

KIRSANOV, V.M.; KONOVALOV, V.S.

Temperature conditions in the formation of the head part of a  
killed steel ingot. Izv.vys.ucheb.zav.; chern. met. 8 no.4:72-  
74: 1965. (MIRA 18:4)

1. Dnepropetrovskiy metallurgicheskiy institut.

KONOVALOV, V.S.; KIRSANOV, V.M.; PANYUSHKIN, N.V.; PATLAN', Ye.F.

Improving the quality of the head part of a killed steel ingot.  
Stal' 25 no.5:417-418 My '65. (MIRA 18:6)

1. Truboprokatnyy zavod im. K.Libknekhta i Dnepropetrovskiy  
metallurgicheskiy institut.

AUTHOR: Konovalov, V.S., Engineer SOV-118-58-9-7/19

TITLE: Main Transportation Lines Operated by Means of Bolt Conveyers and Cables (Magistral'nyy transport s pomoshch'yu lentochnykh **konveyerov** i kanatnykh dorog)

PERIODICAL: Mekhanizatsiya trudoyemkikh i tyazhelykh rabot, 1958, <sup>12</sup>№ 9, pp 22-25 (USSR)

ABSTRACT: Referring to the advantages of belt conveyer and suspended cable transportation of bulk goods in the US, South America and Sweden, the author admits that the USSR is lagging behind in this respect. The VNIIPMASH Institute is working on this problem. By means of various graphs, computations and reflections, the author tries to find out the most rational ways of transportation. There are 3 photographs and 10 graphs.

1. Materials--Transportation

Card 1/1

KONOVALOV, V. S. Cand Tech Sci -- (diss) "Investigation of the effectiveness in the use of various forms of continuous transport for the movement of massive amounts of friable loads from places of origin to points where needed," Moscow, 1960, 34 pp, 200 cop. (Institute of Mining, AS USSR) (KL, 42-60, 114)

KONOVALOV, V.S., kand. tekhn.nauk; STEFANENKO, S.A., inzh.;  
KUZNETSOVA, M.I., red.; KOVAL'SKAYA, I.F., tekhn. red.

[Mechanization and automation of intrafactory transportation in machinery plants] Mekhanizatsiia i avtomatizatsiia vnutrizavodskogo transporta mashinostroitel'nykh zavodov. (MIRA 16:4)  
Moskva, TSINTIMASH, 1961. 68 p.  
(Conveying machinery) (Industrial power trucks)  
(Automation) (Cranes, derricks, etc.)

KONOVALOV, V. S., inzh.

Efficiency of using continuous transportation of bulk loose loads from places where they are mined to points where they are needed. Sbor. trud. MISI no.39:422-424 '61.  
(MIRA 16:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut ped'yemno-transportnogo mashinostroyeniya.

(Mine haulage)

KONOVALOV, V.S., kand.takhn.nauk; RIKMAN, M.A., inzh.

Automatic storage at the "Moskabel" Works. Mekh.i avtom.proizv.  
15 no.11:31-34 N '61. (MIRA 14:11)  
(Moscow--Cables--Storage)  
(Automation)

KONVALOV, V.S., kand.tekhn.nauk; POPOV, Yu.I., inzh.

Problems of designing general plans and intrafactory transportation  
at machinery plants. Prom. stroi. 40 [i.e. 41.] no.3:10-16 Mr  
'63. (MIRA 16:3)

(Industrial plants--Design and construction)



KONOVALOV, V.S., kand.tekhn.nauk; KACHANOV, V.F., inzh.

Prospective constructions of hoisting and transporting machines  
for industrial buildings of the machine industry. Prom.stroi. 41  
no.9:46-52 S '63. (MIRA 16:11)

KONOVALOV, Vasilii Vasil'yevich; KUZNETSOVA, Lyudmila Ivanovna;  
KOVAL'CHUK, V.S., prepodavatel', retsenzent; POKROVSKIY,  
D.V., prepodavatel', retsenzent; KHACHATUROV, V.V., red.;  
USANOVA, N.B., tekhn. red.

[Radio navigation equipment on ships] Sudovye radionavigatsion-  
nye ustroistva. Moskva, Izd-vo "Morskoi transport," 1962. 374 p.  
(MIRA 16:2)

(Radio in navigation) (Radar in navigation)

137-58-6-11355

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 14 (USSR)

AUTHOR: Konovalov, V.V.

TITLE: Pelletizing Krivoy Rog Ores (Okatyshi iz krivorozhskikh rud)

PERIODICAL: V sb.: Dommnoye proiz-vo. Moscow, Metallurgizdat, 1957, pp 74-88

ABSTRACT: An investigation is made of the production of pellets (P) from undersize (0-12 mm) Krivoy Rog ores (KR). The experiments were preceded by the testing of a number of methods of clinkering. The best results were obtained when dry material was introduced into a supersaturated moist mass, with subsequent pelletizing. Experiments showed that clinkering by pelletizing may be done successfully not only with fine-ground concentrates, but also with undersize KR. Flue dust, lime, chalk, and coke breeze were tested in a series of experiments to strengthen the P. The P thus produced were roasted with blast-furnace gas. The influence of the temperature and of the excess-air coefficient during the burning of the charge additions on the roasting process and the properties of the P were investigated. The rate of downward travel of the zone of combustion

Card 1/2

KOMOVALOV, V.Y.

15

14. Thermal preparation of glass batches. - V. V. KOMOVALOV, Y. I. GAVRILIN, D. Y. ZILINSKY and M. YA. FIERE (USSR)

Results: Experiments were made on a batch of ...  
to be used as hot briquettes for ...  
showed that some of the silicate-forming reactions ...  
agglomeration converts ...  
did not lead to any practical ...  
because of the reaction ...  
and the ...  
Mathematical ...  
...

AUTHORS: Konovalov, V. V., Chechetkin, V. I., SOV/72-58-7-5/19  
Zaloznyak, D. V., Firer, M. Ya.

TITLE: Semi-Industrial Investigations of the Thermal Preparation of Glass Layers (Polupromyshlennyye issledovaniya termicheskoy podgotovki stekol'nykh shikht)

PERIODICAL: Steklo i keramika, 1958, Nr 7, pp. 17 - 24 (USSR)

ABSTRACT: Such a sintering device is shown in figures 1 and 2 and is described afterwards. The tests were carried out with two types of layers: the test-and the working layer, the compositions of which are given in table 1. The curves of the rise in temperature during the sintering of the two layers under the same conditions, are given in figure 3. The curves of the dependence of the  $\text{Na}_2\text{SO}_4$ -content in finished agglomerates on the relation of gas and air in the induction mixture for 2 sulfate-soda layers are given in figure 4, and are described in full details. The temperature curves obtained with the sintering of the test layer are given in figure 5. Further the authors report on the filling weight of the agglomerated glass layers, as well as also on the productiveness of the agglomerates. The most advantageous height

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Semi-Industrial Investigations of the Thermal Preparation of Glass Layers

SOV/72-58-7-5/19

of layer during sintering, as well as the optimum velocities of this process are given in table 2. The duration of the heat treatment, as well as the curves of vacuum-changes for different types of layers and heights are given (Figures 6,7 and 8). The heat-treatment lasts 9 to 10 minutes. Then, the consumption of loosening- and foundation material, as well as the gas consumption for the heat treatment of the layer are given. The dependence of the specific gas consumption on the excessive air supply for various layers is shown (Fig 9). The recommended gas processes for some glass-layers are given in table 3. The dependence of the gas consumption on the duration of the heat treatment and the sintering speed are illustrated by means of curves (Figs 10 and 11). Such a device has been developed for a tank furnace of the Gomel' Glass-Works on the basis of the semi-industrial tests carried out. A test series of the glass melting of heat-treated layers was carried out by which the technical and economic efficiency of their industrial use was proved. There are 11 figures, 3 tables, and 2 Soviet references.

Card 2/3

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Semi-Industrial Investigations of the Thermal Preparation of Glass Layers

SOV/72-58-7-5/19

1. Glass--Processing    2. Glass--Sintering    3. Glass--Temperature factors

Card 3/3

15(2)

SOV/72-59-10-6/14

AUTHORS: Zaliznyak, D. V., Firer, M. Ya., Konovalov, V. V., Chechetkin, V. I., Dunayev, V. G.

TITLE: The Influence of Thermal Preparation of the Charge on Glass Frits

PERIODICAL: Steklo i keramika, 1959, Nr 10, pp 21 - 27 (USSR)

ABSTRACT: In the years 1952-1954, the Moskovskiy gornyy institut (Moscow Mining Institute) together with the Gomel' Glassworks carried out investigations of the thermal preparation of glass charges (Footnote 1). Experiments on the melting of the sintered charge in continuous glass-melting furnaces were carried out at the Gomel' Glassworks, and experiments of comparative melting concerning the initial and the sintered charge were carried out at the laboratory of the first Kafedra silikatov i stekla Belorusskogo politekhnicheskogo instituta (Chair for Silicates and Glass of the Belorussian Polytechnic Institute), at the Laboratory for Glass Melting, as well as at the test plant of the institut stekla (Glass Institute) (Footnote 2). It was established that the melting time of the sintered charge depends on its content of free  $\text{Na}_2\text{SO}_4$  (Fig 1), as well as on the temper-

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The Influence of Thermal Preparation of the Charge on      SOV/72-59-10-6/14  
Glass Frits

ature of the sintered charge (Fig 2). It may be seen from figures 3,4,5, and 6 that vitrification is considerably accelerated during the melting of the sintered charge. The melting time of the initial and the sintered charges is shown in table 1. As may be seen from figure 7, the maximum furnace temperature was 1350°. The chemical analyses of the glasses from the sintered and initial charge are shown in table 2. Experiments showed that at furnace temperatures of from 1350 to 1450°, the entire melting and the refining of glasses from the sintered charge afford better results as compared with the initial charge. Moreover, at equal charge weight, 20% more glass is obtained from the sintered charges than from the initial charge. The chemical analyses of two experimental batches of sintered charges are shown in table 3. By using a cold sintered charge, the furnace output can be increased by 25-30%, and by using a hot charge (at 800-900°), it can be increased by 35-40%, and the time of vitrification and refining can also be considerably reduced. According to indications of Professor N. V. Solomin (Footnote 3), the furnace campaign can be considerably lengthened by using a sintered charge. According

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WWT(d)/EWT(1)/EEC(k)-2/EEC-l/T/EEC(b)-2/EWA(h) Pn-l/Pc-l/Pq-l/Pac-l/  
L/AID(a)-5/AFW/AETRE/ECIC /-AFM/c/RAM(a)/ESD(t)/  
AEM:t 030112764/003/00178/0381

Petrov, V. A.; Zubritskiy, L. A.; Tereshchenko, A. L.; 3  
Yanvalov, V. Ye.

