Investigations in the field...

is suggested. The compounds obtained from aqueous solution deviated in their composition from the theoretical composition, probably due to water content. The considerable increase in volume of the Be and Zn compounds above 200°C is ascribed to continuation of the incomplete chemical reaction at elevated temperature. In the esters of aromatic o-hydroxy acids, carbonyl oxygen of the carboxyl group effects the formation of the coordination bond. In o-methoxy acid, the oxygen of the methoxy group has an effect. All polymers were colored powders. The polymers obtained from the melt had a composition which came nearest to theory. There are 1 figure, 6 tables, and 15 references: 9 Soviet and 6 non-Soviet. The four most recent references to English-language publications read as follows: S. Kanda, Y. Saito, Bull. Chem. Soc. Japan, 30, 192, 1957; H. Klug, L. Alexander, G. Summer, Acta crystallogr., 11, 41, 1958; R. G. Charles, M. A. Pawlikowski, J. Phys. Chem., 62, 440, 1958; J. Wilkins, E. Wittbecker, US Patent 2659711, 1953.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR
(Institute of Elemental Organic Compounds AS USSR)

SUBMITTED: January 6, 1961

Card 4/4

32343
S/190/62/004/001/004/020
B101/B110

15.8150

AUTHORS: Korshak, V. V., Rogozhin, S. V., Volkov, V. I.

TITLE: Studies of coordination polymers. IX. Metal-containing polymers based on aliphatic dicarboxylic, α, α'-dihydroxydicarboxylic, and α, α'-dialkoxydicarboxylic acids

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 1, 1962, 20-24

TEXT: Synthesis and properties of polymers containing Zn, Cu, Cd, Co, or Ni on the basis of ω, ω'-hexadecanedicarboxylic acid (I), terephthalic acid (II), α, α'-dihydroxysebacic acid (III), and α, α'-dimethoxysebacic acid (IV) are described. III was synthesized from α, α'-dibromosebacic acid by saponification with 5% KOH solution, production of Cu salt with $CuSO_4$, and formation of the free acid by precipitating Cu with H_2S. Dimethyl ester of IV was obtained from α, α'-dibromosebacic acid by sodium methylate (n_D^{20} = 1.4425; boiling point=128-130°C/1-2 mm Hg). Dipotassium salts of I,II,III,or IV were reacted with the chlorides or acetates of the

Card 1/4

Studies of coordination ...

metals in an aqueous or aqueous-alcoholic medium. Linear structure is assumed due to the thermal behavior and insolubility of the powdery precipitates obtained. The following data are listed: (A) Polymers from I, structure $\left[-\overset{O}{\overset{\|}{C}}OMeO\overset{O}{\overset{\|}{C}}(CH_2)_{16}-\right]_n$; copper compound light blue, crystalline, melting point 223 - 225°C (in capillary), maximum deformation (D_{max}) at 201°C; Cd compound crystalline, white, melting point 211 - 213°C, D_{max} = 175°C; Zn compound crystalline, white, melting point 242 - 246°C, D_{max} 221°C; (B) the Cu compound with II is light blue, crystalline, melting point 300°C (with decomposition), D_{max} = 335°C; (C) the composition of polymers of III differed with the conditions of synthesis. It is assumed that complexes with groups of adjacent chains or with molecules of the solvent are formed as a consequence of the incompletely occupied coordination sphere of the metal ion. Cd compound white, melting point 280-290°C (decomposition), D_{max} = 292°C; Zn compound white, melting

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Studies of coordination ...

point 330 - 350°C (decomposition), D_{max} = 327°C; Cu compound light blue, melting point 330°C (decomposition), D_{max} = 341°C; Co compound red-violet, melting point 250°C, D_{max} = 351°C; Zn compound white, melting point 280°C, D_{max} = 327°C; Ni compound green, melting point 300°C (decomposition), D_{max} = 365°C; (D) the Co compound with IV is light violet, melting point 300°C (decomposition), D_{max} = 243°C; Zn compound light yellow, melting point 140 - 220°C, D_{max} = 157°C. The low stability of the compound with IV is explained by the fact that substitution of CH_3 for the hydrogen of hydroxyl groups prevents the formation of H bonds. X-ray patterns of Zn polymers showed a decreasing crystallinity in the series I > III > IV (the latter polymer being amorphous). There are 2 figures, 2 tables, and 4 references: 1 Soviet and 3 non-Soviet. The two references to English-language publications read as follows: R. Martin, H. Watermann, J. Chem. Soc., 2545, 1957; Ch. K. Ingold, J. Chem.

Card 3/4

32343
S/190/62/004/001/004/020
Studies of coordination ... B101/B110

Soc., 119, 964, 1921.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR (Institute of Elemental Organic Compounds AS USSR)

SUBMITTED: January 18, 1961

Card 4/4

BELYAVSKIY, I.Yu., inzh.; VOLKOV, V.N., inzh.

Polymers in repair operations. Elek. i topl. tiaga 9 no.11:
31-34 N '65. (MIRA 19:1)

VOLKOV, V. I.

VOLKOV, V. I. -- "Convergent Series of Linear Positive Operators in the Space of Smooth Functions of Two Variables." Moscow City Pedagogical Inst imeni V. P. Potemkin. Moscow, 1955. (Dissertation for the Degree of Candidate of Physicomathematical Sciences.)

SO: Knizhnaya letopis', No. 4, Moscow, 1956

VOLKOV V. I.

20-1-3/54

AUTHOR: Volkov, V. I.

TITLE: On the Convergence of the Sequences of Linear Positive Operators in the Space of Continuous Functions of Two Variables. (O skhodimosti posledovatel'nostey lineynykh polozhitel'nykh operatorov v prostranstve nepreryvnykh funktsiy dvukh peremennykh).

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol 115, Nr 1, pp. 17-19 (USSR).

ABSTRACT: $L_n(f(\ ,\ );x,y)$ signifies a sequence of linear positive operators which is assumed in the set of the functions $f(x,y)$ in a closed and limited domain $\bar{D}$.

Theorem 1: When the following four conditions are satisfied for the sequence $L_n(f;x,y)$ of the linear positive operators

1) $L_n(1;x,y) = 1 + \alpha_n(x,y)$; 2) $L_n(\xi;x,y) = x + \beta_n(x,y)$;
3) $L_n(\eta;x,y) = y + \gamma_n(x,y)$; 4) $L_n(\xi^2 + \eta^2;x,y) = x^2+y^2+\delta_n(x,y)$

(where α_n, β_n, γ_n, δ_n in the domain $\bar{D}$ steadily tend towards zero), the sequence $L_n(f;x,y)$ uniformly converges toward $f(x,y)$, provided that $f(x,y)$ in this domain is not continuous. The proof for this

Card 1/2

On the Convergence of the Sequences of Linear Positive Operators in the Space of Continuous Functions of Two Variables. 20-1-3/54

theorem and a lemma with proof follow. Then it is shown that when the conditions of theorem 1 are valid, the four functions $1, x, y, x^2+y^2$ can in no manner be replaced by three functions. Among others the following theorem applies. It is not possible to select three functions $f_k(x,y)$, $k=1, 2, 3$, continuous in $\bar{D}$. so that from the relations $L_n(f_k;x,y) = f_k(x,y) + \alpha_{n,k}(x,y)$ $\alpha_{n,k}(x,y) \rightrightarrows 0$ the equation $L_n(f;x,y) = f(x,y) - \beta_n(x,y)$, $\beta_{n,k}(x,y) \rightrightarrows 0$ would follow. In this connection $f(x,y)$ signifies any continuous function in $\bar{D}$, and $L_n(f;x,y)$ - a sequence of linear positive operators.

ASSOCIATION: State Pedagogical Institute imeni M.I.Kalinin (Kalininskiy gosudarstvennyy pedagogicheskiy institut imeni M.I.Kalinina).

PRESENTED: January 10, 1957 by V. I. Smirnov, Academician

SUBMITTED: December 16, 1956

AVAILABLE: Library of Congress

Card 2/2

16.4600

77801
SOV/42-15-1-8/27

AUTHOR: Volkov, V. I.

TITLE: On Conditions of Convergence of Successiveness of Linear Positive Operators in the Space of Continuous Functions Assigned on Closed Surfaces

PERIODICAL: Uspekhi matematicheskikh nauk, 1960, Vol 15, Nr 1, pp 181-184 (USSR)

ABSTRACT: Let M be a closed bounded set in Euclidean space and

$$L_n(f(q),p), \quad p,q \in M \qquad (1)$$

be an arbitrary sequence of linear positive operators defined on the set of all functions $f(q)$ continuous on M. The system of m functions, $f_1(p)$, $f_2(p)$...., $f_m(p)$, $m \geqslant 3$, is called an R_m-system on the set M

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On Conditions of Convergence of Successiveness of Linear Positive Operators in the Space of Continuous Functions Assigned on Closed Surfaces

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SOV/42-15-1-8/27

if for every triad of points $p_i \in M$ $(i = 1,2,3)$ the rank of the matrix:

$$\begin{pmatrix} f_1(p_1) & f_2(p_1) & \ldots f_m(p_1) \\ f_1(p_2) & f_2(p_2) & \ldots f_m(p_2) \\ f_1(p_3) & f_2(p_3) & \ldots f_m(p_3) \end{pmatrix}$$

is three. The system of m continuous functions on M is called the Ψ_m system on M if for every point $p_o \in M$ a polynomial:

$$\Psi(p,p_o) = \sum_{k=1}^{m} a_k f_k(p)$$

Card 2/5

On Conditions of Convergence of Successiveness of Linear Positive Operators in the Space of Continuous Functions Assigned on Closed Surfaces

77801
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can be found such that $\Psi(p_o, p_o) = 0$, $\Psi(p, p_o) > 0$ if $p \neq p_o$, $p \in M$. P. P. Korovkin has shown that it is necessary that the system $\{f_k(p)\}^m$, $m \geqslant 3$, belong to R_m and sufficient that it belong to Ψ_m in order that:

$$L_n(f_k,p) \rightrightarrows f_k(p) \qquad (2)$$

imply:

$$L_n(f,p) \rightrightarrows f(p) \qquad (3)$$

In his paper the author examines conditions for which

$$L_n(f(q),p) \rightrightarrows f(p)$$

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On Conditions of Convergence of Successiveness of Linear Positive Operators in the Space of Continuous Functions Assigned on Closed Surfaces

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where f(q) is an arbitrary continuous function and M is a closed surface of a three-dimensional space. Theorem 1: There does not exist an R_4 system on the set consisting of a piece of a plane Q and the sequence of points a_n converging to the interior point p_o of this piece. From this theorem it follows if an R_4 system is given on a surface, then this surface is not self-intersecting. Theorem 2: If on a closed surface in three-dimensional space an R_4-system is given, then this surface is homeomorphic to the sphere. A consequence of this theorem is that for no closed surface, except possibly for surface homeomorphic to the sphere, can there be found four functions $f_k(p)$ ($k = 1,2,3,4$) continuous on this surface such that (2) implies (3) where $I_n(f,p)$ is an arbitrary sequence of

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On Conditions of Convergence of Successiveness of Linear Positive Operators in the Space of Continuous Functions Assigned on Closed Surfaces

77801
SOV/42-15-1-8/27

linear positive operators in the space of continuous functions defined on this surface, and f(p) is an arbitrary continuous function. Theorem 3: In order that (2) imply (3), where $L_n(f,p)$ is an arbitrary sequence of linear positive operators in the space of continuous functions, given on a surface homeomorphic to the sphere of a three-dimensional space, and f(p) is arbitrary continuous function on this surface, it is necessary and sufficient that the system $\{(f_k(p)\}_1^4$ be an F_4-system. There are 5 Soviet references.

