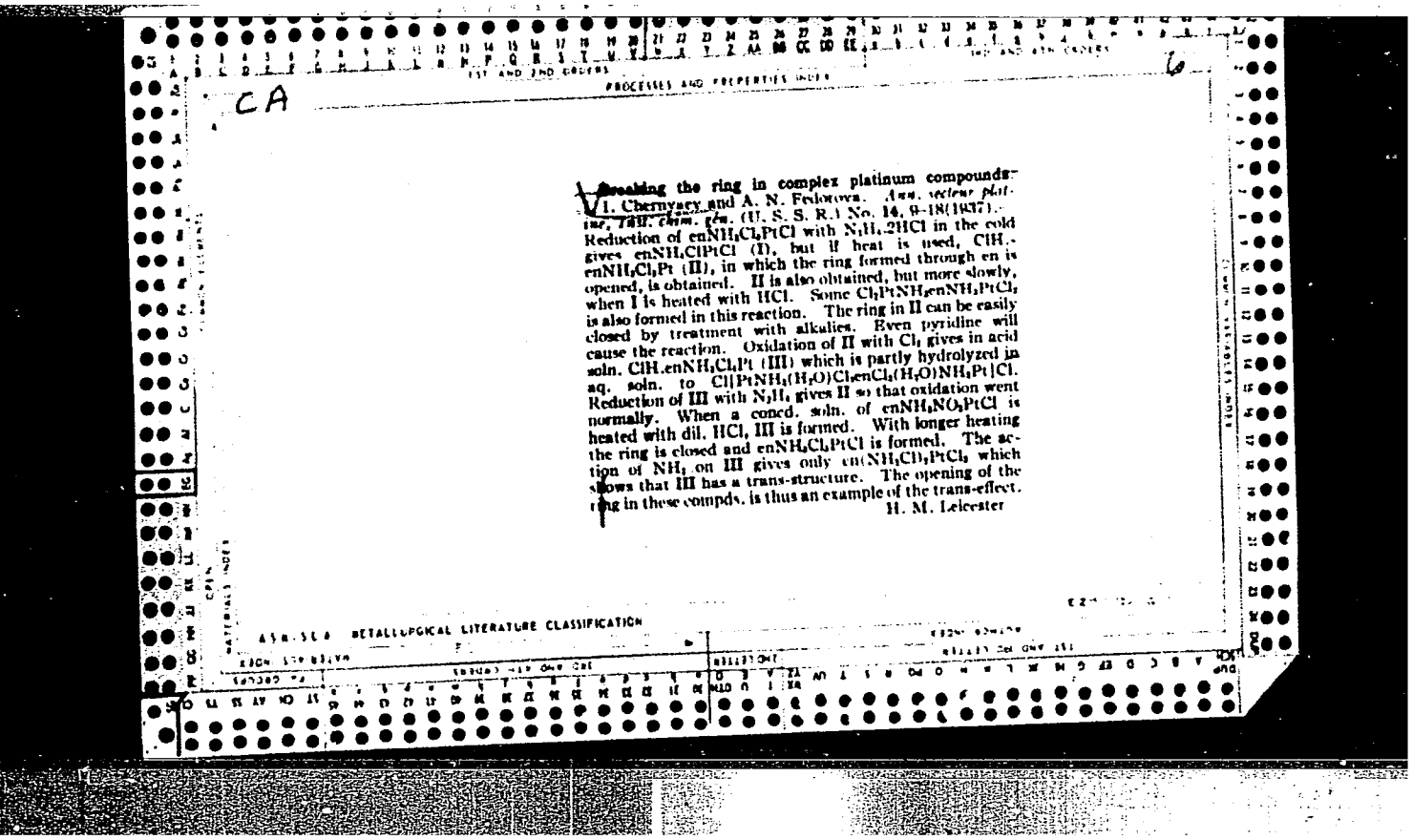

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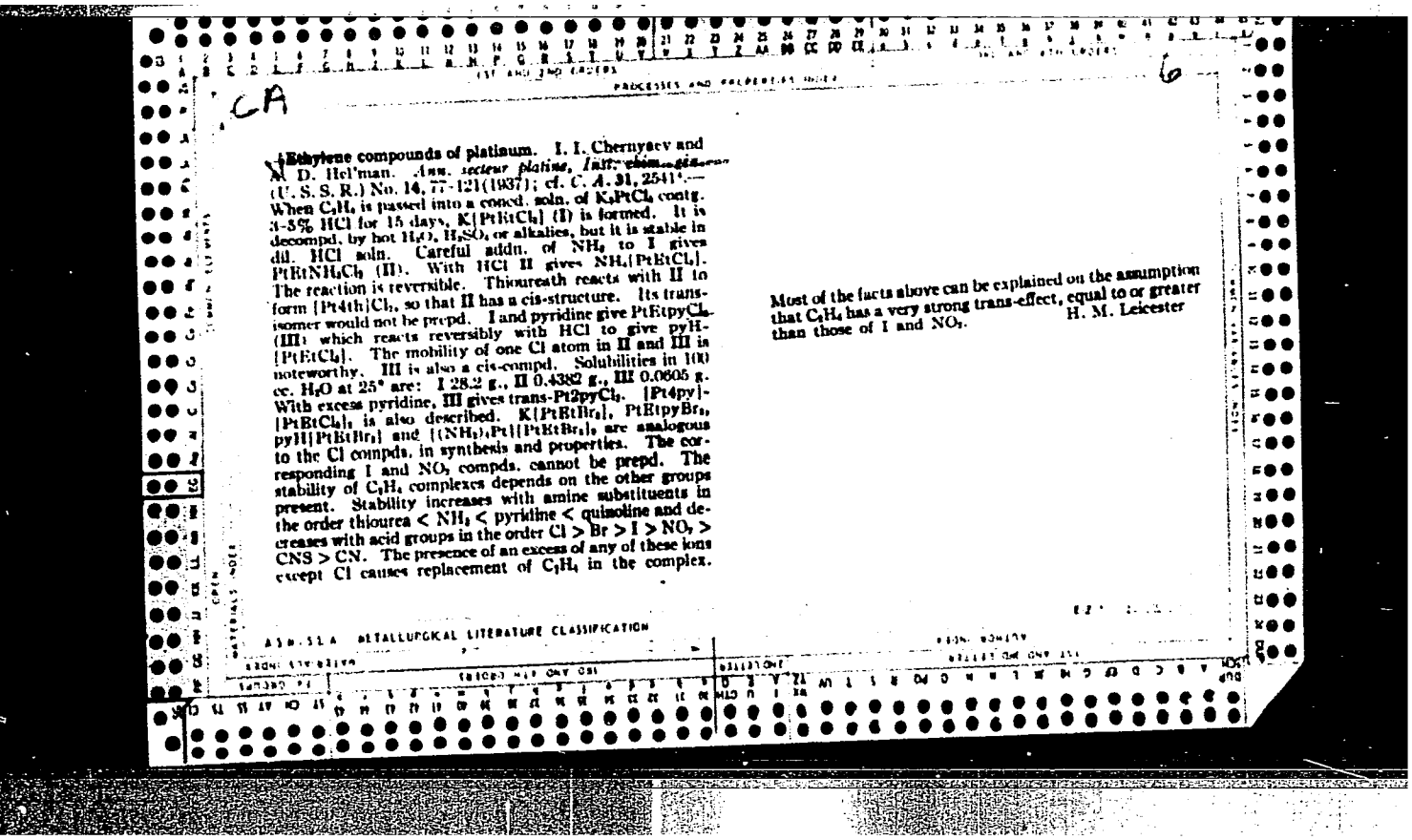
Breaking the ring in complex platinum compounds. VI. Chernyaev and A. N. Fedorova. *Ann. sektor platiny, Inst. obshch. i neorg. Khim.* (U. S. S. R.) No. 14, 9–18(1937).—Reduction of $enNH_2Cl_2PtCl$ with $N_2H_4.2HCl$ in the cold gives $enNH_2ClPtCl$ (I), but if heat is used, $ClH.enNH_2Cl_2Pt$ (II), in which the ring formed through en is opened, is obtained. II is also obtained, but more slowly, when I is heated with HCl. Some $Cl_2PtNH_2enNH_2PtCl_2$ is also formed in this reaction. The ring in II can be easily closed by treatment with alkalies. Even pyridine will cause the reaction. Oxidation of II with Cl_2 gives in acid soln. $ClH.enNH_2Cl_2Pt$ (III) which is partly hydrolyzed in aq. soln. to $Cl[PtNH_2(H_2O)Cl_2enCl_2(H_2O)NH_2Pt]Cl$. Reduction of III with N_2H_4 gives II so that oxidation went normally. When a concd. soln. of $enNH_2NO_2PtCl$ is heated with dil. HCl, III is formed. With longer heating the ring is closed and $enNH_2Cl_2PtCl$ is formed. The action of NH_3 on III gives only $en(NH_2Cl)_2PtCl_2$ which shows that III has a trans-structure. The opening of the ring in these compds. is thus an example of the trans-effect.

