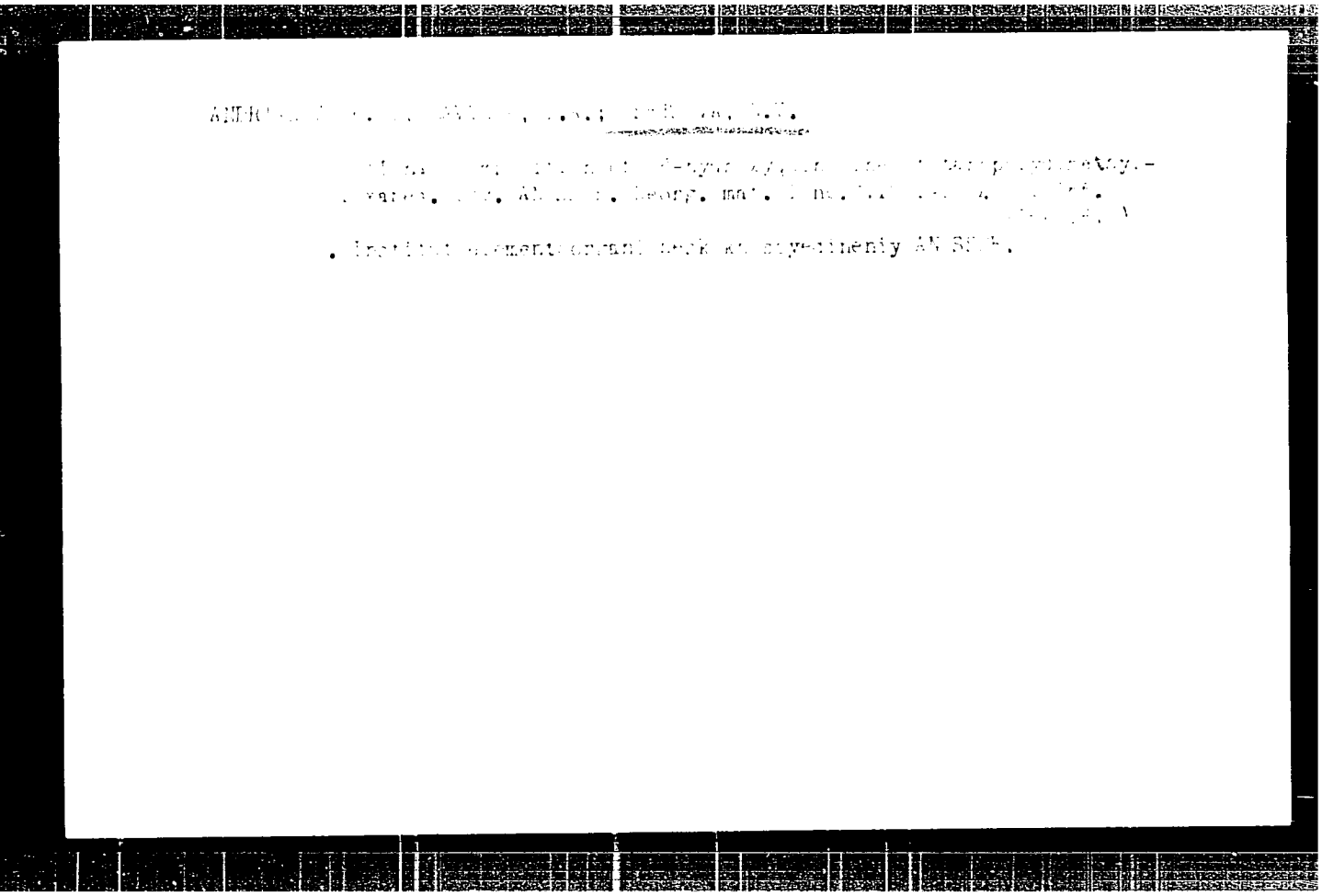
PERTSOV, V. V.

A study of the statistics and economics of Kazan' Guberniya. Kazan', Izd. Uchetnostatisticheskogo otdela Kazanskogo gubernskogo [illegible], 1912. 71 p.

Cyr.4 DK1358

PERTSOVA, N.M.

Composition and dynamics of the biomass of zooplankton in the Velikaya Salma Strait of the White Sea. Trudy Belomor.biol.sta. MGU 1:35-50 '62. (MIRA 16:1)
(Velikaya Salma Strait--Zooplankton)



[redacted], Ye.P., [redacted]

Thermal degradation of the polymers of vinylphosphinic acid esters. Dokl. AN SSSR 163 no.1:97-99 Jl '65. (MIRA 18:7)

1. Institut elementoorganicheskikh soyedineniy AN SSSR i Moskovskiy khimiko-tekhnologicheskiy institut im. D.I. Mendeleyeva.

KARYAKINA, M.I.; YAKUBOVICH, S.V.; BLAGONRAVOVA, A.A.; Prinimali uchastiye: LARINA, A.N.; PISKAREVA, K.A.; PERTSOVA, Ye.N.

New type of coatings based on phenol-alkyd resins. Lakokras. mat.i ikh prim. no.5:25-27 '62. (MIRA 16:1)
(Phenol condensation products) (Protective coatings)

PERTSOVICH, M.G. [Pertsovych, M.H.]

Influence of karstic processes on the stability of the quarry edges of the Rozdol deposit. Geol. zhur. 24 no.5:63-69 '64. (MIRA 17:12)

1. Institut geologii i geokhimii goryuchikh iskopayemykh AN UkrSSR.

PERTSOVICH, M.G. [Pertsovych, [illegible]]

Karst processes and their effect [illegible] the dislocation of overburden rocks in the [illegible]zdol deposit. [illegible] .12:1629-1631 '63. ([illegible] [illegible])

1. Institut geologii goryuchikh [illegible] [illegible]yenykh AN [illegible]. Predstavleno akademikom AN [illegible].

GORETSKIY, V.A. [Horets'kyi, V.O.]; PERTSOVICH, M.G. [Pertsovych, M.H.]

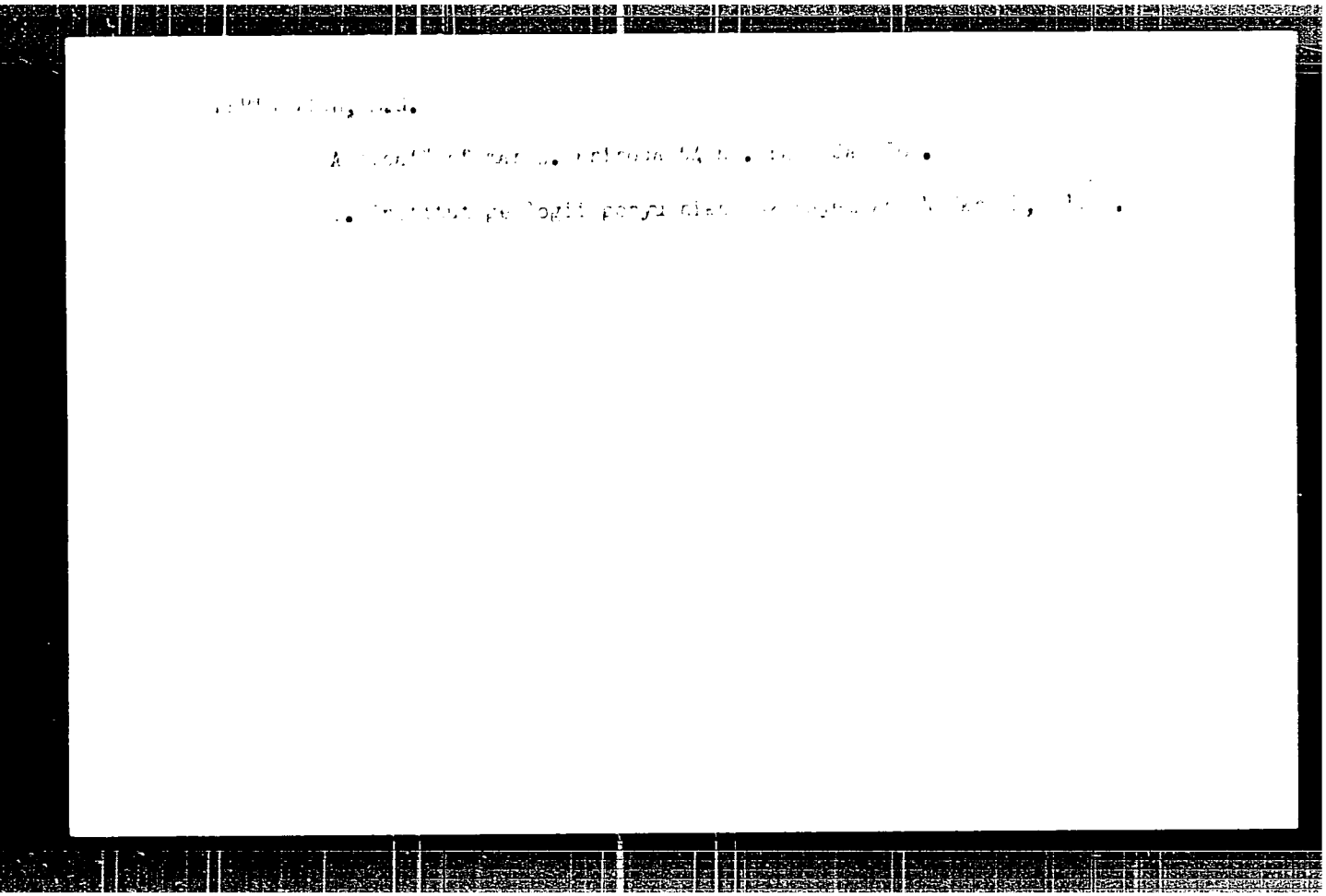
Some new data on the Miocene stratigraphy of the Rozdol sulfur deposit. Geol. zhur. 24 no.2:58-62 '64 (MIRA 18:2)

1. L'vovskiy gosudarstvennyy universitet im. I. Franko.

PERTSOVICH, M.G. [Pertsovych, M.H.]

Using the waters of the Lower Tortonian horizon inundating the Rozdol sulfur deposit for water supply of Novyy Rozdol and the sulfur combine. Dop. AN URSR no. 12:1632-1634 '64. (MIRA 18:1)

1. Institut geologii i geokhimii goryuchikh iskopayemykh AN UkrSSR. Predstavleno akademikom AN UkrSSR V.G.Bondarchukom [Bondarchuk,V.H.].



