SOV/137-58-8-17675

M. Sh.

The Effect of Preliminary Plastic Deformation (cont.)

action of PD on the MT is a function not only of the degree of the PD, but of the plastic-elastic properties of the initial phase as well.

- 1. Chromium-iron-nickel alloys---inalysis
- 2. Hartensite-Transformations
- 3. Martensite-Deformation
- 4. Hartensite-Temperature factors

Card 3/3

SOV/137-58-8-17676

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 211 (USSR)

AUTHORS: Maksimova, O. P., Nikonorova, A. I.

TITLE: On the Incubation Period in Martensite Transformation (Ob

inkubatsionnom periode pri martensitnom prevrashchenii)

PERIODICAL: Sb. tr. In t metalloved, i fiz. metallov Tsentr. n. i. in ta chernoy metallurgii, 1958, Vol 5, pp 56-65

ABSTRACT: The authors describe the process of martensite transforma

tion (MT) by considering it as a phase transition in a single component system. Unlike the usual phase transformations which are characterized by a very slow initial progress during isothermal exposure followed by a gradual increase in rate the transformation rate during isothermal MT is at a maximum initially and decreases subsequently as the time of exposure is increased. However, the process of isothermal MT proceeding at an increasing rate may be observed during phase hardening, as well as in the presence of very small degrees of supercooling. In the alloy N23G3, at a small degree of supercooling isothermal MT is preceded by an incubation period. The phase nard-

Card 1/2 ening of this alloy (with concurrent transformation of 30% of

SOV/137-58-8-17676

On the Incubation Period in Martensite Transformation

austenite) results in a condition in which the incubation period is apparent throughout the entire interval of the MT. The duration of the incubation period is at a minimum when the degree of supercooling corresponds to the maximum rate of progress of the process. An incubation period during the MT became evident in the case of certain other alloys also. During investigations of the Kh17N8 alloy it was established that the time of approach to the isotherm located in the vicinity of the martensite point affects the rate of subsequent isothermal MT. It is assumed that no significant temperature lag exists between the surface and the center of a specimen during its cooling.

1. Martensite-Transformations

M. Sh.

Card 2/2

137-58-6-13268

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 300 (USSR)

AUTHORS: Maksimova, O.P., Golovchiner, Ya.M., Lyubov, B.Ya.,

Nikonorova, A.I.

TITLE: Fundamental Trends in Investigations of the Theory of Mar-

tensite Transformation (Osnovnyye napravleniya issledovaniy

v oblasti teorii martensitnykh prevrashcheniy)

PERIODICAL: Sb. tr. In-t metalloved. i fiz. metallov Tsentr. n.-i. in-ta

chernoy metallurgii, Trans. Amer. Soc. Metals, 1957,

Nr 49, pp 427-444. Discuss. 1958, Vol 5, pp 147-160

ABSTRACT: Fundamental problems of the study of laws governing the

martensite transformation (MT), the effect of various factors on it, and the control of the process of MT, also means and methods for the investigation of MT are formulated. Biblio-

graphy: 80 references.

L.V.

1. Martensite--Analysis 2. Martensite--Theory 3. Metals--Trans-

formations

Card 1/1

AUTHORS: Kurdyumov, G. V., Maksimova, O. P., Nikonorova, A. I.,

Pavlenko, Z. D., and Yampol'skiy, A. H.

Influence of Preliminary Plastic Deformation on the TITLE:

Martensitic Transformation in the Alloy Fe-Cr-Ni (Vliyaniye predvaritel'noy plasticheskoy deformatsii na martensitnoye prevrashcheniye v splave Fe-Cr-Ni)

PERIODICAL: Fizika Metallov i Metallovedeniye, 1958, Vol 6, Nr 1, pp 95-105 (USSR)

ABSTRACT: The results are described of experiments carried out for elucidating the finer features of the influence of plastic deformation and subsequent annealing on the martensite transformation in Fe-Cr-Ni alloys of the type Kh18N8.

The aim was to establish the activating effect of deformation in such an alloy and to verify the validity of the assumption of the activating influence of stresses on the martensitic transformation of deformed austenite. For this it was necessary to study the character of elimination of the after effects of deformation with

gradually increasing annealing temperature; in view of the possible super-position of diffusion processes onto

Card 1/8 the processes of stress elimination during annealing,

SOV/126-6-1-12/33

Influence of Preliminary Plastic Deformation on the Martensitic Transformation in the Alloy Fe-Cr-Ni

such investigations could not be effected on steel, If the assumption on the favourable influence of stresses on the martensitic transformation of deformed austenite would be correct, the effect of activation should be eliminated in the case of heating in the range of relatively low temperatures. Another aim of the described work was to study the influence of deformation on the isothermal martensitic transformation for the purpose of elucidating the characteristic features of the changes in the kinetics caused by the influence of the activating and/or the braking effects of deformation, birce the activating influence of deformation can only be detected in alloys with high elasticity values, it was decided to carry out the experiments on the alloy Kh18N8 (0.03% C, 18.10% Cr, 8.1% N1) and the alloy Kh17N9 (0.05% C, 17.25% Cr, 9.16% Ni), both of which are similar in composition and as regards the martensitic point. On the alloy Kh18N8 the influence of deformation and subsequent heating for obtaining martensitic transformation during cooling was studied, whilst on the Card 2/8 alloy Kh17N9 the influence of deformation on the isothermal

Influence of Preliminary Plastic Deformation on the Martensitic Transformation in the Alloy Fe-Cr-Ni

> martensitic transformation was studied. Investigations were carried out on flat 3.5 x 5.5 x 25.5 mm specimens which after menufacture were subjected to diffusion annealing at 1150°C for ten hours. The plastic deformation was effected by compression by means of a press at room temperature, at 100 and at 175°C. Deformation at 100 and 175°C was effected inside a special sleeve fitted with a heater winding; as a medium for ensuring the temperature of 100°C boiling water was used, whilst deformation at 175°C was effected in glycerine. Evaluation of the change of the ability of the austenite to become transformed into martensite was effected by means of the thermo-magnetic method by plotting the curves of cooling to -196°C and subsequent heating to 20°C with a speed of 10°C/min. As the basic criterion of the with a speed of 10°C/min. As the basic criterion of the stability of the austenite, the total transformation effect was chosen which was obtained as a result of cooling and heating. The change in the fine structure of the austenite during the plastic deformation and during the

Card 3/8 subsequent heating was investigated by the X-ray method

Influence of Preliminary Plastic Deformation on the Martensitic Transformation in the Alloy Fe-Cr-Ni

by measuring the width of the line (311). As a characteristic of the state of the structure of the austenite (Type II stresses, dimensions of the blocks and coherent scattering), the magnitude of physical widening of the (311) austenite lines was chosen. In Fig.1 the transformation of the austenite into martenaita during cooling to -196°C and subsequent heating to +20°C is graphed after various degrees of preliminary plastic deformation at room temperature for the alloy Kh18N8; in Fig.2 the same relation is graphed for the case of deformations taking place at 100°C and at 175°C. In Fig.3 the change of the total effect of martensitic transformation as a function of the degree of preliminary plastic deformation is graphed for various temperatures of preliminary deformation for the alloy Kh18N3. In Fig. 4 the influence of the annealing temperature on the transformation of the deformed austenite during cooling to -196°C and heating to 20°C is graphed for various degrees of deformation at 100°C (alloy Kh18N8). In Fig. 5

Card 4/8 the change of the widening of the line (311) of the

Influence of Preliminary Plastic Deformation on the Martensitic Transformation in the Alloy Fe-Cr-Ni

> austenite, of the total effect of martensitic transformation (during cooling and during heating) and the change of the martensitic point are graphed as functions of the annealing temperature for specimens of the Kh18N8 alloy deformed by 10% at 100°C. In Fig.6 the temperature dependence of the initial speed and the total effect of isothermal martensitic transformation are graphed for non-deformed and deformed (8 and 17%) states for a deformation temperature of 100°C (alloy Kh17N9). It was found that, depending on the conditions of deformation and annealing, plastic deformation can have an activating or a braking effect on the martensilic transformation. Small degrees of deformation activate the transformation, i.e. widen the temperature range of the transformation. bring about an increase of the initial speed of the isothermal transformation and of the total quantity of the martensitic phase. Various changes in the fine crystalline structure of the austenite may lead either to easier formation of martensite nuclei during subsequent

Card 5/8 cooling or may impede their formation. For small degrees

Influence of Preliminary Plastic Deformation on the Martensitic Transformation in the Alloy Fe-Cr-Ni

of plastic deformation those structural changes will occur to an increasing extent which bring about the formation of germinations. However, even at such degrees of deformation changes occur in the austenite which impede transformation. With increasing degree of deformation and also with increasing deformation temperature, the changes in the structure which bring about braking of the transformations increase in The changes in the fine crystalline structure, wich activate the transformation are eliminated at relatively low annealing temperatures at which the width of interference lines does not yet change, i.e. whilst there are still no important changes in the magnitude of the Type II distortions or in the dimensions of the areas of coherent scattering. Changes in the structure braking the formation of germinations are maintained thereby; elimination of these takes place only at higher temperatures corresponding to the region of decrease in the degree of blurring of the lines. It is not possible Card 6/8 as yet to establish those details of the fine structure

Influence of Preliminary Plastic Deformation on the Martensitic Transformation in the Alloy Fe-Cr-Ni

which favour the formation of martensite germinations and those which impede their formation. Comparison of the results relating to the influence of plastic deformation on the martensitic transformation in Fe-Ni-Mn and Fe-Cr-Ni systems leads to the conclusion that the intensity of the deformation caused changes of structural factors depends on the elastic-plastic properties of the austenite. The relation between the changes bringing about activation and braking of the martensitic transformations may differ depending not only on the degree of deformation but also on the elastic-plastic properties of the initial phase. As a result of this an unequal character of the effects of plastic deformation on the martensitic transformation

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Influence of Preliminary Plastic Deformation on the Martensitic Transformation in the Alloy Fe-Cr-Ni

was observed in various materials.
There are 6 figures and 11 references, 9 of which are Soviet. 1 German, 1 English.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii (The Central Research Institute of Ferrous Hetallurg)

SUBMITTED: March 21, 1957

Card 8/8

LESCHER BERNESE

1. Chromium-iron-nickel alloys--Transformations 2. Chromium-iron-nickel alloys--Deformation 3. Chromium-iron-nickel alloys--Heat treatment

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187500

8/180/60/000/02/014/028

E111/E152

AUTHORS:

Zakher, I.M., Maksimova, O.P., Nikonorova, A.I.,

Plemyannikova, I.M., and Yampol'skiy, A.M. (Moscow)

TITLE:

