YERMOL'YEVA, Z. V.; BRAUDE, A. I.; VEDMINA, Ye. A.; FURER, N. M.; VAYSBERG, G. Ye.

"The problems of antibiotica, interferon, bacterial polysaccharides and the resistance of microorganisms."

report presented at 4th Intl Cong, Hungarian Soc of Microbiologists, Budapest, 30 Sep-3 Oct 64.

Inst of Advanced Medical Education, Moscow.

ACCESSION NR: AP4034547 S/0020/64/155/005/1188/1191

AUTHOR: Braude, A. I.

TITLE: The influence of a single total gamma irradiation dose of the body on macrophages

SOURCE: AN SSSR. Doklady*, v. 155, no. 5, 1964, 1188-1191, and top half of insert facing p. 1190

TOPIC TAGS: gamma irradiation, macrophage, macrophage enzymatic activity, macrophage digestive activity, mouse macrophage, Bacillus coli, post irradiation macrophage, macrophage number

ABSTRACT: The effect of radiation on this part of the protective system of the organism has been insufficiently studied, since only absorptive, not functional digestive capacity of macrophages has been investigated under these conditions. The present work concerns the functional-cytochemical study of macrophages from the abdominal cavity of mice, removed during one month after applying a 600 r dose which led to the death of most of the 800 animals with 9-12 days. The macrophages were counted and cultivated in vitro for a considerable length of time, and their

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ACCESSION NR: AP4034547

phagocytic and digestive activity determined by means of Bacillus coli. The test conditions are described. One part of the mice was also injected with the polysaccharide prodigiosan or with cortisone prior to sacrificing. The results showed the macrophage number considerably lower in the test animals, compared to controls, as early as one day after irradiation. Their absorptive capacity differed little from that of controls while digestive ability was considerably reduced. Cytochemical investigation showed no significant diminution of enzymatic activity. Cortisone decreased acid phosphatase activity considerably while the polysaccharide increased both digestive and acid phosphatase activity. Since digestive capacity was lowered in the irradiated animals without diminution of enzymatic capacity another mechanism must be at work. This will be discussed at a later date. Orig. art. has: 1 table and 2 figures.

ASSOCIATION: Central'ny*y institut usovershenstvovaniya vrachey (Central Institute for Advanced Training of Physicians)

SUBMITTED: 020ct63 ENCL: 00

SUB CODE: LS NO REF SOV: 005 OTHER: 006

Card 2/2

BRAUDE, A.I.

Effect of a single total-body gamma irradiation on macrophages.
Dokl. AN SSSR 155 no. 5:1188-1191 Ap '64. (MIRA 17:5)

1. TSentral'nyy institut usovershenstvovaniya vrachey.
Predstavleno akademikom N.N.Anichkovym.

YERMOL'YEVA, Z.V.; FURER, N.M.; RAVICH, I.V.; NAVASHIN, S.M.; BRAUDE, A.I.; FOMINA, I.P.; ZHUKOVSKAYA, N.A.; BALEZINA, T.I.; VED'MINA, Ye.A.; GOLOSOVA, T.V.; NEMIROVSKAYA, B.M.; TERENT'YEVA, T.G.

Experimental study and clinical use of lysozyme. Antibiotiki 8 no.1:39-45 Ja'63. (MIRA 16:6)
(LYSOZYME)

YERMOL'YEVA, Z.V.; FURER, N.M.; FADEYEVA, L. [illegible]; BRAUN, [illegible]; BA[illegible]NA, T.I.

Prospects for the search and use of interferon, bacterial polysaccharides and antibiotics in the control of virus infections. Vop.med.virus. no.8:129-13[illegible] '63.

(MIRA 17:10)

[illegible], A. [illegible], [illegible], G. [illegible]

Experimental data on some [illegible] of the effect of [illegible] in experimental [illegible] [illegible] vir. [illegible] '63. (MIRA [illegible])

ZAVENYAGINA, Ye.A.; BRAUDE, A.I.

Studies on the effect of tetracycline antibiotics, neomycin and levomycetin on regenerative properties and cytochemical properties of macrophages. Antibiotiki 10 no.1:53-58 Ja '65.
(MIRA 18:4)

1. Laboratoriya meditsinskoy tsitologii (zav. - A.I.Braude) pri kafedre mikrobiologii (zav. - deystvitel'nyy chlen AMN SSSR prof. Z.V.Yermol'yeva) TSentral'nogo instituta usovershenstvovaniya vrachey, Moskva.

YERMOL'YEVA, Z.V.; VAYSBERG, G.Ye.; BRAUDE, A.I.; RAVICH, I.V.; GOLOSOVA, T.V.; PASTERNAK, N.A.

Effect of bacterial polysaccharides on the growth of experimental tumors. Antibiotiki 10 no.2:134-137 F '65.
(MIRA 18:5)

1. Kafedra mikrobiologii TSentral'nogo instituta usovershenstvovaniya vrachey, Moskva.

YERMOL'YEVA, Z.V.; FURER, N.M.; VAYSBERG, G.Ye.; NEMIROVSKAYA, B.M.; BRAUDE, A.I.; FOMINA, I.P.; BAIEZINA, T.I.; FADEYEVA, L.L.; TORIYA, L.K.; KORABEL'NIKOVA, N.I.

Acetoxane and interferon in virus infections. Trudy TSIU 68:145-149 '64. (MIRA 18:5)

L 24138-66 EWT(1)/T JK

ACC NR: AP6014658 SOURCE CODE: UR/0297/65/010/002/0134/0137

AUTHOR: Yermol'yeva, Z. V.—Ermolieva, Z. V.; Vaysberg, G. Ye.—Vaisberg, G. E.; Braude, A. I.; Ravich, I. V.; Golosova, T. V.; Pasternak, N. A.

ORG: Department of Microbiology, Central Institute of Advanced Training for Physicians, Moscow (Kafedra mikrobiologii Tsentral'nogo instituta usovershenstvovaniya vrochey)

TITLE: Effect of bacterial polysaccharides on the growth of tumors in an experiment

SOURCE: Antibiotiki, v. 10, no. 2, 1965, 134-137

TOPIC TAGS: carbohydrate, tumor, bacteria, mouse, drug effect, electron microscope

ABSTRACT: Investigations established that the development of neoplasms is accompanied by the suppression of the protective powers of the organism, the reticuloendothelial system in particular. This indicates that specific therapy of the tumors should be accompanied by attempts to stimulate the defense system of the organism. With this end in view experiments were conducted to determine the effect of prodigiosin, a polysaccharide preparation obtained from Bacterium prodigiosum -- a nonpathogenic microorganism, on Ehrlich's and sarcoma 180 tumors. Mice were used in the experiments. The intraperitoneal method of administration was found to be the most effective, and was therefore applied throughout the experiment. The drug was administered to the animals in doses of 10 and 50 micrograms at various periods: two hours prior to, and 24, 48, and 72 hours after the implantation

Card 1/2 UDC: 615.779.925-092.18: 616-006-018

L 24138-66

ACC NR: AP6014658

of the tumor. The experiments established that prodigiosin was most effective when administered 24 hours after the implantation of the tumor: doses of 10 micrograms inhibited the growth of sarcoma 180 by 49 percent, while doses of 50 micrograms inhibited the growth of the tumor by 42 percent; its effect on Ehrlich's tumor was more pronounced. Larger doses did not increase the efficacy of the preparation. Electron microscopic and cytochemical investigations established that prodigiosin does not directly affect the tumor cells. It is thought, therefore, that its inhibiting effect on tumor growth is due mainly to the stimulating action of the drug on the protective powers of the organism, including those of the reticuloendothelial system. It is the authors' opinion that the preparation will eventually be clinically applied, particularly since its LD_{50} exceeds the therapeutic dose by about 50 times. Orig. art. has: 2 tables. [JPRS]

SUB CODE: 06 / SUBM DATE: 27Oct64 / ORIG REF: 004

Card 2/2

JERMOLJEVOVA, Z.V.; BRAUDE, A.J.; VAJSBERG, G.E.; RADIC, J.V.; SOBOLEV, V.R.; FURER, N.M.

New antibiotics and other biologically active natural substances in the USSR. Cas. lek. cesk. 104 no.12:337-339 2 Ap '65.

KHODZHAYEV, G.Kh.; DMITRIYEV, P.P.; OSIPOVA, M.I.; CHERNOV, M.F.; BRAUDE, A.N.; MAT'YAKUBOV, D.; SAMATOV, A.; SAMSONOVA, L.M.

Petroleum from Khartum fields. Uzb.khim.zhur. no.1:71-77 '59. (MIRA 12:6)

1. Institut khimii AN UzSSR.
(Fergana—Petroleum—Analysis)

MIKHAYLOV, D.M.; YEGOROV, O.P.; BRAUDE, B.S.

Rotor brushes for destroying weed plants. Trakt. i sel'khozmash. 32 no.2:34-35 F '62. (MIRA 15:2)
(Agricultural machinery)

BRAUDE, B. V.

PA 19T12

May 1946

USSR/Radio Transmitters
Electrostatics

"Potential Gradients in High Power Transmitters," Engr B. V. Braude, 21 pp

"Radiotekhnika" Vol I, No 2

Development of formulae for calculating potential gradients in order to determine the electrical strength of components of transmitting equipment, based on fundamental equations of electrostatics. Convenient formulae are presented for determining the gradients in switch blades, on the edges of condenser plates, etc.

19T12

BRAUDE, B. V. PA 19T26

USSR/Antennas - Resistance Aug 1946
Earth - Electrical properties

"Computation of the Total Resistance of an Antenna Taking into Account the Terminal Conductance of the Earth," Engr B. V. Braude, 12 pp

"Radiotekhnika" Vol I, No 5

The method presented here is based on the investigations of Hansen and Beckerley. The author points out an error in the work of Hansen and Beckerley and gives a corrected general formula for the computation of the input resistance. The general equation is applied in calculating a compact antenna with disc grounding.

19T26

BRAUDE, B. V. PA 20T57

USSR/Radio Oct/Nov 1946
Insulators
Antennas - Towers

"Theory of the Computation of Voltages on Insulators of Guyed Tower Antennas," B. V. Braude, Engr, 15 pp

"Radiotekhnika" Vol I, No 7/8

A theory for computing the voltages appearing across the break-up insulators of the guy wires of the tower antennas, with convenient computation formulas, with correction of the errors made in the earlier papers of Braun and the author on this problem.

20T57

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

SA

B 6 4

New wideband u.h.f. aerial for television. Braude, B. V. *Radiotekhnika*, 2, 8-21 (*Sept.-Oct.*, 1947) *In Russian*.—Novel Russian television aerials are described, designed for the 80-108-Mc/s band and consisting of a 3-storey turnstile system with short-circuited end flat elements built of spaced tubes, the storeys being λ/2 apart. Its dimensions are half those of a similar RCA type. The theory of a short-circuited plane resonator is given, and the experimental methods of measuring impedance variation with length and width of the resonator and wavelength are described. A. L.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

Tentative investigation of a complex transmitting system with tower aerials. Braude, B. Yu., Rubinchik, I. M., and Paushansky, M. M. *Radiotekhnika*, 2 (No. 6) 22-33 (1947) *In Russian*.—An u.h.f. 3-9 m transmitter with 4 tower aerials is described, the towers being operated either actively in phase or in pairs (the one active, the other a passive mirror image) as a directional system. Methods for measuring input impedances and phase velocities along the aerials are discussed. The operational span covers at least a 1–2 frequency range without any considerable fall in efficiency. Input resistances of tapering towers are < than those of comparable aerials with low and/or const. dia. radiators. Directional properties are satisfactory for a wide range of aerial base loading resistances so long as aerial height is ≮0·45 λ.

A. L.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

USSR/Radio Sep/Oct 1947

Antennas, Turnstile
Television - Apparatus

"A New Wide Band, Ultra Short Wave Antenna for Television," D. V. Braude, Candidate Tech Sci, 13½ pp

"Radiotekh" Vol II, No 7

Describes results of experimental research on new wide band flat plane radiator, in the form of two flat metal plates or lattices, set in the same plane, and fastened at the ends with the feeder lines running between the two fastened ends. Describes results of studies conducted on a model turnstile antenna, constructed with the above-described radiator. AMC 47791

BRAUDE, B.V.

An error in using integral equation methods in the theory of antennas.
Zhur.tekh.fiz.25 no.10:1819-1824 S '55. (MLRA 9:4)
(Antennas (Electronics)

BRAUDE, B.V.

Investigation of spiral television antennas. Trudy LPI no.181:18-39 '55. (MIRA 10:1)

(Television--Antennas)

BRAUDE, B.V.

Investigating feeder lines supplying power to television antennas.
Trudy LPI no.181:40-50 '56. (MLRA 10:1)
(Television--Antennas)

BRAUDE, B. V.

B. V. BRAUDE, N. A. Yespkina, N. L. Kaydanovskiy, S. E. Khaykin,"Investigation of the radio telescop with the variable reflector profile of the Main Astronomical Observatory An USSR." Scientific Session Devoted to "Radio Day", May 1958, Trudrezervizdat, Moscow, 9 Sep. 58

Results of a theoretical and experimental investigation of the directivity pattern and gain of a new radio telescope with high resolving power (pattern width at a 3 cm wavelength is of the order of one angular minute) proposed and realized by S. E. Khaikin and N. L. Kaidanovskii, are presented.