PERTSOVICH, M.G.

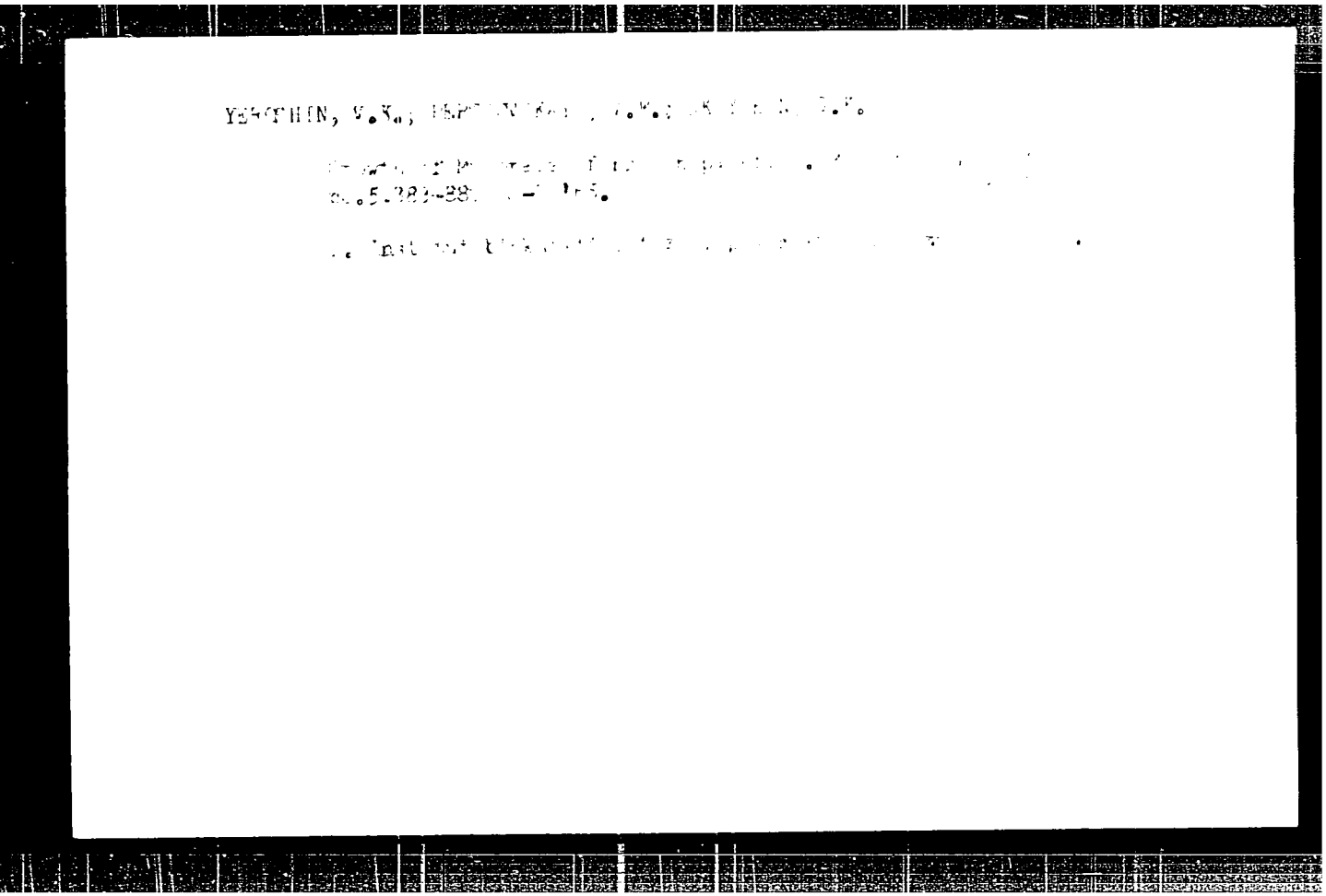
Genesis of the hydrosulfuric waters in the Rozdoly deposit. Dokl. AN SSSR 150 no.1:165-167 My '63. (MIRA 16:6)

1. Institut geologii goryuchikh iskopayemykh AN SSSR. Predstavleno akademikom V.S.Sobolevym.
(Rozdoly region—Mineral waters, Sulfurous)

GRINSHPUN, L.E., mayor meditsinskoy sluzhby; PERTSOVICH, P.I., mayor meditsinskoy sluzhby

Group disease caused by Salmonella muenchen. Voen.-med. zhur. no.5: 65-66 My '61. (MIRA 14:8)

(SALMONELLA)



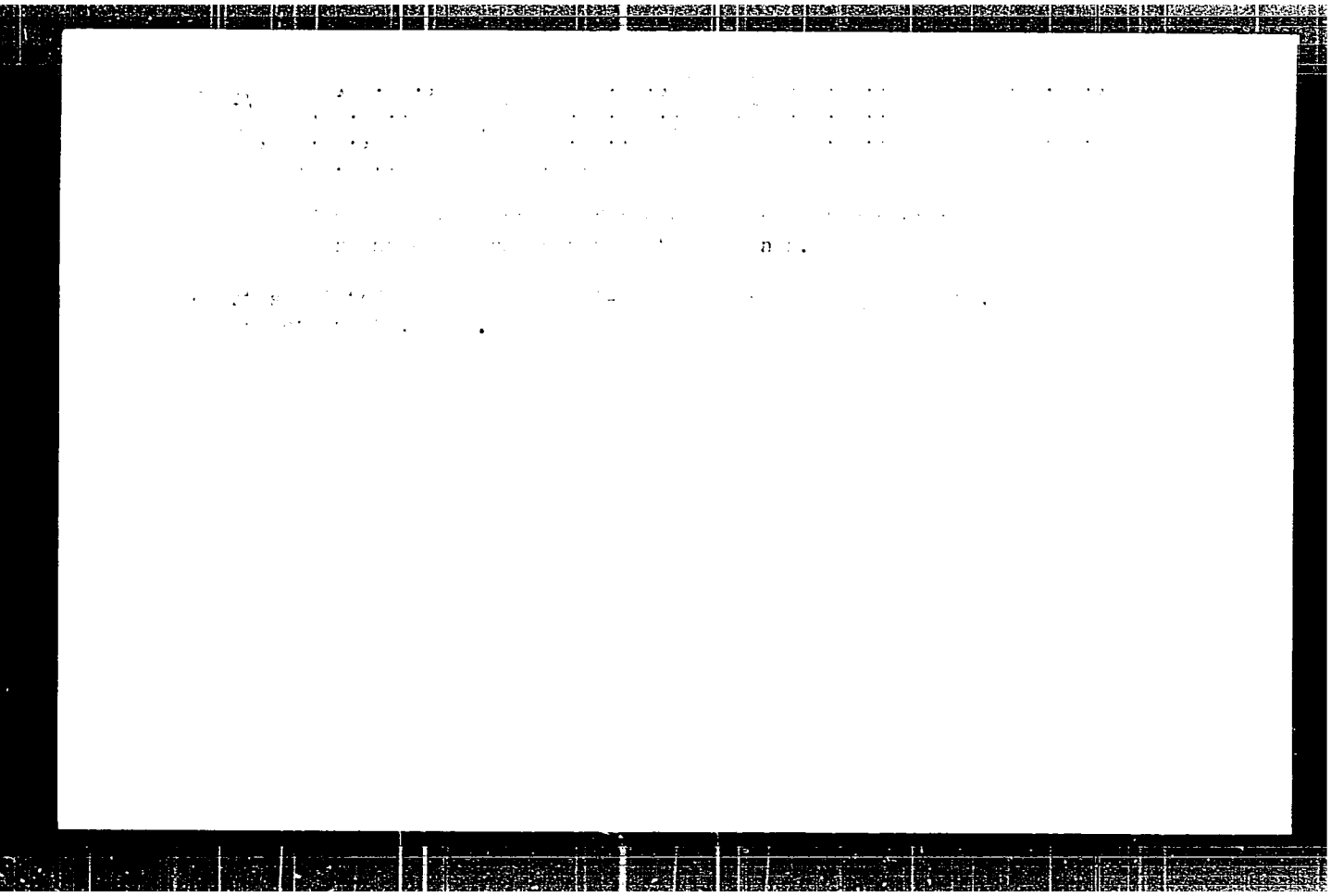
ZVYAGINTSEV, D.G.; VINOGRADOVA, K.A.; AGRE, N.S.; PERTSOVSKAYA, A.F.

Natural (primary) fluorescence of actinomycetes. Mikrobiologiia 33 no.4:631-638 Jl-Ag '64. (MIRA 18:3)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

PERTSOVSKAYA, M. N.

A. E. SHARPENAK, Voprosy Pitaniya 6, No. 1, 31-3, 1937



APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240130001-9"

PERTSOVSKAYA, [illegible] I., [illegible] VA, [illegible], [illegible], [illegible],
[illegible]YAPOV, V. N., VASIL'EVA, [illegible] G., [illegible], [illegible], [illegible]

"Basic hygienic problems in the field of legislature on the sanitary protection of the soil of populated places."

report submitted at the 12th All-Union Congress of Hygenists, Epidemiologists and Infectionists, 1959.

[illegible]TSOVSKAYA, [illegible] I., TALAYEVA, YU. G., [illegible], [illegible], [illegible]BYEVA, [illegible], FINKE[illegible], [illegible], [illegible], [illegible], [illegible]VA, T. [illegible], [illegible]ASHEVA, [illegible], [illegible]

"Modern problems of sanitary [illegible] in the [illegible] of problems of communal hygiene."

report submitted at the 13th All-Union Congress of Hygienists, Epidemiologists and Infectionists, 195[illegible].

KHLEBNIKOV, N.I., prof.; MATVEYEV, P.N., kand.meditsinskikh nauk; PERTSOVSKAYA, M.I., kand.biologicheskikh nauk

"Soil mineralization of town refuse and its use in agriculture" by P.A. Babaiants. Revived by N.I.Khlebnikov, P.N.Matveev, M.I. Pertsovskaia. Gig. i san. 25 no.4:116-117 Ap '60. (MIRA 13:8)
(REFUSE AND REFUSE DISPOSAL) (BABAIANTS, P.A.)