Study of the Austenite Stabilization Effect in Phase

Work Hardening vi

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh

nauk, Metallurgiya i toplivo, 1960, Nr 2, pp 93-103 (USSR)

ABSTRACT: The authors suggest that the important problem of gammaphase stabilization should be considered to include the action of any factor which raises stability without changing the chemical composition of the austenite

(Refs 1-8). One of these is internal work hardening due to the martensite transformation itself (Ref 9), which has been described by Golovchiner and Yu.D. Tyapkin, and by Golovchiner and Landa (Ref 10). In superinvar alloy Maksimova and Golovchiner found a "super-stabilization" effect for austenite with respect to the martensite

transformation in subsequent cooling. In the present work the aim was to find: the influence of various degrees of

Card 1/4

phase work hardening on austenite stability, kinetics of isothermal transformation and the micro- and submicro-

8/180/60/000/02/014/028 E111/E152

Study of the Austenite Stabilization Effect in Phase Work Hardening structure of sustenite; the rules governing the removal of the effects of this phenomenon during subsequent annealing at gradually increasing temperatures; the changes in martensite transformation kinetics produced by phase work hardening in contrast to those produced by a different fort of effect, e.g. plastic deformation or high-energy particle irradiation. Two types of allow were used; Fe-Ni-Mn (N23G3) and Fe-Cr-Ni (Eh17N8); their respective compositions being 0.06, 0.05% C; 23.4 their respective compositions being 0.06. These had been 8.40% N1; 3.30, - Mn; -, 17.34% Cr. studied videly in connection with austenite stability and fine crystal structure (Refs 5-7, 12). The investigation involved thermomagnetic, X-ray, microstructure and microhardness methods. The experimental conditions chosen in the present work are represented in Fig 1. Phase work hardening was produced by cooling to a low temperature followed by heating in a tin bath to the lowest temperature at which the reverse martensite transition is completed; the heating conditions ensured Card that a martensite mechanism governed the alpha to gamma **2/**\

67658

8/180/60/000/02/014/028 E111/E152

Study of the Austenite Stabilization Effect in Phase Work Hardening

Fig 3 gives the influence of degree of transformation. phase work hardening on the martensite transformation on subsequent cooling, while Figs 4 and 5 give for the nickel and the chromium alloys, respectively, isothermal martensite transformation curves for the initial and phase work-hardened states. Figs 6 and 7 give, for the same alloys respectively, the influence of phase work hardening on the starting rate of the isothermal martensite transformation (curves a) and on the overall In Fig 8 the influence of effect of the transformation. annealing temperature on the state of N23G3 subjected to different degrees of phase work hardening is shown, while Fig 9 shows effects for Khi7N8 alloy subjected to a 40% phase work hardening. Figs 10 and 11 show for the two alloys, respectively, microstructures at different stages of stabilization treatment and the nature of the martensite formed in subsequent cooling. showed that for both alloys phase work hardening depresses the "true" martensite point and the temperature range of the transformation, reducing its initial rate; external

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Study of the Austenite Stabilization Effect in Phase Work Hardening work hardening has different effects on the two alloys (Ref 7). The observed changes in kinetics (similar to those produced by stabilizing plastic deformation) can be explained by the relatively high temperature required for the reverse martensite transformation, which makes it impossible to retain those changes in austenite fine structure which favour formation of martensite nuclei. Phase work hardening was found to produce extension of structural faults in adjacent austenite zone, decrease in martensite grain size and, to some extent, relative stability of some austenite zones. In general, the changes produced are very stable (disappearing at 1100-1150 °C); their removal on raising the temperature takes place in a stepwise manner.

There are 11 figures, 1 table and 15 references, of which 14 are Soviet and 1 is English.

SUBMITTED: July 30, 1959

MIKOHOKOVA, A.I. (Moskva)

Electromyographic study of work performed at different tempos within the same range of power. Gig. trude i prof. sab. 6 mi.518-13 My'62. (Mika 1618)

1. Institut gigiyeny truda i professional nykh sabolevaniy AMN SECR. (ELECTROMYOGRAPHY) (STRESS (PHYSIOLOGY))

KHENKIN, M.L., kand. tekhn. nauk; MIKONOROVA. A.I., kand. tekhn. nauk; GLADYSHEV, S.A., insh.; BOLOTOVA, Ye.P., insh.; SOBCLEVA, N.P., insh.

Stainless steel for thin-walled castings. Lit. proisv. no.11:
3-5 N '65. (MIRA 18:12)

ACC NR. ATGOLEULE

SOURCE CODE: UR/0000/65/000/000/0329/0333

AUTHORS: Nikonorova, A. I.; Sizeonov, S. L.; Kerebesove, L. V.; Duboveya, G. V.; Soboleva, N. I.

ORG: none

TITLE: Coefficient of linear expansion of industrial titanium

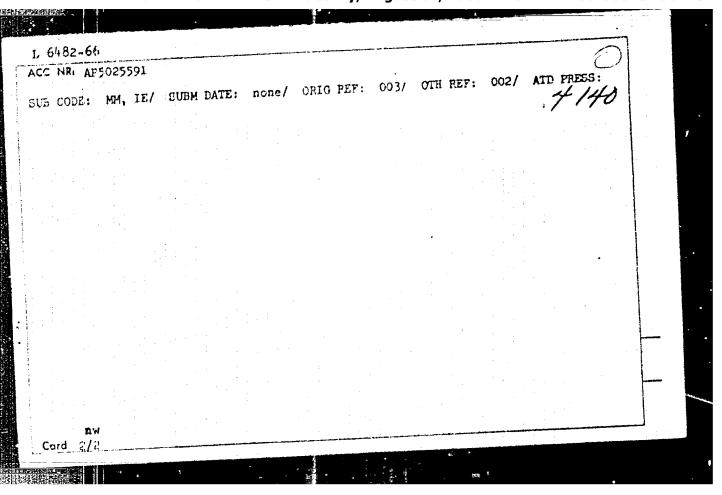
SOURCE: Soveshchaniye po metallokhimii, metallovedeniyu i primeneniyu titana i yego splavov, 6th. Novyye issledovaniya titanovykh splavov (Now research on titanium alloys); trudy soveshchaniya, Koscow, Izd-vo Nauka, 1965, 329-333

TOPIC TAGS: expansion coefficient, titenium alloy, metal property / VTI-1 titanium alloy

ABSTRACT: To determine the cause of the large scatter ( $\triangle \circlearrowleft \div 1.85$ ) of the coefficient of linear expansion of titanium alloys, the expansion coefficient and texture of the corresponding metal were investigated on VTI-1 specimens. The coefficient of linear expansion was measured over the temperature interval of 20-1200 with a dilatometer, while the texture was determined by the x-ray method. The coefficient of linear expansion was significantly affected by the texture, with three types of texture definable with certain values of the expansion coefficient: \[ \int \text{1010} \] small-grained texture corresponded to (9.3--10.3) x 10-0 1/degree; no definable texture corresponded to (8.5--9.2) x 10-0; and \[ \int \text{00017 large-grained} \]

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figures a	and 1 table.	SUEM DATE:		ORIO REF:		oth ref : 003	
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ACC NR. AP5025591 EWF(1)/EWA(c)/ETG(m) SOURCE CODE: UR/0129/65/000/010/0016/0016  AUTHOR: Nikenorova. A. J.; Florensova. F. R.  DEG: Kunnetsk Metallurgical Combine (Kuznetskiy metallurgicheskiy kombinat)  TITLE: Effect of the melting conditions on the quality of rolled Khl7N7Yu steel plates and bars  SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 10, 1965, 16-18  TOPIC TAGS: steel, stainless steel, precipitation hardcoable steel, steel melting, steel rolling, bar rolling/Khl7N7Yu steel  ABSTRACT: In 1960 the Kuznetsk Metallurgical Combine began production of Khl7N7Yu precipitation-hardcoable steel plates 6—15 mm thick and round bars 100-110 mm in diameter. Initially the steel was melted from scrap in a basic arc furnace with the use of oxygen, but the steel was of inferior quality. Therefore, in 1963 the plant changed to the virgin-charge process, using 75 kg nickel, 830 kg carbon steel scrap, 15 kg iron ore, and 21 kg lime per ton. The virgin-charge process yielded metal of much better quality, but tears were eliminated completely, rejects owing to unsatisfactory chemical composition were reduced from 22.7% to 6%, and the ingot consumption was reduced from 3.11 to 2.01 kg per kg of finished product. Slats and billets are conditioned by machining and heated for rolling to 1280-1300C and 1270-1280C, respectively. Heating to a lover temperature produced unsatisfactory results. Orig. art. has: 2 figures.  UDC: 669.18:658.562	Service Servic	
AUTHOR: Nikpnorava. A. I.; Florensova, F. R.  ONG: Kunnetsk Metallurgical Combine (Kuznetskiy metallurgicheskiy kombinat)  TITLE: Effect of the melting conditions on the quality of rolled KhlTN7Yu steel plates and bars  SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 10, 1965, 16-18  TOPIC TAGS: steel, stainless steel, precipitation hardenable steel, steel melting, steel rolling; plate rolling, bar rolling/KhlTN7Yu steel  ABSTRACT: In 1960 the Kuznetsk Metallurgical Combine began production of KhlTN7Yu precipitation-hardenable steel plates 6-45 mm thick and round bars 100-110 mm in diameter. Initially the steel was melted from scrap in a basic arc furnace with the use of oxygen, but the steel was of inferior quality. Therefore, in 1963 the plant changed to the virgin-charge process, using 75 kg nickel, 830 kg carbon steel scrap, 45 kg iron ore, and 21 kg lime per ton. The virgin-charge process yielded metal of much better quality, hot tears were eliminated completely, rejects owing to unsatisfactory chemical composition were reduced from 22.7% to 6%, and the ingot consumption was reduced from 3:11 to 2:01 kg per kg of finished product. Slats and billets are conditioned by machining and heated for rolling to 1280-1300C and 1270-1280C, respectively. Keating to a lower temperature produced unsatisfactory results. Orig. art. has: 2 figures.  UDC: 669.18:658.562	ACC NR. AP5025591 EWF(1)/EWA(c)/HTC(m) SOURCE CODE: UR/0129/65/000/010/0016/0016 .	:
TITLE: Effect of the melting conditions on the quality of rolled Khl7N7Yu steel plates and bars  SOURCE: Ketallovedeniye i termicheskaya obrahotka metallov, no. 10, 1965, 16-18  TOPIC TAGS: steel, stainless steel, precipitation hardenable steel, steel melting, steel rolling; plate rolling, bar rolling/Khl7N7Yu steel  ABSTRACT: In 1960 the Kuznetsk Metallurgical Combine began production of Khl7N7Yu precipitation-hardenable steel plates 6-45 mm thick and round bars 100-110 mm in diameter. Initially the steel was melted from scrap in a basic are furnace with the use of oxygen, but the steel was of inferior quality. Therefore, in 1963 the plant changed to the virgin-charge process, using 75 kg nickel, 830 kg carbon steel scrap, b5 kg iron ore, and 21 kg lime per ton. The virgin-charge process yielded metal of much better quality, hot tears were climinated completely, rejects owing to unsatisfactory chemical composition were reduced from 22.7% to 6%, and the ingot consumption was reduced from 3.11 to 2.01 kg per kg of finished product. Glabs and billets are conditioned by machining and heated for rolling to 1280-1300C and 1270-1280C, respectively. Kenting to a lover temperature produced unsatisfactory results. Orig. [ND]	AUTHOR: Nikpnorova, A. J.; Florensova, F. R.	,
plates and bars  SOUPCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 10, 1965, 16-18  TOPIC TAGS: steel, stainless steel, precipitation bardenable steel, steel melting, steel rolling, bar rolling/Khl7N7Yu steel  APSTRACT: In 1960 the Kuznetsk Metallurgical Combine began production of Khl7N7Yu precipitation-hardenable steel plates 6-45 mm thick and round bars 100-110 mm in diameter. Initially the steel was melted from scrap in a basic arc furnace with the use of oxygen, but the steel was of inferior quality. Therefore, in 1963 the plant changed to the virgin-charge process, using 75 kg nickel, 830 kg carbon steel scrap, 45 kg iron ore, and 21 kg lime per ton. The virgin-charge process yielded metal of much better quality, hot tears were eliminated completely, rejects owing to unsatisfactory chemical composition were reduced from 22.7% to 6%, and the ingot consumption was reduced from 3.11 to 2.01 kg per kg of finished product. Slats and billets are conditioned by machining and heated for rolling to 1280-1300C and 1270-1280C, respectively. Keating to a lower temperature produced unsatisfactory results. Orig.  South 171.  UDC: 669,18:658.562		
TOPIC TAGS: steel, stainless steel, precipitation bardenable steel, steel melting, steel rolling; plate rolling, bar rolling/Khl7N7Yu steel  APSTRACT: In 1960 the Kuznetsk Metallurgical Combine began production of Khl7N7Yu precipitation-hardenable steel plates 6—45 mm thick and round bars 100—110 mm in diameter. Initially the steel was melted from scrap in a basic arc furnace with the use of oxygen, but the steel was of inferior quality. Therefore, in 1963 the plant changed to the virgin-charge process, using 75 kg nickel, 830 kg carbon steel scrap, 45 kg iron ore, and 21 kg lime per ton. The virgin-charge process yielded metal of much better quality, hot tears were eliminated completely, rejects owing to unsatisfactory chemical composition were reduced from 22.7% to 6%, and the ingot consumption was reduced from 3:11 to 2:01 kg per kg of finished product. Slats and billets are conditioned by machining and heated for rolling to 1280—1300C and 1270—1280C, respectively. Keating to a lower temperature produced unsatisfactory results. Orig. art. has: 2 figures.  [ND]  Cord 1/2.	plates and bars	
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spectively. Keating to a lower temperature produced unsatisfactory results. URB.  art. has: 2 figures.  UDC: 669.18:658.562	much better quality, hot tears were eliminated completely, rejects owing to unsatis- factory chemical composition were reduced from 22.7% to 6%, and the ingot consumption	
(70) 1767	spectively. Keating to a lower temperature produced unsatisfactory results. Orig.  art. has: 2 figures.  UDC: 669.18:658.562	
	(10) 1769	



