

PINCHUK, I. S. and SHUBENKO, V. A.

"Graphic Method of Calculating Transient Phenomena in an Induction Motor,"
Elektrichestvo, No.2, 1949

SOV 137 57 11 21690

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr. 11, p. 150 (USSR)

AUTHORS: Patskevich, I. R., Kulikov, G. D., Pinchuk, I. S.

TITLE: An Investigation of the Process of Hardfacing by Means of Automatic Vibrating-electrode Arc Welding (Issledovaniye protsessa avtomaticheskoy vibrodugovoy naplavki)

PERIODICAL: V sb.: Vosstanovleniye iznoshennykh detaley avtomaticheskoy vibrodugovoy naplavkoy. Chelyabinsk, 1956, pp 64-98

ABSTRACT: A study of oscillograms of current and voltage conditions in the course of hardfacing operations performed with the aid of vibrating electrodes demonstrated that this process is essentially an arc process. It differs from standard arc-welding hardfacing procedures only with regard to the employment of vibrating electrodes and a cooling fluid; therefore, it would be more correct to refer to it as a vibrating-electrode arc-welding method (VEAW). Oscillograms indicate that every electrode vibration includes a period of electric arc discharge, an idle period, and a short-circuit period. The greater part of the heat energy (82-94 %) is generated during the

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An Investigation of the Process of Hardfacing (cont.)

period of the arc discharge. The idle period has an adverse effect upon the characteristics of the electrode and the quality of bonding between the deposited metal and the parent metal. Idle periods may be eliminated by employing a welding generator as a source of power. In order to stabilize the process it is desirable that generators with good "surge-and-dip" characteristics be utilized. Reverse polarity must be employed during VEAW. The vibration of the electrode ensures the stability of the process by providing frequent excitation of the arc discharge (100 per second). In addition, the vibration causes the electrode metal to be transferred in small quantities (at the instant when the electrode contacts the component), thus favorably affecting the formation of beads. The cooling fluid reduces the effects of heat on the component, increases the rate of cooling of the metal, and protects the molten metal from the action of air. The selection of the area on the component to which the coolant is supplied, and the manner in which this is accomplished are factors of great importance. The process of propagation of heat in the parent metal during VEAW may be schematically described by the action of a rapidly moving point source of heat traveling along the surface of a semi-infinite body. Structural changes occurring during VEAW essentially do not differ from changes taking place in a heat-affected zone during standard arc-welding procedures.

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SOV 137 57 1 2199

An Investigation of the Process of Hardfacing (cont)

Large temperature gradients and high rates of cooling in the process of VEAW favor the formation of hardened structures, which frequently results in cracking of the heat affected zone

V K

Card 3 3

105-9-6/32

AUTHOR: Pinchuk, I.S., Dotsent and Candidate of Technical Sciences.

TITLE: Transients in Periodically Loaded Induction Motors. (Perekhodnyye protsessy v asinkhronnykh dvigatelyakh pri periodicheskoy nagruzke)

PERIODICAL: Elektrichestvo, 1957, Nr 9, pp. 27-30 (USSR)

ABSTRACT: In the case of gratings, vibrators and similar machines the load and the rotor velocity of the induction motor change very often and within wide ranges during one period. For such drives the driving motor must be selected with regard to the electric-magnetic transition processes. A calculation taking account of this circumstance is carried out. The problem of the electric-magnetic transition process is solved analytically with a given rule concerning the change of rotor-velocity and for the case of a lacking effective resistance in the stator circuit. A steady operation with periodic load is investigated restricted to those cases where the mean quadratic value of the motor moment and therefore also the mean sliding value do not exceed the nominal value. The description of the experimental investigation follows. A comparison between experimental and calculated results shows and proves the applicability of the suggested method for the consideration of the electric-magnetic transition process in the case of periodic load. In the end an example is calculated through.

Card 1/2

PINCHUK, I.S., kand. tekhn. nauk; SHAPOVALOV, A.T., inzh.

Running of machines with crankgears. Mekh. i elk. sots. sel'khoz.
15 no.2:38-40 '58. (MIRA 11:5)

1. Chelyabinskiy politekhnicheskiy institut (for Pinchik). 2.
Chelyabinskiy institut mekhanizatsii i elektrifikatsii sel'skogo
khozaystva (for Shapovalov).
(Electric machines)

AUTHOR: Sergeyev, A.S. Docent
TITLE: Dissertations (Dissertatsii)
PERIODICAL: Elektrichestvo 1958, Nr 5, pp. 91-92 (USSR)

ABSTRACT: For the Degree of Candidate of Technical Sciences
At the Ural Polytechnic Institute (Imeni Kirova) (Uralskiy
politeknicheskii institut Im. Kirova)
S.D.Levintov on June 27, 1949 "Electromechanic Transition Processes
in a Synchronous Motor in the Case of Periodic Load (of the Com-
pressor Type)". Official opponents: N.S.Slanov, Professor, Doctor
of Technical Sciences, I.D.Urusov, Docent and A.T.Platonov, Candidate
of Technical Sciences
I.S.Pinchuk on June 27, 1949 "Electromechanic Transition Processes
in Asynchronous Motors". Official opponents: N.S.Slanov, Professor,
Doctor of Technical Sciences, A.A.Yanko Trubitskiy, Docent, Candidate
of Technical Sciences and I.M.Chudnovskiy, Engineer
I.D.Urusov on June 27, 1949 "The Mechanical Strength of the Casings
of Electric Machines Subjected to the Action of Electromagnetic
Loads". Official opponents: I.P.Sokolovskiy, Doctor of Technical
Sciences and M.V.Belyayev, Docent, Candidate of Technical Science

Card 1/4

Dissertations

105 100 10/1/54

S.F.Sitnikov on March 2, 1950 "Some Problems Connected with the Theory of Arc-Extinguishing Devices". Official opponents: N.S.Siunov, Professor, Doctor of Technical Sciences, V.G.Stepanov, Docent, Candidate of Technical Sciences and V.M.Sitnikov, Docent, Candidate of Technical Sciences.

D.M.Shakhray on June 26, 1950 "The Investigation of a Special System for the Electric Equipment of Dredges". Official opponents: I.B.Sokolovskiy, Professor, Doctor of Technical Sciences, M.V. Belyayev, Docent, Candidate of Technical Sciences and A.Ia.Tropp, Candidate of Technical Sciences.

G.P.Kropachev on June 30, 1953 "Investigation of an Asynchronous Starter in Synchronous Machines with Salient Poles and without Starter Cage". Official opponents: N.S.Siunov, Professor, Doctor of Technical Sciences, S.A.Volotkovskiy, Doctor of Technical Sciences and M.A.Pirumyan, Docent.

V.P.Shasherin on January 18, 1954 "Some Problems of Cathode-Cathode Lographic Measurements when Testing High-Frequency Apparatus". Official opponents: N.S.Siunov, Professor, Doctor of Technical Sciences and V.G.Stepanov, Candidate of Technical Sciences.

R.N.Urmanov on June 7, 1954 "Investigation and Calculation of Circuits with a Three Phase Welding Arc". Official opponents: S.A.Volotkovskiy, Professor, Doctor of Technical Sciences and G.P.Mikhaylov, Professor, Doctor of Technical Sciences.

Card 2/4

Dissertations

At the Sverdlovsk Mining Institute imeni Vakhrameeva (Gornyy institut im. Vakhrameeva):

I.P. Petrov on February 17, 1964 "Electric Locomotives for Repulsion Repulsion Traction Motors for Single Phase Current of Normal Frequency." Official opponents: N.I. Sidorov, Professor, Doctor of Technical Sciences and A.T. Blazhkin, Docent, Candidate of Technical Sciences

At the Gor'kiy Polytechnic Institute imeni Zhdanov (Gor'kiy politekhnicheskiy institut im. Zhdanov):

S.N. Shevchuk on June 14, 1949 "Problems of Insulation against Loss of Heat in Electromotors of Metal Working Machines." Official opponents: D.M. Morozov, Professor, Doctor of Technical Science, N.V. Shchedrin, Docent, Candidate of Technical Sciences and K.F. Shvakov, Engineer.

At the Tomsk Polytechnic Institute imeni Kirov (Tomskiy politekhnicheskiy institut im. Kirova):

G.P. Fukhova on March 26, 1947 "On the Problem of the Automatic Connection of Individual Lines in the Case of Electric Transmission with Bilateral Feed." Official opponents: V.A. Yegorov, Professor, Doctor of Technical Sciences and I. D. Kutuyavin, Candidate of Technical Science.

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Dissertations

A.N.Zhilin on April 26, 1950 "Transition Processes in Three-Phase Circuits in the Case of Non Simultaneous Phase Connection". Official opponents: V.K.Sherbakov, Professor, Doctor of Technical Sciences and Yu.Ye.Nebelyayev, Docent, Candidate of Technical Sciences.

V.A.Abakumov on June 30, 1950 "Automation of a Series-parallel Circuit According to the Leonard Circuit with Shunt Wound Generator". Official opponents: I.A.Balashov, Professor, Doctor of Technical Sciences and L.I.Gandzha, Docent, Candidate of Technical Sciences.

V.U.Kostikov on March 13, 1950 "Methods of Determining Equivalent Specific Electric Conductivity". Official opponents: V.K.Sherbakov, Professor, Doctor of Technical Sciences and V.M.Pitov, Docent, Candidate of Technical Sciences.

AVAILABLE: Library of Congress

1. Scientific reports of the Ministry of Electrical Equipment of the USSR
2. Electrical engineering

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Vinohuk, I.S.