PERTSOVSKAYA, M.I.

Use of triphenyltetrazole chloride in determining Escherichia coli strains in soil. Gig. i san. 28 no.7:98 Jl '63.
(MIRA 17:1)

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

PERTSOVSKAYA, M. I.; KHLEBNIKOV, N. I.; KRAMAROVA, E. S.; and ALF, S. L.

"Sanitary Investigation of the Soil in Populated Regions," 133 pages, Moscow, 1951

CA PERTSOVSKAYA, M.I

Soil as the medium for the existence of dysentery microbes M. I. Pertsovskaya, *Gigiena i Sanit.* 1951, No. 6, 15-19.—Introduction of org. matter into the soil may raise the av. existence period of dysentery bacteria from 24 hrs. to 21 days. Soils carrying these organisms also carry *Bacterium paracoli*. In neutral soils rich in humus the longevity of dysentery may reach 40 days. The winter temp. variations cause rapid death of microbes in the soil. A rapid death at soil temp. 37–40° apparently arises from the rapid growth of saprophytic microflora and a rapid decline of org. matter. Dysentery organisms survive in the soil best at 18–20°. The organisms existing for extended periods in unfavorable soil conditions adapt themselves to these conditions. Adaptations of this type may be accompanied by a change in serological properties. G. M. Kosolapoff

Inst. Gen. & Communal Hygiene, Acad. Med. Sci. USSR

AL'F, S.L.; MISHUSTIN, Ye.N.; PERTSOVSKAYA, M.I.; KHLEBNIKOV, N.I.; SYSIN, A.N., prof., red.; URAZAYEV, N.M., red.; BUL'DYAYEV, N.A., tekhn.red.

[Indications of the sanitary condition of the soil of populated places] Pokazateli sanitarnogo sostoianiia pochvy naselennykh mest. Pod red. A.N.Sysina. Moskva, Gos.izd-vo med.lit-ry, 1959. 149 p. (MIRA 13:5)

1. Deystvitel'nyy chlen AMN SSSR (for Sysin).
(SOILS--BACTERIOLOGY)

MISHUSTIN, Ye.N.; PERTSOVSKAYA, M.I.; IMSHENETSKIY, A.A., redaktor; RAKITSKIY, N.P., redaktor; MOSKVICHEVA, N.I., tekhnicheskiy redaktor.

[Microorganisms and self-purification of the soil] Mikroorganizmy i samoochishchenie pochvy. Moskva, Izd-vo Akademii nauk SSSR, 1954. 650 p. (MLRA 8:2)

1. Chlen-korrespondent AN SSSR (for Imshenetskiy).
(Soil microorganisms)

VLODAVETS, V.V., kand.med.nauk; ZUYKOVA, Ye.Yu., mladshiy nauchnyy sotrudnik; KICHENKO, M.G., kand.med.nauk; MATS, L.I., prof.; NATANSON, G.L., prof. [deceased]; PERTSOVSKAYA, M.I., kand.biologicheskikh nauk; PETRYANOV, I.V.; RAZUMOV, A.S., prof. [deceased]; SADOVSKIY, B.F., kand.khimicheskikh nauk

Use of a new type of "microfil" filters for the concentration and indication of bacteria from the air, water and soil. Gig. i san. 27 no.3:51-55 Mr '62. (MIRA 15:4)

1. Iz Instituta obshchey i kommunal'noy gigiyeny imeni A.N.Sysina AMN SSSR i Fiziko-khimicheskogo instituta imeni L.Ya.Karpova.
2. Chlen-korrespondent AN SSSR (for Petryanov).
(AIR--MICROBIOLOGY) (WATER--MICROBIOLOGY)
(SOILS--MICROBIOLOGY) (BACTERIOLOGY--EQUIPMENT AND SUPPLIES)

ACCESSION NR: AP4011134 S/0182/64/000/001/0021/0024

AUTHORS: Grinshpun, L. Ya.; Pylaykin, P. A.; Khirdzhiyev, Ye. V.; Pertsovskaya, Yo. V.

TITLE: Containers of high power horizontal hydraulic presses for pressing aluminum alloys

SOURCE: Kuznechno-shtampovochnoye proizvodstvo, no. 1, 1964, 21-24

TOPIC TAGS: hydraulic press, press container, 5KhNV steel, 5KhNM steel, 5KhNM2 steel, 38Kh2N3M steel, 3Kh2N2MVF steel, 27Kh2N2MVF steel

ABSTRACT: The technological requirements of containers for pressing Al alloys were limited by the temperatures up to 430C, specific stresses up to 50 kg/mm^2, and the maximum press force 12 000 T. A commonly used container consisted of a frame and a conical bushing. Both the frame and the bushing were made of high-alloy steels 5KhNV or 5KhNM. They had a number of shortcomings associated with the shape of the bushing and the metal used. For this reason, several research projects leading to the design of more suitable containers were undertaken at

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L 36143-66 EWT(m)/EWP(t)/ETI IJP(c) MJW/JD

ACC NR: AP6016313 (N) SOURCE CODE: UR/0182/66/000/001/0012/0014

AUTHOR: Sklyuyev, P. V.; Pertsovskaya, Ye. V.

ORG: none

TITLE: 27Kh2N2MVF high-strength tool steel

SOURCE: Kuznechno-shtampovochnoye proizvodstvo, no. 1, 1966, 12-14

TOPIC TAGS: high strength Tool steel, steel, metal press, mechanical property, die/ 27Kh2N2MVF high strength steel, 5KhNM tool steel, 5KhNV tool steel

ABSTRACT: The Uralmashzavod Ural Machine Plant faced the problem of developing a new type of high-strength tool steel as the material for parts and tools of heavy-duty horizontal presses. The steel had to meet the following requirements: 1) high strength (yield point >100 kg/mm^2 at 450°C) at operating temperatures (430-500°C); 2) minimum content of alloy elements so as to make possible the production of large ingots by melting in an acid open-hearth furnace; 3) high hardenability so as to make it possible to induce the desired level of mechanical properties in large parts (weighing up to 30 tons) as well as in complex-shaped parts by temper normalizing instead of temper hardening; 4) ease of production. Accordingly, the Uralmashzavod developed 27Kh2N2MVF Cr-Ni steel (0.25-0.30% C, 0.17-0.37% Si, 0.50-0.80% Mn, 2.0-2.5% Cr, 1.4-1.8% Ni, 0.4-0.6% Mo, 0.4-0.6% W, 0.2-0.3% V, up to 0.030% P, up to 0.030% S) and

Card 1/2 UDC: 621.733.4

SUB CODE: 13,11/ SUBM DATE: none/ ORIG REF: 000

Card 2/2 lll

ACC NR: AP6035947 (A) SOURCE CODE: UR/0129/66/000/010/0002/0007

AUTHOR: Sklyuyev, P. V.; Pertsovskaya, Ye. V.

ORG: NIITYaZhMASh of Yralmashzavod

TITLE: High-strength low-nickel steels for large forgings

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 10, 1966, 2-7

TOPIC TAGS: high strength steel, nickel free steel, low nickel steel, steel property/ 35KhGM steel, 35KhGV steel, 35Kh3M steel, 35Kh2G2M steel, 34Kh2N2M steel, 34Kh2N2MF steel

ABSTRACT: In a serach for a less expensive substitute for 34KhN1M and 34KhN3M nickel steels, the 35KhGM, 35KhGV, 35Kh2G2M, and 35Kh3M nickel-free steels, and 34Kh2N2M and 34Kh2N2MF low-nickel steels have been tested. It was found that at a coding rate of 160 degrees/hr, the austenite of 34KhN1M and 35KhNV steels is more stable in the bainitic region than the austenite of 35KhGM, 35KhGV or 35Kh3M steels, in which austenite transforms to pearlite. The hardenability of 34KhN1M, 35KhNV, 35KhGM, 35Kh3M and 35KhGV steels was roughly the same, with a hardness of HRC 43—45 at a distance of 70—110 mm from the quenched end. The tensile strength of annealed and air-cooled 35KhGM, 35KhGV and 35Kh3M steels was 90.2—92.1 kg/mm^2; that of 35Kh2G2M, 34Kh2N2M and 34Kh2N2MF was 100.4—122.4 kg/mm^2. The strength of all the above steels is reduced with a decreasing cooling rate. 35Kh3M steel has the lowest susceptibility to temper brittleness. 34KhN3 steel is extremely susceptible to

Card 1/2 UDC: 669.15'24-194:

L 36721-65 EWT(m)/EWA(d)/EPR/T/EWP(t)/EWP(b)/EWA(c) Ps-4 IJP(c) MJW/JD/GS

ACCESSION NR: AT5045965 S/0000/64/000/000/0058/0068

AUTHOR: Sklyuyev, P. V.; Mirmel'shteyn, V. A.; Pertsovskaya, Ye. V.

TITLE: High strength steels for the dies of powerful presses

SOURCE: Novy ye materialy v mashinostroyenii (New materials in machinery manufacturing). Moscow, Izd-vo Mashinostroyeniye, 1964, 58-68

TOPIC TAGS: steel, high strength steel, press design, pressing die, austenitic transformation, bainite structure, steel mechanical property, martensite structure

ABSTRACT: At present, horizontal hydraulic presses are used for manufacturing panels, pipes and other parts from aluminum alloys. The part under the highest load in this process is the die, consisting of a sleeve with intermediate and external rings. At a working temperature of 430C, the working stresses reach 90 kg/mm^2, so that the steel should have a yield point of at least 105 kg/mm^2 and an elongation of at least 6%. The weight of ingots for such sleeves reaches 75 metic tons and, since electric furnaces of such size are not available, the open-hearth melts must be of uniform quality. As a result of investigations

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L 36721-65
ACCESSION NR: AT4045965

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performed by the Tsentral'naya laboratoriya Uralmashzavoda (Central Laboratory of the Ural Machine Plant) together with UPI, a new steel, grade A, has been developed, as well as grade B steel having higher plasticity and viscosity with a lower content of carbon and alloying element. The diagram of austenitic transformation is similar for both steels, but the temperature of the bainite and martensite transformation is higher for grade B steel. Air cooling leads to a bainite structure through the entire section. These steels, both grade A and grade B, are hardened to their entire depth. At a testing temperature of 430-450C, grade A and grade B steel show higher yield points and relative elongations than the steels previously used for die production. Since the dies work at a temperature of 400-450C, relaxation processes develop in the sleeve and rings. Tests showed that the relaxation stability of grade A and grade B steel is 3-5 times as high as that of 5KhNM steel and twice as high as $38Kh2N_3M$ steel. Tests for brittleness showed that grade A steel has higher brittleness than grade B steel. Large ingots of grade A and grade B steel are difficult to forge, however. Studies on dies made of grade A steel indicated that sleeves made of large ingots worked for three years, while preserving the working dimensions. There is not yet sufficient experience with grade B steel to compare

Card 2/3

L 36721-65

ACCESSION NR: AT4045965

it with grade A steel during operation. It may be assumed that, due to its high plasticity, low brittleness and high impact strength, grade B steel will ensure high working stability. Orig. art. has: 5 figures, 3 tables and 1 formula.

