TRUSH, G.

Our work in the collection of local taxes. Fin.SSSR 18 no.7:50-51 Jl '57. (MLRA 10:7)

1. Nachal'nik otdela naloga i zagotovok Rostovskogo oblfinotdela. (Rostov Province--Tax collection)

SILAKOVA, G.I. [Sylakova, H.I.]; TRUSH, G.P. [Trush, H.P.]

Data on the intensity of N^{15} incorporation into the amide group of the glutamine of skeletal muscle in atrophy of various origin. Ukr.biokhim.zhur. 34 no.5:702-714 '62. (MIRA 16:4)

1. Institut biokhimii AN UkrSSR, Kiyev.
(ATROPHY, MUSCULAR) (GLUTAMINE) (NITROGEN METABOLISM)

TRUSH, G.P. [Trush, H.P.]

Glutamine metabolism enzymes in the heart muscle. Ukr. biokhim. zhur. 35 no.5:713-727 '63. (MIRA 17:5)

1. Institute of Biochemistry of the Academy of Sciences of the Ukrainian S.S.R., Kiev.

TRUSH, G.P. [Trush, H.P.]

Glutamine content and the activity of glutamine metabolism enzymes in the heart during the disturbance of blood circulation. Ukr. biokhim. zhur. 35 no.6:896-901 '63. (MIRA 18:7)

1. Institut biokhimii AN UkrSSR, Kiyev.

SILAKOVA, A.I.; TRUSH, G.P.; YAVILYAKOVA, A.

Micromethod for the determination of ammonia and glutamine in trichloroacetic tissue extracts. Vop. med. khim. 8 no.5: 538-544 S-O'62 (MIRA 17:4)

1. Institut biokhimii Akademii nauk Ukrainskoy SSR, Kiyev.

FERDMAN, D.L.; SILAKOVA, A.I.; TRUSH, G.P.

Intensity of the renewal of glutamine and protein amide nitrogen in the cardiac muscle of animals of various ages. Biokhimiia 28 no.3:445-450 My-Je '63. (MIRA 17:2)

1. Institue of Biochemistry, Academy of Sciences of the Ukraininan S.S.R., Kiyev.

SILAKOVA, A.I. [Sylakova, H.I.]; TRUSH, G.P. [Trush, H.P.]; MILON', M.I.

Glutamine and glutaminase activity in functionally different parts of kidneys. Ukr. biokhim. zhur. 32 no.6:832-848 '60. (MIRA 14:1)

1. Institute of Biochemistry of the Academy of Sciences of the Ukrainian S.S.R., Kiyev.
(KIDNEYS) (GLUTAMINASE)

TRUSH, I. Kh., Candidate Tech Sci (diss) -- "The effect of nitrogen on the mechanical properties of medium-carbon phosphorus steel". Kiev, 1959. 11 pp (Min Higher Educ Ukr SSR, Kiev Order of Lenin Polytech Inst), 100 copies (KL, No 26, 1959, 126)

SOV/129-58-9-3/16

AUTHORS: Svechnikov, V. N. Academician Ac.Sc. Ukr.SSR and Trush, I. Kh., Engineer

TITLE: Influence of Nitrogen on the Tendency to Growth of the Austenitic Grain of Medium Carbon Phosphorous Steel (Vliyaniye azota na sklonnost' k rostu austenitnogo zerna sredneuglerodistoy fosforistoy stali)

PERIODICAL: Metallovedeniye i Obrabotka Metallov, 1958, Nr 9, pp 15-19 + 2 plates (USSR)

ABSTRACT: The authors are unaware of published information on the simultaneous influence of an increased content of P and N on the grain size in medium carbon steel and changes in the grain size with the heating temperature. The work described in this paper is a further development of earlier published work (Refs 1 and 2). The experiments were effected on steel, the P content of which was higher than the respective P content of standard Bessemer rail steel for the purpose of detecting more clearly the influence of P on the properties of steel and also for the purpose of studying the possibilities of increasing the P content of such steels. According to Riees and Hopkins (Ref 3) oxygen

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Influence of Nitrogen on the Tendency to Growth of the Austenitic Grain of Medium Carbon Phosphorous Steel

in steel has an influence on the grain size and properties and is apparently one of the factors affecting the cold state brittleness and other abnormalities in steel. It is also known that aluminium influences the properties of the steel by combining with nitrogen (Ref 4). Therefore, the authors carried out experiments with steels which were additional deoxidised with aluminium and with steels which were not deoxidised. The investigations were carried out on alloys produced in an acidic crucible inside a high frequency furnace. The initial charge was "Steel 45" (0.44% C; 0.58% Mn; 0.33% Si; 0.018% S and 0.035% P). The steel was saturated with nitrogen by blowing into the liquid bath commercially pure nitrogen which was preliminarily purified and dried, whilst P was introduced in the form of a ferro-alloy. Thus, the authors succeeded in increasing the nitrogen content to up to 0.025%, i.e. corresponding to 0.037% of the ferrite content, a value approaching the limit of saturation of iron with nitrogen pertaining under condition- of blowing in the convertor (Ref 5). The

Influence of Nitrogen on the Tendency to Growth of the Austenitic Grain of Medium Carbon Phosphorous Steel

chemical composition of the investigated alloys is entered in a table, p 16. The heats weighing 33 to 35 kg were poured into two cast iron moulds; in one of these the metal was deoxidised with aluminium (500 g per ton), in the other the steel was not deoxidised. The conditions of smelting and pouring were equal in both cases. A third of the ingot was cut off and the remaining, sound part of the casting was forged into a square rod with side lengths of 12 to 13 mm. All the rods were normalisation annealed under shop conditions at 900°C for thirty minutes. The specimens were heated at 800 to 1050°C with steps of 50°C each and annealing times of 1.5 hours, followed by cooling in air. The grain size was determined under the microscope on the basis of the network of the excess ferrite. For expressing graphically the dependence of the grain size on the temperature, the method of differential counting of the grains was applied which was proposed by K.A.Malyshev (Ref 7). The kinetics of grain growth for the investigated alloys is expressed by a graph summarising the

Influence of Nitrogen on the Tendency to Growth of the Austenitic Grain of Medium Carbon Phosphorous Steel

following three magnitudes: the average size of the coarse grains, the average size of the small grains and their percentual ratio in the area of the field of vision of the microscope. In Fig.1 the dependence is graphed of the grain size on the temperature for heats of various chemical compositions. The individual heats are designated by fractions in which the numerator is the serial number of the heat and the denominator is the serial number of the ingot, whereby even numbers designate ingots which were deoxidised with aluminium and odd numbers designate ingots which were not deoxidised. The lower curves indicate the growth of the fine grains, whilst the higher curves indicate the growth of the coarse grains for both ingots as a function of the temperature. The influence of phosphorus on the grain size has not been studied in detail in this work, since it is known that P brings about an increase in the grain size of the austenite. Figs. 2 and 3 (plate) show the micro-structure of ingots deoxidised with aluminium after normalisation annealing at various temperatures. The

Influence of Nitrogen on the Tendency to Growth of the Austenitic Grain of Medium Carbon Phosphorous Steel

results of metallographic analysis are shown in the Figures 4 and 5 (plate); in steel containing 0.025% N numerous clearly pronounced deformation lines can be seen in the ferrite, whilst in the case of a nitrogen content of 0.006% such lines can also be seen but they are less numerous. According to Chatterjca and Nijhawan (Ref 12), for aluminium contents exceeding 0.4% separation of an acicularly shaped component can be observed at grain boundaries and in the case of high aluminium contents there is a definite tendency to agglomeration. These authors (Ref 12) have proved conclusively that the acicular component is aluminium nitride. On reducing the aluminium content, the quantity of such nitride acicules decreases and then ceases to exist; in steels not containing aluminium, such separations have not been detected. Chatterjca and Nijhawan (Ref 12) arrived at the conclusion that the solubility of nitrides in austenite and their agglomeration depends on the content of aluminium in the steel and this hypothesis enables better explanation of

Influence of Nitrogen on the Tendency to Growth of the Austenitic Grain of Medium Carbon Phosphorous Steel

the relations governing the grain growth than other existing hypotheses; the experimental data given in their paper appears sufficiently conclusive. The results were obtained on steel (containing 0.4% C, 0.6-0.7% Mn and 1% Al), the carbon content of which was near to that of the steel used in the experiments of the authors of this paper; the aluminium content was considerably higher. Furthermore, they applied nitriding instead of introducing nitrogen into the liquid steel. Due to this difference in the aluminium content and the sub-microscopic scale of the separations of aluminium nitrides, the authors of this paper could not count on detecting aluminium nitrides by micro-structural analysis and, therefore, there is no discrepancy between their results and the results of Chatterjca and Nijhawan (Ref 12). Kato et alii (Ref 13) also apparently (according to an abstract) did not detect a clearly

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Influence of Nitrogen on the Tendency to Growth of the Austenitic Grain of Medium Carbon Phosphorous Steel

pronounced dependence of the grain size on the aluminium nitride content.
There are 1 figure, 1 table and 13 references, 8 of which are Soviet, 4 English, 1 German.

