in the ingots teemed with the heating was somewhat lower than in the usual ingots; in the remaining parts of all three ingots the hydrogen content was approximately the same. The average hydrogen contents were as follows: in the usual ingots 4.98 $cm^3/100$ g; in the ingot teemed with electroslag supplementary feeding 4.05 $cm^3/100$ g; in the ingot teemed with electroslag heating 4.09 $cm^3/100$ g. It is concluded that electroslag heating or supplementary feeding of the head of the ingots secures the transfer of some of the hydrogen from the metal to the slag, thus lowering somewhat the concentration of hydrogen in the whole system of the ingots but particularly in their head part. The transfer of hydrogen into the slag bath takes place not only due to the Perrin-Tochinskiy effect, but also due to the electrolytic transfer of OH^- ions and their discharge on electrodes during the half period when the electrodes are acting as anodes. O.A. Yesin, V.I. Yavoyskiy, G.N. Batalin and V.S. Baykov are mentioned for their contributions in this field.
There are 7 figures and 13 references: 11 Soviet-bloc and 2 Russian translations of non-Soviet publications.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001962320004-4"

The behaviour of hydrogen during ... S/148/61/000/009/002/012
E071/E135

ASSOCIATION: Moskovskiy institut stali, Kiyevskiy politekhnicheskiy institut, Institut elektrosvarki, Zhdanovskiy metallurgicheskiy zavod
(Moscow Steel Institute, Kiyev Polytechnical Institute, Electrowelding Institute, Zhdanov Metallurgical Works)

SUBMITTED: May 23, 1961

Card 4/4

S/148/61/000/011/002/018
E071/E180

AUTHORS: Kozlov, V.I., Vishkarev, A.F., Zil'berman, A.G., and Yavoyskiy, V.I.

TITLE: Diffusion of carbon and oxygen in liquid steel

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya, no.11, 1961, 38-44

TEXT: In order to establish the relative rates of diffusion of carbon and oxygen in liquid steel (which are important in explaining the mechanism of oxidation of carbon) the authors made an attempt to measure the diffusion coefficients of these two elements in molten iron. The diffusion coefficient of carbon was determined using C^{14} by the method of orthoradiography. Since capillaries of 5-6 mm in diameter were used the influence of convection was not eliminated and out of numerous experiments only 11 results could be used for the determination of the coefficient. This was found to be equal to 4×10^{-5}-1.92×10^{-4} cm^2/sec, which is close to published data. The diffusion coefficient for oxygen was determined by the method of semi-

Card 1/ 2

infinite rod with a constant source of oxygen (blowing of oxygen on the surface of iron for one minute at a rate of 0.5 ℓ/min). It was found that the diffusion coefficient for oxygen is higher than that of carbon by about two orders, namely (3.0 - 7.8) x 10^{-3} cm^2/sec. The results invalidated the generally held view that the diffusion of oxygen is slower than carbon. Bearing in mind possible experimental inaccuracies, it can be stated that the diffusion of carbon in molten iron is not faster than that of oxygen. S.Z. Bokshteyn, I.S. Kulikov and A.A. Zhukhovitskiy are mentioned in the article. There are 4 figures, 2 tables and 12 references: 9 Soviet-bloc and 3 non-Soviet-bloc. The English language reference reads:
Ref.4: D.W. Morgan, J.A. Kitchener. Transactions of the Faraday Society, v.50, no.1, 1954.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: June 24, 1961

YAVOYSKIY, V.I.

S/130/61/000/012/002/005
A006/A101

AUTHORS: Yakushev, A. M., Kryakovskiy, Yu. V., Tyurin, Ye. I., Sorokin, S. P., Yavoyskiy, V. I., Glushtshov, M. V.

TITLE: The effect of rare-earth elements on flake sensitivity of structural alloyed steels

PERIODICAL: Metallurg, no. 12, 1961, 9-11

TEXT: There are only few data available on the effect of rare-earth elements on hydrogen behavior in iron and steel and the resulting defects. To complete these data, workers of the Moscow Steel Institute and the "Krasnyy Oktyabr'" Plant carried out a series of laboratory and industrial melts. They were assisted by L. N. Permyakov, M. P. Lapshova, O. D. Petrenko, V. G. Volnyanskiy, G. R. Opanchevich, V. A. Grigor'yev and V. P. Bondarev. They studied the effect of the amount of rare-earth elements (0.3 and 0.5%) on hydrogen solubility in iron and the effect of the temperature on hydrogen solubility in alloys with 20% and more of these elements. The results have shown that it cannot be expected that rare-earth elements in the given amounts will eliminate defects of the steel; on the other hand, the increasing hydrogen sorption capacity at lower

Card 1/2

2

The effect of rare-earth elements ...

temperatures of alloys containing these elements leads to the expectation that they will bind the hydrogen liberated during the cooling of metal and prevent flake formation. These results were checked by the experimental melting of 37XC (37KhS), 38XCA (38KhSA) and 36G2C (36G2S) steels containing 6.3 - 8.0 cm^3/100 g hydrogen, ferrocerium with 94 - 96% Ce, misch metal with 45 - 55% Ce, 25 - 30% La and up to 15% other rare-earth elements. Ingots were heated for 4 - 6 hours at 1,150 - 1,180°C in blooming pits and rolled into 400 - 500 mm air-cooled specimens, which were subjected to breaking tests and etching to establish their flake sensitivity. Results obtained are given in a table and show that the addition of rare-earth elements in amounts exceeding 2.7 kg/t prevent flake formation in 37KhS and 36G2S steel even in profiles of 195 - 225 mm section, under the condition that individual blooms be air-cooled. The experiment has shown that rapid cooling of the blooms will be possible due to the use of rare-earth elements. This will entail a number of economical and technical advantages. There are 1 table and 2 figures.

Card 2/2

YAKUSHEV, A.M.; YAVOYSKIY, V.I.; KRYAKOVSKIY, Yu.V.; Prinimali uchastiye: TYURIN, Ye.I., kand.tekhn.nauk; KRAUZE, I.E., kand.tekhn.nauk; VISHKAREV, A.F., kand.tekhn.nauk

Effect of rare earth elements on hydrogen solubility in liquid iron. Izv. vys. ucheb. zav.; chern. met. 4 no.7:44-54 '61. (MIRA 14:8)

1. Moskovskiy institut stali.
(Iron—Hydrogen content)
(Rare earth metals)

KOZLOV, V.I.; VISHKAREV, A.F.; ZIL'BERMAN, A.G.; YAVOYSKIY, V.I.

Diffusion of carbon and oxygen in liquid steel. Izv. vys. ucheb. zav.; chern. met. 4 no.11:38-44 '61. (MIRA 14:12)

1. Moskovskiy institut stali.
(Gases in metals)
(Diffusion)

KISELEV, A.A., inzh.; YAVOYSKIY, V.I., prof., doktor tekhn.nauk

Improving the crack resistance of steel ingots. Stal' 21 no.2:112-119 F '61. (MIRA 14:3)

1. Zavod "Krasnyy Oktyabr'" i Moskovskiy institut stali.
(Steel ingots—Defects)

35218

S/148/62/000/001/002/015
E071/E180

18.7130

AUTHORS: Yakushev, A.M., and Yavoyskiy, V.I.