H. M. Leicester



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Ethylene compounds of platinum. I. I. Chernyaev and N. D. Hel'man. *Ann. secteur platine, Inst. chim. gén.* (U. S. S. R.) No. 14, 77-121(1937); cf. C. *A.* 31, 2541⁴.—When C_2H_4 is passed into a concd. soln. of K_2PtCl_4 contg. 3-5% HCl for 15 days, $K[PtEtCl_3]$ (I) is formed. It is decompd. by hot H_2O, H_2SO_4 or alkalies, but it is stable in dil. HCl soln. Careful addn. of NH_3 to I gives $PtEtNH_2Cl_2$ (II). With HCl II gives $NH_4[PtEtCl_3]$. The reaction is reversible. Thioureath reacts with II to form $[Pt4th]Cl_2$, so that II has a cis-structure. Its trans-isomer would not be prepd. I and pyridine give $PtEtpyCl_2$ (III) which reacts reversibly with HCl to give $pyH[PtEtCl_3]$. The mobility of one Cl atom in II and III is noteworthy. III is also a cis-compd. Solubilities in 100 cc. H_2O at 25° are: I 28.2 g., II 0.4382 g., III 0.0605 g. With excess pyridine, III gives trans-$Pt2pyCl_2$. $[Pt4py]-[PtEtCl_3]_2$ is also described. $K[PtEtBr_3]$, $PtEtpyBr_2$, $pyH[PtEtBr_3]$ and $[(NH_3)_2Pt][PtEtBr_3]_2$ are analogous to the Cl compds. in synthesis and properties. The corresponding I and NO_2 compds. cannot be prepd. The stability of C_2H_4 complexes depends on the other groups present. Stability increases with amine substituents in the order thiourea < NH_3 < pyridine < quinoline and decreases with acid groups in the order Cl > Br > I > NO_2 > CNS > CN. The presence of an excess of any of these ions except Cl causes replacement of C_2H_4 in the complex.

Most of the facts above can be explained on the assumption that C_2H_4 has a very strong trans-effect, equal to or greater than those of I and NO_2. H. M. Leicester

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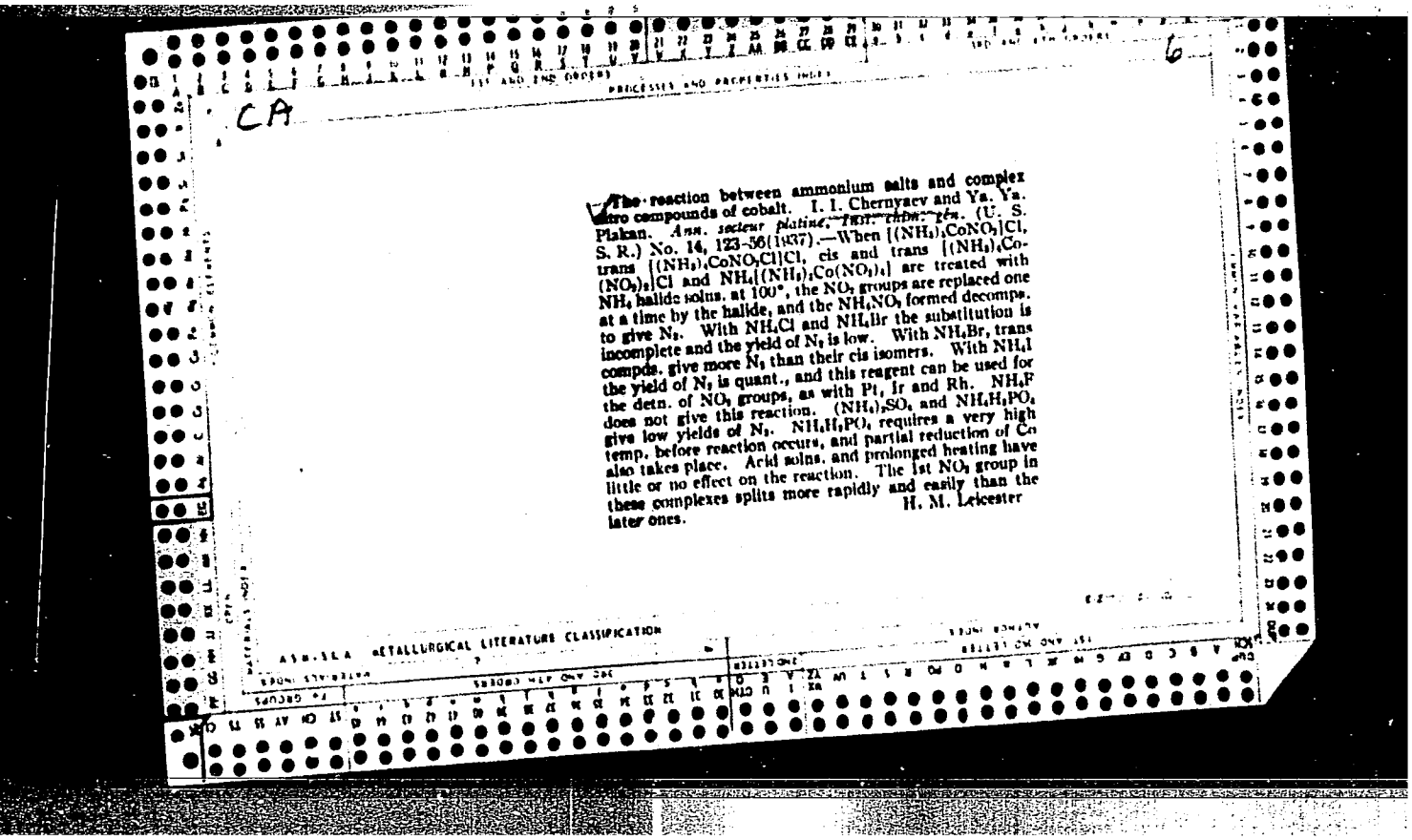