ASSOCIATION: Kiyevskiy politekhnicheskiy institut (Kiyev Polytechnical Institute)

1. Steel--Phase studies 2. Grains (Metallurgy)--Growth
3. Nitrogen--Metallurgical effects 4. Phosphorus--Metallurgical effects

Card 7/7

SVECHNIKOV, V.N., akademik; TRUSH, I.Kh., inzh.

Effect of nitrogen on the mechanical properties of medium carbon phosphorous steel. Izv. vys. ucheb. zav.; chern. met. no.12: 81-88 D '58. (MIRA 12:3)

1.Kiyevskiy politekhnicheskiy institut. 2.AN USSR (for Svechnikov).
(Steel--Brittleness) (Gases in metals)
(Nitrogen)

SVECHNIKOV, V.N., akademik; TRUSH, I.Kh., kand.tekhn.nauk

Effect of nitrogen on the cold brittleness of medium carbon phosphorous steel containing arsenic. Stal' 22 no.1:64-65 Ja '62. (MIRA 14:12)

1. Akademiya nauk USSR (for Svechnikov).
(Steel—Brittleness)

SVECHNIKOV, V.N., akademik; TRUSH, I.Kh., inzh.

Effect of nitrogen on the growth tendency of an austenite grain in medium carbon phosphorus steel. Metalloved. i obr. met. no.9: 15-19 S '58. (MIRA 11:10)

1.Kiyevskiy politekhnicheskiy institut. 2. AN USSR (for Svechnikov).
(Metal crystals) (Steel--Metallography)

SVECHNIKOV, V.N., akademik; TRUSH, I.Kh., kand.tekhn.nauk

Effect of aluminum on the structure and properties of medium-carbon phosphorus steel with high nitrogen content. Metalloved.i term.obr.met. no.2:2-6 F '62. (MIRA 15:3)

1. Kiyevskiy politekhnicheskiy institut. 2. Akademiya nauk USSR (for Svechnikov).
(Steel alloys) (Aluminum coating)

TRUSH, I.V.

Effect of certain factors in the technological process on the durability of forging dies. Kuz.-shtam. proizv. 5 no.12:10-13 D '63.(MIRA 17:1)

TRUSH, I. V.

FEL'DSHTEYN, E.I., doktor tekhnicheskikh nauk; LEBEDINSKIY, N.P., inzhener; TRUSH, I.V., inzhener; KAZANTSEV, V.S., inzhener.

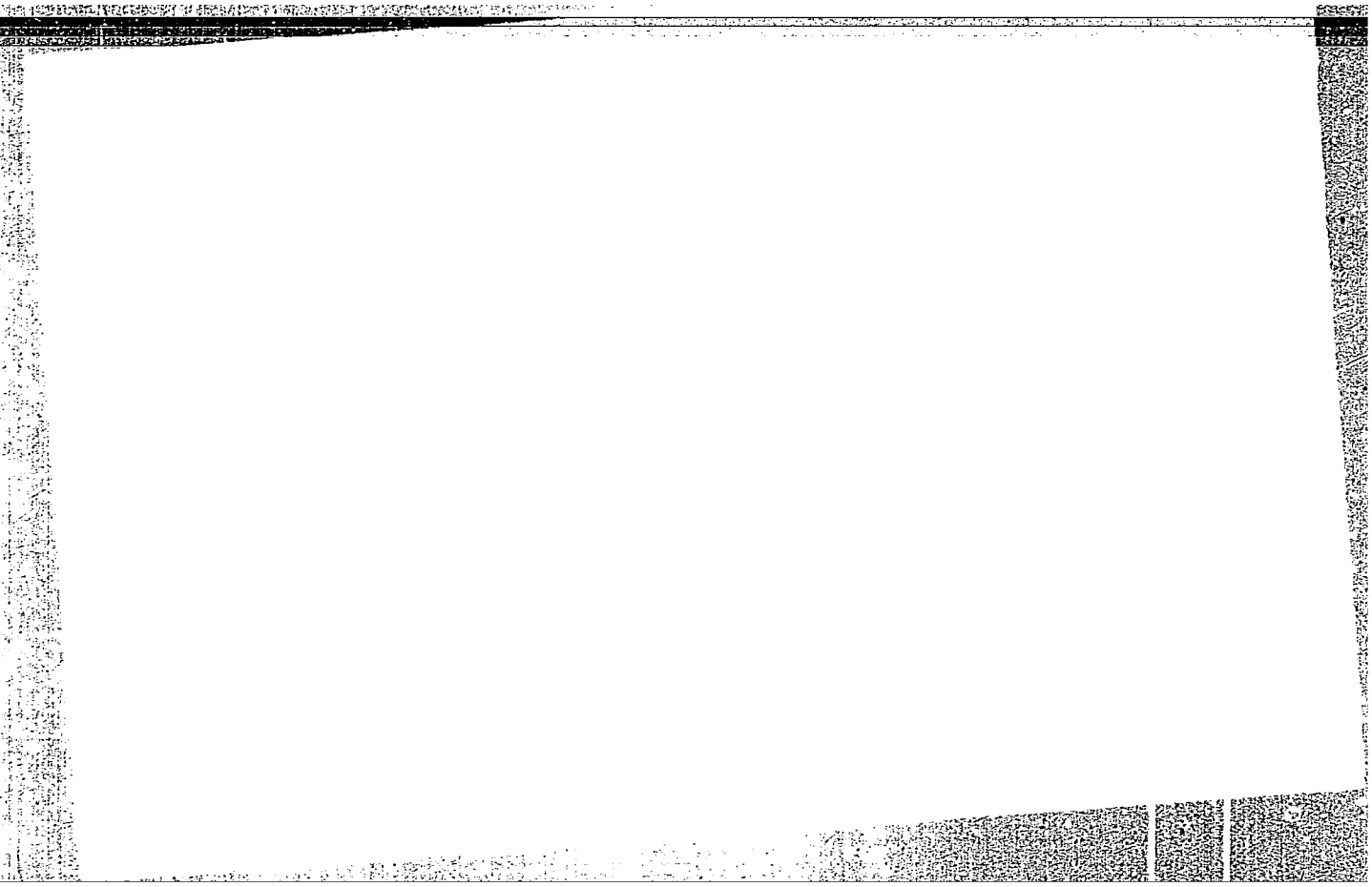
Investigating the effect of carbide heterogeneity on the polishing of P18 steel. Metalloved.i obr.met. no.7:39-42 Jl '57. (MLRA 10:8)

1.Gor'kovskiy avtomobil'nyy zavod imeni V.M. Molotova.
(Steel--Metallography)
(Metals--Finishing)

TRUSH, I.V.; SECHKO, V.A.

Dies cast of no. 1 sormite alloy. Stan. i instr. 27 no.11:33-35 N '56. (MLRA 10:1)

(Dies (Metalworking)) (Metal castings)



APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001756820013-8"

TRUSH, I.V.

121-7-19/26

AUTHOR: TRUSH, I.V., CHUFARKIN, T.Ye.

TITLE: Increase of the Resistibility to Wear of Self-Centering Clamping Devices. (Povysheniye iznosostoykosti samotsentriruyushchikh zazhimnykh ustroystv, Russian)

PERIODICAL: Stanki i Instrument, 1957, Vol 28, Nr 7, pp 36-37 (U.S.S.R.)

ABSTRACT: In the "MOLOTOV" automobile factory at Gorki the spiral disk of the self-centering 3-jaw chuck were made of 40X steel, Ro = 20 - 25, and wore quickly when used. In order to increase their life the process of nitration was used.; the semi-finished product made of 40X steel was hardened after previous mechanical treatment with an addition of 1,5-2,0 mm, after which it was highly tempered. After this, the hardness of the semi-finished product had risen to Ro = 23 - 26. After final treatment the surface cleanness corresponded to the 6-th class. The sharp edges were rounded off as much as possible. Before nitration the disks must be rubbed and cleaned of grease. Nitration is carried out according to the 3-step process in an electric furnace at 580°, in a muffle of heat-resistant steel; the workpieces are put in in such a manner that they do not touch one another. Nitration takes 24 hours, cooling takes place up to 100° in the

-old, and factories,

ASSOCIATION:
PRESENTED BY:
SUBMITTED:
AVAILABLE:

Card 1/2

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Increase of the Resistibility to Wear of Self-Centering Clamping Devices.

muffle while ammonia is continuously fed, and later in air. The depth of the nitration layer is 0,25-0,30 mm, hardness Rc = 48 - 51. As is shown by tests of long duration in factories, the life of the nitrated disks increased to the 3-fold, and annual consumption diminished considerably.