TITLE: The influence of vanadium and boron on the solubility of hydrogen in liquid iron

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya, no.1, 1962, 52-56

TEXT: The influence of boron and vanadium on the solubility of hydrogen in liquid iron was investigated using an apparatus described earlier by the present authors and Yu.V. Kryakovskiy (Ref.1: Izv.vuz Chernaya metallurgiya, no.7, 1961) at hydrogen pressures of 18-41 mm Hg. The accuracy of the method was tested by measuring the influence of silicon on the solubility of hydrogen in iron. The results obtained agree well with the literature data. The solubility of hydrogen in liquid iron at 1560 and 1655 °C, as well as in solid iron near its crystallisation temperature, was determined. The respective solubilities were: at 1560 °C, 27.45 $cm^3/100g$, at 1655 °C, 30.80 $cm^3/100g$, and in solid iron 12.2 $cm^3/100g$. The influence of up to 9.3% vanadium was studied at 1560 °C. In liquid Fe + V alloys, the solubility

Card 1/2

The influence of vanadium and boron.. S/148/62/000/001/002/015
E071/E180

of hydrogen increases with increasing vanadium content, and for alloys containing up to 6% vanadium it is proportional to the square root of hydrogen pressure. The temperature coefficient of hydrogen solubility for the alloys is lower than for pure iron. Additions of boron to liquid iron (up to 0.2%) have no influence on hydrogen solubility.
There are 2 figures and 2 tables.

ASSOCIATION: Moskovskiy institut stali
(Moscow Steel Institute)

SUBMITTED: September 19, 1961

Card 2/2

X

LUZGIN, V.P.; VISHKAREV, A.F., kand.tekhn.nauk; YAVOYSKIY, V.I., doktor tekhn.nauk

Method for the automatic measurement of carbon content in liquid steel. Avtom.i prib. no.3:18-20 Jl-S '62. (MIRA 16:2)

1. Moskovskiy institut stali.
(Steel—Analysis)

37238
S/148/62/000/003/003/011
E071/E435

18.1100

AUTHORS: Vishkarev, A.F., Kryakovskiy, Yu.V., Bliznyukov, S.A., Yavoyskiy, V.I.

TITLE: Influence of rare earth elements on the surface tension of liquid iron

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, no.3, 1962, 60-67

TEXT: The surface activity of rare earth elements in iron is of importance from the point of view of their modifying effect which is caused by preferential adsorption of surface active components on faces of growing crystals, inhibiting their growth. In multi-component systems, changes in the surface tension could be due not only to the adsorption of a given component but also due to various physico-chemical processes taking place in the melt (e.g. deoxidation, desulphurization, changes in the activity of other components), for this reason the influence of rare earth elements on the surface tension of specially purified liquid iron was measured (not more than: 0.020% C, 0.015% Mn, 0.005% Si, 0.0028% P, 0.002% S and 0.003% O_2). The method

Card 1/3

Influence of rare earth ...

consisted of measuring the maximum pressure of gas bubbles in vacuo or in a controlled atmosphere. Well purified argon was used for blowing bubbles and as a protective atmosphere. The apparatus and experimental procedure are described in some detail. It was found that cerium and lanthanum are surface active. In all cases, first additions of cerium (up to 0.45%) lower the surface tension of iron by 100 to 120 erg/cm^2, whilst further addition of cerium increases the surface tension of iron due to its reaction with oxygen and sulphur. Lanthanum acts similarly but a decrease in the surface tension was noted only after the first addition (0.1%). This is explained by a higher deoxidizing and desulphurizing ability of lanthanum in comparison with cerium. The influence of the admixtures present in iron on changes in the surface tension on the addition of rare earth elements (Ce, La, Nd, Pr) was demonstrated by using ordinary armco iron and carrying out experiments without a protective atmosphere. In this case additions of rare earth elements caused an increase in the surface tension of iron; only in a few cases was a small decrease observed after the first addition. This indicates that the

increase in the surface tension is associated with the deoxidation and desulphurization of the metal (in the case of deoxidation confirmed by analysis). The modifying influence of additions of rare earth elements was confirmed on special heats of X23H18 (Kh23N18) steel made in a 30 kg induction furnace. The grain size of the metal in the cast state was found to be diminishing with an increasing amount of rare earth element added. There are 6 figures and 2 tables.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: November 22, 1961

Card 3/3

KINNE, G.; VISHKAREV, A.F.; YAVOYSKIY, V.I.

Thermodynamics of steel deoxidation by lanthanum, cerium, praseodymium, and neodymium. Izv. vys. ucheb. zav.; chern. met. 5 no.9:92-98 '62. (MIRA 15:10)

1. Moskovskiy institut stali i splavov.
(Steel—Metallurgy) (Rare earth metals)

AEROSIMOV, Ye.V.; YAVOYSKIY, V.I.; LUZGIN, V.P.; STARKOV, P.A.; SURGUCHEV, G.D.; GRIGOR'YEV, V.P.

Automatic control of the open-hearth process. Izv.vys.ucheb.zav.; chern.met. 5 no.11:37-41 '62. (MIRA 15:12)

1. Moskovskiy institut stali i splavov.
(Open-hearth process) (Automatic control)

S/133/62/000/007/002/014
A054/A127

AUTHORS: Yavoyskiy, V.I., Professor, Doctor of Technical Sciences; Bekturs-unov, Sh.Sh., Engineer; Chernega, D.F.; Tyagun-Belous, G.S.; Dudko, D.A.; - Candidates of Technical Sciences

TITLE: Electroslag heating and additional feeding in casting 10Г2СД (10G2SD) slabs for sheet rolling

PERIODICAL: Stal', no. 7, 1962, 611 - 615

TEXT: The new "electroslag-heating" method described by G.S. Tyagun-Belous and D.A. Dudko (Ref. 1, Avtomaticheskaya svarka, no. 9, 10, 1956, no. 8, 11, 1958) eliminates the drawbacks in the usual methods of reducing metal losses in the riser head. In the upper part of the ingot mold a mixture of 45% crushed chamotte and 55% fine-graded coke is spread on the metal surface, in an amount of 2 kg/ton steel, then 14 kg/ton slag forming materials are added. Through the layer forming from these elements which smelts and becomes electro-conductive, a current of industrial frequency is led. The slag layer developing in the dozzle of the mold is 80 - 100 mm thick. In the electroslag-heating method

Card 1/4

Electroslag heating and additional feeding in ....

carbon electrodes (50 - 150 mm in diameter) are used. If this process is combined with additional feeding, 80 - 100-mm diameter self-baking electrodes of the same grade that is being smelted are used. The ingots cast by the first me.... weighed 7.65 tons, those of the combined method 7.3 - 7.4 tons, while the standard ingots were 8.2 tons. The slag forming elements used were chamotte powder, lime, fluorite. Shrinkage cavities were not found in the ingots cast with electroslag heating, but the highest density was obtained, when electroslag heat..g and additional feeding were applied. The test ingots and one control ingo.. were examined for chemical nonhomogeneity, the amount of residual hydrogen, pickling and mechanical properties. The positive liquation of carbon was 7% in the ingot heads subjected to additional feeding, 2% in case of electroslag heating, and 200% for the control ingot. The corresponding values for the sulfur content were 0.0 and 10% and for phosphorus 0.5 and 50%. The decrease of liquation can be explained by the activity of the slag layer, which absorbs the additives from the smelted metal at their interface. This process is considerably intensified by the convective flows circulating at a rate of about 4 m/min in the ingot mold during crystallization, entraining liquid metal from the lower, solidifying parts of the ingot upward to the riser, i.e., to the electrical-

