IVANOV, A.G., inzh.; POLETAYEV, A.V., inzh.

Study of aerodynamics and combustion of anthracite culm in a furnace with counter-parallel flow. Teploenergetika 10 no.6:29-33 Je '63. (MIRA 16:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy teplotekhnicheskiy institut.
(Furnaces) (Boilers) (Combustion)

MIRONOV, S.N., kand. tekhn. nauk; YUDAYEV, V.G., inzh.; IVANOV, A.G., inzh.

Study of the aerodynamics of furnaces with angularly placed burners and its relationship with the combustion process of ground anthracite culm. Teploenergetika 11 no.4:15-20 Ap '64. (MIRA 17:6)

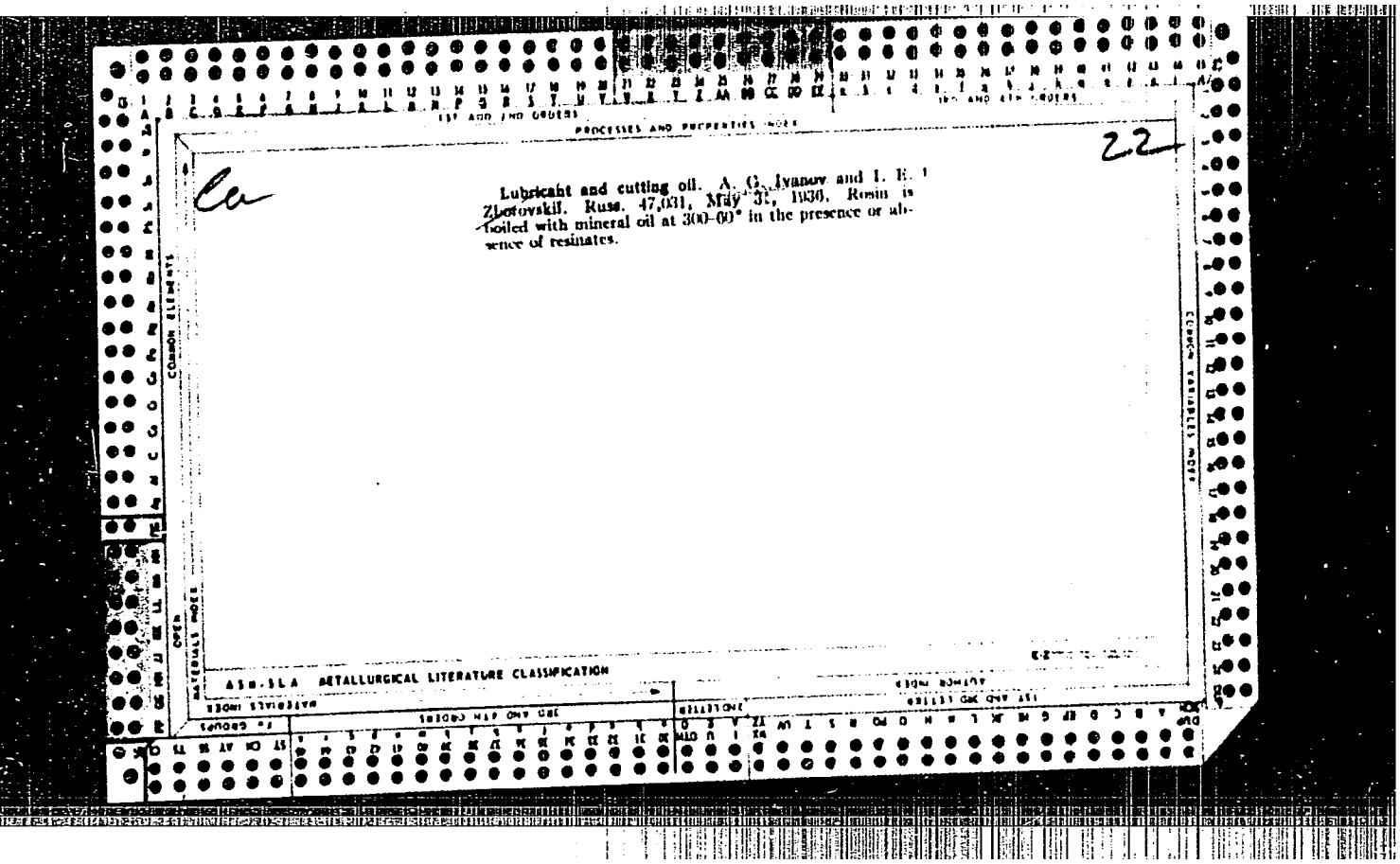
1. Vsesoyuznyy teplotekhnicheskiy institut.

IVANOV, A.G., inzh.; OKERBLOM, Yu.I., inzh.; USHAKOV, S.G., inzh.; GROMOV, G.V., inzh.

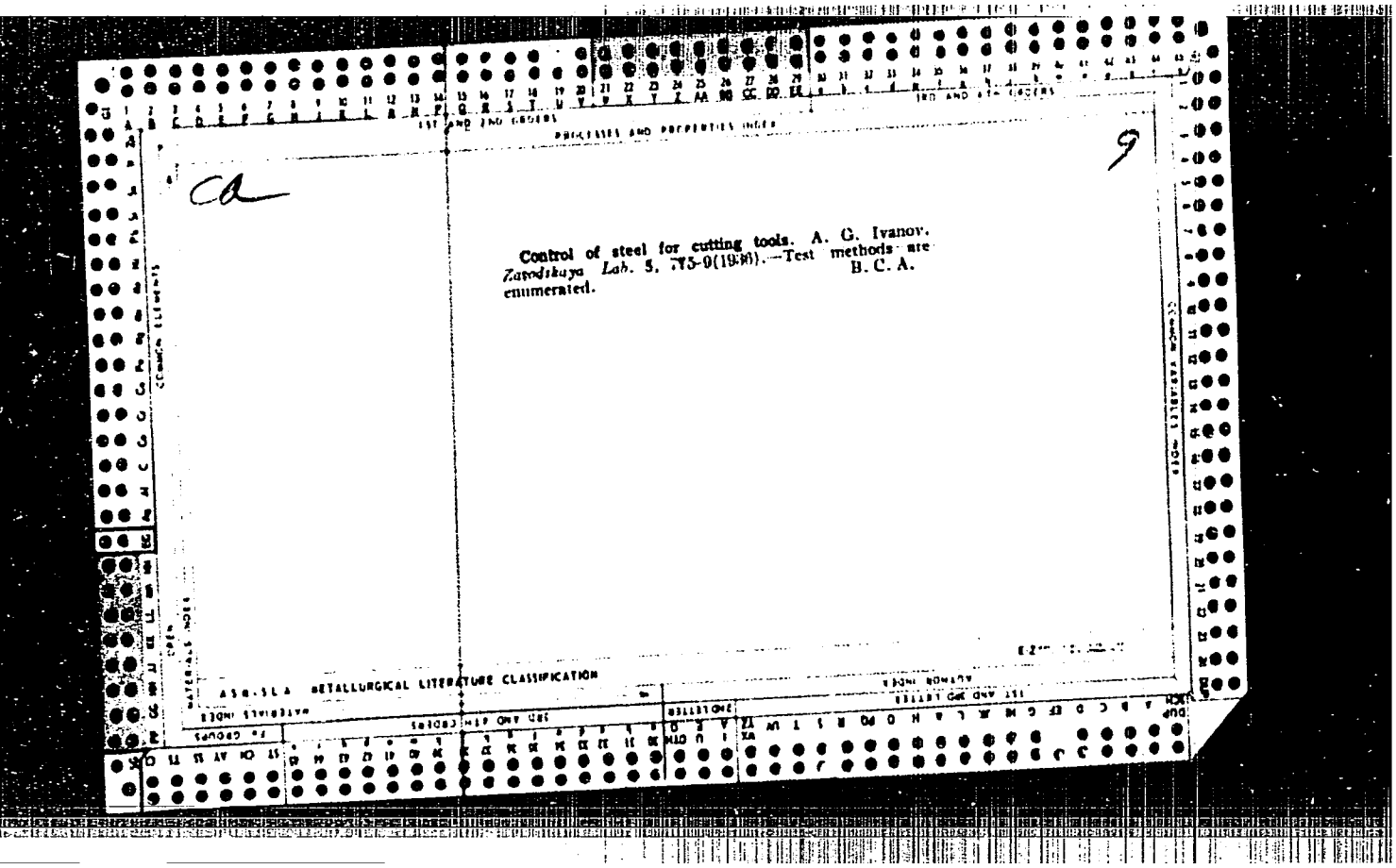
Results of the studies of a turbulent ZIO burner with a radial twisting apparatus and regulated twist of the flow. Energomashinostroenie 9 no.9:8-11 S '63. (MIRA 16:10)

IVANOV, A.G., inzh.; OSLOPOV, O.I., inzh.; RUTENBERG, B.G.; GRACHEV, Yu.B., inzh.

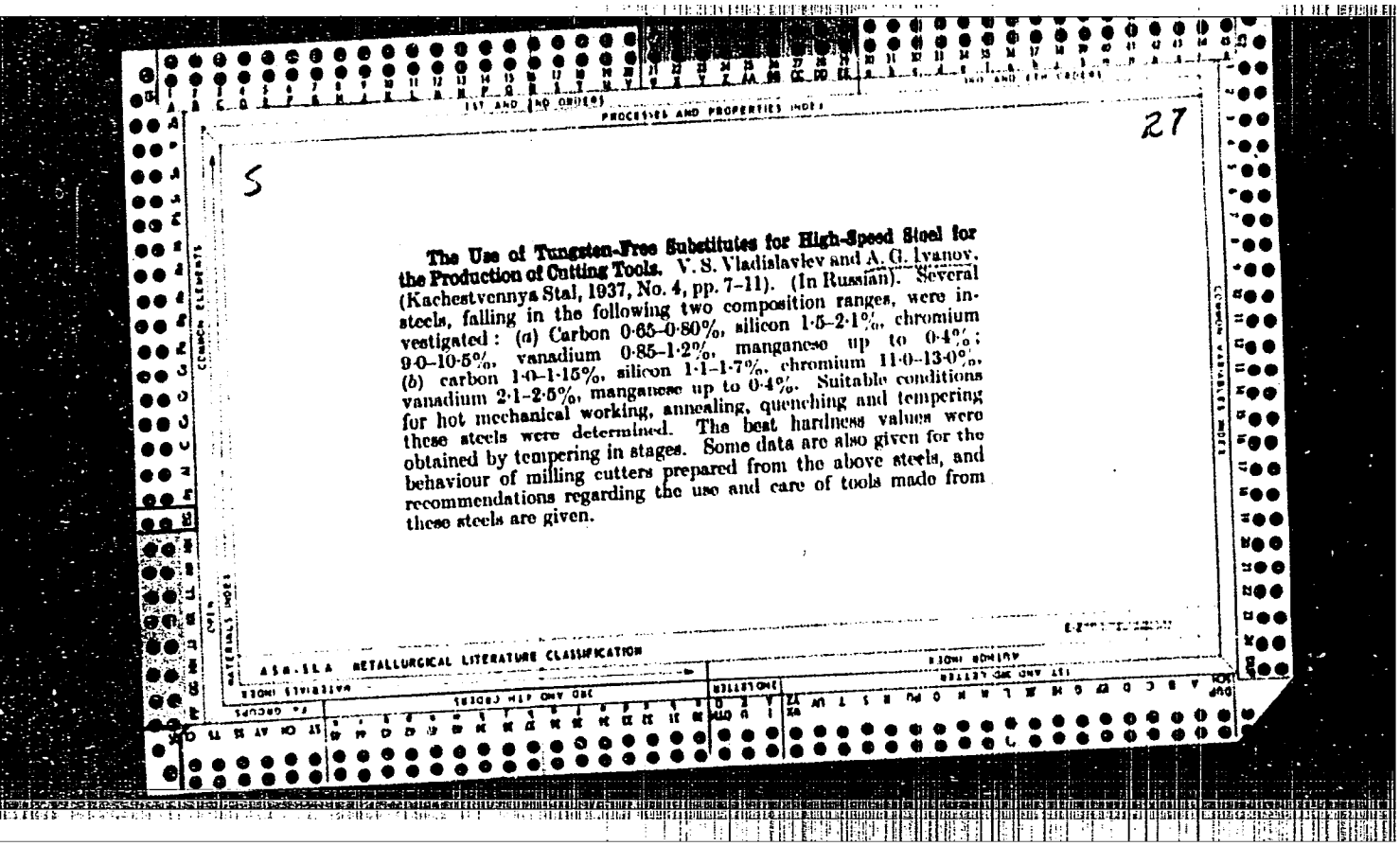
Grindin and burning of lignite from the Areysk deposit. Elek. sta. 36 no.2:16-18 F '65. (MIRA 18:4)



Lubricant and cutting oil. A. G. Ivanov and I. E. Zlotovskii. Russ. 47,031, May 31, 1930. Rosin is boiled with mineral oil at 300–60° in the presence or absence of resinates.