25(1)

PHASE I BOOK EXPLOITATION

SOV/2280

Chelyabinsk. Politekhnicheskiy institut

Voprosy svarochnogo proizvodstva (Problems in Welding) Moscow, Mashgiz, 1959. 92 p. (Series: Its; Sbornik, No. 16). 6,000 copies printed.

Reviewers: P.I. Boykov, Engineer, A.G. Menzenkamp, I.I. Vinnik, N.A. Klykov, N.A. Karpova, N.I. Andrianov, V.M. Solovskoy, L.Ye. Garmash, and N.M. Yegorov, Docent; Ed. (Title page): K.A. Yes'kova, Docent; Ed. (Inside book): A.G. Kozlov; Tech. Ed.: N.A. Dugina; Exec. Ed. (Ural-Siberian Division, Mashgiz): A.V. Kaletina, Engineer.

PURPOSE: This collection of articles is intended for engineers, technicians and scientific workers.

COVERAGE: This is a compilation of articles written by scientific workers of the Department of Welding Processes and Equipment of the Chelyabinsk Polytechnical Institute. The articles deal with little developed or entirely new problems of practice and theory of welding. The articles cover weldment deformation, welding of strips

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Card 2/4

Problems in Welding

SOV/2280

tion of the electrode.

Bakshi, O.A. Candidate of Technical Sciences. The Method of Measuring Electrode Vibration Amplitude in Automatic Vibroarc Surfacing by Welding

45

The author describes the principles of measuring electrode vibration by means of a measuring wedge.

Berezkin, P.N., Docent. Method of Checking Weldability of Thin Carbon Steel Sheet Metal

51

The author discusses the preference of using rimmed, killed, and semi-killed steel for the above purpose.

Patskevich, I.R., and Engineer V.M. Shakhmatov. Investigating Resistance Welding of Cast Iron to Steel

56

The authors discuss results of metallographical investigations, the results of mechanical testing of weld joints, and the possibilities of introducing the method into industry.

Rudakov, A.S., Docent, and Engineer V.M. Shakhmatov. Butt Welding of Resistance Alloys Strips

68

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PINCHUK, I.S., kand. tekhn. nauk; SILPOVALOV, A.T., inzh.

Drawing up diagrams for gang-saw motors used in lumbering.
Mekh. i elek. mot. sel'khoz. 17 no. 3: 39-41 '59. (MIRA 12:8)

1. Chelyabinskiy institut mekhanizatsii i elektrifikatsii
sel'skogo khozyaystva.
(Saw) (Electric motors)

PINCHUK, L.S., kand. tekhn. nauk, dotsent

Equivalent circuit of an electric drive with an asynchronous
motor and varying load. Energ. stor. no. 15-166 '59. (MIRA 15:1
(Electric motors, induction)
(Equivalent circuits)

8(3)

AUTHORS:

Pinchuk, I.S., Candidate of Technical Sciences. Zykin, F.A., Candidate of Technical Sciences SOV/105-60-1-16/25

TITLE:

Some Methods of Improving the Characteristics of Reactors With Direct Current Magnetization 2 / 17

PERIODICAL:

Elektrichestvo, 1960, Nr 1, pp 78-80 (USSR)

ABSTRACT:

The so-called characteristics of simultaneous magnetization $B_{\sim} = f(H_{\sim} ; H_{\sim})$ are often taken as initial data for the computing of reactors with magnetization (Refs 1,2). B_{\sim} is the mean value of the amplitude of the alternating component of the magnetic induction. H_{\sim} is the mean effective value of the alternating component of the core magnetic field. H_{\sim} is the mean value of the constant field strength component of the magnetic field.- The results of experimental investigations of the influence of some factors on the form of the characteristics are given here. To utilize the power of a motor at its peak speed as completely as possible, it is necessary to make the voltage in the reactor get smallest. This can be achieved

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Some Methods of Improving the Characteristics of
Reactors With Direct Current Magnetization

SOV/105-60-1-16/25

by reducing B_{\sim} , at a chosen number of windings of the working winding and core cross section. From this point of view it is desirable to obtain characteristics of simultaneous magnetization, at which there is a smallest possible inclination in their initial stage, depending not only on the type of steel but also on a number of other factors. The characteristics of a reactor with two magnetic conductors (Fig 1) for example, can thus be altered by varying the gap δ . - By increasing δ , the B_{\sim} value can be reduced by 15-20% for the greatest field intensity of the magnetic field. The explanation for this process is given. Based on these statements, the shape of the sheet proposed in the paper (Ref 1) is unsuitable, the air gap being practically nil for this design. A considerable improvement of the reactor characteristics can be obtained by using split working windings (Fig 3). An explanation for this improvement is given. There are 5 figures and 2 Soviet references. ✓

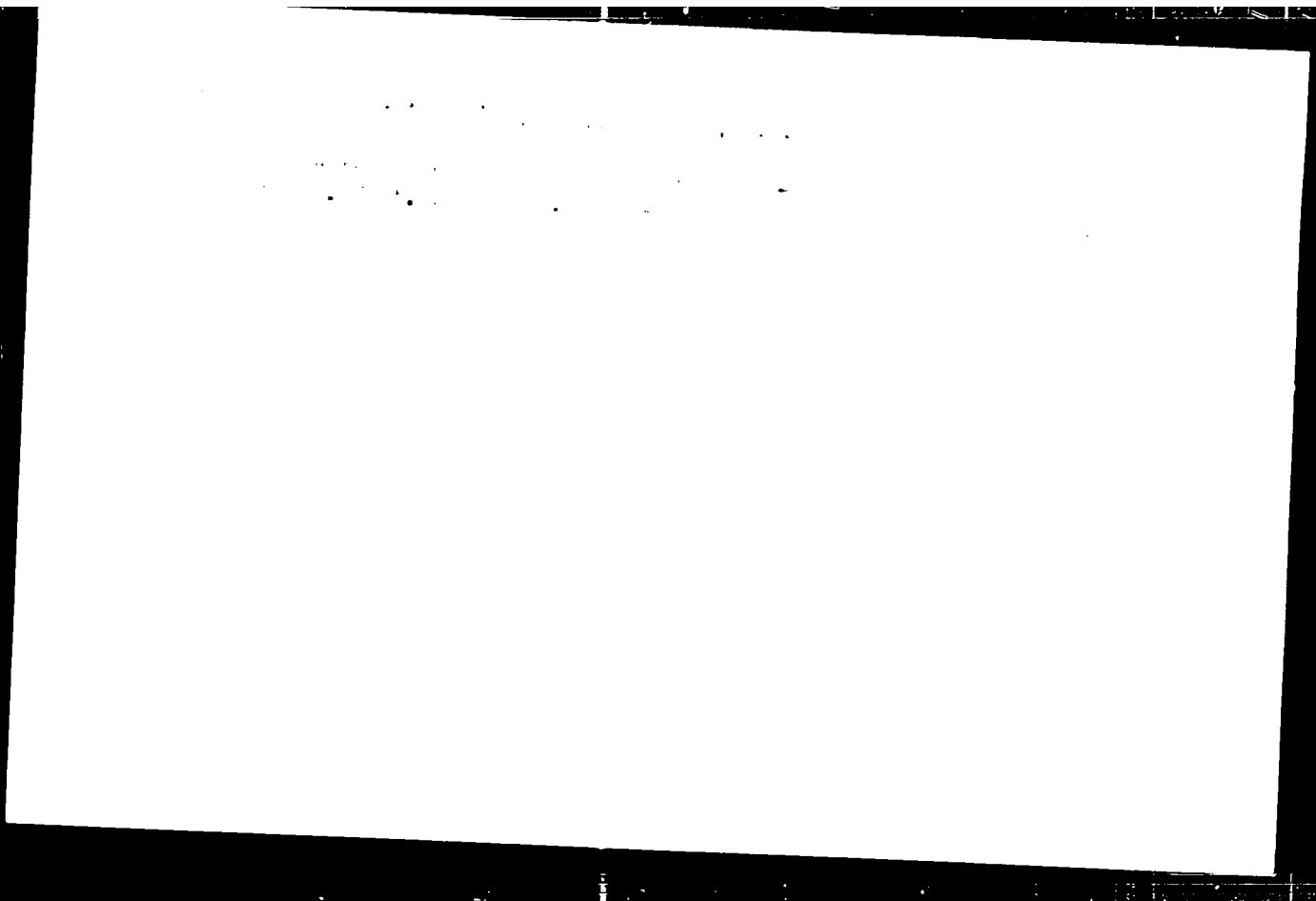
SUBMITTED:

June 13, 1959

Card 2/2

"APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001340910017-5



APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001340910017-5"

PINCHUK, L.B.

Possibility of using sodium lactate in radiation sickness:
abstract. Probl. gemat. i perel. krovi 8 no.6:54 Ja'63

1. Iz Kiyevskogo nauchno-issledovatel'skogo instituta perefi-
vaniya krovi i neotlozhnoy khirurgii (dir. - dotsent S.S.
Lavrik).

ANDREYKO, O.F.; PINCHUK, I.M.

