

STARTSEV, I.V.

[Surgical illnesses and postoperative complications caused by
ascarides] Khirurgicheskie zabolevania i posleoperatsionnye
oslozhnenia, vyzvaemye askaridami. Moskva, 1953. 89 p.
(MLRA 6:11)

(Worms, Intestinal and parasitic) (Operations, Surgical)

GADUZOVA-SHUBENKO, I.N. [reviewer]; OVNATANYAN, K.T.; STARTSEV, I.V. [authors].

"Ascariasis of the liver and of biliary tract," K.T.Ovnatanian;
"Surgical diseases and postoperative complications caused by ascarides."
I.V.Startsev. Reviewed by I.N.Gabuzova-Shubenko. Med.paraz.i paraz.bol.
no.6:566-568 N-D '53. (MLRA 6:12)
(Operations, Surgical) (Worms, Intestinal and parasitic)
(Startsev, I.V.) (Ovnatanian, K.T.) (Liver--Diseases) (Biliary
tract--Diseases)

STARTSEV, I.V.

Anesthetization of burns. Sov.med.19 no.7:84 J1 '55.(MLRA 8:10)

1. Iz kliniki obshchey khirurgii (dir.-prof. G.P.Zaytsev)
pediatricheskogo fakul'teta II Moskovskogo meditsinskogo insti-
tuta imeni I.V.Stalina.
(LOCAL ANESTHESIA) (BURNS AND SCALDS)

STARTSEV, I.V.

Strangulation of the liver in diaphragmatic hernia. Khirurgia,
Moskva no.89 My '55. (MLRA 8:9)

1. Iz Meleuzovskoy rayonnoy bol'nitsy Bashkirskey ASSR.
(HERNIA, DIAPHRAGMATIC, compl.
strangulation of liver)
(LIVER, dis.
strangulation in diaphragmatic hernia)

STARTSEV, I.V.

Reaction of the salivary gland following gastric resection. Vrach.
delo supplement '57:64 (MIRA 11:3)

1. Klinika obshchey khirurgii (zav.-prof. G.P.Zaytsev) pediatriche-
skogo fakul'teta Vtorogo Moskovskogo meditsinskogo instituta.
(STOMACH--SURGERY)

USSR / Human and Animal Morphology - Digestive Tract S

Abs Jour : Ref. Zhur. - Biol., No. 22, 1958, No. 101407

Author : Startsev, I. V.

Inst : -

Title : Certain Functional and Morphologic Changes in the
Pancreas Following Gastric Resection.

Orig Pub : Khirurgiya, 1957, No. 11, 33-37

Abstract : Following gastric resection there is not infre-
quently development in human patients of various
disorders of the pancreas (P). Of 100 patients
dying following gastric resection, 7 patients
died as the result of necrosis of the pancreas,
and in eight there were foci of pancreatic nec-
rosis. Clinical studies showed that in the per-
iod immediately after resection of the stomach,
the P functions are diminished. Following

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USSR / Human and Animal Morphology - Digestive Tract S

Abs Jour : Ref. Zhur. - Biol., No. 22, 1958, No. 101407

in the P following operation are regarded by the author as being the development of the inflammatory reactions of an aseptic or microbial origin, trauma to the P during operation, and disturbances in the innervation and hemodynamics in the P. --
Ya. Ye. Khesin.

Card 3/3

STARTSEV, I.V. (Moskva, ul. Markhlevskogo, d.18, kv.57)

Acute dilatation and rupture of the stomach. Vest.khir. 78 no.2:
118-120 P '57. (MLRA 10:3)

1. Iz kliniki obshchey khirurgii 2-go Moskovskogo meditsinskogo
instituta (direktor - professor G.P.Zaytsev)
(STOMACH, dis.

acute dilation with & without rupt., etiol. (Rus))

STARTSSEV, I.V., kand. med. nauk.

Attempt to create aseptic pleurisy prior to thoracotomy. Sov. med. 22
no.12:103-104 D '58. (MIRA 12:1)

1. Iz kafedry obshchey khirurgii pediatricheskogo fakul'teta (zav. -
prof. G. P. Zaytsev) II Moskovskogo meditsinskogo instituta imeni
N. I. Pirogova.

(PLEURISY, exper.

induction of aseptic pleurisy before thoracotomy in
rabbits (Rus))

(THORAX, surg.

thoracotomy, preop. induction of aseptic pleurisy in
rabbits (Rus))

ZAYTSEV, G.P., prof.; KELIN, Ye. P., kand. med. nauk.; STARTSEV, I.Y., kand.
med. nauk.

Late results of surgical treatment of gastroduodenal ulcer. Sovet.
med. 23 no.2:34-41 F '59. (MIRA 12:3)

1. Iz Kliniki obshchey khirurgii II Moskovskogo meditsinskogo in-
stituta imeni N.I. Pirogova.
(GASTRECTOMY, in various dis.
peptic ulcer, remote results (Rus))

STARTSEV, I.V.

Processes in the anastomosis and sutured upper part of the stump
of the stomach after gastrectomy. Khirurgiia 35 no.8:67-71 Ag '59.
(MIRA 13:12)

(STOMACH—SURGERY)

STARTSEV, I.V. (Moskva)

Morphological and functional changes in the liver following
gastrectomy [with summary in English]. Klin.med. 37 no.1:91-94
Ja '59. (MIRA 12:3)

1. Iz kliniki obshchey khirurgii (dir. - prof. g.p. Zaytsev)
II Moskovskogo meditsinskogo isnituta imeni N.I. Pirogova.
(GASTRECTOMY
postop. morphol. & funct. liver changes (Rus))
(LIVER, physiol.
morphol. & funct. changes after gastrectomy
(Rus))

STARTSEV, I.V.

A probe-tampon. Klin.med. 37 no.11:133-135 N '59. (MIRA 13:3)

1. Iz kliniki obshchey khirurgii (direktor - prof. G.P. Zaytsev) II
Moskovskogo meditsinskogo instituta imeni N.I. Pirogova.
(ENDOSCOPE equipment and supplies)

STARTSEV, I.V., kand.med.nauk (Moskva, B.Dorogomilovskaya, d.4, kv.86)

Postgastrectomy peritonitis and adhesions in the abdominal
cavity. Nov. khir. arkh. no.2:52-55 Mr-Ap '60. (MIRA 14:11)

1. Kafedra obshchey khirurgii (zav. - prof. G.P.Zaytsev) 2-go
Moskovskogo meditsinskogo instituta.
(STOMACH--SURGERY) (PERITONITIS)
(ADHESIONS (ANATOMY))

STARTSEV, I.V., kand.meditsinskikh nauk

More about the internal secretory function of the pancreas
before and following stomach resection. Kaz. med. zhur.
no. 4:19-25 JI-Ag '60. (MIRA 13:8)

1. Iz kliniki obshchey khirurgii (zav. - prof. G.P. Zaytsev)
2-go Moskovskogo meditsinskogo instituta im. N.I. Pirogova.
(PANCREAS--SECRETIONS) (STOMACH--SURGERY)

STARTSEV, I.V.

Detoxicating function of the liver after acute cholecystitis.
Vrach. delo no. 11:135-136 N '61. (MIRA 14:11)

1. Klinika obshchey khirurgii (zav. - prof. G.P.Zaytsev) pedia-
tricheskogo fakul'teta 2-go Moskovskogo meditsinskogo instituta.
(GALL BLADDER—DISEASES)

STARTSEV, I.V.

Purulent diseases of the fingers and hand. Med. vestra 20
no.12:17-22 D '61. (MIRA 15:3)

1. Iz kliniki obshchey khirurgii pediatricheskogo fakul'teta
II Moskovskogo gosudarstvennogo meditsinskogo instituta imeni
N.I. Pirogova.

(FELON (DISEASE))

STARTSEV, I.V.

Dehiscence of the duodenal stump as a cause of death after gastric resection. Khirurgiia 37 no.3:41-45 Mr '61.