Control of steel for cutting tools. A. G. Ivanov. *Zavodskaya Lab.* 5, 775-9(1936).—Test methods are enumerated. B. C. A.



27

S

The Use of Tungsten-Free Substitutes for High-Speed Steel for the Production of Cutting Tools. V. S. Vladislavlev and A. G. Ivanov. (Kachestvennya Stal, 1937, No. 4, pp. 7–11). (In Russian). Several steels, falling in the following two composition ranges, were investigated: (*a*) Carbon 0·65–0·80%, silicon 1·5–2·1%, chromium 9·0–10·5%, vanadium 0·85–1·2%, manganese up to 0·4%; (*b*) carbon 1·0–1·15%, silicon 1·1–1·7%, chromium 11·0–13·0%, vanadium 2·1–2·5%, manganese up to 0·4%. Suitable conditions for hot mechanical working, annealing, quenching and tempering these steels were determined. The best hardness values were obtained by tempering in stages. Some data are also given for the behaviour of milling cutters prepared from the above steels, and recommendations regarding the use and care of tools made from these steels are given.

USSR

* "High-Speed Steel Grade E1347", Stanki I Instrument, 14, No. 4-5, 1943.

BR-52059019.

*Excerpt from his report:

IVANOV, A.G.

AUTHOR: Ivanov, A.G., Kruchinina, Ye.V., Popova, L.G. 32-9-17/43

TITLE: The Control Method and the Scale of Carbide Heterogeneity in Highly Alloyed Chromium Tool Steels (Metodika kontrolya i shkala karbidnoy neodnorodnosti vysokokhromistykh instrumental'nykh staley)

PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 9, pp. 1088-1091 (USSR)

ABSTRACT: A special scale for controlling carbide heterogeneities in a highly carbonized and highly alloyed chromium steel is worked out. For this purpose samples from 184 melts of the "Elektrostal'" plant, which were rolled up to from 10 to 200 mm, were investigated, First evaluation of carbide heterogeneities was carried out according to the scale of the GOST 5952-51. It is shown that with an increase of the diameter of the rolling material, i.e. with a reduction of the degree of buckling, the characteristic value of the carbide heterogeneity becomes greater. Investigation of the microstructure showed that the character of carbide distribution is the same in all investigated types of steel, in dependence on the degree of buckling. However, the size of the carbide particles is considerably larger in Kh 12 steel than in Kh 12 m, Kh 12 F and Kh 12 F 1 steel. The scale shows the carbide heterogeneity of the rolling material from 10 to 160 mm. The basic characteristic feature of the micro-

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32-9-17/43

The Control Method and the Scale of Carbide Heterogeneity in Highly Alloyed Chromium Tool Steels

structure distribution according to characteristic values is the character of the eutectic carbides, which, in turn, depend on the degree of buckling in rolling or forging. The control method for heterogeneities according to the scale mentioned is described. There are 3 figures and 2 tables.

ASSOCIATION: Central Scientific Research Institute for Iron Metallurgy and the "Elektrostal'" Plant (Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii i zavod "Elektrostal'")

AVAILABLE: Library of Congress

Card 2/2

IVANOV, A.G.

PHASE I BOOK EXPLOITATION SOV/1558

Moscow. Dom nauchno-tekhnicheskoy propagandy im. F.E. Dzerzhinskogo

Sovremennyye splavy i ikh termicheskaya obrabotka (Contemporary Alloys and Their Heat Treatment) Moscow, Mashgiz, 1958. 329 p. 12,000 copies printed.

Additional Sponsoring Agency: Obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy RSFSR.

Ed. (Title page): Yu. A. Geller, Doctor of Technical Sciences; Ed. (Inside book): V.V. Rzhavinskiy, Engineer; Tech. Ed.: B.I. Model'; Managing Ed. for Literature on Metal Working and Tool Making: R.D. Beyzel'man, Engineer.

PURPOSE: The book is intended for engineering and technical personnel of heat-treatment shops and test laboratories of machine-building plants.

COVERAGE: This collection of 28 articles, compiled by 33 authors, aims to acquaint the reader with modern practice in the heat treatment of steels. The authors are primarily concerned with the development of various types of structural, tool, and heat-resistant steels and with the use of their alloying elements. Materials-handling equipment is described at some length. The treatment of alloys, particularly those of titanium, also comes within the scope of the collection. The book is thoroughly diagrammed, and a good deal of the material is shown in graphical form. Among the problems dealt with are the minimization of deformations, the introduction of the automatic control of heat-treating equipment, together with fully mechanized tool manufacture, and the optimum proportions of different alloying elements. There are numerous tables and drawings. Bibliographic listings placed at the end of chapters are predominantly Soviet. The articles comprising this collection are reports delivered at a conference held in the Scientific and Technical Propaganda House imeni F.E. Dzerzhinskiy in Moscow.

Contemporary Alloys and Their Heat Treatment SOV/1558

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SOV/137-58-9-19984

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 271 (USSR)

AUTHORS: Ivanov, A.G., Kruchinina, Ye.V., Rybalko, V.S.

TITLE: An Investigation of Steels for Flat Wood-working Blades (Issledovaniye staley dlya ploskikh derevoobrabatyvayushchikh nozhey)

PERIODICAL: V sb.: Metallovedeniye i term. obrabotka. Moscow, Metallurgizdat, 1958, pp 256-272

ABSTRACT: New steels for woodworking blades, having the following % content, are investigated: C 0.76-1.48, Cr 2.06-12.2, W 1.06-4.26, and V 0.2-1.98. The findings result in the following recommendations for blade steels, in %: 1) 9Kh5F: C 0.85-1.0, Cr 4.6-5.2, V 0.2-0.4; 2) 9Kh5VF: C 0.85-1.0, Cr 4.6-5.2, W 0.8-1.2, V 0.2-0.4; 3) R4: C 0.7-0.8, Cr 4.2-5.0, W 3.7-4.5, V 0.9-1.3.

F.U.

1. Cutting tools--Materials 2. Steel--Test results 3. Wood--Processing

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65965

SOV/123-59-14-54554

/P. 1120

Translation from: Referativnyy zhurnal. Mashinostroyeniye, 1959, Nr 14, p 17 (USSR)

AUTHOR: Ivanov, A.G.

TITLE: High-Speed Steels of Increased Efficiency

PERIODICAL: V sb.: Konstruktsii rezhushchikh instrumentov i tekhnol. ikh izgotovleniya, Nr 4, Moscow, 1958, pp 12 - 35

ABSTRACT: Steel grades which are additionally alloyed with Co and V number among the group of high-speed steels of increased efficiency. With an increased V content in high-speed steels, the C content is also increased in a proportion of 0.20% of C for 1% of V, in order to preserve the hardenability of the steel (more than its standard content in R9 and R18 steels). It is also possible to obtain steel of increased efficiency if the W and C contents are raised. As a result of investigations carried out, new steels for cutting instruments with an increased resistance to wear and efficiency were developed and proposed. The suggested steel grades number among the tungsten-vanadium group with 9.0 - 24.0% of W and 5 - 0.9% of V (R9F5,

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High-Speed Steels of Increased Efficiency

R14F4[16], R18F2[16], R18F2M[16], R24[16]) and among the cobalt steels with 9.0 - 11.5% of W, 1.6 - 5.0% of V and 5 - 10% of Co (R9K5,[16] R9K10,[16] R9K10F,[16] R10K5F5)[16]. The enumerated steel grades are earmarked for extensive industrial tests.

B.A.M.

Card 2/2

GARASHCHENKO, Aleksandr Petrovich, kand.tekhn.nauk; IVANOV, A.G., kand. tekhn.nauk, retsenzent; GALEY, M.T., kand.tekhn.nauk, red.; LESNICHENKO, I.I., red.izd-va; SOROKINA, G.Ye., tekhn.red.

[Materials for metal-cutting tools] Instrumental'nye materialy. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 123 p. (MIRA 13:5)
(Metal-cutting tools)

S/123/61/000/023/002/018
A052/A101

AUTHOR: Ivanov, A.G.

TITLE: Investigation of cobalt high-speed steel

PERIODICAL: Referativnyy zhurnal. Mashinostroyeniye, no. 23, 1961, 10, abstract 23A98 (Sb. tr. Tsentr. n.-i. in-t chernoy metallurgii, no. 17, 1960, 107 - 137)

TEXT: The effect of Co additions (up to 20%) on mechanical properties (hardness, decarburation at hardening, cutting properties of cutters) of 18-4-2, 12-4-2 and 9-4-2 (W-Cr-V) high-speed steels was investigated. It is established that with an increased Co content the hardness after annealing increases, the microstructure does not change, the capability of steel with 18% W to the hot plastic deformation decreases, but the red hardness increases considerably. Instead of PK 5 (RK5) and PK 10 (RK10), steels containing up to 10% W, up to 20% V and with an increased Co content like P9K3 (R9K3), P9K5 (R9K5), P9K10 (R9K10), P9K12 (R9K12), P9K15 (R9K15) and P9K20 (R9K20) are recommended. An

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IVANOV, A.G.

High-speed steel. Standartizatsiia 24 no.4:32 Ap '60. (MIRA 13:9)

(Tool steel--Standards)

S/028/61/000/003/001/005
B129/B201

AUTHOR: Ivanov, A. G.

TITLE: Hardenability and through hardenability of steel

PERIODICAL: Standartizatsiya, no. 3, 1961, 23-29

TEXT: Hardenability and through hardenability are the characteristics of hypereutectoid steel of the types 9ХС (9KhS), ХВГ (KhVG), and Х (Kh) which are used for cutters, and of steel of the type ШХ 15 (ShKh15) which is used for bearing elements (races, balls, and rolls). By hardenability one understands the property of steel of increasing the surface hardness up to at least Rockwell hardness 60-62 when hardening with oil-cooling, while by through hardenability with oil tempering one understands the achievement of a hardness of at least Rockwell 60-62 to a depth of at least 3-6 mm under the surface. The steel cutter meeting these requirements will retain its efficiency by resharpening its cutting parts, and bearing elements will have a high resistance to wear in operation. Where a deeper through hardening is required, it will be necessary to use steels with a higher percentage of alloy elements. In these cases, steel ШХ15СГ

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Hardenability and through...

(ShKh15SG) is used for bearings. Hardenability and through hardenability of steel when tempering with oil-cooling are achieved by the addition of Cr, Mn, Si, which elements reduce the critical cooling rate of steel. If these elements are present in the steel in sufficient amounts, it is possible to achieve the undercooling of austenite to the martensite point, with a relatively slow oil-cooling. A characteristic feature of carbon steel is also its relatively low through hardenability. The limits of the chemical composition of the steel types, whose hardenability and through hardenability are discussed in the present paper, are specified in the Table. Hardenability in steel is achieved by a sufficient amount of carbon in martensite, and the through hardenability by the addition of alloy elements (Cr, Mn, Si, Ni, etc.) which promote the deeper through hardenability of steel. A strong effect upon hardenability and through hardenability of hypereutectoid steel containing carbides is exerted by a change of the hardening temperature and the time during which the steel is kept at this temperature. Therefore, the norms relative to steel delivery should take account, in addition to the demands regarding hardenability and through hardenability of determined methods of hardening and testing as well. A study has been made of the different effects of hardening

Hardenability and through...

temperatures and alloy elements upon the hardenability of the steel grades. The study is said to be of considerable importance for the selection of standard control methods. As yet unclarified are the reasons of the different hardenability and through hardenability of different parts of the steel with an equal chemical composition. It is by all means necessary to clarify the effects of the steel structure, the kind of slow cooling, the hardness after slow cooling, and finally the kind of hardening upon the through hardenability. There are 1 table and 11 references: 5 Soviet-bloc and 6 non-Soviet-bloc.

Card 3/3

S/028/61/000/005/002/004
D210/D306

AUTHORS: Ivanov, A.G. and Kruchinina, Ye. V.