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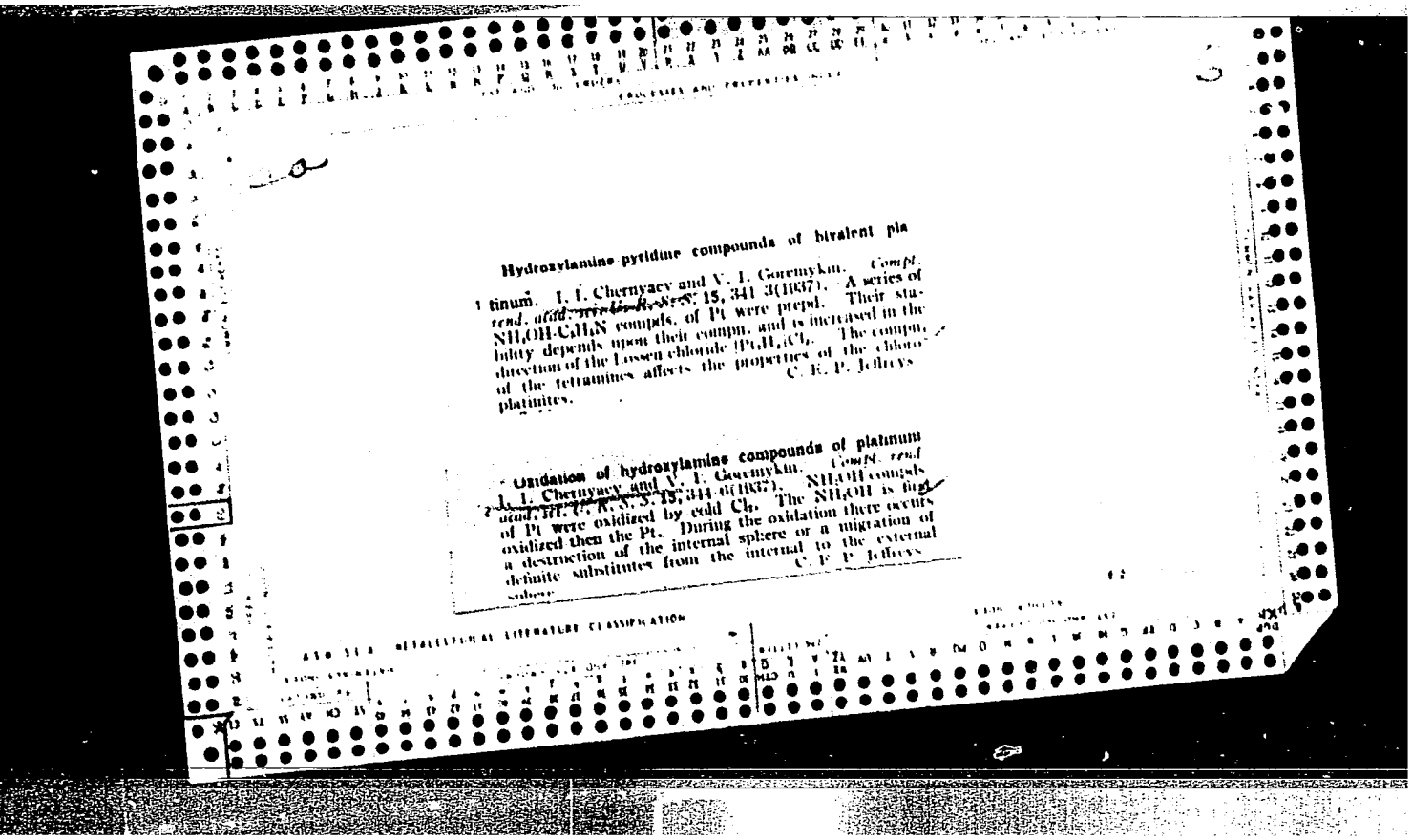
The reaction between ammonium salts and complex nitro compounds of cobalt. I. I. Chernyaev and Ya. Ya. Plakhan. *Ann. secteur platine. Inst. chim. gén.* (U. S. S. R.) No. 14, 123–56(1937).—When $[(NH_3)_4CoNO_2Cl]Cl$, trans $[(NH_3)_4CoNO_2Cl]Cl$, cis and trans $[(NH_3)_4Co(NO_2)_2]Cl$ and $NH_4[(NH_3)_2Co(NO_2)_4]$ are treated with NH_4 halide solns. at 100°, the NO_2 groups are replaced one at a time by the halide, and the NH_4NO_2 formed decomps. to give N_2. With NH_4Cl and NH_4Br the substitution is incomplete and the yield of N_2 is low. With NH_4Br, trans compds. give more N_2 than their cis isomers. With NH_4I the yield of N_2 is quant., and this reagent can be used for the detn. of NO_2 groups, as with Pt, Ir and Rh. NH_4F does not give this reaction. $(NH_4)_2SO_4$ and $NH_4H_2PO_4$ give low yields of N_2. $NH_4H_2PO_4$ requires a very high temp. before reaction occurs, and partial reduction of Co also takes place. Acid solns. and prolonged heating have little or no effect on the reaction. The 1st NO_2 group in these complexes splits more rapidly and easily than the later ones.

H. M. Leicester



Hydroxylamine pyridine compounds of bivalent pla

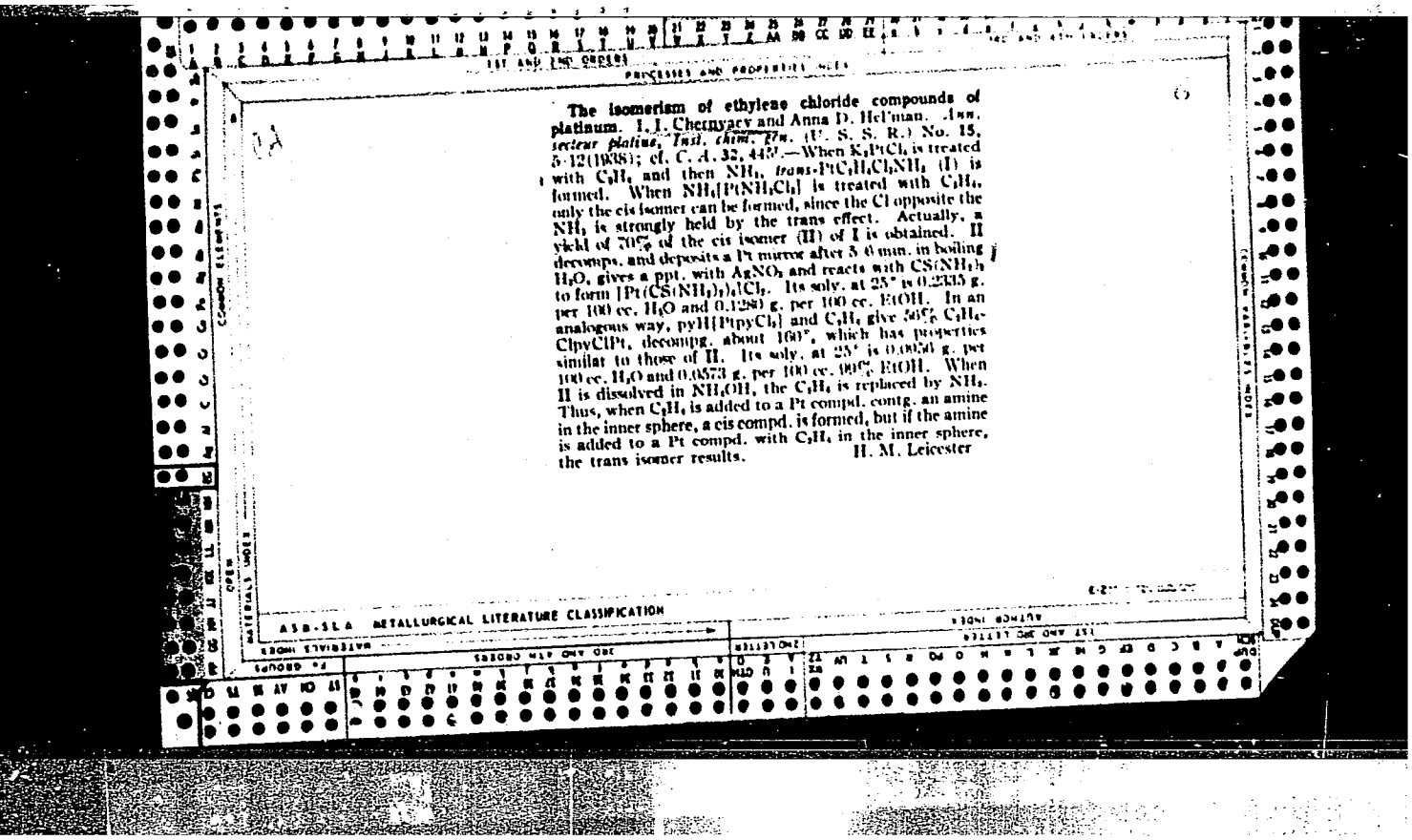
tinum. I. I. Chernyaev and V. I. Goremykin. *Compt. rend. acad. sci. U.R.S.S.* 15, 341-3(1937). A series of $NH_2OH \cdot CsH_5N$ compds. of Pt were prepd. Their stability depends upon their compn. and is increased in the direction of the Lossen chloride $[Pt(H_2O)_4]Cl_2$. The compn. of the tetrammines affects the properties of the chloro- platinites.