(MIRA 14:3)

1. Iz kliniki obshchey khirurgii (zav. - prof. G.P. Zaytsev) pediatricheskogo fakul'teta II Moskovskogo gosudarstvennogo meditsinskogo instituta imeni N.I. Pirogova.

(STOMACH—SURGERY)

STARTSEV, I.V.; KAZANTSEV, F.N.

Morphological changes in the animals and functional disorders
in the sympathoadrenal system following gastric resection.
Sov. med. 25 no.2:63-70 F '62. (MIRA 15:3)

1. Iz kliniki obshchey khirurgii (zav. - zasluzhennyi deyatel'
nauki prof. G.P. Zaytsev) pediatricheskogo fakul'teta II Moskov-
skogo meditsinskogo instituta imeni N.I. Pirogova.
(STOMACH--SURGERY) (ADRENAL GLANDS--DISEASES)

STARTSEV, I.V.; LYUKHTIKOVA, R.A.

Benign tumors of the gastrointestinal tract. Nauch. trudy Chetv.
Mosk. gor. klin. bol'no. no. 1:183-189 '61. (MIRA 16:2)

1. Iz kafedry obshchey khirurgii (zav. prof. G.P. Zaytsev) 2-go
Moskovskogo gosudarstvennogo meditsinskogo instituta imeni
N.I. Pirogova i Moskovskoy gorodskoy klinicheskoy bol'nitsy
No. 4 (glavnyy vrach - G.F. Papko).
(ALIMENTARY CANAL--TUMORS)

STARTSEV, I.V.

Treatment of poorly healing wounds with an insulin-vitamin mixture.
Nauch.trudy Chetv.Mosk.gor.klin.bol'. no.1:190-195 '61.

(MIRA 16:2)

1. Iz kliniki obshchey khirurgii pediatricheskogo fakul'teta 2-go
Moskovskogo gosudarstvennogo meditsinskogo instituta imeni N.I.
Pirogova (dir. kliniki prof. G.P. Zaytsev) i Moskovskoy gorodskoy
klinicheskoy bol'nitsy No.4 (glavnyy vrach - G.F. Papko).
(WOUNDS—TREATMENT) (INSULIN) (VITAMIN THERAPY)

STARTSEV, I.V.; SHALEVICH, M.A.; KAZANTSEV, F.N.

Paraganglioma. Vest.khir. no.6:98-100 '62.

(MIRA 15:11)

1. Iz kliniki obshchey khirurgii (dir. - prof. G.P. Zaytsev)
2-go Moskovskogo meditsinskogo instituta i patologoanatomicheskogo
otdeleniya (zav. -- prof. Ya.L. Rapoport) 4-y gorodskoy klinicheskoy
bol'nitsy.

(CHROMAFFIN SYSTEM--TUMORS)

STARTSEV, I.V., kand.med.nauk

Stenosis of an anastomosis following resection of the stomach.
Sov. med. 25 no.4:29-32 Ap '62. (MIRA 15:6)

1. Iz kliniki obshchey khirurgii (zav. - prof. G.P. Zaytsev)
II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova i
iz 1-y khirurgicheskoy kliniki Tsentral'nogo instituta
usovershenstvovaniya vrachey (dir. - deystvitel'nyy chlen AMN
SSSR prof. V.R. Braytsev).

(STOMACH—SURGERY)

STARISEV, I.V.; LEBEDEV, N.Ye. (Moskva)

Clinical aspects and treatment of complicated hemorrhoids.
Kaz.med. zhur. 4862 JI-Ag'63 (MIRA 17:2)

STARISEV, I.V., kand.med.nauk

Fate of ligatures in anastomosis and suturing of the superior segment of the stump of the stomach after its resection. Kaz. med. zhur. no.1:34-35 Ja-F'63. (MIRA 16:8)

1. Klinika obshchey khirurgii (direktor - prof. G.P.Zaytsev) pediatricheskogo fakul'teta 2-go Moskovskogo gosudarstvennogo meditsinskogo instituta imeni N.I. Pirogova.
(STOMACH—SURGERY) (SUTURES)

STARTSEV, I.V., kand.med. nauk

Paresis of the gastric stamp following resection. Sovet. med.
27 no.9:47-51 S'63 (MIRA 17:2)

1. Iz kliniki obshchey khirurgii (dir. - zasluzhennyy deyatel'
nauki prof. G.P.Zaytsev) pediatricheskogo fakul'teta II Moskov-
skogo meditsinskogo instituta imeni N.I.Pirogova.

STARTSEV, I.V., kand. med. nauk (Moskva)

Case of Chiari's disease. Klin. med. 41 no.7:130 133 J1:63
(MIRA 16:12)

1. Iz kliniki obshchey khirurgii pediatricheskogo fakul'teta
II Moskovskogo meditsinskogo instituta imeni N.I.Pirogova
(dir. - zasluzhennyy deyatel' nauki prof. G.P.Zaytsev).

STARTSEV, I.V., kand. med. nauk

Data for the study of disorders of the motor-evacuative function of the stomach in an early period following resection of the stomach. Khirurgiia 40 no.9:64-67 S '64 (MIRA 18:2)

1. Klinika obshchey khirurgii (zav. - prof. G.P. Zaytsev) pediatricheskogo fakul'teta II Moskovskogo gosudarstvennogo meditsinskogo Instituta.

STARTSEV, I.V., kand. med. nauk

Pancreatitis following gastric resection. Vest. khir. 92 no.5:
30-32 My '64. (MIRA 18:1)

1. Iz kliniki obshchey khirurgii (zav. - prof. G.P. Zaytsev) pe-
diatricheskogo fakul'teta 2-go Moskovskogo meditsinskogo instituta
imeni N.I. Pirogova.

STARTSEV, N.

Reserve officers are militant workers in the All-Union Volunteer Society for Assistance to the Army, Air Force, and Navy. Voen. znan. 35 no.2:16 F '59. (MIRA 12:6)

1. Sekretar' partiynoy organizatsii Stalinskogo rayonnogo komiteta Dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu.
(Military education)

1. STARTSEV, N. F.
2. USSR (600)
4. Horses
7. 67 colts born and raised from 67 mares, Konevodstvo 23 No. 2, 1953

9. Monthly List of Russian Accessions, Library of Congress, May 1953, Uncl.

STARTSEV, H.K.

The 5708-type gear-shaving machine. Biul.tekh.-ekon.inform. no.7:29-30
'58. (MIRA 11:9)

(Gear-cutting machines)

STARTSEV, N.K.

The 5355V universal gear-milling machine. Biul. tekhn.-ekon.
inform. no.8:21-22 '58. (MIRA 11:10)
(Gear-cutting machines)

20157

1.1100 2908

S/193/60/000/001/003/008
A004/A101

AUTHOR: Startsev, N. K.

TITLE: The high-precision KY-38A (KU-38A) gear milling machine

PERIODICAL: Byulleten' tekhnko-ekonomicheskoy informatsii, no. 1, 1960, 17-18

TEXT: The KU-38A high precision milling machine was fabricated by the Kolo-
menskiy zavod tyazhelogo stankostroyeniya (Kolomna Heavy Machine Tool Plant) in
1958. The design of this miller is based on the 5342 machine. The KU-38A milling
machine is intended for the milling of precision indexing worms, not lower than
the 5th precision class according to ГОСТ 3675-56 (GOST 3675-56), as well as for
the machining of the teeth of cylindrical straight and helical gears of the same
degree of precision according to GOST 1643-56, by the generating method with worm
cutters. The worm wheels are cut only by the infeed method. The front pillar of
the milling carriage is mobile and mounted on the bed depending on the diameter of
the blank being milled. The table revolves driven by a double-worm rigid drive.
The indexing worm wheel is made of 0Φ10-0.5 (OF 10-0,5) bronze and has 462 teeth
with a 3.6 mm module. To increase the operating smoothness, the gearing angle of
the indexing worm couple is adopted to equal to 15° while the total height of the

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2C157

S/193/60/000/001/003/008

A004/A001

The high-precision KY-38A (KU-38A) ...

worm tooth amounts to 3.8 modules. All gears of the indexing system and differential as well as all the change wheels are fabricated according to the 1st precision class. The following technical data are given: Parameters of wheels being milled: maximum diameter of straight and helical wheels: with rear pillar - 1,400 mm, without rear pillar - 2,000 mm; maximum diameter of the worm wheel - 1,500 mm; minimum diameter of gears - 280 mm; maximum angle of inclination of the teeth - $+45^{\circ}$; maximum module - 10 mm; maximum milling length - 900 mm; maximum diameter and length of milling cutter - 250 and 300 mm respectively; diameter of indexing worm wheel - 1,650 mm; maximum permissible table load - 10 tons; range of cutter rotation speeds (16 stages) - 11.2 - 63 per minute; vertical feed range (13 stages) - 0.35 - 4 mm/rev; radial feed range (13 stages) - 0.29 - 4.24 mm/rev; power of main electromotor - 14 kw; overall dimensions (length x width x height) - 5,875 x 2,355 x 3,600 mm; weight, including the weight of the base parts and electrical equipment - 25.2 tons. There is 1 figure.

