

LAPSHINA, Ye.I.

~~Viability of helminth eggs in Hebit-Dag soil and during composting~~
of waste products. Izv.AN Turk.SSR no.2:74-75 '56. (MLRA 9:8)

1. Institut malyarii i medparazitologii Ministerstva zdravookhrane-
niya Turkmenskoy SSR.
(WORMS, INTESTINAL AND PARASITIC)

LAPSHINA, Ye.I. (Novosibirsk); TSVETKOVA, I.V. (Novosibirsk).

Out-session of the Section of Biological Sciences of the Academy
of Sciences of the U.S.S.R. held in Novosibirsk, nov.20-24, 1956.
Bot.zhur. 42 no.6:962-966 Je '57. (MIRA 10:7)
(Siberia--Agricultural research)

LAPSHINA, Ye. I

Compiling vegetation maps for the Gorno-Altai Autonomous Province.
Trudy Biol. inst. Zap.-Sib. fil. AN SSSR no.2:189-201 '56. (MIRA 13:10)
(Gorno-Altai Autonomous Province--Phytogeography--Maps)

YAPSHINA, Ye. I.

Meadows of Kosh-Agach District and their utilization. Trudy Biol.
inst. Zap.-Sib. fil. AN SSSR no.2:287-303 '56. (MIRA 13:10)
(Kosh-Agach District--Pastures and meadows)

LAPSHINA, Ye.I.

Mapping of the forest-steppe vegetation of Western Siberia.
Trudy TSSBS no.6:63-76 '64.

Birch forests of the southeastern forest-steppe of Western
Siberia. Trudy TSSBS no.6:13-130 '63. (MIRA 17:7)

KUMINOVA, A.V.; VAGINA, T.V.; LAPSHINA, Ye.I.

Phytogeographical zoning of the southeast of the West Siberian
Plain. Trudy TSSBS no.6:35-62 '63. (MIRA 17:7)

LAPSHINA, Z.K., kand.tekhn.nauk

Spectral properties of optical bleaches. Bum.prom. 38 no.4:
10-11 Ap '63. (MIRA 16:5)

(Dyes and dyeing--Paper)

LAPSHINA, Z.S., vrach

The school child's clothing. Zdorov'e 3 no.2:24 F '57. (MIRA 10:3)
(CHILDREN'S CLOTHING)

LAPSHINA, Z.S.

Hygienic evaluation of school uniforms. Gig.i san. 24 no.12:30-
36 D '59. (MIRA 13:4)

1. Iz Instituta obshchey i kommunal'noy gigiyeny imeni A.N. Sysina
AMN SSSR.

(CLOTHING)

(STUDENTS)

LAPSHINA, Z.S.

Effect of clothing and classroom microclimate on the thermal
condition of school children. *Pediatrics* 39 no.12:12-16 '61.
(MIRA 14:1)

1. Iz laboratorii lichnoy gigiyeny (zav. Yu.V. Vadkovskaya)
Instituta obshchey i kommunal'noy gigiyeny imeni A.N. Sygina)
AMN SSSR.
(BODY TEMPERATURE) (CLOTHING AND DRESS—HYGIENIC ASPECTS)
(SCHOOL HYGIENE)

Lapshina, Z. Ya.

The depolymerization of dicyclopentadiene by a continuous method. N. P. Kononov, Z. Ya. Lapshina, and S. S. Novikov. *Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci.* 1953, 101-2 (Engl. translation).—See *C.A.* 48, 10377e.
H. L. H.

LAPSHINA, Z. YA.

③

~~The depolymerization of dicyclopentadiene by a continuous method. N. F. Kononov, Z. Ya. Lashina, and S. S. Novikov. *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1953, 112-13.~~—The continuous depolymerization of dicyclopentadiene to pure monomer was effected by feeding the dimer from a dropping funnel into a heated column packed with pieces of glass tubing 5 mm. in diam. and 5 mm. long. The column consisted of a 700 mm. length of 30 mm. tubing. The lower 500 mm. was electrically heated and the dimer was fed in at the top of this portion. The upper portion acted as a fractionating column to return any dimer entrained in the monomer vapor. The exit at the upper end of the column led to a water-cooled condenser and thence to an ice-cooled receiver. The lower end of the column led to a flask heated to decompose any dimer getting by the column. The capacity of the app. was 150 g./l. of reaction vol. After about 100-150 hrs. of continuous operation it was necessary to stop and clean out the high polymer tars that had collected. A sample run with the column at 195-200° lasting 12 hrs. converted 582.6 g. of dimer to 575.6 g. of monomer. The dimer had the following characteristics: b.p. 58-60° at 14 mm.; $n_D^{20} = 1.5125$; $d_4^{20} = 0.9772$. The monomer characteristics were: b.p. 40-42°; $n_D^{20} = 1.4446$; $d_4^{20} = 0.8016$.

Joseph B. Levy

LAPSHINA, Z. Ya.

NOVIKOV, S.S.; ENGLIN, B.A.; NARYSHKINA, T.I.; SUBBOTIN, A.P.; LAPSHINA, Z.Ya;
DOBRYNINA, T.P.; INOZEMTSEV, I.D.

Investigating antiknock properties of members of the naphthene series.
Khim. i tekhn. topl. i masel no.9:7-11 S 157. (MLRA 10:11)
(Gasoline--Antiknock and antiknock mixtures)
(Naphthenes)

001

CIA-RDP86-00513R000928620018-5

33983

S/062/62/000/002/005/001
B117/B138

11.1265
11.1260
AUTHORS:

Sosnova, G. S., Voskoboynikov, I. M., Brusnikina, V. M.,
Lapshina, Z. Ya., Novikov, S. S., and Apin, A. Ya.

TITLE:

Comparative data on the physical and chemical properties of
some liquid explosives

PERIODICAL:

Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh
nauk, no. 2, 1962, 351-352

TEXT: The characteristics of some liquid explosives were compared with
the aim of finding out what effect the chemical structure has upon them:
The following data were compared:

Explosive
butynediol-1,4-dinitrate
butanediol-1,4-dinitrate
1,1-dinitro ethane
dinitroxy ethyl nitroamine
(DINA liquid melt)

Explosive	g/cm ²	D, m/sec	T, °K	Q _{expl} , cal/g	Q _{form} , kcal/M
	1.42	7100	4000	1290	-6.4
	1.31	6600	3050	1210	65.5
	1.36	7300	3800	1190	25.8
	1.48	7400	3450	1180	53.6

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S/062/62/000/002/008/0-3
B117/B138

Comparative data on the...

The detonation velocity D was determined optically and by an ionization method with an accuracy of ± 100 m/sec. The detonation temperature ($T, ^\circ K$) was measured by the electron-optical chromatographic method (error of measurement $\pm 150^\circ K$). Homogeneous liquid explosives were used in order to eliminate the influence of grain size and porosity of the charge. The formation heats Q_{form} indicated above were calculated from the binding

energy and atomization heat (Ref. 3: Ya. K. Syrkin and M. Ye. Dyatkina, *Khimicheskaya svyaz' i stroeniye molekul* (Chemical binding and structure of molecules), Goskhimizdat, M.-L., 1946; Ref. 4: F. A. Baum, K. P. Stanyukovich, and B. I. Shekhter, *Fizika vzryva* (Physics of explosion), Fizmatizdat, M., 1959). The explosion heat Q_{expl} was

calculated on the assumption that the disintegration from explosion is governed by the Brinkley-Wilson rules, i.e., that the hydrogen in the detonation wave is always completely oxidized to water, and that CO_2 is

formed only after the carbon has completely oxidized to CO. The composition of the explosion products was found not to depend on the chemical structure of the substance but on the elemental composition of the molecules (C, H, N, O). There are 1 table and 5 references:

Card 2/3

33983

S/062/62/000/002/002/013
B117/B138

Comparative data on the...

3 Soviet-bloc and 2 non-Soviet-bloc.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences USSR).
Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR)

SUBMITTED: January 31, 1961

X

Card 3/3

SOSNOVA, G.S.; VOSKOBOYNIKOV, I.M.; BRUSNIKINA, V.M.; NOVIKOV, S.S.;
APIN, A.Ya.; LAPSHINA, Z. Ya.

Comparative data on the physicochemical properties of some
liquid explosives. Izv. AN SSSR Otd.khim.nauk no.2:351-
352 P '62. (MIRA 15:2)

1. Institut khimicheskoy fiziki AN SSSR i Institut organicheskoy
khimii im. N.D.Zelinskogo AN SSSR,
(Explosives)

PALASTIN, L.M., kand.tekhn.nauk; LAPSHINOV, A.M., inzh.

Regulated d.c. machinery with permanent magnets and nonsymmetric poles. Elektrichestvo no.2:48-51 F '62. (MIRA 15:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut elektromekhaniki.
(Electric machinery--Direct current)

DUNAYEVSKIY, V.I.; LAPSHOV, L.L.; PONOMAREV, N.I.

Redistribution of torque during straightening on roller sheet
levellers. Met. i gornorud. prom. no.6:38-39 N-D '64.

(MIRA 18:3)

L 46670-66 EWT(m)/EWP(k)/T/EWP(e)/EWP(w)/EWP(t)/ETI IJP(c) AT/WH/VV/JD/HW/JG.