C. R. P. Jeffreys

Oxidation of hydroxylamine compounds of platinum

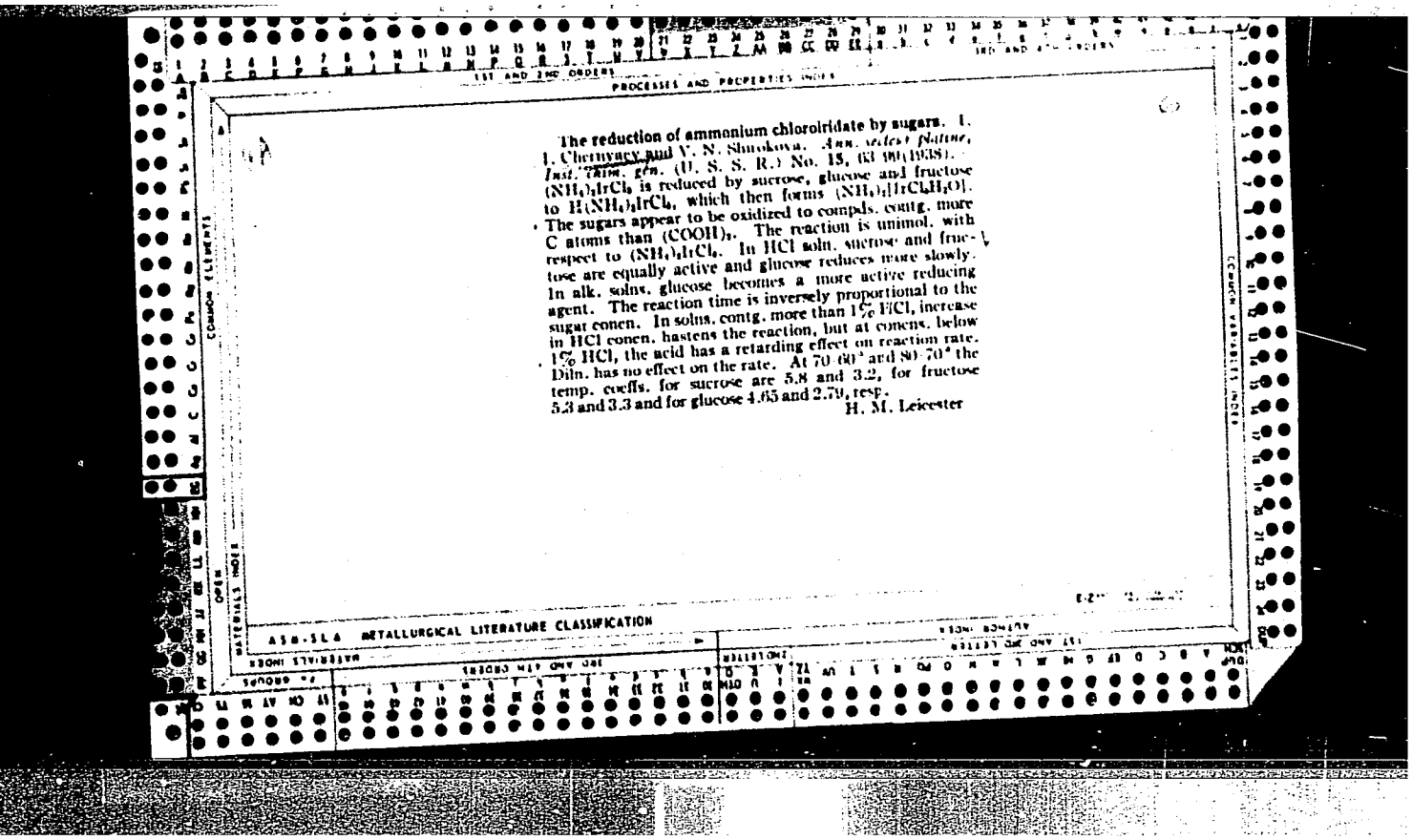
I. I. Chernyaev and V. I. Goremykin. *Compt. rend. acad. sci. U.R.S.S.* 15, 344-6(1937). NH_2OH compds. of Pt were oxidized by cold Cl_2. The NH_2OH is first oxidized then the Pt. During the oxidation there occurs a destruction of the internal sphere or a migration of definite substituents from the internal to the external sphere.

C. R. P. Jeffreys



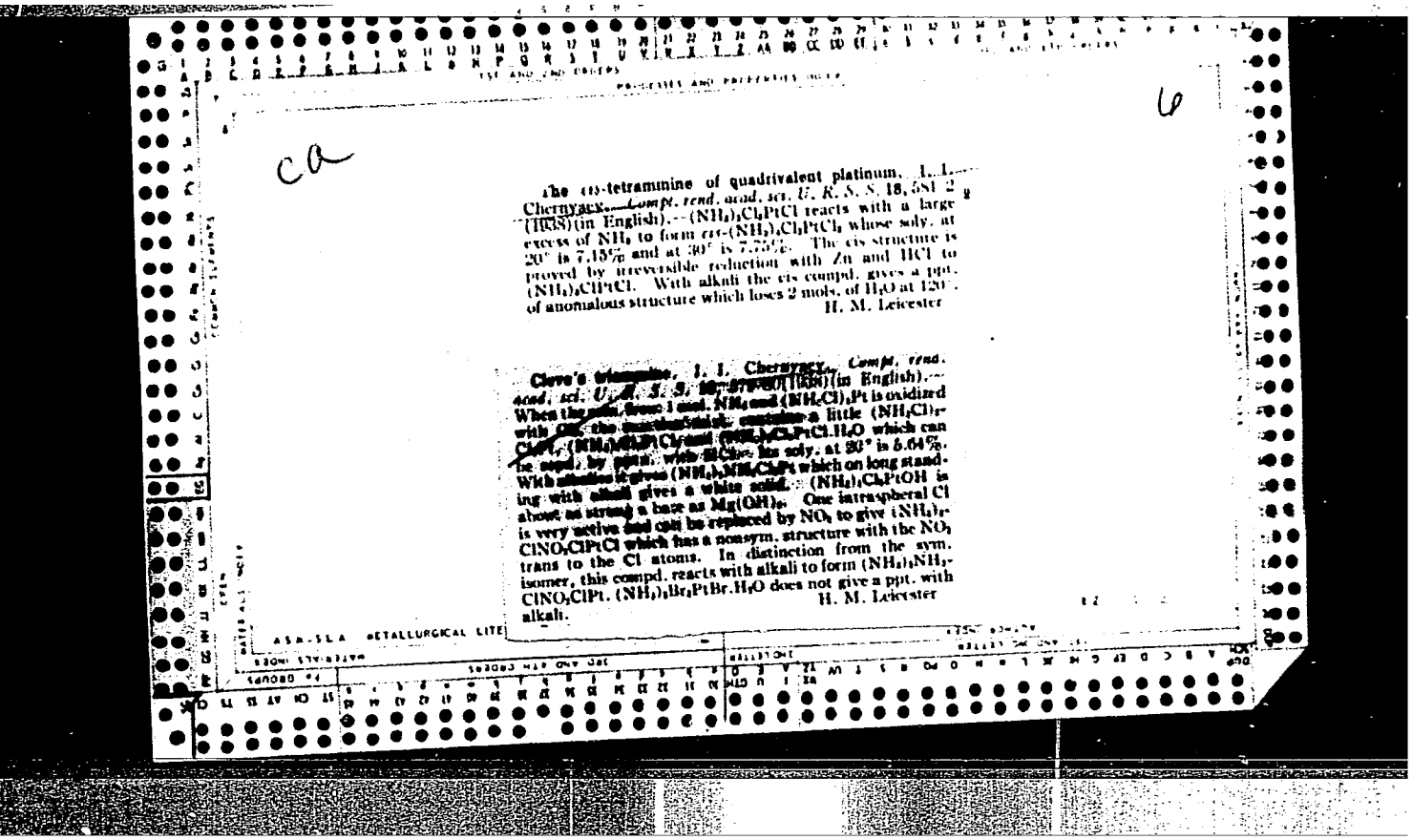
The isomerism of ethylene chloride compounds of platinum. I. I. Chernyaev and Anna D. Hel'man. *Inst. sectsar platiny, Inst. chim. Fin.* (U. S. S. R.) No. 15, 5-12(1938); cf. C. A. 32, 445⁹.—When K_2PtCl_4 is treated with C_2H_4 and then NH_4, *trans*-$PtC_2H_4Cl_2NH_3$ (I) is formed. When $NH_4[PtNH_3Cl_3]$ is treated with C_2H_4, only the cis isomer can be formed, since the Cl opposite the NH_3 is strongly held by the trans effect. Actually, a yield of 70% of the cis isomer (II) of I is obtained. II decomps. and deposits a Pt mirror after 5 0 min. in boiling H_2O, gives a ppt. with $AgNO_3$ and reacts with $CS(NH_2)_2$ to form $[Pt(CS(NH_2)_2)_4]Cl_2$. Its soly. at 25° is 0.2335 g. per 100 cc. H_2O and 0.1280 g. per 100 cc. EtOH. In an analogous way, $pyH[PtpyCl_3]$ and C_2H_4 give 50% C_2H_4-ClpyClPt, decomps. about 160°, which has properties similar to those of II. Its soly. at 25° is 0.0050 g. per 100 cc. H_2O and 0.0573 g. per 100 cc. 99% EtOH. When II is dissolved in NH_4OH, the C_2H_4 is replaced by NH_3. Thus, when C_2H_4 is added to a Pt compd. contg. an amine in the inner sphere, a cis compd. is formed, but if the amine is added to a Pt compd. with C_2H_4 in the inner sphere, the trans isomer results.