Card 2/2

STARTSEV, N.V., inzhener.

Improve the organization of management in the spinning industry.
Tekst.prom.16 no.10:10-12 0 '56. (MIRA 10:1)
(Spinning)

MEYSAKHOVICH, Ya.A.; RONKIN, V.S.; STARTSEV, N.V.

Low volume spraying by nozzles with large channels. Zashch. rast.
ot vred. i bol. 9 no.7:27-28 '64. (MIRA 18:2)

1. Vsesoyuznyy institut zashchity rasteniy.

ARSHINSKIY, V.M.; BAGAUTINOV, G.A.; BESPALOV, M.V.; GASPAROVICH, P.I.;
GOLOMIDOV, I.N.; GOLUBOV, G.B.; GRIN, L.T.; ZEL'SKIY, S.A.;
IL'INYKH, A.F.; KOZIN, V.Z.; KRYUKOV, V.P.; KULAKOV, S.N.;
LUKAS, V.A.; MINEYEV, V.A.; PETROV, Yu.S.; PIRUSHKO, M.G.;
PROKOF'YEV, Ye.V.; REBETS, B.A.; STARTSEV, N.V.; TROP, A.Ye.,
prof.; KHRAMOV, V.A.; ABRAMOV, V.I., *otv. red.*; PROZOROVSKAYA,
V.L., *tekhn. red.*; BOLDYREVA, Z.A., *tekhn. red.*

[Handbook on electric equipment for mines] Spravochnik gorno-
go elektrotekhnik. Pod obshchei red. A.E.Tropa. Moskva,
Gosgortekhzdat, 1962. 400 p. (MIRA 16:5)
(Electricity in mining)

STARTSEV, Pavel Alekseyevich; SHCHEGLOV, V.P., prof., red. UGAROVA, N.A.,
red.; PLAKSHE, L.Yu., tekhn. red.

[Outline of the history of astronomy in China] Ocherki istorii astro-
nomii v Kitae. Pod red. V.P.Shehegl'ova. Moskva, Gos. izd-v fiziko-
matem. lit-ry, 1961. 153 p. (MIRA 14:6)
(Astronomy, Chinese)

GONCHAROVA, L.S.; RCIMANOVSKAYA, Ye.A.; STARTSEV, S.D.

Stereotactic apparatus for dogs. Biul. eksp. biol. i med.
55 no.2:123-126 F'63. (MIRA 16:6)

1. Iz fiziologicheskoy laboratorii AN SSSR, Moskva.
(SURGICAL INSTRUMENTS AND APPARATUS)
(BRAIN—SURGERY)

STARTSEV, T. KUSHOV, D.

Soviet Central Asia - Irrigation

For further improvement in the technical condition and utilization of irrigation systems. Khlopkovodstvo no. 11 (1951.)

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

ACCESSION NR: AP4020397

S/0006/64/000/003/0023/0027

AUTHOR: Startsev, T. P.

TITLE: Test of L. A. Kashin's altimeter level model

SOURCE: Geodeziya i kartografiya, no. 3, 1964, 23-27

TOPIC TAGS: altimeter level, surveying, cartography, level NG, triangulation

ABSTRACT: The results of performance tests of the altimeter-level of L. A. Kashin are presented. The aim of the tests was to investigate the accuracy of the model's performance, to establish the instrument's suitability for IVth class leveling, and to establish a basic height curve for topographic relief of scales 1:10 000 and 1:25 000. Preliminary instrument check-out and calibration were carried out with the aid of an NG-type level. Trials were run over a class IV course 13.3 kilometers in length. Results of the trials are presented in tables, including mean quadratic errors, deviations, and altimeter coefficient settings. The author proposes changing certain features of scale division on the instruments reticle to facilitate greater ease in making readings. Systematic instrument errors are discussed and treated mathematically, as well as conditions influencing the magnitude of errors. For conducting leveling of class IV the instrument must have a 3° angle field of

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ACCESSION NR: AP4020397

vision, internal focusing, and variable focal length, according to the author.
Orig. art. has: 2 tables and 4 equations.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: ES

NO REF SOV: 002

OTHER: 000

Card 2/2

STARTSEV, T.P.

Testing a model of L.A. Kashin's altimeter-level. Geod. i kart.
no.3:23-27 Mr '64. (MIRA 17:9)

STARTSEV, V.A., UREIKHIN, P.V.

"Interaction of Metallic Baths and Furnace Bottom-Dress in Open-Hearth Furnaces,"
lecture given at the Fourth Conference on Steelmaking, A.A. Baikov Institute of
Metallurgy, Moscow, July 1-6, 1957

18 (5)

AUTHORS:

Kleyn, A. L., Umrikhin, P. V.,
Startsev, V. A.

SOV/163-59-2-5/48

TITLE:

Assimilation of Lime and Slag-forming Mixtures by Basic
Chromic Slags (Assimilyatsiya izvesti i shlakobrazuyushchikh
smesey osnovnym khromsoderzhashchim shlakom)

PERIODICAL:

Nauchnyye doklady vysshey shkoly. Metallurgiya, 1959,
Nr 2, pp 27-31 (USSR)

ABSTRACT:

The influence of ferrous oxide (FeO) on the solubility of
lime during the melting process of slag in the ^{furnace} open-hearth/
was investigated and the results are given in figure 1. A
positive influence was confirmed. At the beginning of the
melting process the basicity in the slag is reduced with the
increase of the aluminum oxide content (Fig 2, Curve 1). The
aluminum content in the slag rises in the middle and at the
end of the melting period from 9-12 %. Thus the solubility of
lime in the slag melt is increased (Fig 2, Curves 2 and 3).
The basicity is reduced in the case of a further increase of
the aluminum oxide content in the slag and the assimilation
of chalk in the liquid slag is reduced. The lime assimilation
is improved by the increase of the chromium content in the

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Assimilation of Lime and Slag-forming Mixtures by SOV/163-59-2-5/48
Basic Chromic Slags

slag under the formation of scarcely meltable chromium spinels. The microstructure of the slag with purest lime and of mixtures with bauxite was taken and is given in figure 3 (a - g). There are 3 figures, 1 table, and 6 references, 5 of which are Soviet.

ASSOCIATION: Ural'skiy politekhnicheskii institut (Ural Polytechnic Institute)

SUBMITTED: September 16, 1958

Card 2/2

KLEYN, A.L., inzh.; STARTSEV, V.A., inzh.; UMRIKHIN, P.V., doktor
tekhn.nauk prof.