ASSOCIATION: None

SUBMITTED: 16May64 ENCL: 00 SUB CODE: MM

NO REF SOV: 003 OTHER: 003

Card 3/3

GIL'MAN, A.G., prof.; PERTSOVSKIY, A.I., kand. med. nauk

Dynamics of the correlations of serum protein fractions following resection of a segment or lobe of the lung in tuberculosis. clinicobiochemical parallels. Probl. tub. no.7:43-47 '64. (MIRA 18:10)

1. Institut meditsinskoy klimatologii i klimatoterapii imeni Sechenova (dir. - B.V. Bogutskiy), Yalta.

PERTSOVSKIY, A.I.

Dysproteinemia following surgical interventions. Vop.med.khim. [illegible]
no.3:293-296 My-Je '64.

1. Institut meditsinskoy klimatologii i klimatoterapii imeni Sechenova, Yalta.

PERTSOVSKIY, A.I.; PARKHOVA, M.V.

Methodology for the determination of 17-oxycorticosteroids in the blood plasma. Lab. delo no.3:163-165 '65.

(MIRA 18:9)

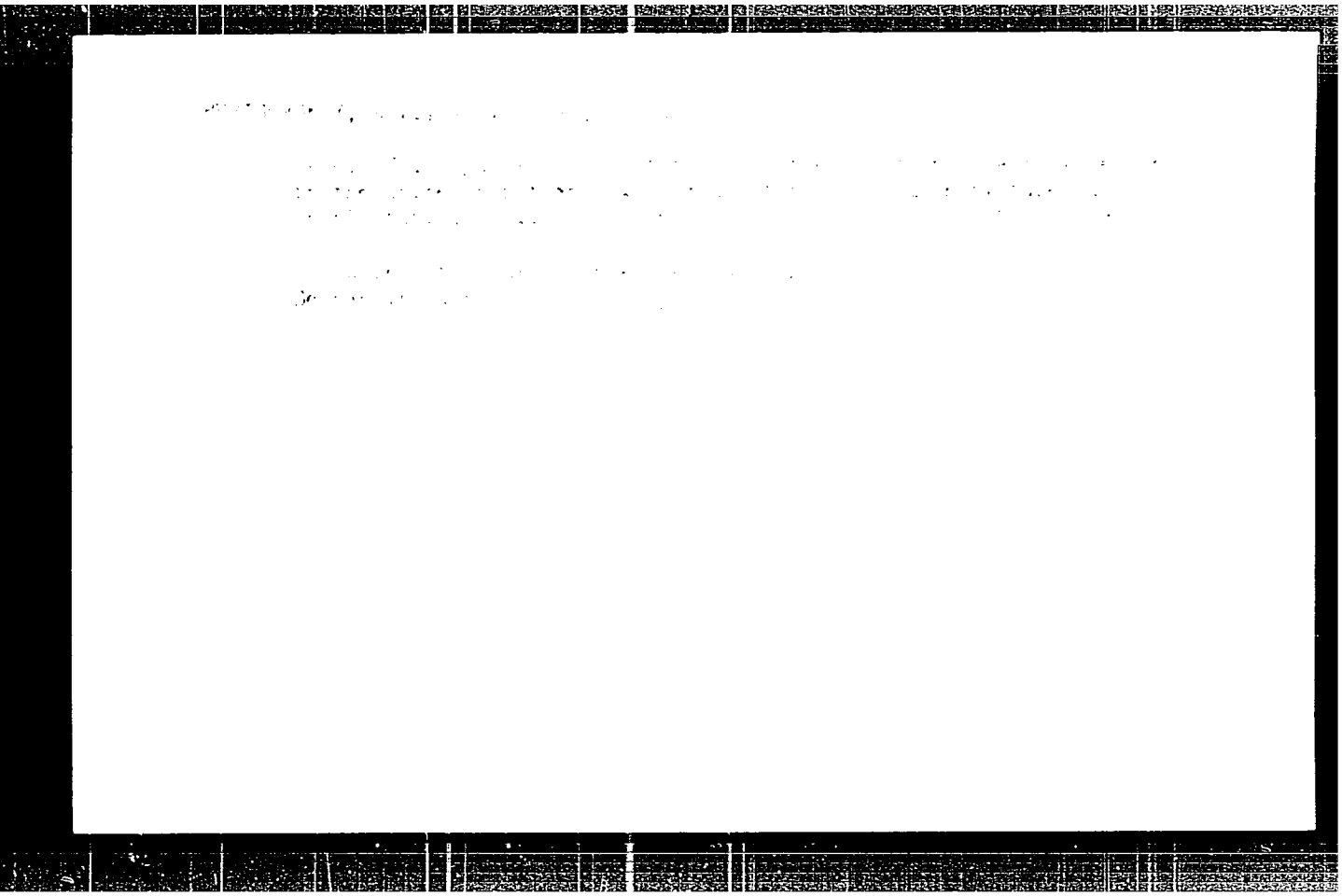
1. Institut meditsinskoy klimatologii i klimatoterapii im. I.M. Sechenova, Yalta.

PERTSOVSKIY, A.I.

Immunochemotherapy in experimental tuberculosis. Report No. 2. Zhur. mikrobiol. epid. i immun. 31 no. 5:58-62 My '60. (MIRA 13:10)

1. Iz Instituta meditsinskoy klimatologii i klimatoterapii imeni Sechenova.

(BCG VACCINATION)



PERTSOVSKIY, A.I.

[Role of diet in tuberculosis] Znachenie pitaniia bol'nomu tuberkulezom. IAkutsk, IAkutskoe kn-vo, 1954. 16 p. (MLRA 10:4)
(DIET IN DISEASE) (TUBERCULOSIS)

PERTSOVSKIY, A. I.

5[illegible]72. PE TSOVSKIY, A. I. - Znachenie pitaniya ilya bolnogo tuberkulezom. Yakutsk, Yakutskoe knizhnoe izdat, 19[illegible], 1[illegible] s. 20 sm. (Dor San. provesheniya m-va zdravookhraneniya YaASSR). 4,000 ekz. Bes[illegible]- Na yakut. yaz. (54-52024) 616.995.083.2:612.24

SO: Knizhnaya Letopis', Vol. 1, 1954

PERTSOVSKIY, A.I., kand.med.nauk

Increasing the effectiveness of streptomycin treatment of experimental tuberculosis during a change in protein nutrition; preliminary report. Vop. epid. i klin. tub. 5:151-155 '58. (MIRA 14:12)

(TUBERCULOSIS) (STREPTOMYCIN)
(PROTEIN METABOLISM)

PERTSOVSKIY, A. I.

Pertsovskiy, A. I. "The action of urea on the tuberculosis bacillus," Byulleten' In-ta tuberkulesa Akad. med. nauk SSR, 1949, No. 1, p. 30-37.

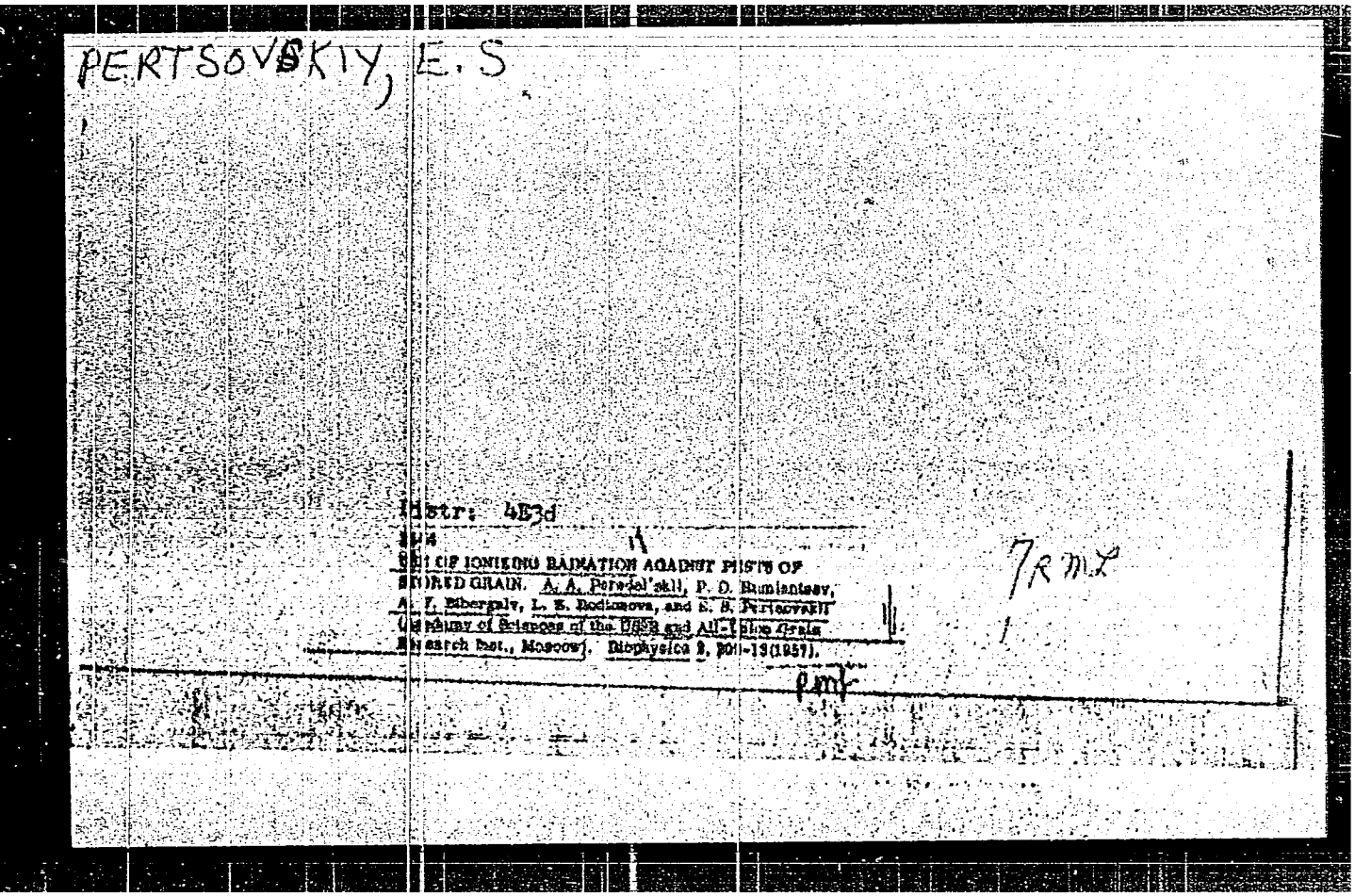
SO: U-3736, 21 May 53, (Letopis 'Zhurnal 'nykh Statey, No. 18, 1949).