H. M. Leicester



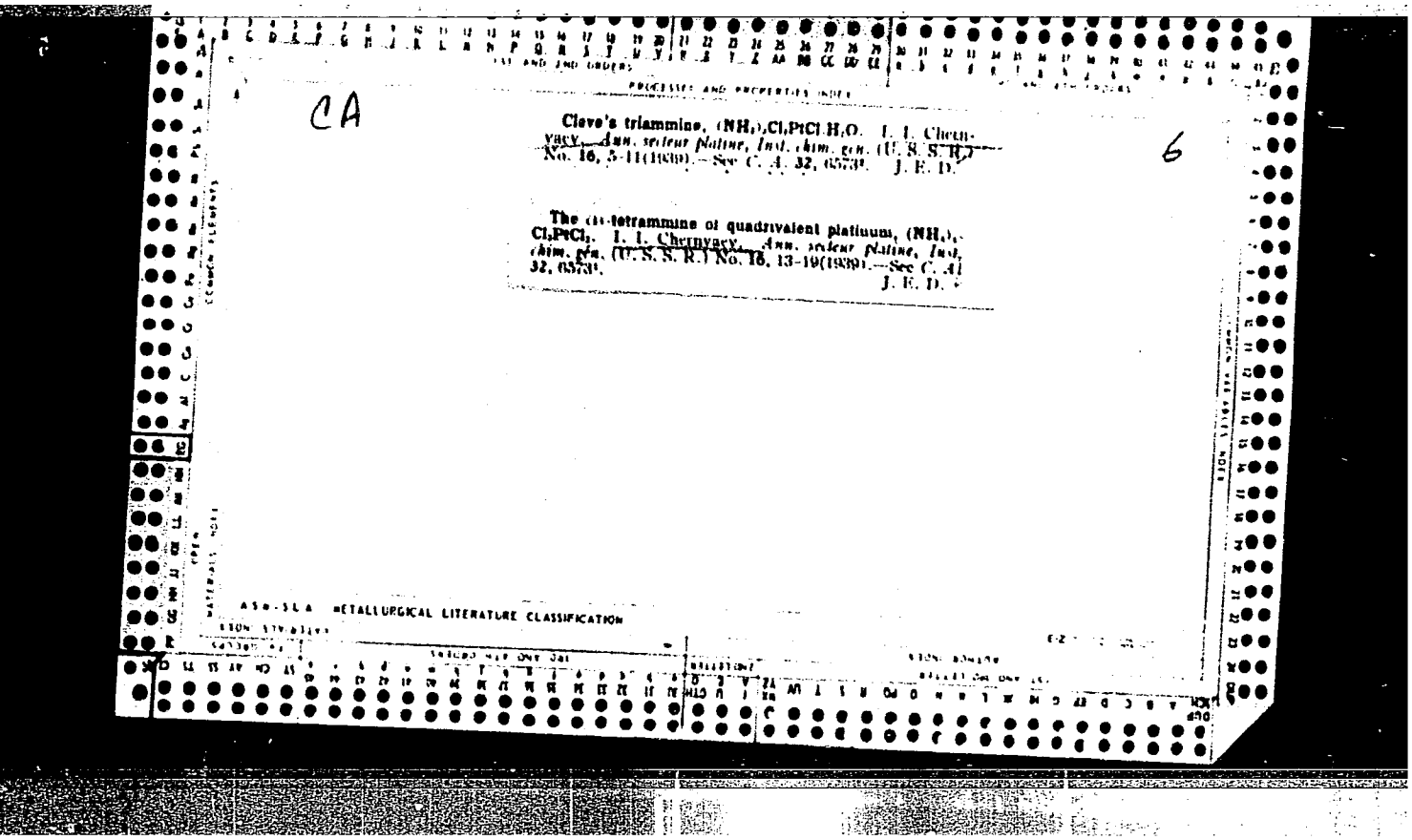
The reduction of ammonium chloroiridate by sugars. I. I. Chernyaev and V. N. Shmokova. *Ann. sektsii platiny, Inst. Obshch. neorg.* (U. S. S. R.) No. 15, 63–90 (1938). $(NH_4)_3IrCl_6$ is reduced by sucrose, glucose and fructose to $H(NH_4)_2IrCl_6$, which then forms $(NH_4)_2[IrCl_5H_2O]$. The sugars appear to be oxidized to compds. contg. more C atoms than $(COOH)_2$. The reaction is unimol. with respect to $(NH_4)_3IrCl_6$. In HCl soln. sucrose and fructose are equally active and glucose reduces more slowly. In alk. solns. glucose becomes a more active reducing agent. The reaction time is inversely proportional to the sugar concn. In solns. contg. more than 1% HCl, increase in HCl concn. hastens the reaction, but at concns. below 1% HCl, the acid has a retarding effect on reaction rate. Diln. has no effect on the rate. At 70–80° and 80–70° the temp. coeffs. for sucrose are 5.8 and 3.2, for fructose 5.3 and 3.3 and for glucose 4.65 and 2.79, resp.

H. M. Leicester



The cis-tetrammine of quadrivalent platinum. L. I. Chernyaev. *Compt. rend. acad. sci. U. R. S. S.* 18, 581-2 (1938)(in English).—$(NH_3)_2Cl_2PtCl$ reacts with a large excess of NH_3 to form cis-$(NH_3)_2Cl_2PtCl_2$ whose soly. at 20° is 7.15% and at 30° is 7.55%. The cis structure is proved by irreversible reduction with Zn and HCl to $(NH_3)_2ClPtCl$. With alkali the cis compd. gives a ppt. of anomalous structure which loses 2 mols. of H_2O at 120°.
H. M. Leicester

Cleve's triammine. L. I. Chernyaev. *Compt. rend. acad. sci. U. R. S. S.* 18:577-80(1938)(in English).—When the soln. from 1 mol. NH_4 and $(NH_4Cl)_2Pt$ is oxidized with Cl_2, the mother-liquor contains a little $(NH_4Cl)_2$-Cl_2PtCl_2, $(NH_4)_2Cl_2PtCl$ and $(NH_4)_2Cl_2PtCl.H_2O$ which can be sepd. by ppn. with HCl; its soly. at 30° is 6.64%. With alkalies it gives $(NH_4)_2NH_2ClPt$ which on long standing with alkali gives a white solid. $(NH_4)_2Cl_2PtOH$ is about as strong a base as $Mg(OH)_2$. One intraspheral Cl is very active and can be replaced by NO_3 to give $(NH_4)_2$-$ClNO_3ClPtCl$ which has a nonsym. structure with the NO_3 trans to the Cl atoms. In distinction from the sym. isomer, this compd. reacts with alkali to form $(NH_4)_2NH_2$-$ClNO_3ClPt$. $(NH_3)_4Br_2PtBr_2.H_2O$ does not give a ppt. with alkali.
H. M. Leicester



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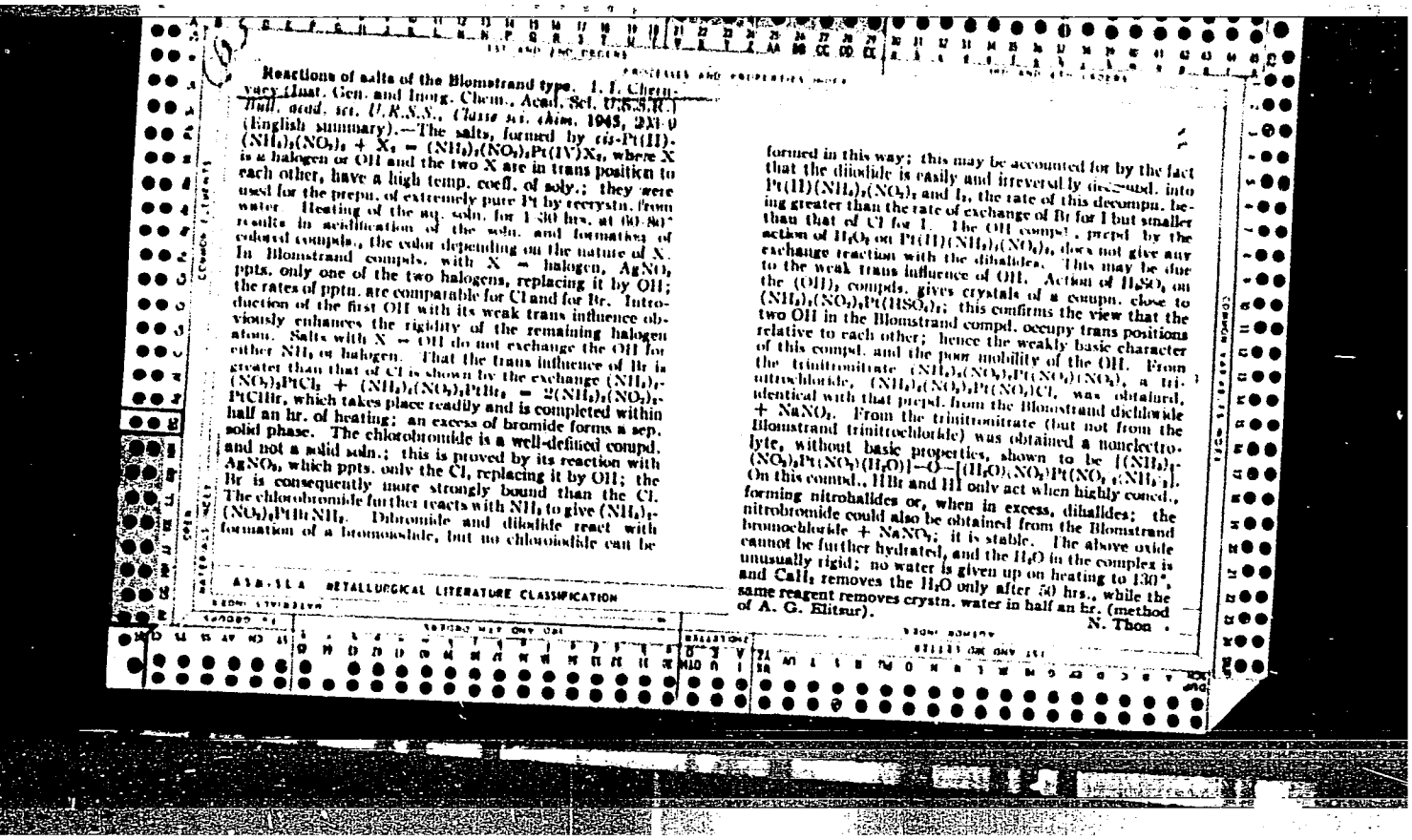
Cleve's triammine, $(NH_3)_3Cl_2PtCl.H_2O$. I. I. Chernyaev. *Ann. secteur Platine, Inst. chim. gén.* (U. S. S. R.) No. 16, 5-11(1939).—See C. A. 32, 6573⁹. J. E. D.