Certain characteristics of chromium-bearing slags produced
during the melting stage of the open-hearth process. Izv.
vys.ucheb.zav.; chern.met. 2 no.8:45-53 Ag '59.
(MIRA 13:4)

1. Ural'skiy politekhnicheskiy institut. Rekomendovana kafedroy
metallurgii stali Ural'skogo politekhnicheskogo instituta.
(Open-hearth process) (Slag--Analysis)
(Chromium--Analysis)

18.3200

77135
SOV/148-59-9-5/22

AUTHORS: Startsev, V. A. (Engineer), Umrikhin, P. V. (Doctor of Technical Sciences, Professor)

TITLE: The Interaction of Carbon of Metal Bath With the Hearth of the Basic Open-Hearth Furnace

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, 1959, Nr 9, pp 53-59 (USSR)

ABSTRACT: The purpose of this study is to find out the part played by the hearth in the process of decarbonization of metal and also to find out to what extent this process determines the chemical wear of the hearth or its durability. The possibility of the hearth's participation in metallurgical reactions was previously mentioned by V. A. Dement'yev (Dement'yev, V. A., Increase of Durability of the Hearth in Open-Hearth Furnaces, Metallurgizdat, 1950) and A. M. Levin (Levin, A. M., Collection of Papers of Dnepropetrovsk Metallurgical Institute, Nr 28, 1952). The test melts were performed by the scrap process in 100-ton mazut- (residue of petroleum)-fired furnaces and by the scrap-ore process in a 220-ton furnace fired by blast furnace

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The Interaction of Carbon of Metal Bath
With the Hearth of the Basic Open-Hearth
Furnace

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SOV/148-59-9-5/22

gas and mazut. The results of 4,500 melts conducted in 100-ton and 220-ton furnaces, covering a period of time during which 200 preventive repairs of the hearth took place, were subject to statistical processing. The results are given in Figures 1 and 2, where each point represents 400-500 melts.

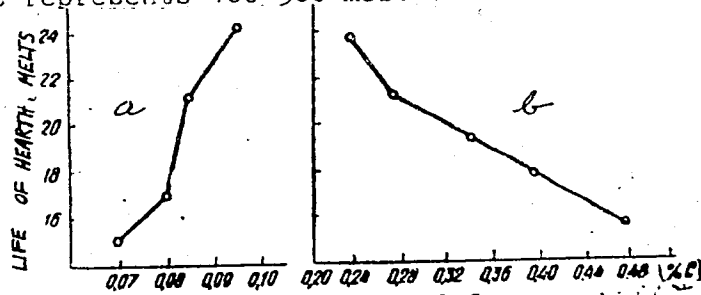


Figure 1. Dependence of life of furnace bottom on average carbon content in metal during period of time between repairs.

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The Interaction of Carbon of Metal Bath With the Hearth of the Basic Open-Hearth Furnace

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SOV/148-59-9-5/22

A drastic decrease of life of burned-in bottom corresponds to the furnace work when producing steel with either raised carbon content (Fig. 1b), or very low carbon content (Fig. 1a).

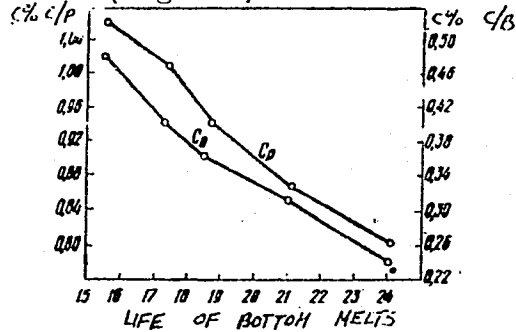


Fig. 2. Dependence of life of furnace bottom on carbon content in metal during smelting process. C_p = carbon content in metal after melting; C_B = carbon content in metal before steel tapping.

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The Interaction of Carbon of Metal
Bath With the Hearth of the Basic
Open-Hearth Furnace

77135
SOV/148-59-9-5/22

Altogether, about 250 samples of burned-in bottom were tested. It was established that carbon content in metal under the slag and along the depth of the bath varies. Study of the chemical composition of the bottom showed that, during the period from the end of tapping to the beginning of charging, the concentration of iron oxides in the surface layer of the bottom increases, and during melting it decreases. The petrographic study shows that the surface layer of the burned-in bottom, being subjected to oxidizing action, consists of large and fine grains of periclase (magnesium oxide), having deep brown or totally black coloring, due to the iron oxides dissolved in them. The cementing phase consists of crystal whiskers of ferrimonticellite ($\text{CaO} \cdot \text{MgO} \cdot \text{SiO}_2$) $\cdot \text{FeO}$, which grew in interspace between the grains of periclase, and the opaque glass. The oxidizing effect of the furnace gass on the surface layer of the burned-in bottom apparently decreased considerably as soon as the bottom was covered by the charge materials. The process of

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The Interaction of Carbon of Metal
Bath With the Hearth of the Basic
Open-Hearth Furnace

77135
SOV/148-59-9-5/22

interaction of iron oxides in the surface layer of the bottom with carbon of the metal bath begins in the second half of the melting period, closer to the complete melting of the bath. This process lowers the wear resistance of the burned-in bottom, due to disruption of solidity between the separate grains of periclase, caused by the reduction of iron oxides to the metal. It was established that in the course of melting the content of iron oxides in the surface layer of burned-in bottom decreased. It always happened when carbon content in metal before tapping was over 0.10%. It was also established that the content of iron oxides in the burned-in bottom decreases more during melting of high-carbon steel than during smelting of low-carbon steel. A petrographic investigation of the burned-in bottom showed that during finishing of the melt the grains of periclase (toward the end of the period) are refined, and their color changes to light-yellow, indicating the decrease of dissolved iron oxides. It was discovered that metallic beads of not more than 1 mm

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The Interaction of Carbon of Metal
Bath With the Hearth of the Basic
Open-Hearth Furnace

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SOV/148-59-9-5/22

in size are formed along the working surface of the hearth; at a depth of 10-15 mm, they are of 0.15 to 0.25 mm in size. These beads are the product of reduction of iron oxides by the carbon of metal. The wear resistance of the hearth, when producing steel with carbon content under 0.10%, decreases mainly at the end of the melt (see Fig. 3).

Card 6/8

The Interaction of Carbon of Metal Bath With the Hearth of the Basic Open-Hearth Furnace

77155
SOV/148-59-9-5/22

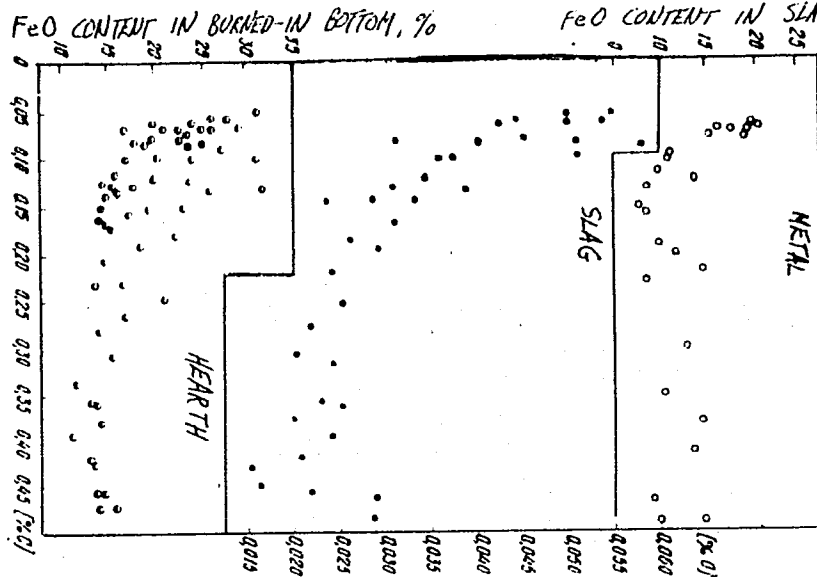


Fig. 3. Relationship between oxygen content in metal and FeO content in slag and the burned-in bottom.

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The Interaction of Carbon of Metal
Bath With the Hearth of the Basic
Open-Hearth Furnance

77135

SOV/148-59-9-5/22

To minimize the interaction of the surface layer of the hearth with the metal of the bath, the following measures are recommended: (1) a forced oxidation of carbon in the metal bath in the course of the melt; (2) alternating of high-carbon and low-carbon steel melts; (3) accelerated repairs of the hearth by the burned-in bottom of thick layer of magnesite powder with scale (100-300 mm). There are 5 figures; 3 tables; and 5 Soviet references.