Electroslag heating and additional feeding in ....

ly heated slag layer. For the same reason the hydrogen content of the ingots also decreases. In the test ingots produced with electroslag heating the hydrogen content was 4.09 cm^3/100 g, in the ingot with additional feeding 4.05 cm^3/100 g, and in the control ingot 4.98 cm^3/100 g. The effect of convective flows was investigated by radiometry, using a P^{32}-50 millicurie-isotope. As to mechanical properties, the highest values were found in ingots treated by electroslag heating, without additional feeding: σ_B = 50 - 56 and σ_s = 37 - 42 kg/mm^2; in the riser part of the ingot the highest mechanical parameters were obtained for ingots with additional feeding: σ_B = 50 - 55, σ_s = 40 - 45 kg/mm^2. The effect of the quality of current on the properties of the ingots was also studied by means of a d-c welding generator (1,100 amp, 40 v) and 3.4 ton 10G2SD ingots. The highest parameters and the most uniform distribution of elements were found in ingots heated by direct current with a direct polarity. Similar results can be obtained also with alternating current of industrial frequency, which is important from the practical point of view. If electroslag heating of the riser is applied, the saving in metal is 6 - 7%; if additional feeding is also applied, it is 10 - 11%. The riser volume can be reduced by 3 - 5%. It is also possible to dispense with the riser completely. The methods should be ap-

Card 3/4

Electroslag heating and additional feeding in S/133/62/000/007/002/014
A054/A127

plied mainly for carbon steel and low-alloy steel ingots for heavy-duty products. There are 3 figures.

Card 4/4

S/148/62/000/009/002/007
E111/E435

AUTHORS: Kinne, G., Vishkarev, A.F., Yavoyskiy, V.I.

TITLE: Thermodynamics of the deoxidation of steel with lanthanum, cerium, praseodymium and neodymium

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, no.9, 1962, 92-98

TEXT: Published data are used to calculate the thermodynamic characteristics applicable to lanthanum, cerium, praseodymium and neodymium when used for steel deoxidation. The activity of cerium at steelmelting temperatures is estimated from the phase equilibrium diagram. Up to 5% Ce the following equations hold

$$a_{Ce} = 3.9[\%\,Ce] - 0.138[\%\,Ce]^2. \quad (5)$$

$$\left.\begin{aligned} \gamma'_{Ce} &= 3.9 - 0.138[\%\,Ce] \\ \gamma_{Ce} &= 3.9 - 3.29[N_{Ce}]. \end{aligned}\right\} \quad (6)$$

the other elements can be assumed to behave similarly. Vapour-

Card 1/2

pressure calculation for 1% concentration at 1600°C shows that there can be hardly any evaporation of Ce and La, whereas certain oxides (particularly Ce_2O_3) could evaporate. The deoxidizing power of the elements is greater than that of aluminium or zirconium and sometimes may exceed that of beryllium; it rises in the following order: Ce, La, Pr, Nd if CeO_2 is produced or La, Pr, Nd, Ce if Ce_2O_3 is produced. For experiments the authors recommend crucibles of CaO, ThO_2, La_2O_3, Ce_2O_3, Nd_2O_3, Pr_2O_3 or stable nitrides. There are 4 figures and 3 tables.

ASSOCIATION: Moskovskiy institut stali i splavov
(Moscow Steel and Alloys Institute)

SUBMITTED: April 23, 1962

GRIGOR'YEV, V.P.; LUZGIN, V.P.; ABROSIMOV, Ye.V.; ORLOV, V.I.; YAVOYSKIY, V.I.; GURSKIY, G.L.; GONCHAROV, I.A.; STARKOV, P.A.

Materials balance in the scrap metal-iron ore process. Izv. vys. ucheb. zav.; chern. met. 5 no.5:63-67 '62. (MIRA 15:6)

1. Moskovskiy institut stali zavod "Zaporozhstal'".
(Steel—Metallurgy)

SURGUCHEV, G.D.; BLINOV, O.M.; YAVOYSKIY, V.I.

Control of open-hearth furnace smelting by the composition of the combustion products. Izv. vys. ucheb. zav.; chern. met. 5 no.7:56-61 '62. (MIRA 15:8)

1. Moskovskiy institut stali i splavov.
(Open-hearth process)

U DIN-FEN' [Wu Ting-fên]; VISHKAREV, A.F.; YAVOYSKIY, V.I.

Density of molten steelmaking slag. Izv. vys. ucheb. zav.; chern. met. 5 no.9:66-75 '62. (MIRA 15:10)

1. Moskovskiy institut stali i splavov.
(Slag—Density)

IAVOISKI, V.I. [Yavoyskiy, V.I.]; CERNEGA, D.F. [Chernega, D.F.]; DUDKO, D.A.; TEAGUN-BELOUS, G.S. [Tyagun-Belous, G.S.]; BEKTURSUNOV, S.S. [Bekturaunov, Sh.Sh.]; BOCIAROV, V.A. [Bocharov, V.A.]; AGAMALOVA, L.L.; MOLOTKOV, V.A.; IAKOBSE, R.I. [Yakobshe, R.Ya.]; POTANIN, E.M. [Potanin, Ye.M.]

Electrolytic phenomena during the slag electric heating of the ingots. Analele metalurgie 16 no.2:5-18 Ap-Je '62.

YAVOYSKIY, V.I

BEKTURSUNOV, S.S. [Bektursunov, Sh. Sh.]; ~~IAVOISKI, V.I.~~ [Yavoyskiy, V.I.]; CERNEGA, D.F. [Chernega, D.F.]; TEAGUN-BELOUS, G.S. [Tyagun-Belous, G.S.]; SITOVA, N.M. [Sytova, N.M.]

Behavior of hydrogen during the slag electric heating and additional feeding of the ingots. Analele metalurgie 16 no.2:19-30 Ap-Je '62.

IAKUSEV, A.M. [Yakushev, A.M.]; IAVOISKI, V.I. [Yavoyskiy, V.I.]

Influence of vanadium and boron on the solubility of hydrogen in liquid iron. Analele metalurgie 16 no.4:49-54 O-D '62.

YAVOYSKIY, V.I., prof., doktor tekhn.nauk; BEKTURSUNOV, Sh.Sh., inzh.; CHERNEGA, D.F., kand.tekhn.nauk; TYAGUN-BELOUS, G.S., kand.tekhn.nauk; DUDKO, D.A., kand.tekhn.nauk; Prinimali uchastiye: MOLOTKOV, V.A.; BELYAYEV, Yu.P.; YAKOBSHA, R.Ya.; AGAMALOVA, L.L.; CHEKALENKO, G.A.; BOCHAROV, V.A.; KISSEL', N.N.; POTANIN, Ye.M.; SYTOVA, N.M.

Electric slag heating and additional feed of large sheet billets made of 10G2SD steel. Stal' 22 no.7:611-615 Jl '62. (MIRA 15:7)

(Steel ingots) (Rolling (Metalwork))

YAVOYSKIY, Vladimir Ivanovich; CHERNYAK, L.Ye., red.; MIKHAYLOVA, V.V., tekhn. red.

[Theory of steel production processes] Teoriia protsessov proizvodstva stali. Moskva, Metallurgizdat, 1963. 820 p. (MIRA 16:12)

(Steel—Metallurgy)

U DIN-FEN' [Wu Ting-Fên]; VISHKAREV, A.F.; YAVOYSKIY, V.I.