TITLE: High speed steel for tool manufacture

PERIODICAL: Standardizatsiya, no. 5, 1961, 28-32

TEXT: Within the last few years, great changes have taken place in the production of, and requirements for, high speed steels, as a result of which it was necessary for the existing specification GOST 5952-51 to be revised. A new standard was drawn up by the Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii (Central Scientific-Experimental Institute of Ferrous Metallurgy) which is based on research carried out at the Tsentral'nyy nauchno--issledovatel'skiy institut tyazhelogo mashino-stroyeniya (Central Scientific-Experimental Institute of Heavy Machine Construction) the Eksperimental'nyy nauchno-issledovatel'skiy institut metallorezhushchikh stankov (Experimental Scientific Research Institute of Metal Cutting Mills) the Vsesoyuznyy nauchno-issledovatel'skiy

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High speed steel for tool manufacture

instrumental'nyy institut (All-Union Scientific Research Institute of Instrumentation) the Nauchno-issledovatel'skiy institut tekhnologii avtomobil'noy promyshlennosti (Scientific Research Institute of Automobile Technology) and other institutions. The new standard ensures a greatly improved quality of cutting tools and an increase in wear resistance of between 1.5 and 3 times as compared with the existing standard. Requirements are laid down for rolled and forged steels with respect to depth below the surface at which tests are to be carried out for non-uniformity of carbide distribution on a test section. This depth is 10 mm in the case of bars of 40 mm diameter or over, and one quarter of a diameter in the case of smaller bars. The degree of non-uniformity of carbide distribution is expressed by points on a special scale. Individual specifications for very small tolerances in the machining of steel billets prior to heat treatment which depend on the depth of the decarburised layer will standardize tool steels without causing an increase in the waste of steel. The introduction of new standards with respect to decarburization and minimum tolerances in machining will enable any differences

between the manufacturers and the consumers of tool steel to be solved in the interest of the national economy, and will ensure considerable economy by omitting repeated annealing processes at metallurgical works. Repeated annealing is used to convert the decarburized layer into scales. In actual practice, this operation is unnecessary, since the depth of the decarburized layer is considerably smaller than the tolerances allowed in machining. Repeated annealing results in deterioration of the steel and in loss of metal due to scale-formation. The hardness limit for steels P18 and P9 has been raised from V.P.N. 255 to 269. This will indirectly contribute to improving the quality of tools and to reducing the number of rejects by obviating re-repeated annealing. There are 4 tables and 5 references: 2 Soviet-bloc and 3 non-Soviet-bloc. The references to the English-language publications read as follows: Catalogue of the English firm "Osborn", Special Tool Steels, Sheffield, 1956, and Catalogue of the English firm "English Steel Rolling Mills Corporation Ltd.".

S/133/61/000/007/013/017
A054/A129

AUTHORS: Ivanov, A. G., Candidate of Technical Sciences, Latash, Ye. M., Engineer

TITLE: Effect of annealing conditions on the principal properties of high-speed steels

PERIODICAL: Stal', no. 7, 1961, 637 - 642

TEXT: Prolonged annealing at 860° - 900°C was found to have an adverse effect on high-speed steels due to the stabilization of carbides caused by the loss of the ability to be adsorbed during hardening or due to the coagulation of carbides. All this results in a decrease in secondary hardness of the hardened steel after annealing and in a drop in red-heat stability; moreover, the service life of instruments made of such steels is shortened. In order to determine the causes of these phenomena, the effects of the annealing temperature (750° - 900°C) and the duration of annealing (2 - 100 hours) on the microstructure, hardness after annealing and hardening, secondary hardness, red-heat stability, hot hardness and cutting capacity of high-speed steels were investigated on steels with the following composition:

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Effect of annealing conditions on the principal...

		C	W	V	Cr	Si	Mn	S	P	Co
P9K10	(R9K10)	0.95	9.5	2.42	4.00	0.17	0.27	0.02	0.02	10.2
P9Φ5	(R9F5)	1.5	10.25	4.40	4.00	0.21	0. 7	0.01	0.03	"
P18	(R18)	0.72	18.55	1.38	5.00	0.15	0.20	0.02	0.02	"
P9	(R9)	0.93	9.4	2.35	4.00	0.22	0.25	0.02	0.02	"

The steels were melted in an induction furnace, cast in 17-kg ingots, from which 18 x 18, 14 x 14 and 20 x 30 mm specimens were made. The experimental annealing was carried out at 750°, 800°, 850° and 900°C, with holding times of 2, 5, 10, 15, 25, 50 and 100 hours. In order to investigate only the effects of temperature and duration of annealing, the influence of cooling rate was eliminated by applying isothermal annealing. The changes of the annealing temperature in the 750° - 900°C range and of the duration of annealing had no pronounced effects on the microstructure of the test-steels after annealing and hardening, on the hardness after hardening and on the hardness after conventional three-fold annealing at 560°C, on the red-heat stability and hot hardness at 550°C. The type of carbide found after prolonged annealing was studied by X-ray analysis of the carbide-sediment of R18 grade steel in three variants: in the initial stage, after conven-

tional annealing with short holding time after forging and after 100-hours holding time at 900°C. In the roentgenograms of the samples treated for 100 hours the line of the stable carbide MeC(WC) was not present. The tests also revealed that higher annealing temperatures and prolonged annealing time intensified the oxidation process, mainly in the R9 and R9F5 steels. Cindering is also intensive under these annealing conditions: after annealing at 900°C for 100 hours the above-mentioned steels lost 30% of their volume on account of cinder-formation. The surface of R18 type steel is decarbonized to a ferrite structure under the new annealing conditions and the more intensive decarbonization lowers the red-heat stability of steel, because this property depends on the saturation of the solid solution with carbon and alloying elements in the course of hardening. As to hot hardness of high-speed steels and the cutting capacity of instruments made of R9K10, R18, R9F5 and R9 steels, increased temperature and duration of annealing have no pronounced effect. There are 3 figures, 4 tables and 7 references: 6 Soviet-bloc, 1 non-Soviet-bloc.

ASSOCIATION: TsNIIChM

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25209
S/056/61/040/006/030/031
B125/B202

21.7100

AUTHORS: Ivanov, A. G., Novikov, S. A.

TITLE: Expansion shock waves in iron and steel

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 40, no. 6, 1961, 1880-1882

TEXT: The authors deal with the effects of an explosion on cylindrical steel specimens if the explosive charge was applied to their surface. The diameter of the charge was approximately half its length and equal to the diameter of the specimen. After the explosion, fragments of regular geometrical shape and smooth surface were formed at the contact between specimen and charge. In the experiments with specimens having the form of triangular or quadrangular right prisms the lower part of the fragments has the form of a convex spherical surface and the lateral surface is similar to the surface of a quadrangular or triangular pyramid. The fragments bounded by a convex spherical surface are formed in experiments with specimens the height of which exceeds a certain value at a given charge. If the original height of the specimen is reduced

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Expansion shock waves in iron and steel

below this value the fragment is truncated in the plane perpendicular to its axis. The remaining part of the fragment does not differ from the fragments with spherical surface ("incomplete fragments"). The fracture surface is smoother than the lateral surface of the fragment. The spherical surface of the specimen is formed at a certain distance behind the front of the compression wave propagating above the specimen. In none of the experiments made in the same way with copper, brass, and aluminum fragments like those described here were observed. The formation of these fragments may be explained by expansion shock waves. The fracture occurs where the expansion shocks meet. One of these expansion shocks passes through the specimen behind the compression wave, the other one is reflected from the free basal plane during compression of this reflection wave. The data calculated by the method of characteristics are in agreement with the experimental data. These experimental data also give a natural explanation of the formation of the fragment by interaction of the expansion shock in the lateral wave in the specimen and of the expansion wave following the compression wave. The mechanism of the formation of a spherical surface of the fragment has hitherto not been explained. The experimental data indicate the existence of a relationship between the

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Expansion shock waves in iron and steel

formation of this surface and the compression shocks which propagate behind the front of the compression wave. According to the authors the formation of fragments described here is the experimental proof of the existence of compression shock waves in such substances as undergo polymorphous transition in a shock-type load. The authors thank Yu. I. Tarasov for his discussion of the results and for the calculation of the collision of the expansion jumps as well as Professor Ya. B. Zel'dovich and Professor L. V. Al'tshuler for their interest and useful advice. There are 1 figure and 5 references: 1 Soviet-bloc and 2 non-Soviet-bloc. The two references to English-language publications read as follows: D. Bancroft, E. Peterson, S. Mishall. J.Appl.Phys.,27, 291, 1956; W.E. Drummond, J.Appl.Phys., 28, 999, 1957.

SUBMITTED: April 25, 1961

Card 3/3

S/133/62/000/001/009/010
A054/A127

AUTHOR: Ivanov, A. G., Candidate of Technical Sciences

TITLE: New high-speed steel grades

PERIODICAL: Stal', no. 1, 1962, 69 - 71

TEXT: At the TsNIIChM 11 new versions of high-speed steel of the P 18 (R18) and P 9 (R9) grades have been developed, according to ГОСТ 9373-60 (GOST 9373-60). Part of these new sheels has a higher vanadium content, while part of them contains 5 - 10% cobalt. The changes in the content of various alloying elements and the addition of cobalt imparted greater hardness to the new steels, higher ductility to some of them, as well as greater hot hardness and a higher wear resistance. Although they contain tungsten and cobalt, the new alloys (P 9K 5/R9K5, P 9K 10/R9K10) are cheaper to produce than the former types, because the output of first grade products is greater. To ensure good cutting properties, the new grades have to be subjected to special forging and heat treatment. After forging and welding, the semifinished products, while still hot, have to be tempered (in the furnace at 730 - 750°C, for 2 - 6 hours, then cooling in the furnace or in sand, lime, etc.). Annealing takes place at 840 - 860°C,

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New high-speed steel grades

for at least 2 hours, then cooling to 730 - 750°C, for 2 - 4 hours with subsequent cooling to 600 - 650°C, in the furnace, at a rate of 30°/hr. The hardness after annealing varies between 269 and 285 H_B for the different types. The hardening temperature - in the first stage - is 580°C, in the second: 840 - 860°C. Cooling is carried out immediately after heating, in oil (20 - 80°C) or in salt (450 - 500°C), finally in air. Annealing takes place in three phases at 560 - 580°C, with 1 hour's holding each. The forging and hardening temperatures are the following:

	Forging	Hardening
R9F5	1150-900	1230-1250 / 1220-1240
R18F4		1240-1260 / 1230-1250
R18F2 R18F2M	1170-900	1280-1300 / 1260-1280
R24	1200-900	1280-1300 / 1270-1290

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S/133/62/000/001/009/010
A054/A127

New high-speed steel grades

	Forging	Hardening
R9K5 R9K5F R9K10 R9K10F	1150-900	1200-1250 1210-1230
R10K5F5	1150-900	1230-1260 1220-1240

Based on experience, the new steels are most suitable for the following purposes. R18F2 and R18F2M: tools for the machining materials of medium and high hardness, stainless and heat resistant steels. The cobalt-containing alloys for stainless, heat resistant materials, for tools subjected to high temperatures during cutting. R9K5 grade steel proved satisfactory under impact loads, having a greater toughness than the other grades. R9F5 steel can be used for tools not heated to high temperatures; under such conditions the wear resistance of this steel is 2 - 3 times higher than of the R18 and R9 grades. R9F5 is also suitable for abrasive materials, plastics, ebonite, titanium and medium-hard steels. The increased red hardness of the new grades should ensure a hardness of 58 R_c after 4 hours annealing at temperatures of 610 - 630°C. There is 1 table.

ASSOCIATION: TsNIIChM

Card 3/3

IVANOV, A.G., kand.tekhn.nauk; KRUCHININA, Ye.V., inzh.

Foreign made rapid steel [from foreign journals]. Metalloved. i term. obr. met. no.5:57-64 My '62. (MIRA 15:5)
(Tool steel)

33364
S/181/62/004/001/040/052
B104/B112

18.8200 2406 4016 1327

AUTHORS: Ivanov, A. G., Novikov, S. A., and Tarasov, Yu. I.

TITLE: Splitting off effects in iron and steel, caused by the interaction of rarefying shock waves

PERIODICAL: Fizika tverdogo tela, v. 4, no. 1, 1962, 249 - 260

TEXT: Shock waves were produced in cylindrical specimens using the setup shown in Fig. 2. The specimens were destroyed in a very characteristic manner (Fig. 4). The height of the conical cores could be changed by varying the stresses applied. The shape of the broken specimens changed substantially at a given stress if their length was below a definite value (Fig. 7). These results were found on Armco iron, СТ3 (St 3), 40Х (40Kh), and 30ХГСА (30KhGSA) steels. No such splitting off effects were observed on copper, brass, and aluminum. These effects are attributed to the interaction of rarefying shock waves under explosion-like stresses with pressures above the $\alpha \longrightarrow \gamma$ transformation pressure. The wave contour propagates in steps (Fig. 10). The two compression shock waves D_1 and D_2 are followed by a rarefying shock wave D_3. A second rarefying shock wave appears after

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Splitting off effects in iron ...

reflection. The fracture develops in the very narrow zone in which the rarefying shock waves meet. Assuming that the pressure-volume curve coincides with the Hugoniot adiabatic curve under stress, the conditions for the existence of rarefying shock waves are formulated. Academician Ya. B. Zel'dovich and Professor L. V. Al'tshuler are thanked for interest and advice. There are 11 figures, 2 tables, and 6 references: 4 Soviet and 2 non-Soviet. The two references to English-language publications read as follows: D. Bancroft, E. Peterson, S. Minshall, J. Appl. Phys. 27, 291, 1956; W. E. Drummond, J. Appl. Phys., 28, 999, 1957.

SUBMITTED: August 28, 1961

Fig. 2. Experimental setup.
Legend: (1) detonating tube; (2) additional load, at the end of which a plane shock wave develops; (3) principal load; (4) specimen (dimensions in mm).

Fig. 4. Schematic diagram of the core.

Fig. 7. Schematic diagram of the core.

Card 2/2

S/028/62/000/001/001/002
D228/D301

AUTHORS: Ivanov, A.G. and Kruchinina, Ye. V.