ASSOCIATION: Ural Polytechnic Institute (Ural'skiy politekhnicheskii institut)

SUBMITTED: June 15, 1959.

Card 8/8

STARJSEV, V.A., inzh.

Nonuniformity of metal bath composition in carbon content during the
period of charge melting in the open-hearth furnace. Trudy Ural.
politekh.inst. no.91:5-18 '60. (MIRA 14:2)
(Open-hearth process) (Liquid metals--Analysis)

STARTSEV, V.A., aspirant; UMBRIKHIN, P.V., prof., doktor tekhn.nauk

Investigating the interaction of carbon in the metal with a basic
open-hearth furnace hearth bottom. Trudy Ural. politekh.inst. no.91:
12-27 '60. (MIRA 14:2)

(Steel--Metallurgy)

(Open-hearth furnaces)

STARTSEV, V. A.

Cand Tech Sci - (diss) "Reaction of carbon with liquid metallic baths containing a built-up layer underneath in basic open-hearth furnaces." Magnitogorsk, 1961. 20 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Magnitogorsk Mining-Metallurgical Inst imeni G. I. Nosov); 120 copies; price not given; (KL, 7-61 sup, 246)

STARTED V A

8J

PHASE I BOOK EXPLOITATION

SOV/5556

Moscow. Institut stali.

Novoye v teorii i praktike proizvodstva martenovskoy stali (New [Developments] in the Theory and Practice of Open-Hearth Steelmaking) Moscow, Metallurgizdat, 1961. 439 p. (Series: Trudy Mezhdvuzovskogo nauchnogo soveshchaniya) 2,150 copies printed.

Sponsoring Agency: Ministerstvo vysshago i srednego spetsial'nogo obrazovaniya RSFSR. Moskovskiy institut stali imeni I. V. Stalina.

Eds.: M. A. Glinkov, Professor, Doctor of Technical Sciences, V. V. Kondakov, Professor, Doctor of Technical Sciences, V. A. Kudrin, Docent, Candidate of Technical Sciences, G. N. Oyks, Professor, Doctor of Technical Sciences, and V. I. Yavoyskiy, Professor, Doctor of Technical Sciences; Ed.: Ye. A. Borko; Ed. of Publishing House: N. D. Gromov; Tech. Ed.: A. I. Karasev.

PURPOSE: This collection of articles is intended for members of scientific institutions, faculty members of schools of higher education, engineers concerned with metallurgical processes and physical chemistry, and students specializing in these fields.

Card 1/14

85

New [Developments] in the Theory (Cont.)

SOV/5556

COVERAGE: The collection contains papers reviewing the development of open-hearth steelmaking theory and practice. The papers, written by staff members of schools of higher education, scientific research institutes, and main laboratories of metallurgical plants, were presented and discussed at the Scientific Conference of Schools of Higher Education. The following topics are considered: the kinetics and mechanism of carbon oxidation; the process of slag formation in open-hearth furnaces using in the charge either ore-lime briquets or composite flux (the product of calcining the mixture of lime with baukite); the behavior of hydrogen in the open-hearth bath; metal desulfurization processes; the control of the open-hearth thermal melting regime and its automation; heat-engineering problems in large-capacity furnaces; aerodynamic properties of fuel gases and their flow in the furnace combustion chamber; and the improvement of high-alloy steel quality through the utilization of vacuum and natural gases. The following persons took part in the discussion of the papers at the Conference: S.I. Filippov, V.A. Kudrin, M.A. Glinkov, R.P. Nam, V.I. Yavovskiy, G.N. Oyks and Ye. V. Chelishchev (Moscow Steel Institute); Ye. A. Kazachkov and A. S. Kharitonov (Zhdanov Metallurgical Institute); N.S. Mikhaylets (Institute of Chemical Metallurgy of the Siberian Branch of the Academy of Sciences USSR); A.I. Stroganov and D. Ya. Fovolotskiy (Chelyabinsk Polytechnic Institute); P.V. Umrikhin (Ural Polytechnic Institute); I.I. Fomin (the Moscow "Serp i molot" Metallurgical Plant); V.A. Fuklev (Central Asian Polytechnic Institute)

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SOV/5556

New [Developments] in the Theory (Cont.)

and M.I. Beylinov (Night School of the Dneprodzerzhinsk Metallurgical Institute).
References follow some of the articles. There are 268 references, mostly Soviet.

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Yavovskiy, V. I. [Moskovskiy institut stali - Moscow Steel Institute].
Principal Trends in the Development of Scientific Research in Steel
Manufacturing

7

Filippov, S. I. [Professor, Doctor of Technical Sciences, Moscow Steel
Institute]. Regularity Patterns of the Kinetics of Carbon Oxidation
in Metals With Low Carbon Content
[V. I. Antonenko participated in the experiments.]

15

Levin, S. L. [Professor, Doctor of Technical Sciences, Dnepropetrovskiy
metallurgicheskiy institut - Dnepropetrovsk Metallurgical Institute].

Card 3/14

New [Developments] in the Theory (Cont.)

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Mikhaylets, N. S. [Candidate of Technical Sciences, Khimiko-metallurgicheskiy institut Sibirskogo otdeleniya AN SSSR - Institute of Chemical Metallurgy of the Siberian Branch of the Academy of Sciences, USSR]. Carbon Oxidation in the Baths of Open-Hearth Furnaces of Various Sizes	44
Startsev, V. A. [Engineer], and P. V. Umrikhin [Professor, Doctor of Technical Sciences, Ural'skiy politekhnicheskiy institut - Ural Polytechnic Institute]. Interaction Between the Metal-Bath Carbon and the Hearth of the Basic Open-Hearth Furnace During the Scrap and Ore-Scrap Processes	53
Stroganov, A. I. [Docent, Candidate of Technical Sciences, Chelyabinskiy politekhnicheskiy institut - Chelyabinsk Polytechnic Institute]. Carbon Oxidation in the Open-Hearth Bath	61

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Rybakov, L. S. [Docent, Candidate of Technical Sciences, Ural Polytechnic Institute]. Carbon Oxidation During the Melting Period in the Basic Open-Hearth Scrap and Scrap-Ore Processes		69
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Umrikhin, P.V., V.A. Startsev, and A.L. Kleyn [Engineer, Ural Polytechnic Institute]. Slag Formation During the Melting Period in Processing the Chrome-Containing Charge [P. Ye. Nizhel'skiy, Candidate of Technical Sciences, and V.P. Krysov, Engineer, participated in the research work]		111

Card 5/14

STARTSEV, V.A.

Costs of Pechora coal and economic relations between the Pechora
Basin and the Urals. Izv.Komi fil.Geog.ob-va SSSR no.7&25-30
'62. (MIRA 15:12)
(Pechora Basin--Coal mines and mining--Costs)

S/148/62/000/008/007/009
E071/E483

AUTHORS: Butakov, D.K., Pan'shin, I.F., Startsev, V.A.,
Bershteyn, L.I.

TITLE: On the problem of intergranular cracking in steel
castings

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya
metallurgiya, no.8, 1962, 143-149

TEXT: The object of the present investigation was to establish
the origin and significance of bright shiny areas observed on
dull-grey fracture surfaces of test pieces, examined in the course
of routine quality control of Cr-Ni-Mo steel castings.
Examination of fracture surfaces of various test pieces,
metallographic examination of micro- and macro-structure,
and magnetic crack-detection tests made it possible to distinguish
between two types of shiny zones: one representing the surface of
shrinkage cavities, the other corresponding to regions where
microscopic, intergranular cracks were present in the casting.
The effect of the casting temperature, pouring rate, rate of
cooling (as determined by the time interval during which the
Card 1/2

On the problem of intergranular ...

S/148/62/000/008/007/009
E071/E483

casting was left in the mould) and heat treatment on the proneness of castings to develop this particular type of fault was studied. Conclusions: (1) The intergranular cracks are a result of the formation of sulphide films at the austenitic grain boundaries and setting up of internal stresses caused by (a) temperature gradients in the casting, (b) time-lag between phase transformations occurring in various parts of the casting and (c) mechanical constraint of the shrinkage.