ASSOCIATION: Not given
PRESENTED BY:
SUBMITTED:
AVAILABLE: Library of Congress

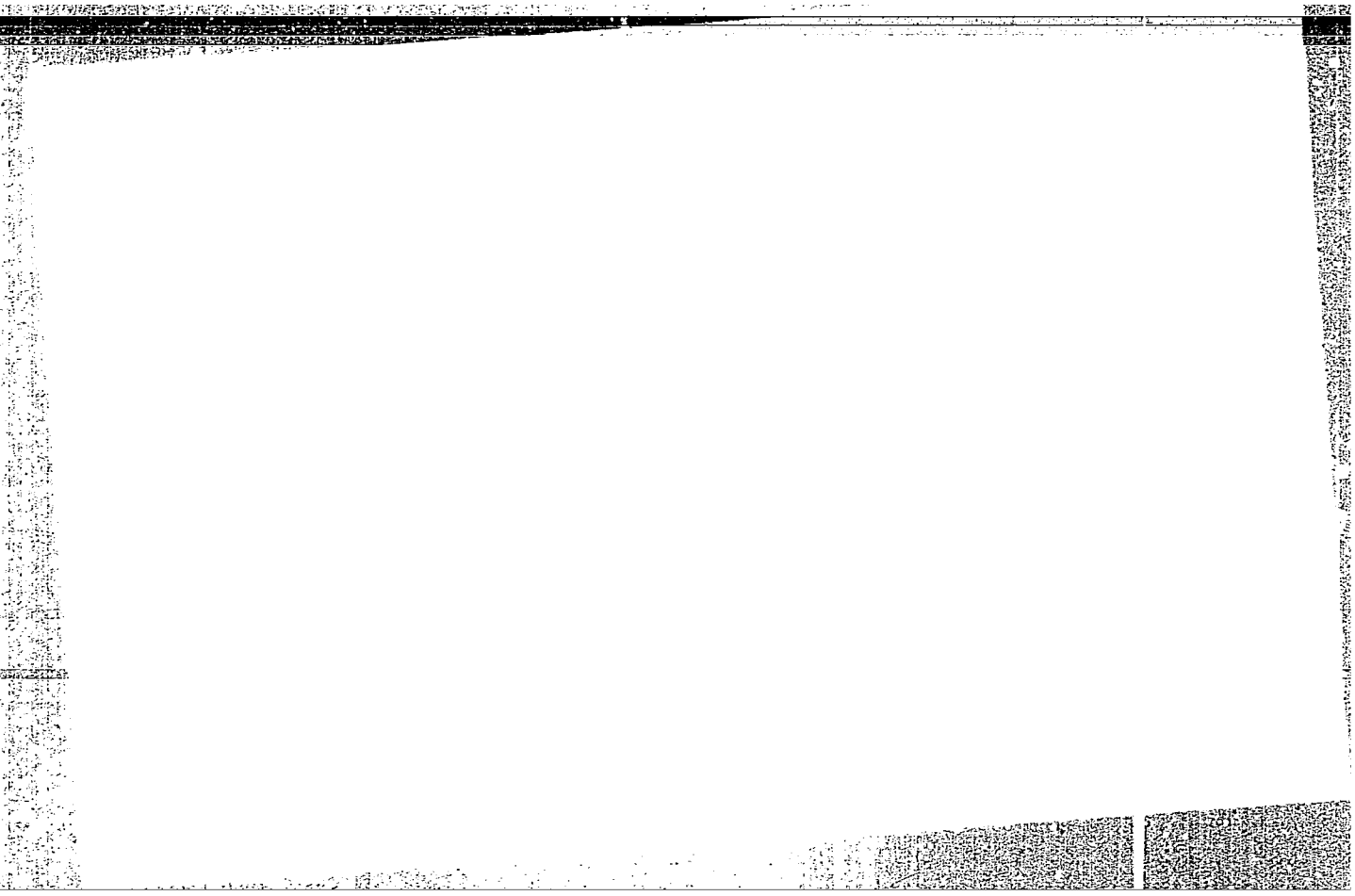
Card 2/2

TRUSH, I.V.; SECHKO, V.A.

Increasing the durability of press-forms used for pressing cermet parts. (MIRA 12:3)
Stan. i instr. 30 no.2:39 F '59.
(Dies (Metalworking)) (Cermets)

TKUSH, I.V., inzhener.

Origin of glassy surfaces on tools during upsetting. Vest. mash. 37 no.7:55-56 Jl '57. (MLRA 10:8)
(Power presses)



APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001756820013-8"

TRUSH, I.V.

Isothermal hardening of 50 KhG spring steel. Metalloved. i obr. met. no.3:60-62 Mr '57. (MLRA 10:4)

1. Gor'kovskiy avtomobil'nyy zavod imeni V. M. Molotova.
(Steel, Automobile--Heat treatment) (Springs (Mechanics))

/ Trush, I. V.

AUTHORS: Fel'dshteyn, E.I., Dr. of Technical Sciences, Lebedinskiy, N.P., I. V. Trush, Kazantsev, V. S., Engineers. 129-7-9/16

TITLE: Investigation of the influence of carbide non-uniformity on the grinding properties of the Steel P18. (Issledovaniye vliyaniya karbidnoy neodnorodnosti na shlifuyemost' stali R18).

PERIODICAL: "Metallovedenie i Obrabotka Metallov" (Metallurgy and Metal Treatment, 1957, No.7, pp.39-42 (U.S.S.R.)

ABSTRACT: The here described investigations were prompted by inconsistencies in the grinding properties of various components of this high speed steel which were heat treated to the same hardness. A rod material of 70 mm dia. was chosen which contained: 0.73% C; 4.0% Cr; 18.56% W; 1.04% V; 0.12% Si; 0.24% Mn; 0.22% Ni; 0.012% S; 0.016% P. For obtaining specimens with various carbide non-uniformities two 50 mm dia. specimens were produced by removing the top layer on a lathe, whilst another two groups of specimens were first forged to 55 mm dia. and then machined to 50 and 45 mm dia. respectively. To obtain a coarse carbide network, cast specimens were produced by re-smelting in a high frequency furnace. The results of the metallographic investigations are entered in Table 1, whilst the results

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Investigation of the influence of carbide non-uniformity on the grinding properties of the Steel P18. (Cont.) 129-7-9/16

of the grinding performance on the individual specimens are entered in Table 2. It was established that the carbide non-uniformity in this P18 steel influences the specific rate of removal of the metal during grinding and also the surface quality; the surface quality and the rate of removal are higher in specimens with lower degrees of carbide non-uniformity. It is, therefore, essential to ensure the smallest possible carbide non-uniformity in high speed steel tools so as to obtain better cutting properties as well as higher production in the tool manufacturing process. There are 2 figures, 2 tables, no references.

ASSOCIATION: Gorky Automobile Works imeni V. M. Molotov. (Gor'kovskiy Avtomobil'nyy Zavod imeni V. M. Molotova).

AVAILABLE:

Card 2/2

TRUSH, I.V.

Hard alloy castings. Stan. i instr. 26 no.4:37 Ap '55.
(Founding) (MLRA 8:6)

TRUSH, I.V., inzhener; TURENKO, N.A.

Forging rapid-steel cylindrical blanks. Vest.mash. 35 no.10:67-68 O '55. (MLRA 9:1)

(Steel forgings) (Cutting tools)

TRUSH, I.V.

Decarbonizing cast surfaces. Lit.proizv. no.9:27-28 S'55.
(Steel castings) (MIRA 8:12)

THUSH, I.Ye., inzhener; KOZYREV, N.T., inzhener.

Automatic coupling for mine dump cars. Gor. zhur. no.7:73-75 Jl '57.
(MIRA 10:8)

1. Institut Giprorudmash.
(Mine railroads--Cars)

TRUSH, M. M. Cand Agri Sci -- (diss) "Ways for Increasing the Effectiveness of Fertilizers Under Conditons in the Souther Subzone of the Northwest RSFSR," Moscow, 1960, 18 pp, 150 copies, (Moscow Agricultural Academy im K. A. Timiryazev) (KL, 47/60, 105)

TRUSH, N.

SHAPOSHNIKOV, R., inzhener; LEVINSON, M.; TRUSH, N., kapitan militsii (g. Priluki); GLADKOV, B., shofer (g. Vil'nyus); MOROZOV, P., inzhener.

Are the traffic regulations right? Za rul. 15 no.1:8-9 Ja '57. (MLRA 10:4)
(Traffic regulations)

TRUSH, M.I.

Characteristics of ancient karst sediments in southern Yakutia from the viewpoint of engineering geology. Vest. Mosk. un. Ser. 4:59-64 My-Je '65. (MIRA 18:7)

1. Kafedra merzlotovedeniya, Moskovskogo universiteta.

KUDRYAVTSEV, V. A.; MELAMED, V. G.; GOLOVKO, M. D.; TRUSH, N. I.

Studying thermal conditions in the body and the foundation of the earth dam of the Salekhard Hydroelectric Power Station during its construction and exploitation. Merzl. issl. no.1:255-306 '61. (MIRA 16:1)

(Salekhard Hydroelectric Power Station—Dams)

KONDRAT'YEVA, K.A.; TRUSH, N.I.

Some data on the working of experimental plots near the Salekhard Hydroelectric Power Station. Merzl.issl. no.2:71-79 '61. (MIRA 16:5)

(Salekhard Hydroelectric Power Station--Frozen ground)

GARAGULYA, L.S.; TRUSH, N.I.; BOGOLYUBOV, A.N.