Occurrence of the pest *Atrichena* in the district of Spassky, 1961 on the territory of the USSR. Izv. AN Mold. SSR no.5:37-40 (1963). MIRA 17:11

AUTHORS: Podolskiy, V. A. & Kiselev, M. M. SOV, 20-130-11-11

TITLE: On the Content of Fatty Acids in the Fruit of Oil
Poleznye soderzhanie i funktsionnaya rol' kislot v plodakh maka
maslinitsy

PERIODICAL: Doklady Akad. Nauk SSSR, 1978 Vol. 120, No. 5, p. 1111-1113

ABSTRACT: The investigation of the physiology of fruits represents one of the ways to examine the process of oil formation in the seeds of higher plants, in particular the study of the accumulation and transformation character of the substances which are transported from the assimilating organs into the fruits. On the strength of their earlier investigations of poppy fruits, Kiselev and the authors pronounced the assumption that not all compounds which participate in the synthesis of reserve substances are produced in the seeds. The placenta obviously directly participates in the production of the latter products. In order to determine the role played by some fruit elements in the synthesis of the reserve substances, the authors investigated these organs with respect to the influx and the content of compounds which immediately take

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On the Content of Volatile Acids in the Fruit of SOV, 20-120 1-1, 17
Oil-Poppy

- part in the fat production (hydrocarbons, volatile acids).
The obtained results (Figs 1, 2, Table 11, 186) permit to
draw the following conclusions:
- 1) Acetic acid represents the main content of volatile acids in the fruits of oil-poppy. Formic acid appears only at certain periods and in small quantities.
 - 2) The production and the accumulation of acids in individual parts of the fruit (wall, placenta, seeds), and in the leaves modifies in the course of the ontogenesis and exhibits a different character.
 - 3) The maximum velocity of the production and the accumulation of acetic acid in the wall and in particular in the placenta coincides with the period of the intensive oil synthesis in the seeds.
 - 4) The utilization of acetic acid which is produced in the placenta, by the seeds for the purpose of fat synthesis is possible. There are 2 figures, 1 table, and 11 references, 3 of which are Soviet.

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On the Content of Volatile acids in the Fruit of SOV/ 20-120-3-41/6
Oil-Poppy

PRESENTED: January 28, 1958, by A. L. Kursanov, Member, Academy
of Sciences, USSR

SUBMITTED: January 28, 1958

1. Fruits--Physiology 2. Seeds--Physiology 3. Oils--Biosynthesis
4. Acids--Biosynthesis

Card 3/3

PINCHUK, L.T.

With in miracles MIRA 11:44
MIRA 11:44

PINCHUK. L.T.

Under the guise of socialism. Nauka i zhizn' 27 no. 3:47-51
Mr '60. (MIRA1):6)
(Socialism and religion)

PINCHUK, L.V.; OVSYANIKOV, L.P.; ORECHKIN, D.B.; KALECHITS, I.V.

Using stationary catalysts for destructive hydrogenation of high-molecular raw materials. Report 2. Deactivation of modern industrial catalysts. Trudy Vost.-Sib.fil.AN SSSR no.4:137-149 '56.
(Catalysts) (Hydrogenation) (MLRA 9:12)

PINCHUK, L. V.

1285. USE OF STATIONARY CATALYSTS FOR DESTRUCTIVE HYDROGENATION OF HIGH MOLECULAR WEIGHT RAW MATERIALS. II. CHARACTER OF DEACTIVATION OF CONTEMPORARY INDUSTRIAL CATALYSTS. Pinchuk, L.V., Osvobodny, L.F., Dvorkin, D.B. and Kaleshch, L.V. (Trud. Vest. Sib. Fil. Akad. Nauk SSSR, Ser. Khim. (Proc. E. Sib. Branch Acad. Sci. U.S.S.R., Ser. Chem.), 1956, (4), 157-149; Abstr. in Chem. Abstr., 1957, vol. 51, 13357).

The deactivating effect is studied of hydrogenation of raw desalted petroleum oils on the catalysts tungsten disulphide and tungsten disulphide-nickel sulphide-alumina (I). Kinature continuous process equipment is used with a hydrogenation chamber of 100 c.c. operating at 380 to 460°. It is established that at 300 atm tungsten disulphide and I are effective for 30-60 hours after which period the oil does not change except for a decrease of resinous residue, I having a slight advantage. Partial activation with hydrogen under pressure is effected. The deactivation of the catalyst is caused not by physical changes of the catalysts, but by the adsorption of high molecular weight compounds. Deactivation of the catalysts is related to the rate of hydrogenation. Increasing the pressure during the hydrogenation from the usual 300 to 600 atm increases the stability of tungsten disulphide and I.

C.A.

7
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1/24

11
AB

I 3033-66
ACC NR 2196

REF: UR/0115, 06, 000, 000

AUTHOR Inchuk, L. Ye.

2/
15

60:1-001

TITLE reed relays in a transverse magnetic field

Source: 1966, 60-63

Type: 1966, 60-63

ABSTRACT: Experimental results obtained with magnetic reed relays in a transverse magnetic field is normal rather than parallel to the contact plane. In one batch of ten relays each, all having the same form factor, eight relays had 1.0-mm-diameter reeds while the other two relays had reeds of a magnetic material identified only as type



Fig. 1. Reed relay

L 3033a-66

ACC NR: AP6019581

a greater tolerance in coil positioning can be had in quadrant I; also, a pronounced dead zone appears between quadrants I and IV. A similar family of curves was obtained for motion of the coil across the envelope, i.e., in the X-X direction of Fig. 2. From their data the authors have derived empirical design formulas for optimum coil positioning. They conclude that the cross-field design is practical and can be realized without unreasonable demands on geometry tolerances. Operating specifications of the tested relays are included. Orig. art. has: 3 figures and 6 formulas. [SH]

SUB CODE: 09/ SUBM DATE none/ ORIG REF: 002/ OTH REF: 001/ ATD PRESS: 50/6

Cord 3/3

FINCHUK, Mariya, zvenevaya; RUDAN VIL, Gasha (Karanovik, Sidorov)
ZITENI, Matrona (Zitova), Matrona)

A field crew of close friends. Ref. stat. 30 no. 194 1960
(MIRA 1960)

(Stolin District--Women as farmers)

PINCHUK, M.

Is it an ordinary village? Rab. i stal. 39 no.2:4-5 P 163.
(MIRA 16:4)

(Pugachevo(Brest Province)—Tailoring)

PINCHUK, M.A.; KANTOV, Ye.A.

Portable three-phase checking equipment. Izv.tekh. 20 no.1:49-50
Ja '59. (MIRA 11:12)

(Electric instruments)

PINCHUK, M.D.

School montages and exhibitions. Biol. v shcole no.1:87.88
Ja-F '63. (MIRA 16:6)

1. Armanikhinskaya vos'miletnyaya shkola Dal'ne-Konstanti-
novskogo rayona Gor'kovskoy oblasti.
(Audio-visual education)

FRANCIS, . . .

3. Report of the Central Intelligence Agency, Department of State, Office of Security, No. 3, 3.

80: Letter to the Central Intelligence Agency, Department of State, 3.

PINCHUK, M. G.

USSR (600)

Acorns

Good way to carry out collection, transportation, and storage of acorns. Leaf 1
step' no. 9, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

1. PINCHUK, M. G.
2. USSR (600)
4. Windbreaks, Shelterbelts, Etc.
7. Use nut-bearing varieties more extensively in shelterbelt stands. Les. 1 step' 14
No. 11, 1952.

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

PINCHUK, M.G.

~~Growing gutta-bearing trees in the U.S.S.R. Trudy Inst. lesa 46:
11-17 '58. (MIRA 11:6)~~

1. Glavnoye upravleniye lesnogo khozyaystva i polesashchitnogo
lesorazvedeniya Ministerstva sel'skogo khozyaystva SSSR.
(Gutta-percha)

PINCHUK, M.G.

Forest drainage in the U.S.S.R. Trudy Inst. lesa 49:5-8 '59.
(MIRA 13:2)

1. Glavnoye upravleniye lesnogo khozyaystva Ministerstva sel'skogo
khozyaystva SSSR.
(Forests and forestry) (Drainage)

PINCHUK, M.G., lyubitel'-sadovod

Fumigation against aphids. Zashch. rast. ot vred. i bol. 2 no.10:
42 N '63. (MIRA 17:3)

MORDASOV, P.M., kand.veterin.nauk; BITYUKOV, P.A., kand.veterin.nauk;
FINCHUK, M.I.; MALINOVSKIY, I.F.; LOGEYEV, A.M.

Mass prophylaxis of babesiasis in cattle by means of early
(preventive) chemotherapy. Trudy NIVI 1:100-104 '60.
(MIRA 15.10)

(Chemotherapy) (Piroplasmosis)(Cattle—Diseases and pests

^H
PINCHUK, N.

~~Where once was "the devil's pasture."~~ Rab. 1 sial. 33 no.11:14 B '57.
(MLRA 10:11)

1. Kalgas imya Gorkaga, Brestski rayen.
(Brest District-- Flax)

17

20952
S/120/01/000/007/08/013
D040/0113

12310

AUTHORS: Medvedev, B.I.; Kuznetsov, G.K.; Gurevich, S.M.; Chokotilo,
L.V.; Lyudsk, A.P.; and Pincuk, N.I.

TITLE: Some particulars of electron-beam welding of austenitic
steels and alloys

PERIODICAL: Avtomaticheskaya svarka, no. 7, 1961, 79-81

TEXT: In their introductory remarks, the authors state why the electron-beam welding of austenitic steels and alloys in a vacuum is superior to conventional welding. For experimental purposes, specimens of 34 726 (EI 726) and 91096 (EI 906) heat-resistant austenitic steels and a nimonic-type 38 4375 (EI 4375) alloy were welded by the electron-beam method. All these types contain boron and are prone to cracks in the area near the weld and in the weld metal, if the composition of the base metal is reproduced. Welding was carried out with an electron-beam gun designed by the Orina Trudovogo Kraevogo Znanost Institut elektrosvarai im. Ye.O. Patona AN USSR (Electric Welding Institute "Order of the Red Banner of Labor" im. Ye.O. Paton AN USSR) using 120 mA, 20 kw current and a 35 m/hr welding speed. Metal

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22552

01/15/1961/001/007/008/011
302 / 2111

Some peculiarities of ...

produced by the electron beam at a completely point, except in the case of
E1726 steel where an increased boron content of 0.025% caused cracks to form
in the base metal of the seam and sometimes even in the weld metal. The
following conclusions are drawn. The new method of electron-beam welding, in
a vacuum must be used not only for refractory and chemically active metals,
but also for heat-resistant austenitic steels and alloys. The electron-beam
method gives welds much more resistance to crystallization cracks than other
known welding methods. It is to be expected that the use of filler wire
will make the electron-beam process applicable to a wider range of austenitic
steels and alloys, and that the form and shape of the seam will necessitate some
modification of the design of the joints. There are 6 figures.