ACC NR: AP6009580 (N) SOURCE CODE: UR/0226/65/000/011/0087/0093

AUTHOR: Mal'tseva, L. F.; Lapshov, Yu. K.; Marmer, E. N.; Samsonov, G. V. 7671 BORG: Institute for the Study of Materials, AN UkrSSR (Institut problem materialovedeniya AN UkrSSR); All-Union Scientific Research Institute of Electrothermal Equipment (Vsesoyuznyy nauchno-issledovatel'skiy institut elektrotermicheskogo oborudovaniya)TITLE: High-temperature heaters constructed from the carbides of niobium and zirconium 27 27 27

SOURCE: Poroshkovaya metallurgiya, no. 11, 1965, 87-93

TOPIC TAGS: furnace heater, carbide, metal powder, niobium compound, zirconium compound, refractory metal, metallurgic furnace

ABSTRACT: The article deals with the experimental investigation of the suitability of niobium and zirconium carbides as substitutes for the refractory metals W, Ta and Mo used as furnace heaters and linings, since the latter metals do not satisfy the requirements of present-day furnace technology so far as operation at temperatures of 2500-3000°C is concerned. (To assure operation at temperatures of 2500-3000°C the heater material must have a melting point of 3500-4000°C.) Tube- and rod-shaped heaters were prepared from NbC and ZrC

Card 1/2

L 46670-66

ACC NR: AP6009580

by pressing the powders of these carbides into the corresponding shapes in a vertical press (tubes -- current leads -- measuring 150 mm in length, 11.2 mm in inside diameter and 25 mm in outside diameter; rods measuring 650 mm in length, and 11 mm in diameter), with subsequent drying and sintering. They were then tested by passing electric current directly through them at maximum temperatures. Findings: ZrC rods and tubes had to be rejected because, when in elongated form, these products readily crack during sintering. NbC rods and tubes withstood temperatures of up to 2300°C for 3-4 hr without fracturing or buckling. In one case even (thin tube with $d_{out} = 18$ mm, $d_{in} = 13$ mm, $l \sim 600$ mm), a temperature of the order of 2500-2600°C was successfully achieved and maintained for 7 hr. Thus, NbC is a promising material for use in resistance furnaces. It appears that the mechanical strength of these heaters could be further enhanced by adopting more effective pressing techniques, e.g. extrusion. Orig. art. has: 4 figures.

SUB CODE: 11,13/ SUBM DATE: 04Mar65/ ORIG REF: 007/ OTH REF: 002

Card hs
 2/2

LAPSHOV, V.A.

~~Results of the gravimetric study of Sarysu domes. Avtoref. nauch.~~
trud. VNIGRI no.17:238-239 '56. (MIRA 11:6)
(Dzhezkazgan District--Prospecting--Geophysical methods)

AUTHORS: Dorofeyeva, T.V. , Lapshov, V. A. 20-118-4-47/61

TITLE: Some New Data on the Tectonic Geology of the Chu -
Sarysuyskaya Depression (Nekotoryye novyye dannyye o tektonike
Chu- Sarysuyskoy depressii)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 118, Nr 4,
pp. 796-797 (USSR)

ABSTRACT: The lacking of data on the vertical structure of the depression
led to the publication of various tectonic schemes which are
all equally insufficient for the deciphering of this structure.
(ref. 1, 2). The nature of vast region of western Bet-Pak-Dala
which is called Chu-Sarysuyskaya depression by the authors is
not explained by these schemes. It forms a depression of
300 x 250 km between mountains the curb of which is not vi -
sible in all parts of the surface. Here the authors carried
out geological and geophysical investigations in the years
1944 - 1955. The depression is curbed in the East by the Bet-
Pak-Tau mountain chain, in the North-West by Ulu-Tau, and in
the South-West by Kara-Tau. In the North, South, and West under-
ground elevations exist according to geophysical observations

Card 1/4

Some New Data on the Tectonic Geology of the Chu -
Sarysuyskaya Depression

20-118-4-47/61

which are covered by Meso-Cainozoic sediments. The mentioned curbing mountain chains consist of proterozoic formations which are seamed by a lower- Paleozoic rock complex. Middle- and upper- Paleozoic sediments are developed at the edges and in the central part which often are covered by Meso - Cainozoic sediments. Gravimetric investigations detected a regional minimum zone with the typical character of the anomalous field. The depression is in the meridional direction divided into 2 equally great depression districts by an elevation covered by Meso-Cainozoic sediments. These districts are again subdivided into a group of still smaller depressions. The elevation mentioned can be considered only as a sunk Caledonian fold formation. In the West the depression is curbed by steeper steps. The study of the mentioned mountain ranges leads to the conclusion that the development of the depression began not later than in lower Paleozoicum. This region sank at that time and this led to the accumulation of thick sediment masses (approximately more than 20,000m). In the central parts of the depression metamorphism and dislocation of these rocks are only little marked. The age of

Card 2/4

Some New Data on the Tectonic Geology of the
Chu - Sarysuyskaya Depression

20-118-4-47/61

the structural forms of second order is assumed to be middle-upper-Paleozoic. Differentiation depressions of second order form a mosaic-like picture of local gravimetric minima. It can be assumed that these minima correspond to salt domes. They are assumed to have the last-mentioned age, their formation, however, might have been continued also later. The visible Hercynian structures of the depression are mainly stratified in the Eastern marginal part. Devonian- and Carboniferous sediments take part in these structures. As a rule, the Hercynides form a sometimes considerable angle with the main direction of the Caledonian and pre-Caledonian structures. Only in individual cases they have the same direction. It is possible that the directions of the Hercynian structures are due to the direction of old faults and the block-tectonics of the pre-Devonian time. There are **2 Soviet references.**

Card 3/4

LAPSHOV, V.A.

Characteristics of the density of Permian and Mesozoic
sediments in the Mangyshlak Peninsula. Trudy VNIGRI no.220.
Geol. sbor. no.8:308-319 '63. (MIRA 17:3)

LAPSHOV, V.A.

Methods in gravimetric surveying. Trudy VNIIGRI no.220.
Geol. sbor. no.8:345-353 '63. (MIRA 17:3)

LAPSHOV, V.A.

Subsurface tectonic geology of the Mangyshlak Peninsula
and adjacent territories. Trudy VNIGRI no.218:103-127
'63. (MIRA 17:3)

ANDRYUSHCHENKO, A.I., prof., doktor tekhn. nauk; LAPSHOV, V.N., inzh.

Raising the economy of active medium pressure steam turbine power plants by installing gas turbines according to the combined cycle. Izv. vys. ucheb. zav.; energ. 2 no.10:43-49 0 '59.
(MIRA 13:3)

1. Saratovskiy avtomobil'no-dorozhnyy institut. Predstavlena kafedroy teploenergetiki.
(Steam turbines) (Electric power plants)

LAPSHOV, V.N., inzh.

Calculation of optimum parameters of steam-gas cycles. Izv. vys.
ucheb. zav.; energ. 3 no.11:62-68 N '60. (MIRA 13:12)

1. Saratovskiy politekhnicheskiy institut. Predstavlena kafedroy
teploenergetiki. (Gas turbines) (Steam turbines)

ANDRYUSHCHENKO, A.I., doktor tekhn.nauk; LAPSHOV, V.N., inzh.

Effective cycles of combined gas-steam units. Teploenergetika
7 no.9:60-62 S '60. (MIRA 14:9)

1. Saratovskiy politekhnicheskii institut.
(Turbines)

LAPSHOV, V. N.

Cand Tech Sci - (diss) "Determination of optimal cycles and rational schemes for vapor-gas installations at thermal electric power stations." Moscow, 1961. 21 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Moscow Order of Lenin Power Inst, Chair of Theoretical Foundations of Heat Technology); 150 copies; price not given; (KL, 5-61 sup, 190)

ANDRYUSHCHENKO, A.I., doktor tekhn.nauk; LAPSHOV, V.N., kand.tekhn.nauk

Efficiency cycles and systems of combined gas and steam district heating plants. Teploenergetika 8 no.11:13-18 N '61. (MIRA 14:10)

1. Saratovskiy politekhnicheskiy institut.
(Heating from central stations)

LAPSHOV, V.N., kand. tekhn. nauk; SAFRYKIN, G.S., inzh.

Effectiveness of constructing steam and gas powered condensing
power stations with 500 Mw. block units. Sbor. nauch. soob.
SPI no.17:41-53 '62. (MIRA 17:6)

LAPSHOV, V.N., kand.tekhn.nauk, dotsent

Thermodynamic analysis of some regenerative feedwater heating networks
of steam and gas systems. Izv. vys. ucheb. zav.; energ. 6 no.12:33-40
D '63. (MIRA 17:1)

1. Saratovskiy politekhnicheskoy institut. Predstavlena kafedroy teplo-
energetiki.

ANDRYUSHCHENKO, A.I., doktor tekhn. nauk; LAPSHOV, V.N., kand. tekhn. nauk;
KURNOSOV, A.T., inzh.; YARMAK, L.N., inzh.

Effectiveness of regenerative feed-water heating in waste-heat
boilers. Teploenergetika 10 no.8:29-33 Ag '63. (MIRA 16:8)

1. Saratovskiy politekhnicheskoy institut.
(Boilers)

ANDRYUSHCHENKO, A.I., doktor tekhn. nauk, prof.; LAPSHOV, V.N., kand.
tekhn. nauk, dotsent; PONYATOV, V.A., inzh.; AMINOV, R.Z.,
inzh.