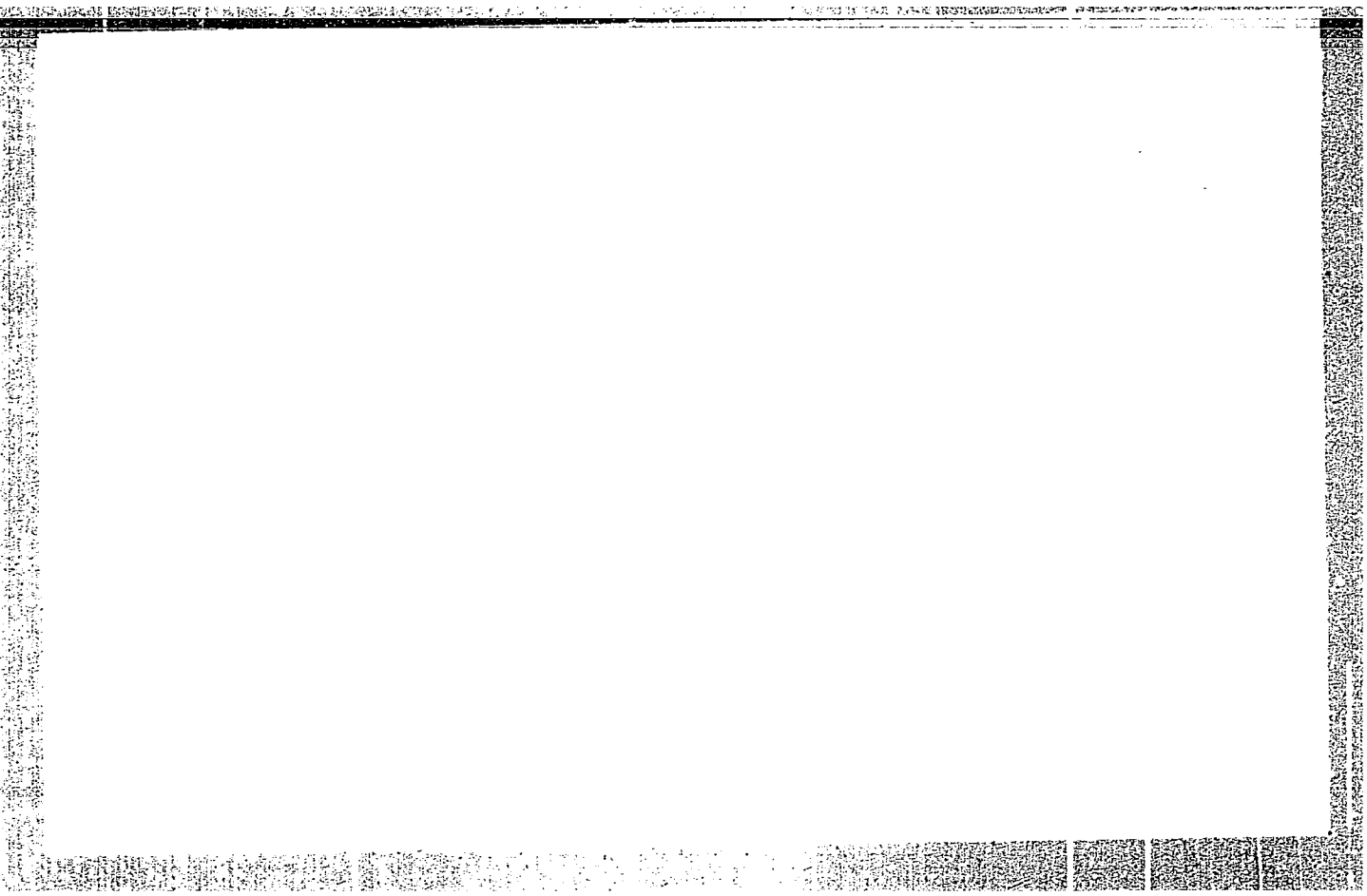
Using geophysical methods for surveying frozen ground dragging areas in the northern Yenisey Range region. Merzl. issl. no.3:44-55 '63. (MIRA 17:6)

KONDRAT'YEVA, K.A.; TRUSH, N.I.

Determining depths of seasonal freezing and thawing of soils.
Merzlotovedenie no.2:59-70 '61. (MIRA 16:5)
(Frozen grounds)

KRZHIVENCHIK, K.L. [Krzhyvenchyk, K.L.], inzh.; TRUSH, O.T., inzh.

Improve the establishing of work norms for repairing operations.
Mekh. sil'. hosp. 14 no.11:25-26 N'63. (MIRA 17:2)



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ANDON'YEV, S.M., doktor tekhn.nauk; TSELYUKO, Yu.M., inzh.;
KATSENELENBOGEN, L.B., inzh.; MOSTITSKIY, A.V., inzh.;
RUDNITSKIY, Ya.N., inzh.; PEVKO, A.P., inzh.; TRUSH, V.I., inzh.

Investigating thermal processes in converter "caissons" and chimneys. Stal' 22 no.2:173-176 F '62. (MIRA 15:2)

1. Gosudarstvennyy institut po proyektirovaniyu metallurgicheskikh zavodov i predpriyatiy.
(Bessemer process)
(Heat—Transmission)

BYKOV, S.Ya., inzh.; SIDOROVICH, A.P., inzh.; TRUSH, V.I., inzh.

Bridge supports on shell tubings. Transp.stroi. 10 no.3: 24-28 Mr '60. (MIRA 13:6)
(Bridges--Foundations and piers)

LOSYATINSKIY, S.K., inzh.; TRUSH, V.I., inzh.

Precast bridge supports with filler of concrete blocks.
Transp. stroi. 16 no.1:49-50 Ja '66. (MIRA 19:1)

KERSHENBAUM, I.M.; TRUSHCHELEV, A.I.

Over-all mechanization of the casting of asbestos-cement pipes on the ATM-3 machine. Stroi. mat. 8 no.2:27-28 F '62. (MIRA 15:3)

1. Glavnyy inzh. Bakinskogo kombinata asbestotsementnykh i keramicheskikh izdeliy (for Kershenbaum). 2. Glavnyy mekhanik Bakinskogo kombinata asbestotsementnykh i keramicheskikh izdeliy (for Trushchelev).
(Pipe, Asbestos-cement)

KERSHENBAUM, I.M.; TRUSHCHELEV, A.I.

Restoring the bronze grating on cylinders of sheet-molding machines. Stroi. mat. 8 no.12:26 D '62. (MIRA 16:1)
(Sandblast)

KERSHENBAUM, I.M.; TRUSHCHELEV, A.I.

Welded diaphragm pump with one or two plungers for slip. Stek. i ker. 19 no.11:39 N '62. (MIRA 15:12)
(Pumping machinery) (Ceramics)

KERSHENBAUM, I.M.; TRUSHCHELEV, A.I.

Modernization of the IS5IN coupling boring machine. Stroi. mat. 9 no.7:26 Jl '63. (MIRA 16:11)

KRSHENBAUM, I.M.; TRUSHCHELEV, A.I.

Ball mills for wet grinding with a control drive. Stek. i ker. 22 no.11:36 N '65. (MIRA 18:11)

KERSHENBAUM, I.M., inzh.; TRUSHCHELEV, A.I., inzh.

Modernizing the machine tool for rounding off the ends of asbestos-cement pipes. Stroi. mat. 9 no.4:22-23 Ap '63. (MIRA 16:5)
(Pipe, Asbestos-cement)

KERSHENBAUM, I.M.; TRUSHCHELEV, A.I.

Grill tiles for ventilating ducts and heating appliances. Stek. i ker. 22 no.2:35-36 F '65. (MIRA 18:3)

L 7959-66.

ACC NR: AP5025738 SOURCE CODE: UR/0286/65/000/018/0088/0089

AUTHORS: Osipova, I. A.; Borodin, V. I.; Trushchelev, B. I.; Andreyeva, V. V. 31

ORG: none

TITLE: Digital simulator. Class 42, No. 174834 [announced by State Committee for Radio Electronics SSSR (Organizatsiya gosudarstvennogo komiteta po radioelektronike SSSR)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 18, 1965, 88-89

TOPIC TAGS: digital system, computer simulation

ABSTRACT: This Author Certificate presents a digital simulator for producing the function $Y = 1/X$ by the method of piecewise linear approximation. To reduce the required equipment and to eliminate the necessity for setting the circuit with preparation of the problem, the device contains a reversible counter whose occupation is proportional to the argument X, a frequency divider, and a binary multiplier. The frequency divider has a variable scaling coefficient for varying the slope of the approximating line and is controlled by the most significant digits of the counter. The binary multiplier, which is connected to the least

Card 1/2 UDC: 681.142.642

L 7959-66

ACC NR: AP5025738

significant digits of the counter, establishes the size of the approximation step within each segment depending on the occupation of the least significant digits of the reversible counter.

SUB CODE: DP/ SUBM DATE: 01Aug64

Card 2/2

TRUSHCHELEV, M. G.