Specific peculiarities of the antenna system are analyzed from the viewpoint of forming the directivity pattern, in particular, the depandence of the pattern width in the vertical plane on the elevation.

A method of measuring the directivity characteristics and the gain at distances close to the antenna and by means of solar radio emission is described.

The peculiarity in the antenna reflector construction permits the influence of inaccuracies in the reflector surface on the basic characteristics of the antenna system to be investigated experimentally. Results are presented of a comparison of the appropriate measurements with computations.

The reasoning on the possibility of constructing a radio telescope with a directivity pattern width of the order of parts of an angular minute at microwave frequencies is presented.

9.1000

75340
SOV/57-29-10-17/18

AUTHOR: Braude, B. V.

TITLE: Letter to the Editor on the Subject of Paper by Gaponov, A. V., and Miller, M. A., Entitled "On Integration of an Equation for Currents in the Theory of Metallic Antennae"

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1959, Vol 29, Nr 10, pp 1289-1290 (USSR)

ABSTRACT: The writer of this Letter to the Editor states that the authors of the paper to which he refers (Ref 1) have erroneously quoted and misconstructed statements he made in his paper (Ref 2), which the authors discuss. There are 2 Soviet references.

SUBMITTED: January 26, 1957

Card 1/1 .

SALOMONOVICH, A.Ye.; BRAUDE, B.V.; YESEPKINA, N.A.

Measurement of the parameters of highly-directional antennas in the nearest zone. Radiotekh. i elektron. 9 no.6:1069-1076 Je '64. (MIRA 17:7)

L 18832-65 EWT(d)/FBD/FSS-2/EWT(l)/EEC(k)-2/EWG(v)/EEC-4/EEC(t)/ Pn-4/Po-4
Pe-5/Pac-4/Pg-4/Pae-2/Pt-10/Pi-4/Pl-4 RAEM(a)/AFETR/ESD/ASD(a)-5/APTC(b)/AFWL/
SSD/ESD(gs)/ESD(t) GW/WS

ACCESSION NR: AP4040916 S/0109/64/009/006/1069/1073

AUTHOR: Salomonovich, A. Ye.; Braude, B. V.; Yesepkina, N. A.

TITLE: Measuring the parameters of pencil-beam antennas at close range

SOURCE: Radiotekhnika i elektronika, v. 9, no. 6, 1964, 1069-1073

TOPIC TAGS: antenna, pencil beam antenna, radio astronomy, cosmic radio communication

ABSTRACT: In modern antennas developed for radio-astronomical and cosmic-communication purposes, the ratio of the aperture linear dimensions to the wavelength is so great that conventional measurement methods become inapplicable. By combining the measuring methods that use cosmic sources with methods of close-range antenna tuning, the parameters of large-size antennas may be acceptably measured. The present article shows the possibility of measuring at close range the side lobes and gain of pencil-beam parabolic antennas having a

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ACCESSION NR: AP4040916

radiation pattern a few angular minutes wide. The radiation patterns of a paraboloid of rotation at close range and at long range are determined. It is found that the close-range pattern of a focused antenna is a sum of the long-range pattern and an additional term which is zero in the principal direction; this term decreases with an increase in range. The close-range pattern differs from the true pattern by λ / r_0; the latter for high-directional antennas is about 10^{-5}. Thus, by proper focusing, not only the major lobe but also minor lobes can be reliably measured at close range. Orig. art. has: 2 figures and 9 formulas.

ASSOCIATION: none

SUBMITTED: 04Dec63 ENCL: 00

SUB CODE: EC NO REF SOV: 011 OTHER: 000

Card 2/2

L 52039-65 FBD/EWT(1)/EWG(v)/EEC-4/EEC(t)/T/FCS(k) Pe-5/Pac-4/Pae-2/
Pi-4/Pj-4/Pl-4 GW/WS-4/WR

ACCESSION NR: AT5012809 UR/2504/65/028/000/0116/0128

AUTHOR: Salomonovich, A. Ye.; Braude, B. V.; Yesepkina, N. A.

TITLE: 10. Measurements in the near zone of the parameters of highly directional antennas

SOURCE: AN SSSR. Fizicheskiy institut. Trudy, v. 28, 1965. Radioteleskopy (Radio telescopes), 116-128

TOPIC TAGS: directional antenna, near zone, antenna parameter, antenna amplification, antenna scattering coefficient, antenna lobe width, radiotelescope, parabolic antenna

ABSTRACT: The ratio of the linear dimensions of the antenna opening to the wavelength is so large in modern radioastronomical instruments that the use of ordinary methods of antenna measurement carried out in the far zone would require a positioning of the auxiliary equipment beyond the horizon. Likewise, the dimensions of the necessary thermal radiation sources become prohibitively large (V. S. Troitskiy, N. M. Tseytlin, Izv. vuzov. Radiofizika, 1960, 3, 667; 1961, 4, 391). Use of artificial cosmic radiowave sources often encounters definite difficulties because, in the case of highly directional antennas, the width of the main lobe of the measured antenna diagram should be larger than the "visible" angular

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L 52039-65

ACCESSION NR: AT5012809

dimensions of the cosmic source serving as the emitter in the far zone. The present paper investigates the feasibility of near zone measurements of the side lobes and amplification coefficients of highly directional parabolic antennas whose diagrams have a width on the order of a few minutes. During the comparison of the directivity diagrams measured in the far and near zones the authors arrived at an expression which, as they found out after submitting their paper for publication, is for all practical purposes identical with the expression published earlier by J. J. Stangel and W. M. Yarnell (IRE Int. Conv. Rec., 1962, Pt. 1, 3). They also outline a method for the measurement of antenna amplifications using cosmic sources whose dimensions exceed the width of the main lobe (whose size was determined by preliminary measurements within the near zone). These methods are illustrated by the results of measurements (using the Moon as the source) of the amplification of the antenna of the 22-meter RT-22 radiotelescope carried out by FIAN in the millimeter wave band. Orig. art. has: 40 formulas and 4 figures.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Physics Institute of the Academy of Sciences, SSSR)

SUBMITTED: 00 ENCL: 00 SUB CODE: AA, EC

NO REF SOV: 014 OTHER: 000

Card 2/2

L 27540-66 EWT(1)/T WR

ACC NR: AP6007514 SOURCE CODE: UR/0109/66/011/002/0342/0345

AUTHOR: Braude, B. V.; Petrun'kin, V. Yu.; Yesepkina, N. A.

ORG: none

TITLE: Calculation of beam transmission lines

SOURCE: Radiotekhnika i elektronika, v. 11, no. 2, 1966, 342-345

TOPIC TAGS: beam waveguide, light pipe, electromagnetic wave, antennas

ABSTRACT: The propagation of electromagnetic waves in beam lines is described in terms of the theory of focused antennas; in the pencil-beam antennas, the focusing is intended for Fresnel region tuning; in the beam guides, the focusing is used for ensuring small diffraction losses. The guide is regarded as a series of focused antennas, the first half-lens focusing the wave on the second half-lens, and the latter compensating the quadratic phase errors that arise near the center of the converging beam. A formula for the amplitude distribution over the cross-section of the second lens is developed. Estimated diffraction losses in the lens line are: between the first and the second lenses, 0.056 db; for intermediate lenses, 0.0122 db per lens; in the receiving horn, 0.18 db. The 0.0122-db-loss per lens is much smaller than that estimated (0.035 db) by J. R. Christian and G. Gouban (IRE Trans., 1961, AP-9, 3, 256). Orig. art. has: 5 figures and 9 formulas.

SUB CODE: 20, 09 / SUBM DATE: 12Apr65 / ORIG REF: 003 / OTH REF: 004

Card 1/1 UDC: 621.396.679.433.001.24

L 40973-66 FBD/EWT(1)/T GW/WS-2/WR

ACC NR: AP6027241 SOURCE CODE: UR/0109/66/011/008/1499/1503

65
B

AUTHOR: Braude, B. V.; Yesepkina, N. A.; Petrun'kin, V. Yu.; Khaykin, S. E. Umetskiy, V. N.

ORG: none

TITLE: Application of methods for correction of the surfaces of optical telescopes to tuning of highly directional radio telescopes

SOURCE: Radiotekhnika i elektronika, v. 11, no. 8, 1966, 1499-1503

TOPIC TAGS: antenna, radio telescope antenna, antenna modulation, antenna tuning, radio telescope

ABSTRACT: A modified version of the so-called shadow method of tuning is proposed. The shadow method in its original form is used for correcting the surface of optical reflectors, but it does not assure the required accuracy and reliability when applied to large, highly directional radio telescopes. The modification consists of providing ways of producing converging waves near the antenna and of localizing errors on the mirror surface. The principles of localizing surface errors and of determining the shape of the reflecting antenna surface, based on the modulation of signals reflected from various sections of the antenna, are briefly described. In this

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procedure (see Fig. 1) the reflecting surface is made of comparatively small movable (adjustable) elements. One or more slightly directional modulated reradiators

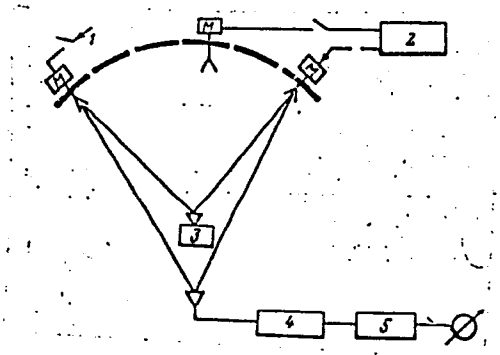

Fig. 1. Shadow method tuning arrangement

1 - From generation of Ω-frequency signals; 2 - Ω-frequency modulating generator; 3 - ω-frequency signal generator; 4 - detector; 5 - Ω-frequency signal amplifier.

(small dielectric or slot antennas with shf modulators) are mounted on each element. A generator is placed at one of the antenna focal points and a receiver with a detector and filter tuned to frequency Ω at the other. With such an arrangement, equal paths are obtained between the first and the second focal points. The modulated signal is produced by one of the reradiators, and a reference signal is produced by the sum field reflected from all of the antenna elements. Phase measurements with an accuracy of 0.5° at $\lambda = 3$ cm were made by the modulation method under laboratory conditions. In general, the tuning of a highly directional radio telescope should

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ACC NR: AP6027241

proceed as follows: 1) the antenna is first focused for a short distance to obtain a converging wave front; 2) the reflector surface is then checked and corrected by the modulation method; 3) the antenna radiation pattern is checked by placing a generator at one focal point and measuring the field distribution near the other focal point. The distribution should coincide with the antenna radiation pattern in the far zone. When the measured antenna radiation pattern (field distribution near the focal point) is found to be in good agreement with the calculated one, the antenna should be focused to infinity, i. e., a plane wave should be obtained from the radio telescope. The operation of the system is then checked against cosmic radio sources having small (compared to the width of the radiation pattern) angular dimensions. Orig. art. has: 2 figures and 8 formulas. [JR]

SUB CODE: 17, 09 SUBM DATE: 18Dec65/ ORIG REF: 006/ OTH REF: 001/ ATD PRESS: 5058

Cgrd 3/3 MLP

SAVINOV, O.A., doktor tekhn.nauk; BODROV, G.D., kand.tekhn.nauk; BRAUDE, F.G., inzh.; PERLEY, Ye.M., inzh.; RUKAVTSOV, A.M., inzh.

Making and assembling foundation shells. Mont. i spets. rab. v. stroi. 22 no.12:19-21 D '60. (MIRA 13:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrotekhnicheskikh i sanitarno-tekhnicheskikh rabot i UNR-325 tresta Sevzapmorgidrostroya. (Concrete panels) (Concrete footings)

BRAUDE, F.G., inzh.

Re-equiping the 214-A concrete placer. Mekh. stroi. 19 no.2: 18-19 F '62. (MIRA 16:7)

(Concrete construction)

SOVALOV, I.G., kand. tekhn.nauk; ROZENBOYM, L.S., inzh.; KUCHEROVSKIY, O.A., inzh.; RAYSKAYA, A.D., inzh.; OSMAKOV, S.A., kand. tekhn. nauk; BRAUDE, F.G., inzh.; FINKINSHTEYN, B.A., inzh., red.

[Methods of molding precast concrete products] Metody formovaniia sbornykh zhelezobetonnykh izdelii. Moskva, Gosstroiizdat, 1963. 49 p. (MIRA 17:9)

1. Moscow. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu. 2. Rukovoditel' laboratorii betonnykh i zhelezobetonnykh rabot Nauchno-issledovatel'skogo instituta organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu, Moskva(for Sovalov). 3. Laboratoriya betonnykh i zhelezobetonnykh rabot Nauchno-issledovatel'skogo instituta organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu, Moskva (for Rozenboym, Kucherovskiy, Rayskaya). 4. Sotrudniki Vsesoyuznogo nauchno-issledovatel'skogo instituta gidrotekhnicheskikh i sanitarno-tekhnicheskikh rabot(for Osmakov , Braude).

SAVINOV, O.A., doktor tekhn.nauk; BRAUDE, F.G., inzh.; MAMONTOV, I.I., inzh; OSMAKOV, S.A., kand.tekhn.nauk

Ways of improving vibration tables for molding reinforced concrete products. Trudy NIIZHB no.33:126-141 '64.

(MIRA 18:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrotekhnicheskikh i sanitarno-tekhnicheskikh rabot.