Thermodynamic calculation technique of the optimum parameters
of the gas section of binary steam and gas systems. Izv. vys.
ucheb. zav.; energ. 7 no. 6:54-60 Je '64 (MIRA 17:8)

1. Saratovskiy politekhnicheskii institut. Predstavlena ka-
fedroy teploenergetiki.

LAPSHOV, V.N., kand. tekhn. nauk; PONYATOV, V.A., inzh.

Determination of the optimum outflow speed of gases in large
steam and gas systems. Izv. vys. ucheb. zav.; emerg. no. 7:
34-40 JI '64 (MIRA 17:8)

1. Saratovskiy politekhnicheskoy institut. Predstavlena ka-
fedroy teploenergetiki.

ANDRYUSHCHENKO, A.I., doktor tekhn. nauk, prof.; LAPSHOV, V.N., kand. tekhn.
nauk, dotsent; POYATOV, V.A., inzh.; GORBACHEV, A.I., inzh.;
VESELOV, B.N., inzh.

Choice of the optimal parameters for gas part of large steam
gas units. Izv. vys. ucheb. zav.; energ. 7 no.11:39-46 N '64
(MIRA 18:1)

1. Saratovskiy politekhnicheskoy institut. Predstavlena kafedroy
teploenergetiki.

ANDRYUSHCHENKO, Anatoliy Ivanovich; LAPSHOV, Vitaliy Nikolayevich;
LOZHKIN, A.N., prof., doktor ~~tekh. nauk, rezensent;~~
OL'KHOVSKIY, G.G., red.

[Steam-gas systems of electric power plants; thermodynamic
and technical economic analysis of operating cycles and
thermal networks] Parogazovye ustanovki elektrostantsii;
termodinamicheskii i tekhniko-ekonomicheskii analizy tsiklov
i teplovykh skhem. Moskva, Energiia, 1965. 246 p.
(MIRA 18:3)

U. 63211-65 EWT(d)/EPA/EWT(m)/EMP(f)/EPT(n)-2/T-2/EWA(c)/ETC(m) WW

ACCESSION NR: AP5014148,
*4.5

UR/0143/65/000/005/0050/0056
621.165 621.438

AUTHOR: Lapshov, V. N. (Candidate of technical sciences); Saprykin, G. S.
(Engineer) ^{44.5}

TITLE: Determining the optimal air-pressure-rise ratio in the gas part of
steam-gas plants with high-temperature gas turbines _{20, 44, 55}

29
26
B

SOURCE: IVUZ. Energetika, no. 5, 1965, 50-56

TOPIC TAGS: gas turbine, steam gas plant

ABSTRACT: A method is suggested for calculating the optimal air-pressure-rise ratio in the compressor of a steam-gas plant whose steam part is used for cooling the high-temperature (1000-1200C) gas-turbine part. The expansion process in the gas turbine is considered without referring to the characteristics of the turbine proper (W. Traupel, BWK, v. 14, no. 8, 1962). The method covers both conventional schemes of the above plant: (1) With a high-pressure steam

Card 1/2

L 63211-65

ACCESSION NR: AP5014148

generator and (2) With a waste-heat boiler supplied by the gas-turbine exhaust. Estimates obtained with typical numerical examples show that the use of high-temperature gas turbines permits enhancing the electrical net efficiency of the steam-gas plants up to 50% with an initial gas temperature of 1200C. With a compression ratio of 6-8, or with a gas temperature over 1500C, the intermediate heat supply to the gas part of the plant has but little effect. Orig. art. has: 5 figures and 25 formulas.

ASSOCIATION: Saratovskiy politekhnicheskiy institut (Saratov Polytechnic Institute)

SUBMITTED: 18Apr64

ENCL: 00

SUB CODE: PR

NO REF SOV: 004

OTHER: 004

dm
Card 2/2

L 3178-66 EPA/EWP(f)/EPF(n)-2/T-2/ETC(m) WW

ACCESSION NR: AP5011575

UR/0143/65/000/004/0045/0051
621.311.22

33
30
3

AUTHOR: Andryushchenko, A. I. (Doctor of technical sciences, Professor);
Lapshov, V. N. (Candidate of technical sciences); Popov, A. I. (Engineer);
Saprykin, G. S. (Engineer)

TITLE: Efficiency of using superhigh temperatures in steam-gas plants with cooled gas turbines

SOURCE: IVUZ. Energetika, no. 4, 1965, 45-51

TOPIC TAGS: power plant, steam gas power plant, gas turbine

ABSTRACT: The effects of the air pressure, initial temperature of working gas, and cooling intensity upon the net electrical efficiency of a high-pressure-steam-generator plant and a waste-heat-boiler-type plant are determined. The calculations show that, with the compressor pressure ratios attainable today, a two-stage heat supply to high-temperature gas turbines is rather inefficient. It is

Card 1/2

L 3178-66

ACCESSION NR: AP5011575

found that: (1) The steam-gas plants with high-temperature gas turbines having initial gas temperatures of 1200-1400C and 1600C permit attaining net electrical efficiencies of 50-52% and 55-56%, respectively; (2) Such plants should have a simplest scheme which would make for their reliability and low cost; (3) The high electrical efficiency and low cost per kw of such plants make them most promising in the future development of power engineering. Orig. art. has: 7 figures and 1 formula.

ASSOCIATION: Saratovskiy politekhnicheskij institute (Saratov Polytechnic Institute)

SUBMITTED: 07Sep64

ENCL: 00

SUB CODE: PR

NO REF SOV: 003

OTHER: 002

PC
Card 2/2

LAPSHOV, V.N., kand. tekhn. nauk

Method for calculating finite optimal parameters of steam-gas systems. Teploenergetika 12 no.2-7-11 P 165.

(MIRA 18:3)

1. Saratovskiy politekhnicheskii institut.

ANDRYUSHCHENKO, A.I., doktor tekhn. nauk, prof.; LAPSHOV, V.N., kand. tekhn. nauk; PONYATOV, V.A., inzh., aspirant

Thermal effectiveness of steam and gas systems using the heat from intermediate air cooling in the steam portion. Teploenergetika 12 no.4:77-80 Ap '65. (MIRA 18:5)

1. Saratovskiy politekhnicheskiy institut.

LAPSHOV, V.N., kand. tekhn. nauk; SAPRYKIN, G.S., inzh.

Determination of the optimal degree of air pressure increase
in the gas section of steam and gas units with high temperature
gas turbines. Izv. vys. ucheb. zav.; energ. 8 no.5:50-56
My '65. (MIRA 18:6)

1. Saratovskiy politekhnicheskoy institut. Predstavlena kafedroy
teploenergetiki.

- KURNOSOV, A.T., inzh.; ANDRYUSHCHENKO, A.I., doktor tekhn. nauk, prof.;
LAPSHOV, V.N., kand. tekhn. nauk, dotsent

Selection of the equations of state for the calculation of the parameters of water and steam using electronic computers. Izv. vys. ucheb. zav.; energ. 8 no.8:58-66 Ag '65. (MIRA 18:9)

1. Saratovskiy politekhnicheskiy institut (for Kurnosov, Andryushchenko). 2. Voronezhskiy politekhnicheskiy institut (for Lapshov). Predstavlena kafedroy teploenergetiki Saratovskogo politekhnicheskogo instituta.

L 04160-67 EWT(1)/I-2 IJP(c) AT

ACC NR: AP6023677

SOURCE CODE: UR/0143/66/000/004/0061/0069

AUTHOR: Lapshov, V. N. (Candidate of technical sciences)

ORG: Voronezh Polytechnic Institute (Voronezhskiy politekhnicheskiy institut)

TITLE: Calculation of irreversible polytropic processes in an ideal gas

SOURCE: IVUZ. Energetika, no. 4, 1966, 61-69

TOPIC TAGS: irreversible process, gas dynamics, magnetohydrodynamics

ABSTRACT: The article treats equilibrium irreversible polytropic processes, whose irreversibility is due to the transformation of the work done by the gas into heat as a result of friction and of the presence of Joule losses of energy in a magnetohydrodynamic generator. Fig. 1 illustrates an irreversible but equilibrium process of the expansion of an ideal gas with friction and with heat removal, in the coordinates TS.

Card 1/2

UDC: 536.752

L 04160-67

ACC NR: AP6023677

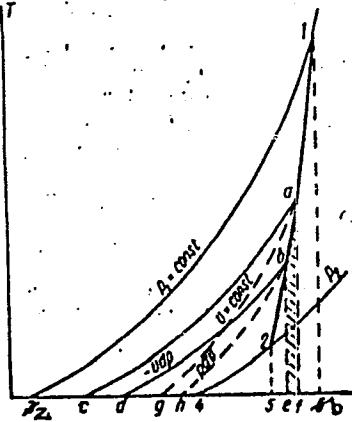


Fig. 1. Irreversible equilibrium process of the expansion of an ideal gas in the coordinates TS

A further figure, based on thermodynamic calculations, show polytropic expansion processes for an ideal gas (also in the coordinates TS). It is shown that the use in the calculations of coefficients characterizing internal and external heat transfer makes it possible to establish the ratio of the heat and work parameters in irreversible polytropic processes in ideal gases. Orig. art. has: 45 formulas and 3 figures.