ASSOCIATION: Odesk Trudovoye Khranimo Znaneni Institut elektrosvarki im.
Ye. O. Patona AN USSR (Electric Welding Institute "Order of the
Red Banner of Labor" im. Ye. O. Paton AS UkrSSR)

SUBMITTED: April 17, 1961

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3/25/62/501 1/1 1/1
K06/477

18.111

AUTHORS: Yedovav, B. I., Doctor of Technical Sciences, Shezotina, I. V.,
Pincuk, N. I., Lutsyuk-Khadin, V. A., Engineers

TITLE: Inter-crystalline weld-adjacent cracks in welding austenite steels
and alloys

PERIODICAL: Svardechnye proizvodstva, no. 4, 1962, 11-01

TEXT: The authors, with the participation of engineer I. G. Lomina, present some concepts on the formation of weld-adjacent inter-crystalline cracks in flash-welding of austenite steels and alloys. During this process the following types of crack may arise: 1) crystallization cracks extending from the weld, or originating in the weld; 2) cracks along the fusion line at a distance from one to several grains; 3) cracks along the linear clusters of intermetallic and nonmetallic impurities. An effective means of preventing crystallization cracks in heat-resistant austenite steels, is to raise the Mn content in the weld metal, for the purpose of increasing the quantity of ferrite eutectics, which is able to close-up weld-adjacent cracks. To prevent cracks which run at an equal distance from the fusion line, it is imperative not to

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Intergranular weld-adjacent cracks...

allow superheating of the base metal and slow cooling in the temperature range of least resistance of the gamma-solid solution. Changes in the chemical composition of the steel or alloy, and, first of all, a reduced carbon content and the development of a second phase in the structure, should help to prevent the formation of weld-adjacent cracks of this type. To prevent cracks associated with clusters of impurities, it is necessary to use for stressed parts a metal that had been subjected to electric slag remelting in order to raise sharply its micro-homogeneity. Electric slag remelting is simultaneously a reliable means of preventing weld-adjacent crystallization cracks. There are 7 figures and 12 references: 1 Soviet-bloc and 3 non-Soviet-bloc.

ASSOCIATION: Institut elektrosvarki imeni Ye. O. Patona AN USSR (Institute of Electric Welding imeni Ye. O. Paton, AC UkrSSR)

Card 2/2

S/125/62/000/005/003/010
0040/0113

AUTHORS: Ledovskiy, G.I., Latsyuk-Khudin, V.A., Pincus, N.I., and Puzrin, L.G.

TITLE: Heat-resistant austenitic steels, alloys, and welds with boron

PERIODICAL: Avtonat. tekhn. svyaz. no. 7, 1962, -17

TEXT: The authors review data from their own experiments and from 22 Soviet and non-Soviet publications, and show that heat-resistant austenitic metal alloyed with 0.2 - 0.3% B (boron) features increased long-term strength and creep resistance. It is proved that metal containing boron as an alloying element has a two-phase (austenite and eutectic boride) structure, which improves the properties of the metal. As revealed by Ledovskiy and Latsyuk-Khudin, ("Avtonat. tekhn. svyaz", no. 12, 1961), 0.01% - 0.02% B in steel leads to local fusion of the grain boundaries and to the growth of hot cracks which

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5/12/72 2/2/72 3/1/72
K. G. G. 115

Alloying heat-resistant austenitic steels...

can subsequently cause grain growth, which may occur in a limited area
 samples with grain sizes of 1000-2000 m μ in the weld metal zone.
 According to data presented by the former division and those of L. R.
 Ivankov, however, greatly increased the heat resistance of welds with addition
 of 0.41% ni to X 1-H 115 (KAL 115) type welds almost doubled the strength of
 welds in hot-bear tests at 600 $^{\circ}$ C under a load of 20-30 kgf, or raised the pre-
 failure test time tenfold. Similar results were obtained with X 1-H 3
 (KAL 5M15) welds. Welding of steel with a carbon content less than 0.1% caused no
 difficulties, but higher carbon increased the cold cracking danger because
 of lower plasticity and a large austenitic phase. It is advised to use pre-
 heating and moderate cooling in welding such steels. Electroslag re-heating is
 suggested for improving the plasticity of carbon-alloyed steel destined for
 fabrication with carbon content less than 0.1%. Alloying heat-
 resistant austenitic steels and welds with over 0.1 - 0.15% boron greatly in-
 creases the resistance to crystallization cracks, practically eliminates the
 danger of hot cracks appearing at the welds, produces very good welded joints
 in service at high temperature and loads, and considerably improves the heat

Card 2/3

Alloying heat-resistant austenitic steels...

5/125/62/000/005/003/010
200/0113

resistance of the metal. There are 2 figures and 2 tables.

ASSOCIATION: Order of the Patriotic War (USSR) Medal of the Patriotic War (USSR)
Yelov. Patent V. 1950 (USSR) Medal of the Patriotic War (USSR)
Red Banner of Labor (USSR) (Yelov. Patent, As (USSR))

SUBMITTED: January 14, 1952

Card 3/3

MEDOVAR, B.I., kand.tekhn.nauk; PINCHUK, N.I., inzh.; PUZRIN, L.G., inzh.

Effect of phosphorus on the stress-rupture strength of joints in
welded Kh18N9T steel. Metalloved. i term. obr. met. no.8:24-25
Ag '62. (MIRA 15:11)

1. Institut elektrosvarki im. Ye.O.Patona AN UkrSSR.
(Steel alloys--Welding) (Welding--Testing)

MEDOVAR, B.I.; PINCHUK, N.I.

Preventing the embrittlement of 25-20 type austenitic
welded joints. Avtom.svar. 15 no.10:46-49 0 '62.
(MIRA 15:11)

1. Ordena Trudovogo Krasnogo Znameni Institut
elektrosvarki im. Ye.O. Patona AN UkrSSR.
(Steel, Heat-resistant--Welding)
(Phase rule and equilibrium)

ACCESSION NR: AT4013946

S/2659/63/010/000/0178/0185

AUTHOR: Medovar, B. I.; Chekotilo, L. V.; Lutsyuk-Khudin, V. A.; Pinchuk, N. I.;
Puzrin, L. G.

TITLE: Boron alloys (over 0.3-0.4%) for high temperature austenite steel and weld seams

SOURCE: AN SSSR. Institut metallurgii. Issledovaniya po zharoprochny*m splavam,
v. 10, 1963, 178-185

TOPIC TAGS: boron, boron containing alloy, austenite steel, high temperature
steel, weld seam, weld metal

ABSTRACT: Austenite high-temperature steels alloyed with boron consist of two phases (austenite + boron component of eutectic origin) and are characterized by high tensile strength and elasticity. The use of boron alloys (over 0.3-0.4%) for high temperature austenite steel allows one to solve several important problems. The weld metal sharply increases stability against the formation of hot (crystalline) cracks. Hot cracks adjacent to the weld seams are completely eliminated during welding. The reliability of weld seams working under high temperature and loads is increased significantly by the exclusion of the causes of local brittle failure in the seam zone. The heat resistance of austenite steel and

Card 1/2

ACCESSION NR: AT4013946

weld seams is increased to a great extent. Investigations and experimental work at plants should be expanded so as to develop both new high-temperature austenite steel, as well as flow processes for the use of these steels for welding. Orig. art. has: 3 tables and 3 microphotographs.

ASSOCIATION: Institut metallurgii AN SSSR (Metallurgical Institute AN SSSR)

SUBMITTED: 00

DATE ACQ: 27 Feb64

ENCL: 00

SUB CODE: ML

NO REF SOV: 015

OTHER: 007

Card 2/2

MEDOVAR, B.I.; PINCHUK, N.I.; CHEKOTILO, L.V.

Increasing the maximum permissible concentrations of
phosphorus and silicon in stable austenitic welds. Dokl.
AN SSSR 150 no.3:541-543 My '63. (MIRA 16:6)

1. Institut elektrosvarki im. Ye.O. Patona AN UkrSSR.
Predstavleno akademikom B.Ye. Patonom.
(Welding)

MEDOVAR, B.I.; PINCHUK, N.I.

Effect of boron on the structure of an austenite joint. Avton.
svar. 16 no.6:91-93 Je '63. (MIRA 1:7)
(Iron-nickel-chromium alloys--Welding)
(Boron)

MEDOVAR, B.I.; CHEKOTILO, L.V.; LUTSYUK-KHUDIN, V.A.; PINCHUK, N.I.; PUZRIN, L.G.