**TITLE:** The method and device for measuring transmitted power at  
superhigh frequency qm

**SOURCE:** IVUZ. Radiotekhnika, v. 7, no. 3, 1964, 378-381

**TOPIC TAGS:** superhigh frequency radiation, transmission line, wave-  
guide, waveguide measuring section, traveling wavepower, power meter,  
hot cathode diode qm 25

**ABSTRACT:** The described method of measuring the superhigh-frequency field power inside a waveguide is based on the interaction of the wave and a space charge in the waveguide, and has resulted in the design of a simple miniature device for this purpose. A measuring cell forms an essential element of the device and is inserted directly into the waveguide. Because of low inertia, the pulse power and power distribution in the pulse can be registered directly by the device. The described method makes it possible to design field and power

Card 1/2

L 6977-65

ACCESSION NR: AP4042855

metals for various ranges from tens of watts to hundreds of kilowatts and higher. The experiments were conducted in the 3-cm band. The investigated circuit consisted of a continuous generation magnetron, attenuator, standing-wave ratio meter, matching transformer, measuring cell (evacuated waveguide section with a stretched tungsten cathode forming a diode with the conductive walls), and a 1M-4-type power-monitoring meter. The maximum measured power was 10w. This measuring device with four insulated cathodes, placed in four various waveguide cross sections, can be developed into a four-probe measuring line for high power transmission. Orig. art. has: 4 figures.

ASSOCIATION: none

SUBMITTED: 30Sep63

ATD PRESS: 3103

ENCL: 00

SUB CODE: EC

NO REF SOV: 002

OTHER: 001

Card 2/2

15-2250 3009,3309

23970  
S/131/61/000/006/003/003  
B105/B206

AUTHORS: Gordeyev, N. P., Zegzhda, V. P., Konarev, M. U., Shalkov,  
K. A., Konovalov, Ya. A.

TITLE: Experience in the use of graphite containing refractory materials for pumping over liquid metals by the electro-magnetic method

PERIODICAL: Ogneupory, no. 6, 1961, 292

TEXT: This article deals with the problem of the transportation of liquid metals by means of electromagnetic pumps, for the solution of which high-quality refractory materials are necessary. The high thermal and slag stability, non-wettability by metals and other properties of graphite containing refractory materials led to the assumption that they are suitable for this purpose. The testing of graphite containing refractory materials in steel discharge shutes, made according to the method of the VIO, Vsesoyuznyy institut ogneuporov (All-Union Institute of Refractory Materials) jointly with the Borovichskiy kombinat ogneuporov (Borovich Combine of Refractory Materials) showed positive results: the  
Card 1/2

23970

S/131/61/000/006/003/003  
B105/B206

Experience in the use of graphite ...

graphite containing chamotte products were highly resistant against washing out by the stream of liquid metal, and warranted an increase of the stability of the discharge-shute lining by four to ten times. The All-Union Institute of Refractory Materials, jointly with the avtozavod im. Likhacheva (Automobile Plant imeni Likhachev) experimentally produced a graphite containing chamotte lining for an electromagnetic shute for pumping over liquid crude iron, as well as an electromagnetic measuring hopper in an iron foundry. After three tests of pumping over liquid crude iron, the 6 m long shute lining did not show any signs of damage or destruction. The development of the induction method for pumping over liquid crude iron will necessitate the establishment of a special department for the manufacture of graphite containing refractory materials. There is 1 figure.

ASSOCIATION: Vsesoyuznyy institut ogneporov (All-Union Institute of Refractory Materials) N. P. Gordeyev, V. P. Zegzhda; Borovichskiy kombinat ogneporov (Borovichi Combine of Refractory Materials) M. U. Konarev, K. A. Shalkov, Ya. A. Konovalov

Card 2/2

GORDEYEV, N.P.; ZEGZHDA, V.P.; KONAREV, M.U.; SHALKOV, K.A.; KONOVALOV, Ya.A.

Using refractory materials containing graphite for transferring liquid metals by an electromagnetic method. Ogneupory 26 no.6:292 '61. (MIRA 14:7)

1. Vsesoyuznyy institut ogneuporov (for Gordeyev, Zegzhda).
2. Borovichskiy kombinat ogneuporov (for Konarev, Shalkov, Konovalov).

(Refractory materials)  
(Smelting)

KONOVALOV, YA. G.

PHASE I BOOK EXPLOITATION SOV/NO18

Академия наук Белорусской ССР. Физико-технический институт  
Спорнак наудных трудов, вып. 5 (Collected Scientific Papers of the  
Institute of Engineering Physics, Academy of Sciences Belorussian  
SSR, No. 5) Минск, Изд-во АН БССР, 1959. 235 p. Errata slip  
inserted. 1,100 copies printed.

М. of Publishing House: I. Mardik; Tech. Ed.: I. Volozhanovich;  
Editorial Board: V. Savchenko, Academician, Academy of Sciences  
BSSR (Chief Ed.); A. V. Goryunov, Academician, Academy of Sciences  
BSSR, M.N. Anisimov, Candidate of Technical Sciences, and  
F.A. Pashchuk, Candidate of Technical Sciences.

PURPOSE: This book is intended for technical personnel and scientific workers.

COVERAGE: This collection of 23 articles covers the following subjects: small draft rolling, blanks of wire-drawing, design of drop-forging dies, impact testing, examination of the effect of temperature on plastic deformation, sulphidation and carburizing processes, the mechanism of pulse-discharge, etc. ~~Материалы~~

Savchenko, V.P.; Goryunov, A.V. and M.P. Korytsev. Small-Flash Drop Forging and the Mechanism of Small-Flash Dies for Forging Bodies of Revolution 66

Savchenko, V.P.; Goryunov, A.V. and M.P. Korytsev. Effect of the Flash-Outlet Shape on the Life of Dies 70

Savchenko, V.P.; Goryunov, A.V. and M.Ye. Goryunov. On the Size of Flash in Drop-Forging Dies 77

Goryunov, A.V. Determination of Accelerations and Forces in Impact Upsetting 84

Goryunov, A.V. Efficiency of Impact in Upsetting Steel Blanks with Various Diameter-to-Height Ratios on a Vertical Upsetter 90

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Korovin, Ye.M. Resistance of Steel to Deformation at Cold-Chamber Rolling Temperatures 99

Korovin, Ye.M. Effect of Temperature and Rate of Strain on the Mechanical Properties of Silver Chloride 113

Goryunov, A.V.; Goryunov, A.V. and Z.D. Pavlenko. Neutralization of Lead in the Manganese Alloy [59-255 H, 20% Cr, 16% Co, 3% Ni, 1.7% Al] 120

Goryunov, A.V. and S.L. Kuznetsov. Sulphidation in Liquid Baths 126

Goryunov, A.V.; Esterskaya, M.M.; Ivanenko, and I.S. Kuznetsov. Effect of Carburizing Temperature on the Mechanical Properties and Composition of the 18KhCr, 12KhNi and 20Kh Steels 133

Korovin, Ye.M.; Tu.M. Lomonosov, B.L. Kuznetsov, and V.I. Pankov. Rectification of Copper with High-Frequency Current Heating 147

Korovin, Ye.M. Methods for Development of New Processes in Mechanical Machining of Metals 158

Korovin, Ye.M. and V.N. Chuchhin. Investigation of Surface Quality in Vibratory Grinding of Cast Alloys 178

Korovin, Ye.M.; Goryunov, A.V. and M.M. Olekhnovich. Examination of a Low-Voltage Pulse Discharge by the Method of Time Scanning of Light of Small Portions of the Discharge Zone 189

Korovin, Ye.M.; Goryunov, A.V. and M.M. Olekhnovich. On the Mechanism of Phenomena [Occurring] on Electrons During Electric-Pulse Discharges in the Air at Atmospheric Pressure 199

Korovin, Ye.M.; Goryunov, A.V. and M.M. Olekhnovich. On Phenomena [Occurring] on Electrodes in Electric Pulse-Discharge through a Thin Metal Film 210

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Korovin, Ye.M.; Goryunov, A.V. Problems in the Accuracy of Magnetic Tachometers 223

Korovin, Ye.M.; Goryunov, A.V. and I.S. Lohachevskiy. Investigation of the Self-Exciting of Boles with Rotary Field Current 230

Korovin, Ye. G.

KONOVALOV, Ya.R. [Kanavalau, IA.R.]; YEFREMOV, V.I. [IAfremau, V.I.]

Effect of ultrasonic vibrations on the strength and plasticity  
of brass. Vestsi BSSR. Ser. Fiz.-tekhn. nav. no. 4:93-98  
'60. (MIRA 14:1)

(Ultrasonic waves) (Brass)

KONOVALOV, Ya.R. [Kanavalau, IA.R.]; YEFREMOV, V.I. [Iafremau, V.I.]

Effect of ultrasound waves on the strength and plasticity of statically  
loaded brass. Vestsi AN BSSR Ser. fiz.-tekh. nav. no. 1:114-119 '61.  
(MIRA 14:4)

(Brass) (Ultrasonic waves)



KONOVALOV, Ye.

"Finances of people's democracies" by D. Butakov, V. Bochkova,  
I. Shevel'. Reviewed by E. Kononov). Vop. ekon. no. 11:140-144  
N '60. (MIRA 13:11)

(Communist countries--Finance)

KONOVALOV, Ye.

Improving the material welfare and cultural level of the peoples in  
the world socialist system. Vop. ekon. no.1:94-102 Ja '62.  
(MIRA 15:1)

(Communist countries--Cost and standard of living)  
(Communist countries--Culture)

KONOVALOV, Ye.A., inzh.

Methods for calculating the compression and settling of peat  
bogs in drying. Torf. prom. 40 no.7:24-27 '63. (MIRA 17:1)

1. Kalininskiy torfyanoy institut.

L 0000-00 ENT(M)/EWA(M)

ACC NR: AP5025706

SOURCE CODE: UR/0286/65/000/018/0057/0057

AUTHORS: Konovalov, Ye. A.; Ploshchanskiy, L. M.; Solov'yev, V. A.

48  
55 B

ORG: none

TITLE: A device for checking radiation meters. <sup>19.55</sup> Class 21, No. 174729

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 18, 1965, 57

TOPIC TAGS: radiation monitor, radiometry, radiometer, filter, mercury

ABSTRACT: This Author Certificate presents a device for checking radiation meters. It contains a radiation source, a shielded housing with a collimated channel, an attenuating filter, mechanisms for moving and fixing the position of the source, and an effective area (see Fig. 1). To simplify the design, increase the measurement range, and reduce the checking time, a liquid metal (e.g., Hg) is used as the attenuating filter. The radiation source is placed directly inside the filter and can be moved.