BR[illegible], F.G., inzh.

Selecting the pressure strength for pneumatic loading during the molding of products in vibration stands. Trudy NIIZhB no.33:[illegible]-202 '64. (MIRA 18:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrotekhnicheskikh i sanitarno-tekhnicheskikh rabot.

OTRSPL No. 45

Braude, G.L. (Moscow Medical Institute, Health Ministry R.S.F.S.R.). Observations on the development of teeth in medical and psuedo-equinine leeches (*Hirudo medicinalis* and *Haemopis sanguisuga*). 1041-4

Akademiya Nauk S.S.S.R., Doklady Vol. 79 No. 6

BRAUDE, G. L.

"Observations on Food Devouring by a Pseudo-Horseleech and the Structure of Its Tooth Apparatus in Connection With the Problem of the Reduction of Organs," Sub. 17 Dec 47, Moscow Order of Lenin State U imeni M. V. Lomonosov.

Dissertations presented for degrees in science and engineering in Moscow in 1947.

SO: Sum.No.457, 18 Apr 55

BRAUDE, G. L.

"Observations on Reproduction in the Medicinal Leech," Dokl. Ak. Nauk SSSR, 63, No. 3, 1948.

Moscow Med. Inst. Ministry Public Health RSFSR

BRAUDE, G. L.

"The Topographical Anatomy of the Sex Organ of the Medicinal Leech," Dokl. Ak Nauk SSSR, 70, No. 2, 1950.

Moscow Med. Inst.; Min Public Health RSFSR

1. BRAUDE, G. L.

2. USSR (600)

4. Leeches

7. Structure of the dental apparatus of the leech Haemopis sanguisuga Bergm. Dokl.AN SSSR 86 no. 4 1952

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

BRAUDE, G.L.

Observations on the development of body muscles in chinchilla rabbits. Trudy Inst. morf. zhiv. no.12:135-250 '54. (MLRA 8:7)
(Embryology) (Chinchilla rabbits) (Muscle)

BRAUDE, G.L.

Histogenesis of striated muscle in mammals (development of the long spinal muscle in the bovine foetus). Trudy Inst.morf.zhiv. no.14:218-249 '55. (MLRA 9:1)

(Muscles) (Cattle)

BRAUDE, G. L.

USSR/Medicine - Embryology

Card 1/1 Pub. 22 - 51/51

Authors : Braude, G. L.

Title : Formation of nonmetameric spinal muscles in an embryo of a cow

Periodical : Dok. AN SSSR 101/5, 973-976, Apr 11, 1955

Abstract : Morphological data are presented regarding the formation of nonmetameric spinal muscles in embryos of cows. Nineteen references: 2 USA, 2 English, 6 USSR and 9 German (1895-1954). Graphs.

Institution : Acad. of Sc., USSR, The A. N. Severtsov Inst. of Animal Morphology

Presented by: Academician A. I. Abrikosov, January 13, 1955

17 (4)

AUTHOR: Braude, G. L. SOV/20-126-2-47/64

TITLE: On the Shape of Muscular Fibres in Different Skeleton Muscles of Mammals (O forme myshechnykh volokon v razlichnykh skeletnykh myshtsakh mlekopitayushchikh)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 2, pp 396-399 (USSR)

ABSTRACT: Very little has been written about the structure of individual muscles with respect to the shape of their fibres (Refs 1, 2). On this account, the author undertook the present work, on mammals. For the sake of comparison other vertebrates were drawn upon. Those examined were: a. rabbit, rat, cat; b. bird of prey: Buteo buteo; domestic hen; c. frog (Rana ridibunda); d. fish: loach (Misgurnus fossilis), bream (Abramis brama). For the compilation of table 1, in addition to a grown rabbit, one 30 day's old was examined. The results were the same in the cases of both rabbits. In the tables 1 and 2 the results of only a certain number of the muscles examined are given. In the muscles of the rabbit and the cat, fibres of all 3 basic types described in publications were found: 1. "cylindrical" (Ref 6),

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2. "whip-shaped" (Ref 1), and 3. "spindle-shaped" (Ref 1). In the case of the rat, fibres of type 3 were not found. With all mammals investigated there was a considerable difference to be observed in a few muscles of the individual animals regarding the number of fibres of this or that shape. On the whole, however, the muscles concerned, preserved an unvarying construction in different animals of the same species. This also holds for the birds. The muscles of the frog showed less variety than those of the higher vertebrates (Table 2, compare Ref 7). In the examined fish-muscles only cylindrical fibres were found (contrary to Ref 8, in conformity with Ref 9). In conclusion the ontogenetic conditions and their connection with the fibres of grown-up animals are reviewed and the existence of a specialized tonic apparatus in mammals (Ref 4) is assumed. There are 2 tables and 18 references, 5 of which are Soviet.

On the Shape of Muscular Fibres in Different Skeleton Muscles of Mammals SOV/20-126-2-47/64

ASSOCIATION: Institut morfologii zhivotnykh im. A. N. Severtsova Akademii nauk SSSR (Institute of Animal Morphology imeni A. N. Severtsov of the Academy of Sciences, USSR)

PRESENTED: January 21, 1959, by K. I. Skryabin, Academician

SUBMITTED: December 23, 1958

Card 3/3

17 (1)

AUTHOR: Braude, G. L.

SOV/20-126-3-56/69

TITLE: On the Morphological Differences of Cylindrical Muscle Fibers in Tonic and Atonic Skeleton Muscles of Vertebrates, and on the Morphological Substrate of the Tone (O morfologicheskikh razlichiyakh tsilindricheskikh myshechnykh volokon v tonicheskikh i netonicheskikh skeletnykh myshtsakh pozvonochnykh i o morfologicheskom substrate tonusa)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 3, pp 659 - 662 (USSR)

ABSTRACT: The various assumptions hitherto uttered on the "morphological tone substrate" (Ref 1) are now either refuted (Ref 2) or they remain disputed (Refs 3-5). Up to date, no accurate test has become known to compare the physiological peculiarities of the muscle with the shape of its fiber. Something has been done by the author with respect to vertebrates (Ref 6). A comparison of the physiological data shows that the tonic muscles or muscle parts only consist of cylindrical fibers (Refs 2,7). The variety in the composition of atonic muscles does not yet prove that there is no connection between the shape of muscle fibers and the physiological properties of the muscle: there may be

Card 1/3

fine morphological differences between the cylindrical fibers from muscles with different physiological properties, which cannot be recorded by the method applied (Ref 6). The author isolated fibers from muscles fixed by Zenker liquid, and observed them closely together with their sinew extensions. In single cases, surviving fibers from fresh muscles were investigated. Histological sections through the fastening zone of the muscular fibers to the sinew plates of the muscles were finally carried out. Tonic and atonic muscles of the following animals were investigated: fish: loach (Misgurnus fossilis), bream (Abramis brama, Ref 7); amphibians: frog (Rana ridibunda); mammals: rabbit (Refs 2,6,7,11). The preparations made confirmed the long-established theorems according to which the mentioned sinew plate (Ref 12) or aponeurosis constitutes the whole of the sinew extensions of the muscle bundles together with the enclosed sinew cells (Ref 13); further they showed that a sinew bundle originating from a muscular bundle consists of individual sinew extensions of the muscle fibers (Ref 14). On the basis of his investigations, the author states that the prin-

On the Morphological Differences of Cylindrical Muscle Fibers in Tonic and Atonic Skeleton Muscles of Vertebrates, and on the Morphological Substrate of the Tone

SOV/20-126-3-56/69

cipal morphological difference between the cylindrical fibers from tonic muscles (1st type) and from atonic muscles (2nd type) consists in a different position of the myofibrillae and sinew fibrillae to one another. It is probable that these modifications in the mutual position of the two types of fibrillae are conditioned - in the case of cylindrical fibers - by the amount of the angle between the muscle fibrillae (Ref 25). There are 3 figures and 30 references, 12 of which are Soviet.

ASSOCIATION: Institut morfologii zhivotnykh Akademii nauk SSSR (Institute of Animal Morphology of the Academy of Sciences, USSR)

PRESENTED: January 21, 1959, by K. I. Skryabin, Academician

SUBMITTED: December 23, 1958

Card 3/3

BRAUDE, G.L.

Morphological characteristics of tonic and atonic skeletal muscles in mammals. Trudy Inst. morf. zhiv. no.29:110-166 '60. (MIRA 13:12)

(Muscles)

BRAUDE, G.L. (Moskva, Ye-250, Krasnokazarmennaya ul., 12/1, kv. 23)

Participation of the sclerotome mesenchyma in the formation of the primordium of nonmetameric spinal muscles in mammals. Arkh anat. gist i embr. 38 no. 6:22-29 Je '60. (MIRA 13:12)

1. Laboratoriya sel'skokhozyaystvennykh zhivotnykh (direktor - chlen-korrespondent AN SSSR zasluzhennyy deyatel' nauki prof. G.K. Khurshchov) Instituta morfologii zhivotnykh AN SSSR.
(MUSCLES)

BRAUDE, G.L. (Moskva)

Present status of the problem of a morphological substratum for tetanus and tonus. Usp. sovr. biol. 58 no. 1:150-172 Jl-Ag '64. (MIRA 17:12)

BRAUDE, G. M.

"Anatomy of the Eleventh-Twelth Rib, the Lumbar-Costal Ligaments, and the Lower End of the Pleura in Connection with Enlarged Passages to Organs of the Extraperitoneal Area." Cand Med Sci, Kirgiz Medical Inst, 4 Mar 54. Dissertation (Sovetskaya Kirgiziya Frunze 23 Feb 54)

SO: SUM 186 19 Aug 1954

USSR/Human and Animal Morphology - Normal and Pathological. S
Muscles.

Abs Jour : Ref Zhur Biol., No 11, 1958, 50307

Author : Braude, G.M.

Title : On the Topography of Folium Profundum of the Lumbodorsal Fascia.

Inst : Kirgiz State Medical Institute

Orig Pub : Tr. Kirg. gos. med. in-ta, 1956, 8, 33-36

Abstract : The folium profundum of the lumbodorsal fascia is always located on the posterior surface of the musculus quadratus lumborum (MQL) separating it from the deep muscles of the dorsum. The study of lateral contours of MQL permits the author to recommend the intersection of ligamentum lumbocostale as medially as possible, not farther than 5 cm. in the horizontal direction from the

Card 1/2

USSR/Human and Animal Morphology - Normal and Pathological. S
Muscles.

Abs Jour : Ref Zhur Biol., No 11, 1958, 50307

middle of the spinous process of the second lumbar vertebra. -- A.V. Kuz-mina-Prigradova

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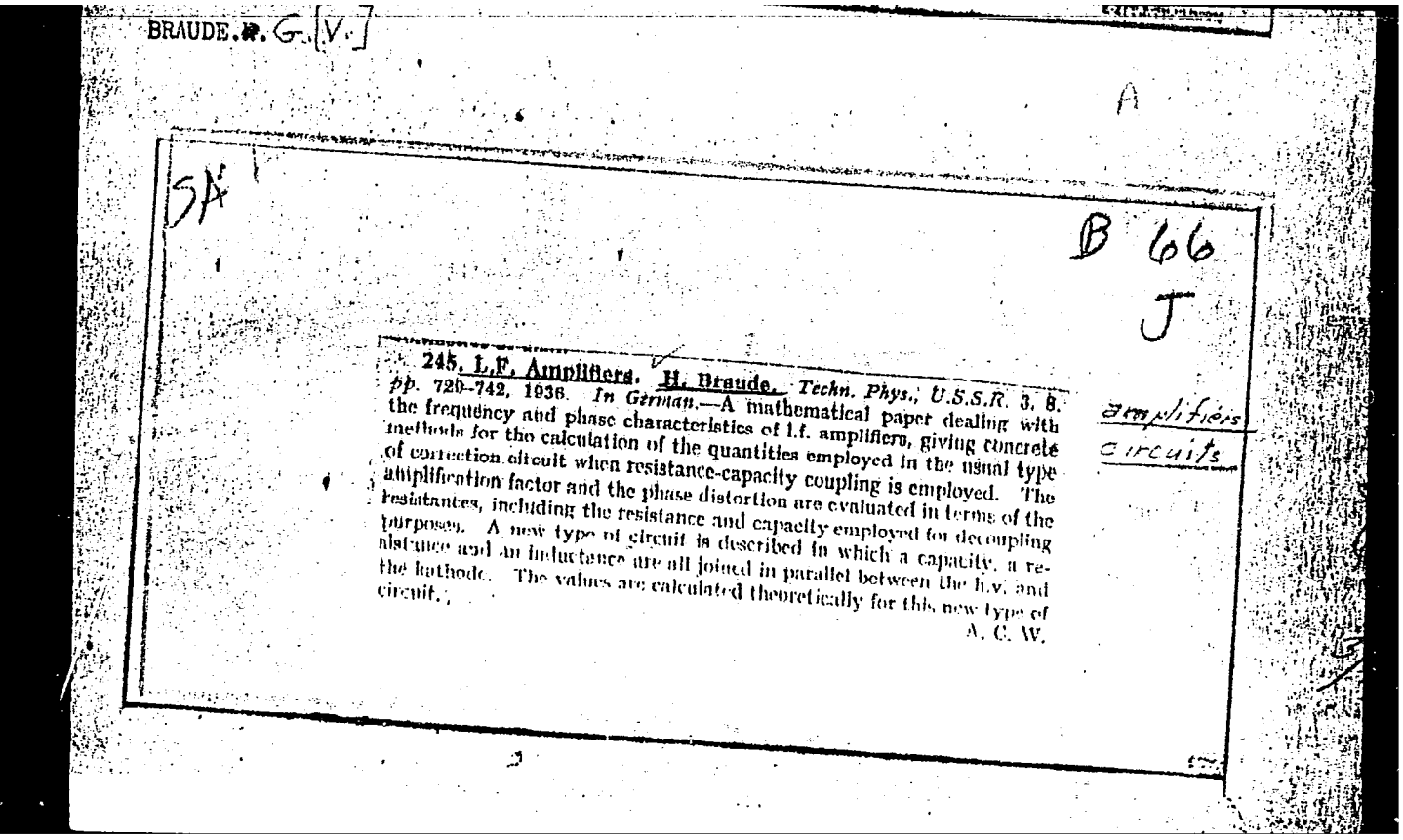

BRAUDE, A. G. [V.]