Addition of traces of boron (more than 0.3 - 0.4%) in austenitic heat-resistant steels and weldments. Issl. po zharoпроч. splav. 10:17⁰-125 '63. (MIRA 17:2)

L 10763-63 EWP(k)/EWP(q)/EWT(m)/RDS--AFFTC/ABD--PI-4--JD/EM
ACCESSION NR: AP3002322 8/0125/63/000/006/0091/0093

AUTHOR: Medovar, B. I.; Pinchuk, N. I. 60

TITLE: Effect of boron on austenitic weld structure

SOURCE: Avtomaticheskaya svarka, no. 6, 1963, 91-93

TOPIC TAGS: fully austenitic welds, hot cracking, boron effect, silicon, phosphorus

ABSTRACT: A recent study has shown that the upper limits of the Si and P contents (0.29% Si and 0.020% P) in fully austenitic welds can be considerably increased by the addition of 0.3-0.6% boron to the weld metal. The experiments were conducted with two 18-8-type steel weld metals: 05Kh19N9TiB3 (0.06-0.07% C, 19.33-21.16% Cr, 9.18-9.61% Ni, 1.51-1.60% V, 1.13-1.26% Nb, 0.0-1.06% B) and 05Kh19N9Ti (0.4-0.06% C, 17.75-18.91% Cr, 9.36-9.95% Ni, 0.21-0.31% Ti, 0.0-0.50% B). Boron was introduced as an Fe-B master alloy (20.2% B, 1.98% Al, 1.70% Si). Metallographic examination and phase analysis indicate that B acts as a strong austenitizer; it reduces the amount of primary δ -ferrite in the metal and is 10 times as effective as Ni in this respect. Thus, the addition of 0.3-0.5% B to the weld is equivalent to increasing the Ni content by 3-5%. The boride eutectic

Card 1/2

D-10763-63

ACCESSION NR: AP3002322

Formed in boron-bearing austenitic welds dissolves active ferritizers, such as V, Nb, Si, Ti, and apparently, also P. Such welds, have satisfactory ductility and improved resistance to hot cracking at respective Si and P contents as high as 0.7 and 0.08%. Orig. art. has: 3 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 12Jul63

ENCL: 00

SUB CODE: 00

NO REF SOV: 004

OTHER: 002

Jan 1963
Card 2/2

1 11000-63
ACCESSION NO: AF3000749
REF(x)/REF(q)/REF(m)/REF--AFFIC/ASD--PT-4--JD
8/0020/63/150/003/0541/0543 62
61

AUTHOR: Madvar, B. I.; Pinchuk, N. J.; Chatzile, L. V.

TITLE: Increasing the upper limits of phosphorus and silicon in fully austenitic welds
17 27

SOURCE: AN SSB. Doklady, v. 150, no. 3, 1963, 541-543

TOPIC TAGS: welding, fully austenitic steel, hot cracks, boron effect, silicon effect, phosphorus effect

ABSTRACT: The effect of boron on susceptibility to hot cracking of fully austenitic Cr-Ni steel welds has been studied. Currently the Si content must be kept below 0.25% and the P content below 0.020% to reduce hot cracking. This, however presents serious difficulties in melting these steels. Adding 0.3-0.6% boron to 25-20 and 15-35 type austenitic steels solved the problem and made it possible to weld steels containing 0.53-0.63% Si and 0.020-0.94% P. The addition of boron results in the formation of a complex Fe-Ni-Cr-B eutectic, capable of dissolving Si, P, and other liquating elements. Mechanical tests made on 25-20 and 15-35 austenitic welds (see Table 1 of Enclosure) showed that boron-bearing welds annealed at 1100C have satisfactory mechanical properties, though somewhat

Card 1/3

L 11688-63

ACCESSION NR: AP3000749

inferior to those of boron-free welds. At high temperatures, however, the difference becomes negligible (see Table 2 of Enclosure). The rupture life of welds C, D, and E, at 800C under a stress of 10 kg/mm² (after 10-hr stabilisation at 800C) was 70, 192, and 215 hr.

ASSOCIATION: Institut elektrosvarki im. Ye. O. Patona Akademii nauk SSSR
(Electric Welding Institute, Academy of Sciences, USSR)

SUBMITTED: 03Nov62

DATE ACQ: 21Jun63

ENCL: 01

SUB CODE: ML,MA

NO REF SOV: 004

OTHER: 000

Card 2/3

L 13272-66 EWT(m)/EWA(a)/EWP(v)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(h)/EWA(c)

ACC NR: AP6002908 JD/ED

SOURCE CODE: UR/0286/65/000/024/0073/0073

INVENTOR: Medovar, B. I.; Borzdyka, A. M.; Latyshov, Yu. V.; Pinchuk, N. I.;
Chekotilo, L. V.; Topilin, V. V.

ORG: none

TITLE: Weldable, heat-resistant steel. Class 40, No. 177079¹⁶

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 73

TOPIC TAGS: steel, heat resistant steel, chromium ~~containing~~ steel, nickel ~~containing~~
steel, tungsten ~~containing~~ steel, titanium ~~containing~~ steel, manganese ~~containing~~
steel

ABSTRACT: This Author Certificate introduces a weldable, heat-resistant steel with increased resistance to local failure of welded parts. The steel contains 0.08% max carbon, 0.5% max silicon, 0.5—1.0% manganese, 14.5—16.5% chromium, 23—25% nickel, 4.0—5.0% tungsten, 1.5—2.0% titanium, 0.4—0.7% boron, and 0.02% max sulfur. [AZ]

SUB CODE: 11/ SIEM DATE: 25Apr64/ ATD PRESS: 4/55

Card 1/1

UDC: 669.14.018.44

L 35825-66 EWP(k)/EWT(m)/T/EWP(v)/EWT(t)/ETI IJ(c) JD/IM

ACC NR: AP6021827

SOURCE CODE: UR/0413/66/000/012/0136/0136

INVENTOR: Medovar, B. I.; Chakotilo, L. V.; Pinchuk, N. I.

43
B

ORG: none

TITLE: Welding wire. ⁴ Class 49, No. 183042 ⁴

SOURCE: Isobreteniya, promyshlennyye obraboty, tovarnyye znaki, no. 12, 1966, 136

TOPIC TAGS: welding, steel, austenitic steel, ~~oxidation~~ ^{oxidation} resistant steel, ~~steel~~
welding, welding rod, welding wire, weld

ABSTRACT: This Author Certificate introduces a filler or electrode wire for welding oxidation-resistant, austenitic, silicon-rich steels. ⁶ The wire contains up to 0.1% carbon, 2.5-3.0% silicon, up to 1.5% manganese, 2% - 2.7% chromium, 18-21% nickel, 2% 0.02% max sulfur, 0.03% max phosphorus and 0.45-0.65% boron. ⁷ Boron increases the weld resistance against carburization, hot cracking, and sigma-phase formation. [ND]

SUB CODE: 1311 / SUBM DATE: 06Aug64 / ATD PRESS: 5036

Card 1/1

UDC: 621.791.042

L 35823-66 EWP(k)/EWT(m)/T/EWP(v)/EWP(t)/ETI IJP(c) JD/HM
ACC NR. AP6021799 (M) SOURCE CODE: UR/0413/66/000/012/0063/0063

INVENTOR: Madovar, B. I.; Stroyev, V. S.; Choktlo, L. V.; Tarthov,
N. A.; Pinchuk, N. I. 40 B

ORG: none
TITLE: Electrode for welding oxidation-resistant steels. Class 21, No. 102014 [announced by the Electric Welding Institute in Ye. O. Paton (Institut elektrosvarki)]

SOURCE: Izobreteniya, promyshlennyye obraboty, tovarnyye znaki,
no. 12, 1966, 63

TOPIC TAGS: steel, ~~welding~~ welding, ~~oxidation~~ oxidation, resistant steel, welding electrode
Corrosion

ABSTRACT: This Author Certificate introduces an electrode for welding oxidation-resistant steels. The electrode coating contains 31% marble, 27% fluorspar, 6.5% manganese, 1.5% aluminum, and 14% ferrosilicon. To increase the weld resistance against carburization, hot cracking, and oxidation, 12% ferroboreon and 8% dolomite are added to the coating composition. [ND]

SUB CODE: 011,07/SUBM DATE: 26May65/ATD PRESS: 5136

Card 1/1

ACC NR: AP6015254

(H, 15)

SOURCE CODE: UR/0125/06/11 10157

AUTHOR: Tabidze, A. I.; Pinchuk, N. I.; Us, V. I.; Yushkevich, Z. V.

ORG: none

TITLE: Stress corrosion cracking resistance of austenite chromium-manganese steels and alloys in chloride solutions

SOURCE: Avtomaticheskaya svarka, no. 5, 1966, 76-77

TOPIC TAGS: low nickel steel, stainless steel, chromium steel, manganese steel, corrosion resistance, chloride / Kh14G30 steel, 1Kh18N10T austenitic steel

ABSTRACT: Austenitic stainless steels of the 18-8 type are prone to stress corrosion cracking in chloride-containing solutions whereas high-Ni alloys (containing >40-45% Ni) resist corrosion of this kind. In this connection it was of interest to investigate the corrosion resistance of these alloys in chloride solutions on partial replacement of Ni with Mn. Accordingly, the authors investigated alloys of the Kh14G30 types containing from 1 to 23% Ni, which, to enhance their resistance to general corrosion, were additionally alloyed with 2.5-3.35% Mo, 0.23-0.3% Ti, 0.25-0.38% Al and 0.23-0.4% B. Various stressed specimens of these steels were tested for stress corrosion cracking in boiling (+154°C) 42% MgCl₂ solution, on first undergoing heat treatment (1100°C for 1 hr, cooling in air). Specimens of 1Kh18N10T austenitic

Card 1/2

UDC: 621.791;620.193;669.15-194

ACC NR: AP6015254

steel were also investigated for purposes of comparison. Findings: the stress corrosion cracking of 1Kh18N10T steel in the $MgCl_2$ solution sets in within the first 24 hr, and the same happens for specimens of Kh14G30 steel containing 8-23% Ni. On the other hand, specimens of Kh14G30 steel containing <8% Ni take more time to corrode; for specimens containing 3.68% Ni the time to corrosion is 143-169 hr, and for specimens with <2% Ni, more than 400 hr (Fig. 1).