PERTSOVSKIY, A.I., kand.med.nauk; BELOGUROVA, V.P., kand.med.nauk

Immunochemotherapy in tuberculosis. Vop. epid. i klin. tub. 5: 145-150 '58. (MIRA 14:12)
(CHEMOTHERAPY) (IMMUNOLOGY) (TUBERCULOSIS)

ABRAMSON, F.L., kand.med.nauk; PERTSOVSKIY, A.I., kand.med.nauk

Materials on the pathogenesis of tuberculous lymphadenitis.
Vop. epid. i klin. tub. 5:156-191 '58. (MIRA 14:12)
(LYMPHATICS—TUBERCULOSIS)



PERTSOVSKIY, E. S.

Distr: 4E3d

USA

[illegible] OF IONIZING RADIATION AGAINST PESTS OF STORED GRAIN. A. A. Petrol'skii, P. D. Rumiantsev, A. I. Sibergaly, L. E. Rodionova, and E. B. Pertsovskii (Academy of Sciences of the USSR and All-Union Grain Research Inst., Moscow). Biophysica 2, 201-13(1957).

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PUGIN, A.I.; PERTSOVSKIY, G.A. (Leningrad)

Calculating the heat cycle of a weld zone during the electric slag welding of thick steel. Avtom. svar. 16 no.6:14-23 Je '63. (MIRA 16:7)

1. Institut metallurgii im. A.A.Baykova (for Pugin).
(Plates, Iron and steel--Welding)
(Electric welding)

RUKHLIN, P.N., kand.tekhn.nauk; PERTSOVSKIY, G.A., inzh.

Electric slag welding of heat-resistant steels. Svarka 1:194-200 '58. (MIRA 12:8)
(Electric welding) (Heat-resistant alloys--Welding)

PERTSOVSKIY, G.A., inzh.

Calorimetric determination of the bath temperature in electric slag processes. Svarka 2:156-162 '59. (MIRA 14:5)
(Electric welding) (Calorimetry)

RUKHLIN, P.N., kand.tekhn.nauk; PERTSOVSKIY, G.A., inzh.

Industrial experience in the introduction of electric slag edge surfacing of large structural shells. Svarka 2:163-173 '59. (MIRA 14:5)

(Electric welding)

Pertsovskiy, G.A.

25(1) PHASE I BOOK EXPLOITATION SOV/2050

Svarka sbornik statey, [vyp.] 1 (Welding; Collection of Articles, Nr 1) Leningrad, Sudpromgiz, 1958. 246 p. 4,000 copies printed.

Resp. Ed.: G. I. Kapyrin, Candidate of Technical Sciences; Ed.: I. A. Zhirmunskaya; Tech. Ed.: K. M. Volchok.

PURPOSE: This collection of articles is intended for use in research institutes, institutes of higher learning, design offices, and plants.

COVERAGE: These technical papers deal with the results of research in welding technology. The main purpose of this work was to investigate the effects of various welding regimes and heat treatments on the mechanical properties of welds of austenitic and perlitic composition. A number of experiments also dealt with the welding properties and weldability of titanium-base alloys and a number of nonferrous metals. One of the objects of the research was to establish the relationship between the geometry of the weld seam and its physical properties. The crystallization of the weld, its mechanical properties, and the various factors affecting the grain structure of the metal were studied by a number of scientists. Of special practical interest is the study of the behavior of a welded structure in which the elasticity of the material and of the welded joint are not within the same range. These considerations lead to experiments with mechanically induced changes in the properties of the weld seam. Another problem which presents many difficulties in welding is the behavior and changes in the heat-affected zone next to the welded joint. One of the papers deals with experiments in this field. A description is given of the equipment and the technique used in electroslag welding, which is regarded as one of the major advances in modern welding technology. Several papers deal with welding techniques of nonferrous alloys and with the use of special fluxes for this work. Most of the papers are profusely illustrated with graphs, diagrams, and photographs. References are given after each article.

TABLE OF CONTENTS:

Welding (Cont.) SOV/2050

SOV/137-57-10-19060

Translation from Referativnyy zhurnal, Metallurgiya, 1957, Nr 10, p 90 (USSR)

AUTHOR Pertsovskiy, I.N.

TITLE The Need for Economical Rolled Sections on the Part of the Rolling-stock Industry (Trebovaniya vagonostroitel'noy promyshlennosti k ekonomichnym profilyam prokata)

PERIODICAL V sb. Ratsionalizatsiya profiley prokata. Moscow Profizdat, 1956, pp 171-173

ABSTRACT It is shown that the need for economical sections in the rolling-stock industry is not being met by the Ministry of Ferrous Metallurgy.

S.G

Card 1/1

PERTSOVSKII, L. M.

Elektrifikatsiia zheleznykh dorog v novoi stalinskoi piatiletke; leksiia. [Railroad electrification in the new Stalin five-year plan]. [Moskva], Transzheldorizdat, 1947. 51p. (MPS. SSSR. TSentr. kinoradiobaza. Glavnoe upravlenie uchebnymi zavedeniiami.

Bibliography: p. 3 cover.

SO: Soviet Transporation and Communications, A Bibliography, Library of Congress, Reference Department, Washington, 1952, Unclassified.

PERTSOVSKII, L. M. and S. ZASORIN.

Avtomatika v elektrifikatsii zheleznykh dorog. [Automatic devices in railroad electrification]. (Zhel-dor. transport, 1947, no. 4, p. 68-72).
DLC: HE7Z5

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress, Reference Department, Washington, 1952, Unclassified.

BESKOV, B.A.; GERONIMUS, B.Ye.; DAVYDOV, V.N.; KREST'YANOV, M.Ye.; MARKVARDT, G.G.; MININ, G.A.; Prinimal uchastiye TAMAZOV, A.I.; VAYNBLAT, E.G., inzh., retsenzent; KRUGLYAKOV, F.Ye., inzh., retsenzent; KUCHMA, K.G., kand. tekhn.nauk, retsenzent; LOMAZOV, D.V., kand. tekhn. nauk, retsenzent; SLUTSKIY, Z.M., inzh., retsenzent; FRADKIN, I.S., inzh., retsenzent; YUSHKOV, P.K., inzh., retsenzent; PERTSOVSKIY, L.M., inzh., red.; USENKO, L.A., tekhn. red.

[Design of electric railroad power supply systems] Proektirovanie sistem energosnabzheniia elektricheskikh zheleznykh dorog. [By] B.A.Beskov i dr. Moskva, Transzheldorizdat, 1963. 470 p. (MIRA 17:2)

PERTSOVSKIY, L. M. (Ministry of Railway Communications)

""Experience of Operating Mercury-Arc Rectifiers on Electric Railroads and Requirements for New Types of Rectifiers." Elektrichestvo, No. 11, 1949.

Abstract W-9395, 10 Apr 1950

PERTSOVSKIY, L.M.

3614. PERTSOVSKIY, L.M. Ustroystvo, Ekspluatatsiya I Remont Tyagovykh Podstantsiy. (Uchebnik Dlya Tekhn. Shkol I Zh-D. Uchilish). M., Transhyeldorizoat, 1954. 468S.5 ill.; 4L. Chyert. 2 ism. 7,000ekz. 8r. 95k. V Pyer.-(54-57358) P 621.331.1

SO: Knizhnaya Letopis', Vol. 3, 1955

FERTSOVSKIY, L. M.

GRUBER, Leonid Osipovich; FERTSOVSKIY, Lazar' Moiseyevich; TROFIMOV, Valentin Ivanovich; LAPIN, V.B., inzhener, redaktor; VERINA, G.P., tekhnicheskiy redaktor

[Design, operation and repair of electric railroad substations] Ustroistvo, ekspluatatsiia i remont tiagovykh podstantsii. Moskva, Gos. transp. zhel-dor. izd-vo, 1954. 466 p. [Microfilm] (MLRA 8:3)
(Electric railroads—Substations)

BARANOV, Abram Moiseyevich, kand.tekhn.nauk; BERNGARD, Konstantin Alekseyevich, doktor, tekhn.nauk; PERTSOVSKIY, L.M., red.; BOBROVA, Ye.N., tekhn.red.

[Organization of train traffic on electric lines; the practice of dispatchers on the Ural-Siberian line] Organizatsiia dvizheniia poezdov na liniiakh s elektrovoznoi tiagoi; opyt dispetcherov dorog Uralo-Sibirskogo napravleniia. Moskva, Gos.transp.zhel-dor. izd-vo, 1957. 74 p. (MIRA 11:2)
(Electric railroads)

PERTSOVSKIY, L.M.

Efficiency of the electrification of single-track lines. Elek. i tepl. tyag. transp. 47 no.8:42-47 Ag '65. (MIRA 18:)

1. Rukovoditel' laboratorii energosnabzheniya otdeleniya elektrifikatsii Vsesoyuznogo nauchno-issledovatel'skogo instituta zheleznodorozhnogo transporta Ministerstva putey soobshcheniya.