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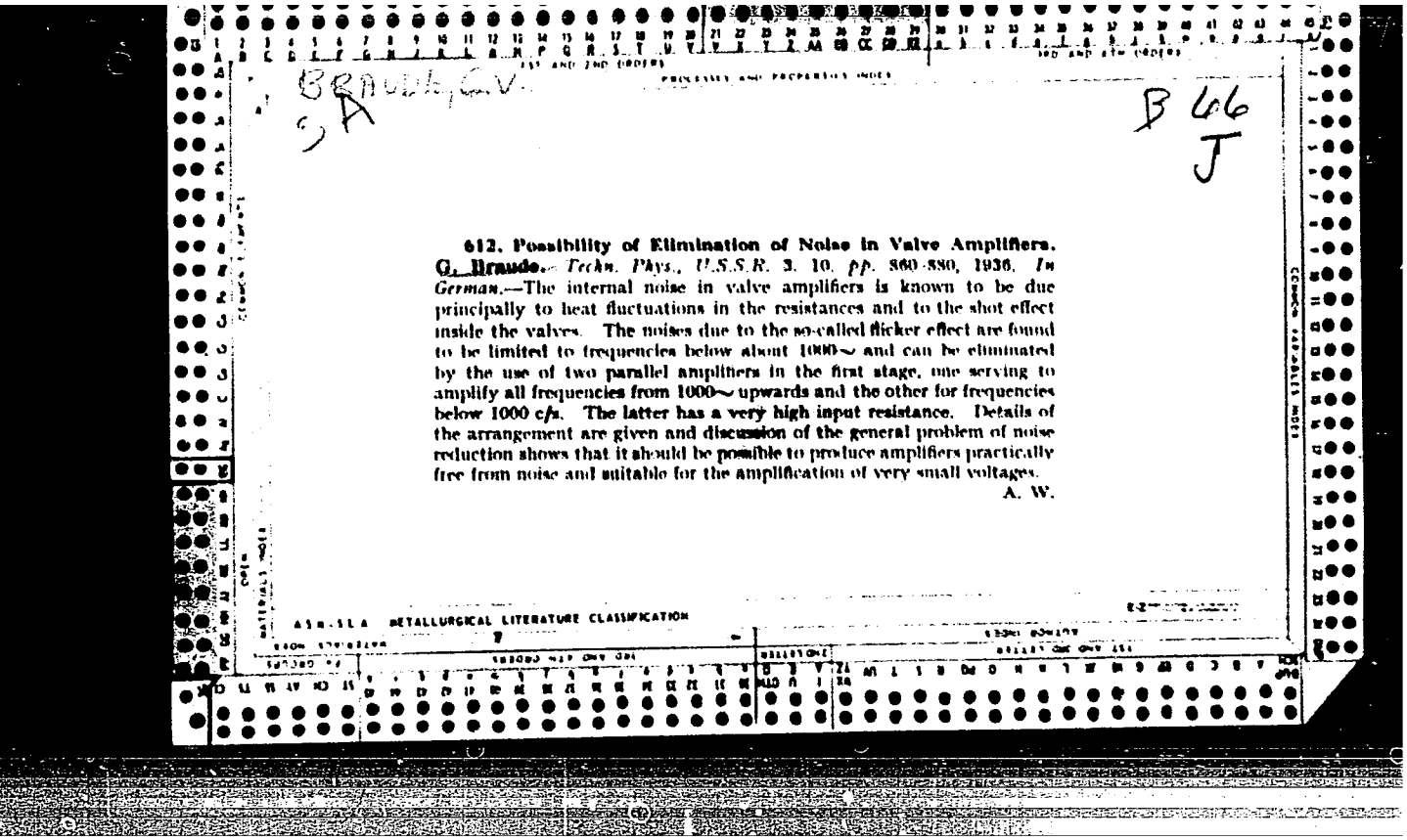
245. L.F. Amplifiers. H. Braude. *Techn. Phys., U.S.S.R.* 3, 8, pp. 729–742, 1936. *In German.*—A mathematical paper dealing with the frequency and phase characteristics of l.f. amplifiers, giving concrete methods for the calculation of the quantities employed in the usual type of correction circuit when resistance-capacity coupling is employed. The amplification factor and the phase distortion are evaluated in terms of the resistances, including the resistance and capacity employed for decoupling purposes. A new type of circuit is described in which a capacity, a resistance and an inductance are all joined in parallel between the h.v. and the kathode. The values are calculated theoretically for this new type of circuit.

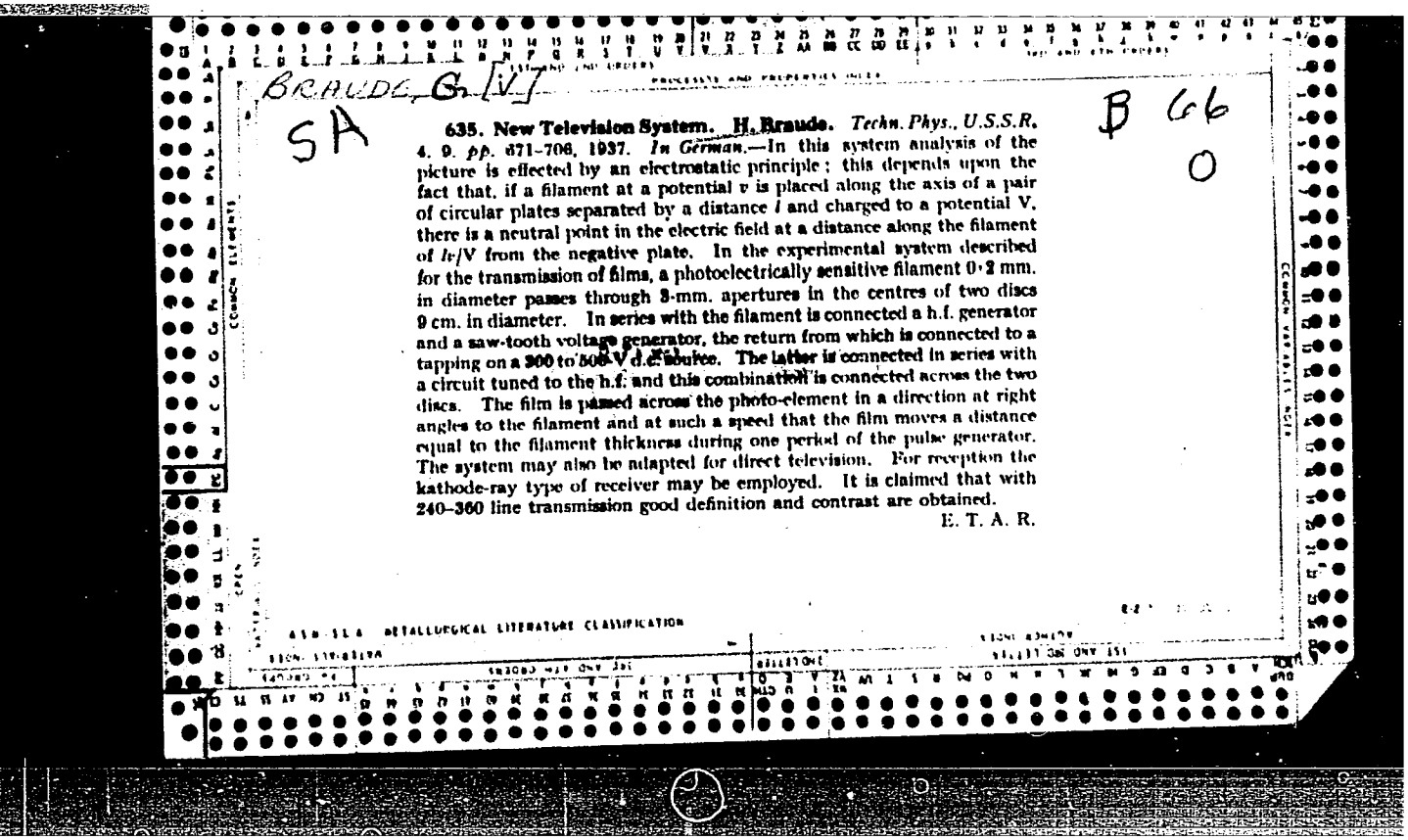
A. C. W.

amplifiers
circuits



612. **Possibility of Elimination of Noise in Valve Amplifiers.** G. Braude. *Techn. Phys., U.S.S.R.* 3. 10. *pp.* 860-880, 1936. *In German.*—The internal noise in valve amplifiers is known to be due principally to heat fluctuations in the resistances and to the shot effect inside the valves. The noises due to the so-called flicker effect are found to be limited to frequencies below about 1000~ and can be eliminated by the use of two parallel amplifiers in the first stage, one serving to amplify all frequencies from 1000~ upwards and the other for frequencies below 1000 c/s. The latter has a very high input resistance. Details of the arrangement are given and discussion of the general problem of noise reduction shows that it should be possible to produce amplifiers practically free from noise and suitable for the amplification of very small voltages.

A. W.



BRAUDE, G. [V.]

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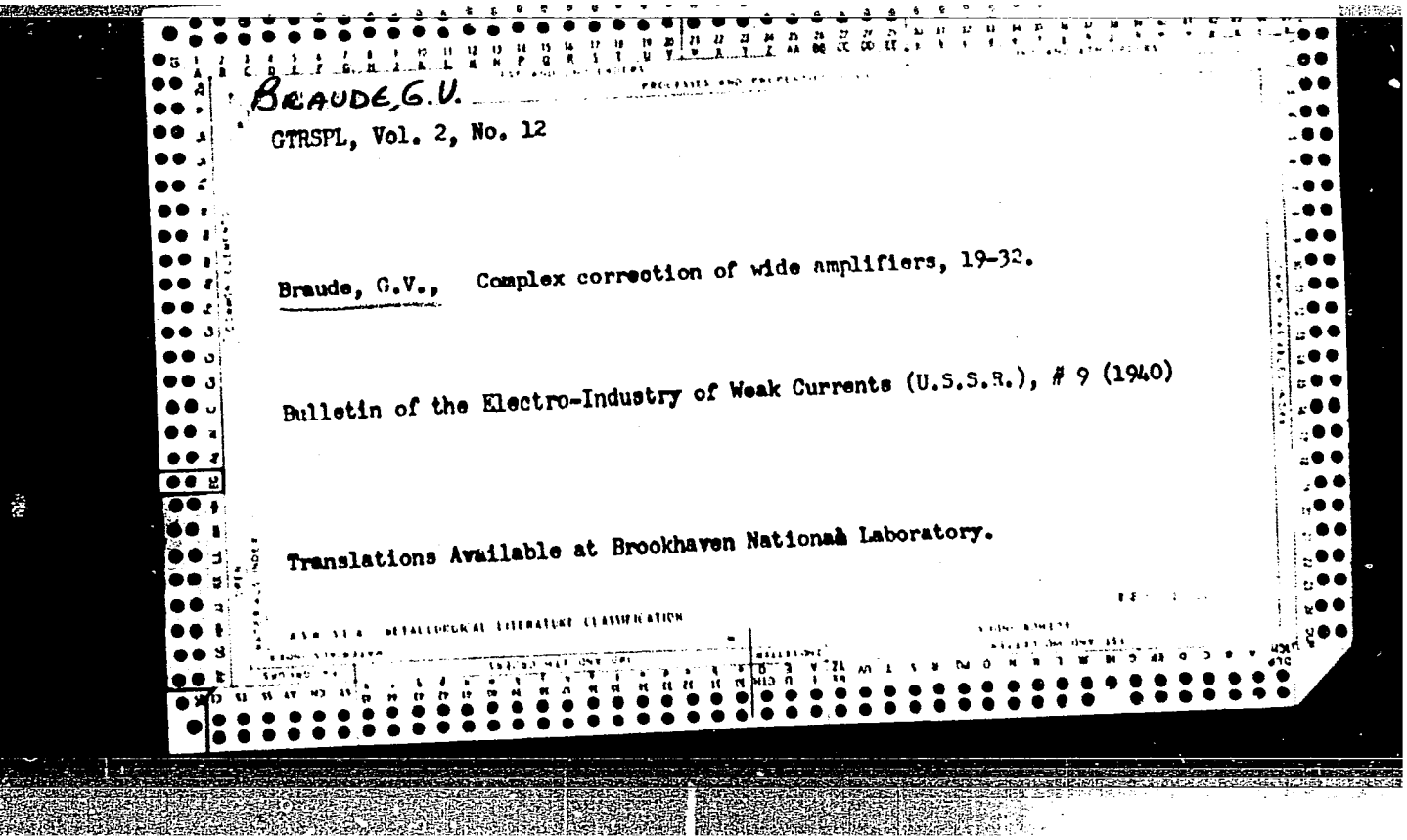
635. **New Television System.** H. Braude. *Techn. Phys., U.S.S.R.* 4. 9. *pp.* 671–706, 1937. *In German.*—In this system analysis of the picture is effected by an electrostatic principle; this depends upon the fact that, if a filament at a potential v is placed along the axis of a pair of circular plates separated by a distance l and charged to a potential V, there is a neutral point in the electric field at a distance along the filament of lv/V from the negative plate. In the experimental system described for the transmission of films, a photoelectrically sensitive filament 0·2 mm. in diameter passes through 3-mm. apertures in the centres of two discs 9 cm. in diameter. In series with the filament is connected a h.f. generator and a saw-tooth voltage generator, the return from which is connected to a tapping on a 300 to 500-V d.c. source. The latter is connected in series with a circuit tuned to the h.f. and this combination is connected across the two discs. The film is passed across the photo-element in a direction at right angles to the filament and at such a speed that the film moves a distance equal to the filament thickness during one period of the pulse generator. The system may also be adapted for direct television. For reception the kathode-ray type of receiver may be employed. It is claimed that with 240–360 line transmission good definition and contrast are obtained.