L 26030-66 EWI(m)/EWA(d)/T/ENP(t) IJP(c) JD/HW	
ACC NR: AP\$008863 SOURCE CODE: UR/0128/65/000/011/0003/0005	3
AUTHOR: Khenkin, M. L. (Candidate of technical sciences); Nikonorova, A. I. (Candidate of technical sciences); Gladyshev, S. A. (Engineer); Solotova, Ya. P. (Engineer); Soboleva, N. P. (Engineer)	
ORG: none  Cartaloga attach for thin welled contings	5.
SOURCE: Lithynoye proizvodstvo, no. 11, 1965, 3-5	
TOPIC TAGS: metal casting, martensite steel, copper, corrosion resistance, temperis austenitic steel, steel, stainless steel/ EKhl5NAD3L stainless steel, 35L steel	ng,
ABSTRACT: The steel used for thin-walled and intricate castings of parts of precision machinery and devices must display a high resistance to atmospheric corrosion without requiring a protective coating, a satisfactory fluidity, a high dimensional stability, adequate physico-mechanical properties, and a satisfactory machinability. Of the standard stainless steels not one satisfies the entire set of these requirements austenditic steels have a high corrosion resistance but a low fluidity, while martenaltic-class steels have a low corrosion resistance but an insufficient fluidity.	entr
Hence it is normally necessary to employ for these purposes 35L steel despite the bighly undesirable necessity of coating it electrochemically with zinc. Of the elements	enta
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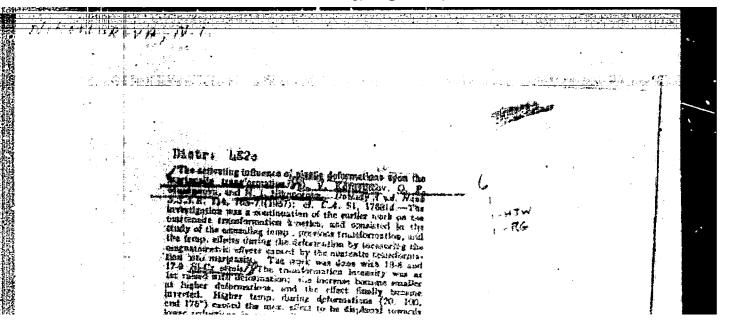
1 26030-66

ACC HR: AP6008863

enhancing the fluidity of stainless steels, Cu is the most effective. In this connection, six melts of the newly developed ØKhlSN/DBL martensitic stainless steel (up to 0.08% C, 0.8% Si, 0.7% Mn, 14.5-17% Cr, 3-4% Ni and 3-4% Cu) were tested for fluidity, as a function of temperature and shape of metal. Tests of various intricate thin-walled (1.5 mm thick) castings confirmed the definitely satisfactory casting properties of this steel -- high fluidity and absence of hot cracking. Since steels used for thin-walled and precision castings also must satisfy high requirements with respect to corrosion resistance in non-coated state, high dimensional stability, and machinability, whese properties were also investigated for fkhi5N4D3L steel as compared with 351 steel. Findings: the dimensional stability of @Khl5N4D3L steel is such that, after its air quenching from 1020°C, 2-hr treatment with cold at -70°C and 2-hr tempering at 600°C, this steel remains stable in time even in the presence of temperature fluctuations of from +150°C to -40°C. Compared with 35L steel, @Kh15H4D3L steel displays superior strength properties (1.5-2 times higher) as well as superior corrosion resistance and superior machinability (30-40% higher). Thus @Kh15N4D3L steel may be accepted as a replacement for 35L steel, which praviously had to be used for this purpose. Orig. art. has: 6 figures, 4 tables.

SUB CODE: 11, 13 / SUBM DATE: none/ ORIG REF: 00

Card 2/2



KOSINSKI, Jane NIKONOROW, Makeym

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Spectrophotometric determination of methyl & -naphthylacetate in potatoes. Chem anal 4 no.5/6:925-937 \*59. (EEAI 9:9)

1. Wojskowe Centralne Laboratorium Sanitarno-Higieniczne, Warszawa

(Spectrophotometry) (Nothylnaphthaleneacetic acid) (Potatoes)

HIKOHOROW, Makeymi CHIERTHIEUSKA, Emilia; KAMINSKI, Alfred

HARRY A STATE

A biological method for the determination of DDT residues on the surface and inside cherry fruits. Acts pol. pharm. 18 no.6:485-491 '61.

1. Z Sakladu Badania Symosci i Przedmiotow Uzytku PZH i Wojskowego Imstytutu Higieny i Epidemiologii w Warszenie. (DOT chem) (FRUIT)

CWIERTHIEWSKA, K., HIKONOROW, M., KOSLINSKA, M., LESKI, R.

Studies on the DDT residues cherry fruit sprayed against the cherry fruit fly (Rhagoletis cerasi L.). Rocs muk roln rosl 86 no.3:533-547 '62.

SZYMOTYK, F., inw.; SZUZZGO: A., prof. dr. Nikedonov, M., prof. dr.; JUST, J., prof. dr.; Morks and achiever ats in public sygteme during the 20-year period of the Polush People's Republic. Rotz panet zakl hig 15 no.4:337-347 164.

RASHERHLEBOV, I.F.; LOTSMANOVA, P.N.; NIKONOV, A.A.; OLOVENIKOV, G.B.;
PESTOV, G.S.; SINELDBOV, M.A.; TREYNIS, A.M.; TULYAKOV, B.V.,
imsh.; USTIMOVICH, B.P.; ROMANOV, A.V., reteensemt; MIRIPONOV,
M.S., red.; SARMATSKAYA, G.I., red.imd-ve; GRECHISHCHEVA, V.I.,
tekhm. red.