TITLE: Alloy tool steel

PERIODICAL: Standartizatsiya, 26 no. 1, (1962) ~~1952~~, 40-44

TEXT: With the aim of improving the quality of alloy tool steel the Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii (Central Scientific Research Institute of Ferrous Metallurgy) has developed a new standardization plan to replace the ГОСТ 5950-51 (GOST 5950-51) specification. The scheme provides for the classification of alloy tool steels according to their designation and general technological properties. The authors tabulate the designation and chemical composition of 10 new makes of alloy steel introduced in this project: 65ХФ (65KhF), ХВ6 (KhV6), ХВ (KhV), ХГСВФ (KhGSVF), 9Х5ВФ (9Kh5VF), 8Х4В4Ф (8Kh4VF), 4Х2В5ФМ (4Kh2V5FM), 4Х3ВФ (4Kh3VF), 4Х5В4ФМ (4Kh5V4FM), and 4Х5В2ФС (4Kh5V2FS). It is noted that the altered standards of hardness for 9ХС (9KhS), ХС (KhS), Х (Kh), and ХВГ (KhVG) steels as received, and the

Card 1/2

obligatory control of the hardness of these makes after tempering, will enable consumers to obtain material with a guaranteed annealability. The new specification introduces definite standards for the microstructure of alloy tool steel--the perlite form, carbide lattice, carbide heterogeneity--and gives procedures for controlling it, thus eliminating disputes between suppliers and consumers over the quality of the product. These were developed at the Central Scientific Research Institute of Ferrous Metallurgy and the zavod "Elektrostal'" (Electrosteel Plant) and entail the microscopic examination of polished specimens etched in a 4% solution of HNO_3 and EtOH. Standard schemes adduced in accordance with allowances for mechanical processing are also laid down for the depth of the decarbonized layer. The authors describe determination of the depth of decarbonization in 9Х5ВФ (9Kh5VF), Х6ВФ (Kh6VF), and 8Х4В4Ф (8Kh4V4F) steels by the Sadovskiy method, and it is concluded that these specifications will promote the regulation and unification of the production technology of tools and the enhancement of their quality. There are 5 tables.

S/120/63/000/001/034/072
E039/E420

AUTHORS: Ivanov, A.G., Novikov, S.A.

TITLE: A capacity probe method for recording instantaneous velocities of moving surfaces

PERIODICAL: Pribory i tekhnika eksperimenta, no.1, 1963, 135-138

TEXT: The proposed method of using capacity probes for continuous recording of instantaneous velocities of moving surfaces differs from earlier capacity probes which could only record a displacement of a moving surface. The theory of the method is outlined and the various parts of the apparatus are described; in particular the measuring condenser consists of a 40 mm diameter copper disc surrounded by a guard ring. Distance between plates is 2 to 10 mm which gives a capacity of 1 to 5 pf. the applied voltage is obtained from a 2 μf condenser charged to 600 to 900 V and the motion is recorded on a double beam oscilloscope. A study of the parameters of elastic waves in metals is described as an example of the use of this method. The method allows the investigation of the profile of elastic waves in different materials. In the case of aluminum alloy Д-16 (D-16) and copper M-1, the pressure

Card 1/2

A capacity probe method ...

in the elastic wave grows more slowly than in steel and the maximum value of the velocity of the free surface is 40 and 4 m/sec respectively. There are 5 figures.

SUBMITTED: March 3, 1962

Card 2/2

S/181/63/005/001/042/064
B108/B180

AUTHORS: Ivanov, A. G., Novikov, S. A., and Sinitsyn, V. A.

TITLE: Elastoplastic waves in iron and steel under blast

PERIODICAL: Fizika tverdogo tela, v. 5, no. 1, 1963, 269-278

TEXT: A method for the direct and continuous recording of the rate of movement of the free surface of a specimen under blast was developed earlier (A. G. Ivanov, S. A. Novikov. Pribory i tekhnika eksperimenta - Experimental equipment and techniques -). A special capacitor pickup is used, where the free surface of the sample acts as one of the capacitor plates. The possible types of elastoplastic waves are examined in the light of the Hugoniot P-V shock compression adiabates of the materials. The results obtained with Armco iron and several steels showed that the elastoplastic wave parameters depend on the material, length of sample and length of charge. The results agree with those of other publications (e.g. S. Minshall. Journ. Appl. Phys., 26, 463, 1955). The already known increase in yield point with loading rate (brisance of explosive) was observed. Pressure attenuation was observed in the front of the elastic

Elastoplastic waves in iron ...

wave as it passed through the specimens. There are 10 figures and 2 tables.

SUBMITTED: August 10, 1962

Card 2/2

DORONIN, V.M.; IVANOV, A.G.; KRUCHININA, Ye.V.; UGLOVA, A.M.

Hardenability of ShKh15, 9KhS and KhVG steels. Standartizatsiia 28 no.1:17-23 Ja '64. (MIRA 17:1)

[illegible] EWP(t)/EWP(b)/ECS(k)/EWA(h) Pd-1/P1-4

ACCESSION NR: [illegible] S/0056/64/047/003/0814/[illegible]

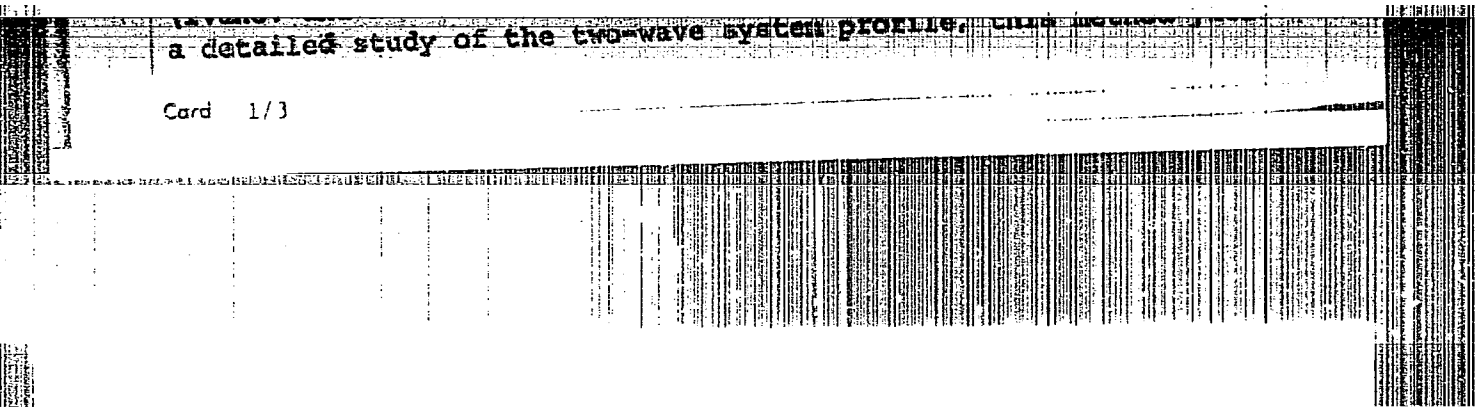
AUTHORS: [illegible] A.; Divnov, I. I.; Ivanov, A. G.

TITLE: Investigation of the structure of shock compression waves in iron and steel

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47, no. 3, 1964, 814-818

TOPIC TAGS: shock wave propagation, phase transition, first order phase transition, iron, steel

[illegible] pulse which propagates in Armco iron and in [illegible] shock compression [illegible]



L 13951-65

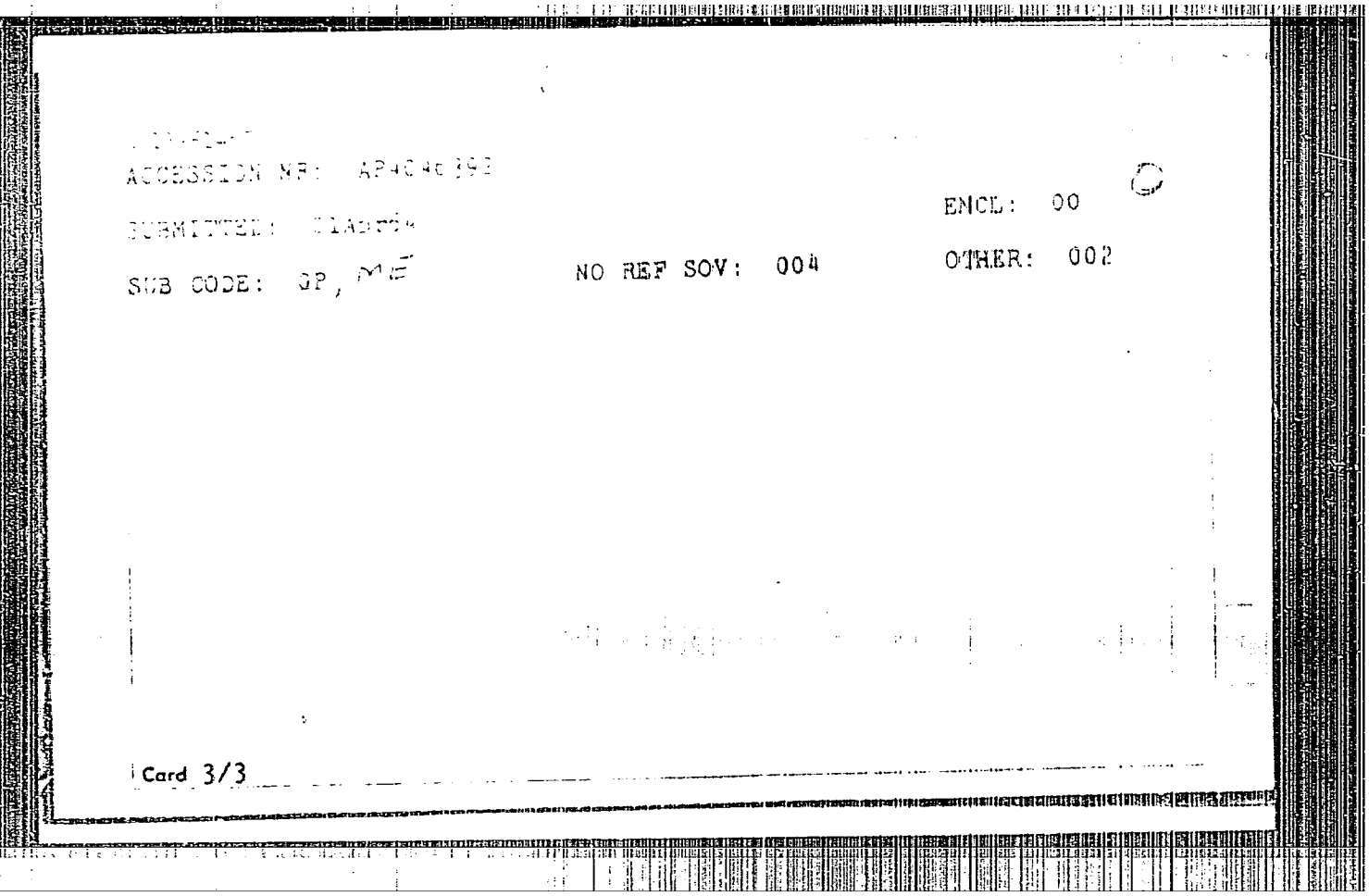
ACCESSION NR: AP4046392

... kinetics under shock compression. The
... three regions: 1 -- first shock
... second shock wave
...

the higher pressure. The process of the transition [illegible] to be due to relaxation phenomena occurring during the phase transition in the metal. A first approximation to the relaxation process is obtained by a qualitative analysis of the mutual relations between the first and second shock waves and the shock-[illegible] pressure-velocity diagram. Relaxation [illegible] peak in the first shock wave approx. [illegible] duration. The transition region [illegible] This duration increases somewhat if the sample is heated first to 450C. Orig. art. has: [illegible] figures.

ASSOCIATION: None

Card 2/3



ACCESSION NR: AP4048392

SUBMITTED: [illegible]

ENCL: 00

SUB CODE: GP, ME

NO REF SOV: 004

OTHER: 002

Card 3/3

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619010018-5"

IVANOV, A.G.; KRUCHININA, Ye.V.

Low-alloy, R4 and R7 high-speed steels, their heat treatment and properties. Sbor. trud. TSNIICHM no.39:31-39 '65. (MIRA 18:7)

IVANOV, A.G.

Composition of the solid solution carbides, and the properties of high-speed steel depending on alloying. Sbor. trud. TSNIICHM no.2 40-52 '65.
(MIRA 18:7)

IVANOV, A.G.; NOVIKOVA, Ye.K.

Determining the coefficients of heat conductivity of high-speed steels. Sbor. trud. TSNIICHM no.39:53-58 '65. (MIRA 18:7)

L 6479-66 EWT(m)/EWP(t)/EWP(b) LJP(c) JD

ACC NR: AP5028011 SOURCE CODE: UR/0386/65/002/008/0353/0356

AUTHOR: Ivanov, A. G.; Mineyev, V. N.; Novitskiy, Ye. Z.; Yanov, V. A.; Bezrukov, G. I.