SUBMITTED: November 20, 1958

Card 5/5

VOLKOV, V.I.

DECEASED

SEE ILC

APPLIED CHEMISTRY
TURBINES

VOLKOV, V.I., inzhener.

Comments on V.I. Golikov's article. Priborostroenie no.7:22 Jl '57. (MLRA 10:9)
(Gear cutting)

86-58-6-11/34

AUTHOR: Volkov, V. I., Lt Col

TITLE: Peculiarities of the Navigation of a High-speed Bomber (Osobennosti samoletovozhdeniya skorostnogo bombardirovshchika)

PERIODICAL: Vestnik vozdushnogo flota, 1958, Nr 6, pp 34-39 (USSR)

ABSTRACT: In this article the author describes in detail the pre-flight and in-flight procedures used by the navigator of a high-speed bomber. At the end of the article the author mentions that the air position indicator may be of great help to the navigator during enroute flight and that it is used in his aircraft as one of the basic navigational instruments. Having set the wind data in, the error of the air position indicator never exceeds 5 percent within the covered distance. There are three diagrams.

AVAILABLE: Library of Congress

Card 1/1

24 (4)

AUTHORS: Volkov, V. I., Engineer, Frolov, N. I., Engineer SOV/119-59-4-9/18

TITLE: A Device for the Measurement of Eccentric Parts (Ustanovka dlya izmereniya ekstsentrikov)

PERIODICAL: Priborostroyeniye, 1959, Nr 4, p 20 (USSR)

ABSTRACT: This device is intended for the measurement of the radius vectors of eccentric parts and consists of an optical dividing head and of a vertical comparator, which are both mounted on a cast iron base plate. By means of the dividing part the eccentric part under investigation can be adjusted to a given angle with an accuracy better than 1'. The vertical comparator can then be used for the measurement of the length of the radius vectors of the eccenter with an accuracy of 0.001 mm. The zero adjustment of the device must be checked previous to use. The procedure followed in the measurement is outlined step by step. If this instrument is introduced into the machine shop, the control by the central works laboratory becomes superfluous. There is 1 figure.

Card 1/1

VOLKOV, V. I. Cand Tech Sci -- (diss) "Research on the interconnection between axial stress and the pressure of washing devices and unloading trowels of modern-type dredging pumps." Gor'kiy, 1959. 23 pp with graphs (Min of River Fleet RSFSR. Gor'kiy Inst of Engineers of Water Transport. Chair of Ship's Installations and Auxilliary Mechanisms Machinery), 100 copies

(KL, 46-59, 137)

VOLKOV, V.I., inzh.; KRAKOVSKIY, I.I., prof., doktor tekhn. nauk, otv. red.

[Investigating the performance of dredger pumps] Issledovanie raboty refulernogo nasosa. Gor'kii, GIIVT, 1959. 50 p. (Gorkiy. Institut inzhenerov vodnogo transporta. Trudy, no.24). (MIRA 15:6)

(Dredging machinery)

VOLKOV, V.I.

Semiautomatic unit for hot tinning of spring set ends.
Priborostroenie no.7:19-21 Jl '60. (MIRA 13:7)
(Tinning)

VOLKOV, V.I.

Geology and composition of Yaurin dome-shaped volcances. Trudy Lab. paleovulk. Kazakh. gos. un. no.2:102-116 '63.
(MIRA 17:11)

1. Vsesoyuznyy institut mineral'nogo syr'ya.

DYUKOV, L.M.; VOLKOV, V.I.; SEMENOV, Yu.D.

Evaluating the drillability of rocks on the basis of geophysical data. Trudy VNIIBT no.14:106-112 '65. (MIRA 18:5)

36950
S/142/61/004/006/015/017
E192/E382

9,2585

AUTHORS: Bolotin, L.I., Volkov, V.I., Lesnykh, M.S., Lyapkalo, Yu.M., Nerzlikin, V.A., Pipa, A.V., Sidorenko, I.S. and Chernyak, L.L.

TITLE: A high-power pulsed oscillator

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika, v. 4, no. 6, 1961, 726 - 728

TEXT: Generation of high-power bursts of ultrashort-wave frequencies is of importance in linear accelerators of heavy particles. A pulsed oscillator based on the triode, type ГИ-4А (GI-4A), was therefore developed. Constructionally, the oscillator is based on coaxial tuned circuits, in which the tube operates as a grounded-grid system (Ref. 1 - M.S. Neyman - Triode and tetrode generators for UHF (Triodnyye i tetrodnyye generatory SVCh), Sovetskoye radio, 1950). The anode-grid resonant circuit is in the form of a quarter-wave line, terminated with the interelectrode capacitance Cag (Fig. 1). Since the external diameter D = 33 cm, internal diameter d = 14 cm and Cag = 35 pF, the resonance frequency is 142 Mc/s and the length h of the anode grid-tuned circuit is 19 cm;

Card 1/3

A high-temperature ....

these calculated data were verified experimentlly. The cathode-grid circuit is in the form of a short-circuited polycylindrical coaxial section of a half-wave line; this is terminated with the capacitance Cag . The feedback is provided by three non-adjustable loops positioned at angles of 120° with respect to each other, in such a manner that the loops pass through the common wall of the resonators. The separator condenser in the anod-grid circuit consists of six groups of condensers, each consisting of two condensers in series. The oscillator was tested with an 82-Ω resistive load, which was in the form of a polystyrol cylinder with a water solution of sodium carbonate. It was possible to obtain a maximum power of 1.2 MW with an anode voltage of 32 kV and pulse duration of 450 μs. The oscillator was also tested with a high-Q load formed by the resonator of a linear proton accelerator; this had a resonance frequency of 142 Mc/s and a quality factor of 50 000. It was found that at an anode voltage of 36 kV the resonator of the accelerator received a power of the order of 500 kW, so that the protons could be accelerated up to energies

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S/142/61/004/006/015/017
E192/E382

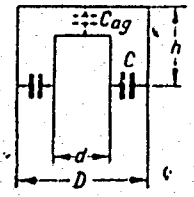
A high-temperature ....

of 5.5 MeV. There are 4 figures.

ASSOCIATION: Uchenyy sovet FTI AN UkrSSR
(Learned Council of FTI AS UkrSSR)

SUBMITTED: April 28, 1961

Fig. 1:



Card 3/3

BOLOTIN, L.I.; VOLKOV, V.I.; LESNYKH, M.S.; LYAPKALO, Yu.M.; MERZLIKIN, V.A.; PIPA, A.V.; SIDORENKO, I.S.; CHERNYAK, L.L.

Power impulse self-oscillator. Izv.vys.ucheb.zav.; radiotekh. 4 no.6:726-728 N-D '61. (MIRA 15:4)

1. Rekomendovano Uchenym sovetom Fiziko-tekhnicheskogo instituta AN USSR.
(Oscillators, Electric) (Pulse techniques (Electronics))

VOLKOV, V.K.

Gravity prospecting methods. Trudy VITR no.4:159-168 '61.
(MIRA 14:9)

(Gravity prospecting)

KOZLENKO, N.I.; VOLKOV, V.K.

Noiseproof feature of clipped speech signals subject to the action of impulse interference in the communication channel. Elektrosviaz' 18 no.12:51-55 D '64. (MIRA 18:1)

L 20721-65 EEO-2/EWT(d)/FSS-2/EWT(l)/EEM-4/EEC(t)/EED-2/EWA(h) Pn-4/Pp-4/Pac-4/
Peb/Pl-4 ASD(a)-5/RAEM(i)/ESD(c)/RAEM(t)/ESD(dp)
ACCESSION NR: AP5001373 S/0106/64/000/012/0051/0055

AUTHOR: Kozlenko, N. I.; Volkov, V. K. B

TITLE: Noise immunity of clipped speech signals when a pulse noise is present in the communication channel

SOURCE: Elektrosvyaz', no. 12, 1964, 51-55

TOPIC TAGS: noise immunity, communication channel, clipped speech, speech signal

ABSTRACT: These problems were experimentally investigated: (1) Noise immunity of clipped speech signals to pulse noise in the case of uniform frequency characteristics of a-f amplifiers, modulators, and demodulators; (2) Effect of boosting the upper frequencies of the initial signal at a rate of 6 db per octave within 300—3,300 cps; (3) Effect of the initial signal envelope on the quality and noise immunity of clipped speech in the presence of pulse noise; (4) Average

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L 20721-65
ACCESSION NR: AP5001373

number of zero and extremum values of the function describing the speech signal. It was found that: (1) The pulsed transmission of clipped speech signals collapses at an average number of about 100 noise pulses; (2) Use of an envelope at the receiving end tends to increase the intelligibility by 4—5% and to enhance the noise immunity by 2.5—2.8 times; the collapse occurs at 280 noise pulses; (3) Differentiating speech signals before compression enhances the noise immunity; (4) Boosting the upper frequencies at a rate of 6 db per octave yields an additional increase of 1.5—1.8 times in the noise immunity. Orig. art. has: 3 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 18May64 ENCL: 00

SUB CODE: EC NO REF SOV: 003 OTHER: 002

Card 2/2

REYBAKH, M.S.; TSIRLIN, A.M.; KLESHCHEVNIKOVA, S.I.; VOLKOV, V.L.; MATVEYEV, B.I.; KAZAKOVA, N.V.

Wetted-wall apparatus for continuous synthesis of triethoxysilane. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch.i tekh.inform. no.9:21-23 '62. (MIRA 15:9)
(Distillation apparatus)
(Silane)

SOV/78-4-2-1/40

5(2)

AUTHORS: Nesmeyanov, A. N., Anisimov, K. N., Mikheyev, Ye. P., Volkov, V. L., Valuyeva, Z. P.

TITLE: Preparation of Tungsten Carbonyl by the Interaction of Iron Pentacarbonyl With Tungsten Hexachloride (Polucheniye karbonila vol'frama vzaimodeystviyem pentakarbonila zheleza s shestikhloristym vol'framom)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 2, pp 249-252 (USSR)

ABSTRACT: The interaction of tungsten-6-chloride with iron pentacarbonyl in an ethyl ether medium was investigated. The tests in the autoclave were carried out at the following molar ratios of the individual components: $WCl_6 : Fe(CO)_5 = 1 : 2.25$ and $1 : 3.25$. The temperatures during the tests were: 70, 90, 110, 130, 150, 170 and 190°. At the molar ratio $Fe(CO)_5 : WCl_6 = 3.25 : 1$ the yield of $W(CO)_6$ increases with temperature; it shows an increase of 29-31% at 20°, of 36-42% at 70°, and of 72-75% at 90°. The course of the reaction is shown in the

Card 1/2

Preparation of Tungsten Carbonyl by the Interaction of Iron Pentacarbonyl With Tungsten Hexachloride

following equation: $WCl_6 + 3Fe(CO)_5 \rightarrow W(CO)_6 + 3FeCl_2 + 9CO$.