Surface tension of phosphate slags. Izv. vys. uchsb. zav.; chern. met. 6 no.3:40-45 '63. (MIRA 16:5)

1. Moskovskiy institut stali i splavov.
(Slag) (Surface tension)

LUZGIN, V.P.; VISHKAREV, A.F.; YAVOYSKIY, V.I.

Determining oxygen activity in Fe-C-O melts by the electromotive force method. Izv. vys. ucheb. zav.; chern. met. 6 no.5:44-50 '63. (MIRA 16:7)

1. Moskovskiy institut stali i splavov.
(Liquid metals--Oxygen content)
(Vapor-liquid equilibrium)

L 11071-63 EWP(q)/EWT(m)/BDS--AFFTC/ASD--JD/JG

ACCESSION NR: AP3001375 S/0148/63/000/005/0065/0069

AUTHOR: Kinne, G.; Vishkarev, A. F.; Yavoyskiy, V. I. 58 57

TITLE: Deoxidizing capacity of rare-earth elements (lanthanum, cerium, praseodymium and neodymium)

SOURCE: IVUZ. Chernaya metallurgiya, no. 5, 1963, 65-69

TOPIC TAGS: rare-earth elements, lanthanum, cerium, praseodymium, neodymium, deoxidation, aluminum, calcium, magnesium, deoxidation constants, smelting temperature, beryllium, zirconium

ABSTRACT: The rare-earth elements lanthanum, cerium, praseodymium, and neodymium exhibit deoxidizing capacities exceeding those of aluminum and zirconium even approach the activity of calcium and magnesium. Predictions of activity from thermodynamic calculations are borne out by the experimental results. The deoxidation mechanism was studied indirectly, by conducting smelting operations in an Al_2O_3 crucible, with the material studied and the crucible material achieving equilibrium within 15-25 minutes, when measurements were made. Deoxidation constants for the four rare earth elements are given as a function of smelting temperature; comparative information for beryllium and zirconium are also provided. Orig.

Card 1/2 Moscow Inst. of Steel and Alloys

U DIN-FEN' [Wu Ting-fên]; VISHKAREV, A.F.; YAVOYSKIY, V.I.

Surface tension of iron and lime slags. Izv.vys.ucheb.zav.;chern. met. 6 no.1:27-33 '63. (MIRA 16:2)

1. Moskovskiy institut stali i splavov.
(Slag) (Surface tension)

SURGUCHEV, G.D.; BLINOV, O.M.; REYSS, M.R.; YAVOYSKIY, V.I.

Automatic control of charging and preheating periods in open-hearth smelting. Izv. vys. ucheb. zav.; chern. met. 6 no.9: 39-44 '63. (MIRA 16:11)

1. Moskovskiy institut stali i splavov.

LUZGIN, V.P.; VISHKAREV, A.F.; YAVOYSKIY, V.I.

Determining the deoxidizing properties of elements by the electromotive force method. Izv. vys. ucheb. zav.; chern. met. 6 no.9:50-54 '63. (MIRA 16:11)

1. Moskovskiy institut stali i splavov.

L 17462-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD

ACCESSION NR: AP3004782 S/0129/63/000/008/0011/0018

AUTHORS: Kryakovskiy, Yu. V.; Rubenchik, Yu. I.; Tyurin, Yo. I.; Yavoyskiy, V. I.

TITLE: Mechanical properties and nature of nonmetallic inclusions in alloyed construction steel with a rare earth element admixture 61 60

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 8, 1963, 11-18

TOPIC TAGS: steel mechanical property, steel nonmetallic inclusion, alloy steel, mischmetal, 30KhGSA steel, 12Kh1MF steel, 12KhN2A steel

ABSTRACT: Authors analyzed the effect of small admixtures of mischmetal and ferrocerium on the mechanical properties of 30KhGSA, 12Kh1MF and 12KhN2A steels. They also studied the nature of non-metallic inclusions in a steel with rare earth element admixtures. The test heats were executed in basic 60 and 140-ton open hearth furnaces fired by natural gas and black oil. Authors conclude that mischmetal admixtures in amounts of 0.5 to 3 kg per ton into the above-mentioned steels increase the impact toughness in drawn-out and transverse samples. These same admixtures lower the cold brittleness threshold of 12Kh1MF steel, but they improve the plastic and impact properties of cast metal from 12KhN2A steel. The introduction of mischmetal reduces the zonal liquation in alloyed

Card 1/2

L 17462-63

ACCESSION NR: AP3004782

construction steel ingots. Rare earth elements alter the nature and distribution of the non-metallic inclusions in steel, which, in all probabilities, explains the increase in mechanical properties. When more than 0.8-1.0 kg per ton of mischmetal is added to an ingot, the appearance of macro defects in the steel, which are caused by conglomeration of the rare earth element inclusions, is possible. Orig. art. has: 3 figures and 3 tables.

ASSOCIATION: Moskovskiy institut stali i splavov (Moscow institute for steel and alloys)

SUBMITTED: 00	DATE ACQ: 06Sep63		ENCL: 00
SUB CODE: ML	NO REF SOV: 004		OTHER: 000

Card 2/2

YAVOYSKIY, V.I.; BEKTURSUNOV, Sh.Sh.; BELYAYEV, Yu.P.; MOLOTKOV, V.A.; DUDKO, D.A.

Metal distribution by consumable electrodes in the volume of an ingot during additional electric slag feeding. Avtom. svar. 16 no.11:40-43 N '63. (MIRA 17:1)

1. Moskovskiy institut stali i splavov (for Yavoyskiy). 2. Karagandinskiy politekhnicheskiy institut (for Bektursunov). 3. Zhdanovskiy metallurgicheskiy zavod imeni Il'icha (for Belyayev, Molotkov). 4. Institut elektrosvarki imeni Ye.O. Patona AN UkrSSR (for Dudko).

L 12846-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD/JG

ACCESSION NR: AP3001467 S/0133/63/000/005/0422/0425 76 61

AUTHOR: Yavoyskiy, V. I. (Dr. of technical sciences); Matevosyan, P. A. (Engineer) Kryakovskiy, Yu. V. (Candidate of technical sciences); Tyurin, Ye. I. (Candidate of technical sciences); Vishkarev, A. F. (Candidate of technical sciences); Permyakov, L. N. (Engineer); Antipov, K. I. (Engineer)

TITLE: Use of rare-earth elements in smelting of structural alloy steel and of stainless steel 27

SOURCE: Stal', 23 no. 5, 1963, 422-425

TOPIC TAGS: Ce, La, Nd, Pr, Ni, Armco-iron, steel Kh23N18, steel KhGSA, steel 1Kh18N9T, steel 12Kh1MF, steel 40Kh, flake formation, steel 37KhS, steel 36G2S, steel 30KhSA

ABSTRACT: The influence of rare-earth elements on properties of different kinds of steel was investigated at Moskovskiy institut stali i splavov (Moscow Institute of Steel and Alloys). Ce, La, Nd, and Pr were used separately in the form of an alloy (45-55% Ce, up to 28% La, and up to 15% Nd). Laboratory tests indicated that Ce and La lowered the surface tension of molten steel. 16