ORG: none

TITLE: Anomalous polarization of sodium chloride under impact loading

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu (Prilozheniye), v. 2, no. 8, 1965, 353-356

TOPIC TAGS: sodium chloride, shock wave propagation, pressure effect, electric polarization, single crystal

ABSTRACT: The authors report results of an investigation of the polarization of single-crystal sodium chloride under impact loading perpendicular to the cleavage plane (100) in the interval of pressures (P) from 50 to 550 kbar. The impact loading was by means of the explosive devices used by L. V. Al'tshuler et al. (FTT v. 5, 279, 1963). A simple measuring circuit was used (Fig. 1). The parameters of the shock wave in the single crystal were calculated from the known state of the screen. A measuring line made of RKK-0.3/10 cable of 200 ohm wave resistance and an OK-21 oscilloscope were used in the experiments. The crystal thickness (l_0) fluctuated between 0.15 and 0.19 cm. The results of the experiments in the form of a plot of the initial current jump density (I) against the compression behind the front of the shock wave (σ) are shown in Fig. 2. Each point on the curve was obtained in a separate experiment. Shock-wave compression of polycrystalline samples of sodium chloride with initial density 2.13

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L 6479-66
ACC NR: AP5028011

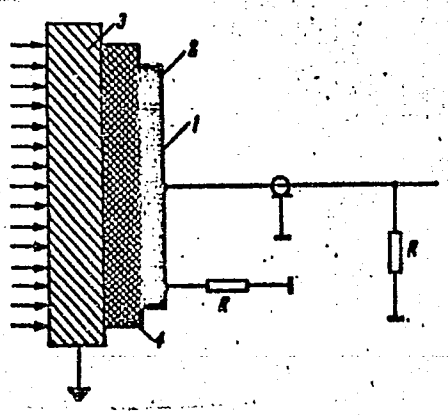

Fig. 1. Experimental setup

1 - Measuring electrode (2 cm dia.); 2 - guard ring (area equal to measuring electrode); 3 - metal screen (Al, Cu); 4 - NaCl single crystal. Arrows show direction of shock wave motion.

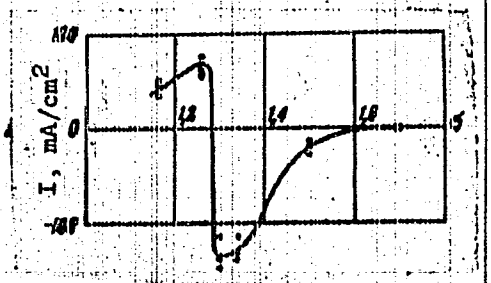

Fig. 2. Plot of I = f(σ).

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L 6479-66

ACC NR: AP5028011

g/cm^3 (l_0 = 0.3 cm, P = 250—270 kbar) yielded a polarization current I = 5.5 ma/cm^2. The authors found no acceptable physical explanation for the observed anomaly in the behavior of the sodium chloride (in polar crystal I increases monotonically with σ). This fact may be connected somehow with a phase transition which has not been observed hitherto under dynamic loading in the pressure range under consideration. Orig. art. has: 3 figures and 1 formula. [02]

SUB CODE: SS / SUBM DATE: 02Aug65/ ORIG REF: 005/ OTH REF: 002 /

ATD PRESS: 4140

nw

Card 3/3

L 15276-66 EWT(m)/T/EWP(t)/EWP(k)/EWP(b) JD/HW
ACC NR: AP5018864 SOURCE CODE: UR/0126/65/020/001/0133/0135

AUTHOR: Novikov, S. A.; Divnov, I. I.; Ivanov, A. G.

ORG: none

TITLE: Characteristics of the impact zone in iron and steel [paper presented at the conference on high pressures in the Institute of Chemical Physics AN SSSR, Moscow, May 1963]

SOURCE: Fizika metallov i metallovedeniye, v. 20, no. 1, 1965, 133-135

TOPIC TAGS: explosive forming, phase transition, iron, steel, shock wave front, detonation wave

ABSTRACT: Previous studies have shown that specimens of iron and steel subjected to impact compression have two characteristic zones which differ with respect to hardness by a factor of 2-3. The boundaries of these regions are shown up clearly by etching microsections in special solutions. The harder area is called the impact zone. An experimental study of the conditions under which this zone is formed indicates a direct connection between the impact zone and phase transition during

Card 1/2 UDC: 620.178.2

L 15276-66
ACC NR: AP5018864

5

impact compression of iron and its alloys. The sharply defined boundary of the impact zone may be due to a certain critical pressure at the shock wave front. This pressure is assumed to be that for phase transition in iron (131000 at). Time-travel curves are given for flow in a semi-infinite specimen of iron from which a plane detonation wave is reflected. These curves show that a stepwise reduction in pressure may take place at the second shock wave front if this wave is overtaken by an expansion shock propagating from the "charge-specimen" contact surface. Special experiments were conducted to verify this hypothesis. The calculated points at which the expansion shock should overtake the second shock wave front for charges of various lengths agree satisfactorily with the experimentally determined boundaries of the impact zone. Orig. art. has: 3 figures.

SUB CODE: 20,11 SUBM DATE: 15Jul64/ ORIG REF: 005/ OTH REF: 005

explosive forming 18 44,55

QC
Card 2/2

L 09[illegible]-67 EWT(m)/EWA(t)/ETI IJP(c) JW/RM/JG
ACC NR: AT6026550 (A) SOURCE CODE: UR/2776/66/000/046/0176/0185

AUTHORS: Ivanov, A. G.; Stepanyants, M. I.

ORG: none

TITLE: Development and investigation of heat-resistant steels alloyed with cobalt

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii. Sbornik trudov, no. 46, 1966. Spetsial'nyye stali i splavy (Special steels and alloys), 176-185

TOPIC TAGS: alloy steel, high speed steel, steel, cobalt steel / R9K25 steel, R9K30 steel

ABSTRACT: The effect of repeated quenchings and addition of cobalt, chromium, vanadium, and tungsten to steels R9K25 and R9K30 on the heat-resistance and mechanical properties of the latter was investigated. A total of six specimens was investigated. The chemical composition of the specimens is tabulated, and the experimental results are presented in graphs and tables (see Fig. 1). It was found that repeated annealing of the specimens at 600C for a period of one hour increased their hardness from 35 to 67--70 HRC. The impact viscosity and workability of the steels may be further improved by additional annealing at 750C for 2 hours, followed by quenching in water. The secondary and hot hardnesses of steels containing 9% and 18% W,

Card 1/2

L 09954-67

ACC NR: AT6026558

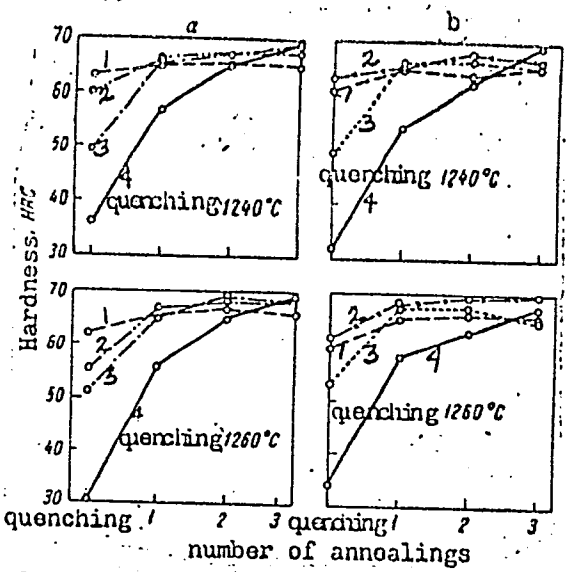

Fig. 1. Effect of the number of annealings on the hardness of quenched steel as a function of: a - concentration of cobalt for annealing at 550C; 1 - smelting temperature 2643C; 2 - 2645C; 3 - 2646C; 4 - 2647C; and b - concentration of chromium for annealing at 600C; 1 - smelting temperature 2648C; 2 - 2641C; 3 - 2649C; 4 - 2647C.

respectively, were found to be practically identical. Orig. art. has: 4 tables and 7 graphs.

SUB CODE: 11/ SUBM DATE: none

Card 2/2

L 08777-67 EWT(m)/EWP(w)/EWP(t)/ETI IJP(c) JD/JH
ACC NR: AP6023704 SOURCE CODE: UR/0126/66/021/004/0608/0615

AUTHORS: Novikov, S. A.; Divnov, I. I.; Ivanov, A. G. 48

ORG: none

TITLE: A study of the failure of steel, aluminum, and copper under shock loads 18

SOURCE: Fizika metallov i metallovedeniye, v. 21, no. 4, 1966, 608-615

TOPIC TAGS: material strength, impact test, impact strength, explosive, copper, aluminum alloy/ D16 aluminum alloy, M1 copper

ABSTRACT: The authors present the result of a study of the critical ultimate stresses during shock loading of several grades of steel, aluminum alloy D16, and copper M1. The limiting stresses were studied by a known method based on measurements of the rate of movement of the far cleavage surface (the free surface of the specimen). The presence of mechanical strength in the material leads to the phenomenon in which, after the shock wave is reflected from the free surface of the specimen, the rate of surface movement decreases from a maximal value v_0 to some value v_1. The critical stress is related to the difference of these two velocities according to the equation

$$\sigma_{kp} = \rho_0 c_0 \frac{v_0 - v_1}{2}.$$

UDC: 534.222.2/539.37

Card 1/2

L 08777-67

ACC NR: AP6023704

where ρ_0 is the initial density of the material and C_0 is the "Plastic" speed of sound in an infinite medium. Testing was performed on disc-shaped specimens 120--140 mm in diameter and 6--40 mm thick. A cylindrical explosive charge was placed on the specimen or, alternatively, a metallic impact device was used. Measurements were made of the variation of the rate of free surface movement as a function of time. It was found that the experimental variation was significantly different from the theoretical variation obtained in the assumption of instantaneous rupture of the specimen in a given section. From the test data and a revised hypothesis of the failure mechanism the authors propose a method of mathematically approximating the time until failure. Orig. art. has: 6 tables, 5 equations, and 1 figure.

SUB CODE: 11/ SUBM DATE: 28Jan65/ ORIG REF: 012/ OTH REF: 004

Card 2/2 nst

ACC NR: AP7000053 SOURCE CODE: UR/0207/66/000/005/0104/0107

AUTHOR: Ivanov, A. G. (Moscow); Novitskiy, Ye. Z. (Moscow)

ORG: none

TITLE: Problem of double layer in shock-compressed dielectrics

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 5, 1966, 104-107

TOPIC TAGS: pressure transducer, dielectric material, dielectric layer

ABSTRACT: A pressure pulse transducer (consisting of flat electrodes separated by a dielectric) equivalent circuit is derived and its response to pressure pulses is considered. The dielectric material when undergoing pressure stress develops changes on the surfaces perpendicular to the direction of the stress. The transducer is analyzed on the basis of an assumption that a double charge layer is formed in the dielectric. The initial current pulse in the transducer circuit is shown to be proportional to the value of the dipole moment of the molecule, number of dipoles per unit volume, and the area of the plates. The transducer is considered to consist of two regions with the pressure front as the dividing line. Cases of high and low conductivity behind the front are treated. Orig. art. has: 4 figures, 17 formulas.

SUB CODE: 20,09/ SUBM DATE: 28Apr65/ ORIG REF: 001/ OTH REF: 001

Card 1/1

L [illegible] ENT(d)/ENT(m)/ENP(w)/T/ENP(t)/ETI/ENP(k) IJP(c) JD/HW/EM

ACC NR: AP6010410 (A,N) SOURCE CODE: UR/0126/66/021/003/0452/0460

AUTHORS: Novikov, S. A.; Sinitsyn, V. A.; Ivanov, A. G.; Vasil'yev, L. V.

ORG: none

TITLE: Elastoplastic properties of a number of metals under destructive loadings

SOURCE: Fizika metallov i metallovedeniye, v. 21, no. 3, 1966, 452-460

TOPIC TAGS: elastic property, material testing, destructive testing, impact loading, elastoplasticity, shock wave, material flow, compression wave/ M1 copper, D1 aluminum alloy, D16 aluminum alloy, LS59-1 brass

ABSTRACT: The results of testing copper, brass, and two aluminum alloys under destructive loads are presented. The test method used is that described by A. G. Ivanov, S. A. Novikov, and V. A. Sinitsyn (FTT, 1963, 5, 269). The process of formation of a system of two compression waves (elastic and plastic) is shown in Fig. 1. The thin lines on the diagram are the characteristics of the process. D_1 and D_2 are respectively the first and second shock waves, t_A is the moment in time when the pressure on the surface of the specimen reaches a value corresponding to the adiabatic break-off point. II is the domain of constant flow. In the domains I and III the flow is completely determined by parts of the adiabatic above and below the break-off point. The limiting boundaries of domain II are the characteristics corresponding to

Card 1/3

UDC: 534.222.2/539.37

ACC NR: AP6010410

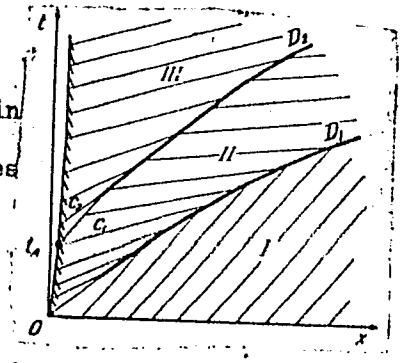

Fig. 1. Diagram of the flow in length-time coordinates for a system of two compression waves --elastic and plastic.

the two speeds of sound at the break-off point. Tests were conducted on specimens made of M1 copper, aluminum alloys D1 and D16 and LS59-1 brass. The time variation of the rate of deformation over very short time intervals is plotted in Fig. 2. In discussing the test results, the authors note that beyond the front of the elastic wave in the studied materials there occurs a more or less clear appearance of a domain of increased pressure in simple wave compression. This phenomenon is related to the flow limits of the materials and to the mechanical properties and deformation rates.