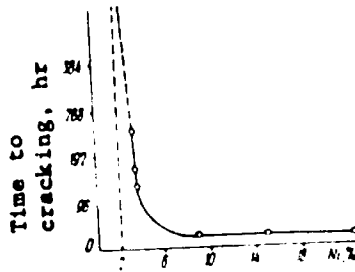


Fig. 1. Effect of Ni on corrosion resistance of Kh14G30-type austenitic Cr-Mn alloys in boiling 42% solution of $MgCl_2$

Thus, the replacement of Ni with Mn further contributes to enhancing the resistance of austenitic steels to stress corrosion cracking. Orig. art. has: 4 figures, 1 table.

SUB CODE: 13, 11/ SUBM DATE: none/ ORIG REF: 003/

Card 2/2

ACC NR: AT6034462

(A)

SOURCE CODE: UR/000/66/000/000/02B/0262

AUTHOR: Medovar, B. I.; Pinchuk, N. I.; Us, V. I.

ORG: none

TITLE: Effect of boron on properties of austenitic steels

SOURCE: AN SSSR. Institut metallurgii. Svoystva i primeneniye zharoprochnykh spлавov (Properties and application of heat resistant alloys). Moscow, Izd-vo Nauka, 1966, 258-262

TOPIC TAGS: austenitic steel, boron containing alloy, tungsten containing alloy, titanium containing alloy

ABSTRACT: The article reports a study of the effect of boron within the limits of 0.40-0.70% on the properties of austenitic steels Types 18-12 with niobium, and 15-25 with tungsten and titanium. Austenitic boride steels Kh18N12BR1, Kh18N12B2R1, and Kh15N24V4T2R1 were compared with analogous steels without boron. The austenitic boride steels were tested after austenizing at 1050-1100°C for 1-3 hours, with cooling in air; the analogous austenitic steels Kh18N12B and Kh15N24V4T were tested after a typical heat treatment: austenizing at 1130°C for 2 hours. Comparison of the mechanical properties showed the following: 1) as a result of alloying austenitic steel hardened with carbides, Type Kh18N12B, with boron within the limits of 0.40-0.70%, the strength

Card 1/2

ACC NR: AT6034462

increased and the plastic properties were lower. The toughness of the steel decreases sharply from 24 to 3-8 kgm/cm^2 ; 2) as a result of alloying austenitic steel Kh15N24V4T with intermetallic hardening, with boron in amounts between 0.40-0.70%, the strength properties of the steel decrease, and there is a simultaneous decrease in the plastic properties. The toughness decreases from 10-13 to 4-8 kgm/cm^2 . In conclusion, the following advantages are listed for the alloying of austenitic steels with boron: 1) high resistance to local failure in the neighborhood of welded joints; 2) high resistance to the appearance of hot cracking around welded joints and to crystallization cracking in the metal joint; 3) high stability of structure and properties, attainable with boride hardening; and, 4) high long term ductility and heat resistance, attainable with boride hardening. Orig. art. has: 3 figures and 2 tables.

SUB CODE: 11/ SUBM DATE: 10Jun66/ ORIG REF: 003/ OTH REF: 002

Card 2/2

ACC NR: AP7001930

SOURCE CODE: UR/0125/66/000/0012/0052/0057

AUTHOR: Medovar, B. I.; Pinchuk, N. I.; Chekotilo, L. V.; Pavliychuk, G. A.;
Us, V. T.; Tabidze, A. I.

ORG: Electric Welding Institute im. Ye. O. Paton, AN UkrSSR (Institut elektrosvarki
AN UkrSSR)

TITLE: Weldable boron-bearing austenitic steels and alloys

SOURCE: Avtomaticheskaya svarka, no. 12, 1966, 52-57

TOPIC TAGS: ^{weldability,} chromium nickel boron steel, austenitic steel, weldable austenitic
steel, niobium containing steel, tungsten containing steel, titanium containing
steel, Kh18N12B2R1 austenitic steel / Kh615N24V4T2R1 austenitic steel

ABSTRACT: Several new weldable chromium-nickel austenitic steels and alloys con-
taining up to 0.70% boron have been developed in a joint effort by the
Electric Welding Institute im. Ye. O. Paton, TsNIITMASH, TsNIICnM, the
Moscow Experimental Welding Plant, and Orgenergostroy. Heat-resistant
steels Kh18N12B2R1 or EP531 (0.10% max carbon, 17-19% chromium,
11-13% nickel, 1.8-2.3% niobium, and 0.40-0.70% boron) and
Kh15N24V4T2R1, or EP467 (0.08% max carbon, 14.5-16.5% chromium, 23-25%
nickel, 4-5% tungsten, 1.5-2.2% titanium, and 0.40-0.70% boron) are
tube materials intended primarily for steam pipelines and superheaters.

Card 1/2

UDC: 621.791.011:669.15-194

ACC NR: AP7001930

Both steels have satisfactory heat resistance (EP467 steel in stress-rupture tests at 650C under a stress of 28 kg/mm² failed after 5909 hr at an elongation of 14.0% and a reduction of area of 19.9%), satisfactory weldability, and low susceptibility to local fractures in the weld-adjacent zone. Boron-bearing nickel-base alloys were developed as cast alloys for parts operating at temperatures up to 200C. Cast Kh20N77T3YR alloy containing 0.70% boron had at 800C a tensile strength of 64.5 kg/mm², a yield strength of 64.1 kg/mm², an elongation of 1.76%, a reduction of area of 3.0%, and a notch toughness of 1 mkg/cm² compared to 46.0 kg/mm², 39.4 kg/mm², 8.2%, 16.0%, and 20.6 mkg/cm² for the same alloy but without boron. In stress-rupture tests at 800C under a stress of 29 kg/mm², the alloy with 0.70% boron failed after 26 hr compared to 3 hr for alloy without boron. Boron improved significantly the weldability of oxidation-resistant steels Kh25N20S2 and Kh18N35S3 without affecting the oxidation resistance at temperatures up to 1000C. Kh18N10BR(EP381) and Kh13G30NR1(EP537) steels, intended for operation in chloride solutions, are highly resistant to stress corrosion. Specimens of these steels were removed and amassed after 4150—4300 hr test in a boiling 42% solution of magnesium chloride under a stress of 27.3—27.6 kg/mm² (90% of yield strength), while the specimens of standard K18N10T and Kh18N10B steels failed after 8—24 and 2—18 hr, respectively. Orig. art. has: 10 figures and 8 tables.

SUB CODE: 11/ SUBM DATE: 23May66/ ORIG REF: 006/ OTH REF: 001/ ATD PRESS: 5111

Card . 2/2

MORACHEVSKIY, Yu.V.; PINCHUK, N.Kh.

Determination of "sulfate" sulfur. Uch.zap.Len.un.163:28-36 1963.
(Sulfates) (Sulfides) (MIRA 9:6)

PINEHUK, N. KH.

USSR.

✓ Determination of sulfate sulfur. Yu. V. Aluvachyashin and N. Kh. Plachuk. *Uchenye Zapiski Leningrad. Gos. Univ. Ser. Khim. Nauk*, No. 103, Ser. Khim. Nauk (No. 12, 20-26) (1953).—The det. of S in FeS₂ ores (pyrite and marcasite) often yields high results because of the incidental oxidation of the sulfide S by Fe³⁺ usually present. Digestion of 0.2000 g. of FeS₂ at 100° for 3 hrs. with 0.6, 1.2, and 2 g. FeCl₃ in 1% HCl resulted in the oxidation of 12, 10, and 21% of the S to SO₂ and free S; the corresponding values in 3, 6, and 10% HCl were progressively lower. The presence of phosphoric or tartaric acid reduced the extent of oxidation; hydroxylamine stopped it. The following procedure is recommended: to 0.5-2 g. of the ore, add 1-2 g. NH₄OH in 10% HCl. Heat until the ore is all attacked. Add 100-150 ml. hot H₂O, filter, and det. SO₂ as usual.

I. Bencowitz

MA 25

P. inchuk, N. Kh.

chem

Fig. 1. An apparatus for the reduction, storage and titration of salts of trivalent titanium. N. Kh. Pichuk. *Neuch. Byull. Leningrad Univ.* 1953, (2), 24-27; *Russ. Zhur. Khim.* 1954, Abstr. No. 69,126. — The apparatus for the production, storage and titration of a soln. of Ti^{2+} consists of a three-necked flask of capacity 800 to 800 ml, painted black or with paper glued on to it. To the flask is joined a separating funnel of capacity 300 to 500 ml in which are several glass beads, a little glass wool and a layer of metallic Zn or Cd almost to the neck; a flask of capacity 2 to 3 litres; a siphon of 2 to 3 mm diam. and a burette with a side-tap and with a side-arm fixed in the top for the exit of gas, with a Hunsen valve closed by a glass tube with a rubber bung, which is removed when reducing Ti^{4+} and filling the burette. Having assembled the apparatus, pass CO_2 or H for 30 to 40 min. Fill the funnel three-quarters full with a soln. of Ti^{4+} , then run the reduced soln. into the three-necked flask and determine its concn. The burette is filled by increasing the gas pressure in the three-necked flask (i.e., by raising the flask which contains water). It may be used for the production, storage and titration of soln. of Cr^{2+} . C. D. KOPKIN

GM

PINCHUK, N.Kh.

Apparatus for reduction, preservation, and titration by using a salt
of trivalent titanium. Nauch. biul. Len. un. no.33:24-27 '55.
(MLRA 10:4)

1. Kafedra analiticheskoy khimii.
(Reduction, Chemical) (Volumetric analysis) (Titanium)

PINCHUK, N. Kh.