Card 1/3

L 12846-63
ACCESSION NR: AP3001467

It was shown that rare-earth elements used in metallurgy (up to 0.3%) do not change the concentration of hydrogen dissolved in molten steel. These elements formed stable nitrides and had a deoxidizing and desulfurizing effect on Armco-iron, on steel Kh23N18, and on steel 30KhGSA. The steel smelted with rare-earth elements was twice as tough as without them. The aftercharge of rare-earth elements improved the elasticity of stainless steel Kh23N18 and reduced the total amount of nonmetallic impurities. Moreover, 1% of Ni was saved, without any loss of elasticity, when rare-earths were added in making the steel 1Kh18N9T, while the addition of rare-earths to a number of structural alloy steels (30KhGSA, 12Kh1MF, 40Kh) improved their elasticity. An addition of up to 1.5 kg/t of rare-earths reduced but did not eliminate the formation of flakes in steel 37KhS, 36G2S, and 30KhSA. However, adding up to 2.7-2.8 kg/t the formation of flakes was completely eliminated. "The melts were made with the assistance of M. N. Kul'kova, B. S. Petrov, M. P. Lapshova, G. D. Shury*gin, V. A. Grigor'yev, B. N. Okorkov, A. M. Yakushev, P. N. Balashev, G. R. Opanevich, and others." Orig. art. has: 2 figures and 5 tables.

Card 2/2

MOKHAMED FIKRI ABDEL'RAZIK MIKKAUI; VISHKAREV, A.F.; YAVOYSKIY, V.I.

Nature of the brown smoke formed during the oxygen blowing of the metal. Izv. vys. ucheb. zav.; chern. met. 6 no.11:37-41 '63.
(MIRA 17:3)

1. Moskovskiy institut stali i splavov.

NECHKIN, Yu.M.; KUDRIN, V.A.; YAVOYSKIY, V.I.

Effect of the basicity of open-hearth furnace slags on their tendency to foam. Izv. vys. ucheb. zav.; chern. met. 7 no.3: 53-56 '64. (MIRA 17:4)

1. Moskovskiy institut stali i splavov.

KRUPMAN, L.I.; YAVOYSKIY, V.I.

Kinetics of the dissolution of ferroalloys in steel-pouring ladles. Izv. vys. ucheb. zav.; chern. met. 7 no.9:35-42 '64. (MIRA 17:6)

1. Donniichermet i Moskovskiy institut stali i splavov.

ACCESSION NR: AP4039272 S/0148/64/000/005/0040/0045

AUTHOR: Vvedenskiy, V. S.; Rubenchik, Yu. I.; Semenchenko, G. V.; Kryakovskiy, Yu. V.; Yavoyskiy, V. I.

TITLE: Improvement of deoxidation methods during the finishing of "10Kh16N25M6" and "40KhNMA" steel

SOURCE: IVUZ. Chernaya metallurgiya, no. 5, 1964, 40-45

TOPIC TAGS: rare earth metal, stainless steel, structural steel, austenitic carbide steel, low plasticity, hot working, calcium silicon additive, deformation, nonmetallic inclusion, ferrocerium, grain coarsening

ABSTRACT: The authors investigated the effect of rare earth metals on the quality of stainless and structural steel. Austenitic carbide steel "10Kh16N25M6" served as a specimen. The low plasticity of this steel after hot working was studied in cast and forged pieces. Calcium silicon powder and lumps were added to the melt. Deformed and non-deformed specimens ruptured after forging and 180 C bending. Chromite inclusions were identified in all specimens. In cast and rolled specimens 0.2% ferrocerium enhanced plasticity while mechanical properties

Card 1/2

ACCESSION NR: AP4039272

remained unchanged. The carbide phase was more uniformly distributed. In "40KhNMA" structural steel 1 kg/t ferrocerium and calcium silicon added during the finishing period to an 18 ton electric furnace prevented hairline cracking. The authors assume that deoxidation during the finishing stage changes the physical properties of non-metallic inclusions. A coarsening of the natural grain of up to 4 ASTM is indicative of a higher purity along grain boundaries. Orig. art. has: 5 figures and 3 tables.

ASSOCIATION: Moskovskiy institut stali i splavov i Izhevskiy metallurgicheskiy zavod (Moscow Institute of Steel and Alloys and Izhevsk Metallurgical Plant)

SUBMITTED: 30Dec63 ENCL: 00

SUB CODE: MM NO REF SOV: 002 OTHER: 000

Card 2/2

DRAGOMIR, I.; VISHKAREV, A.F.; YAVOYSKIY, V.I.

Investigating the properties of iron-phosphorus melts. Izv. vys. ucheb. zav.; chern. met. 7 no.7:48-52 '64
(MIRA 17:8)

1. Moskovskiy institut stali i splavov.

RUBENCHIK, Yu.I.; KRYAKOVSKIY, Yu.V.; YAVOYSKIY, V.I.; KUL'KOVA, M.N.

Nature of nonmetallic inclusions of rare-earth elements in iron and steel. Zav. lab. 30 no.1:57-58 '64. (MIRA 17:9)

1. Moskovskiy institut stali i splavov.

PERMYAKOV, L.N. (Moskva); KRYAKOVSKIY, Yu.V. (Moskva); VISHKAREV, A.F. (Moskva); YAVOYSKIY, V.I. (Moskva)

Effect of rare-earth metals on the behavior of nitrogen in liquid iron and steel. Izv. AN SSSR. Met. i gor. delo no.4:68-75 Jl-Ag '64. (MIRA 17:9)

YAVORSKIY, V.I.

Age of the sediments of the Tom'Chumysh horizon. Sov. geol. 7 no.5:132-134 My '64 (MIRA 18:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut.

YAVORSKIY, V.I.

Reducing losses during the mining of high-grade coal in the Kuznetsk Basin is the great objective of the national economy. Razved. i okh. nedr 30 no.2:39-40 F '64. (MIRA 17:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut.

ACCESSION

Yavoyskiy, V. I., Danilin, V. I.

53-58

TOPIC TAGS: degassing, slag, chromium steel

ABSTRACT: Degassing ... low-viscosity basic synthetic slag was ...

tric furnace ... gas content, and slag chemical comp... slag and good contact ...

Another index of degassing ... several concomitant mechanisms for degassing are ... It is possible that the ... at some distance from the electrode ... dominant ...

Card 1/2

ACCESSION NR

SUB CODE: MM

NO REF SOV: 004

OTHER: 003

Card 2/2

LUZGIN, V.P.; VISHKAREV, A.F.; YAVOYSKIY, V.I.

Interaction of oxygen and carbon in liquid iron. Izv. vys. uchseb. zav.; chern. met. 8 no.1:22-25 '65 (MIRA 18:1)

1. Moskovskiy institut stali i splavov.

YAVOYSKIY, V.I., otv. red.; BIGEYEV, A.M., red.; BORKO, Ye.A., red.; GLINKOV, M.A., red.; ZARVIN, Ye.Ya., red.; KAPUSTIN, Ye.A., red.; KOCHO, V.S., red.; KUDRIN, V.A., red.; LAPITSKIY, V.I., red.; LEVIN, S.L., red.; OYKS, G.N., red.; ROMENETS, V.A., red.; UMRIKHIN, P.V., red.; FILIPPOV, S.I., red.