E. T. A. R.



BRAUDE, G.V.

GTRSPL, Vol. 2, No. 12

Braude, G.V., Complex correction of wide amplifiers, 19-32.

Bulletin of the Electro-Industry of Weak Currents (U.S.S.R.), # 9 (1940)

Translations Available at Brookhaven National Laboratory.

Television + Photography

BRAUDE, Girsh Vul'fovich (Dr Tech Sci.)

2957

A New Type of the Mosaic for the Television Pick Up Tubes. G. Braude. (*J. Phys., USSR*, 1945, Vol 9, No 4, pp 348-350.) The mosaic covers both sides of a thin dielectric plate which has a certain amount of leakage between the two faces.

All Union Electro-Technical Inst.

BRAUDE, G. V.

155T102

USSR/Radio - Television Nov/Dec 49
Amplifiers

"Design of a Complex Correction System for Television Amplifiers," G. V. Braude, Dr Tech Sci, K. V. Yepaneshnikov, B. Ya. Klimushev, Engineers, 10 pp

"Radiotekhnika" No 6, 24-33

Examines complex, two-inductance high-frequency correction system, widely used in television amplifiers, from standpoint of its optimum transient characteristics. Circuit parameters are selected on basis of compromise between frequency

155T102

USSR/Radio - Television (Contd) Nov/Dec 49

and phase correction (by G. V. Braude's method). Submitted 25 Aug 49.

155T102

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D053/D113

AUTHORS: Braude, G.V., and Makarov, Yu.S.

TITLE: A new differential aperture-correction network

PERIODICAL: Tekhnika kino i televideniya, no. 7, 1961, 40-42

TEXT: A new version of the differential aperture-correction network is described. The network (Fig. 1) includes a circuit, connected to the plate of a tube T_1, consisting of three parallel branches: an interstage spurious capacitance C_0, a plate resistance R, and a series LC-link. The impedance (Z) of this circuit is

$$Z = R(1-\omega^2 LC)\cdot M(\omega) \quad ;$$

where

$$M(\omega) = \frac{1}{1-\omega^2 LC + j\omega R(C+C_0-\omega^2 LCC_0)} \quad .$$

The voltage (V_c) across the impedance (Z) is

$$V_c = VS_1 Z \quad ;$$

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A new differential aperture-correction network

where V is the input voltage; S_1 is the mutual conductance of the tube T_1. Self-inductance voltage (V_L) is

$$V_L = -\frac{V_c \omega^2 LC}{1-\omega^2 LC} = -VS_1 R \omega^2 LC M(\omega) \quad .$$

The output voltage (V_{out}) is obtained by adding V_c and V_L across a common plate resistor (r) of the T_2 and T_3 tubes. The value of the output voltage is given as

$$V_{out} = VS_1 RS_2 r\left[1+\omega^2 LC\left(n\frac{S_3}{S_2}-1\right)\right]M(\omega) ;$$

where S_2 and S_3 are the mutual conductances of the T_2 and T_3 tubes, respectively; n is the transformation ratio of the transformer T; and $M(\omega)$ is the coefficient of frequency distortions. When $C = 3C_o$ and $R = \sqrt{\frac{2}{8}\frac{L}{C}}$, then the circuit parameters conform to the optimum conditions of the frequency characteristic. In this case, the modulus of the frequency distribution factor is

$$|M(\omega)| = \frac{1}{\sqrt{1+\frac{1}{8}\omega^6 L^3 C^3}} ;$$

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A new differential aperture-correction network

and the phase shift (φ) is

$$\varphi = \operatorname{arctg} \frac{\omega\sqrt{LC}}{\sqrt{3}} : \frac{4-\omega^2 LC}{1-\omega^2 LC}$$

At the cut-off frequency $\omega_c = \frac{1}{\sqrt{LC}}$, the steep slope of the frequency response curve amounts to 9% and there is a 5% deviation of the phase characteristic from the linearity law. Thus, in the frequency range from 0 to $\omega_c = \frac{1}{\sqrt{LC}}$, the network has a practically ideal aperture correction (α) given by the formula:

$$\alpha = 1 + a\delta^2$$

where δ is the relative frequency equal to $\frac{\omega}{\omega_c}$; and (a) is a correction factor equal to $n\frac{S_3}{S_2} - 1$. A maximum aperture correction of approximately 20 can be obtained with this network when using tubes with S $\approx$ 10 $\frac{ma}{v}$,

Card 3/5

A new differential aperture-correction network

ω_c = 6 Mc, and the maximum positive value of a. An aperture corrector (Fig.2) designed according to this network is installed in the vidicon movie-picture unit of the Moscow TV station. There are 2 figures and 3 references: 2 Soviet-bloc and 1 non-Soviet-bloc. The English-language publication reads: R.C. Dennison, Aperture compensation for television cameras, RCA Review, 1953, No. 12.

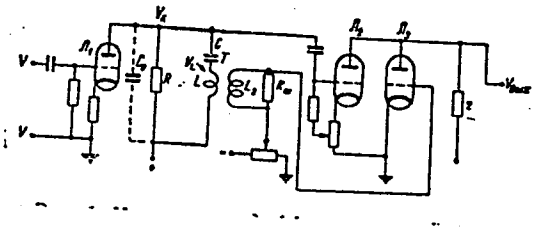

Fig. 1
New differential aperture correction network
$\lambda_1 = T_1$
$\lambda_2 = T_2$
$\lambda_3 = T_3$
$V_k = V_c$
$V_{вых} = V_{out}$

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31084

S/187/61/000/012/001/004
D053/D112

6.6000

AUTHORS: Braude, G.V., and Isayeva, I.N.

TITLE: Nonlinear aperture correction

PERIODICAL: Tekhnika kino i televideniya, no. 12, 1961, 3-10

TEXT: A method of nonlinear aperture correction is investigated. The method consists in separating the signal into several levels with an individual frequency characteristic corresponding to each level. The levels lying near the black level have a dropping characteristic with its equivalent frequency band, and those lying near the white level have a rising characteristic with its degree of aperture correction. A nonlinear network designed according to this method is shown in Fig. 1. It is analogous to a differential aperture-correction network to which nonlinear circuits are added. This network gives a practically ideal aperture correction without phase distortions in the frequency range from zero to $\omega_{lim} = \frac{1}{\sqrt{LC}}$, when its parameters correspond to

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Nonlinear aperture correction

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D053/D112

the optimum frequency-response conditions, i.e. when $C = 3C_0$ and $R = \sqrt{\frac{2}{3}}\frac{L}{C}$. This correction is obtained according to the law:

$$\alpha = 1 + a\delta^2,$$

where $\delta = \frac{\omega}{\omega_{lim}}$ = the relative frequency; a is the correction factor given in the form $a = n\frac{S_5}{S_3} - 1$, where n is the amplification factor of the tube T_4; and S_3 and S_5 are the transconductances of the tubes T_3 and T_5 respectively. An intermediate-frequency amplifier containing this nonlinear aperture-correction network and a gamma corrector, was built and tested in the vidicon motion-picture channel at the Moskovskiy televizionnyy tsentr (Moscow TV Station). The frequency-response curves (Fig. 7a and Fig. 7b) of the black and white levels of this intermediate amplifier were taken by means of an IChX-57 (IChKh-57) tester. The obtained frequency-response curves fully

Nonlinear aperture correction

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correspond to the theoretically calculated frequency-response curves of the black and white levels, shown in Fig. 3a and Fig. 3b, respectively. A low-frequency filter, designed and built by Engineer L.A. Levashova, was inserted in front of the intermediate amplifier in order to cut off frequencies above 6 Mc, so that at a 6-Mc passband with an irregularity of 0.1 db the attenuation at 6.5 Mc was equal to 20 db. Operational tests of this intermediate amplifier showed that the tone gradation and definition of the TV image are substantially improved by the inclusion of the nonlinear correction network with a high degree of nonlinearity. There was no noticeable fluctuation noise in the black and grey regions of the image and, at the same time, the definition in the white region was increased, although slight fluctuation noise in the whit region remained visible in the form of a grid corresponding to 5 Mc, the peak of the amplifier frequency response at the white level. The visibility of this grid-like noise can be further reduced by including an antinoise correction circuit with a 5-Mc frequency trap in the preamplifier. There are 9 figures and 6 references: 4 Soviet-block and 2 non-Soviet-bloc. The two English-language references are: M. Sullivan, Highlight Equalizer

Card 3/6 4

31084

Nonlinear aperture correction

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D053/D112

Sharpens TV Pictures, Electronics, 1958, vol. 31, No. 3; Alexander, Grossman I., Synthesis of Tchebycheff Parameter Symmetrical Filters, Proceedings of the I.R.E., April, 1957.

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy institut Ministerstva svyazi SSSR (State Scientific Research Institute of the Ministry of Communications USSR).