(2) The most effective means of preventing intergranular cracking, manifested by the appearance of the shiny zones on fracture surfaces, is to reduce the rate of cooling of the casting to the temperature of 600°C; no defects of this type were found in a 500 kg casting (with a maximum wall thickness of 50 mm), left in the mould for 12 h. (3) The tendency of a steel to develop this type of defect can be reduced by decreasing the sulphur and increasing the manganese content in the melt. There are 5 figures and 2 tables.

ASSOCIATION: Kurganskiy mashinostroitel'nyy institut (Kurgan Machinery Institute)

SUBMITTED: January 22, 1962
Card 2/2

STARTSEV, V. G.

Startsev, V. G.

"Reflexes from the carotid bodies to the digestive tract." Acad Med
Sci USSR. Inst of Experimental Medicine. Leningrad, 1956. (Dissertation
for the Degree of Candidate in Medical Science)

So: Knizhnaya letopis', No. 25, 1956

STARTSEV, V.G.

Reflexes from the carotid bodies to the digestive tract [with summary in English]. Fiziol.zhur. 44 no.1:29-36 Ja '58 (MIRA 11:3)

1. Otdel farmakologii Instituta eksperimental'noy meditsiny AMN SSSR, Leningrad.

(CAROTID BODY, physiology,

eff. of stimulation on gastrointestinal motility in decerebrated animals (Rus)

(GASTROINTESTINAL SYSTEM, physiology,

eff. of carotid body stimulation on motility in decerebrated animals (Rus)

(BRAIN, physiology,

eff. of carotid body stimulation on gastrointestinal motility in decerebrated animals (Rus)

STARTSEV, V.G.

Motor function of the intestine on an empty stomach [with summary
in English]. Biul. eksp. biol. i med. 46 no. 7:11-15 Je '58 (MIRA 11:7)

1. Iz Instituta eksperimental'noy patologii i terapii (dir. - kand.
biol. nauk I.A. Utkin), AMN SSSR, Sukhumi. Predstavlena deyatvitel'nym
chlenom AMN SSSR V.N. Chernigovskim.

(INTESTINES, physiology,

motor funct. on empty stomach (Rus))

(FASTING, effects,

on intestinal motor funct. (Rus))

STARTSEV, V.G.

Reflex influences from the carotid body on periodical motor activity of the stomach [with summary in English]. *Fiziol.zhur.* 45 no.1:83-90 (MIRA 12:2)
Ja '59.

1. From the department of pharmacology, Institute of Experimental Medicine, Leningrad.

(STOMACH, physiol.

eff. of carotid body reflexes on motoricity (Rus))

(CAROTID BODY, physiol.

eff. of carotid reflexes on gastric motoricity (Rus))

STARTSEV, V.G.

Effect of prolonged dietary regimens on periodical activity of the
gastrointestinal tract in dogs. Fiziol.zhur. 45 no.9:1084-1091 S
'59. (MIRA 13:1)

1. Sukhumskaya mediko-biologicheskaya stantsiya AMN SSSR i Otdel
farmakologii Instituta eksperimental'noy meditsiny AMN SSSR, Leningrad.
(GASTROINTESTINAL SYSTEM physiol.)
(DIETS eff.)
(PERIODICITY)

STARTSEV, V.G.

Diurnal rhythm of the gastrointestinal tract. Fiziol. zhur. 46
no. 4:467-475 Ap '60. (MIRA 13:10)

1. From the Institute of Experimental Pathology and Therapy of
the U.S.S.R. Academy of Medical Sciences, Suhmi.
(DIGESTIVE ORGANS) (PERIODICITY)

STARTSEV, V.G.

Periodic motoractivity of the stomach during digestion. Biul.
eksp. biol. i med. 50 no.10:12-16 0 '60. (MIRA 14:5)

1. Iz kafedry normal'noy fiziologii (zav. - prof. Ye.F.Larin)
Tomskogo meditsinskogo instituta (dir. - prof. S.P.Khodkevich).
Predstavlena deystvitel'nym chlenom AMN SSSR V.N.Chernigovskim.
(STOMACH)

STARTSEV, V.G.

Further analysis of the motor activity of the digestive tract
during a milk diet. Fiziol. zhur. 47 no.1:64-70 Ja '61.
(MIRA 14:3)

1. From the Institute of Experimental Pathology and Therapy,
Academy of Medical Sciences, Sukhumi.

(MILK AS FOOD)

(STOMACH--MOTILITY)

(INTESTINES--MOTILITY)

STARTSEV, V.G.

Effect of catheterization on the secretory activity of the stomach
in monkeys. Fiziol. zhur. 47 no.11:1391-1396 N '61. (MIRA 14:11)

1. From the U.S.S.R. Academy of Medical Sciences Institute of
Experimental Pathology and Therapy, Sukhumi.
(STOMACH--SECRETIONS) (CATHETERS)

STARTSEV, V.G.

Interrelation of the motor activity of the stomach and various sections of the intestine. Biul. eksp. biol. i med. 52 no.9:14-18 S '61. (MIRA 15:6)

1. Iz Instituta eksperimental'noy patologii i terapii (direktor -- doktor meditsinskikh nauk B.A. Lapin) AMN SSSR, Sukhumi. Predstavlena akademikom V.N. Chernigovskim. (STOMACH) (INTESTINES)

STARTSEV, V.I., Metodist-agronom.

Farming outside the exhibition. Nauka i pered. op. v sel'khoz.
6 no.11:77-78 N '56. (MLRA 10:1)

1. Upravleniye propagandy Vsesoyuznoy sel'skokhozyaystvennoy vystavki.
(Moscow Province--Collective farms)

BELINSKAYA, A.V.; BOGUSLAVSKAYA, S.A.; DUBIN, A.S.; PRUSSAK, O.V.;
STARTSEV, V.I.; DAVIDOVICH, Ya.I., doktor yurid.nauk, red.;
KHRUSTALEV, B.F., red.; SHILOV, L.A., red.; VODOLAGINA, S.D.,
tekhn.red.

[Socialist competition in Leningrad enterprises during the
years of the first five-year plan, 1928-1932] Sotsialisticheskoe
sorevnovanie na predpriyatiyakh Leningrada v gody pervoi piati-
letki, 1928-1932 gg.; sbornik dokumentov i materialov. Pod red.
I.A.I.Davidovicha. Leningrad, Izd-vo Lening.univ., 1961. 343 p.
(MIRA 14:4)

1. Leningrad. Gosudarstvennyy arkhiv Okt'yabr'skoy revolyutsii i
sotsialisticheskogo stroitel'stva.
(Leningrad--Socialist competition)

AMOSOV, N.N.; DUBIN, A.S.; ZUBKOV, V.A.; STARTSEV, V.I.; TOKAREV,
Yu.S.; SHKARATAN, O.I.; KURTYNIN, M.S., red.; ZHEREBKINA,
D.I., red.; LEVONEVSKAYA, L.G., tekhn. red.

[A generation of shock workers; a collection of documents
and materials on socialist competition in Leningrad
industrial plants in 1928-1961] Pokoleniia udarnikov;
sbornik dokumentov i materialov o sotsialisticheskom sorev-
novanii na predpriatiiakh Leningrada v 1928-1961 gg. Le-
ningrad, Leninfizdat, 1963. 454 p. (MIRA 16:9)

1. Leningrad. (Province) Gosudarstvennyy arkhiv Oktyabr'skoy
revolyutsii i sotsialisticheskogo stroitel'stva.
(Leningrad--Socialist competition)

STARISEV, V.I., inzh.; POPKOV, M.P., inzh.

Mine No.5-6 of the Kuzbassugol' Combine made 292 m of lateral drifting.
Shakht. stroi. 9 no.10:22-24 0 '65. (MIRA 18:9)

1. Kombinat Kuzbassugol'.

VYZHIGIN, G.V., inzh.; STARTSEV, V.I., inzh.; OCHERYANNYY, S.M., inzh.