[Theory and practice of the intensification of processes in converters and open-hearth furnaces; transactions] Teoriia i praktika intensifikatsii protsessov v konverterakh i martenovskikh pechakh; trudy. Moskva, Metallurgiia, 1965. 552p. (MIRA 18:10)

1. Mezhvuzovskoye nauchnoye soveshchaniye po teorii i praktike intensifikatsii protsessov v konverterakh i martenovskikh pechakh. 2. Moskovskiy institut stali i splavov (for Filippov). 3. Zhdanovskiy metallurgicheskiy institut (for Kapustin). 4. Ural'skiy politekhnicheskiy institut (for Umrikhin).

L 9774-66 EWT(m)/EWP(t)/EWP(b) JD

ACC NR: AP5026298 SUB CODE: UR/0125/65/000/010/0069/0071

AUTHOR: Kamenskiy, Yu. M. (Engineer); Sukhotin, B. N. (Engineer); Yavoyskiy, V. I. (Doctor of technical sciences)

ORG: [Kamenskiy, Sukhotin] Moscow Serp i Molot Plant (Moskovskiy zavod "Serp i Molot"); [Yavoyskiy] Moscow Institute of Steel and Alloys (Moskovskiy institut stali i splavov)

TITLE: Use of single-phase transformers in electroslag melting installations

SOURCE: Avtomaticheskaya svarka, no. 10, 1965, 69-71

TOPIC TAGS: electric transformer, electroslag melting, voltage regulation, slag / EQMN single phase transformer

ABSTRACT: The recently developed EQMN-2000/10 single-phase transformers used for the electroslag refining of metals are superior to the three-phase transformers previously employed for this purpose. They have a larger number of voltage stages which, moreover, can be switched under load. In this connection, the authors present the results of an experimental investigation which shows that during the melting the voltage in the slag bath tends to increase somewhat (8-10 v), which leads to a corresponding increase in power requirement and in the temperature of slag and metal, as well as a

Card 1/2

UDC: 621.791.9:621.314.2

L 9774-66

ACC NR: AP5026298

rise in melting rate, which results in an increase in the depth of the molten pool with all the adverse consequences that this entails. To compensate for the rise in voltage, and also for instantaneous fluctuations in power-system voltage, the transformer stages are periodically switched at the optimal time instant during the melting so as to maintain a fairly constant power level. This is accomplished with the aid of an efficient current regulator. As a corollary, a basic requirement for an effective electroslag melting: stability of the electric regime, must be redefined. Now this stability does not mean a fixed level of such parameters as current intensity, voltage, or electrode feeding rate, throughout the melting process. What is necessary rather is a continuous, flexible control of the variation in these parameters during the melting process. The ingots thus produced are of a more uniform quality. Orig. art. has: 4 figures, 1 table.

SUB CODE: 09, 11/ SUBM DATE: 28Dec64/ ORIG REF: 001/ OTH REF: 000

Card 2/2

L 04736-67 EWP(k)/EWT(m)/EWP(t)/ETI WW/JD/JG

ACC NR: AP6027005 (N) SOURCE CODE: UR/0148/66/000/005/0073/0077

AUTHOR: Afanas'yev, Yu. I.; Kamenskiy, Yu. M.; Sukhotin, B. N.; Yavoyskiy, V. I. 39

ORG: Moscow Institute of Steel and Alloys (Moskovskiy institut stali i splavov) B

TITLE: Certain problems of the crystallization of ingots of electroslag-remelted metal. Report 1. 16 14

SOURCE: IVUZ. Chernaya metallurgiya, no. 5, 1966, 73-77

TOPIC TAGS: metal crystallization, electroslag melting, metal melting, molten metal

ABSTRACT: Oriented crystallization is one of the chief advantages of the electroslag remelting process, but it requires the observance of specified conditions. Thus, the optimal depth of the molten metal bath must be one-half of the diameter (side) of the crystallizer, for ingots weighing up to 1000 kg. The optimal form of the molten metal bath in the case of a cone-shaped crystallizer is assured by maintaining a constant linear rate of ingot build-up, which can be done by gradually reducing the electrode feed rate, on the basis of the equation: $v_b = v_{r.b.} = v_e \frac{S_e}{S_{cr} - S_e}$ where v_b is the linear ingot build-up rate: $v_{r.b.}$ is the rate of rise in the level of the slag bath (for a constant height of slag bath $v_b = v_{r.b.}$); v_e is the linear

Card 1/3 UDC: 669.087:532.78

electrode feed rate; S_e is the cross sectional area of electrode (S_e = const); and S_{cr} is the cross sectional area of the crystallizer (decreasing with height). The constancy of the optimal shape of the molten metal bath is also assured by a definite ratio between the solidification rate v_s and the build-up rate v_b (Fig. 1.), such that v_s somewhat exceeds v_b. Further, an

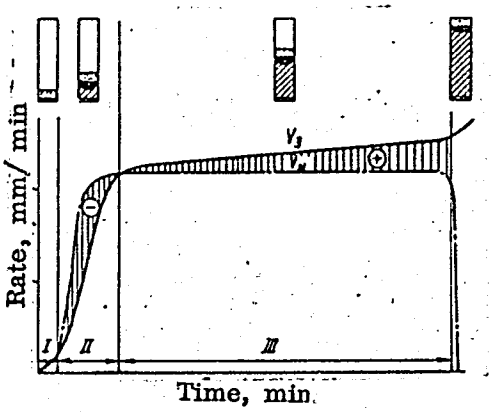


Fig. 1. Ratio between linear rates of build-up v_b and solidification v_s assuring constancy of optimal shape of the molten metal bath.
I-III -- melting stages; $\Delta v = v_s - v_b$:
I - $\Delta v \approx 0$; II - $\Delta v < 0$; III - $\Delta v > 0$

L 04736-67

ACC NR: AP6027005

investigation of the pattern of variation in the intensity of heat transfer from the slag bath and ingot to the crystallizer walls, performed with the aid of a technical themometer, shows that the bath depth may be optimized by assuring the completion of the process of crystallization at a given level prior to any marked recession -- due to horizontal and vertical shrinkage -- of the ingot and the slag crust from the crystallizer walls and thus preserving contact with, and hence also the cooling effect of, the crystallizer walls and preventing distortions of ingot shape. Orig. art. has: 5 figures.

SUB CODE: 13, 11/ SUBM DATE: 19Oct65/ ORIG REF: 003

Card 3/3 gd

L 40206-66 EWT(m)/EWP(w)/T/EWP(t)/ETI IJP(c) JD/JG

ACC NR: AP6030051 SOURCE CODE: UR/0133/66/000/001/0072/0073

AUTHOR: Kul'kova, M. N.; Ponomareva, Ye. P.; Rubenchik, Yu. I.; Kryakovskiy, Yu. V.; Yavoyskiy, V. I.