[Manual on turpentiming] Spravochmik: podsochka lesa. Pod obshchei red. B.V.Tuliakova. Moskva, Goelesbumisdat, 1962. 334 p.
(HIRA 16:3)

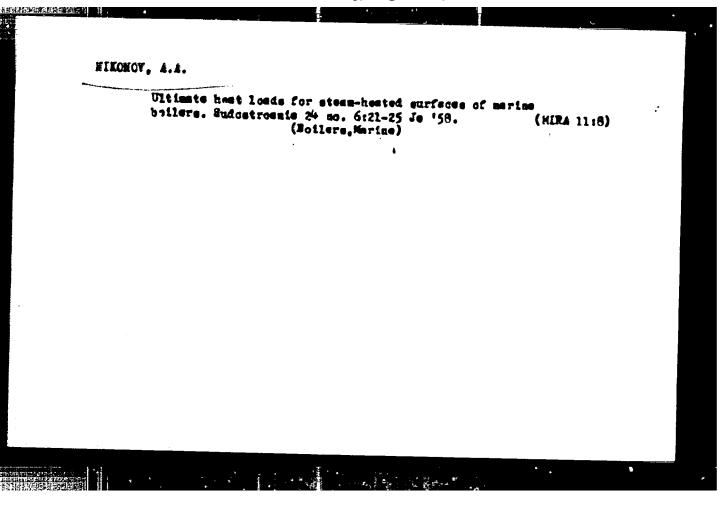
(Turpentiming)

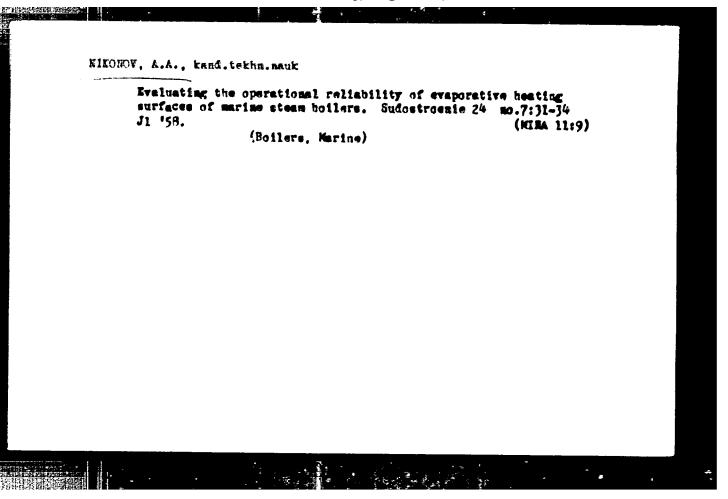
MIRCHOT, Ask:

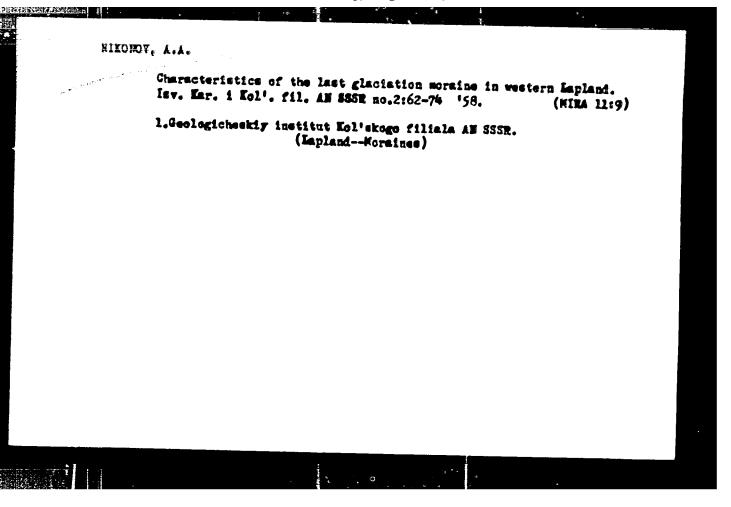
"Specialization and Concentration of Production in the Sovkhozes of Litvian STR";

dissertation for the degree of Candidate of Economic Sciences (awarded by the Timiryasev Agricultural Academy, 1962)

(Investiya Timiryanevskoy Saliskokhonyaystvennoy Akademii, Hosoow, No. 2, 1963, pp. 232-236)







MIEDEDY, A.A.

Merrodialocations in fluvioglacial deposits of the western Kela

Penineula. Isv. Car. 1 Kol'.fil.AB 555R no.3:43-45 ' 58.

(MIMA 11:12)

1. Geologicheskiy institut Kol'singo filiala AB SSSR.

(Kola Penineula—Geology, Structural)

.3(0) sov/20-125-3-43/54 Kikonov, A. A., Cheremisinova, Ye. A. AUTHORS: Recent Data on Late and Postglacial Karine Basins in the TITLE: Peninsula (Novyye dannyye o Western Part of the Kole pozdne- i poslelednikovykh morskikh basseynakh na zapade Kol'skogo poluostrova) Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 3, pp 530-533 PERIODICAL: (USSR) The recent land forms and the formation and distribution of ABSTRACT: peninsula, and likewise in the glacial deposits in the Kela other marginal areas of Fennoscandia, were determined in postglacial time by the combined effects of the shrinking ice cover, the isostatic uplifts, and the fluctuations of the sea level. The multipurpose investigations of the previously very slightly known, western mainland part of the peninsula have clarified several questions which concern the problem mentioned in the title and have supplemented previous data (Refs 1-5). These glacial sediments mentioned in the title are distributed in depressions as bands 1 to 6 km wide, which extend from the west and southwest toward the east and northeast. At present they are Card 1/4

Recent Data on Late and Postglacial Karine Basins SOV/20-123-3-43/54 in the Western Part of the Kola Peninsula

encompassed by the Lotta and Nota Rivers and their tributaries, the Yauri-yoki and Girvas. 3 distinct masses can be recognized: 1. banded clays 2. stratified clays, clayey and sandy soils 3. fine-grained sand and sandy soil. These sediment masses belong to 2 complexes: Portlandiya and Polas. Portlandiya complex: The lithologic composition is described, and a list of the diatom complexes found (Table 1), which are characteristic of the Portlandiya sea, is given. The assemblage contains forms of various ecologies and origins: 1. species of a fresh-water, arctic-alpine nature, which live in the shallow bank zones of northern lakes and rivers. 2. Salt water and marine elements, coastal zone inhabitants. Group 1 is numerically predominant. The Portlandiya sea was almost fresh. Pollen of herbadedus plants and the undershrubs (dwarf birch - Betula nama - 46-75%, heather - Ericaceae - 6 - 7 %) are predominant among the pellen assemblages. Also found were wormed pollen (Artemisia) and pollen from orach (Atriplex). The composition of the spores is varied, \*\* abundant green moss, many ferns (Polypodiaceae) and club-moss plants (Lycopodiaceae). This composition indicates sparsely forested or forestless lands with dwarf birch bushes and a covering of grass and moss in the area. Salt water of the

Card 2/4

Recent Data on Late and Postglacial Marine Basins 50V/20-123-3-43/54 in the Wustern Part . the Kola Peninsula

Portlandiya transgression gradually invaded the glacial waters. However, the salinification did not advance very far into the narrow and long ocean bays. The arrival of melt water from the glacie: also worked against salinfication (Ref 2). Sedimentation eccurred chiefly in bay areas near the shore from erosicn of morains materials and from materials brought by the glacial melt waters. The suspended materials in the glacial waters were deposited in the central parts of the bays. Fresh water diatom species increased after the retreat of the Portlandiya sea. Folas complex: The chiefly fine, gray sand forms narrow (up to 1 km wide) bands in the axial parts of the depressions. Their thickness attains 15-20 m. Table 2 contains a list of the diatom assemblages. Among them are many marine salt-water inhabitants: littoral and upper sublittoral dwellers. The Folas sea was not more than 40-45 m deep. In the western sections, which were farthest from the open sea, the assemblages are composed almost entirely of fresh-water forms. Tree species are predominant among the pollen assemblages (66%),

Card 3/4

Recent Data on Late and Postglacial Marine Basins 50V/20-123-3-45/54 in the Western Part 3 the \*Meder Peninsula

and grasses and undershrubs comprise 22% of the assemblage. The climate was far milder, and fir-birch forests extended. No further transgressions have eccurred in this region. There are 2 tables and 6 references, 4 of which are Soviet.

ASSOCIATION: Geologicheskiy institut Kol'skogo filiala Akademii nauk SSSR

(Geological Institute of the academy of

Sciences, USSR)

PRESENTED: June 28, 1958, by D. V. Nalivkin, Acade

SUBMITTED: June 26, 1958

Card 4/4

MIKOROV, A.A.

reachtair ann a

Features of the structure of eskars and problems in the paleogeography of areas of late glaciation in the southern part of the Fechenga district. Izv. Kar. i Kol' fil. AN SSSR no.1:47-58 '59. (HIRA 12:9)

1. Geologicheekiy institut Kol'ekogo filiala AN SSSR. (Kola Feninsula--- Hekar)

# HIKOMOY. A.A.... New work on problems in Quaternary glaciation. Izv.Kar.i Kol'.fil. AN SEER no.3:154-155 '59. (NIRA 13:4) 1. Geologicheekly institut Kol'skogo filiala AN SSSR. (Olaciere)

3(5) AUTHOR:

Wikonov. A. L.

SOV/20-125-4-50/74

TITLE:

The Restoration of Reotectonics and the Paleogeography of the Late Glacial Period by Means of the Epsirogenic Spectrum in the Continental Part of the Kola Peninsula. (Vosstanovleniye neotektoniki i paleogeografii pozdnelednikov'ya a pomoshchtyu epeyrogenicheskogo spektra v materikovoy chasti Kol'skogo

poluostrow)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 125, Mr 4, pp 866 - 863

(USSR)

ABSTRACT:

The spectrum mentioned in the title reflects objectively the interaction; of the isostatic novements of the earth's crust. of the vanishing glacial envelope, and the postglacial waters. Thus, the paleogeographical milieu can be restored and the rules governing the recent structure of the region clarified (Refs 1-5, 6). The hitherto existing data are completed by the spectrum constructed by the author according to the Lotta (Lottinskaya) depression (Fig 1) for the continental part of the Kola peninsula (Kol'skiy poluostrov). Furthermore, it facilitates a new interpretation of several complicated problems of the postglacial paleogeography of the western part of

Card 1/4

APPROVED FOR RELEASE: Tuesday, August 01, 2000

CIA-RDP86-00513R0011372

The Restoration of Heotectonics and the Paleogeography SOV/2C-125-4-50/7: of the Late Glacial Period by Keans of the Epeirogenic Spectrum in the Continental Part of the Kola Peninsula

the peninsula. The analyses of the Diatomaceae were mostly carried out by Ye. A. Cheremisinova, the spore-pollen analyses on the whole by R. M. Lebedeve. No fauna was found. The comparison of the height and the morphology of the levels as well as the stratigraphy of the sediments of the postglacial waters made possible the synchronization of the levels of the Lotta depression with those of the Tulomo-Notoserskaya depression the dating of which is more precise (Refs 1-3). The total course of the terrace levels which ascend towards the west and form a divergent bundle corresponds completely to the known rule on the highest elevation of the central parts of Fennoscandinavia. The specific property of the spectrum in question is its heterogeneity. It is expressed in the disturbances of an even course of the levels which are accompanied by a simultaneous variation of their morphology and their structure and by the vanishing of the upper level in the west. 4 sections can be separated in the spectrum which correspond to those in the terrain: I - IV. In the Lotte depression disjunctive dislocations of the late and postglacial period were found. Their

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The Restoration of Meotectonics and the Paleogeo- SOV/20-125-4-50/74 graphy of the Late Glacial Period by Means of the Epeirogenic Spectrum in the Continental Part of the Mola Peninsula

elevation at that time took place with a different amplitude. Such dislocations analogously dated by the archaeological method have hitherto been known reliably only for the western part of the Murman coast (Ref 6). During the formation of all these levels i,h,g,F,e,d5, d4 and d5 the waters spread during an isostatic elevation of the terrain over the depression freed from ice as far as to the place where a corresponding level had vanished. Here the waters were stopped by the ice. Terminal moraines and other traces of the activity of the ice lack for this period. The character of the fluvio-glacial formations at the coast of the waters speaks in favor of an ice which was dead at that time. The ice in the depression was apparently reduced mainly in consequence of the influence of heat of the aijacent sea. The discovery of a glacier marginal complex which crosses the depression near the place of the rapid vanishing of the mentioned coast level is in line with the conception concerning the existence of the waters Portlandia-Littorina as well as Pholas. Thus, the opinion concerning the preserved activity of the ice during the late glacial period is disproved. On the

Card 3/4

The Restoration of Neotectonics and the Paleogeography of the Late Glacial Period by Means of the Epeirogenic Spectrum in the Continental Part of the Mola Peninsula

SOV/20-125-4-50/74

strength of the chronology of Tanner (Ref 6) the Portlandia transgression attained its maximum approximately 10,500 years ago. Thus, the elevation velocity of the Lotta depression amounts in the west to 1.4 - 1.5 cm/year, in the east 0.9 - 1.0 cm/year. There are 1 figure, and 6 references, 5 of which are Soviet.