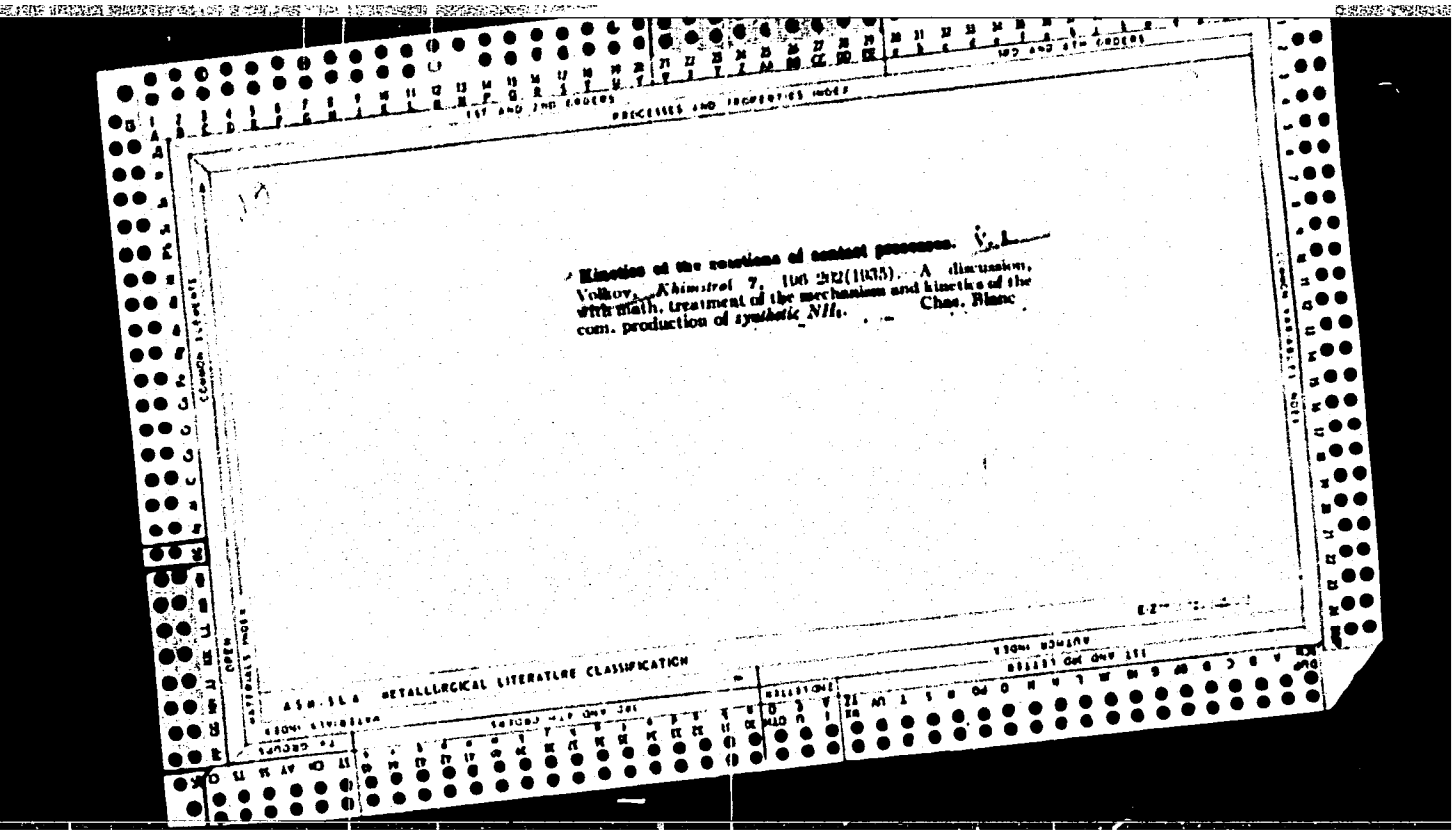
The supply of hydrogen tc the reaction mixture, after the conclusion of the reaction, increases the $W(CO)_6$ yield to 85%. This reaction corresponds to the following equation:

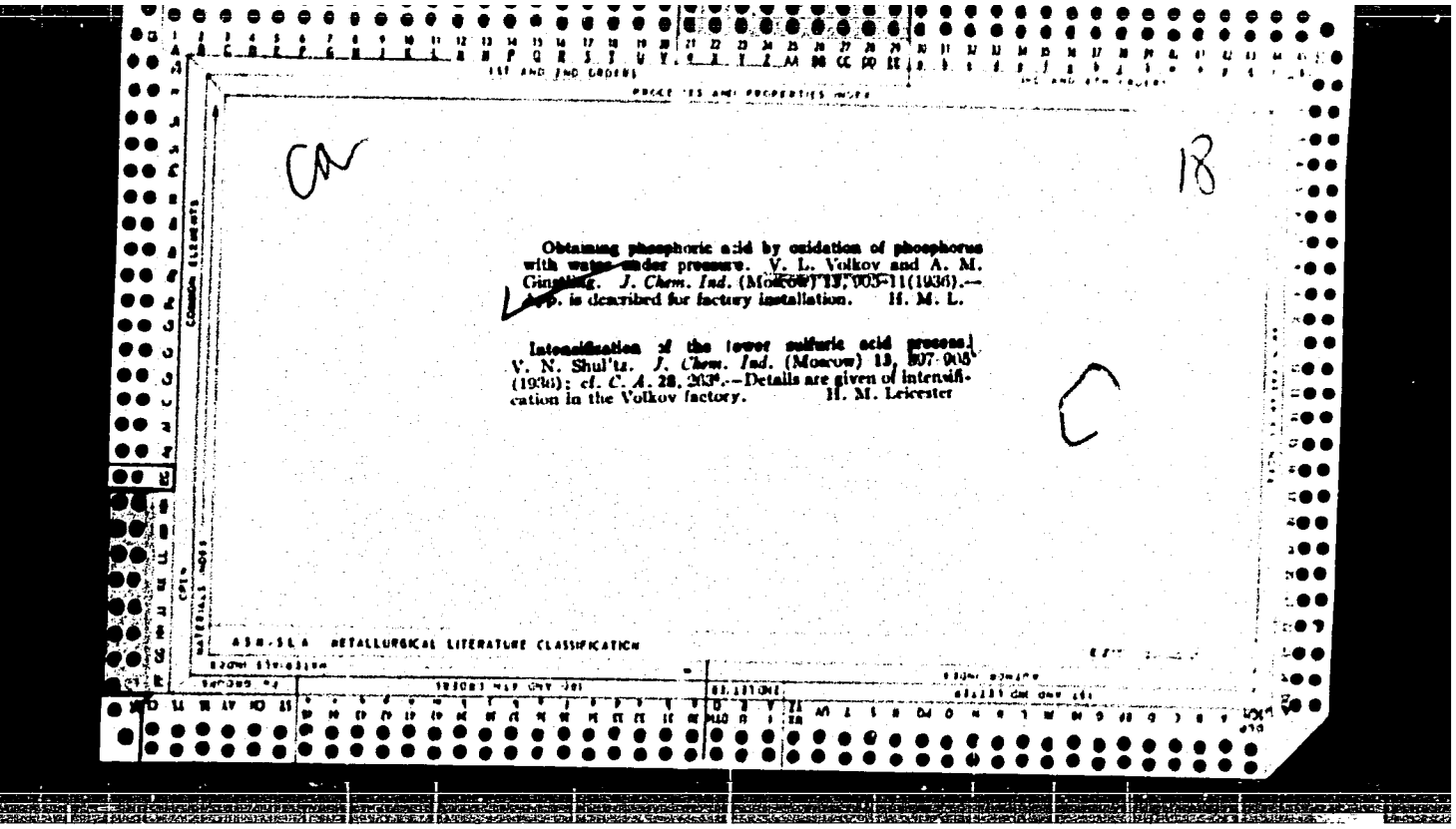
$$WCl_6 + 2Fe(CO)_5 + H_2 \rightarrow W(CO)_6 + 2FeCl_2 + 2HCl + 4CO.$$

The production of tungsten hexacarbonyl is described in detail. Results which are well reproducible are obtained by this method. There are 2 tables and 7 references, 3 of which are Soviet.