PERTSOVSKIY, L.M.

Improve the accounting for fuel and electric power consumption. Zhel. dor. transp. 46 no.1:20-23 Ja '64. (MIRA 17:8)

1. Zamestitel' glavnogo inzhenera Glavnogo upravleniya elektrifikatsii i energeticheskogo khozyaystva Ministerstva putey soobshcheniya.

GRUBER, Leonid Osipovich, inzh.; ZASORIN, Sergey Nikolayevich, kand. tekhn. nauk, dots.; PERTSOVSKIY, Lazar' Moiseyevich, inzh.; AYBASHEVA, T.V., red.

[Electric power plants and traction substations] Elektricheskie stantsii i tiagovye podstantsii. Moskva, Transport, 1964. 423 p. (MIRA 17:12)

GUBER, Leonid Osipovich; PERTSOVSKIY, Lazar' Moiseyevich; TROFIMOV, Valentin Ivanovich; PROKHORSKIY, A.A., inzh., retsenzent; BELYAYEV, I.A., inzh., red.; MEDVEDEVA, M.A., tekhn. red.

[Layout, installation, and use of traction substations] Ustroistvo, montazh i ekspluatatsiia tiagovykh podstantsii. Izd.3., perer. i dop. Moskva, Transzheldorizdat, 1962. 519 p. (MIRA 15:9)
(Electric railroads—Substations)

GUREVICH, B.A.; PERTSOVSKIY, L.M.; PONKRATOV, B.K.

Methodical problems on the determination of future demands of electrified transportation on electric power systems. Obshch. energ. no.4:124-139 '61. (MIRA 14:8)
(Electric power distribution) (Electric railroads--Current supply)

RADCHENKO, V.D., kand.tekhn.nauk; PERTSOVSKIY, L.M., inzh.;
KHATSKELEVICH, M.N., inzh.; KLIMOV, N.N., inzh.; GROMOV, S.A.,
kand.tekhn.nauk

Answering readers' queries. Elek.i tepl.tiaga 5 no.11:43-44 N '61.
(MIRA 14:11)

(Electric locomotives)
(Diesel locomotives)

PERTSOVSKIY, L.M.

Method of electric calculations of a system of supplying power for electric traction. Transp. stroi. 11 no.5:38-39 My '61. (MIRA 14:6)

1. Zamestitel' glavnogo inzhenera TsE Ministerstva putey soobshcheniya. (Electric railroads--Current supply)

PERTSOVSKIY, L.M.

World's largest railroad electrification project. Zhel.-dor. transp. 43 no.9:8-14 S '61. (MIRA 14:8)

1. Zamestitel' glavnogo inzhenera Glavnogo upravleniya elektrifikatsii i energeticheskogo khozyaystva Ministerstva putey soobshcheniya.
(Railroads--Electrification)

BEZUGLYI, Nikolay Fedorovich; PERTSOVSKIY, L.M., inzh., retsenzent; SIDOROV, N.I., inzh., red.; KHITROVA, N.A., tekhn. red.

[Saving of electric power on electrified railroad districts; experience of the workers of the West Siberian Railroad] Ekonomiia elektroenergii na elektrifitsirovannykh uchastkakh; opyt kollektiva Zapadno-Sibirskoi dorogi. Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1961. 42 p. (MIRA 14:10)
(Electric railroads—Current supply)

ZUBCHENKO, V.V.; PERTSOVSKIY, L.M.

Economy in electric power consumption is a most important objective of the state. Zhel.dor.transp. 42 no.5:8-14 My '60. (MIRA 13:8)

1. Nachal'nik otdela Glavnogo upravleniya elektrifikatsii i energeticheskogo khozyaystva Ministerstva putey soobshcheniya (for Zubchenko). 2. Zamestitel' glavnogo inzhenera Glavnogo upravleniya elektrifikatsii i energeticheskogo khozyaystva Ministerstva putey soobshcheniya (for Pertsovskiy).
(Electric railroads) (Railroads--Electric equipment)

PERTSOVSKIY, M.D. (Moscow)

Simplified method for making post crowns of plastic. Stomatologiia 37 no.2:72 Mr-Ap '58. (MIRA 11:5)
(DENTAL PROSTHESIS)

PERTSOVSKIY, M.D.

A case of aphonia. Stomatologiia no.5:50 S-O '55. (MLRA 9:2)

(THROAT--DISEASES) (DENTAL--PROSTHESIS)

PERTSOVSKIY, M.I., inzh.

Using the heat parameter method for calculating the heating of the traction motor windings. Trudy TSNII MPS no.286:52-70 '65. (MIRA 18:8)

PERTSOVSKIY, F. L.

Porous chromiumplating. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1954. 145 p. (50-27540)

TS692.C4.P44

PERTSOVSKIY, M.L., inzh.

Application of the principle of superposition to the testing of machines. Vest. TSNII MPS 22 no.3:13-16 '63.
(MIRA 16:7)

(Electric railway motors—Testing)

PERTSOVSKIY, M.L.; VOLKOVA, E.G.

Effect of cover layers on heat loss reduction from electrolyte surfaces in copper refining. TSvet. met. 33 no.10:31-34 O '60. (MIRA 13:10)

(Copper--Electrometallurgy) (Electrolytes)

BORTNICHUK, N.Ya., inzh.; BRONSHTEYN, A.M., kand.tekhn.nauk; BYSTRITSKIY, Kh.Ya., inzh.; DUBROVSKIY, Z.M., inzh.; KATKOV, B.S., inzh.; KRASKOVSKAYA, S.N., inzh.; OSIPOV, S.I., inzh.; PERTSOVSKIY, M.L., inzh.; RAKOV, V.A., inzh.; REBRIK, B.N., kand.tekhn.nauk; SUYETIN, T.A., kand.fiziko-matem.nauk; KHITROV, P.A., tekhn.red.

[Electric locomotives operating on alternating current with ignitrons] Elektrovozy peremennogo toka s ignitronami. Pod obshchei red. V.A.Rakova. Moskva, Gos.transp.zhel-dor.izd-vo, 1959. 286 p. (MIRA 12:10)

(Electric locomotives)

PERTSOVSKIY, M.L., inzh.; GORIN, N.N., inzh.

Electrode-type antifreeze heater. Elek.i tepl.tiaga no.7:20-21 Jl '60. (MIRA 13:8)
(Electric locomotives--Equipment and supplies)
(Electric current rectifiers--Cooling)

KAMKIN, V.D., PERTSOVSKIY, M.L.

Copper plating of steel in an ammonium electrolyte containing monovalent copper ions. Zhur.prikl.khim. 33 no.5:1215-1217 My '60. (MIRA 13:7)

(Steel) (Copper plating)

PERTSOVSKIY, M. L.

USSR/Metals - Tin, Recovery Dec 51

"Recovery of Tin From Mixed Bronze-Babbit Shavings," I. A. Korobova, Engr, M. L. Pertsovskiy, Cand Tech Sci, Shelyabinsk Polytech Inst

"Litey Proizvod" No 12, pp 6-8

Suggests dissolving of babbit in concd hydrochloric acid and sepn of Sn from soln by cementation with the aid of aluminum. Method permits obtaining separately Sn of 98.5-99.5% purity and bronze of original compn. Disadvantage: about 20% of Sn content in chips is not sepd in pure form but remains chemically combined with Sb and Cu.

203T90

PERTSOVSKIY, M.L.; KAMKIN, V.D.

Using cover liquids on ammonia electrolytes in order to prevent the escape of ammonia gas. Zhur.prikl.khim. 30 no.8:1258-1261 Ag '57. (MIRA 11:1)

1.Kurganskiy sel'skokhozyaystvennyy institut.
(Electrolytes) (Ammonia)

GRUBER, Leonid Osipovich; PERTSOVSKIY, Lezer' Moiseyevich; TROFIMOV, Valentin Ivanovich; PRUDYUS, A.S., inzhener, redaktor; SIDOROV, N.I., inzhener, redaktor; KHITROV, P.A., tekhnicheskiy redaktor

[Installation, operation and repair of electric traction substations] Ustroistvo, ekspluatatsiia i remont tiagovykh podstantsii. Izd.2-oe, dop. i ispr. Moskva, Gos.transp.zhel-dor.izd-vo, 1957. 465 p. (Electric railroads--Substations) (MLRA 10:9)

ZAKHARCHENKO, D.D,dotsent, kandidat tekhnicheskikh nauk; ISAYEV, I.P., dotsent, kandidat tekhnicheskikh nauk; KALININ, V.K.,inzhener; KREST'YANOV, M.Ye.,dotsent, kandidat tekhnicheskikh nauk; LAKSHTOVSKIY, I.A.,dotsent, kandidat tekhnicheskikh nauk; MARKVARDT, K.G.,professor, doktor tekhnicheskikh nauk; MEDEL', V.B., professor, doktor tekhnicheskikh nauk; MIRONOV, K.A.,inzhener; MIKHAYLOV, N.M.,dotsent, kandidat tekhnicheskikh nauk; NAKHODKIN, M.D., dotsent, kandidat tekhnicheskikh nauk; OZEMBLOVSKIY, Ch.S., inzhener; OSIPOV, S.I.,inzhener; ROMASHKOV, S.G.,inzhener; SOKOLOV, L.S.,inzhener; FAMINSKIY, G.V.,kandidat tekhnicheskikh nauk; SHATSILLO, A.A.,inzhener; SHLYAKHTO, P.N.,dotsent, kandidat tekhnicheskikh nauk; BOVE, Ye.G.,kandidat tekhnicheskikh nauk, retsenzent; PERTSOVSKIY, L.N., inzhener, retsenzent; ALEKSEYEV, A.Ye.,professor, doktor tekhnicheskikh nauk, retsenzent; BATALOV, N.M.,inzhener, retsenzent; VINBERG, B.N.,inzhener, retsenzent; GRACHEVA, L.O., kandidat tekhnicheskikh nauk, retsenzent; YEVDOKIMOV, A.M., inzhener, retsenzent; KALININ, S.S.,inzhener, retsenzent; TRAKHTMAN, L.M.,kandidat tekhnicheskikh nauk,retsenzent; PYLENKOV, A.P.,inzhener, retsenzent; GOKHSHTEIN, B.Ya.,kandidat tekhnicheskikh nauk, retsenzent; IL'IN, I.P.,inzhener, retsenzent; NAKHODKIN, M.D.,dotsent, kandidat tekhnicheskikh nauk, retsenzent; TISHCHENKO, A.I.,otvetstvennyy redaktor; BERNSHTEYN, I.I., kandidat tekhnicheskikh nauk, redaktor; ZOROKHOVICH, A.Ye.,dotsent kandidat tekhnicheskikh nauk, redaktor; LUTSENKO, Ye.G.,inzhener, redaktor; ROGOZHIN, A.P.,inzhener, redaktor; SIDOROV, N.I., inzhener, redaktor; VERINA, G.P.,tekhnicheskiy redaktor

(Continued on next card)

ZAKHARCHENKO, D.D.---(continued) Card 2.