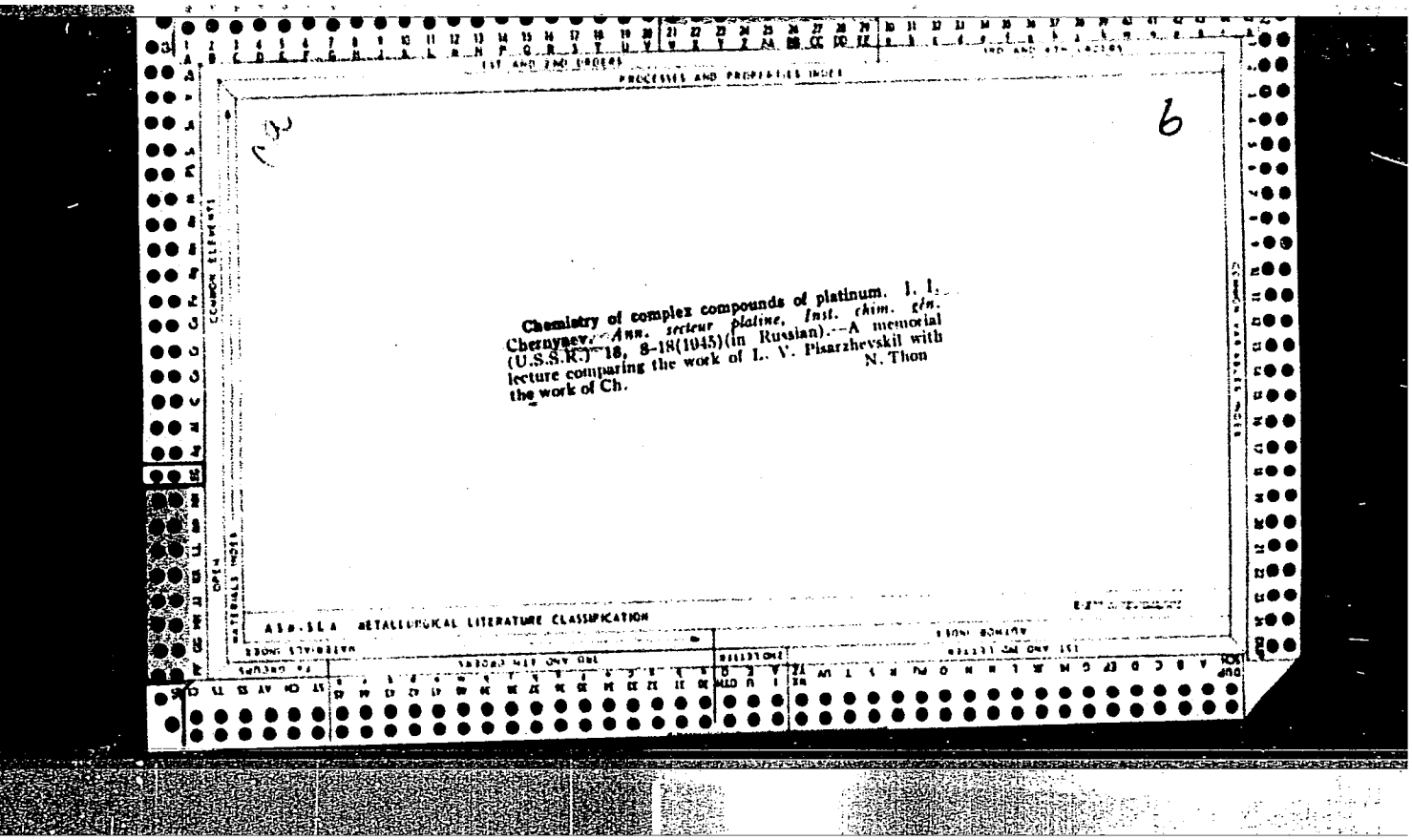
The cis-tetrammine of quadrivalent platinum, $(NH_3)_4Cl_2PtCl_2$. I. I. Chernyaev. *Ann. secteur Platine, Inst. chim. gén.* (U. S. S. R.) No. 16, 13-19(1939).—See C. A. 32, 6573⁹. J. E. D.