SUBMITTED: December 9, 1957

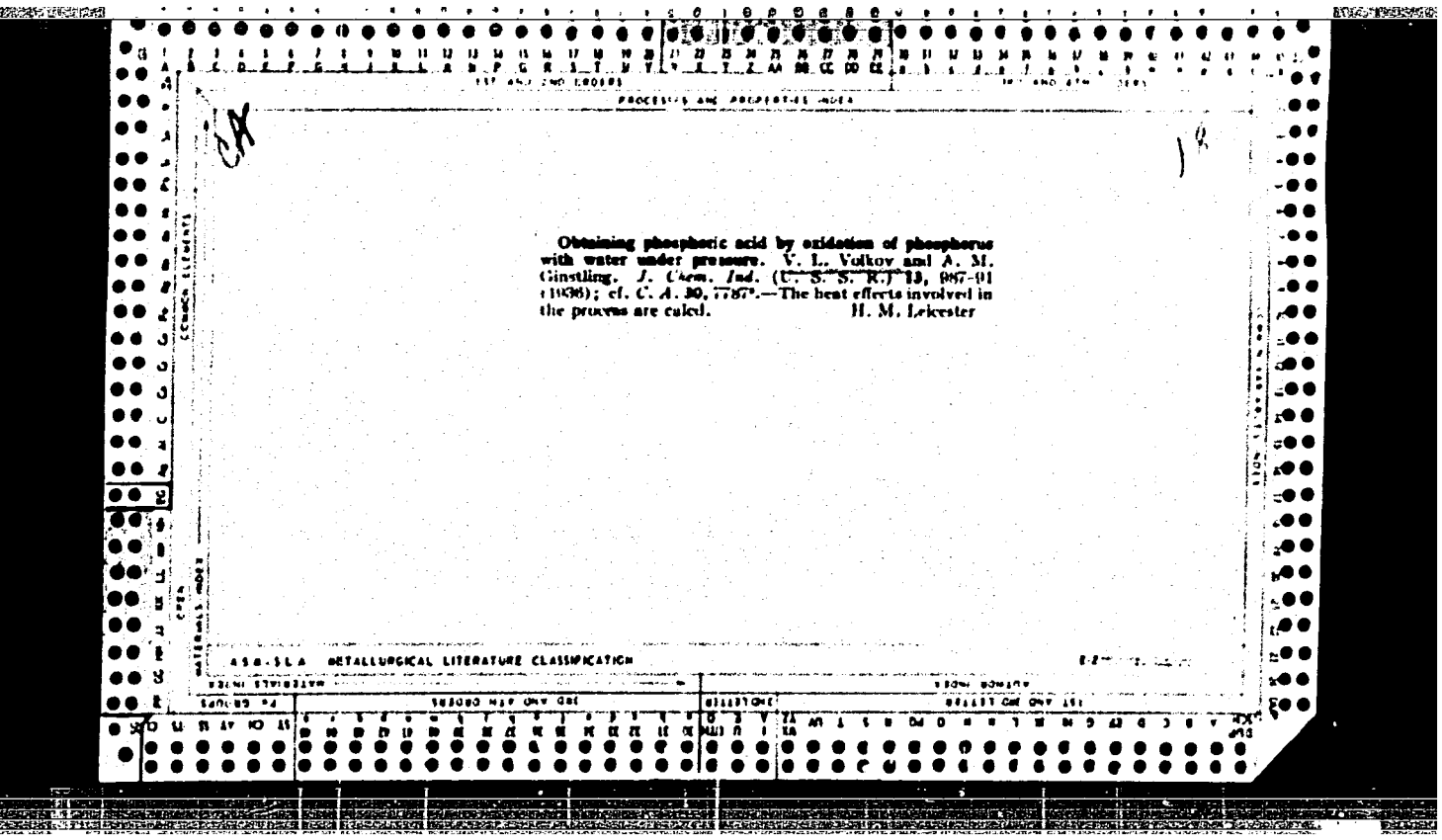
Card 2/2



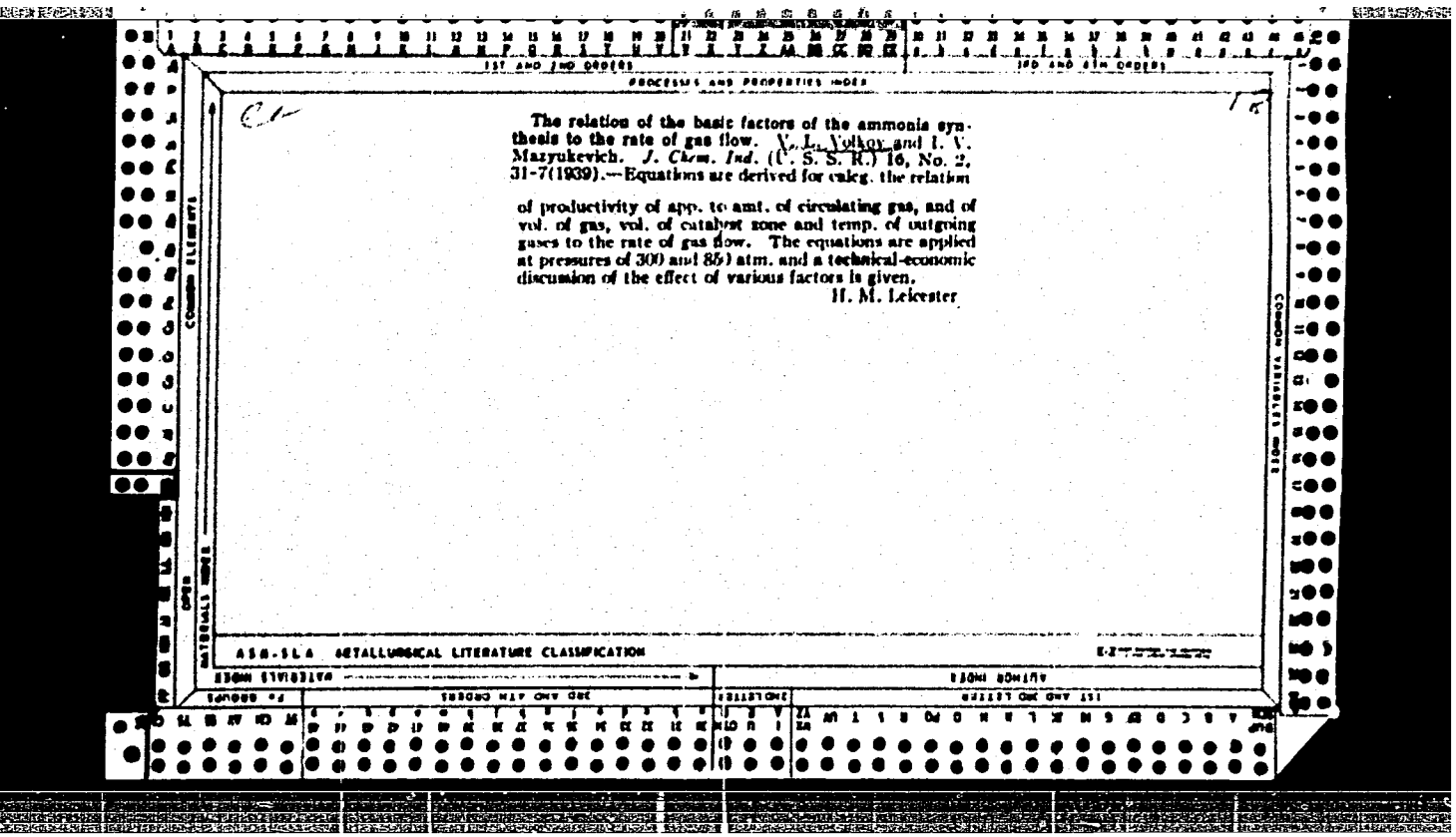


Obtaining phosphoric acid by oxidation of phosphorus with water under pressure. V. L. Volkov and A. M. Ginsberg. *J. Chem. Ind.* (Moscow) 13, 905–11 (1936).—App. is described for factory installation. H. M. L.

Intensification of the tower sulfuric acid process. V. N. Shul'ts. *J. Chem. Ind.* (Moscow) 13, 907–908 (1936); *cf. C. A.* 28, 203⁸.—Details are given of intensification in the Volkov factory. H. M. Leicester

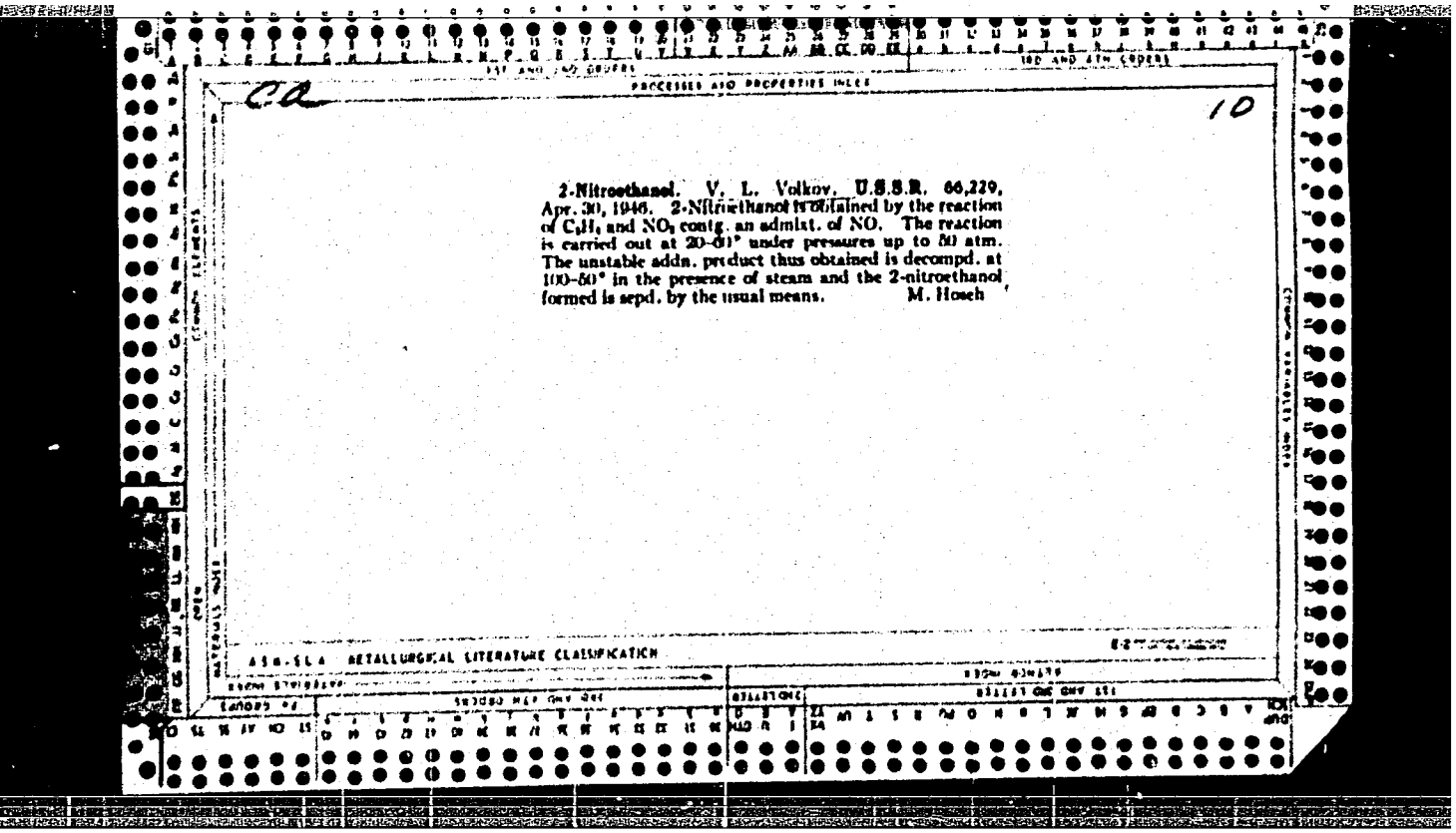


Obtaining phosphoric acid by oxidation of phosphorus with water under pressure. V. L. Volkov and A. M. Ginstling. *J. Chem. Ind.* (U. S. S. R.) 13, 987-91 (1936); cf. *C. A.* 30, 7787.—The heat effects involved in the process are calcd. H. M. Leicester



The relation of the basic factors of the ammonia synthesis to the rate of gas flow. V. L. Volkov and I. V. Mazyukevich. *J. Chem. Ind.* (U. S. S. R.) 16, No. 2, 31-7(1939).—Equations are derived for calcg. the relation of productivity of app. to amt. of circulating gas, and of vol. of gas, vol. of catalyst zone and temp. of outgoing gases to the rate of gas flow. The equations are applied at pressures of 300 and 850 atm. and a technical-economic discussion of the effect of various factors is given.