Dissertation defended at the Institute of the Geology of Ore Deposits, Petrography, Mineralogy, and Geochemistry for the academic degree of Candidate of Geologo-Mineralogical Sciences:

"Copper-Lead-Zinc Deposits in the Ilych River (Western Slope of the Northern Urals)."

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

PRIZHIMOVA, L.P.; TRUSHCHELEV, M.G.

Geological and petrographical characteristics of Paleozoic carbonate rocks in the Muna kimberlite pipe region. Trudy IAFAN SSSR. Ser.geol. no.8:133-150 '62. (MIRA 15:7)
(Muna Valley (Yakutia)--Rocks, Carbonate)
(Muna Valley (Yakutia)--Kimberlite)

TRUSHCHELEV, M.G.; CHERNOV, A.A., prof., doktor geol.-miner.nauk, otv. red.; SHEYNMAN, V.S., red.izd-va; VOLKOVA, V.V., tekhn.red.

[Copper-lead-zinc deposits in the Ilych Valley (western slope of the northern Urals] Medno-svintsovo-tsinkovye mestorozhdeniia na r.Ilych (zapadnyi sklon Severnogo Urala). Moskva, Izd-vo Akad.nauk SSSR, 1960. 145 p. (MIRA 13:2)
(Ilych Valley--Ore deposits)

YAROVOY, V.G., inzh.; SOPLYAKOV, V.I.; TRUSHCHELEV, V.I.; ZALOGIN, N.G., kand. tekhn. nauk

Power limit of condensing electric power plants under air pollution conditions. Elek. sta. 35 no.12:57-67 D '64. (MIRA 18:2)

1. Vsesoyuznyy gosudarstvennyy institut stroitel'stva elektrostantsiy (for Yarovoy). 2. Energeticheskiy institut Sibirskogo otdeleniya AN SSSR (for Soplyakov, Trushchelev). 3. Vsesoyuznyy ordena Trudovogo Krasnogo Znameni teplotekhnicheskiy institut imeni Dzerzhinskogo (for Zalogin).

Testing the tightness of welds. M. V. Boyarskii and A. Grushchenko. *Avtomat. Svarka* 8, No. 1, 65–68(1955).—Results are presented from an expt. on the tightness of welds tested by means of chem. reactions, kerosine, and compressed air. I. R. Behrman

TRUSHCHENKO, A.A.; PETRUKHIN, V.F.

Vacuum chambers for the tightness control of welded joints.
Avtom. svar. 17 no.2:94 F '64. (MIRA 17:9)

TRUSHCHENKO, A. A. (Engr. Electric Welding Inst. im. Ye. O. Paton)

"Trends in the development of welding in the USSR."

Report presented at the 3rd Baltic Conference on Welding, convened by the Sovnarkhozes of the Lithuanian SSR, Latvian SSR, and Estonian SSR, 8-9 April 1964, Vilnyus.

[Avtomaticheskaya SVARKA, No. 7, 1964, p. 95]

L 7010-66 EWT(d)/EPA(s)-2/EWT(m)/EWP(c)/EWP(v)/T/EWP(t)/EWP(k)/EWP(b)/EWP(l)/
ACC NR: AP5026800 EWA(c)/ETC(m) JD/SOURCE CODE: UR/0286/65/000/017/0081/0081
WW/HM

INVENTOR: Rayevskiy, G. V.; Trushchenko, A. A.; Petrukhin, V. F.

ORG: none

TITLE: A device for checking the air tightness of welded joints. Class 42, No. 174405

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 81

TOPIC TAGS: welding inspection, leak detector

ABSTRACT: This Inventor's Certificate introduces a device for checking the air tightness of welded joints in hollow parts using an open chamber with elastic air-tight gaskets which is placed on the part to be inspected and then evacuated. The testing process is automated by suspending the chamber from the piston rods of two cylinders which are mounted on a movable trolley and used for holding the chamber to the surface of the article being checked by creating a vacuum in the cylinder cavities.

SUB CODE: IE/ SUBM DATE: 11Jul63/ ORIG REF: 000/ OTH REF: 000

UDC: 620.29 : 621-46 : 621.791.052

Card 1/2

L 7010-66

ACC NR: AP5026800

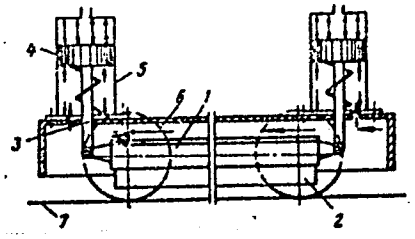

Fig. 1. 1 - chamber; 2 - gasket; 3 - rod; 4 - piston; 5 - cylinder; 6 - trolley; 7 - surface being inspected.

nw

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TRUSHCHENKO, A.A.

Scientific Technological Conference on Welding in Moldavia.
Avtom. svar. 15 no.9:95 S '62. (MIRA 15:9)
(Moldavia—Agricultural machinery industry)
(Welding—Congresses)

TRUSHCHENKO, A.A.

Testing the imperviousness of welded joints by means of kerosene. Avtom.svar. 6 no.4:89-90 Jl-Ag '53. (MLRA 7:11)

1. Institut elektrosvarki im. Ye.O.Patona Akademii nauk USSR.
(Welding--Testing)

Trushchenko, A. A.

AID P - 995

Subject : USSR/Engineering

Card 1/1 Pub. 11 - 9/13

Author : Trushchenko, A. A.

Title : Testing of welded joints by kerosene

Periodical : Avtom. svar., #5, 82-89, S-O 1954

Abstract : The method of testing for tightness of welded joints by penetration of kerosene is discussed. The law for capillar pressure (Laplace equation) and velocity of penetration (Poisenille equation) are used for the computation of time for the penetration. Four tables, 1 chart and 10 Russian references (1941-53).

Institution : Institute of Electric Welding im. E. O. Paton

Submitted : Ap 3, 1954

TRUSHCHENKO, A.A.

USSR/Engineering

Card 1/1 Pub. 11 - 6/8

Authors : Boyarskiy, M. V., and Trushchenko, A. A.

Title : Inspection of the impermeability of welded joints

Periodical : Avtom. svar. 8/1, 55-59, Jan-Feb 1955

Abstract : A short description and results are given of testing the impermeability of weld seams on tanks and reservoirs by means of chemical reaction, compressed air and kerosine methods. Seven USSR references (1946-1953). Table.

Institution : E. O. Paton Institute of Electric Welding, Administrative Department of Welding and Assembly Works of the Ministry for Construction

Submitted : September 15, 1954

RAYEVSKIY, G.V.; BERNADSKIY, V.N.; LEBEDEV, B.F.; MARTYNOV, I.G.; TRUSHCHENKO, A.A.

Industrial methods for manufacturing pipes. Biul. stroi. tekh. 14 no.5: 10-13 My '57. (MLRA 10:6)

1. Institut elektrosvarki imeni Ye.O. Patona Akademii nauk USSR.
(Pipe, Steel--Welding)

AUTHOR: Trushchenko, A.A. SOV/125-58-12-9/13

TITLE: Tightness Control of Overlap Welded Joints (O kontrole svarnykh nakhlestochnykh soyedineniy na nepronitsayemost')

PERIODICAL: Avtomaticheskaya svarka, 1958, Nr 12, pp 70-75 (USSR)

ABSTRACT: Information is given on results of experiments carried out for the purpose of determining the tightness of overlap welded joints with the use of kerosene. Specimens, representing a glass model of an overlap joint, were subjected to repeated spraying with kerosene, and the interdependence of various factors of the process, such as the kerosene pressure, the time used to detect leakage, etc were investigated. It was stated that the kerosene pressure must not below 1.5 at and that the slot-shaped aperture of the spraying tube must have a width of 0.2 to 0.5 mm. The tube tip must be moved along the overlap gap. Spraying, repeated two or three times, makes it possible to detect leakage within 2 hours. The use of a combined control method (kerosene and a vacuum) is recommended for a speeded-up and more complete detection of leakage.

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Tightness Control of Overlap Welded Joints SOV/125-58-12-9/13

There are 3 diagrams, 1 graph, 2 tables and 8 Soviet references.

ASSOCIATION: Institut elektrosvarki imeni Ye.O. Patona (Institute of Electric Welding imeni Ye.O. Paton)

SUBMITTED: August 30, 1958

Card 2/2

TRUSHCHENKO, A. A.

25(6) PHASE I BOOK EXPLOITATION SOV/2555

Nauchno-tekhnicheskoye obshchestvo priborostroitel'noy promyshlennosti. Ukrainskoye respublikanskoye pravleniye

Novyye metody kontrolya i defektoskopii v mashinostroyenii i priborostroyenii [doklady Respublikanskoy konferentsii] (New Methods of Inspection and Flaw Detection in the Machinery and Instrument-manufacturing Industries [Reports of the Conference Held at Kiyev, 1956]) Kiyev, Gostekhizdat USSR, 1958. 264 p. 4,700 copies printed.

Sponsoring Agency: Akademiya nauk USSR.

Ed.: A. Amelin; Tech. Ed.: P. Patsalyuk; Editorial Board: I.I. Greben', B.D. Grozin, A.Z. Zhmudskiy, G.N. Savin (Resp. Ed.), I.D. Fayneraan (Dep. Resp. Ed.), and A.A. Shishlovskiy.