ASSOCIATION: Eol'skiy filial im. S. M. Kirova Akademii nauk SSSR (Kola Branch imeni S. M. Kirov of the Academy of Sciences, USSR)

PRESENTED: November 21, 1958, by D. V. Nalivkin, Academician

SUBMITTED: November 16, 1958

. Card 4/4

ining markana.

SOT/25 1.6-1-10/5" ·3(5) Nikonov. A. A., Lebedeva, R. M. AUTHORS : A Contribution to the History of Late-glacial Landscape: in TITLE: the Continental Part of the Kola Peninsula PERICDICAL: Doklady Akademii mauk SSSR, 1959, Vol 128. hr 1, pp 148 - 151 (USSR) The new material collected in the western continental part of ABSTRACT: the Kola peninsula does not agree with the existing schemes of the late-glacial development of the region. The section of the late-glacial sediments on the bank of the Lotta river 50 km away from the mouth is interesting and instructive in this respect. The section was compiled according to three well comparable out-crops and may serve as directing line. The 4. stance between the out-crops amounts to ju-80 m (Figs 1 ard 2 2 masses may be recognized on the strength of texture-lithele gical characteristics. The lower one shows a gradual deepening of the basin near the glacier removal of the coastal zone of erosion), its stable existence and subsequent flattening with simultaneous loss of the near the glacier character. The upper mass characterized a flat basin with increased supply of sandy Card 1/3

A Contribution to the History of Late-glacial Landscapes SOV/20-128-1 476.

material and undisturbed conditions of its accumulation Tiinvestigation of distens carried out by Ye. A. Cheremisinous firms such a division of the section and completes the chara teristics of the basins and their surrounding conditions as accurate comparison of the pollen spectra determined with the material existing for the Baltic region (Refs 4, 6-11) shorts that the development course of plants and climate of the Borra basin is similar to that of the region investigated in the deposits of the late glacial period of both religious the tration from the tundra flora to a thermophilic wood-tundre illin was found. The good agreement of the course of development of flora and climate allows the following conclusion with delphin to the differences of latitude. The first stage of development can be compared with the Hind historic zone of Luropean 300 ("Allerod"), the second with the Hilrd zone (early briss), and the third with the IVth zone (preboreal era). The found data admit the assumption that the sequence and time of the develop ment of the landscape in the regions extending towards the Barents Sea are very similar to the Baltic ones. This agrees with the concept of Hypppac (Ref 8) and Aarlo (Ref 5) on the

Card 2/3

A Contribution to the History of Late-glacial Landscapes SOV/20-126-1-40/58 in the Continental Part of the Kola Peninsula

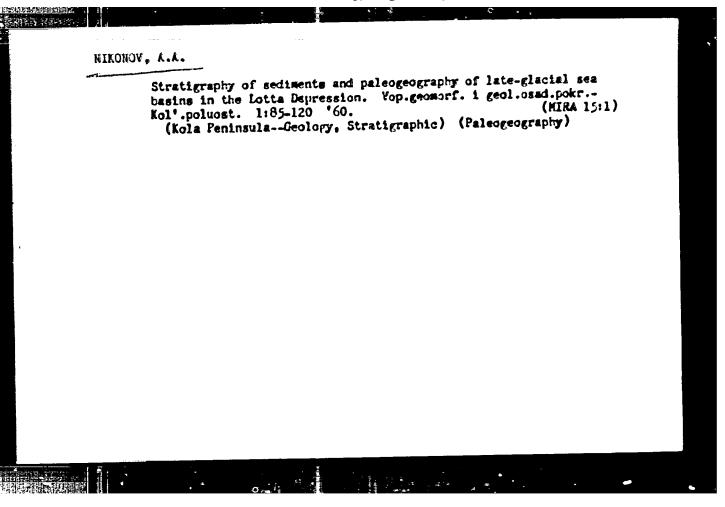
existence of a meridional zonality along the eastern boundary of the Scandinavian ice over and on the similarity of the plant history in North- and South-East Finland during the late glacial time. The occurring differences are connected with the latitude, the earlierdying (in any case before "Allerod") and with the slower recess of the ice cover in the North. There are 2 figures and 11 references, 4 of which are Soviet.

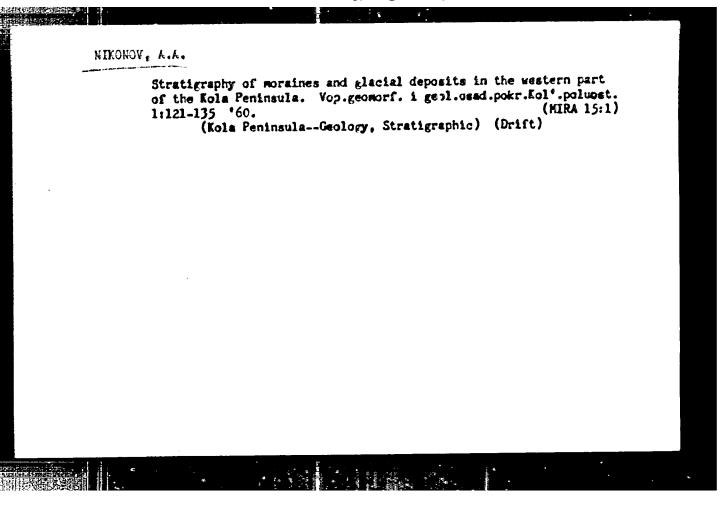
ASSOCIATION: Kol'skiy filial im. S. M. Kirova Akademii nauk SSSR (Kola Branch imeni S. M. Kirov of the Academy of Sciences, USSR)

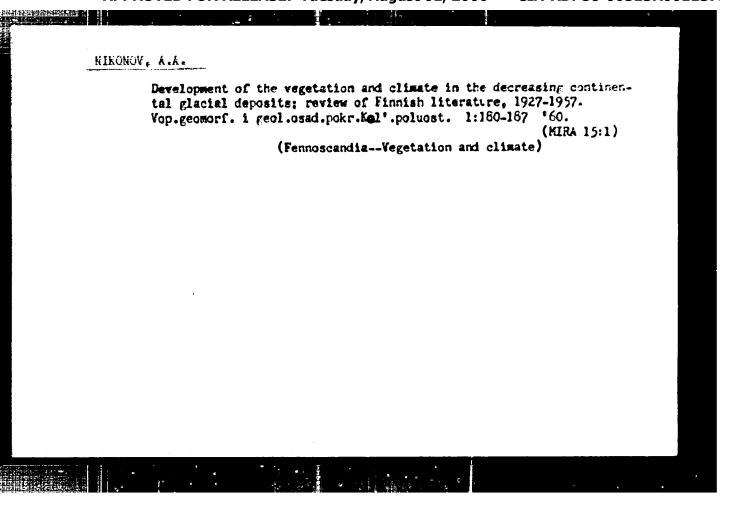
PRESENTED: Kay 12, 1959, by V. N. Sukachev, Academician

SUBMITTED: Kay 12, 1959

Card 3/3







Differences in the approise and energy of the nor Arm all son fronts of the sea advision fee cover. So is Ali S in 137 no.2137 = 336 in 151.

1. Kolaskiy filial tas Sealinova Ali Sant. Fredst vlano and enice D.I. Sacherbakovyn.

(Seandinovia—Theoral open.)

ARMAND, A.D.; ARMAND, N.N.; MIKOMOY, A.A.

Special features of the history of recent glaciation in the northeastern part of Fennoscandia. Izv.AN SSSR.Ser.geog. no.2:55-60 Nr-Ap 163. (MIKA 16:4)

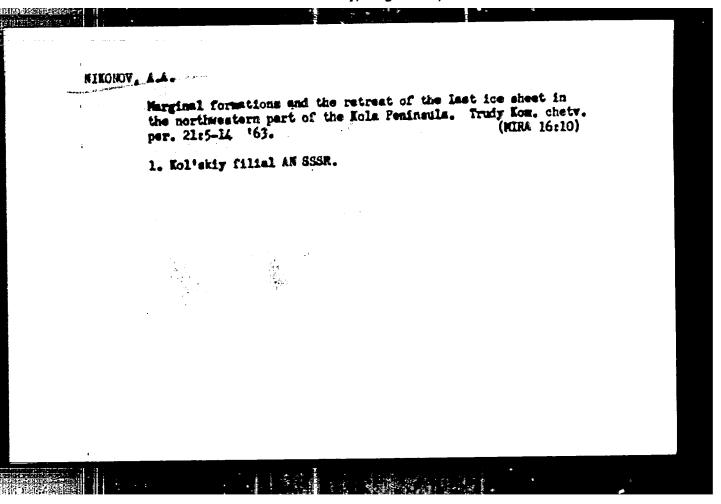
1. Geologicheskiy institut Kol'skogo filiala AN SSSR. (Fennoscandia-Glacial epoch)

### MIKOHOV, A. A.

Dissertation defended at the Institute of Geography for the academic degree of Candidate of Geographical Sciences:

"Regularities in the Formation Quaternary (Anthropogenic) Formations in the West Kola Peninsula (Basin of the Lotta Fiver)."