H. M. Leicester

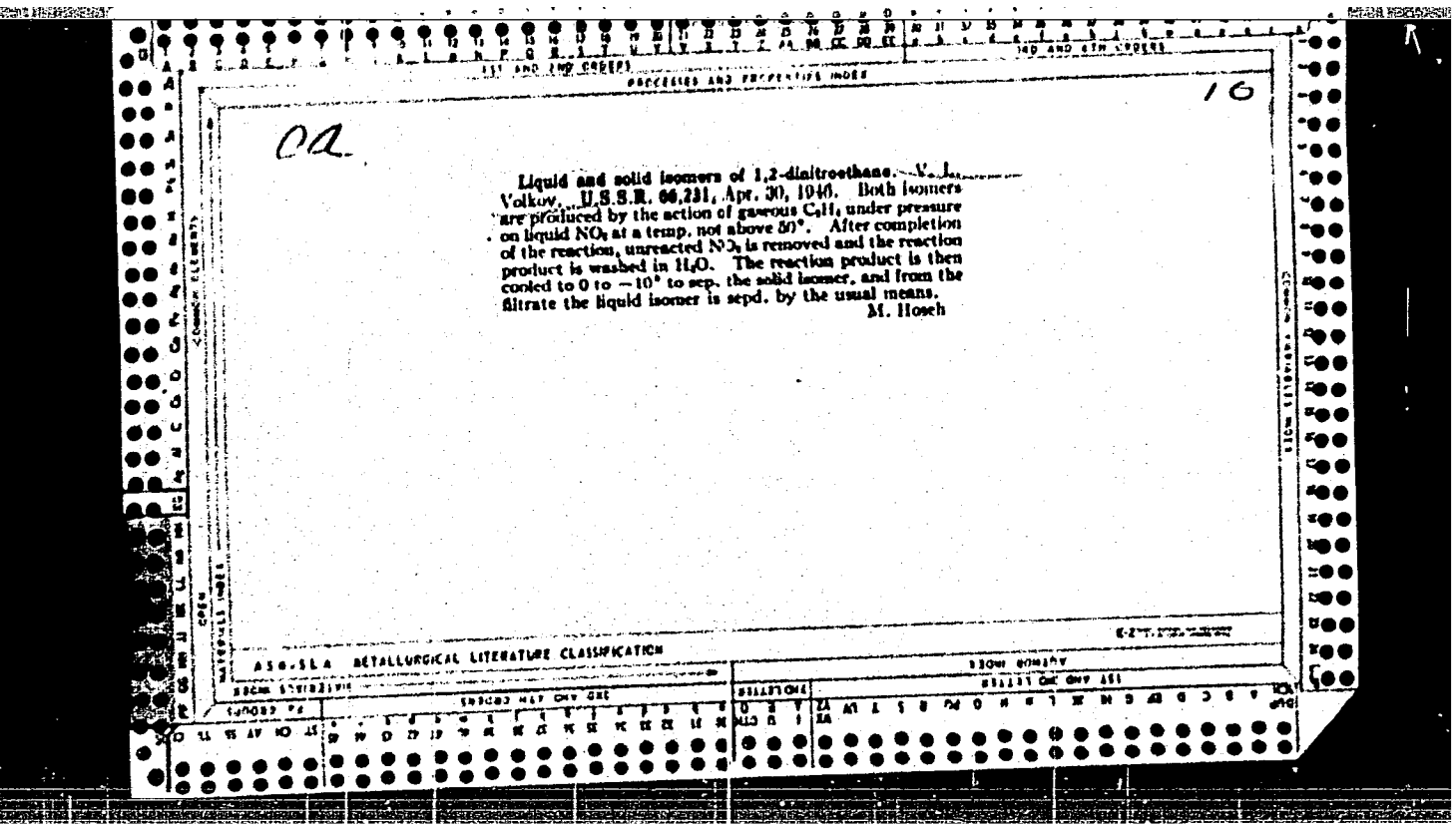


C-2

10

2-Nitroethanol. V. L. Volkov. U.S.S.R. 66,229, Apr. 30, 1946. 2-Nitroethanol is obtained by the reaction of C_2H_4 and NO_2 contg. an admixt. of NO. The reaction is carried out at 20–60° under pressures up to 50 atm. The unstable addn. product thus obtained is decompd. at 100–50° in the presence of steam and the 2-nitroethanol formed is sepd. by the usual means. M. Hosch

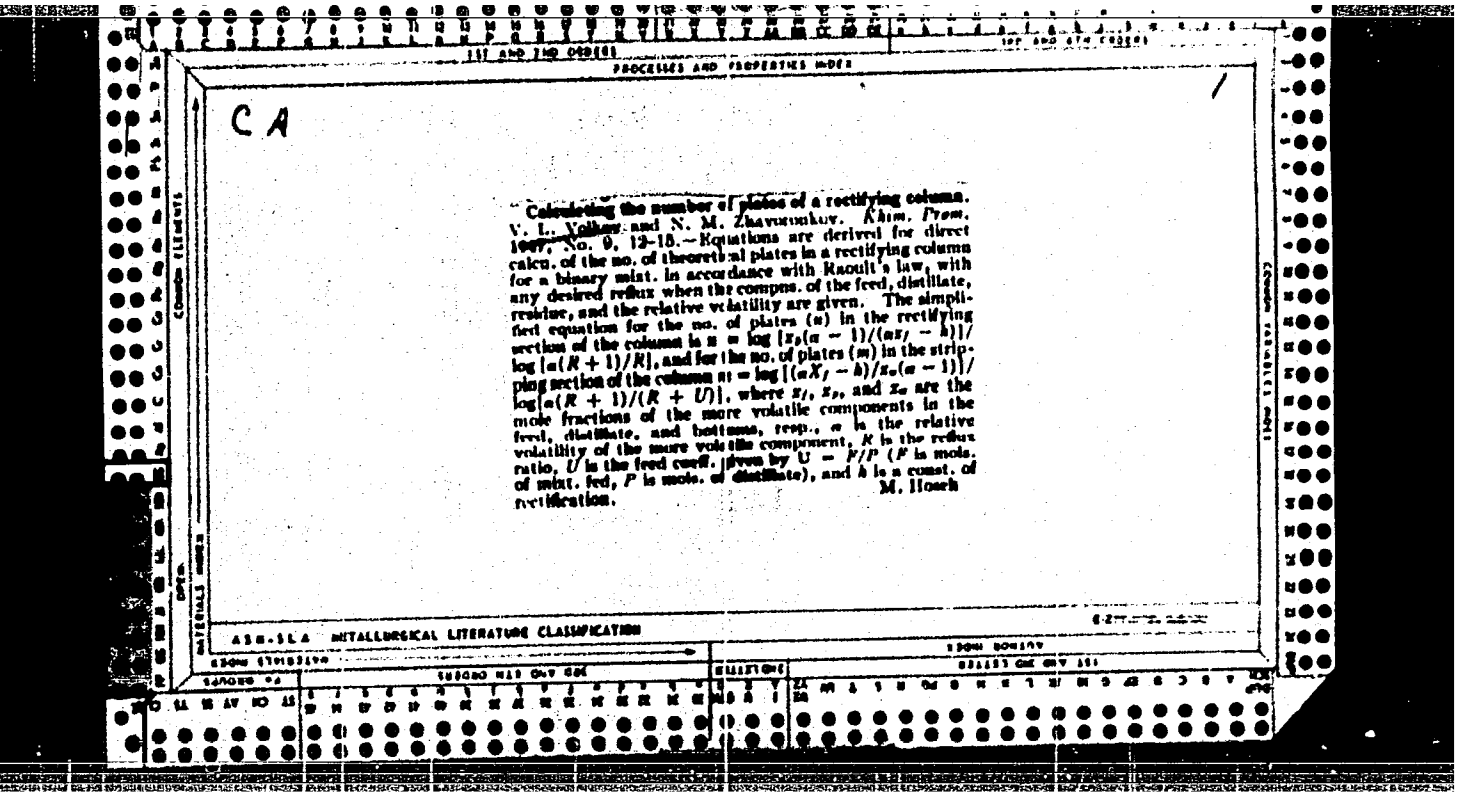
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



16

02

Liquid and solid isomers of 1,2-dinitroethane. V. I. Volkov. U.S.S.R. 66,231, Apr. 30, 1946. Both isomers are produced by the action of gaseous C_2H_4 under pressure on liquid NO_2 at a temp. not above 50°. After completion of the reaction, unreacted NO_2 is removed and the reaction product is washed in H_2O. The reaction product is then cooled to 0 to −10° to sep. the solid isomer, and from the filtrate the liquid isomer is sepd. by the usual means.
M. Hoseh



CA

1

Calculating the number of plates of a rectifying column. V. L. Volkov and N. M. Zhavoronkov. *Khim. Prom.* 1957, No. 9, 12–15.—Equations are derived for direct calcn. of the no. of theoretical plates in a rectifying column for a binary mixt. in accordance with Raoult's law, with any desired reflux when the compns. of the feed, distillate, residue, and the relative volatility are given. The simplified equation for the no. of plates (n) in the rectifying section of the column is $n = \log [x_p(\alpha - 1)/(\alpha x_f - h)]/\log [\alpha(R + 1)/R]$, and for the no. of plates (m) in the stripping section of the column $m = \log [(\alpha X_f - h)/x_w(\alpha - 1)]/\log [\alpha(R + 1)/(R + U)]$, where x_f, x_p, and x_w are the mole fractions of the more volatile components in the feed, distillate, and bottoms, resp., α is the relative volatility of the more volatile component, R is the reflux ratio, U is the feed coeff. [given by $U = F/P$ (F is mols. of mixt. fed, P is mols. of distillate), and h is a const. of rectification.

M. Hoseh

A58-5LA METALLURGICAL LITERATURE CLASSIFICATION

VOLKOV, V.L., kandidat tekhnicheskikh nauk; ZHAVORONKOV, N.M., professor, doktor tekhnicheskikh nauk

Calculations pertaining to rectification plate towers. Khim.prom. no.9:264-267 S'47. (MIRA 8:12)

1. Fiziko-khimicheskiy institut imeni Karpova
(Distillation apparatus)

VOLKOV, V. L.,

USSR

Röntgeno-structural investigation of powder compositions of system nickel-iron, obtained by the carbonyl method, Ya. P. Selisskii, V. D. Krylov, and V. L. Volkov. Zhur. Tekh. Fiz. 22, 1726-(1952).—Powder binary compns. of the system Ni-Fe in the interval of 30-84 atom % Ni, obtained by simultaneous decompn. of carbonyls of Fe and Ni, have a cubic face-centered lattice and do not differ in structure from γ-phase binary alloys of Ni-Fe obtained by usual means. Change in lattice spacing in relation to chem. compn. is the same. Immediately after the carbonyl process a powder is obtained which is chemically heterogeneous between particles but roentgeno-structural differences are not apparent. This internal heterogeneity disappears on annealing at 1000°. V. N. Bednarski

SOV/78-3-11-1/23

AUTHORS: Volkov, V. L., Mikheyev, Ye. P., Anisimov, K. N., Yeliseyeva, L. Ye., Valuyeva, Z. P.

TITLE: The Production of the Carbonyl Compounds of Molybdenum and Tungsten (Polucheniye karbonilov molibdena i vol'frama)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 11, pp 2433-2436 (USSR)

ABSTRACT: In the present paper the authors investigated the reaction velocity, the impurities, the time, as well as the temperature and the pressure of the reaction gases, and the nature of the solvents on the course of the synthesis and the yield of the carbonyl compounds of molybdenum and tungsten. The synthesis of molybdenum carbonyl lasted 2-3 hours, the synthesis of tungsten carbonyl 1-1,5 hours. Tungsten carbonyl is produced with a yield of 81-85% at a reaction temperature of 32-67°. The production of the carbonyl compounds of tungsten and molybdenum is usually carried out at 50 atmospheres absolute pressure. Experiments were carried out to produce molybdenum carbonyl under a pressure of 20-30 atmospheres excess CO-pressure. Zinc powder and aluminum powder were used as reducing agents. If

Card 1/2

The Production of the Carbonyl Compounds of Molybdenum and Tungsten

aluminum is used as reducing agent the yield of molybdenum carbonyl amounts to 0,6% at 18°C, 1,3% at 100°C, 9% at 150°C and 100 atmospheres excess pressure. If iron powder is used as reducing agent, the yield of molybdenum carbonyl amounts to 1,5% at 100°C. If zinc is used as reducing agent, the yield of molybdenum carbonyl is not higher than 6,6%. Mainly zinc powder is used as reducing agent for the production of tungsten carbonyl. The yield amounts to 85%. It was shown that for the production of carbonyl compounds ether in a quantity of not more than 2 g-mol to 1 g-mol metal chloride is necessary.
There are 2 tables and 3 references, 2 of which are Soviet.