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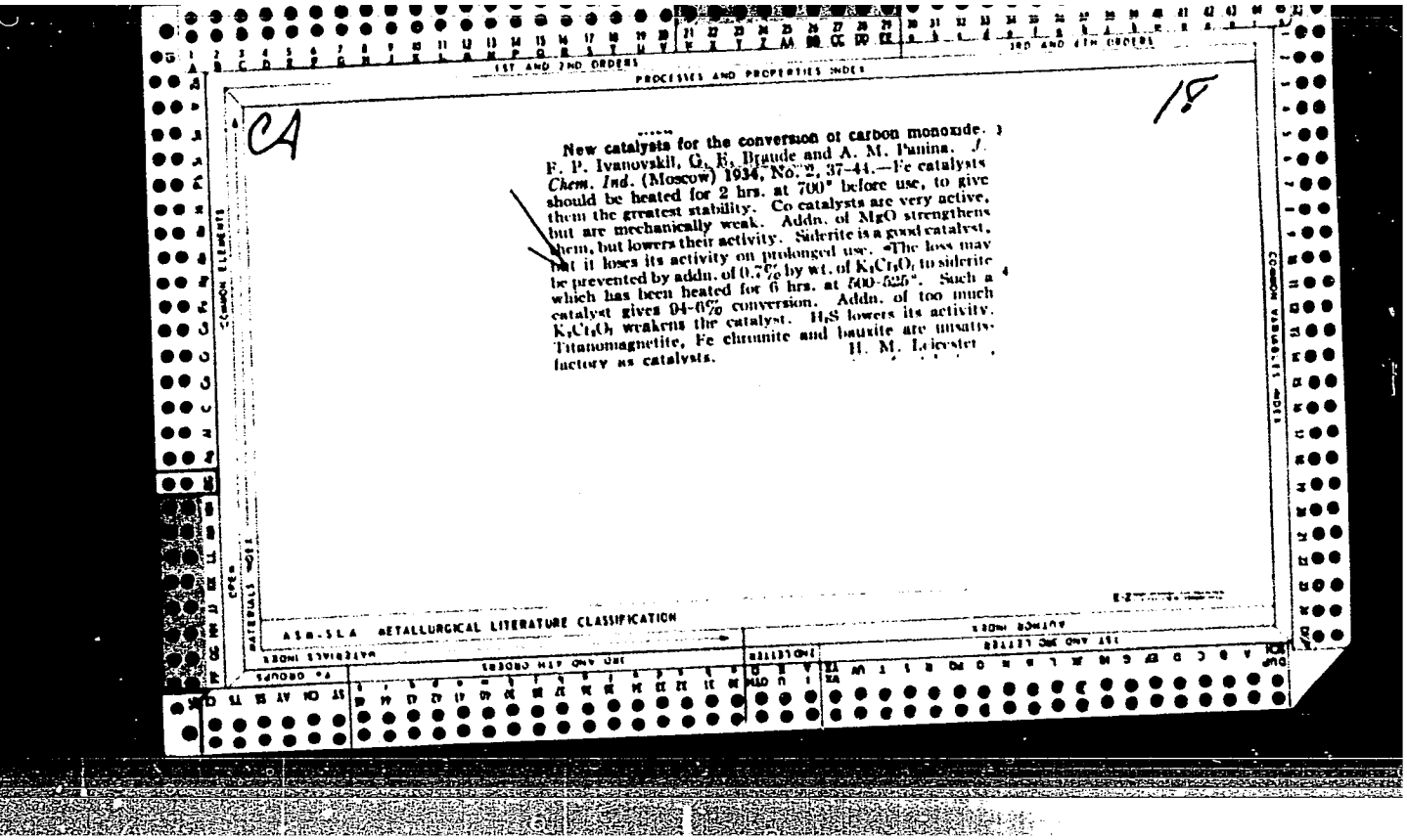
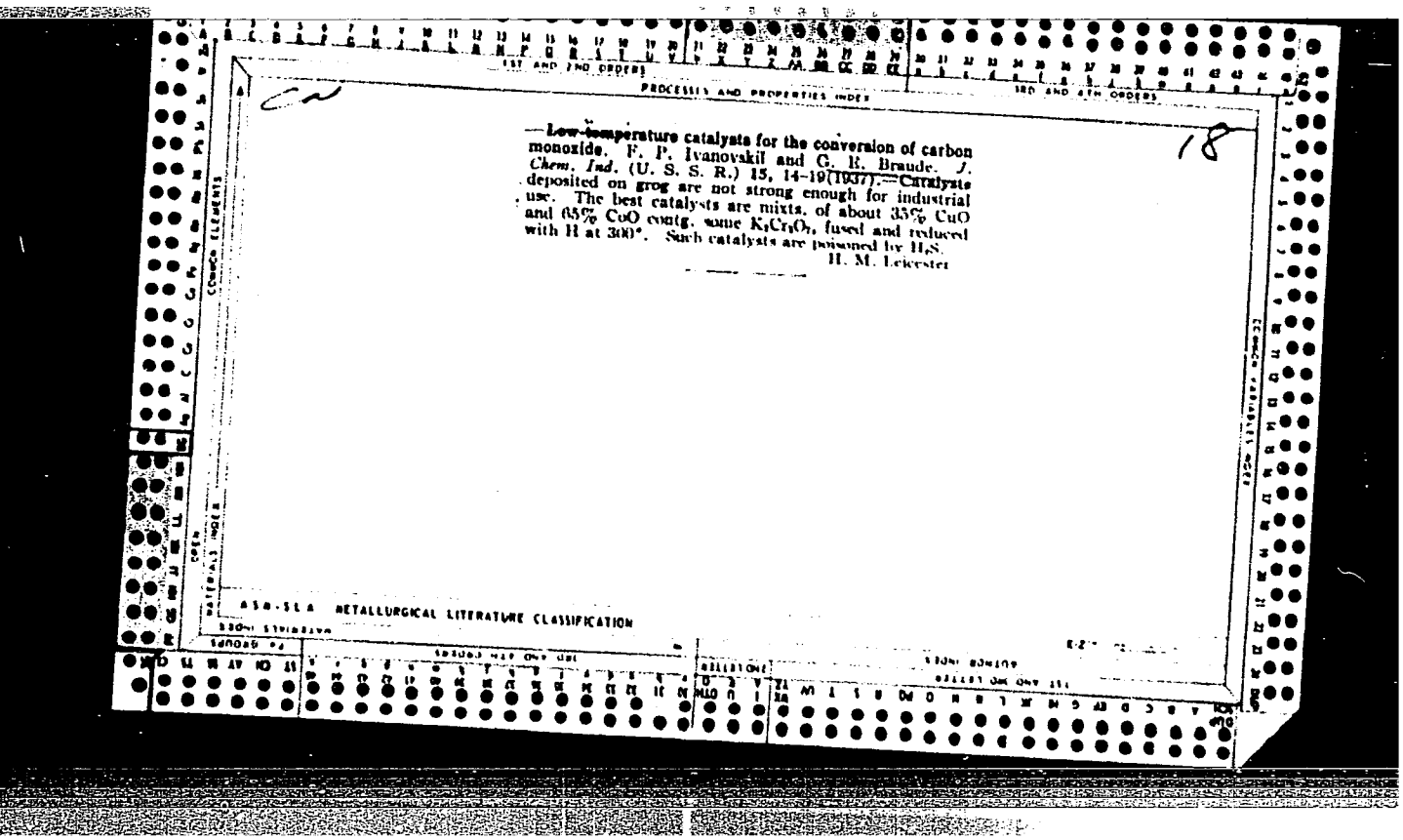
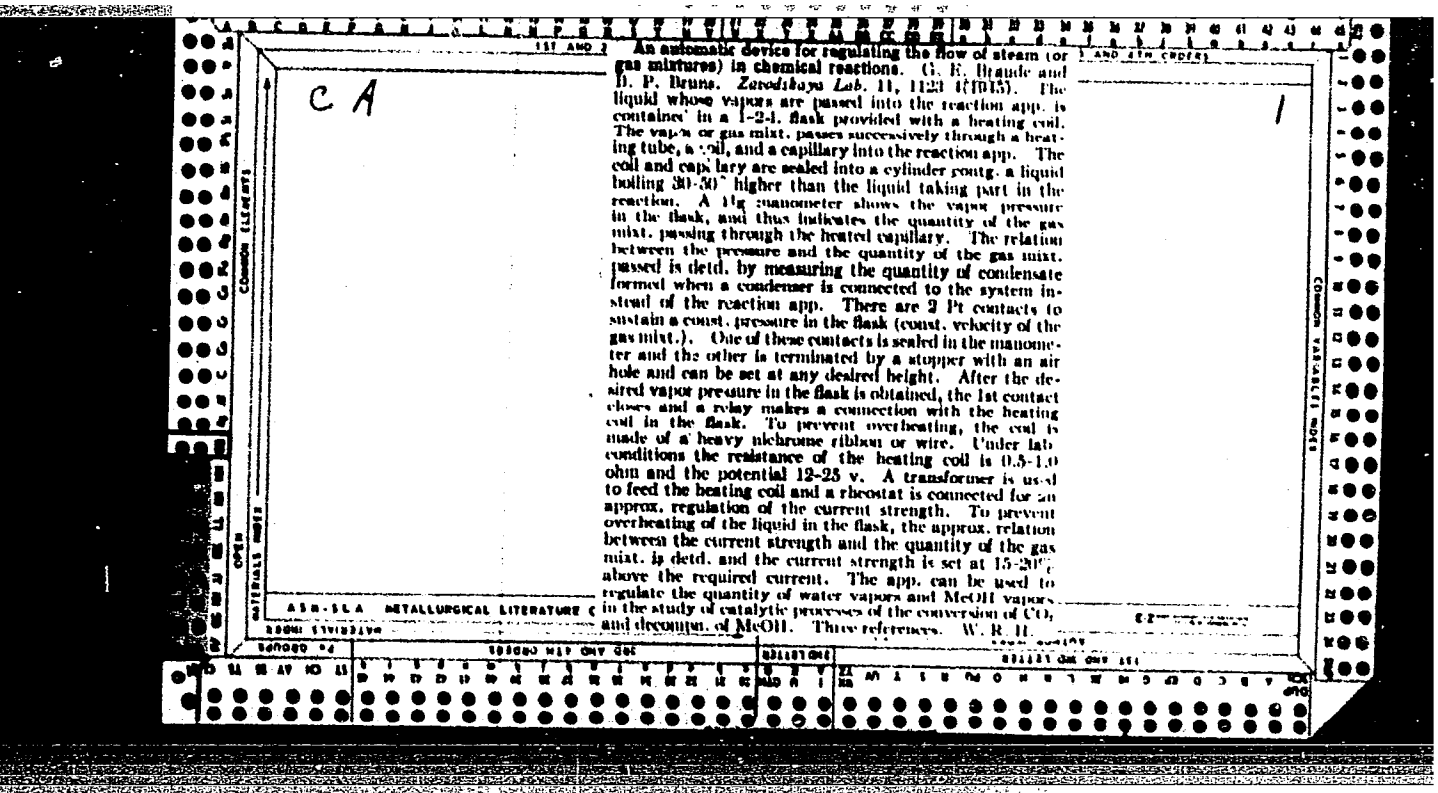




—**Low-temperature catalysts for the conversion of carbon monoxide.** F. P. Ivanovskii and G. K. Braude. *J. Chem. Ind.* (U. S. S. R.) 15, 14–19(1937).—Catalysts deposited on grog are not strong enough for industrial use. The best catalysts are mixts. of about 35% CuO and 65% CoO contg. some $K_2Cr_2O_7$, fused and reduced with H at 300°. Such catalysts are poisoned by H_2S.
H. M. Leicester

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



CA

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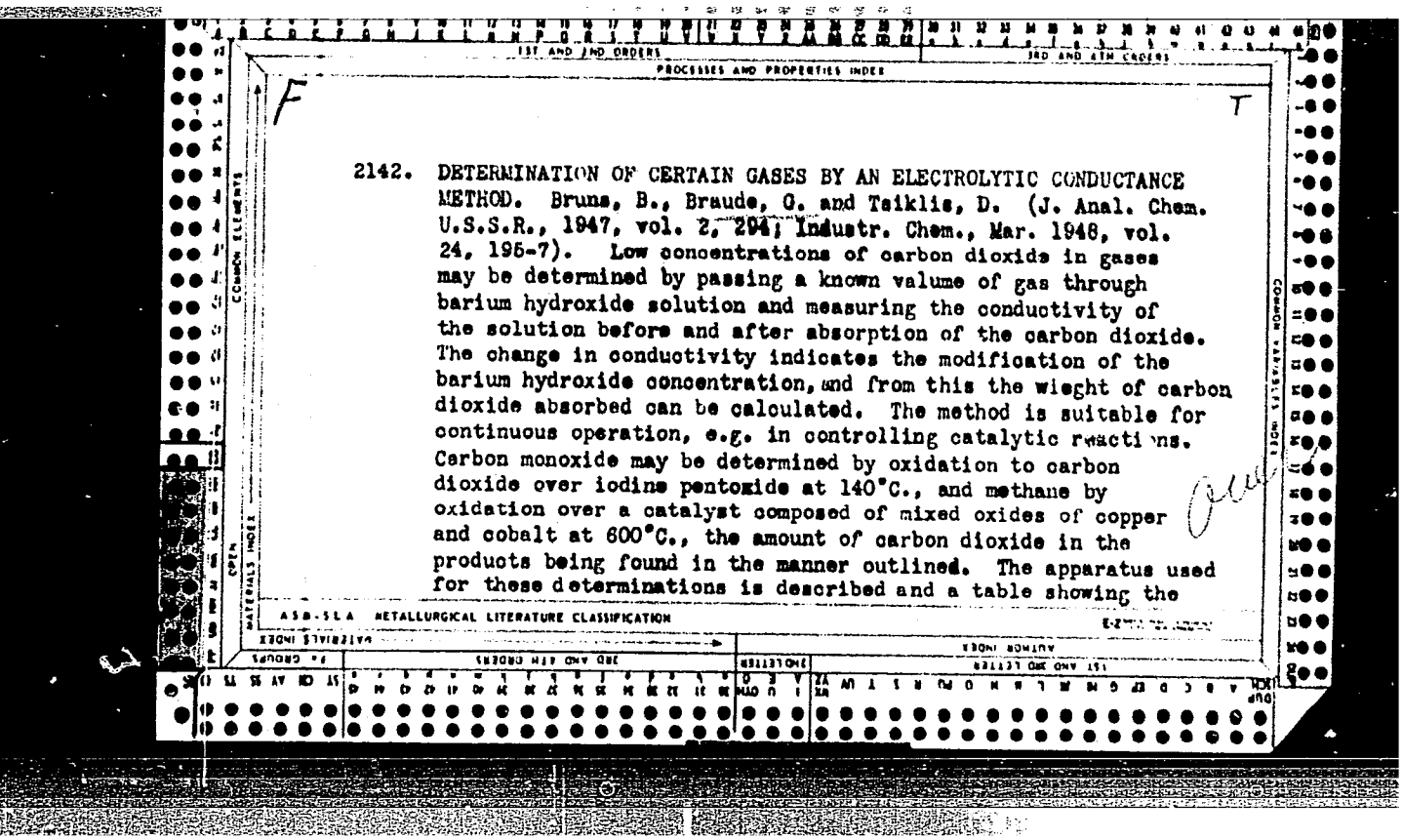
An automatic device for regulating the flow of steam (or gas mixtures) in chemical reactions. G. E. Braude and B. P. Bruns. *Zavodskaya Lab.* 11, 1123 (1945). The liquid whose vapors are passed into the reaction app. is contained in a 1–2-l. flask provided with a heating coil. The vapors or gas mixt. passes successively through a heating tube, a coil, and a capillary into the reaction app. The coil and capillary are sealed into a cylinder contg. a liquid boiling 30–50° higher than the liquid taking part in the reaction. A Hg manometer shows the vapor pressure in the flask, and thus indicates the quantity of the gas mixt. passing through the heated capillary. The relation between the pressure and the quantity of the gas mixt. passed is detd. by measuring the quantity of condensate formed when a condenser is connected to the system instead of the reaction app. There are 2 Pt contacts to sustain a const. pressure in the flask (const. velocity of the gas mixt.). One of these contacts is sealed in the manometer and the other is terminated by a stopper with an air hole and can be set at any desired height. After the desired vapor pressure in the flask is obtained, the 1st contact closes and a relay makes a connection with the heating coil in the flask. To prevent overheating, the coil is made of a heavy nichrome ribbon or wire. Under lab conditions the resistance of the heating coil is 0.5–1.0 ohm and the potential 12–25 v. A transformer is used to feed the heating coil and a rheostat is connected for an approx. regulation of the current strength. To prevent overheating of the liquid in the flask, the approx. relation between the current strength and the quantity of the gas mixt. is detd. and the current strength is set at 15–20% above the required current. The app. can be used to regulate the quantity of water vapors and MeOH vapors in the study of catalytic processes of the conversion of CO, and decompn. of MeOH. Three references. W. R. H.