SUB CODE: 20/ SUBM DATE: 15Jun64/ ORIG REF: 008/ OTH REF: 003

Card 2/2 *HL*

L 23798-66 EWP(e)/EWT(m)/EWP(t) IJP(c) JD/WW/JG/WH

ACC NR: AP6007254 (A) SOURCE CODE: UR/0363/66/002/002/0303/0307

AUTHOR: Lapshov, Yu.K. 37-
BORG: Institute for Problems of Materials, AN UkrSSR (Institut problem materialovedeniya AN UKRSSR)TITLE: Complex alloys based on molybdenum disilicide and boron carbonitride 27 27

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 2, 1966, 303-307

TOPIC TAGS: boron compound, molybdenum compound, nitride

ABSTRACT: The starting material for the tests consisted of samples with a boron carbonitride content of 15, 30 and 40 weight %. The $MoSi_2$ powders, with a particle size of 46 microns, had the following chemical composition: total silicon-34%; bound silicon-31.3%; free silicon-1.5%; molybdenum-64%; iron-approximately 0.5%. Pressed rods were cut into pieces of the required length and dried at 150° for 150-200 min. After drying, the samples were sintered in a tubular graphite furnace in a hydrogen atmosphere. After sintering, determinations were made of the pycnometric density and the porosity of the alloys by the method of hydrostatic suspension. The optimum sintering temperature for these alloys was found to be $1150^\circ C$ and the optimum sintering time 60 min. A 2

Cerd 1/2 UDC: 546.77'28 + 546.27'261'171.1

L 23798-66

ACC NR: AP6007254

study was made of the influence of the duration of the holding time on the oxidation process of the alloys at 1200°C; it was established that the increase in weight of the samples for 560 minutes was 2.234 mg/cm² for a composition of 70% MoSi₂ and 30% boron carbonitride, 0.541 mg/cm² for a composition of 60% MoSi₂ and 40% boron carbonitride, and 0.930 mg/cm² for pure molybdenum disilicide. A study was made of the dependence of the specific electric resistance on temperature. It was found that the electric resistance of the alloys decreases with an increase of temperature and reaches 30 ohm-cm at 1300°C for an alloy with 30% boron carbonitride, and 58 ohm-cm for an alloy with 40% boron carbonitride. At the same time, the specific electric resistance of pure molybdenum disilicide is 0.5 ohm-cm at 1300°C. Orig. art. has: 6 figures and 1 table.

SUB CODE: 11,13,07/ SUBM DATE: 05Jul65/ ORIG REF: 007/ OTH REF: 001

Cord

2/2 FV

PADERNO, V.N.; LAPSHOV, Yu.K.

Investigating conditions of obtaining niobium carbide. Porosh.
met. 3 no.1:75-78 Ja-F '63. (MIRA 16:3)

1. Institut metallokeramiki i spetsial'nykh splavov AN UkrSSR.
(Niobium carbide)

MAI.'TSEVA, L.F.; LAPSHOV, Yu.K.; MARMER, E.N.; SAMSONOV, G.V.

High temperature heating elements of niobium and zirconium
carbide. Porosh.met. 5 no.11:87-93 N '65.

(MIRA 18:12)

1. Institut problem materialovedeniya AN UkrSSR i Vsesoyuznyy
nauchno-issledovatel'skiy institut elektrotermicheskogo
oborudovaniya. Submitted March 4, 1965.

L 35866-66 EWP(e)/EWI(m)/EWP(w)/T/EWP(t)/ETI IJP(c) JD/JG

ACC NR: AP6020958 (A) SOURCE CODE: UR/0226/66/000/006/0017/0023

AUTHOR: Samsonov, G. V.; Lapshov, Yu. K.; Podchernyayeva, I. A.;
Fomenko, V. S.; Yerosov, Yu. I.; Dudnik, Ye. M.ORG: Institute of the Problems of Material Science, AN UkrSSR (Institut
problem materialovedeniya AN UkrSSR)TITLE: Production and physical properties of alloys of the W-LaB₆ system

SOURCE: Poroshkovaya metallurgiya, no. 6, 1966, 17-23.

TOPIC TAGS: tungsten base alloy, lanthanum hexaboride ~~containing~~
~~alloy~~, tungsten boride ~~containing alloy~~, ~~alloy~~, physical property,*alloy phase diagram, x ray diffraction analysis*
ABSTRACT: Six tungsten-base alloys containing 1, 3, 5, 10, 30 or
50 mol% lanthanum hexaboride were prepared from alloy powder with a
particle size of 50 μ by hot compacting in an argon atmosphere in
graphite molds coated with boron nitride. ^{metal} It was found that the
reaction of tungsten with lanthanum hexaboride results in decomposition
of the latter and in the formation of W₂B and WB borides. Metallo-
graphic and x-ray diffraction analysis showed that alloys containing
1, 3, or 5% lanthanum hexaboride had a two-phase structure consisting
of tungsten-base solid solution and tungsten boride (W₂B) and a micro-
hardness of 620, 597, and 535 dan/mm², respectively. Alloy with 10%

Card 1/2

L 35866-66

ACC NR: AP6020958

lanthanum hexaboride had a four-phase structure consisting of tungsten-base solid solution, W_2B , WB , and LaB_6 -base phase. Alloys with 30 or 50% lanthanum hexaboride contained two W_2B -base and LaB_6 -base phases. The alloys containing 1, 3, 5 and 10% lanthanum hexaboride have a resistivity at room temperature of 6.9, 17.75, 23.1, and 41.6 kohm·cm, respectively. Small additions of lanthanum hexaboride (about 1 mol%) sharply reduced the work function of tungsten at 1700C. These alloys appear to be promising materials for cathodes working at medium and high temperatures. Orig. art. has: 7 figures and 1 table. [AZ]

SUB CODE: 11/ SUBM DATE: 27Dec65/ ORIG REF: 017/ OTH REF: 003
ATD PRESS: 5036

Card 2/2 *ll*

L 06579-67

EWT(m)/EWP(e)/EWP(w)/EWP(t)/ETI LJP(c) JD/JG

ACC NR: AP6029821

SOURCE CODE: UR/0363/66/002/008/1454/1459

AUTHOR: Samsonov, G. V.; Lapshov, Yu. K.; Podchernyayeva, I. A.; Fomenko, V. S.; Yerosov, Yu. I.; Dudnik, Ye. M.

65
B

ORG: Institute of Material Science Problems, Academy of Sciences SSSR (Institut problem materialovedeniya akademii nauk ^{Ukr SSSR})

TITLE: Some physical properties of the ^{W-LaB₆} alloys

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 8, 1966, 1454-1459

TOPIC TAGS: solid mechanical property, tungsten, boron, lanthanum, x ray, alloy, phase composition, phase diagram

ABSTRACT: The phase composition of several W-LaB₆ alloys (1-50 mole % LaB₆) was studied by x ray technique. Microhardness, specific electrical resistivity in 293°-1273°K range, and thermal emission parameters and emanation coefficients in the 1200-1950°K range were determined for various W-LaB₆ alloys. The alloy samples were prepared by hot pressing of suitable W+LaB₆ mixture in an argon atmosphere. The x ray analyses were made with a ^{URS-501M} apparatus provided with CuK α -emission source. It was found that during the interaction between W and LaB₆ there occurs a simultaneous formation of two borides, W₂B and WB, and a decomposition of LaB₆. These processes were accompanied by an increase in the specific electrical resistivity of the samples. It was also

Card 1/2

UDC: 546.3-19-78-654'271

Card 2/2

AUTHORS: Shevchik, V.N. and Lapshova, L.A. ^{SOV/109-4-7-7/25}

TITLE: Kinematic Theory of the Backward-wave Tube

PERIODICAL: Radiotekhnika i elektronika, 1959, Vol 4, Nr 7, pp 1134 - 1144 (USSR)

ABSTRACT: The theory presented in the article is not new and was originally developed by O. Doehler and W. Kleen (Ref 1). However, the theory is taken a step further in that it permits the evaluation of the electron interaction power. It is assumed that in the system considered, the electromagnetic wave propagates in the positive direction of the axis X and has a phase velocity v_{ϕ} , whose direction is inverse to that of the group velocity. The field of the wave can be written as:

$$E = E_1 e^{j\omega t + \Gamma x}$$

where $\Gamma = \gamma - j\beta$; γ is the wave constant and β is the phase constant. The electron beam moves also in

Card1/7

SOV/109-4-7-7/25

Kinematic Theory of the Backward-wave Tube

the direction of the positive X and has a velocity v_0 . It is assumed that the electron beam is rectilinear and narrow so that the field of the wave is constant over the cross-section of the beam; the amplitude of the wave is comparatively small, so that the electron velocities due to this field are small in comparison with v_0 . The space charge effect is also neglected.