18

9E2C

3563. Phase analysis of iron minerals. S. Yu. V. Morachevskii and N. Kh. Pinchuk. *Vestnik Leningr. Univ.* 1956, (10), 80-87; *Ref. Zhur. Khim.* 1956, Abstr. No. 78,536. Satisfactory conditions have been found for the separation of magnetite from haematite by using their different rates of dissolution in H_3PO_4 . Magnetite completely dissolves in a soln. of H_3PO_4 and 1% HCl (1:1) by shaking on a boiling-water bath, while haematite is practically insoluble; in the presence of magnetite the solubility of haematite in these conditions is much increased, owing to the presence in the soln. of Fe^{2+} ; on adding an oxidant to the H_3PO_4 the solubility of haematite is greatly reduced. The optimum conditions for the separation of magnetite and haematite are a 90-min. treatment at 40° with H_3PO_4 (sp. gr. 1.70) and 1% HCl (1:1 by vol.), with the addition of $KMnO_4$ to a pale-pink colour. Under these conditions complete dissolution of the magnetite is accompanied by minimum dissolution of haematite (on the average $\approx 1\%$ of the total iron in the sample passes into solution).

3

C. D. KOPKIN

RS
MT

PINCHUK, N. H. H.

9
F4E2C

18

~~Phase analysis of iron ores. II. Selective dissolving of magnetite in the presence of chalcopyrite. Yg. V. Morchevskii and N. Kh. Pinchuk. Vestnik Leningrad. Univ. 11, No. 23, Ser. ~~Chem. Sci.~~ 4, 170-5 (1956); cf. C.A. 50, 16839a. — To 0.11-0.13 g. powd. ore add 10 ml. H₂PO₄ (sp. gr. 1.70; dild. 3:1). Heat 5 min. on a boiling water bath with mech. stirring. All of the magnetite dissolves and about 1% of the Fe of the chalcopyrite. Filter and wash the residue. To the filtrate add 25 ml. concd. HCl; heat nearly to boiling, reduce with SnCl₂, and titrate with K₂Cr₂O₇ to obtain the Fe content of the magnetite in the sample. Ignite the residue (chalcopyrite), dissolve in "reversed" aqua regia, and det. Cu by a standard method.~~

I. D. Porter

PS
M

PINCHUK, N. KH.

18 18 3
1-4E3d
1-4E2c

320. Phase analysis of iron ores. II. Selective solution of magnetite in the presence of chalcopyrite.
Ya. V. Morachevskii and N. Kh. Pinchuk. Vestn. Leningr. Univ., 1956, (53), 170-175; Khim. Zhur. Khim., 1957, Abstr. No. 24,742.—A method is evolved for the determination of Fe in magnetite (I), or in an ore composed of I and chalcopyrite (II), based on the selective solution of I in H_3PO_4 , II being practically insoluble in this acid.
C. D. KOPIN

11/11

For ...
MORACHEVSKIY, Yu.V.; PINCHUK, N.Kh.

Phase analysis of iron ores. Part 2. A selective dissolution of magnetite in the presence of chalcopyrite. Vest.Len.un.11 no.22: 170-175 '56. (MLBA 10:2)

(Magnetite) Chalcopyrite)

ATTENTION

~~SECRET~~

TITLE

These authors report on the study of the solubility of barium nitrate in phosphoric acid. The title of the article is "The Solubility of Barium Nitrate in Phosphoric Acid" (Zhurnal Prikladnoi Khimii, 1958, No. 1, pp. 13-15).

EXE DISCAL

Author: Baranovskii, V. I. Title: Solubility of Barium Nitrate in Phosphoric Acid. (No. 1), 1958, No. 1.

ABSTRACT:

The authors provide experimental data on the solubility of barium nitrate in phosphoric acid at various concentrations of the acid. **dissolving** barium nitrate; the presence of barium nitrate in phosphoric acid was found to depend on the concentration of the acid. It is noted that barium nitrate is nearly soluble at all concentrations of phosphoric acid. The solubility of barium nitrate in phosphoric acid increases with increasing concentration of the acid. However, solubility increases rapidly at first and then remains fairly constant at 20% phosphoric acid. The solubility of barium nitrate in phosphoric acid increases nearly up to the degree of solubility in the presence of water. Thus, it appears that the solubility of barium nitrate in phosphoric acid is not significantly different from its solubility in water.

June 1, 1958

to reduce the solubility of hematite, to reduce the amount

III. The Selective Solution

presence of hematite.

to reduce the solubility of hematite, to reduce the amount
of dissolved iron during the treatment with phosphoric acid
in the presence of magnetite. This can be achieved by the
addition of the iron of the dissolved iron by means of
permaluminate or hydroperoxide. In addition, it is possible
complexing means of complex-forming agents. In the present
paper the authors investigated the dissolution of hematite
in the presence of magnetite with an addition of oxidation-
and complex-forming media. The results obtained by the
investigations showed that by the additions of oxidizing media
to phosphoric acid during the process of dissolution of the
magnetite-hematite mixture its solubility is diminished. By
the addition of tartaric acid to the phosphoric acid solution
the solubility of hematite is diminished and magnetite is
practically fully dissolved. Thus, favorable conditions for
the selective dissolution of magnetite in the presence of
hematite were found in the case of a reduction of up to 10
+ 20 mesh. There are 11 figures, and 3 references, all of
which are in Russian.

Card 2 3

Chemical analysis of iron ores.

1.1. The Solubility Solution

Presence of magnetite

Source: *State of Ohio*

Available: *Library of Congress*

1. Iron-Analysis
2. Ores-Analysis
3. Magnetite-Solubility
4. Hematin-Solubility

AUTHORS: Firshin, M.R. Maschenko, I.V.

10-10-2-8

TITLE: The Phase Analysis of Iron Ore. IV. Study of the Selective Dissolution of Mineral Ferric Hydroxides in the Presence of Magnetite and Hematite (Fazovyiy analiz zheleznykh rud. IV. Izucheniye raznykh rastrovennykh mineralnykh gidroksidov zheleza v prisutstviy magnetita)

PERIODICAL: Vestnik Leningradskogo Universiteta, Seriya fiziki i khimii 1958, Vol.10, Nr. 2, pp. 24-27 (USSR)

ABSTRACT: The authors elaborated a method of selective dissolution of magnetite in the presence of hematite (Ref. 1, 2), and in the presence of calcium pyrite (Ref. 6) in a phosphoric acid solution (Ref. 3). The study of the selective dissolution of ferric hydroxide in a phosphoric acid solution is a continuation of the work concerning phase analysis carried out by the Chair of Analytical Chemistry. For the selective dissolution of iron ore components conditions must be found at which the solubility of hydroxides would be either minimal or complete. In order to reduce the solubility of hydroxides in phosphoric acid, its solubility was studied at 100°C, but after complete dissolution of the

Card 1/4

The Phase Analysis of Iron Ores. IV. Study of the
Selective Dissolution of Mineral Ferric Hydroxide in
the Presence of Magnetite and Hematite

10-10-8/10

magnetite (table 1). It is shown (table 2) that a higher concentration of phosphoric acid reduces the solubility of ferric hydroxides down to 3-6%. In the case of dilution of phosphoric acid (1:1, 2:1) and at 50°C the hydroxides dissolve only to a small extent. Therefore, conditions were found at which magnetite dissolves completely, whereas ferric hydroxides in the case of separate treatment are hardly dissolved at all. It is shown (fig. 4) that the solubility of ferric hydroxides increases rapidly in the presence of magnetite. Whereas, in the absence of magnetite, only 3% of the ferric hydroxides had been dissolved, 90% were dissolved at the same condition, but in the presence of magnetite. These experiments showed that it is not possible, on the strength of the behavior of individual minerals in one or the other solvents, to draw conclusions as to whether they would also be dissolved in the presence of other minerals. In order to clear up the behavior of hematite on the occasion of the dissolution of the entire quantity of magnetite and ferric hydroxides, experiments were carried out with a view of bringing about the total dissolution of the said minerals at conditions similar to those prevailing in the case of previous experiments. At these conditions magnetite is dissolved entirely

Card 2/4

The Phase Analysis of Iron Ores. IV. Study of the
Selective Dissolution of Mineral Ferric Hydroxides in
the Presence of Magnetite and Hematite

54-10-2-8/16

and ferric hydroxides on the average are dissolved to the extent of 98.43% (table 5), the remaining 1.57% consequently consist of hematite and a small part of the not dissolved hydroxides. It may be seen (table 6) that in the case of a common dissolution of magnetite, of the hydroxides, and of hematite, magnetite and practically also the hydroxides are fully dissolved, whereas only about 13% of hematite are dissolved. In the presence of tartaric acid the solubility of hematite - conditions remaining the same - is reduced by 4-5%. The data mentioned (tables 8 and 9) lead to the conclusion that for the selective dissolution of the total quantity of magnetite and some ferric hydroxides in the presence of hematite favorable conditions have been found. As is known, the minerals - ferric hydroxides and hematite originating from different deposits differ considerably from each other. For this reason it is not possible to elaborate a method of selective dissolution of the minerals mentioned that would be applicable equally well in the case of minerals originating from different deposits. Therefore, the method worked out can only serve as a basis for the

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The Phase Analysis of Iron Ores. IV. Study of the
Selective Dissolution of Mineral Ferric Hydroxides in
the Presence of Magnetite and Hematite

54-10-2-8/16

study of selective dissolution of the aforementioned minerals
of the deposit concerned. There are 9 tables and 10 refer-
ences, all of which are Soviet.

SUBMITTED: December 25, 1957

AVAILABLE: Library of Congress

1. Iron ores—Phase studies 2. Ferric hydroxides—Solubility

Card 4/4

1962
C. 1111
R111 R111

5370
AUTHOR

Raduwan, M. J. ...
Piscataway, N. J.