Card 1/2

UDC: 621.039.55

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L 844-66

ACC NR: AP5025706

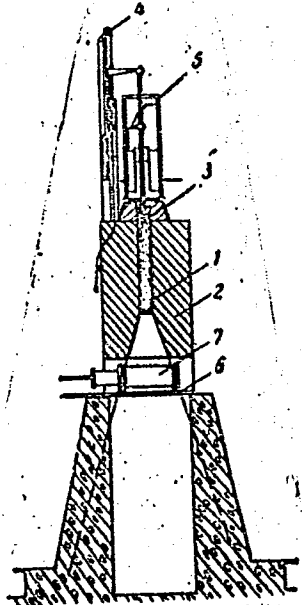


Fig. 1. 1 - Radiation source;  
2 - shielded housing;  
3 - liquid-metal attenuating  
filter; 4 - mechanism for moving  
source; 5 - mechanism for fixing  
source; 6 - effective area;  
7 - sensing element of radiation  
meter.

Orig. art. has: 1 figure.

SUB CODE: 18/ SUBM DATE: 17Apr64

Card 2/2

L 5067-66 EWT(m)/EPF(c)/EWP(j)/T/EWA(h)/EWA(1) WW/RM  
 ACC NR: AP5022645 UR/0089/65/019/002/0201/0203  
 539.16.07

AUTHOR: <sup>4455</sup> Konovalov, Ye. A.; <sup>4455</sup> Ploshchanskiy, L. M.; <sup>4455</sup> Solov'yev, V. A.

TITLE: The use of polyethylene pipes in pipelines of dosimetric air sampling system <sup>48</sup>  
<sup>45</sup>

SOURCE: Atomnaya energiya, v. 19, no. 2, 1965, 201-203 <sup>B</sup>

TOPIC TAGS: nuclear reactor, atomic energy plant equipment, air pollution control

ABSTRACT: <sup>19</sup> The radioactive-air samplers are usually equipped with pipelines made of aluminum or stainless steel pipes. The possibility of their replacement by non-corrosive polyethylene pipes is discussed. The authors describe their experiments with the polyethylene pipes having a 20 mm diameter and 4 mm wall thickness. The results of their tests showed that the polyethylene pipes could be used at temperatures up to 60 C, pressures up to 3 kg/sq cm and rarefactions of 600 mm Hg. At the beginning of 1962, the air sampling pipelines of the VVR-M reactor were equipped with polyethylene pipes and tubes. Their total length was about 3000 m. No trouble was experienced during two years

Card 1/2

090/0453

Card 2/2

**KONVALOV, Y.e.A.**

Railroad construction in the Chinese People's Republic.  
Zhel.der.transp.37 no.11:85-87 N '55. (MLRA 9:2)  
(China--Railroads--Construction)

KONOVALOV, Ye.

Cooperative agriculture in the Chinese People's Republic.  
Vop.ekon. no.9:138-144 S '56.

(MLBA 9:10)

(China--Agriculture, Cooperative)



KONOVALOV, Ye.

Relations between industry and trade in China. Sov.torg. no.1:32-36  
Ja '57. (MLBA 10:2)  
(China--Commerce)

KONVALOV, Ye.A., kand.ekon.nauk

New upswing of railroad construction in the People's Republic  
of China. Zhel.dor.transp. 40 no.11:87-88 N '58.

(MIRA 11:12)

(China--Railroads--Construction)

YAN TSZYAN'-BEY [Yang Chien-peí]; STARODUBROVSKAYA, V.N.; KONOVALOV,  
Ye.A.; GUAN' DA-TUN [Kuan Ta-t'ung]; OLEYNIK, I.P.; SEMENOVA,  
L.S.; HE LI [He Li]; CHEHAN SY-TSYAN' [Chang SSI-ch'ien];  
VOINOV, A.M.; SHIRYAYEV, S.L.; KURAKIN, V.A.; STUPOV, A.D., red.;  
KANEVSKAYA, T.M., red.; GERASIMOVA, Ye.S., tekhn.red.

[Economy of the Chinese People's Republic, 1949-1959] Ekonomika  
Kitaiskoi Narodnoi Respubliki, 1949-1959. Moskva, Gosplanizdat,  
1959. 304 p. (MIRA 13:5)

1. Zaveduyushchiy sektorom ekonomiki stran narodnoy demokratii  
Instituta ekonomiki AN SSSR (for Stupov).  
(China--Economic conditions)

VASIL'TSOV, V.D.; VOLCHENKO, M.Ya.; GERTSOVICH, G.B., kand.ekon. nauk;  
ZHARKOV, Ye.I.; KOHOVALOV, Ye.A., kand. ekon. nauk; MATVIYEVSKAYA,  
E.D.; OLEYNIK, I.P., kand. ekon. nauk; RAYEVSKAYA, E.S.,;  
SKVORTSOVA, A.I.; SOKOLOVA, N.V.; SOTNIKOVA, I.A.; TANDIT, V.S.;  
TRIGUBENKO, M.Ye.; FIRSOVA, Yu.V.; SHABUNINA, V.I.; YUMIN, M.N.;  
STOROZHEV, V.I., kand. istor. nauk, red.; LEPNIKOVA, Ye., red.;  
SMIRNOV, G., tekhn. red.

[Economy of the people's democracies in figures for 1960] Ekono-  
mika stran sotsialisticheskogo lageria v tsifrakh 1960 g. Pod  
red. G.B.Gertsovicha, I.P.Oleinika, V.I.Storozheva. Moskva, Izd-  
vo sotsial'no-ekon. lit-ry, 1961. 238 p. (MIRA 15:4)  
(Communist countries--Economic conditions)

KONOVALOV, Ye.A.

A conference of statisticians. Vest.AN SSSR 31 no.9:100-101  
S '61. (MIRA 14:10)  
(Statistics)

SOROKIN , G.M.; OLEYNIK, I.P., doktor ekon. nauk; RYABUSHKIN, T.V., doktor ekon. nauk; DUDINSKIY, I.V., kand. ekon. nauk; MIROSHNICHENKO, B.P., kand. ekon.nauk; SERGEYEV, V.P., kand. ekon. nauk; TARNOVSKIY, O.I., kand. ekon. nauk; STOROZHEV, V.I., kand. ist. nauk; KONOVALOV, Ye.A., kand. ekon. nauk; GERTSOVICH, G.B., kand. ekon. nauk; POPOV, K.I., kand. ekon. nauk, red.; ZEVIN, L.Z., red.; NIKOLAYEV, D.N., red.; PAK, G.V., red.; GERASIMOVA, Ye.S., tekhn. red.

[The building of communism in the U.S.S.R. and cooperation among the socialist countries]Stroitel'stvo kommunizma v SSSR i sotrudnichestvo sotsialisticheskikh stran. Pod obshchei red. G.M.Sorokina. Moskva, Ekonomizdat, 1962. 334 p. (MIRA 16:2)

1. Akademiya nauk SSSR. Institut ekonomiki mirovoy sotsialisticheskoy sistemy. 2. Chlen-korrespondent Akademii nauk SSSR (for Sorokin).

(Communist countries--Foreign economic relations)

VASIL'TSOV, V.D.; VOLODARSKIY, L.M.; VOLCHENKO, M.Ya.; GALETSKAYA, R.A.; IROV, N.I.; KARINYA, L.F.; KONOVALOV, Ye.A.; MATVIYEVSKAYA, E.D.; PETRESKU, M.I.; RUDAKOV, Ye.V.; SAYFULINA, L.M.; SKVORTSOVA, A.M.; SOKOLOVA, N.M.; SOTNIKOVA, I.A.; STOLPOV, N.D.; SURKO, Yu.V.; TEN, V.A.; TRIGUBENKO, M.Ye.; FIRSOVA, Yu.V.; SHABUNINA, V.I.; YUMIN, M.N.; RYABUSHKIN, T.V., doktor ekon. nauk, otv. red.; ALAMPIYEV, P.M., red.; PAK, G.V., red.; GERASIMOVA, D., tekhn.red.

[Economy of socialist countries, 1960-1962] Ekonomika stran sotsializma, 1960-1962gg. Moskva, Izd-vo "Ekonomika," 1964. 261 p. (MIRA 16:12)

1. Akademiya nauk SSSR. Institut ekonomiki mirovoy sotsialisticheskoy sistemy.

(Communist countries--Economic conditions)

VASIL'YEV, G.Ya.; KONOVALOV, Ye.A.; PANKOV, V.G.; YASHIN, D.A.

Tangential channels and reconstruction of the thermal column of a  
WWR-M reactor. Atom. energ. 19 no.5:465-467 N '65.

(MIRA 18:12)



L 26304-00 EFF. n)-2/EWI(m)/ETC(f)/EWG(m)/EWP(e) WH/WW

ACC NR: AP6001699 (N) SOURCE CODE: UR/0089/65/019/005/0465/0467

AUTHOR: Vasil'yev, G. Ya.; Konovalov, Ye. A.; Pankov, V. G.; Yashin, D. A.

43  
39  
B

ORG: Physicotechnical Institute im. A. F. Ioffe, AN SSR, Leningrad (Fizikotekhnicheskiy institut AN SSR)

TITLE: Tangent channels and reconstruction of thermal column of the VVR-M reactor

SOURCE: Atomnaya energiya, v. 19, no. 5, 1965, 465-467

TOPIC TAGS: nuclear research reactor, nuclear reactor technology nuclear reactor component/VVR-M nuclear reactor

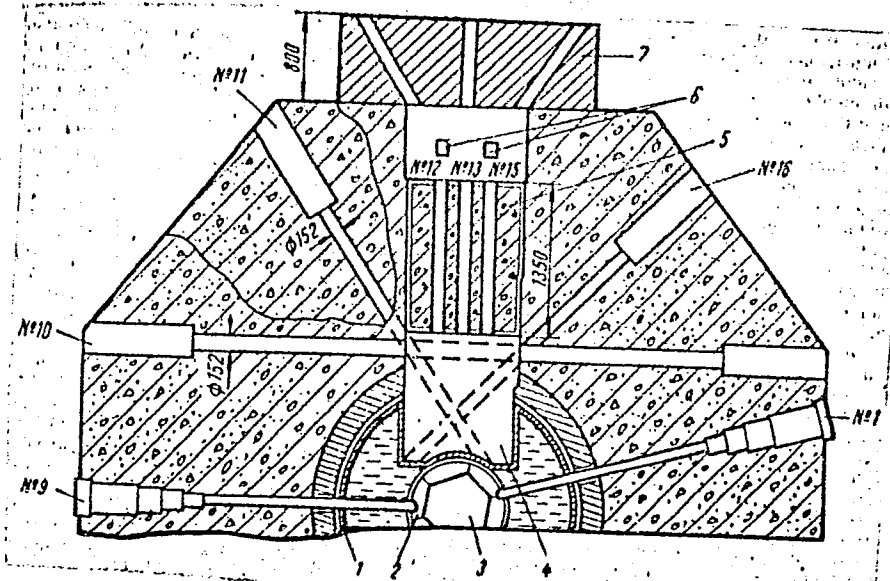
ABSTRACT: In order to improve the operation of the VVR-M reactor installed at the Physicotechnical Institute im. A. F. Ioffe, some changes were made in the number and disposition of channels and in the rearrangement of thermal column. The reactor was originally provided with 9 horizontal channels located in concrete shielding. In 1961, a channel, No. 10, was added at a distance of 1390 mm from the core center. In 1963, two channels, Nos. 11 and 16, were bored as tangent to the beryllium reflector. Such a tangent position reduced the effect of gamma background on irradiated samples. The thermal column (3040 mm long), originally composed of six graphite disks, was then reconstructed. The