SUBMITTED: October 2, 1957

NESMEYANOV, A.N.; ANISIMOV, K.N.; MIKHEYEV, Ye.P.; VOLKOV, V.L.; VALUYEVA, Z.P.

Preparation of tungsten carbonyl by reacting iron pentacarbonyl with tungsten hexachloride. Zhur.neorg.khim. 4 no.2:249-252 F '59. (MIRA 12:3)

(Tungsten carbonyls) (Iron carbonyls)
(Tungsten chlorides)

SOV/78-4-3-2/34

5(2)

AUTHORS: Nesmeyanov, A. N., Mikheyev, Ye. P., Anisimov, K. N., Volkov, V. L., Valuyeva, Z. P.

TITLE: The Synthesis of Molybdenum Carbonyl by Interaction Between Iron Pentacarbonyl and Molybdenum Pentachloride (Sintez karbonila molibdena vzaimodeystviyem pentakarbonila zheleza s pyatikhloristym molibdenom)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 3, pp 503-505 (USSR)

ABSTRACT: It has been found that molybdenum hexacarbonyl is formed in a maximum yield of 28.5% by the interaction between iron pentacarbonyl and molybdenum pentachloride in the presence of hydrogen chloride under a carbon monoxide pressure in an ether medium. Molybdenum hexacarbonyl is formed in a 15% yield at 175° in the presence of compressed hydrogen in an ethyl ether medium. Molybdenum carbonyl is formed in a yield of 23.4% at 175° when the reaction is performed in an autoclave with hydrogen (initial pressure 100 atmospheres) and carbon monoxide (initial pressure 50 atmospheres). There are 2 tables and 1 Soviet reference.

Card 1/2

5(2) SOV/78-4-8-19/43

AUTHORS: Nesmeyanov, A. N., Anisimov, K. N., Volkov, Y. L., Fridenberg, A. E., Mikheyev, Ye. P., Medvedeva, A. V.

TITLE: The Synthesis of Chromium Hexacarbonyl by the Reaction of Chromium Trichloride With Lithium Aluminum Hydride and Carbon Oxide Under Pressure (Sintez geksakarbonila khroma vzaimodeystviyem trekhkhloristogo khroma s litiyalyuminiygidridom i okis'yu ugleroda pod davleniyem)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 8, pp 1827-1828 (USSR)

ABSTRACT: If the reaction mentioned in the title is carried out at a ratio of 1 mole $CrCl_3$: 3 mole $LiAlH_4$ in etheric solution at 65°C and a pressure of 100 at, $Cr(CO)_6$ is obtained in a 65% yield. The hitherto published data (Refs 1-6) show lower yields. A lower content of lithium aluminum hydride in the reaction mixture and lower temperatures strongly reduce the yields (Table 1). There are 1 table and 7 references, 3 of which are Soviet.

Card 1/2

L 42982-66 EWT(m)/EWP(j)/T RM/WW/JW/JWD/JXT(CZ)

ACC NR: AP6013232 SOURCE CODE: UR/0413/66/000/008/0022/0022

INVENTOR: Volkov, V. L.; Drozdov, A. K.; Kabyshev, A. S.; Leont' yev, N. G.; Ustinov, V. K.; Frayman, R. S.; Tsirlin, A. M.

58
B

ORG: none

TITLE: Preparation of trichlorosilane. Class 12, No. 180594 [announced by the Podol' sk Chemical Metallurgy Plant (Polol' skiy khimiko-metallurgicheskiy zavod)

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 8, 1966, 22

TOPIC TAGS: silicon compound, hydrogen chloride, explosive forming

ABSTRACT: An Author Certificate has been issued for a method of obtaining a trichlorosilane by an interaction of silicon-containing crudes with hydrogen chloride. To prevent forming dangerously explosive polychlorosilanes, coarse-crushed silicon-containing crude of 30-mm particle size is used with a continuous feed of hydrogen chloride. Conversion is completed by reciprocal circulation of the silicon-containing crudes in the reaction apparatus equipped with an arrangement for mixing and conveying solid crude. [Translation] [NT]

SUB CODE: 07,11/ SUBM DATE: 24Apr64/

Card 1/1 hs

CHELYUSTKIN, A.B., red.; ITSKOVICH, E.L., red.; PLISKIN, L.G., red.; RAYZMAN, N.S., red.; CHERNYSHEV, V.N., red.; VOLKOV, V.L., red.; CHADRIEV, V.M., red.

[Automatic operational control of production processes; transactions] Avtomaticheskoe operativnoe upravlenie proizvodstvennymi protsessami; trudy. Moskva, Nauka, 1965. 244 p. (MIRA 18:11)

1. Vsesoyuznaya konferentsiya po avtomaticheskomu operativnomu upravleniyu proizvodstvennymi predpriyatiyami. 1st. Moscow, 1963.

VOLKOV, V.L.; SYRKIN, V.G.

Thermodynamic analysis and chemical diagram of the decomposition process of iron pentracarbonyl. Khim. prom. 41 no.5:352-356 My '65. (MIRA 18:6)

L 54003-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 RM

ACCESSION NR: AP5013990 UR/0064/65/000/005/0352/0356
621.762.214:669.12

AUTHORS: Volkov, V. L.; Syrkin, V. G. 20 B

TITLE: Thermodynamic analysis and chemical scheme of the dissociation of iron pentacarbonyl

SOURCE: Khimicheskaya promyshlennost', no. 5, 1965, 352-356

TOPIC TAGS: carbonyl iron, iron compound, chemical reaction kinetics

ABSTRACT: It has been ascertained that powdered iron carbonyl is composed of pure iron and its combinations with carbon, oxygen, and nitrogen, the last three elements accounting for 1-3 % of weight. The basic reaction $Fe \cdot (CO)_5 = Fe + 5 \cdot CO$ is accompanied by complex side reactions occurring between the solid phase and the gaseous surroundings. The authors studied these side reactions and conducted thermodynamic analyses during the decomposition of the iron pentacarbonyl. A description of the known reaction products and some details of the usual process are given. Nineteen reactions which may occur in the gaseous phase are listed, and energy relations are discussed. All reactions discussed are presented graph-

Card 1/2

L 54003-65
ACCESSION NR: AP5013998 6

ically. In each case the free energy is shown as a linear function of temperature. All reactions are described in detail, with particular attention being given to the temperature interval between 500 and 600K. Orig. art. has: 22 equations and 12 figures.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: GC, TD

NO REF SOV: 010 OTHER: 005

Card 2/2

FRAYMAN, R.S., kand.tekhn.nauk; SYRKIN, V.G., kand.tekhn.nauk; VOLKOV, V.L., doktor tekhn.nauk

Investigating the process of the separation of fine metal powders in a cyclone bank. Khim.mashinostr. no.6:20-22 N-D '63. (MIRA 17:2)

S/191/62/000/012/007/015
B101/B186

AUTHORS: Volkov, V. L., Kafyrov, M. I., Kleshchevnikova, S. I., Rumyantseva, Ye. I.

TITLE: Synthesis of triethoxy silane

PERIODICAL: Plasticheskiye massy, no. 12, 1962, 28-29

TEXT: Triethoxy silane is synthesized by bringing trichlorosilane into reaction with ethanol at 25-30°C without using a solvent. The following conditions must be satisfied: (1) In the reaction, the component ratio must be strictly adhered to. The volume ratio indicated is: $SiHCl_3:C_2H_5OH=1:1.75$. (2) The water content of the ethanol must be less than 0.2%. (3) The hydrogen chloride formed must be evacuated rapidly from the reaction vessel. This was secured by passing through nitrogen at a rate of 1-1.5 l/min per liter of reacting liquid, by increasing the nitrogen rate to 3-4 l/min when the introduction of components was completed, and by heating to 50°C when the Cl content of the reaction mixture had reached 7%. The flow of nitrogen was stopped when the Cl content dropped below

Synthesis of triethoxy silane

S/191/62/000/012/007/015
B101/B186

1%. The product was rectified. Yield 35%. The losses in $SiH(OC_2H_5)_3$ are due to the entrainment of reaction products in the HCl and N_2 currents (~ 5%), to side reactions (7-10%) and to rectification losses (~ 1%). There are 1 figure and 1 table.

Card 2/2

S/193/62/000/009/001/002
A004/A101

AUTHORS: Reybakh, M. S., Tsirlin, A. M., Kleshchevnikova, S. I., Volkov, V. L., Matveyev, B. I., Kazakova, N. V.

TITLE: Film-type apparatus for the continuous triethoxysilane synthesis

PERIODICAL: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 9, 1962, 21 - 23

TEXT: This new apparatus for the continuous triethoxysilane synthesis, in which the reaction and desorption zones are separated, has been developed by an organization of the Gosudarstvenny komitet po khimii (State Committee on Chemistry) at the Council of Ministers of the USSR. The apparatus is a film-type mass-exchange column, whose design and operation are described. A table gives comparative data on the triethoxysilane synthesis in film-type and bubbler apparatus. The raw material consumption in the former is only half of the latter, while the output of the film-type apparatus is by 25% higher than that of the bubbler type. Comparing the technical and design data of the continuous film-type apparatus with those of the periodic bubbler apparatus, it is shown that the working volume and hydraulic resistance of the film-type apparatus are considerably lower than

Card 1/2

Film-type apparatus for the...

those of the bubbler apparatus, while the specific surface of heat exchange and the specific surface of phase contact are many times larger (345 and 130 times respectively), which ensures a sharp reduction in desorption time. There are 1 figure and 2 tables.

Card 2/2

MAYMAN, R.S., kand.tekhn.nauk; SYRKIN, V.G.; VOLKOV, V.L., doktor tekhn.nauk

Separation of finely dispersed powder fractions in a battery of cyclones. Khim. prom. no.7:494-498 Jl '61. (MIRA 14:7)

(Separators(Machines))

31605
S/048/61/025/012/012/022
B117/B104

18.1140

AUTHORS: Volkov, V. L., Tolmasskiy, I. S., and Fridenberg, A. E.