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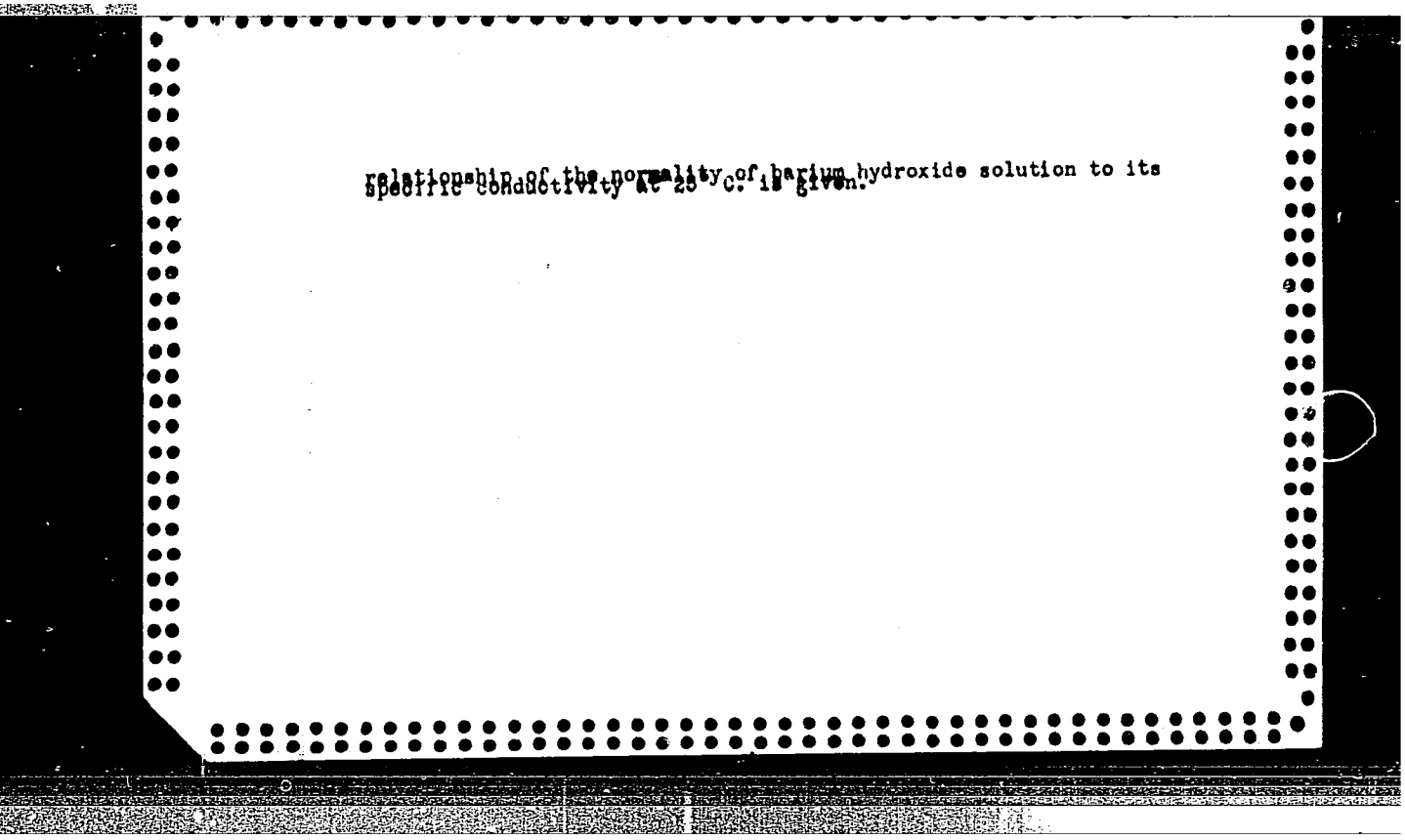
2142. DETERMINATION OF CERTAIN GASES BY AN ELECTROLYTIC CONDUCTANCE METHOD. Bruns, B., Braude, G. and Teiklis, D. (J. Anal. Chem. U.S.S.R., 1947, vol. 2, 294; Industr. Chem., Mar. 1948, vol. 24, 195-7). Low concentrations of carbon dioxide in gases may be determined by passing a known volume of gas through barium hydroxide solution and measuring the conductivity of the solution before and after absorption of the carbon dioxide. The change in conductivity indicates the modification of the barium hydroxide concentration, and from this the wieght of carbon dioxide absorbed can be calculated. The method is suitable for continuous operation, e.g. in controlling catalytic reactions. Carbon monoxide may be determined by oxidation to carbon dioxide over iodine pentoxide at 140°C., and methane by oxidation over a catalyst composed of mixed oxides of copper and cobalt at 600°C., the amount of carbon dioxide in the produots being found in the manner outlined. The apparatus used for these determinations is described and a table showing the



relationship of the normality of barium hydroxide solution to its specific conductivity at 25° C. is given.

USSR/Chemistry - Catalysts, Metal Oxide Apr 1948
Chemistry - Carbon Monoxide, Hydrogenation of

"Kinetics and Mechanism of Catalytic Hydrogenation of Carbon Monoxide: I, Methodic Preparation of Metallic Catalysts From Their Oxides and Their Operation Without Contact With Air," G. Braude, N. Shurmovskaya, B. Bruns, State Inst of Nitrogen Industries, Moscow, 3 pp

"Zhur Fiz Khim" Vol XXII, No 4

Describes method that permits every type of use of the catalyst without it coming in contact with air. Method was used by authors to study the kinetics and [redacted]

67T17

USSR/Chemistry - Catalysts, Metal Oxide (Contd) Apr 1948

mechanisms of catalytic reactions on metallic catalysts. Submitted 25 Jul 1947.

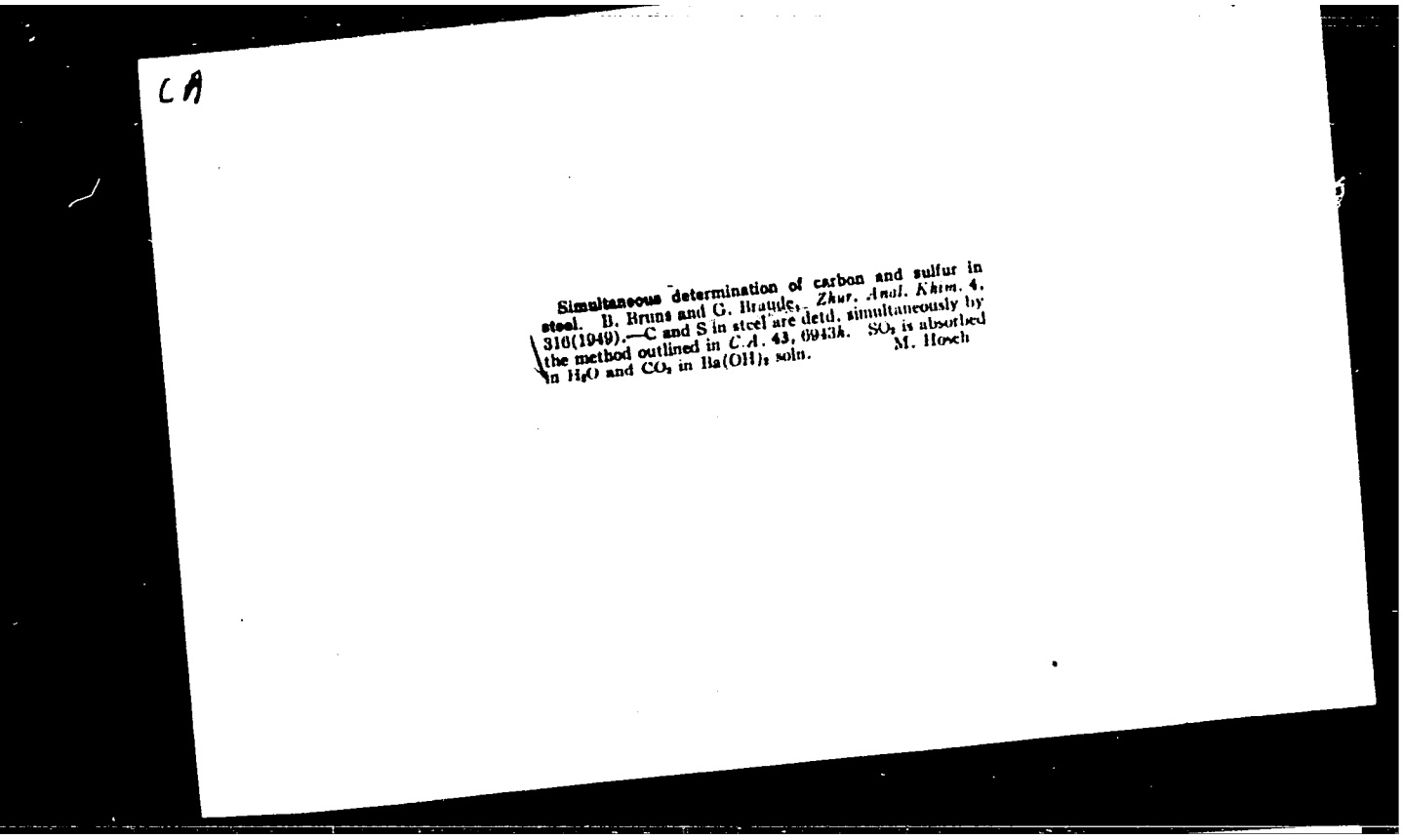
67T17

BRAUDE, G.

[redacted]

BRAUDE, G.

RT-1266 /Kinetics and mechanism of catalytic hydrogenation of carbon monoxide. Part II. The formation of carbides of iron during the hydrogenation of carbon monoxide over an iron catalyst/ Kinetika i mekhanizm kataliticheskogo gidrirovaniia okisi ugleroda. II. Zhurnal Fizicheskoi Khimii, 22(4): 487-494, 1948.



CA

Simultaneous determination of carbon and sulfur in steel. B. Bruns and G. Braude. *Zhur. Anal. Khim.* 4, 310(1949).—C and S in steel are detd. simultaneously by the method outlined in *C.A.* 43, 6943h. SO_2 is absorbed in H_2O and CO_2 in $Ba(OH)_2$ soln. M. Hoseh

IVANOVSKIY, F.P., kand. tekhn. nauk; BRAUDE, G.Ye.; SEMENOVA, T.A.

Selection of catalysts and the conversion of carbon monoxide under increased pressure; preliminary report. Trudy GIAP no.8:76-88 '57.
(MIRA 12:9)

(Carbon monoxide) (Catalysts)

BRAUDE G. YE.

SOV/64-58-4-2/20

AUTHORS: Vlasenko, V. M., Candidate of Chemical Sciences, Boreskov, G.K., Corresponding Member, Academy of Sciences, USSR, Braude, G. Ye.

TITLE: The Catalytic Purification of the Nitrogen-Hydrogen Mixture of CO (Kataliticheskaya ochistka azoto-vodorodnoy smesi ot CO)

PERIODICAL: Kimicheskaya promyshlennost', 1958, Nr 4, pp. 2oo - 2o5 (USSR)

ABSTRACT: As the presence of oxygen and carbon monoxide in the gas mixture in the ammonia synthesis acted as a catalyst poison, it has often been tried to investigate and remove it; the present work mentions results of investigations on the problem mentioned above in the case of low temperature with nickel catalysts being used. From the data on the conditions of equilibrium of the hydration of carbon monoxide may be seen that the equilibrium concentration of CO increases highly with the concentration of carbon oxide in the initial mixture and that it decreases with an increase of pressure. The equilibrium content of CO in the gas mixture increases with the temperature as well. When the purification process is

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The Catalytic Purification of the Nitrogen-Hydrogen Mixture of CO

carried out at 300 atmospheres a good effect can also be obtained at higher temperatures, while below 300° all experiments showed that the hydration is irreversible. The investigations of catalysts carried out show that nickel is the most active of the non-precious metals; a porous catalyst with a highly developed inner surface was used. The schematic representation of a high-pressure plant is enclosed from which among other things it can be seen that a constancy of the pressure was obtained by means of a regulator according to I. P. Sidorov (Ref 13). It was observed that the hydration takes place with sufficient velocity already at 100°, the degree of transformation changing with the temperature and the pressure. Starting from 125° the velocity of the increase of the degree of transformation is slowed down which is explained by an external diffusion on the catalyst; this is represented by an equation where the coefficient of the mass transfer as well as the pressure were fixed. In case oxygen and carbon monoxide are present together in the synthesis of ammonia in the gas mixture the completeness of the gas purification is dependent on the hydration of carbon oxide. There are 6 figures, 6 tables, and 14 references, 7 of which are Soviet.