Card 1/3

15

UDC: 621.039.519

ACC NR: AP6001699



1-Reactor tank; 2-Beryllium reflector; 3-Reactor core; 5-Carriage niche; 6-Data transmitters; 7-Movable cast-ion shield

Card 3/3

L 28364-66

ACC NR: AP6001699

4

last five graphite disks were replaced by one concrete disk carrying four horizontal channels, No. 13 with  $d = 120$  mm, Nos. 12 and 15 with  $d = 102$  mm and No. 14 with  $d = 80$  mm. Channel No. 14 was bored 10 cm lower than the three upper channels. The arrangement of channels is shown on Card 2/3. The physical parameters on channels Nos. 1, 10, 11 and 16 were given in a table. The addition of channel No. 10 was suggested by Yu. V. Petrov, member of the Institute staff. I.A. Kondurov proposed the channels Nos. 11 and 16. V. S. Gvozdev showed a great activity in creating the tangent channels. A gratituda is expressed to D. M. Kaminker (Scientific Supervisor) for his interest and assistance. Orig. art. has: 2 diagrams and 1 table.

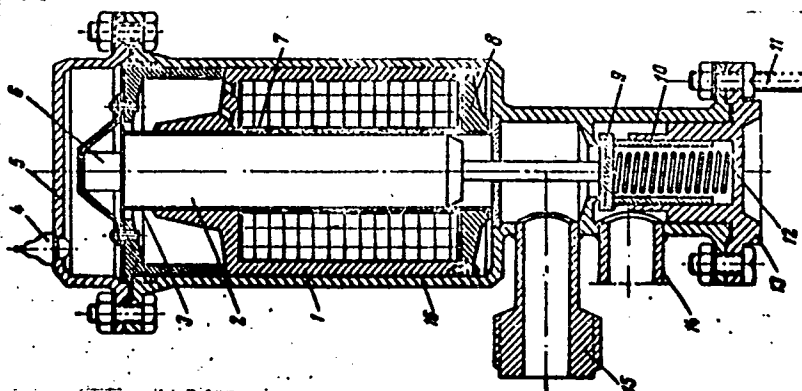
SUB CODE: 18 / SUBM DATE: 21Apr65 / ORIG REF: 002 / OTH REF: 001

Card 3/3 00

Card 1/2

UDC: 621.039.586/587

ACC NR: AP6030165



The KD-1 electromagnetic valve

1. solenoid case, 2. plunger, 3. brass guiding bush, 4. insulating bead, 5. valve hood, 6. KV-9A limit switch, 7. solenoid coil case, 8. solenoid case lid, 9. teflon ring, 10. locking piston, 11. dowels, 12. spring, 13. valve base, 14. intake pipe, 15. suction pipe

SUB CODE: 18 / SUBM DATE: 27Apr65

Card 2/2

ACC NR: AP6030165

SOURCE CODE: UR/0120/66/000/004/0224/0225

AUTHOR: Konovalov, Ye. A.; Ploshchanskiy, L. M.; Solov'yev, V, A.ORG: Physicotechnical Institute, AN SSSR, Leningrad (Fiziko-tekhnicheskiy institut AN SSSR)TITLE: Single action KD-1 electromagnetic air valve with switch on signalsSOURCE: Pribory i tekhnika eksperimenta, no. 4, 1966, 224-225TOPIC TAGS: reactor control, valve, isotope separation, radioactivity measurement, radiation dosimetry, radiation instrument, *ELECTROMAGNETIC PROPERTY*

ABSTRACT: In 1962 the dosimetric control system of the VVR-M reactor was equipped with 65 KD-1 electromagnetic air valves of single action with switch on signals. The valves have been operating continuously for 2 years, each switching at least 50,000 times during this period without a single breakdown. Monthly inspections of the tightness of the air control system disclose that the valves are: overall dimensions - 250 x 120 mm<sup>2</sup>, weight - 4.6 kg, flow-passage cross-sectional area - 16 mm, working voltage - 48 v, type of current - d.c., working current - 0.3 a, signal circuit voltage - 0.5 a, spring pressure on locking piston - 4 kg, stroke of locking piston - 5 mm, temperature of heating surface of valve body at an ambient temperature of +20 C - 45 C, and air leakage at 750 torr - 0.003 l/min, at most. A diagram of the valve is shown below. Orig. art. has: 1 figure.

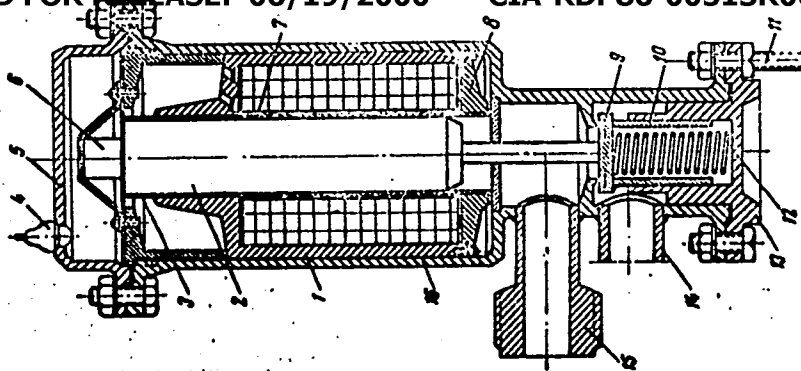
Card 1/2

UDC: 621.039.586/587

ACC NR: AP6030165

APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000824330004-7



The KD-1 electromagnetic valve

1. solenoid case, 2. plunger, 3. brass guiding bush, 4. insulating bead, 5. valve hood, 6. KV-9A limit switch, 7. solenoid coil case, 8. solenoid case lid, 9. teflon ring, 10. locking piston, 11. dowels, 12. spring, 13. valve base, 14. intake pipe, 15. suction pipe

SUB CODE: 18 / SUBM DATE: 27Apr65

Card 2/2

ACC NR: AF7000795

(A,N)

SOURCE CODE: UR/0089/66/021/015/0386/0386

AUTHOR: Konovalov, Ye. A.; Ploshchanskiy, L. M.; Solov'yev, V. A.

ORG: none

TITLE: Improvement of the system of stationary dosimetric control of the VVR-M reactor

SOURCE: Atomnaya energiya, v. 21, no. 5, 1966, 386

TOPIC TAGS: nuclear reactor, dosimeter, nuclear reactor operation, nuclear reactor control, radiation dosimetry, nuclear safety/ VVR-M reactor, USIT-1 dosimeter

ABSTRACT: This is a summary of article no. 112/3573, submitted to the editor and filed, but not published in full. The shortcomings of the earlier system are briefly summarized and it is reported that in the improved system, used for the reactor at the Physicotechnical Institute im. A. F. Ioffe, AN SSSR, these shortcomings have been eliminated to a considerable degree. The air-control system has a more highly branched network of sampling lines, with provision made for manual, semi-automatic, and automatic control. Both counter-type and ionization-chamber pickups can be used to determine the concentration of radioactive gases in the air. Control over the exhaust of the radioactive gases is by means of continuous pumping and is continuously monitored by means of an automatic recorder. The  $\gamma$  radiation is monitored by two type USIT-1 instruments, with additional "cactus" type instruments being used in the hot chambers and in the pump room of the first loop and on the cover of the reactor.

Card 1/2

UDC: 621.039.58

ACC NR: AF7000795

"APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000824330004-7

Automatic visual and sound alarms are provided. It is claimed that the improved system satisfies present sanitary norms and technological requirements, and that experience accumulated in 2.5 years of operation will lead to further improvements.

SUB CODE: 18/ SUBM DATE: 14 Jan 66

Card 2/2

ANTONOV, O.S., kand.med.nauki KONDOVALOV, Ye.D.

Clinical and X-ray picture of isolated stenosis of the pulmonary artery. Vest. rent. i rad. 39 no.6:3-6 M-D '64.

(MIRA 18:6)

1. Institut eksperimental'noy biologii i meditsiny Ministerstva zdoravookhraneniya RSFSR (nauchnyy rukovoditel' - prof. Ye.N. Meshalkin).

KONOVALOV, Ye.F.

Spontaneous rupture of the uterus in early pregnancy. Kaz. Med.  
Zhur. no.6:65-66 '62. (MIRA 17:5)

1. Uchaynaya bol'nitsa stantsii Buzuluk (glavnyy vrach -  
S.I. Didos') Kubyshevskoy zheleznoy dorogi.

KONOVALOV, Ya.G.

Certain theoretical conceptions on the kinetics of the deformation  
of surfaces. Vestsi AN BSSR. Ser. fiz.-tekh. nav. no.1:139-147 '57.  
(Surfaces, Deformation of) (MIRA 10:6)



~~KONOVALOV, Ye.G.~~

Analyzing cutting kinematics in broaching gears associated with automatic generating. Vestsi AN BSSR. Ser. fiz.-tekh. nav. no.2: 145-159 '57. (MIRA 11:1)

I. Zaveduyushchiy laboratoriyey rezaniya Fizioterapevticheskogo instituta AN BSSR.

(Gear cutting)

82659

S/123/59/000/09/13/036

A002/A001

12.5200

Translation from: Referativnyy zhurnal, Mashinostroyeniye, 1959, No. 9, p. 97,  
# 33586

AUTHORS: Konovalev, Ye. G., Sidorenko, Yu. A., Chachin, V. N.

TITLE: Vibration Grinding of Hard Alloys

PERIODICAL: Sb. nauchn. tr. Fiz.-tekhn. in-t AN BSSR, 1958, No. 4, pp. 248-255

TEXT: Experiments in using the method of vibration grinding of hard alloys are described. The experiments were performed at FTI AN BSSR. Grinding was carried out with the periphery of a "K360CM2K" (KZ60SM2K) straight-profile grinding disk on a surface-grinding machine. A special electromagnetic vibrator produced the vibratory motion of the "BK8" (VK8) alloy plate in a direction parallel to the disk axis at a frequency of 100 cps and at an amplitude of 2.5 mm. The experiments were performed at a speed of 37.6 m/sec, a longitudinal feed of 3.4 m/min and a grinding depth of 0.08-0.15 mm. Under these conditions, the VK8 alloy plate was subjected to conventional and vibration grinding. In all cases of conventional grinding, cracks and scorches

Card 1/2

KONOVALOV, Ye.G.; YEFREMOV, V.I.