TITLE: Carbonyl iron powders

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 25, no. 12, 1961, 1483 - 1486

TEXT: Basing on certain relationships established between the physico-chemical and the electromagnetic properties of carbonyl iron powders, the authors have developed new types of powders: Carbonyl iron powders КЖС (KZh) exhibiting small values of the loss factor (Ref. 3: Otchet organizatsii p/ya 4019, 1959), carbonyl-iron-nickel powders with different nickel contents (Ref. 4: Volkov, V. L. Ivashova, M. V., Tolmasskiy, I. S., Otchet organizatsii p/ya 4019, 1958) and decarbonized carbonyl iron ВКЖС (VKZh). The examination of the above-mentioned powders has shown that the initial permeability of a KZh-type powder is much smaller than that of powders of the types VKZh, Н -5(N-5) and Н -50(N-50). This is due to the fact that KZh powders contain considerable carbon and nitrogen

Card 1/3

Carbonyl iron powders

admixtures (in the form of carbide and ferronitride), and to the nodular structure which prevents the domain boundaries to be displaced under magnetic field action. Magnetic losses increase by decarbonizing carbonyl iron powder. Due to the destruction of the nodular structure, eddy current losses, e. g. occurring in VKZh powders are almost five times and hysteresis losses twelve times those of the corresponding losses of KZh powders. Due to lower conductivity, resulting from the iron being alloyed with nickel, losses of carbonyl iron nickel powders (particularly of the N-50) are much smaller than those of VKZh. Compared with KZh powders, decarbonized powders are characterized by higher temperature coefficients of the initial permeability, because with the admixtures removed the boundaries of the domain are supposed to be displaced easier. Electromagnetic parameters are chiefly determined by their chemical composition and their particle size. It has been shown that hysteresis losses are minimized by reducing the carbon and nitrogen content. Due to a smaller number of particles exhibiting nodular structure, a further removal of admixtures results in an increase in the eddy current and hysteresis losses. A decrease of admixtures in KZh powders as the result of different conditions

31605
S/048/61/025/012/012/022
B117/B104

Carbonyl iron powders

of preparation decreases the temperature coefficient of the initial permeability. An increase in size of the particles of KZh powders, the chemical composition remaining unchanged, leads to an increase in hysteresis and eddy current losses and of the temperature coefficient of initial permeability. The frequency dependence of the magnetic loss angle tangent found in this way, apparently confirms the presence of magnetic viscosity in carbonyl iron, due to admixtures. There are 2 figures, 3 tables, and 8 references: 6 Soviet and 2 non-Soviet. The reference to the English-language publication reads as follows: Richards, C. E., Post. office Eng. Res. Station, 1952.

Card 3/3

3(4)
AUTHOR: Volkov, V. M.

SOV/6-59-9-7/19

TITLE: On the Use of a Mobile Car Repair Shop

PERIODICAL: Geodeziya i kartografiya, 1959, Nr 9, p 32 (USSR)

ABSTRACT: In March 1958, Team Nr 61 received a new mobile car repair shop of type VAREM-3. In summer, it was stationed at the base of the Team and in case of need, was called to repair automobiles. Due to the small number of spare parts available, it was not possible to plan the work of the car repair shop in advance and to visit the individual brigades regularly for a prophylactic inspection of the cars. The brigades worked at a distance of up to 600 km from the base. In spite of this circumstance, the Party working in Central Kazakhstan succeeded in reducing considerably the waiting periods caused by damages. For a better utilization of the mobile car repair shop, it is recommended to carry along a car mechanic, a fitter, and an autogenous welder.

Card 1/1

ACC NR: AP6033449 SOURCE CODE: UR/0413/66/000/018/0032/0032

INVENTOR: Syrkin, V. G.; Tolmasskiy, I. S.; Volkov, V. L.; Fridenberg, A. E. (Deceased)

ORG: None

TITLE: A method for producing highly dispersed carbonyl iron powder. Class 12, No. 185864

SOURCE: Izobret prom obraz tov zn, no. 18, 1966, 32

TOPIC TAGS: carbonyl iron, iron powder, powder metal production

ABSTRACT: This Author's Certificate introduces a method for producing highly dispersed carbonyl iron powder by thermal dissociation of iron pentacarbonyl. The yield is increased and a product with a low degree of carburization is obtained by sectional inlet and outlet of the heating gas along the height of the equipment from top to bottom to produce "falling" temperature conditions.

SUB CODE: 11/13/ SUBM DATE: 09Sep61

UDC: 546.725.07

Card 1/1

VOLKOV, V. M.

Volkov, V. M. — "The Mechanism of Nonprolonged Deteriorations in Muscular Work in Sports." State Central Order of Lenin Inst of Physical Culture imeni I. V. Stalin, Moscow, 1955. (Dissertation for Degree of Candidate of Biological Sciences).

SO: Knizhnaya Letopis', No. 23, Moscow, June, 1955, pp. 87-104.

VOLKOV, V.M., kandidat biologicheskikh nauk

Why is warming up necessary. Zdorov'e 2 no.8:5 Ag '56. (MLRA 9:9)
(PHYSICAL EDUCATION AND TRAINING)

VOLKOV, V.M., kandidat biologicheskikh nauk

Physical culture and children's health. Zdorov'e 2 no.9:1-3 S '56. (MIRA 9:10)

(PHYSICAL EDUCATION FOR CHILDREN)

VOLKOV, V.M.

IVANOV, N.A., professor; VOLKOV, V.M.

Successful use of ACTH and cortisone in treating exudative and arthropathic psoriasis. Vest.derm. i ven. 31 no.4:54 Jl-Ag '57. (MIRA 10:11)

1. Iz kafedry kozhnykh bolezney Voyenno-morskoy meditsinskoy akademii
(PSORIASIS) (ACTH) (CORTISONE)

VILENSKIY, Khatskel' Moiseyevich[Vilens'kyi, Kh.M.], kand. tekhn. nauk; PAL'KOVICH, Savelly Yeremeyevich [Pal'kovych, S.IA.], doktor tekhn. nauk; KOVAL'CHUK, O.V., inzh., red.izd-va; VOLKOV, V.M., kand. tekhn. nauk, retsenzent

[Reception of centimeter waves] Pryimannia santymetrovykh khvyl'. Kyiv, Tekhnika, 1964. 291 p. (MIRA 17:11)

SIDORENKO, V.V.; VOLKOV, V.M.

Derivation of a logarithmic amplitude response characteristic in a transistor video amplifier. Izv. vys. ucheb. zav.; radiotekh. 7 no.2:220-228 Mr-Ap '64. (MIRA 17:8)

VILENSKIY, Khatskel' Moiseyevich [Vilens'kyi, Kh.M.], kand. tekhn. nauk; FAL'KOVICH, Saveliy Yeremeyevich [Fal'kovych, S.IE.], doktor tekhn. nauk; VOLKOV, V.M., kand. tekhn.nauk, retsenzent

[Microwave reception] Priiamannia santymetrovykh khvyl'. Kyiv, Tekhnika, 1964. 292 p. (MIRA 18:2)

L 6301-66

ACC NR: AP5026200 SOURCE CODE: UR/0142/65/008/004/0478/0481

17
B

AUTHOR: Volkov, V. M.; Rubtsov, A. T.

ORG: none

TITLE: Analysis of a transistorized resonant amplifier operating in a wide dynamic range

SOURCE: IVUZ. Radiotekhnika, v. 8, no. 4, 1965, 478-481

TOPIC TAGS: resonant amplifier, transistorized amplifier

ABSTRACT: An amplifier circuit is suggested in which AGC depends on the d-c component of the emitter current and on the nonlinearity of transistor characteristics. Accordingly, the AGC resistor, in a common-emitter or common-base circuit, is shunted by a capacitor which passes the r-f component and impedes the slow-varying component of the emitter current. Approximate formulas are developed for designing such an amplifier. They were verified experimentally on a P411-transistor amplifier operating at a resonance frequency of 26 Mc with $\Delta F = 3$ Mc and an equivalent circuit resistance of 1 kohm. The new method is intended for analytical design of amplitude characteristics of the transistorized resonant amplifiers,

Card 1/2 UDC: 621.375.126:621.382.3

0901 1812

L 6301-66 200 0

ACC NR: AP5026100

transistorized detectors supplying an emitter-circuit load, and some multistage logarithmic amplifiers. Orig. art. has: 3 figures and 14 formulas.

SUB CODE: EC/ SUBM DATE: 23Jan64/ ORIG REF: 003/ OTH REF: 000

Card 2/2 RS.

VOLKOV, V.M.

Automatic machine for broaching small slots. Biul. tekh.-ekon. inform. Gos. nauch.-issl. inst. nauch. i tekh. inform. 18 no.7:35-36 Jl '65. (MIRA 18:9)

VOLKOV, V.M.; NOVIN'KOV, A.G.

Analysis of transient processes in a bandpass IF amplifier with instantaneous gain control according to the radio pulse envelope at large signal levels. Izv.vys.ucheb.zav.; radiotekh. 7 no.5:624-628 S-O '64. (MIRA 18:4)

VOLKOV, V.M.

Gas exchange and respiration in boys performing rhythmic locomotive exercises at a maximum speed. Fiziol. zhur. 49 no.12: 1457-1460 D '63. (MIRA 17:12)

1. From the Department of Physiology, Institute of Physical Culture, Smolensk.

VOLKOV, V.M.; NOVIN'KOV, A.G.

Analysis of transient processes in a tuned amplifier with high-speed automatic gain control. Radiotekhnika 19 no.6: 24-31 Je '64. (MIRA 17:10)

1. Deystvitel'nyye chleny Nauchno-tekhnicheskogo obshchestva radiotekhniki i elektrosvyazi imeni Popova.

VOLKOV, V.M.; DYATKINA, M.Ye.

Determination of the most stable configuration of molecules by the method of maximum overlap. Zhur.strukt.khim. 4 no.5: 728-733 S-O '63. (MIRA 16:11)

1. Institut obshchey i neorganicheskoy khimii imeni N.S. Kurnakova AN SSSR.

VOLKOV, V.M.; GAZHIYENKO, V.A.; KURILIN, B.I.

Device for checking and self-testing of knowledge in programmed teaching. Izv. vyz. ucheb. zav.; radiotekh. 6 no.4:442-443 Jl-Ag '63. (MIRA 16:11)

LEVIN, A.A.; VOLKOV, V.M.; DYATKINA, M.Ye.

Theoretical examination of the stereochemistry of complex compounds of elements with F-electrons. Part 1: Conversion of the f-orbital of the central atom. Zhur.strukt.khim. 4 no.6:930-934 N-D '63. (MIRA 17:4)

1. Institut obshchey i neorganicheskoy khimii imeni Kurnakova AN SSSR.

RUMYANTSEV, M.V.; VOLKOV, V.M.; LEVIN, M.F.

Programmed teaching in radio engineering courses. Izv. vys. ucheb. zav.; radiotekh. 6 no.4:378-386 Jl-Ag '63. (MIRA 16:11)

VOLKOV, V.M.; LEVIN, A.A.; DYATKINA, M.Ye.

On the relative stability of isomers in $MX_{6-2}Y_2$ molecules. Dokl. AN SSSR 152 no.2:359-362 S '63. (MIRA 16:11)

1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova AN SSSR. Predstavleno akademikom I.I. Chernyayevym.

VOLKOV, V.M.; LEVIN, A.A.

Mechanism of the addition of proton to methane. Zhur.strukt.khim. 4 no.1:114-116 Ja-F '63. (MIRA 16:2)

1. Institut obshchey i neorganicheskoy khimii imeni N.S. Kurnakova AN SSSR.

(Methane) (Protons)

VOLKOV, V.M.