L 29821-66

ACC NR: AP6010410

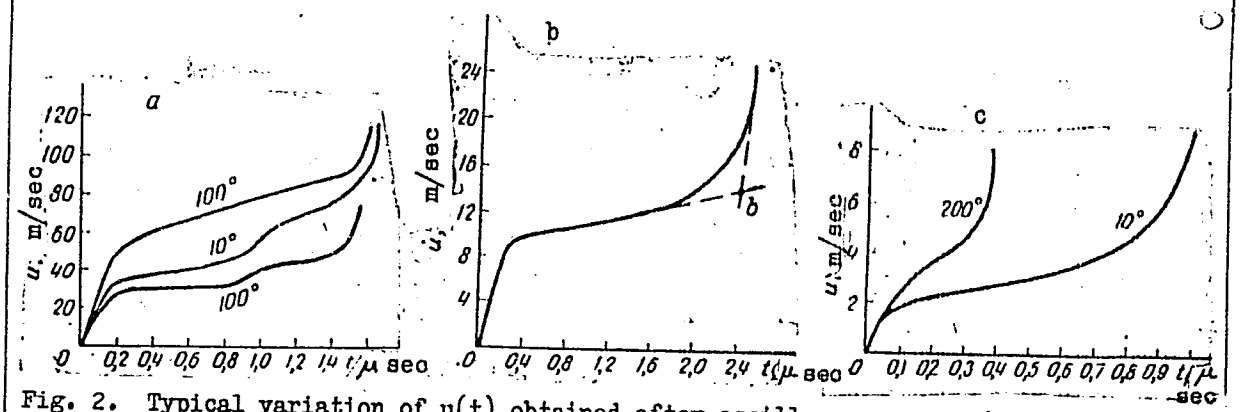

Fig. 2. Typical variation of u(t) obtained after oscillogram processing. a - alloy D16 (specimen height 30 mm); lower curves obtained for annealed specimens (weak plastic waves are visible), upper - tempered specimens; b - brass (specimen height 80 mm); c - copper (specimen height 30 mm).

Orig. art. has: 6 tables, 6 figures, and 3 equations.

SUB CODE: 11/ SUBM DATE: 29Apr65/ ORIG REF: 004/ OTH REF: 011

Card 3/3

ACC NR: AP6007353 SOURCE CODE: UR/0126/66/021/002/0252/0256

AUTHOR: Novikov, S. A.; Divnov, I. I.; Ivanov, A. G.

ORG: none

TITLE: Phase transformation in iron subjected to impact compression

SOURCE: Fizika metallov i metallovedeniye, v. 21, no. 2, 1966, 252-256

TOPIC TAGS: iron compression, impact compression, explosive compression, phase transformation, compression induced transformation

ABSTRACT: Disk-shaped specimens of Armco iron and St3, 08, 45 and 40Kh steels 120 mm in diameter and 20—50 mm thick were subjected to impact compression by detonation of an explosive charge on the disk surface or by the impact of aluminum plate 2 mm thick accelerated by an explosion to a velocity of 5.6 km/sec. The experiments were performed at 273—773K. A typical pressure-time curve (see Fig. 1) obtained in one of the experiments (at 603K) shows two shock waves with a relaxation period, τ, caused by the transformation of α-iron into high-pressure modification ε-iron. The magnitude of τ at 273—283K varied from 0.25 to 0.40 μsec; with increasing temperature τ becomes shorter. It is noted that under conditions of hydrostatic compression, the α-to-ε transformation requires several hours. The pressure at which the transformation occurs at 300K was found to be roughly the same for all the materials tested:

Card 1/2 UDC: 539.292:548.53

L 21503-66
ACC NR: AP6007353

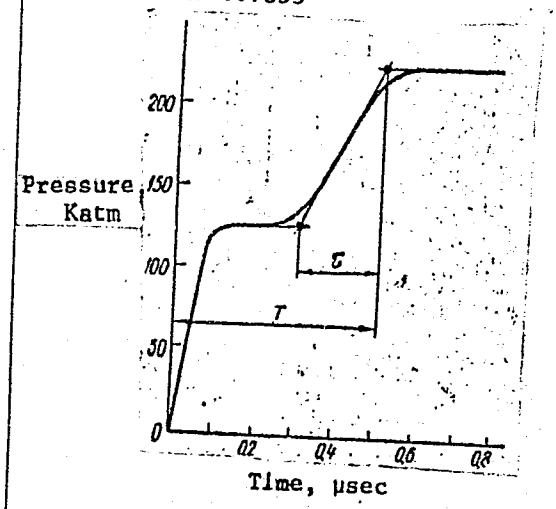

Fig. 1. Pressure-time curve in impact compression of an St3 steel specimen

147,000 atm. Carbon content appears to have little or no effect, which is explained by a very short period of relaxation under conditions of impact compression. No diffusion can occur in such a short time, and ferrite acts as an independent phase regardless of the carbon content. Orig. art. has: 2 figures and 3 tables. [DV]

SUB CODE: 11/ SUBM DATE: 04May65/ ORIG REF: 011/ OTH REF: 010/ ATD PRESS: 4222

Card 2/2 dda

Ivanov, A. G. "Oscillations of the Seismograph on the Assumption of the Quadratic Law of Damping." Biulleten Mefti.noi Geofiziki, Moscow-Leningrad, vol. 1, 1936, pp. 89-99.

IVANOV, A. G.

26998. IVANOV, A. G.--O Seysmo-elektricheskom Effekte pervogo roda (J) v prielektrodnoy oblasti. Doklady akad, nauk sssr, Novaya seriya, T. LXVI, No. 1, 1949, c. 53-56,--Bibliogr: S. 56

SO: Letopis' Zhurnal'nykh Statey, Vol. 36, 1949

IVANOV, A. G.

Prospecting - Geophysical Methods

Instructions for electric geophysical exploration. Reviewed by A. G. Ivanov. Izv. AN SSSR. Ser. geofiz. No. 2, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Uncl.

IVANOV, A. G.

USSR/Geophysics - Prospecting

Sep/Oct 53

"Review of Symposium, 'Prospecting and Industrial Geophysics,'" (A.G. Ivanov, reviewer) Iz Ak Nauk SSSR, Ser Geofiz, No 5, pp 474-476

Favorably reviews the symposium, edited by V. V. Fedynskiy, entitled "Razvedochnaya i promyslovaya geofizika," No 4, Min Petrol Ind USSR, Glavneftgeofizika, Moscow, 1952, 600 copies, price 1.50 rubles. Contributors were: I. K. Kupalov-Yaropolk, G. V. Bereza, A. I. Slutskovskiy, B. S. Temkina, P. I. Lukavchenko, O. A. Shvank, N. A. Per'kov, S. G. Komarov, I. Ye. Eydman, L. M. Yessel'son, and E. E. Fotiadi.

267T82

IVANOV, A.G., TROITSKAYA, V.A., IVANOV, B.V., and TIKHONOV, A.N.

"Relationship Between Earth Currents and Earthquakes" Tr. Geofiz. in-ta AN SSSR, No 25, 1954, 181-191

A relationship between the propagation of seismic waves and appearance of an electromagnetic perturbation, the so-called seismoelectric effect is held possible. The effect originates in slow undulations of the terrestrial core which may propagte as an elastic wave. The noticed coincidences of seismic waves and electric perturbations indicate the necessity of recording the slow motions of the terrestrial core. (RZhFiz, No 10, 1955)

IVANOV, A G.

SUBJECT USSR / PHYSICS
AUTHOR IVANOV, A.G.
TITLE The Investigation of the Phase Structure of the Electromagnetic Fields on the occasion of Electro-Prospecting.
PERIODICAL Dokl.Akad.Nauk 110, fasc.5, 772-775 (1956)
Issued: 12 / 1956

CARD 1 / 2 PA - 1862

According to the author's opinion the possibilities of electric ore-prospecting are not fully exploited because of the fact that phase shifts are being neglected (owing to experimental difficulties). The field investigated must in reality be considered as the result of the vector addition of the investigated components of the anomalous field required, and of the normal field: When measuring phase angles, all quantities necessary for computation are at the interpreter's disposal.
After overcoming the known experimental difficulties the author was able in 1945 to construct the apparatus necessary for these measurements and to realize amplitude-phase measurements on some objects in practice. The totality of these works warrants the carrying out of previously fragmentarily described modifications of amplitude-phase-measurements with donors in form of two reception frames in different positions or in form of three electrodes. The author also undertook new investigations of the gradient type which are described here for the first time. Here the field is generated by a current which is allowed to pass through a cable (in form of a loop or a line. The device constructed for amplitude-phase measurements, the so-called AFIMETER,

Dokl.Akad.Nauk, 110,fasc.5,772-775 (1956) CARD 2 / 2 PA - 1862

is based on the principle of compensation and consists of the most simple phase-shifting RC to which donors are connected, Voltages are then transferred to a tube zero indicator. On the occasion of the "gradient-like" amplitude-phase investigations of the magnetic field frames are connected to the AFIMETER which are firmly connected by means of a duraluminium tube and which are arranged at short distances from one another (2,5 to 3,5 m). This system of frames is then hung on a tripod by means of a hinge. Next, the theory of measurements is mathematically discussed with the AFIMETER.
For some years the author carried out rather important test works under various geological conditions: Middle East 1946-1948, Krivoj Rog 1949-1951, Ural 1952-1955. On the occasion of amplitude-phase measurements carried out (in the iron ore basin of Krivoj Rog) by means of the gradient method in the interior of a large loop with horizontal frame, a vertical contact of greenstone and granite made itself noticeable by considerable disturbances of phase structure in the case of practically hardly noticeable anomalies of amplitude relations. The results obtained by various investigations prove the value of the amplitude-phase investigations for the classification of anomalies.

INSTITUTION:

I VANOV, A.G.

In his article, "Frequency Analysis Used in Detailed Electrical Prospecting," A. G. Ivanov of the Institute of Physics of the Earth, Academy of Sciences USSR, presents new experimental data showing the possible application of the methods of frequency analysis of anomalous zones in conducting detailed ore electrical prospecting and in geological mapping. Ivanov also presents formulas of the first approximation for interpretation of the results of the observations. (Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya, No 1, Jan 57, pp 39-51) (U)

ASUSSR, Institute of Physics

S4M.1345

AUTHOR: Ivanov, A.G.

TITLE: Approximate formula for calculating the a.c. magnetic field above a seam. (Priblizhennaya formula dlya rascheta peremennogo magnitnogo polya nad zhiloy).

PERIODICAL: Izvestiya Akademii Nauk, Seriya Geofizicheskaya, 1957 No.2, pp. 211 - 216. (U.S.S.R.)

ABSTRACT: An approximate formula is given for an anomalous alternating electromagnetic field of a flat infinite plate of limited depth, with an allowance for the absorption of energy by enclosed rock. A numerical calculation is given of the amplitude and the phase of the anomalous field above the vertical plate for various depths of location of its upper edge.

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The derived formulae, eqs. 27 - 30 (p.214) are applied in calculations described in para.2. The text containes 4 graphs, and about 3 pages of equations.

Card 2/3

TITLE: Approximate formula for calculating the a.c. magnetic field above a seam. (Priblizhennaya formula dlya rascheta peremennogo magnitnogo polya nad zhiloy). 52

ASSOCIATION: Academy of Sciences of the USSR, Institute of Terrestrial Physics (Akademiya Nauk SSSR, Institut fiziki zemli).

PRESENTED BY:

SUBMITTED: 6/30/56

AVAILABLE: Library of Congress

Card 3/3

IVANOV, A.G.

AUTHORS: Ivanov, A.G., and Khovanova, R. I. 49-4-15/23

TITLE: Storm of Earth currents during October 6-8, 1949. (Burya zemnykh tokov 6-8 Oktyabrya 1949 g).