ORG: 'Krasnyy Oktyabr' Plant (Zavod "Krasnyy Oktyabr"); Moscow Institute of Steel and Alloys (Moskovskiy institut stali i splavov)

TITLE: Effect of rare earth metals on the properties of 12Kh1MF steel

SOURCE: Stal', no. 1, 1966, 72-73

TOPIC TAGS: steel, rare earth metal, steel macrostructure, mechanical property/ 12Kh1MF steel

ABSTRACT: The authors studied the nature and distribution of inclusions in 12Kh1MF tube steel with and without additions of rare earth metals. Three methods were used for adding the rare earth metals to the melt: 1) in the furnace immediately before tapping (2-3 kg/t); 2) in the pouring ladle (0.2-1.0 kg/t); and 3) in the mold during teeming (0.2-0.7 kg/t). Macrostructural analysis revealed that addition of rare earth elements by any method and in any quantity reduces local segregation of sulfur, although the degree of improvement is highly dependent on the method used for introducing the rare earth metals. For instance, additions of 3 kg/t to the furnace gives about the same effect as addition of 0.7-0.8 kg/t to the ladle. Additions of less than 3 kg/t to the furnace or less than 0.2-0.5 kg/t to the ladle have practically no effect on macrosturcture. Direct introduction of rare earth metals during teeming has a more noticeable

Card 1/2 UDC: 559.18:658.562

L 40206-66

ACC NR: AP6030051

effect. The distribution of sulfur is changed considerably even by additions of 0.5-0.6 kg/t. The mechanical properties of longitudinal specimens were not changed by rare earth treatment regardless of method of introduction or quantity of additive introduced, while treated transverse specimens showed a considerable improvement in mechanical properties. Orig. art. has: 2 figures and 1 table. [JPRS: 35,681]

SUB CODE: 11, 20 / SUBM DATE: none / ORIG REF: 002

Card 2/2

YAVORSKIY, V.I. (IAvors'kyi, V.I.)

On the centenary of L.I.Lutugin's birth; 1864-1915. Geol. zhur. 24 no.2:94-97 '64. (MIRA 18:2)

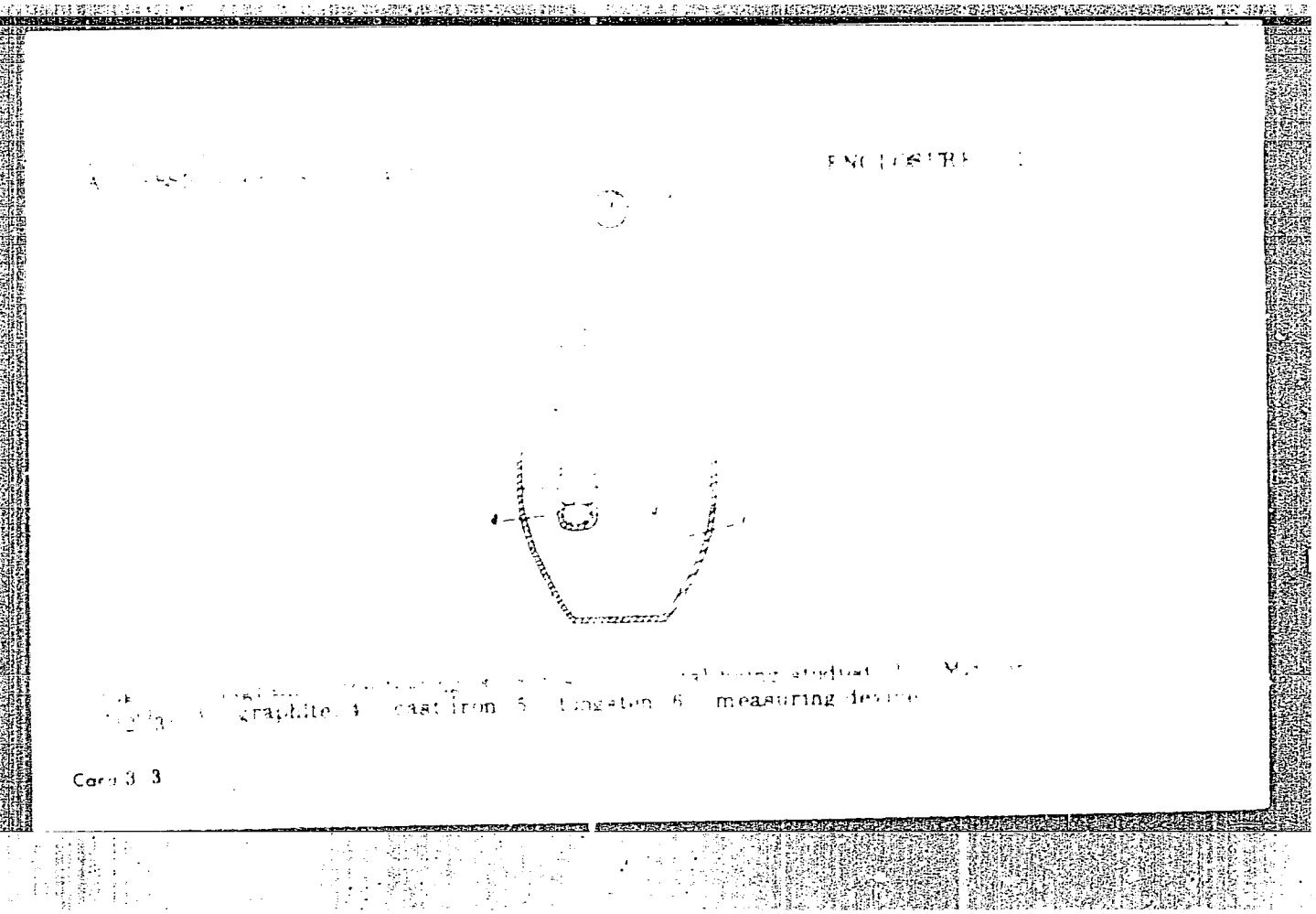
SOURCE: Ogneupory, no. 4, 1965, 42-44

TOPIC TAGS: metal oxide conductivity, magnesium oxide, alumina, high temperature conductivity, sintered magnesia, sintered corundum, liquid metal oxidation, casting

[illegible] conductivity of the solid oxides Mg[illegible]

L 51075-65

ACCESSION NR: AP5010417



Card 3 3

OKOROKOV, B.N.; YAVOYSKIY, V.I.; KADYSHEVICH, A.Ye.; KUCHUR, B.K.

Certain optical and physical properties of the flame cone in a basic, oxygen-blown converter (in the visible part of the radiation spectrum) and their use to control the process. Izv. vys. ucheb. zav.; chern. met. 8 no.5:21-28 '65.

(MIRA 18:5)

1. Moskovskiy institut stali i splavov.

TITLE: Selection of optimal [illegible] of characteristic equations of servo drives

GOLUBEV, T.M., doktor tekhn. nauk ; YAVORSKIY, V.N., inzh.

Vibratory metalworking by pressure. Mashinostroenie no.6:69-70
N-D '64 (MIRA 18:2)

ACC NR: AR6015996 SOURCE CODE: UR/0271/65/000/012/A028/A028

AUTHOR: Yavorskiy, V. N.; Khomenko, A. A.

TITLE: Transducers of signals proportional to the moments of disturbance

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika, Abs. 12A197

REF SOURCE: Sb. tr. Leningr. mekhan. in-ta, no. 41, 1964, 110-117

TOPIC TAGS: electric device, angle measurement instrument, transducer, servosystem, servomotor

ABSTRACT: In power servodrives the compensation of the moments of disturbance is assured by invariant inputs proportional to the moments of disturbance and their derivatives. Transducers of the moments measured on the shaft of a servomotor are used as invariant inputs. A signal proportional to a moment of disturbance is obtained from a circuit assuring a difference in signals which are proportional to the moment on the shaft and to the second derivative of the angle of rotation variable in time. Individual and combined current transducers are considered. [Translation of abstract] 4 illustrations and bibliography of 4 titles. V. L.

SUB CODE: 09

Card 1/1 UDC: 621.398.694:537.7

YAVORSKIY, V.N.; SHVOL'MAN, V.A.