[Technical manual for railroad workers] Tekhnicheskii spravochnik zheleznodorozhnika. Red. kollegiia R.G. Granovskii i dr. Moskva, Gos. transp. zhel-dor. izd-vo. Vol. 9.[Electric railroad rolling stock] Elektropodvizhnoi sostav zheleznykh dorog. Otv. red. toma A.I. Tishchenko. 1957. 652 p. (MLRA 10:4)

1. Chlen-korrespondent Akademii nauk SSSR. (for Alekseyev)
(Electric railroads--Rolling stock)

PERTSOVSKIY, Lazar' moiseyevich; PRUSAKOV, Mendel' Borisovich; VISLOUKH, [illegible], inzhener, redaktor; KHITROV, P.A., tekhnicheskiy redaktor

[Manual for traction substation operators] Posobie dezhurnomu taigovoi podstantsii. Moskva, Gos. transp. zhel-dor. izd-vo, 1956. 175 p. (MLRA 9:12)
(Electric railroads--Substations)

PERTSOVSKIY, M. L.

Gal'vanicheskie pokrytiia v motorostroenii. (Vestn. Mash., 1948, no. 5, p. 42-46)

Includes bibliography.

Electroplating in motor construction.

DLC: TN4.V4

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

PERTSOVSKIY, M.N. (Yalta)

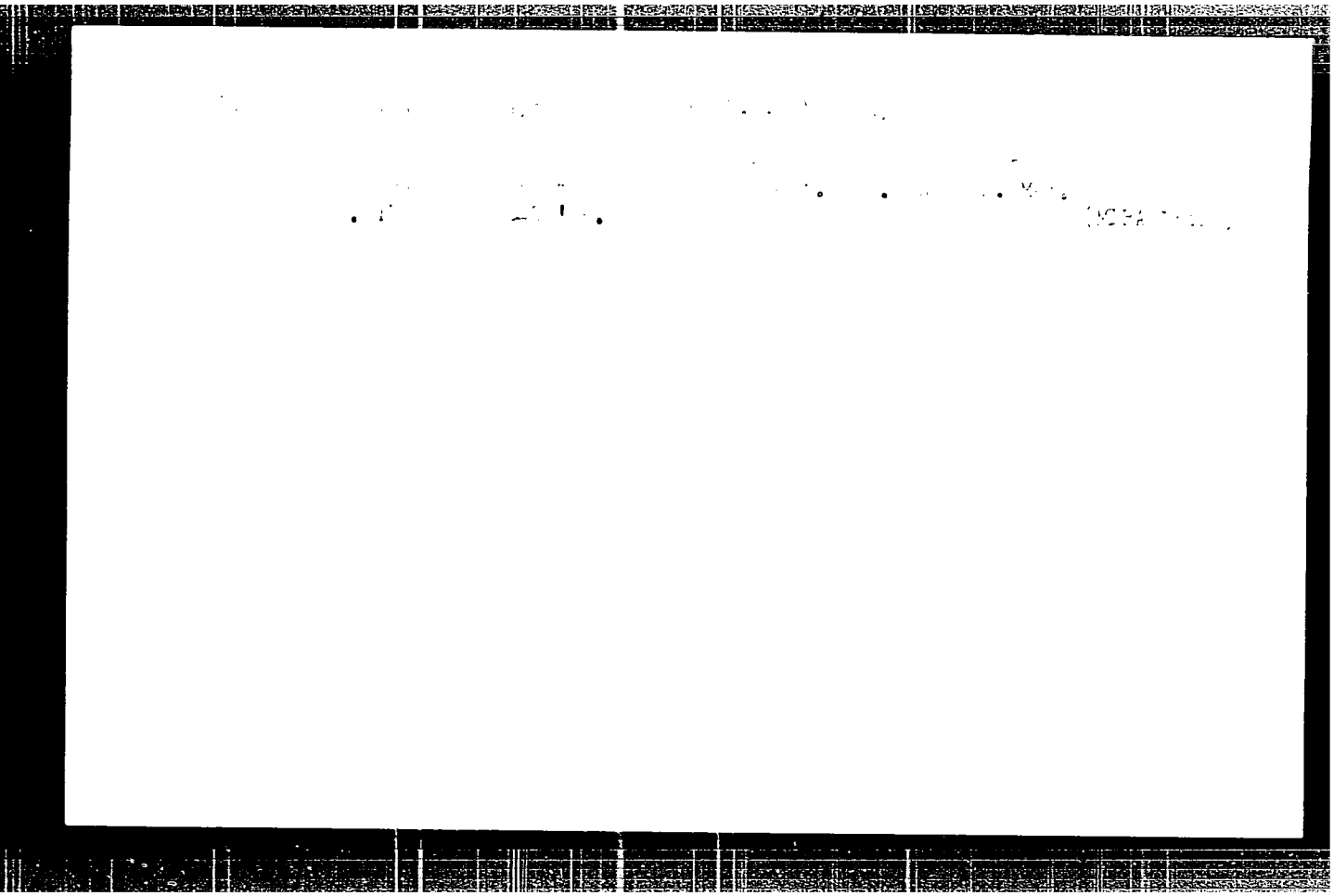
Effect of health resort and climatic treatment on patients with atherosclerotic cardiosclerosis at the southern coast of the Crimea. Vrach. delo no.1:61-64 Ja'64 (MIRA 17:3)

1. Terapevticheskaya klinika (zav. - prof. S.R. Tatevosov) nauchno-issledovatel'skogo instituta imeni Sechenova i sanatoriy Dnepr, Yalta.

LOZINSKIY, M.G.; PERTSOVSKIY, N.Z.

Mechanism of polycrystalline metal failure at high temperatures. Fiz. met. i metalloved. 17 no.6:903-908 Je '64.
(MIRA 17:8)

1. Institut mashinovedeniya Gosudarstvennogo komiteta po mashinostroyeniyu pri Gosplane SSSR.



L 18917-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD

ACCESSION NR: AP3006605 S/0129/63/000/009/0037/0045

AUTHORS: Lozinskiy, M. G.; Pertsovskiy, N. Z.

TITLE: Effect of temperature and tension rate upon the kinetics and mechanism of deformation of ferro-nickel alloy containing 30% Fe

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 9, 1963, 37-45

TOPIC TAGS: steel tension rate, steel, alloy, Fe, Ni, steel deformation, deformation mechanism, ferro-nickel alloy, C, Si, Mn, S, P, peening, IMASh-5S testing machine, iron, nickel, carbon, silicon, manganese, sulfur, phosphorus

ABSTRACT: Authors analyzed the characteristics of an alloy containing 70% Ni and 30% Fe during preheating and tension, and the findings were then compared with the behavior of pure nickel. The tested alloy contained C, Si, Mn, S, P, Ni and Fe in its composition. The alloy was melted down in a

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L 18917-63

ACCESSION NR: AP3006605

3

50-kg induction furnace after which it was peened into 20-mm diameter bars. Test samples were then annealed. Tests were carried out on an IMASh-5S testing machine. Authors established mechanisms for the origination and development of a deformation microrelief in the alloy in the temperature interval 20 - 1000C. Microstructural characteristics were developed which showed the different behavior of this alloy with respect to pure nickel. Authors showed that, at 600-800C, the deformation of the tested alloy changes substantially on account of intensification of the deformation processes on the grain boundaries. Orig. art. has: 5 figures and 1 table.

ASSOCIATION: Institut mashinovedeniya (Machinery Institute)

SUBMITTED: 00 DATE ACQ: 030ct63 ENCL: 00

SUB CODE: ML NO REF SOV: 009 OTHER: 004

Card 2/2

L 54497-65 EWI(m)/EWA(d)/T/EWP(c)/EWP(k)/EWP(z)/EWP(b)/EWA(c) Pf-4/Pad IJP(c)
ACCESSION NR: AP5013121 JD/HW UR/0370/65/000/002/0167/0174
539.4.015/019

AUTHOR: Lozinskiy, M. G.; Pertsovskiy, N. Z.

TITLE: The effect of ausforming conditions on strength properties of nickel at high temperatures

SOURCE: AN SSSR. Izvestiya. Metally, no. 2, 1965, 167-174

TOPIC TAGS: ausforming, thermomechanical treatment, nickel, metallography

ABSTRACT: The wide use of nickel as a base for high temperature alloys led to the investigation of the effects of rolling at temperatures from 400-900°C (then quenching in water) at a rate of 5 m/min to reductions of 2-45%. Material rolled at room temperature and simply annealed material (1100°) were investigated. The most effectual treatments for increase in 100 hr rupture life at 400°C were hot rolling at 500°C and room temperature rolling at reductions of 25-45%. Ductility (reduction in area) for 100 hour rupture life below 20% rolling reduction is substantially lower for these treatments. Lower temperature treatments show better strength properties for both short and long time tests at 400°C, the best results being ob-

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L 54497-65
ACCESSION NR: AP5013121

tained from the material reduced at room temperature. Both 100 hour rupture life (all specimens) and short time ductility curves (room temperature and 500°C treatments) show pronounced minima at reductions of 5-20%. With increasing steps of reduction at all temperatures, optical metallography showed the structure of grain centers to become increasingly complex. Grain boundaries became irregular in an acicular way with deformation at the higher temperatures (700-900°C). This irregularity was also noticed on electron microscope replicas. Orig. art. has: 6 figures, 1 table.