The equation of motion of an electron can be written as:

$$\ddot{x} = \eta E_1 e^{j\omega t + \Gamma x} \quad (1)$$

where η is a normalised charge of an electron. The following normalised quantities are introduced: θ_0 is the free relative transit angle, θ is the relative transit angle while the system is perturbed; l is the length of the interaction space; V_0 is the acceleration voltage, $\alpha = \omega t_1$ is the input phase of an electron;

Card 2/7

SOV/109-4-7-7/25

Kinematic Theory of the Backward-wave Tube

$\xi = E_1 l / V_0$, $\mu = \xi / 2\phi_0$, $\rho = 1 - v_0 / v_{ph}$, $\delta = \omega / v_0$,
 $\varphi_0 = \omega x / v_0$. The equation of motion can now be written
 as Eq (2) or Eq (3). Integration of the latter gives
 the velocity modulation of the electrons by the wave;
 this is described by Eq (4). Further integration of
 Eq (4) gives an expression for the transit angle of the
 electrons:

$$\Phi = \Phi_0 - \frac{\mu}{\left(j + \frac{\gamma}{\delta}\right)^2} \left[e^{\left(j + \frac{\gamma}{\delta}\right)\Phi} - j + \frac{\gamma}{\delta} \Phi - 1 \right] e^{j\alpha} \quad (5).$$

This can be written approximately as Eq (6). The absolute
 transit angle, on the basis of Eq (6), can be expressed
 by Eq (7). The bunched current in the field of the
 wave can be evaluated from the charge-conservation law

Card3/7 (Eq 8). If the signal is small and the condition expressed

SOV/109-4-7-7/25

Kinematic Theory of the Backward-wave Tube

by Eq (9) is fulfilled, the bunched current is given by Eq (10). The interaction power of the electron beam, taken over one period, is given by Eq (11). By substituting Eq (10) in Eq (11), the interaction power is given by Eq (12). By integrating Eq (12), it is found that the real and the reactive components of the interaction power are expressed by Eqs (13) and (14), respectively. The power flowing in the delay system of the tube is expressed by Eq (21), where Γ_0 and K are given by the first equations on p 1137; the parameters Z and Y in these equations represent the impedance and the parallel admittance of the delay system. On the basis of Eq (21), the real and the reactive components of the power in the delay system are given by Eqs (22) and (23), respectively. Comparison of the power components represented by Eqs (13) and (22) and (14) and (23) permit determination of γ and $\Delta\beta$; these are expressed by Eqs (25) and (27), respectively. The results calculated on the basis of Eqs (25) and (27) are plotted in Figures 1 to 8. Figures 1 and 2 show the

Card4/7

SOV/109-4-7-7/25

Kinematic Theory of the Backward-wave Tube

amplitude and phase constants as a function of ρ for various values of the parameter C . Figures 3, 4 and 5 show the dependence of γ/β_e , ρ , $\Delta\beta/\beta_e$ on the parameter $(v_e/v_{\phi x} - 1)$ for the first and second wave components for three values of the parameter C . The amplification of the tube can be determined by considering three partial waves, each of which should satisfy certain boundary conditions at the input and the output of the tube. The conditions state that the alternating components of the current and velocity at $x = 0$ should be 0 and that the output energy should be equal to the sum of the three waves; the boundary conditions are described by Eqs (28), (29) and (30). Since the velocity and the current of the tube are described by Eqs (31) and (32), the boundary conditions can be expressed by Eqs (33), (34) and (35). A simultaneous solution of these equations leads to:

Card 5/7

SOV/109-4-7-7/25

Kinematic Theory of the Backward-wave Tube

$$\frac{E(l)}{E(0)} = \frac{E_{10}}{E_0} e^{(\gamma_1 - j\beta_1)l} + \frac{E_{20}}{E_0} e^{(\gamma_2 - j\beta_2)l} + \frac{E_{30}}{E_0} e^{(\gamma_3 - j\beta_3)l} \quad (36)$$

This represents a quantity inverse to the amplification of the tube. The real part of Eq (36) can be expressed by Eq (37), while the imaginary part is given by Eq (38). The condition of the self-excitation of the tube is $E(l) = 0$. This condition is fulfilled when the parameters of Eqs (37) and (38) have the values represented by Eqs (40) and (41). If it is necessary to consider the space-charge field E_2 , the equations of the tube are

Card 6/7

SOV/109-4-7-7/25

Kinematic Theory of the Backward-wave Tube

in the form of Eqs (42) (Yu.A. Katsman - Ref 13 and V.N. Shevchik, V.S. Stal'makhov - Ref 14). In the case of small signals, the equations lead to Eq (43). The integration of this shows that the velocity is given by Eq (44) and the transit angle is expressed by Eq (45). The bunched current is given by Eq (46); the average electron interaction power is expressed by Eq (47) and its real and reactive components are given by Eqs (48) and (49), respectively. Therefore, the solution of the characteristic equation of the system is given by Eqs (50)-(52). There are 8 figures and 14 references, of which 5 are English, 1 German, 1 French and 7 Soviet.

SUBMITTED: February 6, 1958

Card 7/7

Effect of Crystallization Conditions of the Steel on Ingot Defects due to Cracks. V. A. Efimov, V. I. Danilin and M. P. Laysheva. (Stal', 1935, (7), 691-696). [In Russian]. In the investigation described, the shrinkage conditions and plastic properties of a wide range of killed steels during the solidification of a 8-ton ingot and the correlation between these conditions and ingot cracking were studied. — s. k.

3

Instit. Ferrous Metallurgy, AS USSR
Plant "Red October"

Lapshova, M.P.

Influence of solidification conditions on cracking of ingots.
V. A. Efimov, V. I. Danilin, and M. P. Lapshova (Inst. of
Refractory Met., Acad. Sci. Ukr. S.S.R., Plant "Krasny
Oktyabr"). Stal. 15, 691-4 (1955).—Detg. shrinkage of
ingots in molds provided with suitable gages showed that
the contraction of steel cast at the same temp. is a function
of steel compn.; max. shrinkage was observed in 0.18-
0.30% C and the least in 0.65% C steels, the former showing
a max. cracking in rolling. Plastic properties of freezing
steel are detd. by the ratio of solid and liquid phases in the
interval of crystn., and its width is proportional to the C
content. Plastic deformation of a solidifying skin is taken
care of by the free motion of liquid metal among its den-
drites. J. D. Cat

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LAPSHOVA, M.P.
YEFIMOV, V.A.; DANILIN, V.I.; LAPSHOVA, M.P.

Shrinkage and plasticity of 6-ton steel ingots in the process of
solidification. Vop.proizv.stali no.3:144-160 '56. (MLRA 9:11)
(Steel ingots)

OYKS, G. N., SOKOLOV, G. A., ANSHELES, I. I. NAN-JAO-VEN, DANILIN, V. I. and
LAPSHOVA, M. G. P.
Moscow Institute of Steel.

"Application of the Vacuum to Improve the Alloy Steel Properties."

paper presented at Second Symposium on the Application of Vacuum Metallurgy.

MOSCOW, 1-6 July 1958

M.P. Lapsheva

18(5)

PHASE I BOOK EXPLOITATION

Abadasiya nauk Ukrainy SSR. Kiyev Otdeleniye tekhnicheskikh nauk SOV/1907

Voprosy proizvodstva stali vvp.6 (Problems of Steel Production, Nr 6) Kiyev, Izdatel'stvo Ukrainy SSR, 1958. 137 p. Errata slip inserted. 2,000 copies printed.

Reep. Ed.: N.M. Dobychotov, Academician, Ukr. SSR Academy of Sciences; Ed. of Publishing House: N.M. Labinova; Tech. Ed.: V.I. Yurchishin.

PURPOSE: This book is intended for engineers and scientific personnel in the field of steel production.

COVERAGE: This is a collection of articles dealing with various aspects of the production of steel, including the designing of open-hearth furnaces, thermal processes in the furnaces, thermodynamics of steel-making processes, technology of producing high-grade steel, and changes in the size and shape of ingots. Other topics discussed are the properties of chrome-nickel stainless steels, improvement of ball-bearing steel, ingot defects in stainless steels, as determined by temperature of teeming and shape, ingot quality, certain aspects of steel rolling. Some of the articles are accompanied by references, both Soviet and non-Soviet.

Duan, B. Kh. and N.P. Katsonechnyy. Investigation of the Properties of Chrome-Manganese Stainless Steels 41

Frokhorenko, K.K., and E.V. Verkhortsev. Improving the Quality of Sphal5 Ball-bearing Steel 49

Verkhortsev, E.V., and K.K. Frokhorenko. Ingot Defects Caused by Skin Folds Forming During the Teeming of Steel 68

Frokhorenko, K.K., P.K. Timokhov, E.V. Verkhortsev, and V.A. Verkhortsev. Isothermal Mixture for [Hotting] Hot Tops of Steel Castings 77

Yefimov, V.A., M.P. Sahlyev, and V.P. Grebenyuk. Effect of the Hydrodynamics of the Inflow of Liquid Steel into the Ingot Mold on Ingot Quality 87

Yefimov, V.A., V.I. Demilin, M.P. Lapsheva, V.P. Grebenyuk, and A.A. Kiselev. Effect of Teeming Temperature and Mold Shape on the Quality of Steel Ingots 96

Yefimov, V.A., M.P. Sahlyev, and V.P. Osipov. Reduction of Head and Butt Crops in the Rolling of Ingots 110

Yefimov, V.A., V.P. Osipov, and A.M. Melniko. An Investigation of the Conditions for Rolling Sheet Bar With Wavy Surfaces 123

Pedorovich, V.G. Experiments in the Conversion of High-phosphorus Pig Iron in a Converter With Side Blast of Oxygen 130

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7-28-59

Card 3/3

LAPSHOVA, M.P.