A50-51A METALLURGICAL LITERATURE CLASSIFICATION

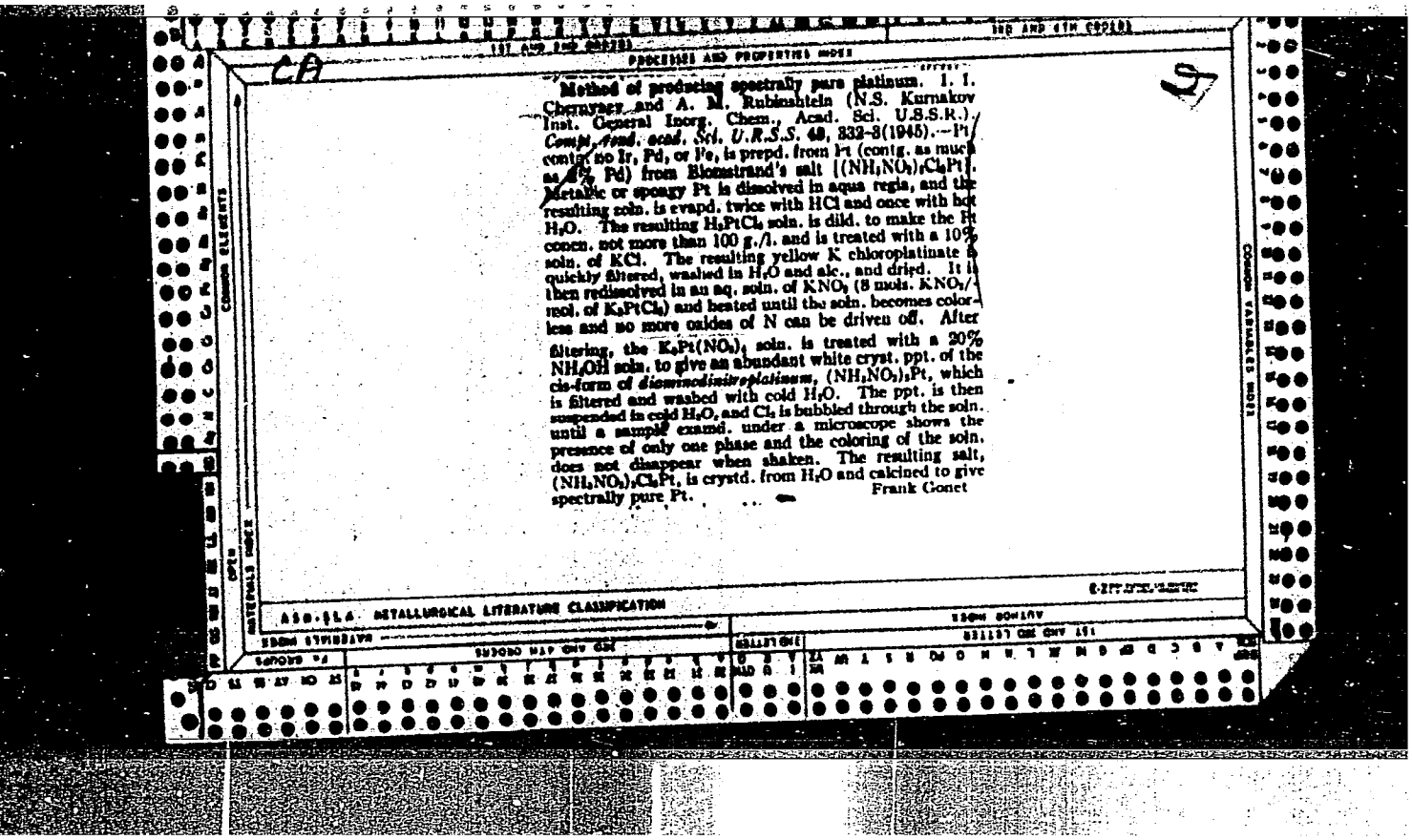


Reactions of salts of the Blomstrand type. I. I. Chernyaev (Inst. Gen. and Inorg. Chem., Acad. Sci. U.R.S.S.) *Bull. acad. sci. U.R.S.S., Classe sci. chim.* **1945**, 220 (English summary).—The salts, formed by *cis*-Pt(II)-$(NH_3)_2(NO_3)_2$ + X_2 = $(NH_3)_2(NO_3)_2Pt(IV)X_2$, where X is a halogen or OH and the two X are in trans position to each other, have a high temp. coeff. of soly.; they were used for the prepn. of extremely pure Pt by recrystn. from water. Heating of the aq. soln. for 1-30 hrs. at 60-80° results in acidification of the soln. and formation of colored compds., the color depending on the nature of X. In Blomstrand compds. with X = halogen, $AgNO_3$ ppts. only one of the two halogens, replacing it by OH; the rates of pptn. are comparable for Cl and for Br. Introduction of the first OH with its weak trans influence obviously enhances the rigidity of the remaining halogen atom. Salts with X = OH do not exchange the OH for either NH_3 or halogen. That the trans influence of Br is greater than that of Cl is shown by the exchange $(NH_3)_2(NO_3)_2PtCl_2$ + $(NH_3)_2(NO_3)_2PtBr_2$ = $2(NH_3)_2(NO_3)_2PtClBr$, which takes place readily and is completed within half an hr. of heating; an excess of bromide forms a sep. solid phase. The chlorobromide is a well-defined compd. and not a solid soln.; this is proved by its reaction with $AgNO_3$, which ppts. only the Cl, replacing it by OH; the Br is consequently more strongly bound than the Cl. The chlorobromide further reacts with NH_3 to give $(NH_3)_2(NO_3)_2PtBrNH_2$. Dibromide and dihalide react with formation of a bromoiodide, but no chloroiodide can be formed in this way; this may be accounted for by the fact that the diiodide is easily and irreversibly decompd. into Pt(II)$(NH_3)_2(NO_3)_2$ and I_2, the rate of this decompn. being greater than the rate of exchange of Br for I but smaller than that of Cl for I. The OH compd., prepd. by the action of H_2O_2 on Pt(II)$(NH_3)_2(NO_3)_2$, does not give any exchange reaction with the dihalides. This may be due to the weak trans influence of OH. Action of H_2SO_4 on the (OH)$_2$ compds. gives crystals of a compn. close to $(NH_3)_2(NO_3)_2Pt(HSO_4)_2$; this confirms the view that the two OH in the Blomstrand compd. occupy trans positions relative to each other; hence the weakly basic character of this compd. and the poor mobility of the OH. From the trinitronitrate $(NH_3)_2(NO_3)_2Pt(NO_2)(NO_3)$, a trinitrochloride, $(NH_3)_2(NO_3)_2Pt(NO_2)Cl$, was obtained, identical with that prepd. from the Blomstrand dichloride + $NaNO_2$. From the trinitronitrate (but not from the Blomstrand trinitrochloride) was obtained a nonelectrolyte, without basic properties, shown to be $[(NH_3)_2(NO_3)_2Pt(NO_2)(H_2O)]_2O$—$[(H_2O)(NO_2)Pt(NO_2)_2(NH_3)_2]$. On this compd., HBr and HI only act when highly concd., forming nitrohalides or, when in excess, dihalides; the nitrobromide could also be obtained from the Blomstrand bromochloride + $NaNO_2$; it is stable. The above oxide cannot be further hydrated, and the H_2O in the complex is unusually rigid; no water is given up on heating to 130°, and CaH_2 removes the H_2O only after 50 hrs., while the same reagent removes crystn. water in half an hr. (method of A. G. Elitsur).

N. Thon



Chemistry of complex compounds of platinum. I. I. Chernyaev. *Ann. secteur platine, Inst. chim. gén.* (U.S.S.R.) 13, 8-18(1945)(in Russian).--A memorial lecture comparing the work of L. V. Pisarzhevskii with the work of Ch. N. Thon



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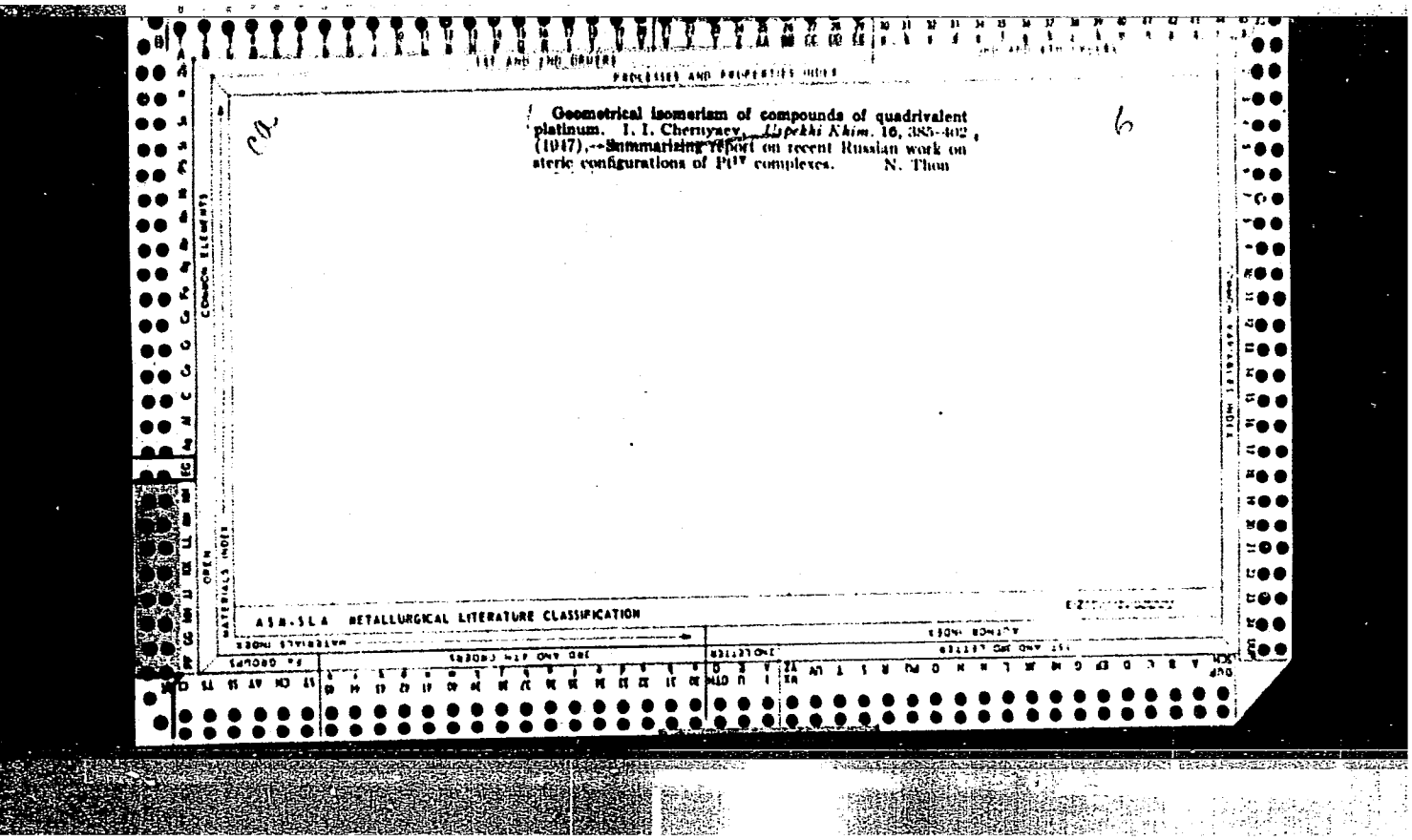
Method of producing spectrally pure platinum. I. I. Chernyaev and A. M. Rubinshtein (N.S. Kurnakov Inst. General Inorg. Chem., Acad. Sci. U.S.S.R.). *Compt. rend. acad. Sci. U.R.S.S.* 48, 332-3(1945).—Pt contg. no Ir, Pd, or Fe, is prepd. from Pt (contg. as much as 4% Pd) from Blomstrand's salt $[(NH_4NO_2)_2PtCl_4]$. Metallic or spongy Pt is dissolved in aqua regia, and the resulting soln. is evapd. twice with HCl and once with hot H_2O. The resulting H_2PtCl_6 soln. is dild. to make the Pt concn. not more than 100 g./l. and is treated with a 10% soln. of KCl. The resulting yellow K chloroplatinate is quickly filtered, washed in H_2O and alc., and dried. It is then redissolved in an aq. soln. of KNO_2 (8 mols. KNO_2/1 mol. of K_2PtCl_6) and heated until the soln. becomes colorless and no more oxides of N can be driven off. After filtering, the $K_2Pt(NO_2)_4$ soln. is treated with a 20% NH_4OH soln. to give an abundant white cryst. ppt. of the cis-form of *diammodinitroplatinum*, $(NH_3NO_2)_2Pt$, which is filtered and washed with cold H_2O. The ppt. is then suspended in cold H_2O, and Cl_2 is bubbled through the soln. until a sample examd. under a microscope shows the presence of only one phase and the coloring of the soln. does not disappear when shaken. The resulting salt, $(NH_3NO_2)_2PtCl_2Pt$, is crystd. from H_2O and calcined to give spectrally pure Pt. Frank Gonet