Vestnik Akad Mauk No. 4, 1963, pp. 119-145



Quaternary stratigraphy in the northern part of the Kola Peninsula. Dokl. AN SSSR 158 no.1:104-107 S-0°64 (MIRA 17:8)

1. Geologicheskiy institut Kol'skogo filiala imeni S.M.Kirova All SSSR. Predstavelno akademikom A.A. Grigor'yavym.

NIKOROV, Andrey Alekseyevich; BISKE, G.S., doktor geogr. nauk,

[Development of the Quaternary relief and paleogeography in the western part of the Kola Peninsula] Razvitie reliefa i paleogeografiia antropogena na zapade Koliskogo poluostrova. Moskva, Nauka, 1964. 181 p. (MIRA 18:3)

ZOHFNSHAYN, L.P.; BEHTEL'S\_USPENSKAYA, I.A.; SAFRONOV, V.S.; NEYMAN, V.B.;

GENDLER, V.Yo.; CHURIKOV, V.S.; YEREMIN, N.I.; KOGAN, B.S.; YAKOVIFVA,

M.N.; LANGE, O.K.; KABANOV, G.K.; KUZNETZOVA, K.I.; SINITSYNA, I.N.;

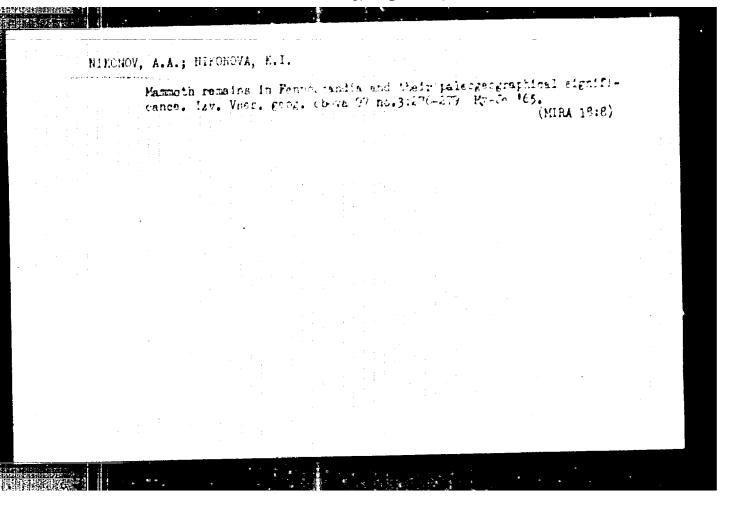
SMIRNOVA, T.N.; VENKATACHALAPATI, V.; MASLAKOVA, N.I.; BELOUSOVA, Z.D.;

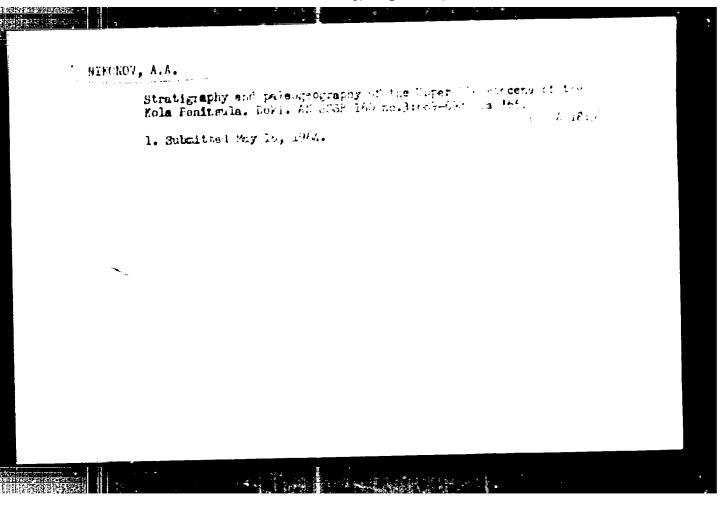
YAKUBOVSKAYA, T.A.; YURINA, A.L.; RYBAKOVA, N.O.; MOROZOVA, V.G.;

BARASH, M.S.; FCWAREV, V.I.; NIKOHOV, A.A.

Activity of the Geological Sections of the Moscow Naturalists\*
Society. Biul. MDIP. Otd. geol. 39 no.6:127-151 N-I 164.

(MIRA 18.3)





# NIKONOV, A.A.

Recent and present tectonic movements of the earth's crust in the Kola Peninsula and adjacent areas. Izv. AN SSSR. Ser. geog. no.6:40-47 N-D '65. (MIRA 18:11)

1. Institut fiziki Zemli AN SSSR.

TYUZHEV, K.I., dotsent; KIRICHENKO, V.I., gornyy insh.; MIKOMOY, A.P., gornyy insh.; CHERNIATEV, V.I., gornyy insh.; SONIE, S.D., prof.; KILYACHKOV, A.P., dotsent; DODKO, I.S., gornyy insh.

Readers' response to A.A. Shamin, A.M. Belenskii and A.Y. Galkin's article "Fillar methods of mining flat dipping seams without undermining the side walls in development workings."

Ugol! Ukr. 6 no.2:36-41 F '62. (MIRA 15:2)

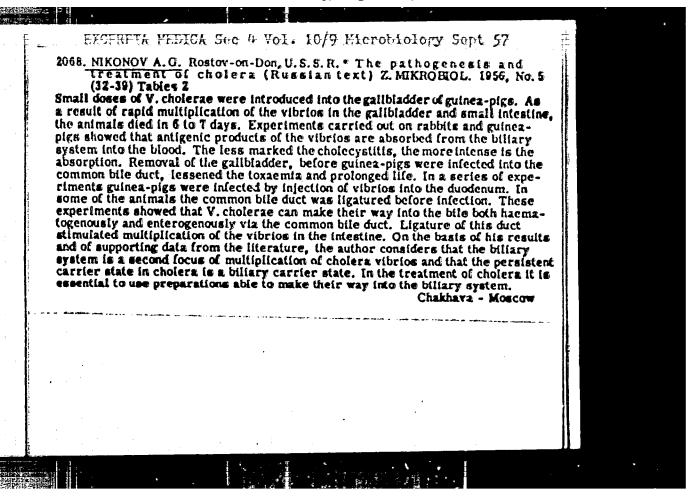
1. Hovocherkasekiy politekhnicheekiy institut (for Tyusnev).
2. Trest Sovetekugol' (for Dudko). 3. Donetskiy nauchnoiseledevatel'skiy ugol'nyy institut (for Kirichenko). 4. Gosudarstvennyy institut po proyektirovaniyu shakhtnogo stroitel'etva kasenmougol'noy promyehlenmosti (for Hikonov). 5. Ukrainskiy filial Vessoyusnogo nauchno-iseledovatel'skogo markshsyderskogo instituta (for Chernyayav). 6. Moskovskiy gormyy institut
(for Sonin, Kilyachev).

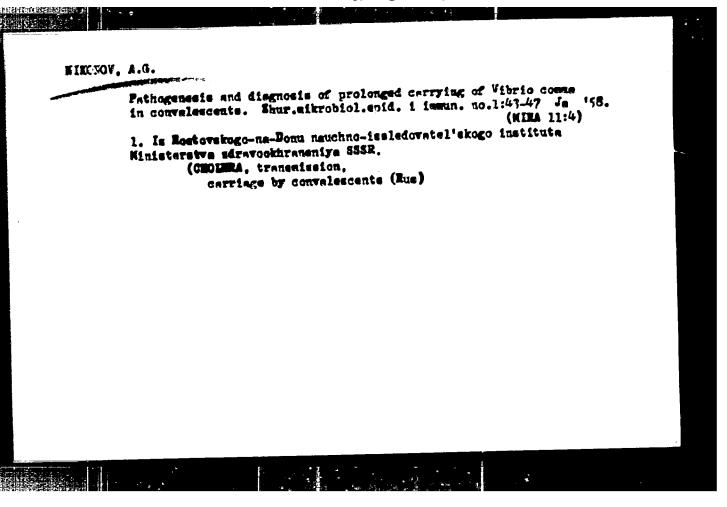
(Goel mines and mining)
(Shamin, A.A.) (Belenskii, A.M.) (Galkin, A.V.)

MIKONOV, A.G.

Pathogenesis and treatment of cholers. Ter.i dokl.konf.irk.gos.
nauch.-issl.protivochum.inst. no.1:29-30 '55. (MIRA 11:3)

1. Maetovskiy gosudarstvennyy nauchno-issledovstel'skiy protivochumnyy institut.
(GHOLERA, ASIATIC)





BIKOEDV, A.G.; TEYSKYEVA, V.I.; BIBIKOVA, P.D.; BIGHUL\*, K.G.

Cultivation of Vibrio comma in the small intestine of guines pige.
Zhur. mikrobiol. epid, i jumn. 29 no.12:51-53 D \*58.\* (MIMA 12:1)

1. Is Restovskogo-na Donu muchno-issledvatel\*skogo protivochumnogo instituta Ministerstva zdravockhraneniya SSSR.

(VIBRIO COMMA, cultures.

an isolated loope of guinea pig small intestine (Rus))

(INTESTINE, SMALL,

cultivation of Vibrio comma in isolated loope of intestine from guinea pigs (Rus))

Chelera becteriophage. Zhur.mikrobiol.epid. 1 imm. 30 me.1:90-96
Ja '50.

1. Is Restevskogo-ms-Domn mauchno-issledovatel'skogo protivochummoge instituta Ministerstva sdravochraneniya ESSZ.

(VIENTO COMMA,

bacteriophage (Res))
(BACTHRIOPHAGE,

ef Vibrio comma (Rus))

PLANKINA, Z.A.; NIKONOV, A.G.; SAYAMOV, R.M.; KOTLYAROVA, R.I.

Control of cholers in Afghanistan. Zhur.mikrobiol., epid.i imun. 32 no.12:20-24 D '61. (MIRA 15:11)

1. Is protivochumykh uchreshdeniy Ministerstva zdravookhreneniya SSSR.

(APCHANISTAN\_CHOLERA, ASIATIC\_PREVENTIVE INOCULATION)

PLANKINA, Z.A.; MIKONOV, A.G.; SAJAMOV, R.M.; KUTLJAHOVA, M.I.

Cholera control in Afghanistan. Cesk. epidem. 11 no.1:65-69 Ja

162.

1. Laborator vysoce virulentnich infekci ministerstva zdravotnictvi SSSR.

(CHOLERA prev. & control)

NIKONOV, A.G. [decessed]; GORITENKO, I.I.; KARNITSKAYA, N.V.; GOL'DEERG,
M.S.; MARROUNKATA, V.D.

Coli-Proteus bacterisphage in experimental conditions in vivo. Report
Mo. 1. Zhur. mikrohiel., spid. 1 immun. 40 no. 8:82-85 ag \*63.
(MIRA 17:9)

1. Is Rostovskogo instituta epidemiologii, mikrobiogii i gigiyeny.

ODING, I.A. [deceased]; NIKENOV, A.G.; MARITANOVEKAYA, T.C.