TITLE

Reactions of ...
Derivative

PERIODICAL

Reactions of ...
no. 1, 1962

The ...
and ...
4.5 hr ...
yield 10.5% ...
reaction ...
of ... was proved ...
Card 1 of 1

1961
and all the people of the world
[Faint, mostly illegible text follows, possibly including a list or report structure.]

Card

PINCHUK, N.P., gornyy inzh.

Using igdanite at Balaklava flux limestone quarries. Vzryv.
delo no.54/11:322-325 '64. (MIRA 17:9)

1. Balaklavskoye rudoupravleniye imeni A.M. Gor'kogo.

KOVALENKO, I. I., kand.med.nauk; PINCHUK, N.V. (Dnepropetrovsk)

Public help in the work of a hospital. Sov.zdrav. 21 no.7:20-2. 1961.
(MIRA 15:8)

1. Iz 4-y gorodskoy bol'nitsy (glavnyy vrach Ye.N.Fedotov)
Dnepropetrovsk.

(DNEPROPETROVSK—HOSPITALS)

KOVALENKO, I.V., kandidat meditsinskikh nauk; PINCHUK, N.V.

Studying the morbidity of the population according to data on the number of visits. Sov. zdrav. 15 no.4:31-35 J1-Ag '56. (MLRA 9:9)

1. Iz kafedry organizatsii zdravookhraneniya (zav. - prof. B.M. Shklyar) Dnepropetrovskogo meditsinskogo instituta (dir. - dotsent D.P.Chukhriyenko)

(VITAL STATISTICS,
morbidity calculation (Rus))

INCHUP, C. I.

Finchuk, C. I. - "Soviet Union's Foreign Policy in the 1970s" - p. 114-115

1970s, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980

Determination of butyl and higher alcohols in the
condensates and butyl fractions by salting out with calcium
chloride A. G. Shajmshnikov and N. P. Pirohuk
chloride (Leningradsk. Gos. Univ. Ser. Khim. Nauk, 1966, No. 1, p. 111)
Leningradsk. Gos. Univ. Ser. Khim. Nauk, 1966, No. 1, p. 111
B. III. Synthesis Rubber (1966, No. 1, p. 111)
of the sample contains at least 10% Butyl is dist. through a
four bulb distillation, if light fractions are present
and the remaining liquid which is composed of Butyl and
higher alcohols is measured and 4 cc pipetted off and salted
out with 20 cc of CaCl₂ solution. The operation is carried
preliminarily salted with Butyl. The solid layer contains
out in a glass stoppered bottle. The solid layer contains
Butyl, higher alcohols and some hydrocarbons, the latter
are dist. by adding 1 cc of H₂O and reading the total
hydrocarbon layer, which must be subtracted from the
total alk. and other layer to obtain the amt. of alcoh.

A. A. Buzhinskiy

1169.1115

AUTHORS: Rasuvayev, G.A., Vyshinskiy, V.I., Gerasimov, V.I., ...

TITLE: The Reaction between hexamethylstannane and ...
Derivatives

PERIODICAL: Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva
Mandelyeva, 1977, ...

ABSTRACT: The authors have investigated the reaction of hexamethylstannane with certain organic halide derivatives in evacuated apparatus at various temperatures. It has been shown that the reaction of hexamethylstannane with a halogeno compound, bound to the benzene ring, is not initiated by the hexamethylstannane, when heated to 100-150°C. The reaction of hexamethylstannane with a halogeno compound, when heated to 100-150°C, is initiated by the presence of a radical derivative. The hexamethylstannane reacts with a halogeno compound in the presence of triphenylmethyl radicals, formed in the reaction of triphenylmethyl chloride (15 hrs at 100°C). In the first case the reaction is initiated by the formation of triethylstannane, in the second case by the formation of triphenylmethyl radicals. The presence of the latter was proved by the electronic paramagnetic resonance method. Hexamethylstannane reacts with a halogeno compound...

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1157

The Reaction Between Hexamethylcyclotriphosphazene and n-Toluenesulfonyl Chloride

90.9%) and n-tolyltriethylsilyloxide were prepared from the reaction of n-toluenesulfonyl chloride (Yield of the second crop, mixture of n-tolyltriethylsilyloxide and alcohol). The structure of the silicon has been verified by elemental analysis carried out in a medium of absolute alcohol. The yield of the second crop was 44.2% of the theoretical:

$n\text{-C}_7\text{H}_7\text{SO}_2\text{Cl} + (\text{C}_2\text{H}_5)_3\text{SiH} \rightarrow \text{NaCl} + n\text{-C}_7\text{H}_7\text{SO}_2\text{Si}(\text{C}_2\text{H}_5)_3$
Under more severe conditions (1 hour at 120°C) the hexamethylcyclotriphosphazene reacts with the benzene chloride. The reaction of benzene chloride with addition to the triethylsilyloxide has also been observed. The reaction proceeds with a homogeneous separation of the $\text{C}-\text{C}$ links take place. This is of the type of decomposition of the $\text{C}-\text{C}$ links observed in the reaction of benzene with β -bromobenzene. The reaction of benzene chloride with the triethylsilyloxide also, taking place at 120°C. In addition to the main product of triethylsilyloxide (Yield 50.4%, respectively 40.1%) the reaction of benzene chloride with the triethylsilyloxide also takes place also: $\text{C}_6\text{H}_6 + \text{C}_2\text{H}_5\text{Si}(\text{C}_2\text{H}_5)_2\text{O} \rightarrow \text{C}_6\text{H}_5\text{Si}(\text{C}_2\text{H}_5)_2\text{O} + \text{H}_2$. It is assumed that reaction of benzene chloride with triethylsilyloxide takes place

Card 2/4

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A 1/1/1/1

The Reaction Between Hexaethylstannane and Dichloroethylstannane

reactions discussed here, based on previously made assumptions (see the author), that reaction (2) is a catalytic one (as the disproportionation of the hexaethyldiplumbane is (Ref. 1-3) the author). This assumption was confirmed by the thermostat action of the mixture hexaethylstannane and triethylstannous chloride, at 200-210°C (10 hours, molar ratio 1:2). Reaction (2) takes place more energetically in the presence of 3 moles of dichloroethylstannate and 2 moles of hexaethylstannane (for a period 10-15 min at 200°C). The formed tetraethylstannate reacts with the dichloroethylstannane forming triethylstannous chloride: $2(C_2H_5)_4SnO_2 + 2(C_2H_5)_2SnCl_2 \rightarrow 2(C_2H_5)_3SnCl + SnCl_2 + Sn$. (3). It is stressed that equation (3) describes only the final result. The reaction mechanism is thought to be complex from the following indications: during the reaction intensive wine-colored, presumably high molecular compounds are formed, decomposing toward the end of the process. Stannous chloride is thought to play an important role in equation (3), usually identified when conducting the disproportionation in an excess of dichloroethylstannate. It was established that the $SnCl_2$ can cause change not only in the hexaethylstannane, but also in the more stable tetraalkylstannate.

Card 3/4

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1963/03/03/001/0017-5
A051/A026

The Reaction Between Hexaethylstannane and Organic Haloid Derivatives

derivatives of the tin. The following reaction is given as an example of the thermostatic action of equimolar quantities of tetraethylstannate and SnCl₂ (for 10 hours at 230°C): 2(C₂H₅)₄Sn + 2SnCl₂ → 2(C₂H₅)₂SnCl₂ + 2C₂H₅Sn + Sn. (4) also taking place with the formation of dark-red colored intermediary compounds. Another fact proving the complexity of the reaction is given as being the fact that catalytic quantities of (C₂H₅)₂SnCl₂ and (C₂H₅)₂SnCl₂ (2% of the weight of hexaethylstannane) do not bring about its complete conversion according to equation (4). It is pointed out that the interaction of the hexaethyldiplumbane with an excess of triethyl lead chloride, triethyl stannous chloride or dichlorodiethylstannate takes place quite differently. In this case the disproportionation reaction is completely suppressed by the complex oxidation-reduction process. In conclusion the authors state that investigations are still being continued in this field. There are two references.

ASSOCIATION Gor'skiyevskiy gosudarstvennyy universitet im. N.I. Lobachevskiy
(The Gor'kiy State University im. N.I. Lobachevskiy)

Card 4/4

. PINCHUK, N.S.

Conference of veterinary specialists. Veterinariia 37 no.12:
81 D '60. (MIRA 16:4)
(Kokchetav Province—Veterinary medicine—Congresses)

PINCHUK, N. S.

Report no. 1. Organization of the State Control over the issue of native and feed antibiotics.

Report no. 2. About the order of reports on the results of the statements of the National Insurance Company concerning losses of insured animals.

Report no. 3. Conference of Veterinary specialists. Veterinariya, Vol. 37, No. 12, p. 70, 80, 81, 1960.

PINCHUK, O.I.

Genetic classification of coal-bearing formations, Izv. DSI 20:
132-157 '57. (MIRA 11:6)

(Coal geology)

FIN

...anism of the formation of the folding of the coal-bearing
layer in the Chelyabinsk graben. Izv. vys. ucheb. zav.; geol.
fiz. 8 no.9:13-14 1965. (MIRA 1819)

1. Inerpozitovskiy gornyy massiv imeni Artema.

PINCHUK, P.

Repairmen economize timber and cement. Zhit.-kom. khor. 9 no. 7:21-
22 '68. (MIRA 11:8)

(Rostov-on-Don--Apartment houses--Maintenance and repair)

PINCHUK, P.

Accumulation and use of the undivided fund of collective farms.
Fin. SSSR 19 no.4:30-34 Ap '58. (MIRA 11:4)

1.Zaveduyushchiy Voroshilovskim rayfinotdelom Minska.
(Collective farms--Finance)