New method for dynamic testing of metals. Dokl. AN BSSR 2  
no.7:283-287 Ag '58. (MIRA 11:10)

1. Predstavleno akademikom AN BSSR K.B.Gerevym.  
(Metals--Testing)

KONOVALOV, Ye.G.; GERMANOVICH, I.N.

Electric conductivity as a means for studying films of metal  
oxides formed during cutting. Dokl. AN BSSR 2 no.9:370-373 0 '58.  
(MIRA 12:7)

1. Predstavleno akademikom AN BSSR K.V. Gorovym.  
(Metallic oxides--Electric properties)

PHASE I BOOK EXPLOITATION SOV/NOIS

Академия наук Белорусской ССР. Физико-технический институт  
Сборник научных трудов, вып. 5 (Collected Scientific Papers of the  
Institute of Engineering Physics, Academy of Sciences Belorussian  
SSR, No. 5) Минск, Изд-во АН БССР, 1959. 235 с. Тираж 500  
экземпляров. 1,100 copies printed.

Издательство: И. Марикс; Тех. Эд. И. Волокуневич;  
Редакционный Совет: В. П. Северденко, Академик, Академия Наук  
БССР (Chief Ed.), К. В. Горецкий, Академик, Академия Наук  
БССР, М. Н. Бодяко, Академик, Академия Наук БССР, и др.  
П. А. Пархатик, Академик, Академия Наук БССР.

PURPOSE: This book is intended for technical personnel and scien-  
tific workers.

COVERAGE: This collection of 23 articles covers the following  
subjects: small draft rolling analysis of wire-drawing, design  
of deep-forming dies, impact upsetting, examination of the effect  
of temperature on plastic deformation, sulphidation and carburizing  
processes, the phenomena of pulse-discharge, etc. *Механические  
процессы при прокатке проволоки*

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Бондаркин, Б. Я. Problems in the Accuracy of Magnetic Fac- simile	223
Кондратьев, Я. С., and I. S. Lobachevsky. Investigation of the Color Change of Metals With Rotary Ball Grinders	230

*Кондратьев Я. С.*

KONOVALOV, Ye.G. [Kanavalau E.H.], kand. tekhn. nauk; CHACHIN, V.N. [Chachyn, V.M.]

Dynamics of the vibration grinding of hard alloys. Vestsi AN BSSR.  
Ser. fiz.-tekh. nav. no.1:19-24 '59. (MIRA 12:7)  
(Grinding and polishing)

KONOVALOV, Ye.G.; AVRUTIN, A.M.; SIDORENKO, Yu.A.; LOBACHEVSKIY, I.S.

Machining holes by rotary mandrels. Stan. 1 instr. 30 no.1:29-30  
Ja '59. (MIRA 12:1)  
(Drilling and boring machinery)

23471

S/123/61/000/009/002/027  
A004/A104

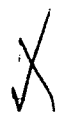
1.1100

AUTHOR: Konovalov, Ye.G.

TITLE: Methods of creating new ways of mechanical tooling of metals

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 9, 1961, 42, abstract  
9B266 ("Sb. nauchn. tr. Fiz.-tekhn. in-t AN BSSR", 1959, no. 5,  
158 - 177)

TEXT: The author has developed a method of designing new ways of mechanical tooling based on the principle of the combination of the functional diagrams of cutting. The method is illustrated with the aid of an example of developing a new method of machining cylindrical surfaces. Various cutting systems are analyzed from the viewpoint of a solution of the following problems: chip crushing, deflection of the part being turned, short tool life, unsatisfactory microgeometry of the surface layer and the comparatively low efficiency of the turning method. The most expedient is a combined functional diagram based on the turning with six rotating tools clamped in one common clip (the rotation axis of the tools agrees



Card 1/2

Card 2/2



88586

S/123/61/000/002/005/017  
A005/A001

11100

Translation from: Referativnyy zhurnal, Mashinostroyeniye, 1961, No. 2, p. 58,  
# 2B488

AUTHORS: Konovalov, Ye. G., Chachin, V. N.

TITLE: An Investigation of the Surface Quality at Vibro-Grinding of Hard  
Alloys

PERIODICAL: "Sb. nauchn. tr. Fiz.-tekhn. in-t AN BSSR", 1959, No. 5, pp. 178-188

TEXT: The authors report on the results of investigations of the vibro-grinding process of hard alloys on a universal grinding machine and a surface-grinding machine with vibrators. During the investigation, the roughness of the surface was determined depending on the cutting depth, the table- and cross feed, and the characteristics of the grinding wheel at vibro-grinding (frequency - 100 cps) and without vibrations. It turned out that the vibro-grinding increases the efficiency by 2-3 times; the fine roughness ( $H_{av} = 2-4$  micron) can be obtained with  $t = 0.06 - 0.08$  mm per 2 to-and-fro motions of the table. The vibro-grinding sharply decreases the danger of the appearance of searings and cracks and makes it possible to apply disks of black silicon carbide which yield the same

Card 1/2

11100

23267

S/123/61/000/005/007/017  
A004/A104

AUTHORS: Kononov, Ye. G., Lobachevski, I. S.

TITLE: Investigating the process of hole machining by rotary mandrels

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 5, 1961, 71, abstract 5B634. (Sb. nauchn. tr. Fiz.-tekhn. in-t, AN BSSR, 1959, no. 5, 230-235)

TEXT: The authors describe the design and tests of rotary mandrels for the finish machining of internal cylindrical surfaces without removal of chips. The investigation was carried out on specimens of the steel grades 15, 20, 35 and 45 in holes which were reamed by a 1 : 200 tapered reamer, so that the allowance on the diameter continuously varied from 0 to 0.2 mm. The mandrel diameter was 50 mm, the ball diameter 9.5 and 12.7 mm respectively. The investigation showed that the optimum allowance is in the range of 0.08 - 0.1 mm. The surface finish is in the range of the 9th class. There is 1 figure and 6 graphs.

S. Livshits

[Abstractor's note: Complete translation]

Card 1/1

18(7)

05284  
SOV/170-59-7-15/20

AUTHORS: Konovalov, Ye.G., Germanovich, I.N.

TITLE: An Investigation of Films of Metal Oxide During Grinding and Milling by the Electric Conductivity Method

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1959, Nr 7, pp 92 - 95 (USSR)

ABSTRACT: There are statements in previous investigations on the possibility to establish, by means of the electric conductivity method, the nature of an oxide film covering metals in oxidation. In order to check this possibility, the authors studied by this method the films of metal oxides during the milling of St. 45 and cast iron and during the grinding of steel of the 40Kh grade and cast iron. The results of these studies are shown in Figures 2 and 3. As it is seen from these graphs, there is no noticeable decrease of electric conductivity with an increase in the speed of both milling and grinding, if current is fed through a current collector. If, however, current is fed directly into a machine tool without the current collector, a slight decrease of electric conductivity is observed up to a cutting speed of 400 m/min; at a further increase of the cutting speed, electric conductivity rises. A reason for this the authors see in the probable origination of extra-currents of disconnection.

Card 1/2

KONVALOV, Ye.G.; CHACHIN, V.N.

Thermal studies on the vibration grinding of a hard alloy. Dokl. AN BSSR 3 no.11:452-455 N '59.

(MIRA 13:4)

1. Predstavleno akademikom AN BSSR K.V. Gorevym.  
(Grinding and polishing) (Alloys--Thermal properties)

PHASE I BOOK EXPLOITATION SOV/5241

Konovalov, Yevmeniy Grigor'yevich, and Yevgeniy Iosifovich Pyatosin

Obrabotka ploskikh poverkhnostey scharikovymi golovkami (Ball Burnishing of Plane Surfaces) Minsk, Izd-vo AN BSSR, 1960. 19 p. 3,000 copies printed.

Sponsoring Agency: Fiziko-tehnicheskiy institut AN BSSR. Laboratoriya novykh metodov obrabotki materialov.

Ed.: R.L. Toppenets, Candidate of Technical Sciences; Ed. of Publishing House: L. Timofeyev; Tech. Ed.: I. Volokhanovich.

PURPOSE: This booklet is intended for designers and operators of burnishing tools.

COVERAGE: Ball burnishers are discussed from the standpoint of their design, kinematics, macrogeometry, and other data relative to their construction and use. Cold working processes are mentioned briefly. No personalities are mentioned. There are nine references, all Soviet.

Card ~~1/2~~

KONOVALOV, Yevmeniy Grigor'yevich; BORISENKO, Aleksandr Vasil'yevich;  
FEDOROV, L.I., kand.tekhn.nauk, red.; TIMOFEYEV, L., red.izd-vs;  
VOLOKHANOVICH, I., tekhn.red.

[Vibration turning] Otsilliruiushchee tochenie. Minsk, Izd-vo  
Akad.nauk BSSR, 1960. 30 p. (MIRA 14:1)  
(Turning)

S/123/61/000/015/021/032  
A004/A101

AUTHORS: Kononov, Ye. G., Germanovich, I. N.

TITLE: Method of electric conductivity and investigation of oxide films of metals during turning

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 15, 1961, 36, abstract 15B227 ("Sb. nauchn. tr. Belorussk. in-t mechaniz. s.kh.1960, no. 4, 274-276)

TEXT: The investigations were carried out under insulation of the cutting tool and the blank by means of an installation with special mechanical current collector which made it possible to collect the current during the turning process of the specimens without distortions. To determine the type of oxide films, the current polarity was changed. When the current was supplied through the current collector, no noticeable decrease in electric conductivity with an increase in the turning speed up to 226  $\mu$ /min could be observed. There are 3 figures. ✓

M. Degtyareva

[Abstracter's note: Complete translation]

Card 1/1

1.1100

30946

S/571/60/000/006/011/011  
E194/E135

AUTHORS: Konovalov, Ye.G., and Borisenko, A.V.  
TITLE: Certain operating characteristics of an oscillating cutter  
SOURCE: Akademiya nauk Belaruskay SSR. Fiziko-tekhnicheskiy institut. Sbornik nauchnykh trudov. no.6. Minsk, 1960. 216-227

TEXT: In lathe turning operations the chip tends to wind itself round the tool and work piece and can be a considerable nuisance. Existing types of chip breaker are not reliable, and for automatic machines and production lines it is necessary to develop new methods of turning which overcome the problem of chip breaking. One such method is that in which the cutter is given an oscillatory motion in the direction of the feed. Cutting then takes place with variable feed and the chips resemble those formed during milling. In the Laboratoriya novykh metodov obrabotki materialov (Laboratory for new methods of working materials) of the FTI AN BSSR an oscillating cutter head was designed for a turning lathe type 1A62. The construction

card 1/8



Certain operating characteristics... <sup>30946</sup> S/571/60/000/006/011/011  
E194/E135

is illustrated schematically in Fig.1. The tool 1 in the tool holder 2 is made to oscillate along the axis of the work piece by the cam 3 which is driven along a spline shaft 4 through the gearing 5. The tool holder is held against the cam by springs. The amplitude of oscillation is altered by changing the cam shape but a fine adjustment 7 is also provided. In another design the cam was driven by a separate motor of 0.6 kW. The tests were made with cutters tipped with the carbides T5 K10 and T15K6 working steels 20, 45 and 18XГТ (18KhGT). The cutter geometry was:

- a)  $\varphi = 90^\circ$ ;  $\varphi_1 = 60^\circ$ ;  $\lambda = 0^\circ$ ;  $\gamma = 7^\circ$ ;  $\alpha = 11^\circ$ ;  $r = 0.5 \text{ mm}$ ;  
b)  $\varphi = 60^\circ$ ;  $\varphi_1 = 26^\circ$ ;  $\lambda = 0^\circ$ ;  $\gamma = 7^\circ$ ;  $\alpha = 11^\circ$ ;  $r = 0.5 \text{ mm}$ .