SOV/137-59-5-9863

Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 5, p 57 (USSR)

AUTHORS: Tarashchuk, N.T., Klement'yev, V.V., Danilin, V.I., Lapshova,
M.P., Lisov, I.V.

TITLE: Smelting Chrome-Nickel Steels^{1b} in Open Hearth Furnaces With the
Use of Clotted Nickel Monoxide ²⁷

PERIODICAL: Stalindr. prom-st' (Sovnarkhoz Stalindr. ekon. adm. r-na),
1958, Nr 2 - 3, pp 25 - 28

ABSTRACT: Clotted Ni monoxide was used instead of granulated Ni in Cr-Ni
steel smelting in 50-ton open-hearth furnaces of the "Krasnyy
Oktyabr'" plant. Clotted Ni monoxide was added to the charge
or during the refining stage in an amount of 1,000 to 1,800 kg
per smelt. The smelting process was characterized by inten-
sified boiling, particularly during the first 10 minutes after
addition of Ni monoxide. Assimilation of Ni, already 5 minutes
after its addition, was 98.5% on the average; the rate of
burning-out of C was 0.38% per hour. If Ni monoxide was added
to the refining pool, the smelting time was reduced by 33 minutes; ✓

Card 1/2

YEFIMOV, V.A.; DANILIN, V.I.; LAPSHOVA, M.P.; GREBENYUK, V.P.; KISELEV, A.A.

Effect of the temperature of pouring and the mold shape on the quality
of steel ingots. Vop.proizv.stali no.6:96-109 '58. (MIRA 12:3)
(Steel ingots) (Metallurgical plants--Quality control)

LAPSHOVA, M. P.

133-1-9/24

AUTHORS: Kiselev, A.A., Lapshova, M.P., and Kul'kova, M.N., Engineers
TITLE: Smelting of Ball Bearing Steel in an Acid Furnace Fired
with Natural Gas and Fuel Oil (Vyplavka sharikopodshipnikovoy
stali v kisloy pechi pri otoplenii prirodnyim gazom i
mazutom)

PERIODICAL: Stal', 1958¹⁸, No.1, pp. 35 - 40 (USSR)

ABSTRACT: An investigation of some technological factors of smelting and teeming of ball bearing steel on the degree of its contamination and the nature of non-metallic inclusions is described. Steel U_X15 was smelted in a 50-ton acid open-hearth furnace, deoxidised with aluminium in the ladle (125 g/ton) and bottom teemed into 4-ton ingots. The charge consisted of basic open-hearth steel containing no more than 0.015% of sulphur and phosphorus and a high quality pig [BK, Class A. The supply of this pig and low-sulphur oil was decreasing and this was accompanied by the increasing impurity of steel. Therefore, the furnace was transferred to firing with natural gas and fuel oil. This decreased the duration of heat by 35 min., and stoppages for hot repairs decreased by 0.59%. When the furnace was fired with fuel oil alone (0.4 - 0.5% S), the content of sulphur after melt out was 0.017 - 0.020%, on transfer to mixed firing the content of sulphur decreased to 0.013 - 0.016%. This brought

Card1/5

133-1-9/24

Smelting of Ball Bearing Steel in an Acid Furnace Fired with Natural Gas and Fuel Oil

a considerable decrease in the contamination of metal by oxide and sulphide inclusions (a comparison in the form of a table is given in the text). The influence of various technological factors on the degree of contamination of steel by non-metallic inclusions was determined by statistical treatment of data on current production. The following factors were considered: the influence of the temperature of metal on tapping (Fig.1); the duration of fettling (Fig.2) and the amount of reduced silicon. With the amount of reduced silicon of 0.18 - 0.22%, the degree of contamination is the highest, decreasing with increasing silicon content in the finished metal. An investigation of the influence of the amount of reduced silicon and silicon content in the finished metal on the degree of gas saturation of the steel indicated that the maximum content of oxygen and hydrogen corresponds to the amount of reduced silicon of 0.18 - 0.22% or to the content of silicon in the finished metal, 0.22 - 0.23%. The contamination of steel by oxides increases with increasing ferrous oxide content of slag before de-oxidation (it should not exceed 20%). It was also found that deoxidation of steel with aluminium also

Card2/5

133-1-9/24

Smelting of Ball Bearing Steel in an Acid Furnace Fired with Natural Gas and Fuel Oil

leads to a contamination of steel by oxides; therefore, some experimental heats were made in which: a) steel was deoxidised in the ladle with silicon-zirconium instead of aluminium, b) deoxidation with smaller quantities of aluminium (60 - 100 instead of 125 g/ton) and c) simultaneous deoxidation with silicon-zirconium and aluminium. The nature of non-metallic inclusions was investigated on metal from all heats deoxidised with silicon-zirconium, silicon-zirconium and aluminium, and on 10 heats produced by the usual technology. The quantity and composition of non-metallic inclusions are given in Tables 1 and 2; the dependence of the quantity of inclusions in steel on its temperature on tapping - Fig.3; the dependence of the degree of oxide contamination on the content of spinels in inclusions - Fig.4; the dependence of the proportion of spinels in inclusions on the content of FeO in slag - Fig.5; the dependence of the total amount of inclusions on the duration of teeming an ingot - Fig.6; the dependence of oxygen content of metal on its temperature on tapping - Fig.7, and on FeO content in slag - Fig.8; the influence of silicon content of metal before tapping on the gas saturations of steel during

Card3/5

133-1-9/24

Smelting of Ball Bearing Steel in an Acid Furnace Fired with Natural Gas and Fuel Oil

this period - Fig.9. Conclusions: 1) The transfer of smelting ball bearing steel by the silicon-reducing process in an acid furnace on firing with a mixture of natural gas and fuel oil decreased the degree of contamination of steel by sulphide and oxide inclusions and the duration of the heat by 35 min. 2) This decrease in the degree of contamination is obtained providing a number of technological factors are maintained: a) the temperature of metal on tapping (according to an immersion thermocouple) should be 1 580 - 1 600 °C; b) the amount of reduced silicon should exceed 0.23%; c) the content of iron oxide in slag before deoxidation should be from 15 to 20%. 3) On deoxidation of steel in ladle with silicon-zirconium instead of aluminium, the degree of contamination by oxides decreases by 0.35 to 0.60 and that by sulphides increased by 0.2 - 0.3; whereupon, the amount of non-metallic inclusions which can be electrolytically separated is higher than when deoxidising with aluminium. A special feature of the inclusions obtained on deoxidation with silicon-zirconium is their low content of spinels which decrease the degree of contamination by oxides. 4) The degree of contamination by oxides increases with increasing proportion of

Card4/5

Smelting of Ball Bearing Steel in an Acid Furnace Fired with Natural
Gas and Fuel Oil

133-1-9/24

spinels and the ratio of Al_2O_3/SiO_2 in the composition of inclusions. The amount of spinels and the Al_2O_3/SiO_2 ratio in the composition of inclusions increase with increasing content of ferrous oxide in slag before deoxidations. 5) During tapping of the heat, the content of oxygen in steel decreases due to deoxidation of steel in the ladle with aluminum, decreasing temperature of the metal and self-deoxidation of steel with carbon. 6) Higher concentrations of oxygen in steel and increasing proportion of total inclusions in steel correspond to higher tapping temperatures. The following engineers participated in the work: S.Z. Kupryakhina, Yu.A. Kartsin and O.S. Zheludeva. There are 2 tables and 9 figures.

ASSOCIATION: "Krasnyy Oktyabr" Works (Zavod "Krasnyy Oktyabr")

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Card 5/5

KUDRIN, V.A.; OYKS, G.N.; SOROKIN, S.P.; NECHKIN, Yu.M.; GLUSHTSOV, M.V.;
NAM, B.P.; LAPSHOVA, M.P.; YUDSON, A.A.; PETRENKO, O.D.;
ADRIANOVA, V.P.

Smelting high-grade steel in open-hearth furnaces fired with
natural gas. Stal' 20 no. 7:599-602 J1 '60. (MIRA 14:5)
(Open-hearth furnaces--Equipment and supplies)

LAPSHOVA, M. P.

3

S/133/61/000/005/004/009
A054/A133

AUTHORS: Osipov, V.P., Engineer; Yefimov, V.A., Candidate of Technical Sciences; Matevosyan, P.A., Engineer; Danilin, V.I., Engineer; Lapshova, M.P., Engineer; Selivanov, V.M., Engineer; Lisov, I.V., Engineer.