CA

Optical activity of compounds of quadrivalent platinum. I. I. Chernyaev and I. P. Litvak. *Izvest. Sektora Platiny i Drug. Blagorod. Metal., Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* (Inst. Platinum, Other Noble Metals, Acad. Sci. U.S.S.R.) No. 20, 107–14 (1948)(Pub. 1947). The purpose of this investigation was to det. the coeff. of amido inversion (ρ) for some ammino compds. in order to establish that its value is independent of the nature of acidic substituents and the geometric configuration of the mol. ρ is defined as the ratio of mol. rotations $[M]_D^{amido}/[M]_D^{amino}$. The optical antipodes of $EnNH_2NO_2ClNO_2PtN$ (I) were sepd. by crystn. of the tartrate. $[M]_D$ of *d*-I tartrate was 75.08°. I dissolved in HCl and repptd. with NaOH gave $EnNH_2NO_2ClNO_2Pt$, in a soln. contg. a slight excess of HCl $[M]_D^0$ = 40.52° while in a soln. contg. NaOH $[M]_D$ = −41.3°; thus ρ = 1.02. *d*-I chloride obtained from the tartrate had $[M]_D^0$ = 31.30°. Upon addn. of NaOH $[M]_D$ = −40.56°, thus ρ = 1.30. The mother liquor after removing *d*-I was evapd. with HCl at room temp., yielding *l*-I chloride, $[M]_D^0$ = −33.30 and, upon adding NaOH, $[M]_D$ = −39.72°, thus ρ = 1.19. Detns. analogous to the ones made on the chlorides were made on nitrates. The results were: *d*-I nitrate, $[M]_D^0$ 34.87°, $[M]_D$ 43.01°, and ρ 1.23; *l*-I nitrate $[M]_D^0$ −24.75°, $[M]_D$ 30.67°, and ρ 1.24. In an analogous manner $EnMeNH_2NO_2ClNO_2PtCl$ (II) was synthesized and the antipodes were sepd. by crystn. of the tartrate. For *d*-II tartrate $[M]_D$ = 3.67°; for *l*-II chloride $[M]_D^0$ = −1.75°. Upon addn. of NaOH $[M]_D$ = 11.72° (= imide) and ρ = 6.7. For *d*-II chloride $[M]_D$ = 1.03° and for the imide $[M]_D$ = 11.08°, thus ρ = 7.25. $EnNO_2ClMeNH_4PtCl$ (III) 1.5 H_2O was synthesized. For *d*-III chloride $[M]_D^0$ = 1.77°, for the imide $[M]_D$ = −12.85°, and ρ = 7.26. For *l*-III chloride $[M]_D^0$ = −13.4°, for the imide $[M]_D$ = 93.61°, thus ρ = 7.00. Thus ρ for amido inversion has an av. value of 1.2 and for imido inversion is around 7. M. Hosch

1951



Geometrical isomerism of compounds of quadrivalent platinum. I. I. Chernyaev, *Uspekhi Khim.* 16, 385–402 (1947).—Summarizing report on recent Russian work on steric configurations of Pt^{IV} complexes. N. Thon

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

The trans-effect principle. I. I. Chernyaev. *Izvest. Sektora Platiny i Drugikh Blagorodnykh Metal., Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* No. 21, 27-31(1948).—Chem. bonds can be polar asymmetric, i.e., their strength can be different in opposite directions. Within groups of the periodic system the intensity of the trans effect increases with the at. no. The intense trans effect of R is responsible for the formation of compds. of the type $[RMCl_5]_0$, where R is, e.g., $CS(NH_2)_2$, C_6H_5, CO, NO, Bu_3P, Bu_3As, Me_2P, Me_2As. Cf. Chatt, *et al.*, *C.A.* **39**, 2439[8], 2434[1]; **34**, 1370[8]. M. Hosch

The work of N. S. Kurnakov on complex compounds. I. I. Chernyaev. *Izvest. Sektora Platiny i Drugikh Blagorodnykh Metal., Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* No. 21, 7-11(1948).—Biographical. M. Hosch

CHERNYAYEV, I. I.

USSR/Chemistry - Platinum Compounds Apr 1948
Chemistry - Stability

"Compounds of Bivalent Platinum and Hydrazide of Carbonic Acid," Academician I. I. Chernyayev, A. I. Mashentsev, Inst Gen and Inorg Chem imeni N. S. Kurnakov, Acad Sci USSR, 4 pp

"Dokl Akad Nauk SSSR, ~~Nova Ser~~" Vol LX, No 2 p. 243-6

Study of the reaction of complex-formed hydrazide of carbonic acid used in the form of ammonia salt $NH_4SCSNHNH_2$. There was rapid disintegration of the hydrazide and precipitation of metals forming undetermined chemical compound. Stability and purity of the prepared compound depend greatly on time factor,

62T4

USSR/Chemistry - Platinum Compounds (Contd) Apr 1948

and the method used in separating it from solution. Submitted, 14 Jan 1948.

62T4

CHERNYAYEV, I. I. Acad

PA 36/49T8

USSR/Chemistry - Platinum Compounds, Amino Chemistry - Heat Capacity — Sep 48

"Heat Capacity of Dispersed Isomers of Platinum Diamino Chloride," Acad I. I. Chernyayev, V. A. Sokolov, N. Ye. Shmidt, G. S. Muraveyskaya, Inst Gen and Inorg Chem imeni N. S. Kurnakov, Acad Sci USSR, 4 pp

"Dok Ak Nauk SSSR" Vol LXII, No 2 pp. 235-8

Studied heat capacities of cis- and trans- isomers of platinum diamino-dichloride. Expected heat capacity of Peyrone chloride to be greater than that of the chloride of Reiset's second base (the trans-isomer), for the temperature range between absolute

[redacted] 36/49T8

USSR/Chemistry - Platinum Compounds, Amino (Contd) — Sep 48

zero and temperature of isomerization. However, they were identical. Concludes that, for any temperature, difference in isobaric potentials of these substances, equal to difference of their total energy, is fully determined by the heating effect of the isomerization reaction. Submitted 13 Jul 48.

[redacted] 36/49T8

CHERNYAYEV, I. I.

21448 CHERNYAYEV, I. I.; i ADRIANOVA, O. N.

O geometricheskoy izomerii triamina sostava (En. NH_2 Pt Sl Br NO_3)
Cl. Soobshch. 1. Izvestiya Sektora platiny i drugikh blagorod.
Metallov (In - t. obshchey i neorgan. khimii im. Kurnakova),
Vyp. 23, 1949, s. 9 - 38. Bibliogr: 9 NAZV.

SO: Letopis' Zhurnal'nykh Statey, No. 29, Moskva, 1949