Standard panels for buildings with suspended equipment. Prom.stroi.
43 no.12:24-27 '65. (MIRA 18:12)

A 548

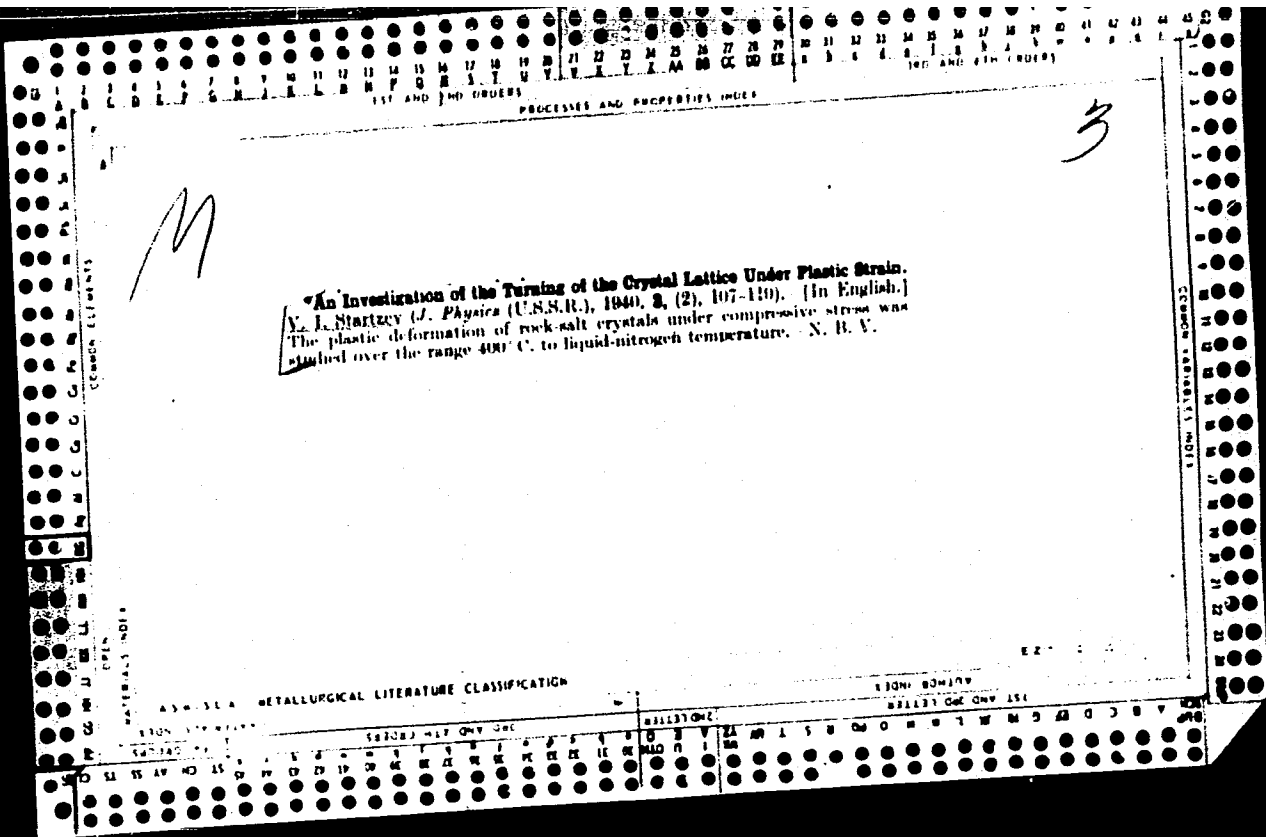
SA

28. Plastic deformation. N. BRILLIANTOV AND V. STANIZEV. *J. of Exp. and Theor. Phys. U.S.S.R.*, **6**, 8, pp. 593-594, 1959. *In Russian.*— Using optical and X-ray methods the distribution of twins through the volume of deformed NaCl crystals was investigated. It was found that twins go right through the crystal in the direction of the (110) plane. Twins were also found finishing inside the specimen and with an orientation varying along the twin. D. S.

ASB-31A METALLURGICAL LITERATURE CLASSIFICATION

GROUPS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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STARTSEV, V-I
Ca

PROCESSES AND PROPERTIES INDEX

Investigation of the rotations of a crystal lattice during plastic deformation. V. I. Startsev. *J. Exptl. Theoret. Phys. (U. S. S. R.)* 10, 703-5 (1940); *J. Phys. (U. S. S. R.)* 3, 107-10 (1940) (in English).—Exptl. results obtained on NaCl crystals at temps. from -180 to +400° and loads up to 1125 g./sq. mm. are illustrated by means of 7 photographs and figs. Throughout this temp. range the mechanism of deformation involves rotations of blocks of the crystal lattice about one another. The no. of blocks and the angles between the blocks vary with the load applied. The curves for strength-load and angle-load are shown. F. H. Rathmann

2

1ST AND 2ND ORDERS

1ST AND 2ND ORDERS

COMMON ELEMENTS

OPEN

MATERIAL INDEX

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

FROM NOMIN

1ST AND 2ND ORDERS

1ST AND 2ND ORDERS

1ST AND 2ND ORDERS

STARTSEV, V.I. A-1

BC

Intermediate regions in plastically Deformed crystals of Rock Salt.
 V.I. Startsev (Compt. rend. Acad. Sci. U.R.S.S., 1941, 30, 124-125).
 The nature of bands parallel to the 110 direction in a plastically
 deformed crystal of rock-salt has been investigated by the Laue method.
 It is concluded that the lattice is distorted along the band so that
 it represents a series of intermediate orientations. Annealing at
 600° for 50 hr. had no effect on the bands. A.J.W.

ASB-514 METALLURGICAL LITERATURE CLASSIFICATION

CA Startsev, V. I.

2

Effect of mosaic structure on the resistance to mechanical twinning in sodium nitrite. R. I. Galtzer, S. Ya. Zalizadnyl, and V. I. Startsev (Phys. Tech. Inst., Khar'kov). *Doklady Akad. Nauk S.S.S.R.* **50**, 871-2 (1947); cf. *C.I.* **35**, 5889. Lane photographs of crystal specimens of NaNO₂ that differ in the ability to be mechanically sheared with or without formation of flat, twinned (or paired) interlayers showed significant differences. Specimens that are destroyed without formation of the interlayers display mosaic structure with blocks of about 10 mm, showing relative angles up to 1° in respect to adjacent structures. Specimens that do form the interlayers show interblock angles of not more than 2-3°. G. M. Kosolapoff

H 4

STARTSEV, V. I.

② 3
Twin formation in bismuth. I. A. Giudin and V. I. Startsev. *Zhur. Ekspl. Teoret. Fiz.* 20, 738-41 (1950); *Chem. Zentr.* 1951, I, 2552. — Twin formation in Bi single crystals under the influence of compressive stress produced by a knife edge is described. Two flow limits, corresponding to shearing stresses of 140-50 and 215-25 g./sq. mm., were found. Twinning disappeared when the crystals were heated to 250° or subjected to mech. stress counter to that producing the phenomenon. Analogies observed in twin formation in metallic crystals and in ionic crystals are pointed out. M. G. Moore

STARTSEV, V. I.

USSR :

Annealing twinned crystals of iron. R. I. Garber, I. A. Gludin, M. G. Konstantinovskii, and V. I. Startsev (Phys. T. S. Inst., Acad. Sci. Ukr. S.S.R., Kharkov). *Doklady Akad. Nauk S.S.S.R.* 74, 343-4 (1950).—Specimens of C-free steel were annealed at 300° for 3 hrs., elongated 2-3%, then annealed 8 days, increasing the temp. gradually from 400 to 850° to give an av. grain size of 1.6-2 mm. The specimens were then broken under tension at temp. of liquid N, forming twinned crystals in grains near the fracture. Twinned layers began to disappear after 10 hrs. annealing at 850°, and all had disappeared after 55 hrs. at 850° followed by 60 hrs. at 900°. H. W. Rathmann |

STARTSEV, V.I.