ASSOCIATION: none

SUBMITTED: 14May64 ENCL: 00 SUB CODE: MM

NO REF SOV: 008 OTHER: 002

Card 2/2

L 44718-65 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c)
Pf-4/Pad IJP(c) JD/HW

ACCESSION NR: AR5008934 S/0124/65/000/002/V067/V067

SOURCE: Ref. zh. Mekhanika, Abs. 2V563

AUTHOR: Lozinskiy, M. G.; Pertsovskiy, N. Z.; Ferenets, V. Ya.

TITLE: An evaluation of the significance of various deformation processes in high-temperature elongation of Ni

CITED SOURCE: Sb. Issled. stalevov. M., Nauka, 1964, 358-366

TOPIC TAGS: nickel elongation, high temperature elongation, intragranular slip, plastic flow mechanism, grain boundary embrittlement

TRANSLATION: The authors determined the participation of individual deformation processes occurring on the surface and within the material, after it is stretched at 400-1000C and a deformation rate varying from 0.5 to 800%/hr., in the overall elongation of Ni samples. Flat samples of Ni (~ 99.3%) with an effective cross section of 5 x 2 mm were used in the experiments. The mechanism of plastic flow in nickel, within the studied deformation rate range and in the absence of recrystallization during the tests, was governed mainly by the occurrence of intragranular slip. The development of deformation processes on the surface of

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L 44718-65

ACCESSION NR: AR5008914

3

and within the samples of nickel was apparently related only to some anticipation of the development of recrystallization in the inner layers and to an uneven distribution of the resultant intercrystalline cracks over the metal's volume. It was shown that a rapid embrittlement of grain boundaries during slow stretching at 800C significantly limits the development of intercrystalline deformation processes in nickel. Bibl. with 22 titles. P. Zubarev.

SUB CODE: MM ENCL: 00

mdB.

Card 2/2

L 16449-65 EWT(m)/EWP(w)/EWA(d)/EWP(t)/EWT(b) Pad ESD(t)/AEDC(a)/SSD/AFWL/
AS(mp)-2/ASD(p)-3 JD/HW/JT
ACCESSION NR: AP4042050 S/0126/64/017/006/0903/0908

AUTHOR: Lozinskiy, M. G.; Pertsovskiy, N. Z.

TITLE: The problem of the mechanism of failure of polycrystalline metals at high temperatures

SOURCE: Fizika metallov i metallovedeniye, v. 17, no. 6, 1964, 903-908

TOPIC TAGS: boundary strength, grain strength, polycrystalline metal, Jeffries theory, high temperature, plasticity, brittleness, Ni, Ni Fe alloy

ABSTRACT: The effects of temperature on boundary and grain strength of polycrystalline metals have been widely studied by Jeffries whose views are commonly accepted. The authors came up with results which make a further investigation of Jeffries' proposals necessary. They applied tensile tests in a 10^{-5} mm Hg vacuum at 20, 400, 700 and 1000 C to 99.3% Ni and Ni + 30% Fe specimens. At 20 and 400 C the plasticity of Ni specimens was 72 and 51% respectively. Deformed grains were characteristic of the microstructure. With temperatures at 700 C, plasticity dropped to 15.8% but was restored during further temperature increase of up to 1000 C. Microexaminations showed the predominance of equiaxial grains. Plasticity

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L 16449-65
ACCESSION NR: AP4042010

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was also high in the Ni-Fe specimen with negligible restoration (4.7%) at 1000 C. The authors propose a generalized diagram of changes in the mechanism of failure of polycrystalline metals within a wide range of temperatures. The diagram should be adjusted in accordance with the purity and the nature of the material but otherwise it is applicable to many metals and alloys that exhibit a tendency towards hot brittleness and recrystallization during high-temperature deformation. However, the rate of deformation has to be invariable within a wide temperature interval. Orig. art. has: 4 figures.

ASSOCIATION: Institut machino-vedeniya Goskomiteta po machinostroyeniyu pri Gosplane SSSR (Institute of Machine Construction, State Committee of Machine Construction, State Planning Commission)

SUBMITTED: 20Jul63 ENCL: 01

SUB CODE: MM NO REF SOV: 011 OTHER: 004

Card 2/3

L 16449-65
ACCESSION NR: AP4042050

ENCLOSURE: 01

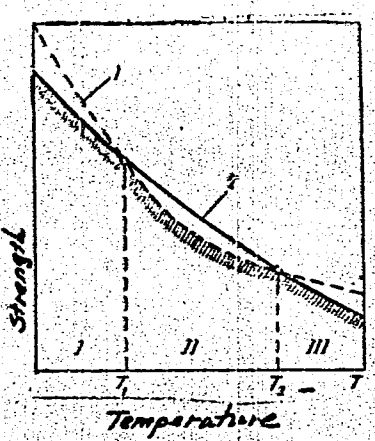

Fig. 4. Diagram of changes in the mechanism of failure of polycrystalline metals during heating (v_{def} = const); (1) intercrystalline strength; (2) intracrystalline strength.

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LOZINSKIY, M.G.; PERTSOVSKIY, N.Z.

Effect of temperature and the rate of tensioning on the kinetics and mechanism of deformation of iron-nickel alloys with 30 o/o Fe. Metalloved. i term. obr. met. no.9:37-45 S '63. (MIRA 16:10)

1. Institut mashinovedeniya AN SSSR.

18.1250
18.8200

67831
SOV/180-59-6-7/31

AUTHOR: Pertsovskiy, N.Z. (Moscow)

TITLE: Characteristic Features of the Kinetics of Deformation and Rupture of a Copper-Nickel Alloy Stressed in Tension at Elevated Temperatures

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1959, Nr 6, pp 43-51 (USSR)

ABSTRACT: Since Cu-Ni alloys, containing about 70% Ni, have been shown to possess best mechanical properties, the 75% Ni - 25% Cu alloy was chosen as the object of the present investigation, the chemical analysis of the actual experimental alloy being: 24.94% Cu, 0.42% Mn, 0.05% Si, 0.1% Fe, traces of C, remainder Ni. The process of deformation and rupture at high temperature was studied by means of low and high temperature metallographic analysis combined with hardness measurements carried out at both room and elevated temperatures, and by determining the effect of time, stress, and temperature on the deformation of the investigated alloy. Fig 1a shows the shape and dimensions (mm) of the test piece, one side of which was prepared by polishing for metallographic examination; in order to

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Characteristic Features of the Kinetics of Deformation and Rupture of a Copper-Nickel Alloy Stressed in Tension at Elevated Temperatures

facilitate focusing of the microscope on one and the same spot on the surface of the specimen, several impressions were made on its polished side with the aid of a micro-hardness diamond pyramid indenter; the location of these impressions is shown in Fig 1б. The two parallel rows of these impressions, 6 mm apart, served as the gauge length for measuring the elongation of the specimen during experiments which were carried out in vacuum, the specimens being heated directly by passage of electric current. All test pieces were subjected to a preliminary annealing treatment (2 hrs at 1100 °C) after which the material consisted of equi-axial, polyhedral grains (average diameter 0.07-0.15 mm) with a large number of twins; the hardness of the annealed alloy was 88-91 kg/mm^2. The results of the first series of experiments are tabulated on p 46 under the following headings: number of the experiment (1 asterisk denotes experiments in which the test piece did not break, and 2 asterisks indicate that the

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fracture occurred outside the gauge length of the test piece); temperature, (t, °C); the initial applied stress ($\sigma_{нач.}$, kg/mm^2); duration of test (τ, hours); elongation measured on 6 mm (ε, %); H'v - hardness, measured in kg/mm^2 at a point 1.5 mm away from the fracture or (in the case of unbroken specimens) in the centre of the hot zone; H"v - hardness, measured at the end of the specimen. It will be seen that the strength of the 75% Ni - 25% Cu alloy remained relatively high up to 600-650 °C; at higher temperatures rupture of the specimens occurred in relatively short time. This decrease in strength at high temperatures is also illustrated by the results of the high temperature hardness measurements, reproduced in Fig 2, where hardness of the investigated alloy (Hv, kg/mm^2) is plotted against temperature (°C). The behaviour of the investigated alloy during deformation at various temperatures is also illustrated by the results of hardness measurements taken in the zone of fracture

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after the completion of the test (see the table on p 46): in specimens tested at 400-600 °C, an increase of hardness due to strain-hardening was observed in the region of fracture; thus, for instance, in the case of specimens tested at 500 °C under σ = 39.5 and 24.6 kg/mm^2, hardness of the alloy in the zone of fracture was 164 and 147 kg/mm^2, respectively, i.e. 60-70% higher than the initial value. (At lower temperatures, a small degree of strain-hardening was observed, also, outside the limits of the "hot" zone). It should be noted here that with the test temperature remaining constant, hardness in the zone of fracture decreased with decreasing magnitude of the applied stress. At temperatures higher than 600 °C, the recovery and crystallization processes took place at such a rate that hardness of the test pieces remained approximately equal to its initial value. Metallographic examination of various test pieces revealed that the manner in which the test piece was ruptured depended on the test temperature.

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The microstructure of the surface of various test pieces in the zone of fracture is illustrated by microphotographs reproduced in Fig 3: a - test temperature t = 500 °C, σ_{max} = 24.6 kg/mm^2 - the photograph shows the region of fracture; б - test conditions as in a, photograph taken at a point 1.5 mm away from the fracture; в - t = 600 °C, σ_{max} = 16.8 kg/mm^2; г - t = 650 °C, σ_{max} = 10.0 kg/mm^2; д - t = 650 °C, σ_{max} = 8.0 kg/mm^2; е - t = 700 °C, σ_{max} = 6.0 kg/mm^2 (photograph taken 1 mm away from the fracture); ж - t = 800 °C, σ_{max} = 3.2 kg/mm^2; з - t = 900 °C, σ_{max} = 2.0 kg/mm^2. At temperatures below 600 °C, rupture was preceded by the formation of a neck and deformation by slip took place (Fig 3a, б, в). At 650-700 °C, necking was hardly noticeable, and the rupture of the test pieces was accompanied by the formation of numerous intercrystalline cracks; isolated zones, where deformation by slip took place, are indicated by arrows in Figs 3г, д, and е. At temperatures above 700 °C, the test pieces failed by

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