TITLE: Pouring of high-alloy steels

PERIODICAL: Stal', no. 5, 1961, 415 - 418

TEXT: When stainless steel is poured, the surface layers of the ingot are deteriorated by folds, blisters and pock marks, which are mainly the result of oxides and gases in the metal. To avoid such defects, tests were carried out with pouring low-melting synthetic slags on the metal surface in the ingot mold. The hot-liquid slag decreases heat losses through radiation and checks the oxidation of the metal. The main purpose of the tests was to determine the effect of various factors on the formation of defects and the most suitable composition of synthetic slags to be used in this process. The slags were melted in a 20-ton single-phase arc furnace with conductive graphite bottom. The low-melting constituents (fluorite, cryolithe) were charged at first, on the bottom, next the

Card 1/4

3

S/133/61/059/055/002/009
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Pouring of high-alloy steels

other materials. The melting of a 50-kg batch of synthetic slag took 1 - 1 1/2 h. The slag was poured into a ladle and from this into the mold. When the metal level in the mold had risen to about 150 - 200 mm, about 15 - 16 kg slag was poured on its surface. In the tests X23M18 (Kh23M18) and X1E9T (Kh1E9T) steel was bottom-cast into 4.1-ton ingots. Simultaneously with pouring into uncoated molds with synthetic slag, metal was also poured into lacquer-coated molds for comparison. Four types of slags were used with the following composition:

Group	CaF ₂	Na ₃ AlF ₆	SiO ₂	Al ₂ O ₃	CaO	MnO	MgO
I	35-40	—	35-40	10-15	10-15	—	—
II	33,3	33,3	—	—	33,3	—	—
III	—	—	50	—	29	19	10
IV	—	75	—	—	25	—	—

The best results were obtained with Group-I slags which are light grey-bluish when solid; when liquid, they humidify the metal very thoroughly. During smelting Kh1E9T steel, the slag composition changed as follows (numerator: composition before smelting; denominator: after smelting):

SiO ₂	CaO	MnO	TiO ₂	Cr ₂ O ₃	F ₂ O	Al ₂ O ₃	F	Na
35,4	37,12	0,31	0,35	0,48	0,11	11,42	14,30	2,12
32,72	35,99	1,50	6,17	1,74	0,97	13,16	13,40	1,60

It can be seen that synthetic slag adsorbs chrome and titanium oxides, which is promoted by the presence of CaO, moreover by CaF₂, Na₃AlF₆ (cryolithe) and Na₂SiO₃

Card 2/4

3

S/133/61/000/005/004/009
A054/A133

Pouring of high-alloy steels

soluble glass). The adsorption of chroma and titanium oxides takes place also very rapidly. When 1Kh18N9T steel is poured into the mold to half its capacity, the titanium oxide content of slag increased from 0.6 to 2.5%, the chroma oxide content from 0.03 to 0.8%, while, when pouring was finished, the content of the above oxides increased to 3 and 1%, respectively. No folds were observed in the ingots which were poured under Group-I slags. The ingot surface was covered with a thin slag layer (like "enamel"), the thickness of which between ingot and mold-wall on the edges was 0.3 - 0.5 mm, on the angles 3 mm. The test ingots had a flawless, smooth surface, while in the check-ingots the usual folds in the upper part and blisters in the lower part were found. Due to the synthetic slag layer, the intensity of heat removal from the ingot surface decreased 1.4 times; the shrinkage stresses in the ingot case also became lower. The intensity of shrinkage decreased and, moreover, the liquid slag flowed into the pores of the mold, hereby eliminating the delay of shrinkage and promoting the contraction of the ingot along the mold wall. The mechanical properties of synthetic slag-treated steels are partly equal to those of the conventional steels (strength limit and relative elongation), in some respects they are even better. In the test specimens of synthetic slag-treated 1Kh18N9T and X18H12M2T (1Kh18N12M2T) steels no intercrystalline corrosion could be observed during the tests. There are 2 figures,

Card 3/4

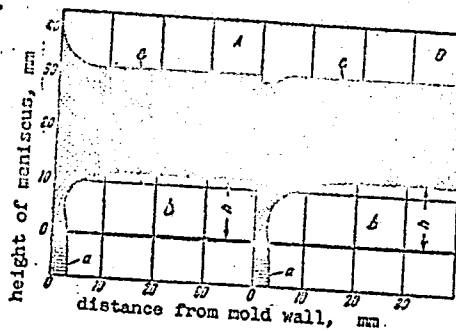
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Pouring of high-alloy steels

2 tables and 3 Soviet-bloc references.

Figure 2: Effect of coating on the forming of the external ingot surface when pouring under synthetic slag. A - without coating; B - the mold is graphite-coated (a - solidifying steel; 2 - liquid steel; 3 - liquid slag).

S/133/61/000/005/004/009
A054/A133



Card 4/4

MATEVOSYAN, P.A.; DANILOV, V.I.; LAPSHOVA, M.P.; KISELEV, A.A.; LISOV, I.V.;
VOLYANSKIY, V.M.

Improving the quality of blooming mill ingots. Stal' 23 no.12:1086-
1087 D '63. (MIRA 17:2)

1. Volgogradskiy metallurgicheskiy zavod "Krasnyy Oktyabr'".

KUDRIN, V.A.; AFONIKOV, S.M.; NECHKIN, Yu.M.; SGROKIN, S.P.; TYURIN, Ye.I.;
LAPSHOVA, M.P.; YUDSON, A.A.; POPOV, Ye.S.

Performance of a 30 ton open-hearth furnace with a roof gas
and oxygen burner. Metallurg 10 no.1:14-16 Ja '65.

(MIRA 18:4)

KISELEV, A.A., kand. tekhn. nauk; ANTIPOV, K.I., inzh.; LAPSHOVA, M.P.,
inzh.; CHISTYAKOV, V.F., inzh.

Increasing the density of 45G2 and other structural steel ingots.
Stal' 25 no.12:1090-1091 D '65. (MIRA 18:12)

1. Zavod "Krasnyy Oktyabr".

STEPUKHOVICH, A.D.; LAPSHOVA, N.I.; YEFIMOVA, T.D. (Saratov)

Effect of the chemical structure of the solvent on the kinetics
and mechanism of Menshutkin's reaction. Zhur.fiz.khim. 35
no.11:2532-2539 N '61. (MIRA 14:12)

1. Saratovskiy universitet imeni N.G. Chernyshevskogo.
(Solvents)
(Chemical reaction, Rate of)

ARAKELIAN, G.S.; LAPSHOVA, Z.G., inzh.

New compound for cleaning dirt and oil stains on fabrics in loom state. Tekst.prom. 22 no.9:62-63 S '62. (MIRA 15:9)

1. Nachal'nik tkatskogo proizvodstva kombinata "Trekhgornaya manufactura" imeni Dzerzhinskogo Moskovskogo gorodskogo soveta narodnogo khozyaystva (for Arakelyan). 2. Nauchno-issledovatel'skaya laboratoriya kombinata "Trekhgornaya manufactura" imeni Dzerzhinskogo Moskovskogo gorodskogo soveta narodnogo khozyaystva (for Lapshova).

(Cleaning compounds)

PEREL'MAN, B.I.; LAPSHUN, A.I.

Automatic control of centrifugals for high-grade massecuites.
Sakh.prom. 30 no.4:34-38 Ap '54. (MLRA 9:8)

1. Giprosakhar (for Perel'man);
2. Krasnopresnenskiy sakharo-rafi-
nadnyy zavod (for Lapshun)
(Sugar machinery) (Automatic control)

LAPSHUN, A.I.

[Use of electromagnetic sliding clutches in the sugar industry] Primenenie elektromagnitnykh muft skol'zhenia v sakharnoi promyshlennosti. Moskva, TSentr. in-t naučno-tekh. informatsii pishchevoi promyshl., 1964. 21 p.
(MIRA 17:12)

Lapshun, A. I.

USSR/Processes and Equipment for Chemical Industries-- K-2
Control and measuring devices. Automatic regulation.

Abs Jour: Ref Zhur-Khimiya, No 3, 1957, 10670

Author : Perel'man, B. I. and Lapshun, A. I.

Inst : Not given

Title : Automation of Centrifuges for the Purification of
Refined Sugar

Orig Pub: Sakharnaya prom-st, 1956, No 4, 34-38

Abstract: The projected installation of an automatic control system for a battery of six centrifuges at the Krasno-presnensk Sugar Refinery is described. Completely automatic startup and cutout of the electric drives for the centrifuges, braking, and stopping of the centrifuges, loading and unloading, water dosage for washing the drums of the centrifuges and for the wash syrup, and starting of the segregator are provided for. The entire battery of centrifuges will be controlled by one operator whose duties will consist in regulating

LAPSHUN, Ginda Borisovna[Lapshun, H.B.]; TITOVA, Yelizaveta
Mikhaylovna[Tytova, I.E.M.]; CHERKASOV, O.V., red.;
CHUCHUPAK, V.D., tekhn. red.

[Organization of antituberculosis care for children] Dosvid
organizatsii protytuberkul'oznoi dopomohy ditiam. Kyiv,
Derzhmedvydav URSR, 1961. 54 p. (MIRA 15:7)
(TUBERCULOSIS--PREVENTION) (CHILDREN--DISEASES)

LAPSKER, A., glavnyy inzh.; YUSFINA, A., inzh.; KOSAYA, M., inzh.