PURPOSE: This book is intended for engineers, scientific workers, and technicians dealing with problems of inspection and flaw detection.

COVERAGE: This is a collection of scientific papers presented at a

Card 1/9

conference sponsored by the Academy of Sciences, UkrSSR, and the Nauchno-tekhnicheskoye obshchestvo priborostroitel'noy promyshlennosti, Ukrainskoye pravleniye (Ukrainian Branch, Scientific and Technical Society of the Instrument-manufacturing Industry). The papers deal with modern methods of inspection and flaw detection used in the machinery- and instrument-manufacturing industries. The subjects discussed include the use of electron microscopes in the investigation of metal surfaces; X-ray, gamma-ray, luminescense, magnetic, and ultrasonic methods of flaw detection; use of radioactive isotopes; X-ray diffraction methods of metal analysis; and the use of interferometers for measuring length and thickness and determining the coefficient of linear thermal expansion. No personalities are mentioned. References follow several of the papers.

Card 6/9

TRUSHCHENKO, A.A.; SUKHOV, O.V.

Photoelectric control of metal heating during resistance roll welding. Avtom. svar. 11 no.7:44-47 Jl '58. (MIRA 11:9)

1.Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye. O. Patona AN USSR.
(Electric welding--Testing) (Pyrometry) (Photoelectric cells)

AUTHOR: Trushchenko, A.A., and Sukhov, O.V. 125-58-7-7/14

TITLE: Photoelectric Control of Metal Heating in Contact Roller Welding (Fotoelektricheskiy kontrol' nagreva metalla pri kontaktnoy rolikovoy svarke)

PERIODICAL: Avtomaticheskaya svarka, 1958, Nr 7, pp 44-47 (USSR)

ABSTRACT: A method was developed for the continuous measuring of temperatures of joints in a roller welding process with the use of a FP-3 photoelectric pyrometer, which registers temperatures by infrared emission spectrum in a range of 760 to 1,260°C. The interdependence between the surface temperature of the joints and the dimensions of the welded spot core, and as a consequence the quality of welded joints, was found. Satisfactory results of welding with water-cooled rollers were obtained at a surface temperature of 840 - 940°C. Strength of joints welded without roller cooling was 1.6 times higher than that with the use of cooling. The photoelectric pyrometer can be utilized as a measuring element of the automatic welding controller. There is 1 diagram, 2 photos, 1 graph, 1 table and 3 Soviet references.

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Photoelectric Control of Metal Heating in Contact Roller Welding 125-58-7-7/14

ASSOCIATION: Institut elektrosvarki imeni Ye.O. Patona AN USSR (Institute of Electric Welding imeni Ye.O. Paton, AS UkrSSR)

SUBMITTED: March 1, 1958

1. Resistance welding--Control 2. Spot welds--Quality control
3. Seam welds--Quality control 4. Welded joints--Properties
5. Photoelectric pyrometers--Applications

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TRUSHCHENKO, A.A.

~~KHIMCHENKO, N.V.~~

25(6) PHASE I BOOK EXPLOITATION SOV/2555

Nauchno-tekhnicheskoye obshchestvo priborostroitel'noy promyshlennosti. Ukrainskoye respublikanskoye pravleniye

Novyye metody kontrolya i defektoskopii v mashinostroyenii i priborostroyenii [doklady Respublikanskoy konferentsii] (New Methods of Inspection and Flaw Detection in the Machinery and Instrument-manufacturing Industries [Reports of the Conference Held at Kiyev, 1956]) Kiyev, Gostekhizdat USSR, 1958. 264 p. 4,700 copies printed.

Sponsoring Agency: Akademiya nauk USSR.

Ed.: A. Amelin; Tech. Ed.: P. Patsalyuk; Editorial Board: I.I. Greben', B.D. Grozin, A.Z. Zhmudskiy, G.N. Savin (Resp. Ed.), I.D. Faynerman (Dep. Resp. Ed.), and A.A. Shishlovskiy.

PURPOSE: This book is intended for engineers, scientific workers, and technicians dealing with problems of inspection and flaw detection.

COVERAGE: This is a collection of scientific papers presented at a

Card 1/9

conference sponsored by the Academy of Sciences, UkrSSR, and the Nauchno-tekhnicheskoye obshchestvo priborostroitel'noy promyshlennosti, Ukrainskoye pravleniye (Ukrainian Branch, Scientific and Technical Society of the Instrument-manufacturing Industry). The papers deal with modern methods of inspection and flaw detection used in the machinery- and instrument-manufacturing industries. The subjects discussed include the use of electron microscopes in the investigation of metal surfaces; X-ray, gamma-ray, luminescense, magnetic, and ultrasonic methods of flaw detection; use of radioactive isotopes; X-ray diffraction methods of metal analysis; and the use of interferometers for measuring length and thickness and determining the coefficient of linear thermal expansion. No personalities are mentioned. References follow several of the papers.

Card 6/ 9

AUTHOR: Trushchenko, A.A. 125-1-11/15

TITLE: Control of the Impermeability of Welded Joints with the Aid of Leakage Finders (Kontrol' nepronitsayemosti svarnykh soyedineniy techeiskatelyami)

PERIODICAL: Avtomaticheskaya Svarka, 1958, # 1, pp 71 - 79 (USSR)

ABSTRACT: Leakage finders operating on the principle of mass-spectrometric and haloid methods, detecting the slightest leakages in welded joints, are now coming into use. The mass-spectrometric leakage finder is a simplified mass-spectrometer, capable of detecting small quantities of helium.

The block scheme of a helium leakage finder type ПТИ-4А is shown in figure 1. This device detects leakages, if the penetrating helium produces a concentration above 5.10^{-4}%, i.e. the helium content in the atmosphere. The weight of the ПТИ-4А leakage finder is 200 kgs. It is fed from a threephase grid with a frequency of 50 cycles; its power consumption is about 1,000 watts, and its dimensions are 620 x 660 x 1,229mm.

The haloid leakage finder is a portable device, the scheme of which is shown in figure 2. This device, type GTI-2 (ГТИ-2), consists of two blocks. The weight of the separable test rod with the current conducts is 2 kgs, that of the measuring block 11.5 kgs. The vessel which is tested for

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Control of the Impermeability of Welded Joints with the Aid of Leakage Finders

leakages is filled with the air mixed with some gas, freon-12 being prefered.

The existence of a leakage manifests itself in the intensification of the ionic current - between the indicator anode and cathode. The leakage finder is fed by alternating current of 220 v and 50 cycles. The haloid leakage finder type ГТИ-2 is able to detect leakages, where only 0.5 gr of freon-12 could escape during a whole year.

A container with butt welded joints was manufactured in order to compare various methods for leakage searching. The welded joints were tested for impermeability by helium and haloid leakage finders, by compressed air and kerosene.

These tests have shown that the sensitivity of these mass-spectrometric and haloid methods exceeds that of the pneumatic method and has the same sensitivity as the kerosene test.

The helium leakage finder type ПТИ-4А is heavier and more complicated than the haloid device. It requires, moreover, the application of liquid air or nitrogen. Inspite of these deficiencies the ПТИ-4А can be recommended for leakage control of particularly responsible containers and pipes.

Control of the Impermeability of Welded Joints with the Aid of Leakage Finders

The ГТИ-2 haloid leakage finder is a sensitive and comfortable device. It can be utilized for the control of welded joints in ship-sections, pipelines, reservoir bottoms, refrigerating devices, etc.

There are 4 figures, 5 tables, 5 Russian and 2 English references.

ASSOCIATION: Institute of Electrowelding imeni Ye.O. Paton (Institut elektrosvarki imeni Ye.O. Patona) of the Ukrainian SSR Academy of Sciences.

SUBMITTED: 7 October, 1957.

AVAILABLE: Library of Congress

TKUSHCHENKO, A.A.

Porosity testing of welded joints by leak detectors. Avtom. svar. 11 no.1:71-79 Ja '58. (MIRA 11:2)

1. Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye.O. Patona AN USSR.
(Welding--Testing)

TRUSHCHENKO, A.A.

Control of welded lap joints for impenetrability. Avtom.svar. 11 no.12: 70-75 D '58. (MIRA 12:1)

1. Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki imeni Ye.O. Patona AN USSR.
(Welding--Testing)

SOV/125-59-8-16/18

22(1)
AUTHOR: Trushchenko, A.A.

TITLE: Popular-Scientific Films for Welders

PERIODICAL: Avtomaticheskaya svarka, 1959, Nr 8, p 95 (USSR)

ABSTRACT: This item briefly describes a series of motion picture films put out jointly by the Kiyevskaya kinostudiya nauchno-populyarnykh fil'mov (Kiev Ciné for Popular-Scientific Films), the Institut elektrosvarki imeni Ye.O. Patona (Institute of Electric Welding imeni Ye. O. Paton), and the GNTK of the UkrSSR dealing with welding techniques and showing progressive welding methods and the results of their introduction in industry. Five films are listed. The following persons took part in making the films: Ye. Grigorovich, D. Dudko, S. Badtalovskiy, M. Balukhnin, I. Pokhodnya, I. Man, G. Ostrovskiy, I. Zarubaya, N. Khrapun, B. Lerner, D. Rabkin, A. Shevko, L. Bodin, G. Gorbunov, A Dzheval'skiy, S. Mandel'berg, I. Mosichenko, and A. Dubinskiy.