USSR/Chemistry - Crystallography

Card 1/1 Pub. 22 - 20/51

Authors : Startsev, V. I., and Kosevich, V. M.

Title : Elastic twinning of metals

Periodical : Dok. AN SSSR 101/5, 861-864, Apr 11, 1955

Abstract : The twinning of Bi, Zn and Sb was investigated beyond the cleavage surface of the crystal at room temperature. It was established that the nature of elastic twinning depends upon temperature for, in the case of low-melting metals, the twinning should take place only at low temperatures. The absence of elastic twinning in the case of Bi and Zn was found to be due to their plasticity at room temperatures. The twinning process in Sb was seen to be identical to the twinning in calcite. Six USSR references (1938-1950). Illustrations.

Institution : Institute for Mechanization of Agriculture and the Polytechnicum, Kharkov

Presented by: Academician G. V. Kurdyumov, January 10, 1955

STARTSEV, V.I.; KOSEVICH, V.M.

Twin interaction in bismuth, zinc and antimony. Dokl. AN SSSR 104
no.3:412-414 S '55. (MLRA 9:2)

I.Khar'kovskiy institut mekhanizatsii sel'skogo khozyaystva. Pred-
stavleno akademikom V.G.Kurdyumovym.
(Crystallography) (Metallography)

STARTSEV, V.I.; KOSEVICH, V.M.; TOMENKO, Yu.S.

Examining the intersections of twinned layers in calcite monocrystals.
Kristallografiia 1 no.4:425-428 '56. (MLRA 10:1)

1. Khar'kovskiy institut mekhanizatsii sel'skogo khozyaystva,
Khar'kovskiy politekhnicheskii institut.
(Calcite crystals)

STARTSEV, V.I.; KOSEVICH, V.M.; TOMENKO, Yu.S.

Examining the intersections of twinned layers in monocrystals
of antimony, bismuth and zinc. Kristallografiia 1 no.4:429-435
'56. (MLRA 10:1)

1. Khar'kovskiy institut mekhanizatsii sel'skogo khozyaystva i
Khar'kovskiy politekhnicheskii institut.
(Antimony crystals) (Bismuth crystals) (Zinc crystals)

STARTSEV, V.I.

Category : USSR/Solid State Physics - Morphology of Crystals. Crystallization E-7

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3897

Author : *Startsev, V.I., ** Kosevich, V.M.

Inst : *Khar'kov Institute of Mechanization of Agriculture; **Khar'kov Poly-technic Institute, USSR

Title : Concerning the Relief Produced by Twinning Layers on the Cleavage Planes of Bismuth, Antimony, and Zinc.

Orig Pub : Fiz. metallov i metallovedeniye, 1956, 2, No 2, 320-327

Abstract : The wedge-like twinning layer produces on the cleavage plane, upon its creation, a relief that is characterized by the presence of a wide distended zone. In zinc this zone is wider than twin by 5-10 times; it is easily detected in a light-field microscope, so that it is clearly distinguishable from the remaining portion of the crystal; x-ray photography shows a simple rotation of the crystalline lattice to occur in it; the angle of rotation, determined by interferometric means, is 15-60 minutes. In bismuth and in antimony, the swelling is observed only in an interference microscope, since the transition from the fundamental crystal to the swelling is smooth in this case. In bismuth, furthermore, one

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observes deformation bands that accompany the twinning and that are covered with minute cracks. When the twinning layers intersect along the bisectrix of the angle between the twins, one observes sharply deformed regions, in which the crystalline lattice is rotated by 1 -- 4°. It is suggested that the character of the distortion determines the tendency of the twinning layer to elasticity: in antimony the smooth relief does not prevent elastic cessation of the twinning layer, but in zinc the sharp swelling exerts a wedging action.

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STARTSEY, V. I.

18
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Friction microstresses in annealed steels. F. Ya. Lokhales and V. I. Startsey (Inst. Mechanization of Agr., Khar'kov). *Trudy Kharkovskogo Universiteta, Seriya Fiziko-Matematicheskie Nauki*, 1957, No. 3, 18-22. Microstresses of the lattice, phase changes, and grain size of annealed and tempered cemented steel (C 0.20, Mn 0.35, Si 0.27, Cr 1.52, Ni 4.10, W 1.10%, with martensite structure, having 37-4 C-scale hardness) samples in form of rolls, 50 mm. in diam., were studied applying x-ray method and microhardness tests. The initial microstress amounted to 102 kg./sq. mm. The average grain size was 2.55×10^{-6} cm. The samples were subjected to frictional rolling tests with oil lubrication under 200 kg./sq. mm. pressure, with speed 0-0.58 m./sec., in series, 0.5×10^4 each. At the beginning, the effects were: decrease of microstresses and of the residual austenite, with the simultaneous appearance of free carbide lines, increase of the grain size and of the microhardness. A further increase of load cycles caused an increase of microstresses, up to 173 kg./sq. mm. with a reduction of the grain size as a result of elastic deformations. At higher rolling speeds the microstresses and the amount of austenite increased more than at lower speeds. After 4×10^4 cycles, the loaded surface of specimens was covered with stress corrosion fittings.

AUTHORS: Startsev, V.I. and Lavrent'yev, F.F. 70-3-3-13/36

TITLE: X-ray Investigation of the Regions of Accommodation in the Twinning of Zinc (Rentgenograficheskiye issledovaniye oblasti akkomodatsii pri dvoynikovanii tsinka)

PERIODICAL: Kristallografiya, 1958, Vol 3, Nr 3, pp 329 - 333 (USSR)

ABSTRACT: X-ray investigation of the zones of accommodation shows a lattice orientation which is different to that in neighbouring parts of the crystal and shows a fine structure in the zones. This result confirms earlier conclusions on the structure of the accommodation region based on indirect measurements by means of profilometer and interferometer. A boundary layer with a strongly distorted structure has been found between the main crystal and the zone of accommodation. Annealing leads to the disappearance of both twinned layer and disturbed boundary layer but the zone of accommodation itself does not vanish showing that it has greater thermal stability. X-ray diffraction pictures were taken using a wide-angle X-ray tube and provided a sophisticated method of measuring the angles between regions slightly inclined to each other. Angles of about 30' had to be measured.

Card1/2 There are 4 figures and 7 references, 4 of which are Soviet

70-3-3-13/36
X-ray Investigation of the Regions of Accommodation in the Twinning
of Zinc

and 3 English.

ASSOCIATION: Khar'kovskiy institut mekhanizatsii sel'skogo
khozyaystva (Khar'kov Institute for the Mechanisation
of Agriculture)

SUBMITTED: July 19, 1957

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STARTSEV, V.I.; CHUCHKIN, G.V.

Conference for the study of scintillators. Khim. nauka i prom. 3
no.4:528 '58. (MIRA 11:10)
(Phosphors)

SI. # -3-24/30

AUTHORS: Kounik, S. N., Startsev, V. I. and Tsirkin, Yu. A.

TITLE: The Temperature Dependence of γ -Scintillations in
Caesium Iodide Crystals Activated by Thallium
(Temperaturnaya zavisimost' γ -stsintillyatsiy v
kristallakh iodistogotsseziya, aktivirovannogo talliyem.)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol.IV, Nr.3,
pp.411-412 (USSR)

ABSTRACT: The authors studied the temperature dependence (in
the 30-150°C region) of luminescence of CsI(Tl) when
excited with γ -rays. A photomultiplier of the
FEU-S type was used. A cylindrical crystal of CsI
with 0.041% of Tl. of 10 mm diameter and 6 mm height
was placed in a cylindrical recess in a solid block of
copper. This block was heated indirectly and crystal
temperature was measured by means of a copper-
constantan thermocouple with an accuracy of $\pm 3\%$.

Co^{60} was used as the source of γ -rays. The
intensity of scintillations was found by measurement
of the anode current of the photomultiplier. The
experiments were made on four samples cut from
different monocrystals. The results are shown in

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