[Abstractor's note: In Soviet terminology  $\varphi$  = plan angle,  $\varphi$  = working trail angle,  $\lambda$  = cutting edge side rake,  $\gamma$  = rake and  $\alpha$  = clearance;  $r$  is presumably nose radius.]

Theoretical formulae are derived for the instantaneous rate of feed of the oscillating cutter and expressions are derived for the conditions when the feed is zero so that the chip must break. Then an expression is obtained for the amplitude necessary to cause chip breakage. However, the actual amplitude differs from that calculated because of elastic vibration of the lathe, the tool and

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Certain operating characteristics ... <sup>30946</sup> S/571/60/000/006/011/011  
E194/E135

the part and moreover it is not always necessary to reduce the feed to zero to ensure chip breaking. Accordingly, tests were made to ensure chip breakage under different cutting conditions. The amplitude of oscillation was measured by a vibrograph which recorded on a moving tape fitted on the tool holder. Fig.2 shows a graph of the minimum amplitude in mm as function of the feed rate in mm/rev. for steel grade 18KhGT (dotted line) and steel 45 (solid line). It is found that the minimum amplitude to ensure chip breakage is greater than the calculated value by some 20-30%. In the case of the tough steel grade 18KhGT the minimum amplitude is proportional to the feed; however, for steel grade 45 at feeds greater than 0.25 mm/rev. proportionality is not observed. This is because the break occurs where the chip is thin. Further tests showed that the use of emulsified cutting oils reduced the stable value of the minimum amplitude. The minimum amplitude is increased with increasing depth of cut. However, changes in the cutting speed (in the range 62-190 metres/min) or in the rake angle of the cutter (from  $-5^\circ$  to  $+15^\circ$ ) or in the cutting edge side rake ( $-5$  to  $+15^\circ$ ) have practically no influence on the minimum amplitudes. By introducing empirical coefficients into the

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Certain operating characteristics ... <sup>30916</sup> S/571760/000/006/011/011  
E194/E135

theoretical formula the following expression is obtained for the minimum amplitude necessary to ensure chip breaking:

$$A_{min} = q_{\phi} q_t q_c q_{\kappa} \frac{S}{1.5 \left| \sin \pi \frac{f}{n} \right|} \text{ mm} \quad (7)$$

where values of q are taken from Table 1. When an oscillating cutter is used the finish is not so fine as with a normal tool. It was found that the smoothest surface was obtained for ratios of oscillation frequency to spindle speed which give the minimum amplitude for chip breaking, i.e. when this ratio is 0.5, 1.5 or 2.5. Fig.7 shows a graph of the relationship between the surface roughness in microns and the ratio of the frequency of oscillation to the spindle speed where V = 70 m/min, S = 0.5 mm/rev., t = 2 mm, using steel grade 45. The dotted line shows the surface roughness with normal cutting methods. The influences of feed, cutting speed and use of cutting fluid and depth of cut on surface finish with an oscillating cutter are much the same as with an ordinary tool. The variations in rate of feed with an oscillating cutter would tend to promote tool wear, and so  
Card 4/8

Certain operating characteristics ...

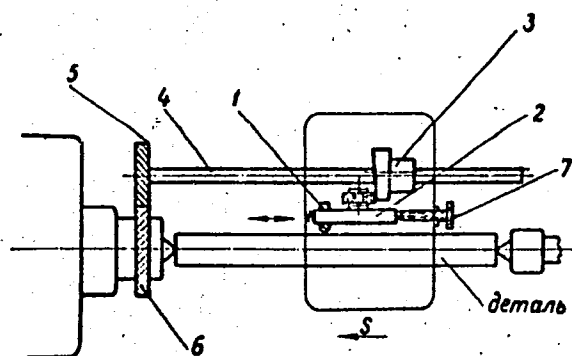
<sup>30946</sup>  
S/571/60/000/006/011/011  
E194/E135

will the increase in the impact loading. On the other hand, with an oscillating cutter the cutting edge periodically leaves the cutting zone so that it runs cooler. This was confirmed by measuring the electromotive force between tool and workpiece which was less with an oscillating cutter than with a normal tool. Tool wear studies showed that with an oscillating cutter in the majority of cases the tool performance was 30-40% better than with a normal tool. It is considered that an oscillating cutter can be successfully used on ordinary turning lathes and it is particularly effective when used on automatics or on automatic lines. There are 11 figures, 1 table and 6 Soviet-bloc references. X

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Certain operating characteristics .... 30946  
S/571/60/000/006/011/011  
E194/E135

Fig.1



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Certain operating characteristics ...

30946  
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E194/E135

Table 1

Correction factors for the amplitude of oscillatory motion of cutter as function of:

1. Principal angle in plan	Principal angle in plan $\varphi$ , deg.	45	60	75	90.
	Coefficient $q_\varphi$	1.25	1.16	1.08	1.0
2. Depth of cut	Depth of cut, $t$ , mm	0-2	2-4	4-6	6-8
	Coefficient $q_t$	1.0	1.09	1.18	1.3
3. Use of cutting fluid	Nature of work	with cooling		without cooling	
	Coefficient $q_o$	0.92		1.0	
4. Rigidity of work piece	Rigidity of work piece $L/D$	$L/D < 5$	$L/D = 5-10$	$L/D = 10-15$	
	Coefficient $q_{*k}$	0.9	1.0	1.2	

Card 8/8

KONOVALOV, Ye.G.; BORISENKO, A.V.

Dynamics of oscillating turning. Dokl. AN BSSR 4 no.8:340-342  
Ag '60. (MIRA 13:8)

1. Fiziko-tekhnicheskii institut AN BSSR. Predstavleno akad. AN  
BSSR K.V.Gorevym.

(Turning)

KONOVALOV, Yevmoniy Grigor'yevich; SEVERDENKO, V.P., akademik, re-  
tsenent; GOREV, K.V., akademik, red.; KHOLYAVSKIY, S., red.  
izd-va; VOLOKHANOVICH, I., tekhn. red.

[Fundamentals of new methods for machining metals] Osnovy no-  
vykh sposobov metalloobrabotki. Minsk, Izd-vo Akad. nauk  
BSSR, 1961. 296 p. (MIRA 15:3)

1. Akademiya nauk Belorusskoy SSR (for Gorev, Severdenko).  
(Metalwork)

KONOVALOV, YE. G., Doc Tech Sci, "THEORETICAL PRINCIPLES  
OF NEW METHODS OF METAL WORKING." MINSK, 1961. (ACAD  
SCI BSSR. DEPT OF TECH SCIENCES). (KL-DV, 11-61, 216).

-104-



KONOVALOV, ~~Y. R.~~

1-1100

32203

S/201/61/000/003/006/006  
D299/D305

AUTHORS: Kanavalaw, Ye. R. and Hermanovich, I. M.

TITLE: On the penetration of cutting fluid into the cutting region during mechanical metal-working

PERIODICAL: Akademiya nauk Bielorussskoy SSR. Izvestiya. Seriya fiziko-tekhnicheskikh nauk. no. 3, 1961, 115-119

TEXT: The effect of vibrations on the cutting process is considered. In the authors' opinion, the vibrations which arise in metal cutting facilitate the penetration of the cutting fluid into the cutting zone, thereby wear is reduced and the metal working improved; this applies to vibrations of small amplitude and high frequency (ultrasonic). This hypothesis was verified by means of special experimental procedure. The vibrations were generated by the ultrasonic generator  $\gamma$ 3M-1.5 (UZM-1.5) of power 1.5 kilowatt. Three types of cutting fluid were investigated: ordinary water, an emulsion and cutting oil. The height of the fluid column in capillary tubes was investigated after connecting and disconnecting

Card 1/2

S/571/61/000/007/009/010  
I048/I248

AUTHORS: Konovalov, Ye.G., and Dorozhkin, N.N.

TITLE: A new method for gauging ring-shaped parts

SOURCE: Akademiya nauk Belaruskay SSR. Fiziko-technicheskiy institut. Sbornik nauchnykh trudov. no.7. 1961. 184-189

TEXT: A new, simplified method for the fine adjustment of the internal and external diameters of cast, stamped, forged, or sintered metal parts, are described; the diameters are adjusted through plastic deformation alone, using a die for the external diameter and a floating, round-headed plunger for the internal diameter, on a 40-ton hydraulic press. The dies and plunger are made of a hardened  $\chi\beta\Gamma$  (KhVG) alloy (Cr-W-Mn), and their surfaces are finished to a high degree of smoothness. In experiments with sintered ring-shaped parts consisting of perlite + 10-15% ferrite (Brinell hardness 50-70 kg./sq.mm.) external diameters ranging from 34.12 to 34.26 mm. were adjusted to 33.94 to 33.98 mm. while internal diameters ranging from 16.95 to 17.03 mm. were adjusted to 16.98

Card 1/2

KONOVALOV, Ye.G.; STEPANOV, V.P.

Equipment for the investigation of oblique-angle cutting by the  
optical-polarization method. Sbor. nauch. trud. Fiz.-tekh.inst.  
AN BSSR no.7:190-198 '61. (MIRA 15:7)  
(Metal cutting--Testing)

41998  
S/571/61/000/007/010/010  
IO4B/I248

11730

AUTHORS: Konovalov, Ye.G., and Lobachevskiy, I.S.