Substituting coumarone resin for colophony. Prom. koop. 13 no.4:15
Ap '59. (MIRA 12:6)

1. Nizhnedneprovskiy khimicheskiy zavod, g. Dnepropetrovsk (for
Lapsker).
(Dnepropetrovsk--Lacquer and lacquering)

L 40016-65 EWT(m)/EWP(w)/EWA(d)/I/EWP(t)/EWP(z)/EWP(b) MJW/JD/GS

ACCESSION NR: AT4049812

S/0000/64/000/000/0052/0055

AUTHOR: Fertik, N. A.; Lebedeva, M. A.; Larina, G. B.; Lapsker, Yu. A. ²¹/₃₀ 8+1

TITLE: The technology of soft nitriding and its effect on the fatigue strength of steel ₇₀

SOURCE: Soveshchaniye po uprochneniyu detaley mashin, 1962. Protseessy uprochnen-
iya detaley mashin (Processes of the hardening of machine parts); doklady sovesh-
chaniya, Moscow, Izd-vo Nauka, 1964, 52-55

TOPIC TAGS: steel nitriding, steel cyaniding, steel fatigue strength, soft nitriding, steel wear resistance

ABSTRACT: The principal advantages of nitriding in comparison with carburizing and cyaniding are minimum deformation and warping of the parts. However, the duration of this process, brittleness of the nitrided layer and insufficient service life of nitrided parts limit its application. During the last few years, publications have appeared on soft nitriding which report improvement in the fatigue strength of steel parts. This method involves the use of melted cyanide salts at 520-580C. Using this technique, tests were made to determine the absorption parameters and the properties of the diffusion layer after soft nitriding. A VTs-22

Card 1/3

L 40016-65

ACCESSION NR: AT4049812

electric furnace with automatic temperature regulation was used. The furnace bath contained 50% NaCN, 18% NaCl and 32% Na_2CO_3 , and the bath temperature was $550 \pm 10^\circ\text{C}$. A previous publication by A. N. Minkevich noted that the source of chemically active carbon and nitrogen is the dissociation of NaCNO. Therefore, the content of NaCNO and CN in the bath was checked. Low temperature cyaniding was then used to increase the fatigue strength of cylinder liners for air cooled engines made of 38KhMYuA steel. The non-nitrided surface of this steel shows unfavorable tensile stresses. All samples for the fatigue tests were taken from one nitrided liner. Three sets of samples were made: 1) steel cyanided at $550 \pm 10^\circ\text{C}$ for 1.5 hours with a NaCNO content of 5.8%, 2) non-cyanided samples and 3) non-cyanided samples tempered in an alkaline bath at $550 \pm 10^\circ\text{C}$ for 1.5 hours. The authors conclude on the basis of the results of fatigue tests (5×10^6 cycles) that low-temperature cyaniding (soft nitriding) increases the fatigue strength of steel. Thus, low-temperature cyaniding of notched samples of 38KhMYuA steel increased the fatigue strength by 48%. The minimum deformation of parts, lower brittleness, higher fatigue strength and short duration of the process are valid reasons for using low-temperature cyaniding instead of other methods. Do to the low

Card 2/3

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ACCESSION NR: AT4049812

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brittleness of the diffusion layer, the high hardness of the cyanide layer and the high content of carbon and nitrogen, it may be assumed that low-temperature cyaniding also improves the wear resistance. Orig. art. has: 3 figures and 1 table.

ASSOCIATION: None

SUBMITTED: 21May64

ENCL: 00

SUB CODE: MM

NO REF SOV: 002

OTHER: 001

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Card 3/3

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B010/B006

24,7500
AUTHORS:

Boyarskaya, Yu.S., Keloglu, Yu.P., Lapsker, Yu.O.

TITLE:

The Influence of Elastic Indentation Recovery on the Dependence of the Microhardness on the Load

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 4, pp. 477-480

TEXT: Most investigators assume that the elastic recovery of indentations is independent of their dimensions. B.W. Mott (Ref. 1), however, assumes the contrary. The magnitude of elastic recovery, however, must be determined. If it is small in comparison to the dimensions of the indentation, the influence of elastic recovery on the microhardness may be neglected. In this connection, the authors of the present paper carried out investigations using KCl- and aluminum single crystals. Since the modulus of elasticity of both substances are similar, the elastic recovery may be expected to be of similar magnitude. The microhardness was measured by the PMT-3 apparatus. The results are represented graphically (Fig. 1). Elastic recovery was measured by the same apparatus and by means of a metallographic microscope. It was found that the

4

Card 1/2

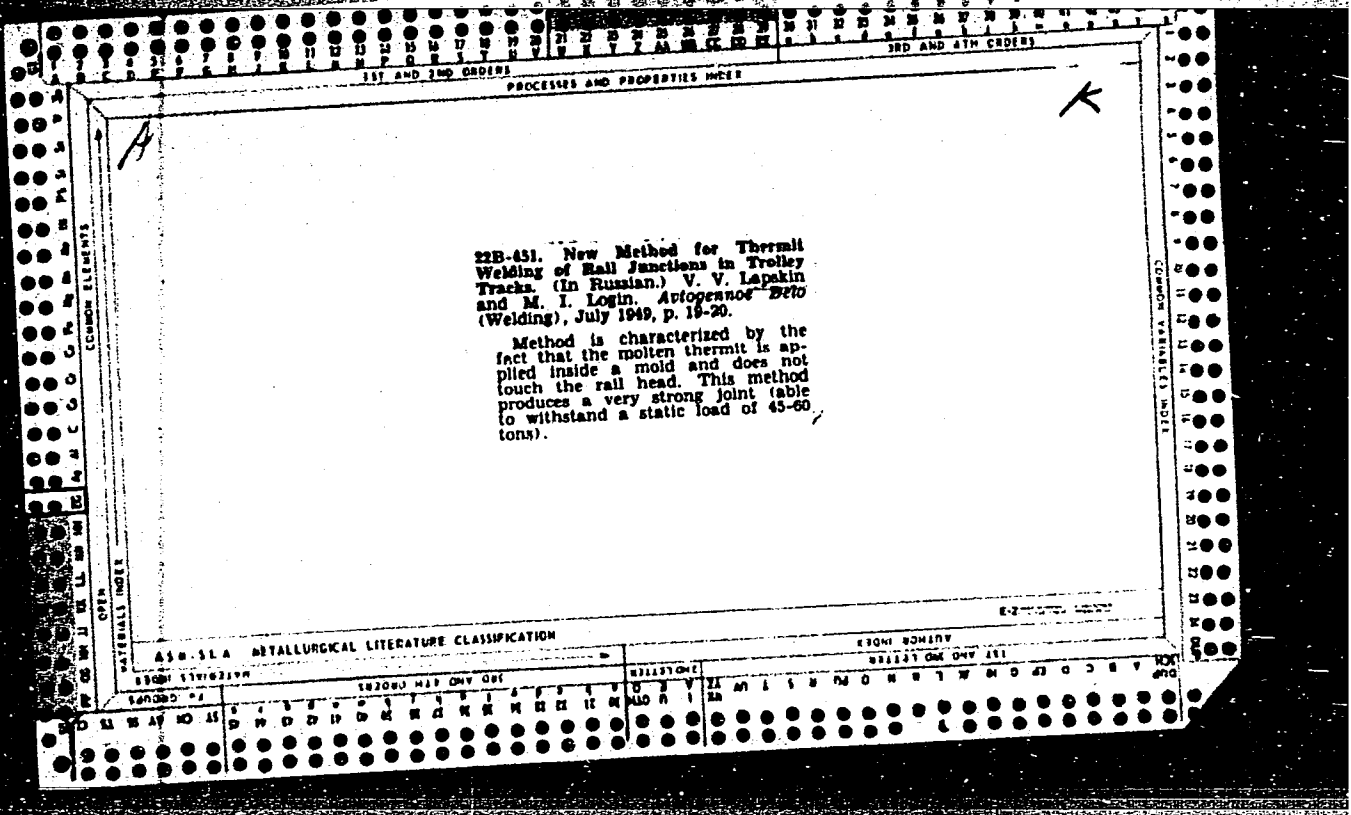
Card

LAPSKER, Yu.O.

Microhardness as a function of the load. Zav.lab. 27 no.5:604-607
'61.

(Hardness) (Materials—Testing)

(MIRA 14:5)



LAPSZEWICZ, ANTONI

Lapszewicz, Antoni Krotki zarys ratownictwa sanitarnego w zatruciach bojowymi sredkami chemicznymi. Warszawa, Panstwowy Zaklad Wydawn Lekarskich, 1952. 98 p. (A short outline of sanitary safety measures in cases of poisoning from chemical weapons, Illus.)

SO: Monthly list of East European Accessions, LC, Vol. 3, No. 1, Jan. 1954, Uncl.

LAPSEWICZ, Antoni

Indications for the intrameningeal administration of streptokinase-streptodornase in meningitis with case reports. Polski tygod.lek. 15 no.42:1613-1616 17 0 '60.

1. Z I Kliniki Chorob Zakaźnych A.M. w Warszawie; kierownik: doc. K.Rachon.

(MENINGITIS ther)

(STREPTODORNASE AND STREPTOKINASE ther)

POLAND

LAFSZEWICZ, Antoni

Corticosteroids in the treatment of suppurative cerebrospinal meningitis. Pol. tyg. lek. 17 no.19:753-756 7 My '62.

1. Z I Kliniki Chorob Zakaznych AM w Warszawie; kierownik: doc. K. Rachon.

(MENINGITIS ther)
(ADRENAL CORTEX HORMONES ther)

LAPSZEWICZ, Antoni

Behavior of C-reactive protein (CRP) in some infectious diseases. Przegl. epidem. 17 no.4:287-295 '63

1. Z I Kliniki Chorob Zakaznych AM w Warszawie; kierownik:
doc.dr.med. K.Rachon.

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