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya, 1957, No.4, pp. 525-526 + 1 plate (USSR)

ABSTRACT: During the Garm expedition of the Geophysics Institute Ac.Sc. U.S.S.R. (Geofizicheskiy Institut Ak. Nauk SSSR) the natural Earth currents were recorded on the lower slopes of the Pamir for the purpose of determining any possible connection between Earth currents and seismic phenomena. The recording was effected by electrode lines which were disposed crosswise; the east-west line was 1100 m, the north-south line was 400 m long. Lead accumulator plates, 30 x 30 cm, were used as electrodes, each consisting of twenty such plates with a total surface of 2 m^2 dug in to a depth of 2.5 m; each plate had a separate lead to the surface. The Earth currents were measured by means of two circuits, one designed for relatively fast and the other for relatively slow variations; the slow variations were recorded by a mirror galvanometer with a time constant of 30 to 35 sec, a speed of the photographic paper of 22 mm/hr, whilst the

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Storm of Earth currents during October 6-8, 1949. 49-4-15/23

fast variations were recorded by a galvanometer with T = 3 sec. and a speed of movement of the recording strip of 50 mm/min. The basic circuit of the test set-up is shown in Fig.1, p.526. Observations by R. I. Khovanova in 1949 of slow changes of the Earth currents in the Garm region several hours before the beginning of a local earthquake were recorded by a circuit similar to that shown in Fig.1. The Earth current storm lasted two days; the beginning was characterised by a general change of the background of the recordings and from time to time the uniform background was disturbed by oscillations of 1 to 2 min. durations of amplitudes 10 to 20 times larger; after 18 hours the character of the recordings changed sharply and the continuous high amplitude oscillations became predominant. The storm in the Earth currents was accompanied by an intense wind, a major reduction in the visibility and an appreciable lowering of the air temperature. There are 2 figures and 1 Slavic reference.

Card 2/2

SUBMITTED: December 12, 1956.

ASSOCIATION: Ac.Sc. U.S.S.R. Institute of Physics of the Earth. (Akademiya Nauk SSSR Institut Fiziki Zemli).

AVAILABLE: Library of Congress.

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S/169/62/000/007/006/149
D228/D307

9.9700

AUTHOR: Ivanov, A. G.

TITLE: The dependence of the active resistivity of rocks on the current frequency

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 7, 1962, 9, abstract 7A50 (V sb. Vopr. teorii i praktiki elektrometrii, M., AN SSSR, 1961, 69-75)

TEXT: The laboratory equipment is described, and the theoretical bases are given, for the electrothermal method of determining the resistance of rock specimens. It is pointed out that the active resistance can be measured by means of the electrothermal method, since the reactive component related to the displacement currents is not accompanied by the absorption of energy and its conversion into heat. An electric current of chosen frequency passes through the specimen placed in a thermostat, and the temporal change in the temperature of the specimen and the thermostat is determined by means of thermocouples. The calculation is made according to the

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The dependence of the active ...

formula:

$$T = \frac{0,24 \cdot I^2 Rt}{C} + T_o \left(1 - \frac{A}{C} t\right)$$

Here t is the time, T_o is the initial temperature difference when t = 0, T is the temperature difference at the moment t, I is the current strength in amperes, R is the resistance in ohms, C is the total heat capacity of the specimen and the electrodes, and A is the molecular heat conductivity of the thermally insulated housing. Measurements, made on the frequency band 0 - 200 kc/s, on samples of sand, clay, and $CuSo_4$ solution showed that the R of the samples largely depends on the frequency. As the frequency grows R decreases to 25% for clays and to 80% for sands, but is practically constant for the $CuSO_4$ solution; this indicates that the dependence of R on the frequency is related to surface electrokinetic phenome-

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The dependence of the active ... S/169/62/000/007/006/149
D228/D307

na. It is pointed out that control measurements of the resistivity of a sand sample of the same size by means of four-electrode appa-ratus confirmed the obtained conclusions. [Abstracter's note: Complete translation.]

X

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IVANOV, A.G.

Papers submitted for the 10th Pacific Science Congress, Honolulu, Hawaii 21 Aug-6 Sep 1961.

AGAPOVA, G. V., BUDANOVA, L. Y., ZATONSKIY, L. K., ZENKEVICH, N. L., IVANOV, A. G., LARINA, N. I., MAROVA, N. A., and UDINTSEV, G. B., All from the Institute of Oceanology, Academy of Sciences USSR - "The bottom relief of the Pacific Ocean and its cartographic representation" (Section VI.A)

ANDRIYASHEV, A. P., Institute of Zoology, Academy of Sciences USSR - "Myctophid fishes of the Antarctic and the problem of their bipolar distribution in the Pacific Ocean" (Section III.C)

ANDRUSHCHENKO, P. F., and SKORNYAKOVA, N. S., Institute of Oceanology - "The manganese concretions of the Pacific Ocean" (Section VII.C.1)

AFN----YEV, G. D. (Name blurred, but may be AFANASYEV, G. D.), Institute of Geology of Ore Deposits, Petrography, Mineralogy, and Geochemistry - (Title of paper is blurred; following is approximate title) - "Mohoyrovichich's discontinuity [sic] layer and petrographic data" (Section VII.C)

BALAKINA, L. M., Institute of Earth Physics imeni O. Yu. Schmidt - "The character of stresses and ruptures in the earthquake foci of the Pacific seismic zone" (Section VII.C.2)

BARSUKOV BARSUKOV, V. V., Institute of Zoology, "On the Pacific origin of the Anarhichadidae family" (Section III.C)

BATALIN, A. M., Yakutsk State University - "On the heat processes in the waters of the Far East (Section VII.B)

BEKLEMISHEV, K. V., Institute of Oceanology - "On the transformation of the plankton of the Pacific drift and in the adjacent waters" (Section III.C)

BELOUSOV, V. V., and RUDICH, Ye. N., Institute of Earth Physics imeni O. Yu. Schmidt - "Genesis and age of the abyssal depression of the sea of Japan" (Section VII.C.2)

BELYAYEV, G. M., Institute of Oceanology - "Accumulations of squid beaks and shark teeth at the ocean floor" (Section III.C)

BEZRUKOV, P. L., Institute of Oceanology - "Recent sedimentation and the geological history of the Okhotsk sea" (Section VII.C.1)

BEZRUKOV, P. L., LISITSYN, A. P., PETELIN, V. P., and SKORNYAKOVA, N. S., Institute of Oceanology - "Recent sediments of the Pacific" (Section VII.C.1)

BIRSHTEYN, Ya. A., and VINOGRADOV, M. Ye., Institute of Oceanology - "Some specific features in the geographical distribution of abyssal pelagic animals (Amphipoda)" (Section III.C)

BOGDANOV, K. T., Institute of Oceanology - "New charts of cotidal lines and the character of tidal phenomena in the Pacific Ocean" (Section VII.B)

BOGOROV, V. G., BEKLEMISHEV, K. V., and VINOGRADOV, M. Ye., Institute of Oceanology - "The distribution of the zooplankton biomass in the Pacific Ocean" (Section III.C)

BORDOVSKIY, O. K., Institute of Geology Exploitation of Combustible Materials - "The diagenetic changes in bottom sediments from the central part of the Pacific" (Section VII.C.1)

BRODSKAYA, N. G., Institute of Geology - "Sedimentation and the regularities in the distribution of mineral resources in the geosynclinal basins of the Tertiary period in the area of Kamchatka and the Sakhalin Island" (Section VII.C)

BRUYEVICH, S. V., and ZAYTSEVA, Ye. D., Institute of Oceanology - "Some chemical features of sediments and ground solutions permeating the latter in the Pacific (materials of the northwestern part)" (Section VII.C.1)

BURKOV, V. A., Institute of Oceanology - "A study of equatorial currents in the western Pacific" (Section VII.B)

BURLUTSKAYA, V. M., and SAMOYLENKO, V. S., Institute of Oceanology - "The formation of air masses in the northern part of the Pacific Ocean" (Section VII.A)

BURMISTROVA, V. D., Institute of Oceanology - "The regions of formation and transition courses of anti-cyclons in the northern part of the Pacific Ocean (Section VII.A)

IVANOV, A.G.

Practice of making 1:25,000 scale maps using a mulitplex.
Geod.i kart. no.8:58-59 Ag '62. (MIRA 15:8)
(Map projection)

UDINTSEV, G.B.; AGAPOVA, G.V.; BERSENEV, A.F.; BUDANOVA, L.Ya.; ZATONSKIY, L.K.; ZENKEVICH, N.L.; IVANOV, A.G.; KANAYEV, V.F.; KUCHEROV, I.P.; LARINA, N.I.; MAROVA, N.A.; MINEYEV, V.A.; RAUTSKIY, Ye.I.

New relief maps of the bottom of the Pacific Ocean. Geofiz. biul. no.14:159-167 '64. (MIRA 18:4)

ERVAYS,A.V.; KOCHENOV,M.I., kandidat tekhnicheskikh nauk, redaktor; IVANOV,A.G., kandidat tekhnicheskikh nauk, retsenzent; MATVEYEVA, Ye.N., tekhnicheskiy redaktor

[Adjustment and repair of projectors and optical measuring instruments] IUstirovka i remont proektorov i opticheskikh dlinomerov. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroitel'noi lit-ry, 1951. 135 p. [Microfilm] (MIRA 9:3)
(Measuring instruments) (Optical instruments)

BABKIN, S.I., kandidat tekhnicheskikh nauk; BALAKSHIN, B.S., professor, doktor tekhnicheskikh nauk; BEYZEL'MAN, R.D., inzhener; BELYAYEV, V.M., kandidat tekhnicheskikh nauk; BIRGER, I.A., kandidat tekhnicheskikh nauk; BOGUSLAVSKIY, P.Ye., kandidat tekhnicheskikh nauk; BOROVICH, L.S., kandidat tekhnicheskikh nauk; VOL'KIR, A.S., professor, doktor tekhnicheskikh nauk; GONIKBERG, Yu.M., inzhener; GORODETSKIY, I.Ye., professor, doktor tekhnicheskikh nauk; GORDON, V.O., professor; DIMENTBERG, F.M., kandidat tekhnicheskikh nauk; DOSCHATOV, V.V., inzhener, IVANOV, A.G., kandidat tekhnicheskikh nauk; KIMASOSHVILI, R.S., professor; KODNIR, D.S., kandidat tekhnicheskikh nauk; KOLOMIYTSEV, A.A., kandidat tekhnicheskikh nauk; KRUTIKOV, I.P., kandidat tekhnicheskikh nauk; KUSHUL', M.Ya., kandidat tekhnicheskikh nauk; LEVENSON, Ye.M., inzhener; MAZYRIN, I.V., inzhener; MALININ, N.N., kandidat tekhnicheskikh nauk; MARTYNOV, A.D., kandidat tekhnicheskikh nauk; NIBERG, N.Ya., kandidat tekhnicheskikh nauk; NIKOLAYEV, G.A., professor, doktor tekhnicheskikh nauk; PETRUSEVICH, A.I., doktor tekhnicheskikh nauk; POZDNYAKOV, S.N., dotsent; PONAMOREV, S.D., professor, doktor tekhnicheskikh nauk; PRIGOROVSKIY, N.I., professor, doktor tekhnicheskikh nauk; PRONIN, B.A., kandidat tekhnicheskikh nauk; RESHETOV, D.N., professor, doktor tekhnicheskikh nauk; SATEL', E.A., professor, doktor tekhnicheskikh nauk; SERENSEN, S.V.; SLOBODKIN, M.S., inzhener; SPITSYN, N.A., professor, doktor tekhnicheskikh nauk; STOLBIN, G.B., kandidat tekhnicheskikh nauk; TAYTS, B.A., kandiat tekhnicheskikh nauk; TETEL'BAUM, I.M., kandidat tekhnicheskikh nauk; UMANSKIY, A.A., professor, doktor tekhnicheskikh nauk; FEODOS'YEV, V.I., professor, doktor tekhnicheskikh nauk;

(Continued on next card)

BABKIN, S.I.--- (continued) Card 2.
KHAYT, D.M., kandidat tekhnicheskikh nauk; ZYDINOV, V.Ya., kandidat tekhnicheskikh nauk; SHRAYBER, M.M., inzhener, nauchnyy redaktor; SHEDROV, V.S., kandidat tekhnicheskikh nauk, nauchnyy redaktor; TSVETKOV, A.P., dotsent, nauchnyy redaktor; SLEZNIKOV, G.I., inzhener, nauchnyy redaktor; MARKUS, M.Ye., inzhener, nauchnyy redaktor; KARGANOV, V.G., inzhener, nauchnyy redaktor; ASHERKAN, N.S., doktor tekhnicheskikh nauk, professor, redaktor; SOKOLOVA, T.P., tekhnicheskiy redaktor

[Manual of machinery manufacture] Spravochnik mashinostroitelia; v trekh tomakh. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry. Vol.3. 1951 1098 p. (MLRA 10:8)

1. Deystvitel'nyy chlen Akademii nauk USSR (for Serensen)
(Machinery)

IVANOV, A.G., dotsent, kandidat tekhnicheskikh nauk; NIKITIN, B.P., inzhener, retsenzent; GRIGOR'YEV, I.A., kandidat tekhnicheskikh nauk redaktor; MATVEYEVA, Ye.N., tekhnicheskiy redaktor.