Effect of tempering on the critical brittleness temperature of oyclically leaded carbon steel. Dokl. AN SIGR 161 no.31577-579
Mr \*65. (MIRA 1814)

1. Institut metallurgii im. A.A.Baykova. 2. Chlen-korrespondent AN SSSR (for Oding).

Mbr., Inst. Metal, im. A. A. Baykov, Dept. Tech, Sci., Acad. Sci., -c1949...

"Interaction of Magnesium" ith Carbon Honozide," Ix. Ak. Nauk SSSR, Otdel. Teckh.

Nauk, No. 10, 1949;

"Sorous Diseases and Passive Ismunity," (bk.), 1949.

FIXOSCY, A. G.

USSR/Hetals - Cadmium

Jan SI

"On the Interaction of Cadmium With Carbon Oxides." D. H. Chizhikov, Corr Kem, Acad Sci USSR, Ye. I. Thazenov, A. G. Mikonov, Inst Metallurgy imeni A. A. Baykov, Acad Sci USSR

"Iz Ak Hauk SSSR, Otdel Tekh Hauk" No 1, pp 68-73

Showed that Gd is not oxidized with G oxides at temp above its bp (7680). Oxidation with GO occurs below 350° and oxidation with GO, is noticeable only near Gd mp (319°). Low rates of oxidation of Zn and Gd with G oxides suggest possibility of fractional condensation of vapors of Zn and Gd from their mixt with GO in obtaining metal by distillation.

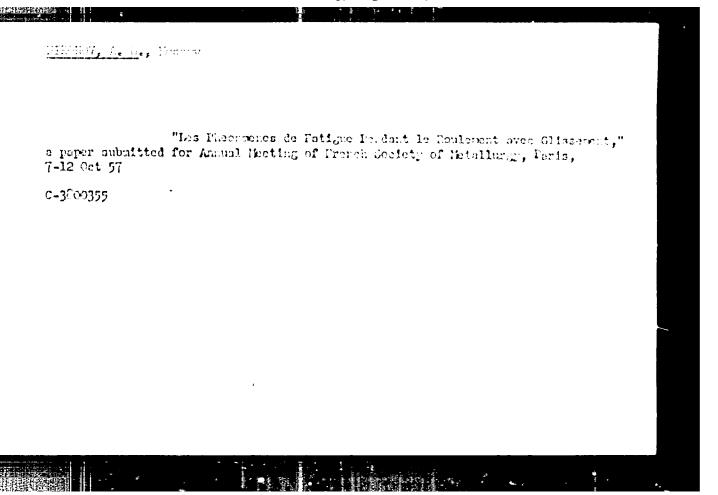
184793

NIKONOV, A.G.

NIKONOV, A. G.: "Investigation of the effect of alloying elements on the quality of senmless rolled reilroad wheels". Hose cow, 1955. Acad Sci USSR. Inst of Metallurgy imeni A. A. Baykow, Acad Sci USSR. (Dissertations for the Degree of Candidate of Technical Sciences)

SO: Knizhneya letopis\*, No. 52, 24 December, 1955. Moscow.

## "APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001137.



SOV/137-57-11-22643

Translation from: Referativnyy zhurnal, Metallurgiva, 1957, Nr 11, p 288 (USSR)

Bardin, I. P., Nikonov, A. G., Pinkhusovich, L. L. AUTHORS:

The Hardenability of Wheel Steel Due to Sliding Friction TITLE:

(Issledovaniye zakalivayemosti kolesnoy stali pri trenii

skol'zheniya)

PERIODICAL: Tr. In-ta metallurgii. AN SSSR, 1957, Nr 1, pp 114-119

A new method is described for testing the resistance of steel against the formation of chipped-out hollows on the rolling ABSTRACT: surface of railway wheels (W) through braking action. The reproduction of the hardened layer (HL) on the surface prior

to the formation of the chipped out hollows was accomplished under laboratory conditions on a special machine in which the specimen (S) of steel tested was fixed in a stationary position while the local heating was accomplished by the friction of a rotating W 1000 mm in diam with the rim machined in the shape of the railhead profile. The hardness on the rolling surface of the W was HB = 300, i.e., equal to the hardness of the rail.

The length of the S tested was equal to the width of the rim of the W, their width was 60 and thickness 40 mm. Swere carefully

Card 1/3

APPROVED FOR RELEASE: Tuesday, August 01, 2000

CIA-RDP86-00513R0011372

SOV/137-57-11-22643

The Hardenability of Wheel Steel Due to Sliding Friction

ground on four sides, washed with gasoline and fitted into the grinding slot of a yoke, which was made of a piece of W rim, and fastened with a wedge. This ensured heat elimination at about the same rate as in the rim of a full-scale W. Thereupon the rail-shaped W was set into rotation and, when the surface of W reached a constant linear speed (60 km/hour), the S was pressed to the W with a force regulated by the safety valve of the hydraulic transmission, and kept in this position for a specified period of time. To decrease the sticking of metal onto the surface of the W during its slipping on the S it was wetted with machine oil. Upon the expiration of the time of holding the specimen under pressure, the valve on the hydraulic transmission was switched over and the S was moved away from the W. The experiments were carried out on S of carbon steel with 0.59% C, holding at a constant pressure of 1250 kg during 3, 5, and 8 sec, and at different loadings (750, 1000, 1250, and 1500 kg) for a constant duration of 5 sec. In addition, S of 7 grades of wheel steel were tested. After the tests the structure was investigated, microhardness was measured over the section of the S, and the HL was analyzed by X-ray diffraction. The evaluation of the resistance of the W against the formation of chipped-out hollows through the braking action was made according to the hardness and the thickness of the HL. Tests were also performed on the formation of HL at low temperature (-60°C) in order to ascertain the effect Card 2/3

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The Hardenability of Wheel Steel Due to Sliding Friction

of the temperature of the S on the thickness and hardness of the HL, and also the tendency towards the formation of cracks without the application of mechanical action. The results of the investigations are adduced and recommendations are made on the manufacture of integrally-rolled W, resistant to the formation of chipped out hollows through braking action.

L. G

Card 3/3

NIKONOV, A.G.

137-58 1-1248

Translation from: Referationyy zhurnal Metallurgiya. 1958, Nr 1, p 168 (USSR)

Guseva, L. N. Nikonov, A. G. AUTHORA:

Use of X-ray Structural Analysis for Investigation of Harden-TITLE:

ability of Wheel Steel in Sliding Friction (Primeneniye rentgenostrukturnogo analiza dlya issledovaniya zakalivayemosti

kolesnoy stali pri trenii skolizheniya)

PERIODICAL: Tr. In-ta metaliurgii, AN SSSR.1957 Nr 1. pp 120-123

One of the most common defects on the contact surface of ABSTRACT: railroad wheels is the flat spot due to braking action. The form-

ation of flat spots is the result of excessive heating at the point of contact between the wheel and the rail when moving with brakes locked, the heating being followed by subsequent rapid escape of heat within the rim. In the heating zone, a hard and brittle work-hardened crust up to 3 mm in thickness, that is discolored as the wheel continues in use, comes into being. In order to reproduce the hardened laver forming at the surface of a wheel under sliding friction for purposes of laboratory repre-

duction and investigation a special machine was designed. Determination of hardenability under various conditions of heat

Card 1/2

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137-58-1-1246

Use of X-ray Structural Analysis (cont.)

treatment was performed by evaluating the shift of line (011) or comparing the width of x-ray lines (110) - (011) of the test specimens of carbon and wheel steel against the width of the lines of standard specimens (S) of carbon steel hardened to martensite, and by measuring the microhardness of the surface of the S. It was found that in the S of wheel steel of the various chemical compositions investigated, and in the area of the flat spots due to braking, products of austenite transformation are present due to rapid cooling at close to the critical rate. The tendency of the steel of the grades investigated to harden under conditions of sliding friction varies and may be determined by the width of the interference lines (110) - (011). The S revealing the greatest hardness also presented the greatest expansion of the lines (011). The width of the x-ray lines obtained in the S of wheel steel investigated and S from zones with flat spots due to braking on an operational wheel were greater than the width of lines of hardened standard S, which is due to the change in the structure of the crystal lattice arising out of the special conditions of hardening.

1. Stock-Structural energies 2, X-ray-Applications 3, Stock-Heat trentment

Card 2/2

NIKOPOV

AUTHOR:

Serencen, S. V., Member of the AS, Tkrainian

50-1-25/37

3SE

TITLE:

A Meeting of the French Society of Metallurgists (Sessiya Frantsuzskogo obshchestva metallurgov)

PERIODICAL:

Vestnik AN SSSR, 1958, Vol. 20, Mr 1, pp. 107-108 (USSR)

ABSTRACT:

The meeting took place in Paris from October 7 - 11, 1957. Problems of material fatigue were discussed, with French, English, Italian, Russian, American and Swedish scientists taking part. The processes in fatigued steel were determined by means of measurements of the magnetic resistance. Problems of fatigue with increased ichoeratures were discussed. Experiments with motor elements, auto--chassis and riveted airplane constructions were discussed. The Soviet scientists reported on fatigue problems:

S. V. Serensen (Fatigue of Cast Iron in Connection with the Character of State of Stress and Structure),

G. V. Uzhik (On the Influence of the Concentration of Tensional Stress on Fatigue),

(On the Fatigue Phenomena in Rolling with A. G. Nikonov

→ Sliding).

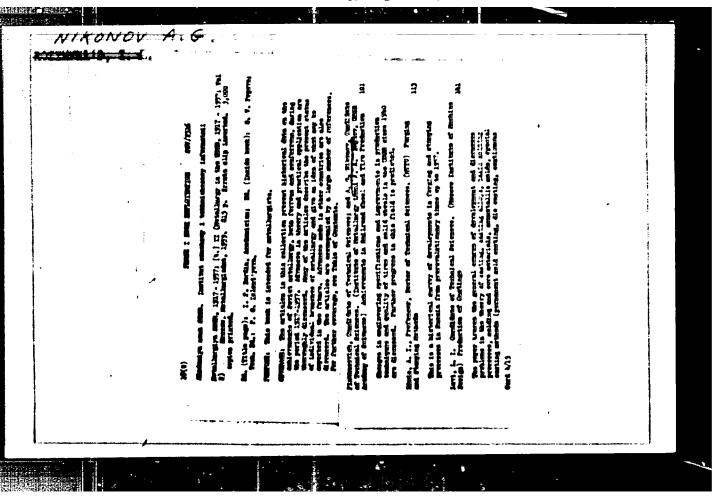
Card 1/2

(On the Structure Theory of Creeping). I. A. Oding

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A Meeting of t	the Prench Society of Retallurgists	5-1-25/39
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	1. Metallurgy-France	
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Card 2/2		



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CIA-RDP86-00513R0011372

HIKONOV, A.G.; PINKHUSOVICH, L.L.