SOV/64-58-4-2/20

The Catalytic Purification of the Nitrogen-Hydrogen Mixture of CO

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut azotnoy promyshlennosti
(State Scientific Research and Design Institute of Nitrogen Industry)

1. Hydrogen mixtures--Purification 2. Carbon monoxide--Chemical reactions 3. Nickel catalysts--Applications

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5(1)
AUTHORS: Vlasenko, V. M., Candidate of Chemical Sciences, Boreskov, G. K., Corresponding Member, Academy of Sciences, USSR, Braude, G. Ye.

SOV/64-58-8-6/19

TITLE: The Catalytic Purification of a Nitrogen-Hydrogen Mixture From Carbon Dioxide (Kataliticheskaya ochistka azoto-vodorodnoy smesi ot dvuokisi ugleroda)

PERIODICAL: Khimicheskaya promyshlennost', 1958, Nr 8, pp 473 - 475 (USSR)

ABSTRACT: In the production of ammonia the nitrogen-hydrogen mixture is carefully purified from substances containing oxygen prior to the synthesis. The purification process can be simplified by hydrogenating CO and CO_2 simultaneously, which requires highly active catalysts. The results of tests carried out with a porous nickel catalyst are given. The properties of the catalyst as well as the investigation technique have already been described (Ref 1). It is known that the hydrogenation of CO in the gas purifying apparatus is practically irreversible (Ref 1). A diagram (Fig 2) shows the dependence on temperature of the equilibrium concentration of CO_2 at varying

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pressures and concentrations of the admixtures in the nitrogen-hydrogen mixture. This shows that at temperatures below 300° the formation of methane is just as irreversible as that of CO. The process of purifying the nitrogen-hydrogen mixture from CO_2 was studied at 1, 10, and 300 atmospheres, while the simultaneous hydrogenation of CO and CO_2 was carried out at 1 and 300 atmospheres. At atmospheric pressure the hydrogenation of CO_2 takes place at a temperature of 125°, and at 300 atmospheres at 80° (Table 1). The hydrogenation of CO is accomplished more easily (Table 4). The hydrogenation of CO_2 takes place at 300 atm, a CO_2 concentration of 0.02%, a linear velocity of the gas of up to 0.02 cm per sec, and a temperature of more than 125° in the area of external diffusion. For these conditions an equation (3) is given by which the mass transfer coefficient can be calculated. The degree of purification of the nitrogen-hydrogen mixture is determined by the hydrogenation of the CO_2. There are 3 figures, 6 tables, and 2 references, 1 of which is Soviet.

The Catalytic Purification of a Nitrogen-Hydrogen Mixture SOV/64-58-8-6/19
From Carbon Dioxide

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut azotnoy promyshlennosti (State Scientific Research and Planning Institute for the Nitrogen Industry)

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Braude, G. Ye.

PHASE I BOOK EXPLOITATION SOV/3921

Akademiya nauk SSSR. Institut fizicheskoy khimii

Problemy kinetiki i kataliza. [t] 10: Fizika i fiziko-khimiya kataliza (Problems of Kinetics and Catalysis. [vol.] 10: Physics and Physico-Chemistry of Catalysis) Moscow, Izd-vo AN SSSR, 1960. 461 p. Errata slip inserted. 2,600 copies printed.

Eds.: S.Z. Roginskiy, Corresponding Member of the Academy of Sciences USSR, and O.V. Krylov, Candidate of Chemistry; Ed. of Publishing House: A.L. Bankvitser; Tech. Ed.: G.A. Astaf'yeva.

PURPOSE: This collection of articles is addressed to physicists and chemists and to the community of scientists in general interested in recent research on the physics and physical chemistry of catalysis.

COVERAGE: The articles in this collection were read at the conference on the Physics and Physical Chemistry of Catalysis organized by the Otdel khimicheskikh nauk AN SSSR (Section of Chemical Sciences, Academy of Sciences USSR) and by the Academic Council on the problem of "the scientific bases for the selection of catalysts." The Conference was held at the Institut fizicheskoy khimii AS SSSR (Institute of Physical Chemistry of the AS USSR) in Moscow, March 20-23, 1958. Of the great volume of material presented at the conference, only papers not published elsewhere were included in this collection.

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IVANOVSKIY, F.P.; BRALDE, G.Ye.; SEMENOVA, T.A.; LYUDKOVSKAYA, B.G.

Catalyst based on zinc, chromium, and copper oxides and used in the conversion of carbon monoxide. Probl. kin. i kat. 10:90-94 '60. (MIRA 14:5)

1. Gosudarstvennyy institut azotnoy promyshlennosti.
(Carbon monoxide) (Catalysts)

S/195/60/001/002/007/010
B004/B067

AUTHORS: Semenova, T. A., Braude, G. Ye., Ivanovskiy, F. P.

TITLE: Study of the Conductivity of Zinc, Chromium, and Copper Oxide Catalysts Used for the Conversion of Carbon Monoxide

PERIODICAL: Kinetika i kataliz, 1960, Vol. 1, No. 2, pp. 282 - 286

TEXT: In Refs.1,2 the authors studied catalysts consisting of CuO, ZnO, and Cr_2O_3 with different ratios of the components. Since these catalysts are semiconductors, the authors studied their conductivity and the relation between conductivity and activity. Tablets were pressed from powders of these oxides. Their conductivity was measured in a vacuum of 10^{-5} - 10^{-6} mm Hg and in a mixture of CO and water vapor at temperatures between 150° and 400°C, at both increasing and decreasing temperature. The measurements were made with molybdenum probes whose circuit diagram is shown in Fig.2. A ППТВ-1 (PPTV-1) potentiometer and an АЧ-М2 (ACh-M2) cathode voltmeter were used. The authors obtained easily reproducible results. With increasing temperature, the conductivity in the vacuum in-

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creases. In the gas mixture, however, the conductivity is reduced to a constant value the more, the higher the copper content. As is shown in Fig.6, an inverse relation was observed between conductivity σ and specific activity K_{sp} which depends on the Cu content. There are 6 figures, 2 tables, and 3 Soviet references.

ASSOCIATION: Nauchno-issledovatel'skiy institut azotnoy promyshlennosti, Moskva (Scientific Research Institute of the Nitrogen Industry, Moscow)

SUBMITTED: December 14, 1959

Legend to Fig.2: T: tube for conductivity measurement; R_x: tablet; K_1,K_2: contacts; $З_1$,$З_2$: probes; A: milli- or microammeter; V: cathode voltmeter; Б: power source; a) gas inlet; b) gas outlet.

Legend to Fig.6: a) molar ratio $CuO/ZnO \cdot Cr_2O_3$; b) K_{sp}

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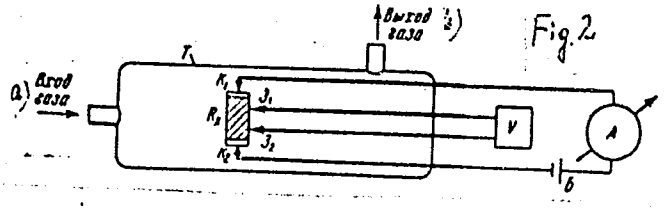
B004/B067

Fig. 2



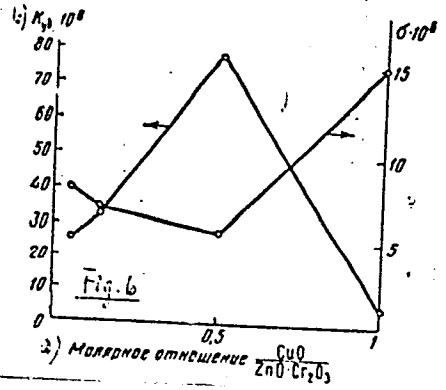


Fig. 6

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S/064/61/000/003/005/009
B101/B203

AUTHORS: Braude, G. Ye., Shakhova, S. F.

TITLE: Solubility of acetylene and some higher acetylene hydrocarbons in methanol

PERIODICAL: Khimicheskaya promyshlennost', no. 3, 1961, 29-34

TEXT: Proceeding from the fact that the purification and separation of gases by absorption under pressure at low temperature are widely used in the industry, the authors studied the absorption of acetylene, diacetylene, methyl acetylene, and vinyl acetylene in methanol by means of the apparatus shown in Fig. 1. Absorption vessel 1 is a graduated pipette (0.02 ml graduation) with magnetic mixer 7 moved by coil 8. 1 is placed in a cryostat 6 which is cooled by a copper plate 9 and a Dewar vessel 10. Temperature was controlled ($\pm 0.2^{\circ}C$) by a resistance thermometer 12 and a heating element 14 which were connected with the electronic measuring bridge 13. The temperature was measured by a calibrated pentane thermometer 11. 2 and 3 are manometers. Industrial acetylene was dissolved in acetone at low temperature, desorbed, and the middle fraction was used

for the experiments. The acetylene homologs were synthesized. Before the experiment, the apparatus was evacuated to 10^{-2} mm Hg. 0.5-1.2 ml of methanol were cooled to -78°C, and degassed in vacuo. Volume and vapor pressure of the methanol were determined, and a measured amount of gas was added. When the equilibrium was established, pressure and volume were measured again. The density of methanol with different water contents was determined pycnometrically. Table 1 gives these values and published data. Fig. 3 shows the solubility of acetylene in anhydrous methanol as a function of the partial pressure of C_2H_2 at different temperatures. Only at low concentrations, acetylene follows Henry's law. The Henry constant K was calculated from $K = P/N$ (P = partial pressure of C_2H_2; N = molar part of acetylene in solution). Further, the equation of I. R. Krichevskiy and Il'inskaya (Ref. 12: Fazovyye ravnovesiya v rastvorakh pri vysokikh davleniyakh (phase equilibrium in solutions at high pressure), Goskhimizdat 1952) was applied:

$RT \ln(f_2'/N_2) = RT \ln K - A(1 - N_1^2)$ (2), where f_2' is the volatility of the substance dissolved, N_2 the molar part of the substance dissolved, N_1 the

molar part of the solvent. On the assumption that the gaseous phase behaves ideally, $\log(P_2/N_2) = \log K - \beta(1 - N_1^2)$ (3), where $\beta = A/2.303RT$. Table 3 gives the values calculated for K, β, and A of the system C_2H_2 - CH_3OH - H_2O. The validity of (3) was confirmed for the concentration range investigated. The heat of solution of C_2H_2 in CH_3OH was found to be 4600 cal/mole. Fig. 6 shows that the molar part of C_2H_2 dissolved in CH_3OH is a linear function of the water content of methanol. It was found that the molar volume of the solution was a linear function of the molar part of acetylene in solution. The solubility in methanol for diacetylene is shown in Fig. 8, for methyl acetylene in Fig. 9, for vinyl acetylene in Fig. 10. While diacetylene does not follow Henry's law, methyl- and vinyl acetylene form ideal solutions. The constants calculated from (3) for diacetylene are given in Table 5. Table 6 gives the Henry coefficients (mm Hg/molar part) for methyl acetylene - methanol and vinyl acetylene - methanol. The heat of solution of diacetylene was 6700, that of methyl acetylene 5400, that of vinyl acetylene 6200 cal/g-mole. The molar

volumes of the solutions of these gases in methanol are linear functions of their molar parts in solution. Under equal conditions, the solubility drops in the order: diacetylene > vinyl acetylene > methyl acetylene > acetylene, according to the rule saying that the solubility increases with increasing critical temperature of the gas. There are 13 figures, 6 tables, and 13 references: 4 Soviet-bloc and 9 non-Soviet-bloc.

BRAUDE, G.Ye; LEYTES, I.L.; DEDOVA, I.V.

Solubility of acetylene, carbon dioxide, and higher acelylenic hydrocarbons in the system dimethylformamide - water. Khim.prom. no.4:232-235 Ap '61. (MIRA 14:4)
(Acetylene) (Carbon dioxide) (Formamide)

L 17675-63 EPR/EWP(j)/EWT(d)/EPF(c)/EWT(m)/FCC(w)/BDS AFFTC/ASD
IJP(c) Ps-4/Pc-4/Pr-4/Pi-4 RM/WW/JW

ACCESSION NR: AP3006039 S/0064/63/000/006/0036/0040

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AUTHOR: Shakova, S. F.; Braude, G. Ye.

TITLE: Phase equilibrium and volume ratios in acetone-acetylene hydrocarbon systems

SOURCE: Khimicheskaya promyshlennost', no. 6, 1963, 36-40

TOPIC TAGS: acetone, methylacetylene, vinylacetylene, diacetylene, solution

ABSTRACT: Using methods described earlier, the authors studied the solubility of methyl-, vinyl-, and diacetylene in acetone at low temperatures, and the phase and volume behavior of the systems at various temperatures: acetone-methylacetylene at +20 to -70C; acetone-vinylacetylene at +20 to -40C; and acetone-diacetylene at +15 to -40C. At -40, -55, and -70C, the partial gas pressures were approximately equal to the difference between the overall pressure above the solution and the tension of the saturated acetone vapor. At higher temperatures, the partial pressure of the gases was dependent on the difference between the overall pressure and the pressure of the solvent, on the assumption that the solvent pressure conforms to Raoult's law. The data obtained showed that these solutions do not conform to Henry's law. Tested with the Krichevskiy-

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