TITLE: An investigation of the depth of the strain-hardened layer and the wear-resistance of the hardened surface after rotary ball-burnishing of internal cylindrical surfaces

SOURCE: Akademiya nauk Belaruskay SSR. Fiziko-tehnicheskii institut. Sbornik nauchnykh trudov. no.7. 1961. 200-203 ✓

TEXT: Rotary ball-burnishing is a new cold-working process producing plastic deformation in metallic surfaces with a consequent increase in hardness; the process is described in the book "Rotatsionnoe dornirovanie", by the same authors, published by the BSSR Academy of Sciences, 1959. The depth of the strain-hardened layer produced is practically independent of variations in the rate of burnishing within the range 50-500 m./min., and increases slightly with a decreased ball diameter. The maximum depth produced under optimum conditions is 1.9-2.2 mm. in steel Cm-15

Card 1/2

ACCESSION NR: AT4030805

s/0000/63/000/000/0192/0198

AUTHOR: Konovalov, Ye. G.; Germanovich, I.N.

TITLE: The effect of high frequency (ultrasonic) vibrations on the passage of liquid media through capillary channels

SOURCE: AN UkrSSR. Institut metallokeramiki i spetsial'nykh splavov. Poverkhnostnyye yavleniya v rasplavakh i protsessakh poroshkovoy metallurgii (surface phenomena in liquid metals and processes in powder metallurgy). Kiev, Izd-vo AN UkrSSR, 1963, 192-198

TOPIC TAGS: high frequency vibration, ultrasonic vibration, capillary channel, liquid medium

ABSTRACT: In this paper, the authors studied the effect of ultrasonic vibrations under various conditions (capillary diameter, temperature) on a liquid medium in a capillary channel. The results are presented in graphs. Ultrasonic influence on the passage of liquid media through capillary channels is a new, little studied phenomenon. Only the first steps have been made in the study of this problem; before it lie even greater efforts. Many questions still must be answered in order to explain the physical nature of this phenomenon and its practical application in industry. It

Card 1/2

KONOVALOV, Ye.G. [Kanavalau, IA.R.]; GERMANOVICH, I.N. [Germanovich, I.M.]

Effect of high-frequency vibrations on the penetration of lubricants and coolants into the cutting zone during the mechanical working of metals. Vestsi AN BSSR. Ser. fiz.-tekhn. nav. no.3:98-100 '63.  
(MIRA 16:10)

45518  
S/170/63/006/003/012/014  
B104/B186

26.1420  
26.2182

AUTHORS: Konovalov, Ye. G., Germanovich, I. N.

TITLE: The influence of temperature on the rise of liquid in a capillary under the action of high frequency vibrations

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 6, no. 3, 1963, 103 - 105

TEXT: The capillary rise of a liquid is largely determined by the surface tension of the liquid and consequently decreases with increasing temperature. If the liquid vibrates with ultrasonic frequencies in the direction of the capillary axes, the rise is greater and increases with temperature. Water, an emulsion of commercial acidol, and lubricating oil were subjected to 23.5 kcs in glass tubes of various diameters. The increase in capillary rise was measured in the 0 - 80°C range. The height to which water rises in a capillary tube with an inner diameter of 0.484 mm increases from 30 mm at ≈ 5°C to 90 mm at ≈ 70°C. Similar results are obtained for other liquids under different conditions. There are 2 figures.

ASSOCIATION: Fiziko-tehnicheskiy institut AN BSSR, g. Minsk (Physico-technical Institute AS BSSR, Minsk)

~~Class 1/2~~

KONOVALOV, Ye.G.; SKRIPNICHENKO, A.L.

Effect of cyclic loading of an ultrasonic frequency on the static mechanical characteristics of copper. Dokl. AN BSSR 7 no.12:817-820 D '63. (MIRA 17:8)

1. Fiziko-tekhnicheskiy institut AN BSSR. Predstavleno akademikom AN BSSR V.P. Severdenko.



KONOVALOV, Ye.G., doktor tekhn. nauk, prof., otv. red.

[Plasticity and metalworking by pressure] Plastichnost'  
i obrabotka metallov davleniem. Minsk, Nauka i tekhnika,  
1964. 320 p. (MIRA 17:12)

ACCESSION NR: AR5012863      UR/0276/65/000/004/B030/B030  
621.9.014.8:534.8

Технология машиностроения. Сводный сб. Абс. 18244

AUTHORS: Konovlov, Ye. G.; Layrinovich, B. S.

TITLE: A method utilizing ultrasound for investigating heat phenomena in cutting and grinding

DATE ENDED: Sb. Primeneniye ul'trazvuka v mashinostr. Minsk. Nauka i tekhnika, 1964, 7-9

TOPIC TAGS: ultrasonic wave propagation, heat measurement, metalworking, thermo-couple/ EPP 09 potentiometer, 45 steel

TRANSLATION: A complex method utilizing ultrasound has been developed to replace old and insufficiently accurate methods for investigating heat phenomena. The method is based on direct measurement of the temperature with an artificial thermometer, on measurement of the mean time of the ultrasonic wave propagation in a specimen, and on determination of the relation between the time of the ultrasonic wave propagation and the distribution of temperature along the length of the investigated specimen. The process of balancing with the application of an automatic potentiometer EPP-09 is described. An example of graduating curves for a specimen of steel 45 is presented. 1 illustration; bibliography of 2 entries. L. Tsukerman

Card 1/2

ACCESSION NR: AR5012863

SUB CODE: IE, TD

ENCL: 00

Card 2/2

L 14473-66 EWT(m)/EWP(t)/EWP(b)/EWA(h) IJP(c) JD

ACC NR: AR5013267

UR/0277/65/000/004/0017/0017

SOURCE: Ref. zh. Mashinostroitel'nyye materialy, konstruktsii i raschet detaley mashin. Gidroprivod. Otd. vyp., Abs. 4.48.128

AUTHOR: Kononov, Ye.G.; Dovgiallo, I.G.

TITLE: Change in microhardness of copper in the process of cyclic application of ultrasonic frequency

CITED SOURCE: Sb. Primeneniye ul'trazvuka v mashinostr. Minsk, Nauka i tekhnika, 1964, 22-26

TOPIC TAGS: copper, ultrasonic inspection

TRANSLATION: The effect of tensile strength and compression on the microhardness of copper were investigated. The study was carried out at a constant 20 kc oscillation frequency and various amplitudes, on a sample face: 0.012, 0.008 and 0.006 mm. This accordingly produced the following stresses in the central part of the sample: 17.0, 11.40, 8.55 kg/mm<sup>2</sup>. The samples were tested in two states: (1) annealed at 550°C for 2 hrs, and (2) previously deformed (strain hardened) by torsion ( $\phi$ 720 and 1440°C). The microhardness of the annealed Cu increases sharply with an increase in the number of cycles at the beginning, dropping slightly thereafter. However, it remains constantly higher than the initial one. The difference in the strain hardening and softening processes is the more noticeable the higher the cyclic stress.

Card 1/2

I. 16733-66 EWT(m)/EWP(w)/EWA(d)/EWP(t)/T/EWA(h) JD

ACC NR: AR5013266

UR/0277/65/000/004/0014/0014

58  
B

SOURCE: Ref. zh. Mashinostroitel'nyye materialy, konstruktsii i raschet detaley mashin. Gidroprivod. Otd. vyp., Abs. 4.48.106

AUTHOR: Konovalev, Ye.G.; Remizovskiy, E.I.

TITLE: Effect of ultrasonic frequency oscillation on the creep characteristics of D16 aluminum alloy

ORIG SOURCE: Sb. Primeneniye ul'trazvuka v mashinostr. Minak, Nauka i tekhnika, 1964, 41-46

TOPIC TAGS: ~~ultrasonic~~, ultrasonic vibration, ultrasonic ~~test~~ inspection, aluminum alloy, creep, annealing, material deformation/D16T aluminum alloy

TRANSLATION: The effect of HF-oscillation and the simultaneous application of a static load ( $\sigma_{st} 6.5k/mm^2$ ) were studied in testing D16T alloy, annealed at 370°C (5 hrs) for creep. Applying oscillation during test for creep simultaneously with a static load increases the total creep deformation and the rate of creep, especially in the initial stage of the test. The preliminary application of ultrasonic oscillations strengthens the D16T aluminum alloy slightly. This is expressed in a decrease in the rate and the total deformation of creep. 9 references.

SUB CODE: 11,13,20/ ~~ENG-60~~

UIC:669.715:539.376

SUBM DATE: none

Card 1/1 vmb

L 53913-65 EWT(m)/EWP(w)/EWA(a)/EWP(t)/EPR/EWF(k)/EWP(b)/EWA(c) Pf-4

JD/HW/EM  
ACCESSION NR: AR5017262

UR/0276/65/000/006/B067/B067

SOURCE: Ref. zh. Tekhnologiya mashinostroyeniya. Svodnyy tom, Abs. 6B628 27/0

AUTHORS: Konovalov, Ye. G.; Rimskiy, V. K.; Yefremov, V. I.

TITLE: Removal of residual stresses with ultrasound after rotational machining ✓

CITED SOURCE: Sb. Primeneniye ul'trazvuka v mashinostr. Minsk, Nauka i tekhnika, 1964, 51-56

TOPIC TAGS: residual stress, stress relaxation, rolling mill, ultrasound effect

TRANSLATION: For finishing of internal surfaces with open contours (cylinders having large openings and grooves), a full-contact rotational roller mandrel, whose length is equal to or somewhat longer than the length of the cylinder, was used. To remove the residual stresses originating in the rolling process, after machining the cylinders were subjected to ultrasound for 10 minutes at an operating frequency of 20 kc and ultrasonic power delivered to the vat of 1.25 kw. A rotational mandrel with radial feed insures obtaining openings of second-class accuracy and 8-10th class finish under the condition that the machining tolerance

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L 53933-65

ACCESSION NR: AR50L7262

is within 0.06-0.08 mm and the initial surface finish is within 6th class. The finishing of cylindrical surfaces having an open contour (including grooves) can be produced by rolling instead of honing. The residual stresses can be removed in an ultrasonic field. Bibliography of 8 entries, 2 illustrations, and 2 tables.  
A. Fomin

SUB CODE: AS, IE

ENCL: 00

*BD*  
Card 2/2

L 16752-66 EWT(m)/EWA(d)/EWP(t)/EWP(k)/EWA(h) JD  
 ACC NR: KR5013205

UR/0277/65/000/004/0004/0004

SOURCE: Ref. zh. Mashinostroitel'nyye materialy, konstruktsii i raschet detaley mashin. Gidroprivod. Otd. vyp., Abs. 4.48.25 50  
E

AUTHOR: Konovalov, Ye.G.; Skripnichenko, A.L.; Dovgiallo, I.G.; Remizovskiy, E.I.