Overlapping integrals and approximate evaluations of chemical bond energies. Usp.khim. 31 no.12:1528-1538 D '62. (MIRA 16:2)

1. Institut obshchey i neorganicheskoy khimii AN SSSR imeni N.S.Kurnakova.

(Chemical bonds)

LEVIN, A.A.; VOLKOV, V.M.

Calculation of the proton affinity of methane and its homologs. Zhur.strukt.khim. 3 no.6:721-723 '62. (MIRA 15:12)

1. Institut obshchey i neorganicheskoy khimii imeni N.S. Kurnakova AN SSSR.

(Methane) (Protons)

VOLKOV, V.M.

Mechanization and automation of production processes in manufacturing micrometers at the "Kalibr" Plant. Stan.i instr. 32 no.9:36-41 S '61. (MIRA 14:8)
(Moscow--Micrometer)
(Automation)

VOLKOV, V.M., dotsent, kandidat tekhnicheskikh nauk.

Calculating call impulse transformers. Sbor.nauch.tryd.LETIIZHT no.6:167-176 '54. (Telephone, Automatic) (MLRA 9:1)

VOLKOV, V.M., kandidat tekhnicheskikh nauk, dotsent; PSAREV, S.A., inzhener.

Investigation of cord pairs for the ATS-47 and UATS-49. Sbor.LIIZHT no.151:159-163 '56. (MLRA 10:1)
(Telephone, Automatic)

VOLKOV, Vladimir Mikhaylovich, DYUFUR, Sergey L'vovich, KOROGODSKAYA, Raisa L'vovna, NOVIKOV, Vasiliy Aleksandrovich, red.; FEL'DMAN, A.B., inzh., red.; BOBROVA, Ye.N., tekhn. red.

[Telephony] Telefoniia. Pod obshchei red. V.A.Novikova. Moskva, Gos. transp. zhel-dor. izd-vo, 1958. 404 p. (MIRA 11:10)
(Telephone)

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AUTHOR: Volkov, V.M.

TITLE: On the Problem of Transient Processes in Logarithmic Video Amplifiers

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika 1959, Vol 2, Nr 5, pp 607 - 615 (USSR)

ABSTRACT: The author discusses typical transient process features in video amplifiers with logarithmic amplitude characteristics (LAKh - logarifmicheskaya amplitudnaya kharakteristika), which is obtained by shunting the anode loads of amplifier stages by nonlinear elements, i.e. vacuum tubes or semiconductor diodes, for example DGTs, D2 or D9 germanium diodes. Relationships are derived for the pulse setup time at the amplifier output. Values are given for the incline of the flat pulse top and the "parazitnyy obratnyy vybros" (translation unknown). The latter restricts the practical application of logarithmic video amplifiers with a dynamic range of more

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than 50-55 db. It is difficult to produce a logarithmic amplitude characteristics in a single stage for a range of more than 15-20 db. However, it may be obtained over a very wide range when using several nonlinear stages, working alternately in logarithmic operation during input voltage increases. Figure 2 shows the amplitude characteristics of a nonlinear stage, requiring n stages for alternate operation and for two logarithmic bases (N = 2.72, N = 10). The equivalent circuit diagram of a nonlinear amplifier stage is shown in Figure 1. The author divides this circuit diagram into two equivalent circuit diagrams, shown in Figures 3 and 6, for the higher and lower frequencies. This is necessary, since the pulse front distortion is caused by the frequency response of nonlinear stage in the region of the higher frequencies, while distortions of the flat pulse

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top are caused by the lower frequencies. Calculations and experiments performed by the author showed that the equivalent circuit diagram in Figure 6 may be regarded as linear, since the current in the circuit and the resistance of the nonlinear element remain practically constant during the influence of pulses of 5 - 10 microseconds duration ($R_a \gg 1$ kilohm, $C_c = 0.1 \div 0.05$ microfarad). The author examines the formation of the "parazitnyy obratnyy vybros" during the discharge of the capacitor C_c after the pulse action is over. The discharge of capacitor C_c is shown by the equivalent circuit diagram in Figure 7. The "parazitnyy obratnyy vybros", formed in a nonlinear stage, is considerably smaller than the signal and is amplified according to a linear law, while the signal is amplified by a logarithmic law. Calculations and ex-

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periments showed that the relative "parazitnyy obratnyy vybros" will rise to 60% (t = 1 microsecond, R_a = 2 kilohms, C_c = 0.1 microfared) at the end of the logarithmic range of 70 db at the output of a video amplifier consisting of nonlinear stages whose equivalent circuit diagram is shown in Figure 1. The pulse setup time at the outlet of an n-stage logarithmic video amplifier decreases considerably with rising input voltages, while the incline of the flat pulse top and the "parazitnyy obratnyy vybros" increase significantly. The latter are diminished greatly, if the nonlinear elements shunting the stage's anode load are connected before the capacitors C_c. All theoretical assumptions explained in this paper were checked experimentally.

The author expresses his gratitude to Professor N.F. Vollerner for valuable suggestions. Publication of this

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paper was recommended by the Kafedra radiopriyemnykh ustroystv (Department of Radio Receivers) of the Kiyevskiy ordena Lenina politekhnicheskiy institut (Kiyev - Order of Lenin - Polytechnical Institute). There are 4 circuit diagrams, 6 graphs, 1 table and 2 Soviet references.

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VOLKOV, Vladimir Mikhaylovich; NOVIKOV, Vasiliy Aleksandrovich; POMOMAREV, Aleksandr Arkad'yevich; NIKOL'SKIY, V.A., inzh., red.; BOBROVA, Ye.N., tekhn.red.

[Wire communication systems on railroads] Provodnaia sviaz' na zheleznodorozhnom transporte. Moskva, Vses.izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1960. 255 p. (MIRA 13:12)

(Railroads--Communication systems)

Volkov, V. M.

PHASE I BOOK EXPLOITATION SOV/4426

Leningrad. Institut inzhenerov zheleznodorozhnogo transporta

Avtomatika, telemekhanika i svyaz' (Automation, Telemechanics, and Communications) Moscow, Transzheldorizdat, 1960. 230 p. (Series: Its: Sbornik, vyp. 169) 1,000 copies printed.

General Ed.: V. N. Listov, Professor; Ed.: O. I. Murenkova, Engineer; Tech. Ed.: Ye. N. Bobrova.

PURPOSE: This book is intended for technical personnel and scientists engaged in the fields of automation, telemechanics, and communications.

COVERAGE: This collection of articles presents various methods of analysis and synthesis of electric circuits. New designs are described and ways of improving technical and economic indices of communication instruments investigated. The articles contain computations for individual types of communication and telemechanical systems. No personalities are mentioned. Some of the articles are accompanied by references.

Balagin, I. Ya., Candidate of Technical Sciences, Docent. Method of Improving Parameters of Polarized Relays With Spring Suspension of the Anchor 177
The author presents a method which makes it possible to maintain the given traction strength value of a relay constant without current and to improve other relay parameters. There are 3 references, all Soviet.

Aref'yev, D. V., Engineer, and I. Ya. Balagin, Candidate of Technical Sciences, Docent. Analysis of the Operation of High-Speed Polarized Relays With a Differential Scheme of the Magnetic Circuit 183
The authors describe the basic parameters of both single- and double-armature high-speed polarized relays having a differential scheme of the magnetic circuit. The article is devoted to a demonstration that of the two types the single-armature relay is more advantageous.

Volkov, V. M., Candidate of Technical Sciences. The Problem of Separating Transmission and Reception Channels When Organizing Conference Call Communications Along Four-Wire Circuits and Using Crystal Amplifiers 195
The author states that the use of differential transformers in the construction of separator systems makes it possible to use crystal triodes in the amplifiers, which considerably simplifies the circuit and adds to its reliability.

Chamenko, A. P., Engineer. Design of a Linear Frequency Spectrum in Multichannel Long-Range Communication Systems 201
The author recommends the adoption of a circuit with one stage of tertiary [illegible] conversion for the linear frequency spectrum. This arrangement simplifies the equipment and reduces its cost. There are 4 references: 2 Soviet, 1 English, and 1 French.

Pashentsev, I. D., Candidate of Technical Sciences, Docent, V. F. Volkov, Engineer, and V. A. Sobakin, Engineer. Numerical Code Noncontact Transmitter Using Magnetic Amplifiers 215
This is the description of a noncontact transmitter of numerical code designed by the authors in collaboration with Engineer A. A. Grigor'yants. The transmitter generates code pulses by means of a special circuit using magnetic amplifiers and operating under relay conditions. Its model was tested at the "Beskontaktnyye sistemy avtomatiki" laboratoriya ("Noncontact Automation Systems" Laboratory) of the LIIZhT (Leningrad Railroad Engineers Institute)

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AUTHOR: Volkov, V.M.

TITLE: Amplifier With an Exponential Amplitude Characteristic

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika, 1960, Vol. 3, No. 4, pp. 485-492

TEXT: A receiver with a logarithmic amplitude characteristic has an increased noise immunity in comparison with a receiver having a linear amplitude characteristic. Usually, the intermediate frequency amplifier in a receiver has a logarithmic characteristic which can be expressed as $z = a \ln x + 1$ where x and z represent the input and output voltages of the amplifier and a is a constant characterising the slope of the logarithmic amplitude characteristic. However, the receiver of this type results in a deterioration of the signal-to-noise ratio at the output, as compared with a linear receiver. This deficiency can be overcome, if the logarithmic receiver is followed by an amplifier having an exponential amplitude characteristic. In practice, such an amplifier can easily be constructed. A block diagram of such a device is shown in Fig. 1 and its amplitude characteristic is illustrated

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in Fig. 2. The amplifier can be connected after the detector. A detailed circuit diagram of the amplifier is shown in Fig. 6, where the resistances R_1 and R_2 are employed to produce a suitable bias voltage across the non-linear element (rectifier). Amplitude characteristics of this device are shown in Fig. 7. The problem was also investigated experimentally and the results are illustrated in Fig. 8, where the exponential characteristics are plotted in a semilogarithmic scale; the "solid" curves represent the ideal exponentials, while the dotted curves give the experimental results. An amplifier with an exponential amplitude characteristic is particularly useful if the receiver is employed in the measurement or detection of very weak signals. One of the disadvantages of the amplifier is its temperature dependence, which is due to the poor temperature characteristics of the

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semiconductor diode employed. However, the system is comparatively simple and gives a dynamic range of 25 - 30 db. The author expresses his gratitude to Yu.V. Barabash for carrying out the experiments. There are 8 figures.

ASSOCIATION: Kafedra radiopriyemnykh ustroystv Kiyevskogo ordena Lenina politekhnicheskogo instituta (Chair of Radio Receiving Devices of the Kiyev "Order of Lenin" Polytechnical Institute)

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VOLKOV, V.M., dots.

Carrying district telephone communications on radio relay lines. Avtom., telem.i sviaz' 4 no.3:10-12 Mr '60. (MIRA 13:7)

1. Leningradskiy institut inzhenerov zheleznodorozhnogo transporta.
(Railroads--Communication systems)