[Control of measuring devices in machine construction] Kontrol izmeritel'nykh sredstv v mashinostroenii. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroitel'noi lit-ry, 1954. 169 p.
(Machinery industry) (Measuring instruments) (MLRA 8:3)

AL'SHITS, I.Ya., kandidat tekhnicheskikh nauk; BABKIN, S.I., kandidat tekhnicheskikh nauk; BALAKSHIN, B.S., doktor tekhnicheskikh nauk, professor; BEYSEL'MAN, R.D., inzhener; BELYAYEV, V.H., kandidat tekhnicheskikh nauk; BEREZINA, N.I., inzhener; BIRGER, I.A., doktor tekhnicheskikh nauk; BOGUSLAVSKIY, Yu.M., kandidat tekhnicheskikh nauk; BOROVICH, L.S., kandidat tekhnicheskikh nauk; GONIKBERG, Yu.M., inzhener; GORDON, V.O., professor; GORODETSKIY, I. Ye., doktor tekhnicheskikh nauk, professor; GROMAN, M.B., inzhener; DIKER, Ya.I., kandidat tekhnicheskikh nauk; DOSCHATOV, V.V., inzhener; IVANOV, A.G., kandidat tekhnicheskikh nauk; KINASOSHVILI, R.S., doktor tekhnicheskikh nauk; professor; KRUTIKOV, I.P., kandidat tekhnicheskikh nauk; LEVENSON, Ye.M., inzhener; MAZYRIN, I.V. inzhener; MARTYNOV, A.D., kandidat tekhnicheskikh nauk; NIBERG, N.Ya., kandidat tekhnicheskikh nauk; NIKOLAYEV, G.A., doktor tekhnicheskikh nauk, professor; PETRUSHEVICH, A.I., doktor tekhnicheskikh nauk; POZDNYAKOV, S.N., dotsent; PONOMAREV, S.D., doktor tekhnicheskikh nauk, professor; PRONIN, B.A. kandidat tekhnicheskikh nauk; RESHETOV, D.N., doktor tekhnicheskikh nauk, professor; SATEL', E.A., doktor tekhnicheskikh nauk, professor; SIMAKOV, F.F., kandidat tekhnicheskikh nauk; SLOBODKIN, M.S., inzhener; SPITSYN, N.A., doktor tekhnicheskikh nauk, professor; STOLBIN, G.B., kandidat tekhnicheskikh nauk; TAYTS, B.A., doktor tekhnicheskikh nauk; CHERNYSHEV, N.A., kandidat tekhnicheskikh nauk; SHNEYDEROVICH, R.M., kandidat tekhni-

(Continued on next card)

AL'SHITS, I.Ya., kandidat tekhnicheskikh nauk (and others)..... Card 2.

cheskikh nauk, EYDINOV, V.Ya., kandidat tekhnicheskikh nauk; ERLIKH, L.B., kandidat tekhnicheskikh nauk; ACHERKAN, N.S., doktor tekhnicheskikh nauk, professor, redaktor; MARKUS, M.Ye., inzhener, redaktor; KARGANOV, V.G., inzhener, redaktor; SOKOLOVA, T.F., tekhnicheskiy redaktor.

[Mechanical engineer's manual; in 6 volumes] Spravochnik mashinostroitelia; v shesti tomakh. Izd.2-e, ispr. i dop. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit. lit-ry, Vol.4, 1955. 851 p. (Mechanical engineering) (MLRA 8:12)

ZYABREVA, Nina Nikolayevna, kandidat tekhnicheskikh nauk, dotsent; SHEGAL, Mirza Yakovlevna, kandidat tekhnicheskikh nauk; ZHUBAVLEV, A.N., kandidat tekhnicheskikh nauk, dotsent, retsenzent; IVANOV, A.G., kandidat tekhnicheskikh nauk, dotsent, redaktor; MODEL', B.I., tekhnicheskiy redaktor

[Laboratory exercises for the course "Interchangeable parts and technical measurement."] Laboratornye zaniatiia po kursu "Osnovy vzaimozameniaemosti i tekhnicheskie izmereniia." Izd. 2-oe, ispr. i dop. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 335 p. (MLRA 10:1)
(Physical measurements) (Engineering instruments)

BELOUSOV, A.V.; RYMAR', N.F., inzhener, retsenzent; IVANOV, A.G., kandidat tekhnicheskikh nauk, redaktor; PROKOF'YEVA, L.G., redaktor izdatel'stva; UVAROVA, A.F., tekhnicheskiy redaktor.

[Organizing the work of a measuring laboratory in a machine manufacturing plant] Organizatsiia raboty izmeritel'noi laboratorii mashinostroitel'nogo zavoda. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1957. 101 p. (MIRA 10:11)
(Mensuration)

28(2)
AUTHOR: Ivanov, A.G.

SOV/115-59-9-29/3

TITLE: These Are Not "Some" Problems, But Basic Problems

PERIODICAL: Izmeritel'naya tekhnika, 1959, Nr 9, pp 54-55 (USSR)

ABSTRACT: The author states his opinion on K.N. Katsman's article in "Izmeritel'naya tekhnika" 1959, Nr 4, titled "Some Problems of the Organization and Activity of Measuring Instrument Laboratories at Plants". In the author's opinion, this heading alleviates the actual problem. The measuring instrument laboratories at industrial installations do no longer perform their actual tasks, but they were converted to checking departments for measuring instruments. However, such laboratories should also work on the development of new measuring instruments and methods. The employees of these plant laboratories could design precision measuring instruments for certain production processes which would replace the expensive universal measuring instruments. The plant laboratories should be supervised by the chief engineer and

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not by the technical control department. The lack of proper manuals on measuring instruments causes difficulties in the work of plant laboratories. Manuals on measuring instruments should be printed in an adequate volume. The testing systems should be worked out with more care. They should be combined according to groups, length measurements, angle measurements, etc. Problems of correcting the work of measuring instrument laboratories at plants should be straightened out without delay.

IVANOV, A.G., kand.tekhn.nauk, dotsent

Basic principles for the adjustment of measuring instruments. Vzaim.i tekh. izm.v mashinostr.; mezhvuz.sbor. no.3:162-172 '61. (MIRA 14:8)

(Measuring instruments)

BALAKSHIN, O.B., kand. tekhn. nauk; BYKHOVSKIY, M.L., prof., doktor tekhn. nauk; VOLODIN, Ye.I., kand. tekhn. nauk; GRIGOR'YEV, I.A., kand. tekhn.nauk; DRAUDIN-KRYLENKO, A.T., inzh.; IVANOV, A.G., kand. tekhn.nauk; KOZLOV, M.P., kand. tekhn. nauk; KOROTKOV, V.P., prof.; KOCHENOV, M.I., kand. tekhn.nauk; KUTAY, A.K., kand. tekhn. nauk; MARKOV N.N., kand. tekhn. nauk; PALEY, M.A., inzh.; RAYBMAN, N.S., kand. tekhn.nauk; ROSTOVYKH, A.Ya., kand. tekn. nauk; RUMYANTSEV, A.V., kand. tekhn.nauk; SARKIN, I.G., prof.; SMIRNOV, A.S., inzh.; TAYTS, B.A., prof., doktor tekhn. nauk; YAKUSHEV, A.I., prof., doktor tekhn. nauk; NESTEROV, V.D., inzh., nauchnyy red.; CHUDOV, V.A., inzh., nauchnyy red.; GAVRILOV, A.N., doktor tekhn.nauk, prof., red.; BLAGOSKLONOVA, N.Yu., inzh., red. izd-va; SOKOLOVA, T.F., tekhn. red.

[Manufacture of instruments and means of automatic control: a manual in five volumes] Priborostroenie i sredstva avtomatiki; spravochnik v piati tomakh. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry. Vol.1.[Interchangeability and engineering measurements] Vzaimozameniaemost' i tekhnicheskie izmereniia. 1963. 568 p. (MIRA 16:8)
(Electronic measurements) (Automatic control)

IVANOV, A.G.; NOVIKOV, S.A.

Use of a capacitance pickup in recording the instantaneous velocity of a moving surface. Prib. i tekh. eksp. 8 no.1:135-138 Ja-F '63. (MIRA 16:2)

(Electric apparatus and appliances) (Elastic waves)

IVANOV, A.G., [illegible], S.S., [illegible], V.P., [illegible], Ye.I., [illegible], K.F., [illegible], B.A., doktor tekhn. nauk, prof., KOCHETOV, I.I., kand. tekhn. nauk, retsenzent

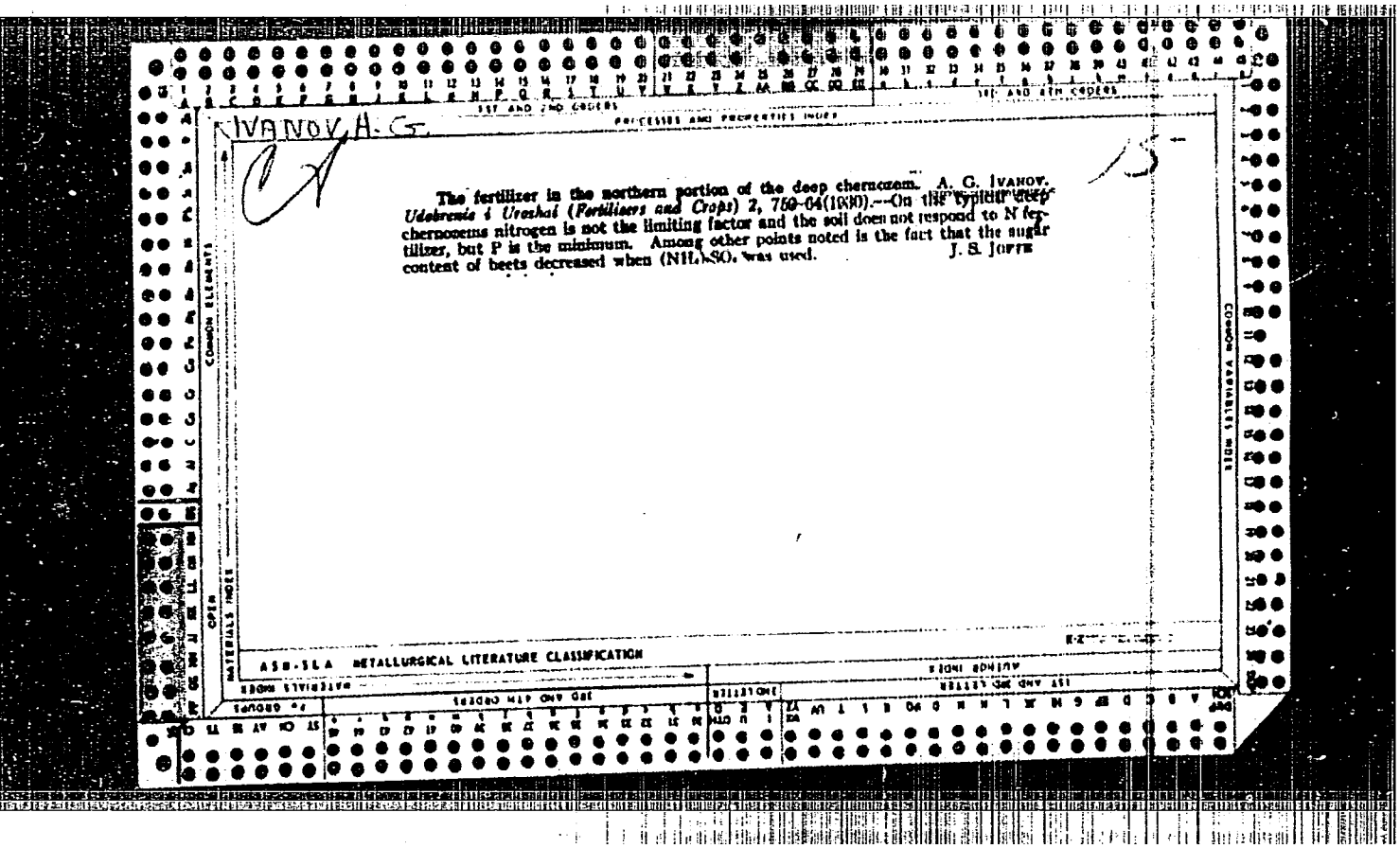
[Measuring instruments used in the manufacture of machinery] Izmeritel'nye pribory v mashinostroenii. Moskva, Mashinostroenie, 19[illegible]. [illegible] p. [illegible]

IVANOV, A.G.; IVANTSOV, A.I.; ROSTOVYKH, A. Ya.

"Measurement of angles in the manufacture of machinery" by V.IA. Eidinov. Reviewed by A.G. Ivanov, A.I. Ivantsov, A. IA. Rostovykh. Izm. tekh. no.5856-57 My'64 (MIRA 17:7)

IVANOV, A.G., inzh.

Adjustment and study of the operation of the burners of the PK-39 boiler. Energomashinostroenie 11 no.9:14-17 S '65. (MIRA 18:10)



IVANOV, A. G.

The fertilizer in the northern portion of the deep chernozem. A. G. Ivanov. *Udobrenie i Urozhai* (*Fertilizers and Crops*) 2, 760-04(1930).—On the typical deep chernozems nitrogen is not the limiting factor and the soil does not respond to N fertilizer, but P is the minimum. Among other points noted is the fact that the sugar content of beets decreased when $(NH_4)_2SO_4$ was used. J. S. Joffe

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