TITLE: Effect of ultrasonic oscillations on the mechanical properties of some metals and alloys

CITED SOURCE: Sb. Primeneniye ul'trazvuka v mashinostr. Minsk, Nauka i tekhnika, 1964, 61-68

TOPIC TAGS: ultrasonic inspection, ultrasonic vibration, alloy, ~~alloy steel~~, copper, ~~solid mechanical property, low carbon steel~~ / D16T alloy

TRANSLATION: Methods and the results are given of an investigation of the effect of ultrasonic frequency oscillations on the mechanical properties of D16T alloy, copper, and iron on tensile strength, torsion and creep. The simultaneous effect of cyclic and static loads, created by ultrasonic oscillations during tensile strength test of D16T alloy and copper (Cu-99.90%), shows a significant decrease in their mechanical characteristics. For example: the  $\sigma_b$  for the D16T-alloy (tempered and naturally aged) decreases from 5 to 16%, whereas the magnitude of the  $\sigma_b$  decrease is a function of the oscillation amplitude. Also, during torsion test of D16T-alloy and low-carbon steel (0.06%C) the ultrasonic oscillations considerably decrease their mechanical characteristics. The application of the ultrasonic frequency oscillation to a static

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UDC: (669.715+669.3+669.1):539.4 2



I. 16732-66

ACC NR: AR5013265

load in testing the creep increases the total and the initial creep deformation.  
The article has 10 references.

SUB CODE: 11, 320/

~~EXH. 00~~

SUBM DATE: none

Card 2/2 vmb

10013-05 ZMA(h)/ZMP(k)/ZMA(c)/ZMT(m)/ZMP(b)/ZMA(d)/ZMP(t) P6-L/Feb IJP(c)  
JL/IN/CS

DOCUMENT NR: AT5006708

S/0000/64/000/000/0091/0097

26

4

B+1

Author: Konovayev, Ye. G. (Doctor of technical sciences, Professor);  
Polshchko, A. L.

Title: The effect of ultrasound on the process of deforming commercial iron.  
AN BSSR, Fiziko-tekhnicheskiy institut. Plastichnost' i obrabotka  
metallov davleniyem (Plasticity and metalworking by pressure). Minsk, Izd-vo  
Nauka i tekhnika, 1964, 91-97

TOPIC TAGS: ultrasound, tensile testing, yield point, low carbon steel, stress raiser, commercial iron, stress elimination

ABSTRACT: This article describes investigations of the effect of ultrasonic vibrations on the strength and ductility of commercial iron, the primary feature of the tests being that the static and vibratory loads were applied simultaneously during elongation of the specimen. An ultrasonic generator with a magnetostrictive oscillator operating at 21 kc was used as the source of the vibratory load at ultrasonic frequency. The amplitude of the oscillations was measured at the end of the specimen by a microscope. The test specimens were made out of commercial iron rods, annealed in a vacuum at 600C for 3 hrs, cooled down with the

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ACCESSION NR: AT5006708

furnace to 400 C, and then cooled in air. The tensile tests were carried out at  
rate of 10 mm/min. The investigation revealed that the superposi-  
tions of vibrations on the process of elongation of commercial iron  
all its mechanical properties, this time depending on the amplitude of  
vibrations. Strain can therefore be reduced by ultrasound during various  
stages of pressure working of metals. Orig. article has 1 Table, 4 figures  
and 1 formula.

CLASSIFICATION: None

1612964

ENCL. 00

SUB CODE: MM

REF SOV: 003

OTHER: 007

Card

2/2 MF

1 30000-65 EPR/EMA(h)/EMP(y)/EMF(z)/EMA(c)/EMF(a)/EMF(b)/EMA(d)/EMF(t) Pf-L/  
TS-1000 IJP(c) NJ/JD/EM/CS

ACCESSION NR: AT5006709

S/0000/64/000/000/0102/0103

AUTHOR: Konovalov, Ye. G. (Doctor of technical sciences, Professor); -/  
Dovgiallo, I. G.

TITLE: Investigation of the process of static torsion of D16T alloy in an ultra-  
sonic field at elevated temperatures

SOURCE: AN BSSR. Fiziko-tekhni<sup>1</sup>cheskiy institut. Plastichnost' i obrabotka  
metallov davleniyem (Plasticity and metalworking by pressure). Minsk, Izd-vo  
Nauka i tekhnika, 1964, 102-103 /s

TOPIC TAGS: static torsion, torsional strength, ultrasound, aluminum alloy /  
D16T alloy

ABSTRACT: The results of studies on the effect of ultrasonic vibrations on the  
process of static torsion in D16T alloy at elevated temperatures are given. The  
testpieces were annealed at 360C for 5 hrs. and cooled down with the furnace to  
room temperature. The working length of the specimen was 70 mm and the diameter  
10 mm. The experiments were carried out with and without the specimens being  
cooled by running water. Since the torsional strength in both cases was the same,  
it was evident that heat liberation in the specimen owing to the absorption of

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ACCESSION NR: AT5006709

2

ultrasound was negligible. The temperature of deformation varied from 20 to 100, 150, 200, 250 and 300C. It was found that the process of static torsion of annealed D16T alloy in an ultrasonic field with an amplitude of vibration of 0.006 mm at the end of the specimen led to a decrease in the true torsional strength by 3.4 kg/mm<sup>2</sup>, with this difference remaining constant over the entire range of test temperatures. Orig. art. has: 1 table.

ASSOCIATION: None

SUBMITTED: 16May64

ENCL: - 00

SUB CODE: MM

NO REF SOV: 006

OTHER: 001

aluminum

29

Card 2/2 MM

I 39984-65 EPR/EWA(h)/EWP(k)/EWP(z)/EWT(d)/EWT(l)/EWT(m)/EWP(h)/EWP(b)/T/EWA(d)/  
 EWP(v)/EWP(t); PI-4/PI-4/PS-4/PEB IJP(c) MW/JD/BS  
 EWP(w)  
 ACCESSION NR: AT5006712 S/0000/64/000/000/0128/0133

51  
 50  
 6+1

AUTHOR: Konovalov, Ye. G. (Doctor of technical sciences, Professor); Remizovskiy, E. I.

TITLE: A device for conducting creep tests on materials in an ultrasonic field

SOURCE: AN BSSR. Fiziko-tekhnicheskiiy institut. Plastichnost' i obrabotka metallov davleniyem (Plasticity and metalworking by pressure). Minsk, Izd-vo Nauka i tekhnika, 1964, 128-133

TOPIC TAGS: creep test, ultrasonic field, metal sonication, work hardening, aluminum alloy creep / D16T alloy

ABSTRACT: This article describes a device for creep tests with the application of ultrasonic vibrations and gives the results of an investigation of the effect of preliminary treatment with ultrasound on the creep characteristics of D16T alloy at 250C. The device, which is a modernized version of the VIA-11 table-model machine for testing creep, is depicted and described in detail. 10 specimens were exposed to ultrasonic radiation in the air for 15, 30, 45, and 60 seconds after which they were placed in the machine, heated for an

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ACCESSION NR: AT5006712

hour, and then creep tested for 90 min. at 250C with the application of only a static load. The creep tests on previously sonicated specimens of D16T aluminum alloy demonstrated that the creep rate drops markedly due to work hardening of the material during exposure to ultrasonic waves, Orig. art. has: 2 figures.

ASSOCIATION: None

SUBMITTED: 16May64

ENCL: 00

SUB CODE: MM

NO REF SOV: 005

OTHER: 002

Card 212MB

BEZZUBOV, Aleksey Dmitriyevich; GARLINSKAYA, Yevgeniya Il'ichna;  
FRIDMAN, Viktor Mironovich; KONOVALOV, Ye.G., prof., spets.  
red.; KOVALEVSKAYA, A.I., red.

[Ultrasonics and its use in the food industry] Ul'trazvuk i  
ego primeneniye v pishchevoi promyshlennosti. Izd.2., dop.  
i perer. Moskva, Pishchevaia promyshlennost', 1964. 195 p.  
(MIRA 18:3)



L 39969-65 EWA(h)/EWP(k)/EWA(c)/EWT(d)/EWT(m)/EWP(b)/EWA(d)/EWT(t)/EWP(w) PF-L/  
Fea EWP/JP/HW/CS S/0000/64/000/000/0202/0204 36  
ACCESSION NR: AT5006713 55  
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TITLE: Ultrasonic removal of stresses in parts after plastic deformation

SOURCE: AN ESSR. Fiziko-tekhnicheskiy institut. Plasticnost' i obrabotka  
metallov davleniyem (Plasticity and metal working by pressure). Minsk, Izd-vo  
Nauka i tekhnika, 1964, 202-204

TOPIC TAGS: plastic deformation, ultrasonic treatment, reeling, stress elimina-  
tion

ABSTRACT: The purpose of this article was to find a method for removing internal  
stresses after reeling cylinders so that the dimension of the cylinder remained  
constant after removing the enveloping ring, which is used to protect the opening  
of the cylinder skirt against distortion during reeling. The ultrasonic method  
was selected since the work-hardened surface of the cylinder opening after reel-  
ing was thermodynamically unstable and ultrasonic vibrations always promote the  
transition of metal from a thermodynamically unstable state to a more stable one  
by removing internal stresses. Twenty-two cylinders were reeled with enveloping

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rings on the skirt. After reeling, the inside diameter of the cylinder skirt was measured again. The other 11 cylinders were exposed to ultrasonic radiation after which the rings were removed from the cylinder skirts and the inside diameter measured. After reeling, the size of the cylinders at the place of the skirt with the enveloping rings had average deviations from the nominal size of 0.044-0.061 mm. The size changed (on the average by up to 0.078 mm) after removal of the ring. In the cylinders which were exposed to ultrasound and whose rings were then removed, the size decreased 0.024 mm. The authors therefore conclude that ultrasonic vibrations eliminate internal stresses after reeling. Orig. art. has: 1 table.

ASSOCIATION: None

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1977

SOURCE: Ref. zh. Metallurgiya, Abs. 111248

Metallurgiya, No. 3; Kazikovskiy, I. I.

Effect of the amplitude of high frequency oscillations on  
hardness of copper

I. I. Kazikovskiy, Izv. Akad. Nauk SSSR, Ser. Metallurgiya, 1977, No. 3, p. 440-441, 12 refs.

The effect of high frequency oscillations on the hardness of copper, metal hardening, high frequency oscillation, creep hardening, amplitude, H-1 copper

A study was made of the effect of high frequency oscillations on the hardness of copper. The results are presented for 1-300 MHz oscillations. The oscillations were set up through a type PMS-7 magnetostrictive generator. The amplitudes of the exposure to sound waves were 0.1-1.0 g/cm<sup>2</sup> (dynamic pressure).

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... stress concentrators into the magnetostrictor. The period  
of sound waves was ...  
... with a ...  
... was shown that preliminary ...  
... carriers ...  
... creep resistance ...  
for a period of time up to 10 min. In samples exposed to sound waves  
of amplitude of 0.012 mm, the creep resistance is greater  
... and ...  
of the oscillations, the creep resistance of copper over the portion  
... where creep occurs is not directly proportional to the  
... stress ...  
... depends to a greater degree on the amplitude of  
stress than on the number of cycles. V. Terent'ev

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