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18(5,7) SOV/125-12-6-2/14

AUTHOR: Trushchenko,A.A., Engineer

TITLE: On the Control of the Quality of Rolled Point Welding

PERIODICAL: Avtomaticheskaya svarka, 1959, Vol 12, Nr 6 (75), pp 12-21 (USSR)

ABSTRACT: The article presents the results of investigations on rolled welding welds. For the investigation of the dependancy between the qualtity of the weld and the change of its thickness, three series of tests have been made. The tests were made under the conditions of the laboratory and the conditions of the production. The samples were tubes, made of hot rolled steel-band Type 08KP, with a thickness of 1.75 mm and 2.0 mm. The welding was done by two machines type MShP-150. The samples were welded at the same time on both sides. The thickness of the welds were measured with an accuracy of ca. 0.05 mm. Each sample was measured at three points: a) the summary thickness of the bands, b) the weld at one side and c) the weld in the central longitudinal profile. (Fig.3). 800 measurings were made. The

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On the Control of the Quality of Rolled Point Welding

quality of the weld depends on the thickness of the weld in its central longitudinal profile. In the places of poor penetration the thickness of the weld on 0.19 -0.71 mm was less than the thickness of a good welded weld. On 0.10 - 0.57 mm it was less than the thickness of two bands. If the welds are thicker, the dimensions of the cast kernel increase. At greater heating of the welded places, the thickness of the weld in its central longitudinal profile will be thicker and less thick at its side. Defects of a length of 2 mm and less did not break and were impermeable to water at a pressure of 60 atü. At poor penetration, up to 10 mm length the rupture took place in the zone of thermal influence. At poor penetration of 20 mm length and more, the rupture takes place in this area of the weld. There are 4 photographs, 5 graphs and 6 Soviet references.

ASSOCIATION: Ordena trudovogo krasnogo znameni institut elektrosvarki imeni Ye.O. Patona AN USSR (Institute of Electric

SOV/125-12-6-2/14

On the Control of the Ouality of Rolled Point Welding

Welding imeni Ye.O. Paton AS UkrSSR of the Order of the Red Banner of Labor.).

SUBMITTED: February 11, 1959

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TRUSHCHENKO, A.A.

Equipment for the nondestructive testing of welded joints. Avtom. svar. 14 no.11:86-94 N '61. (MIRA 14:11)
(Welding--Testing)
(Nondestructive testing)

1.8000 1138 1482 1496

30231
S/125/61/000/011/012/012
D040/D113

AUTHOR: Trushchenko, A. A.

TITLE: Nondestructive inspection instruments for welded joints (At the "Machine-Building" pavilion of the VDNKh USSR)

PERIODICAL: Avtomaticheskaya svarka, no. 11, 1961, 86-94

TEXT: The author describes 21 pieces of equipment demonstrated at the flaw detection department of the VDNKh of the USSR. (1) UZD-7E (UZD-7E) ultrasonic flaw detector of TsNIITMASh design, has an electronic depth meter, and flat and prismatic feelers for longitudinal and cross sounding. The maximum sounding depth in steel with the flat and prismatic feelers is 3,000 and 1,500 mm respectively. The flat feelers can find flaws $2mm^2$ in size at up to 200 mm depth, or 6-8 mm^2 flaws at up to 500 mm depth, a frequency of 2.5 Mc being employed. The minimum possible sounding depth with the flat feelers at 2.5 Mc is 7 mm; for the prismatic feelers there is no minimum depth limit because of the absence of a blind zone. (2) The UDM-1 (UDM-1) ultrasonic pulse flaw detector, produced by the Kishinevskiy zavod "Elektrotochpribor" (Kishinev "Electrotochpribor" Plant) of the Moldavskiy Sovnarkhoz, determines the coordinates of 1 mm^2 flaws at a depth of 3 to

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Nondestructive inspection ...

2,500 mm longitudinal and cross waves of a frequency of 0.8, 1.7, 2.5 and 5 Mc being used. It permits layer-by-layer checking of welds, and determining the ultrasound propagation speed in various metals; the presence of flaws is registered by light sound signals. (3) An automatic ultrasonic detector for annular welds on pipes 200-1,000 mm in diameter and with 7-15 mm thick walls, designed by Engineer N. V. Troitskiy of the Trest "Mospodzemstroy" ("Mospodzemstroy " Trust). The apparatus consists of a standard УЗД-7Н (UZD-7N) ultrasonic flaw detector and an automatic ultrasonic head moving on a mobile roller chain along the weld at a speed of 210 mm/min, its feeler making 70 cross movements per minute. This is a modernized prismatic feeler, designed by TsNIITMASh, with a beam angle of 40° and 40 mm focal length. The work frequency is 2.5 Mc. (4) УЗДЛ-61 (UZDL-61) ultrasonic pulse detector is designed for finding cracks in the blades of aircraft gas turbines. It reveals cracks of minimum 0.3 mm length, inspects five blades per minute, and is fed from a 24 v d.c. current source. (5) The Tsentral'naya laboratoriya avtomatizatsii i mekhanizatsii Dnepropetrovskogo sovnarkhoza (Central Laboratory of Automation and Mechanization of the Dnepropetrovskiy Sovnarkhoz) exhibited a ДСТ-1 (DST-1) ultrasonic flaw detector for longitudinal welds on pipes. It is of pulse type, and the state

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Nondestructive inspection ...

of the electronic system and the presence of dependable contact between the feeler and the pipe is controlled by a piezoelectric receiver. The detector gives a visual image of a flaw and a signal to the relay output which switches on light sound signals. (6) Instruments testing the quality of joints by reaction, or by free oscillations. The quality of connection is judged by the force of reaction on a pickup oscillating with 1÷6.5 kc frequency. A flaw causes an abrupt drop in mechanical resistance and a reaction. The ИКС(IKS) acoustic impedance detector of the "Elektrotochpribor" Plant is based on reaction and finds zones where the bond is absent in multilayer bonded and soldered structures. A signal lamp indicates the discovered flaw. The ЧИКП-1 (ChIKP-1) and ЧИКП -2 (ChIKP-2) detectors are based on the free-oscillation principle. (7) The УМД-9000 (UMD-9000) universal stationary magnetic flaw detector of VIAM design is designed for checking parts of ferromagnetic materials by the magnetic powder method and detects cracks, spills, flakes and other flaws at a depth of up to 2 mm. The maximum magnetizing current is 10,000 amp and the maximum magnetic intensity above 500 oe. The maximum dimensions of inspected workpieces are 1,600 mm in length and up to 800 mm in diameter. (8) The mobile ДМП -2 (DMP-2) magnetic flaw detector is used for detecting surface and subsurface

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Nondestructive inspection ...

flaws by the magnetic suspension method in large steel parts and welds. (9) The 77ПМД-3М (77PMD-3M) detector is portable and designed for finding surface and subsurface flaws on steel parts with the use of magnetic suspension. It permits inspection of parts with maximum 90 mm diameter or 200 mm width without removing them from the machines, and finds flaws at a depth of 1.5-2.0 mm. The DMP-2 and the 77 PMD-3M detectors are produced by the "Elektrotechpribor" Plant. (10) The semiautomatic magnetic МДП-1 (MDP-1) flaw detector for surface flaws on steel can test parts of up to 200 mm length and 40 mm diameter at a maximum rate of 700 parts per hour. (11) The electromagnetic МД-138 (MD-138) flaw detector of the TsNII Gosudarstvennogo komiteta po sudostroyeniyu (TsNII of the State Committee for Shipbuilding) checks welds in 5-30 mm thick low-carbon and low-alloy steel welds, and its operating principle is based on the redistribution of the magnetic flux components due to changed magnetic permeability at the flaws. (12) The МД-9А (MD-9A) detector, developed by VNIIST, is a magnetographic detector reproducing the flaw images recorded on ferromagnetic tape, which is produced by the Shostkinskiy khimkombinat (Shostka Chemical Combine). The MD-9A normally works at temperatures ranging between -10 and +30°C.

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Nondestructive inspection ...