Wheel bandage wear. Trudy Inst. met. no.4:250-253 '60.
(KIRA 14:5)
(Gar wheels—Testing)
(Weehanieal wear)

S/;48/60/000/010/012/018 A161/4030

: ESOHTUA

Pinkhusovich, L.L.; Nikonov, A.G.

TITLE:

The Effect of the Quenching Method on Wear Resistance and on the

Fatigue Crumbling of Rolled Seamless Wheels

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, 1960,

No. 10, pp. 126 - 131

TEXT: Rolled RR wheels are quenched in the USSR in a horizontal position by water jets directed on the rolling surface from tangentially placed pipes. This method has been compared with the U.S. method of quenching wheels in vertical position by rotation with a wheel rim portion submerged in water (Refs. 5 - 8). The test wheels were of standard steel with 0.53% C; 0.69% Mn; 0.27% S1; 0.029% P and 0.02% S. The hardness and the mechanical properties of wheels hardened by the U.S. method were better, they had pearlitic structure through the work portion and higher wear resistance in comparative tests on a IA Ameler test machine. In fatigue crumbling tests on the same Ameler machine, specimens taken at 12 and 30 mm distance from the surface of the wheels treated the U.S. way withstood 690,000 and 875,000 cycles, compared with 630,000 and 660,000 cycles withstood by

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3/148/60/000/010/012/018 A161/A030

The Effect of the Quenching Method on Wear Resistance and the Fatigue Crumbling of Rolled Seamless Wheels

specimens from same spots treated in the Soviet-way. The higher crumbling resistance is explained by the different metal structure having a higher resistance to cracks formation. The conclusion was made that wheels quenched in a vertical position by periodical submersion of a portion of the rim into a running water will have higher resistance to wear and fatigue crumbling. There are 5 figures, 2 tables and 8 references: 5 Soviet and 3 English.

ASSOCIATION: Institut metallurgii im. A.A. Baykova AN SSSR (Institute of Metallurgy im. A.A. Baykov of the Academy of Sciences USSR)

SURMITTED: November 26, 1959

Card 2/2

NIKONOY, A.G.; KLKEANOY, G.R.

Heasuring surface temperatures during sliding friction. Ixv. vys.
ucheb. sav.; chern. met. no.2:122-126 '61. (KIRA 14:11)

1. Institut metallurgii im. A.A.Baykova.
(Surfaces (Technology)--Testing)
(Gar wheels--Testing)

HIKONOV, A.G.1 PINKHUSOVICH, L.L.

Investigating trial batches of low-alloy wheel-grade steel. Trudy
Inst. met. no.11:90-98 '62. (MIRA 16:5)

(Chromium-vanadium steel—Testing)

S/020/62/145/006/015/024 B164/B101

AUTHORS:

Oding, I. A., Corresponding Kember AS USSR, Mikonov, A. G.,

and Mar'yanovskaya, T. S.

TITLE

Effect of cyclical loading on the cold-brittleness threshold

in carbon steel

PERIODICAL:

Akademiya nauk SSSR. Doklady, v. 143, no. 6, 1962,

1332-1335

TEXT: The effect of the duration of cyclical loads on the critical temperature for failure of carbon steel containing 0.6% of C and 0.6% of Kn was examined. This critical point was determined from the change of Kn was examined. This critical point was determined from the change of in impact strength that occurred within the temperature range -60 to in impact strength that occurred within the temperature for failure and +60°C. Round specimens were subjected to fatigue by cyclical loading and then to Charpy impact tests. The critical temperature for failure steedily increases with the duration of loading, from -50°C initially to -20°C increases with the duration of loading, from -50°C initially to -20°C after 50·10° cycles, and to +50°C after 60·10° cycles. Examination of the fractures of the specimens showed no Card 1/2

S/020/62/145/006/015/024 B164/B101

Effect of cyclical loading on the ...

macroscopic cracks after relatively short durations of loading (30-60·10<sup>5</sup> cycles), but cracks of considerable size were noted after 150·10<sup>5</sup> cycles. These, however, do not affect the position of the coldbrittleness threshold. An explanation of the increased emtrittlement may be sought in the theory of dislocations, it being supposed that the loading produces stresses in the steel, which cause dislocations; these accumulate at obstacles so that heavy local stresses arise, which lead to fracture. There are 4 figures.

ASSOCIATION: Institut metallurgii im. A. A. Baykova (Institute of

Metallurgy imeni A. A. Baykov)

SUBMITTED: December 29, 1961

Card 2/2

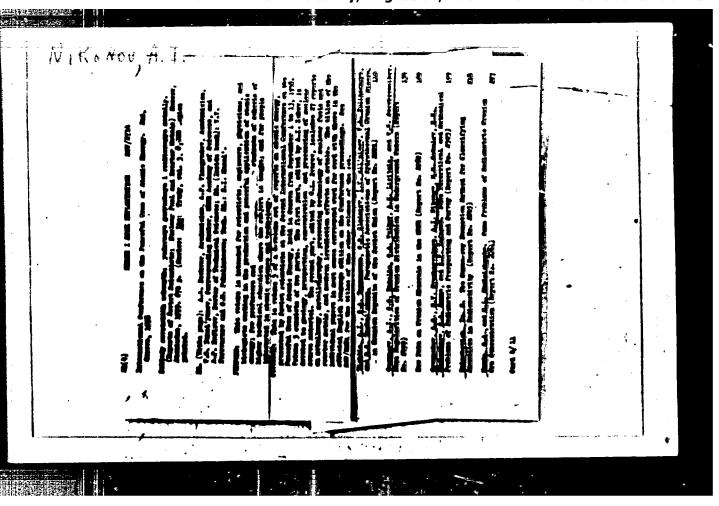
THE CHARLES AND THE SHAPE

ODING, I.A. (Moskva) [deceased]; NIKONOV, A.G. (Moskva); MARTANOVSKATA, T.S. (Moskva)

Changes of rail metal properties in service conditions. Isv. AN SSSR. Net. 1 ger. delo no.5:101-107 E-0 '64. (HIRA 18:1)

PRIDANTSEV, M.V.; KAZARNOVSKIY, D.S.; DANILOV, V.N.; VEKSER, N.A.;
NIKONOV, A.G.; BIKOV, N.F.

Inothermal treatment of rails. Stal' 25 no.4:358-361 Ap '65.
(MIRA 18:11)



APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0011372

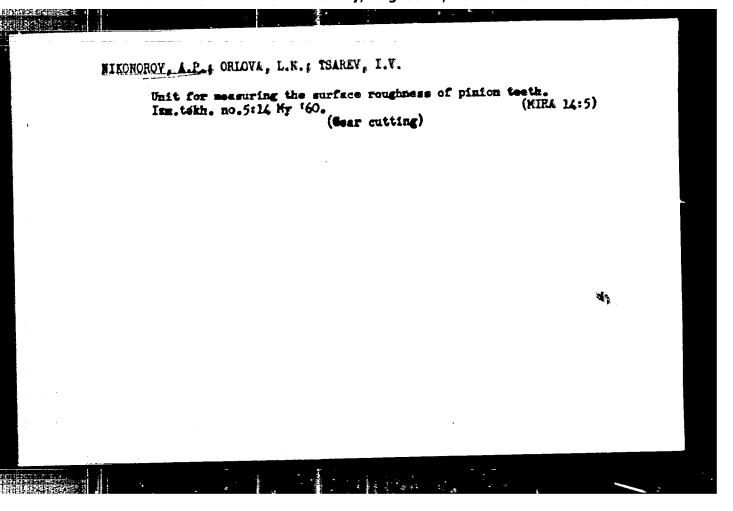
SKARZHINSKAYA, T.A. [Skarzhyns'ka, T.O.]; NIEOROV, A.I.

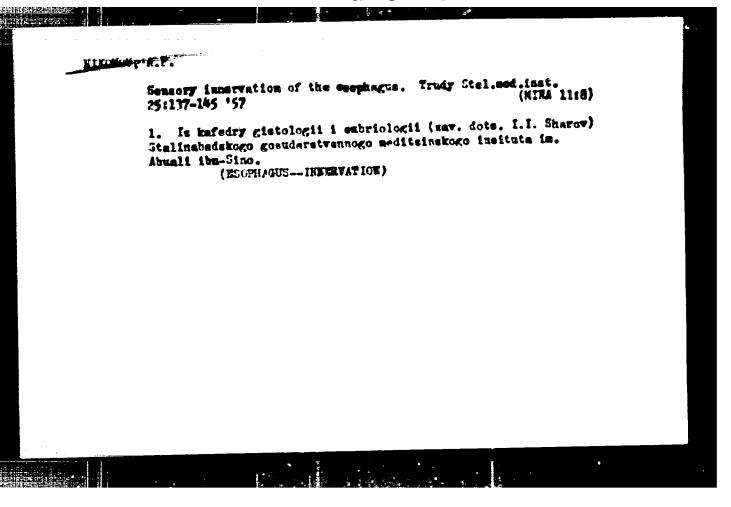
Division of a lower member of the tuffaceous-sedimentary and effusive rocks of the Belozerka iron-ore region. Geol. zhur. (MIRA 18:2)

1. Institut geologicheskikh nauk AN UkrSSR i Dnepropetrovskaya ekspeditsiya Ukrainskogo nauchno-issledovatel skogo gornorudnogo instituta.

Improving the work of track machinery stations. Fut' i put. shoz.
9 no.10:22-23 '65. (MIRA 18:10)

1. Machal'nik putsvoy mashinnoy stantsii No.47, stantsiya
Orenburg, Tushno-Ural'skoy dorogi (for Korolev). 2. Glavnyy
mekhanik putsvoy mashinnoy stantsii No.47, stantsiya Orenburg,
Tushno-Ural'skoy dorogi (for Nikonov).





NIKONOV. A.R. (Tadahikakaya SSR. g.Stalinabad, ul. Lenina, d.138, kv.21)

Sensory innervation of intramural serve ganglia of the ecophagus in dogs. Arkh. anat. gist. i cubr. 36 no.5:96-98 ky '59. (NIRA 12:7)

1. Kafedra gistologii i cubriologii (nav. - dotsent I.I. Sharov)
Stalinabadakogo mediteinakogo instituta ineni Aviteenny.

(MOPTARIE, innerv.

intramural nerve ganglia, sensory innerv. in dogs (Bus))

115 F 61.

KRAYKY, A.V.; HIKOHOY, A.P.; RASSOKHIHA, L.I.; ETINGEN, L.Ye. First conference of anatomists, histologists, and embryologists of Central Asia and Kasakhstan. Arkh. anat. gist. i embr. 40 no.2:111-115 F '61. (MIRA 14:5)

(HISTOLOGY\_CONGRESSES)