(13) The ЛД-2 (LD-2) luminescent flaw detector of TsNIITMASh design, produced by the Kishinev "Elektrotochpribor" Plant, is stationary, designed for flaws reaching the surface, and suitable for ferromagnetic as well as nonmagnetic materials. (14) The transportable 77ДМК-3 (77DMK-3) flaw detector, produced by plants of the Goskomitet po aviatsionnoy tekhnike (State Committee for Aviation Engineering) detects surface defects on machine parts of ferrous and nonferrous metal, plastics and other materials with the use of penetrating paint. (15) The КС-1 (KS-1) unit records X-ray images on a semiconductor layer. (16) The Khersonskiy Sovnarkhoz exhibited a mobile automatic ГУП-А-2М (GUP-A-2M) gamma-unit for irradiation of welds in difficultly-accessible spots. Any radioactive isotope may be used as ray source. (17) The ГУП - Ir-5-2 (GUP-Ir-5-2) gamma-ray unit of the zavod "Mosrentgen" ("Mosrentgen" Plant) for welded and other non-dismountable joints, and castings. It is suitable for shop, laboratory and field use. Radioactive isotope of iridium-192 or cesium-137 may be used as irradiation source. (18) The РУП-400-5-1 (RUP400-5-1) X-ray unit, also of "Mosrentgen" make, is designed for irradiation of 120-130 mm thick steel in plant laboratories. (19) A scintillation counter for gamma-ray flaw detection, of TsNIITMASh design, used for checking the quality of various materials in

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Nondestructive inspection ...

flow-line production. It can check steel of 0.05 to 500 mm thickness and up to 1,0000C hot. (20) An ФЦ-2 (FTs-2) ferrite-meter, of TsNIITMASh design, for checking the ferrite content in welds in austenitic steel. Its operating principle is measurement of the relative value of magnetic permeability varying with the quantity of ferrite; ferrite content from 0.5 to 12% is determined with 10% accuracy. (21) An ФВД-2 (FVD-2) ferrite meter for determining ferrite content in spots in austenitic steel, directly in the surface layer of weld metal on structures. The article includes several photographs of instruments. There are 7 figures.

Card 6/6

KAKHOVSKIY, Nikolay Ivanovich, kand.tekhn.nauk; GOTAL'SKIY, Yusef Nikolayevich, kand.tekhn.nauk; TRUSHCHENKO, Anton Antonovich, inzh.; ROMANOV, B.V., red.; SOKOKINA, S.L., red.; KOZLOVSKAYA, M.D., tekhn.red.; PERSON, M.N., tekhn.red.

[Automatic and semiautomatic welding] Avtomaticheskaia i poluavtomaticheskaia svarka. Moskva, Vses.uchebno-pedagog.izd-vo, 1961. 422 p. (MIRA 14:12)
(Electric welding)

S/125/61/000/002/013/013
A161/A133

AUTHOR: Trushchenko, A. A.

TITLE: All-Union conference on the overall automation and mechanization of welding

PERIODICAL: Avtomaticheskaya svarka, no. 2, 1961, 94-96

TEXT: The Vsesoyuznoye nauchno-tekhnicheskoye soveshchaniye po kompleksnoy mekhanizatsii i avtomatizatsii svarochnogo proizvodstva (All-Union Scientific-Technical Conference on the Overall Mechanization and Automation of Welding) was convened on 15-17 November 1960 at the Institute elektrosvarki im. Ye. O. Paton AN USSR (Electric Welding Institute im. Ye. O. Paton AS UkrSSR). It was organized by the GNTK SSSR (GNTK USSR), Gosudarstvenny komitet Soveta Ministrov SSSR po avtomatizatsii i mashinostroyeniyu (State Committee for Automation and Mechanical Engineering of the Council of Ministers of the USSR); GNTK USSR (GNTK UkrSSR), the Electric Welding Institute im. Ye. O. Paton, and the Central and the Kiyev oblast' Boards of NTO Mashprom. The participants were scientists of the Academy of Sciences USSR and Academy of Sciences UkrSSR, specialists from large plants and construction projects, research and designing organizations, Gosplans of the

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USSR, RSFSR and UkrSSR, teachers of institutes and technical schools delegates from party and Comsomol organizations, 325 in all, from 60 towns of the Soviet Union. A. V. Topchiyev, Chairman of the State Committee for Automation and Machine Industry Ministers Council of the USSR, opened the conference. Twenty reports were heard, as listed in the following. B. Ye. Paton, Academician of the AS UkrSSR - "The Development Ways of Welding in the USSR", on the present state of techniques in the USSR and the Seven-Year-Plan for welding, as well as the prospects for the future. He stated that the practical experience has proved the effectivity of the prefabrication of large elements and assemblies using overall mechanization and automation, and that the necessary prerequisites have already been developed in nearly all fields of industry, but the output of welding equipment and materials must be increased, and the structures should be designed taking into account mechanical and automatic welding. P. I. Sevbo, Candidate of Technical Sciences (Electric Welding Institute) - "The Problems of Overall Mechanization and Automation of Welding", stressing the importance of overall mechanization and outlining the basic ways one of which is the production of high-efficiency assembly welding equipment with automatic control. N. Ya. Kachanovskiy, Candidate of Technical Sciences (VNIIESO) - "Flow and Automatic Welding Assembly Lines Based on Resistance Welding", advocating the use of high-

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productive resistance welding machines in mass production welding lines and describing new resistance welding machines developed lately by VNIIESO and the "Elektrik" Plant for production-line welding of various elements - of diesel locomotives, electric locomotives, the ЗИЛ-130 (ZIL-130) automobile bodies, agricultural machines, etc. M. I. Baranov, Engineer (Moscow) - "Mechanization and Automation of Welding Processes" and "Problems of Welding Equipment Standardization". N. M. Novozhilov, Candiate of Technical Sciences (TsNIITMASh) - "Electric Gas Welding - an Important Factor in Raising the Mechanization Level of Welding Production", stated that the latest development is characterized by the rapidly widening application of inert gas and CO_2-shielded machine welding. Frumin, I. I., Doctor of Technical Sciences - "Mechanized Open-Arc Welding", including description of a method developed at the Electric Welding Institute for semi-automatic welding with powder wire containing slag and gas-forming components and requiring no additional shielding. Zhivotinskiy, L. A., Engineer, (VPTITyazhmash) - "Auxiliary Welding Equipment and its Role in the Overall Mechanization of Welding Production", stressing the necessity of a centralized production of auxiliary equipment. R. I. Lashkevich, Candidate of Technical Sciences, and S. L. Mandel'berg, (Electric Welding Institute) - "Overall Automation of Main Pipeline Pipe Manufacture, and New High-Speed Welding Technology", stressing the

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necessity of a high mechanization and automation level of the entire pipe manufacturing process, i.e. pipes with straight and with helical seam, and pointing out that full automation of the entire welding cycle must be provided for the attained welding speed of 200 - 220 m/hr. V. S. Volodin, Engineer (State Committee for Automation and Mechanical Engineering of the Council of Ministers of the USSR) reported on "Standardization of Technological Processes and Mechanization Means in Welding Production". N. O. Okerblom, Doctor of Technical Sciences (of LPI im. M. I. Kalinin) - "Designing Expedient Welded Structures and Developing Mechanized Welding Processes for their Fabrication", stressing the necessity of the use of most advanced welding methods and of more work for improvement of the existing and new programming systems for welding and cutting. M. V. Orlov, Engineer, (Leningrad) - discussed the problem of overall mechanization in shipbuilding. The report of G. V. Rayevskiy, Candidate of Technical Sciences, and B. F. Lebedev (Electric Welding Institute) dealt with industrial methods of large metal structure fabrication with temporary reduction of their dimensions. D. P. Lebed', Candidate of Technical Sciences of Dnepropetrovskiy zavod im. Babushkina (Dnepropetrovsk im. Babushkin Plant) described in detail a highly-mechanized production line for welded beams. S. I. Rusakov, Engineer, (the Gor'kiy automobile plant) reported on "The Practice of Using Up-to-date Welding

Methods in the Automobile Industry". N. D. Portnoy, Candidate of Technical Sciences, of Uralvagonzavod (The Ural RR Car Plant) described an advanced technology in the fabrication of all-metal 100-ton gondola cars with wide application of resistance welding, in his report "Flow Production of RR Cars with Wide Use of Resistance Welding". N. Sakharin, Engineer, described build-up welding used at the Magnitogorskiy metallurgicheskiy kombinat (Magnitogorsk Metallurgical Combine) and discussed problems of a further mechanization of this process. D. P. Antonets, Engineer, of Zhdanovskiy zavod tyazhelogo mashinostroyeniya (Zhdanov Heavy Machinery Plant) reported on the practical experience with a highly mechanized welding line for RR tank cars. The line uses arc welding and is an example of combined advanced welding, assembling, finishing and testing. V. D. Kolesnikov, Engineer, told of the overall mechanization of welding at the Im. Oktyabr'skoy revolyutsii Plant (in Lugansk) in the production of diesel locomotives. A. N. Shashkov, Candidate of Technical Sciences, (VNIIAvtogen, Moscow) reported on the present state of gas-flame working techniques and stressed the important role of the latest automated machines and apparatus in the overall mechanization of welding production. The Conference approved the basic development trends planned by the Electric Welding Institute im. Paton and VNIIAvtogen, and decided upon the most important tasks for the research, technological,

designing and other organizations in matters of an overall mechanization and automation of welding. The Conference participants attended performances films demonstrating the latest welding techniques and visited the laboratories of the Electric Welding Institute im. Paton and its test plant and Kiyev plants that are leading in the field of welding and building up, and the Vychislitel'nyy tsentr AN USSR (Computing Center AS UkrSSR).

[Abstracter's note: Essentially full translation]

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