Reviews and discussions. Izv. AN SSSR. Ser. geol. 29 no.12:101-102 D '64. (MIRA 18:1)

1. Geologicheskiy institut AN SSSR, Moskva (for Shvol'man).

ALIFER, P.P.; POPONDOPULO, A.N.; YAVORSKIY, V.V.

Superheating cast iron by feeding oxygen into the cupola hearth.
Lit. proizv. no.1:36-37 Ja '65. (MIRA 18:3)

NEMIROV, V.S., inzh.; YAVORSKIY, V.Yu., inzh.

Outflow of water and turbine oil through short narrow ring slots.
Energomashinostroenie 11 no.7:5-8 Jl '65. (MIRA 18:7)

INT AP7001398 (A) SOURCE CODE: UR/0413/66/000/021/0074/0074

INVENTOR: Lebedev, V. K.; Yavorskiy, Yu. D.; Shcheglov, V. D.; Lozovskiy, V. P.; Novlyan, G. A.

ORG: none

TITLE: A method of spot or seam welding of laminated structures. Class 21, No. 187899 [announced by the Electric Welding Institute im. Ye. O. Paton (Institut electrosvarki)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 21, 1966, 74

TOPIC TAGS: laminated metal structure, honeycomb structure, structure spot welding, structure seam welding, laminated material, spot welding

ABSTRACT: This Author Certificate introduces a method of spot or seam welding laminated, predominantly honeycomb, structures with the use of a current-conducting

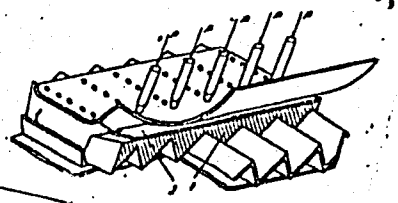


Fig. 1. Spots welding method

1 - Insert; 2 - insulation.

UDC: 621.791.763-419

Card 1/2

Card 2/2

ACC NR: AP7001398

insert between the elements being welded. To improve the weld quality, the we... current is fed to only one element being welded (see Fig. 1), and the insert in the form of a comb is insulated from this element and is shifted as the welding of the elements progresses. Orig. art. has: 1 figure. [MS]

SUB CODE: 13/ SUBM DATE: 10Sep65/ ATD PRESS: 5110

Card 2/2

YAVORSKIY, Yu.D., inzh.

Effect of welding conditions on the macrorelief of flashwelded surfaces. Avtom. svar. 17 no.11:17-21 N '64 (MIRA 18:1)

1. Institut elektrosvarki imeni Ye. O. Patona AN UkrSSR.

ANDRONIKASHVILI, E. L., BIBILASHVILI, M. F., VARDENGA, G. L., GVALADZE, T. V., JAVRISHVILI, A. K., KAZAROV, R. E., KURIDZE, R. V. and KHALDEIVA, I. I.

"Angular Distribution of the Penetrating Component of Extensive Air Showers at the Depth of 200 m.w.e."

Report presented at the International Conference on Cosmic Rays and Earth Storm, 4-15 Sep 61, Kyoto, Japan.

Physical Institute, Academy of Sciences, Georiga SSR

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001962320004-4"

YAVRISHVILI, T.D.

"Analysis of cortical potentials."

Report submitted, but not presented at the 22nd International Congress of Physiological Sciences.
Leiden, the Netherlands 10-17 Sep 1962

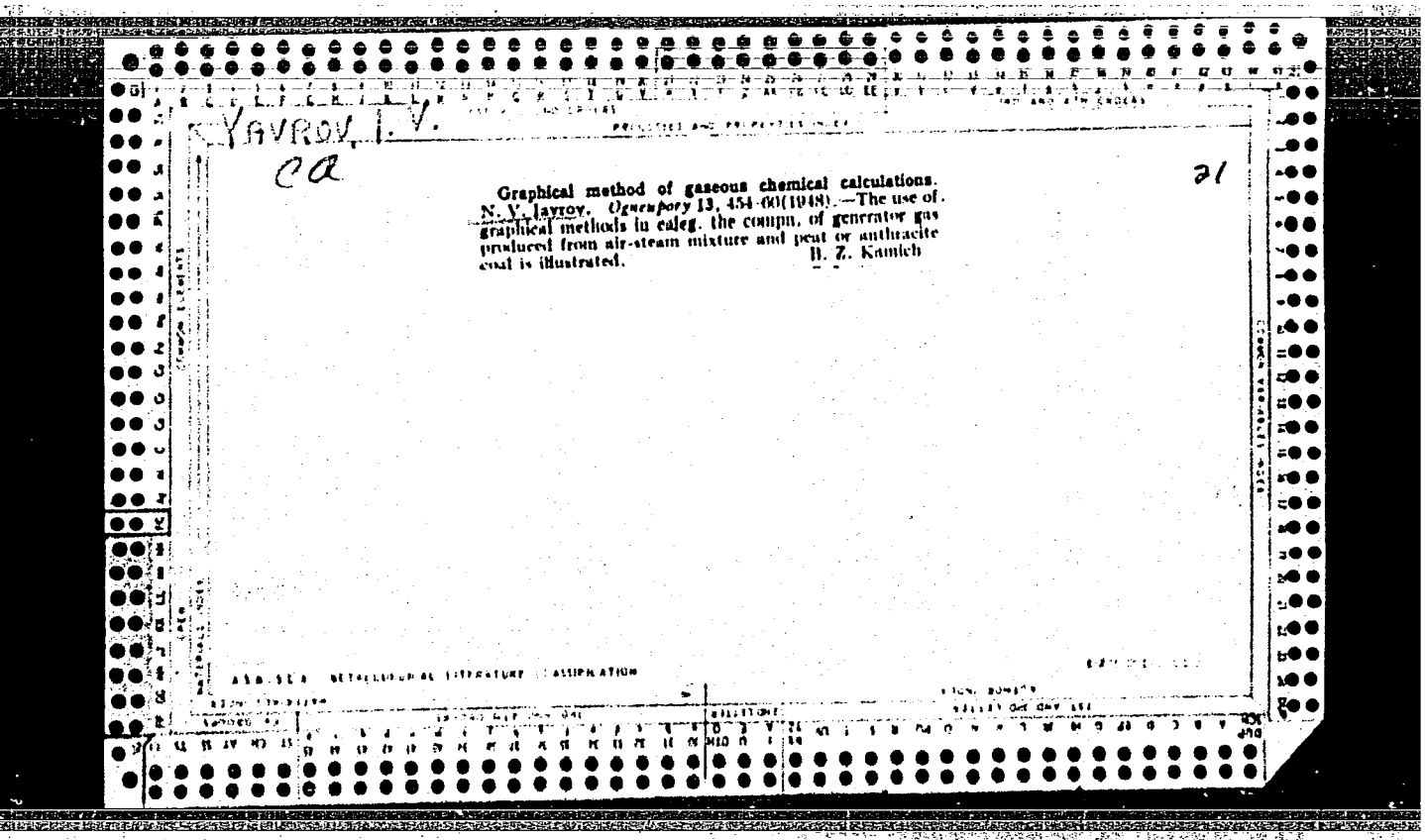
KARTASHOV, G.D.; YAVRIYAN, A.N. (Moscow)

An extremum problem in probability theory. Teor. verojat. i ee prim. 10 no.3:579-584 '65. (MIRA 18:9)

YAVRIYAN, N.P., inzh.

Rapid reconstruction of steel frames of open-hearth furnaces.
Mont. i spets. rab. v. stroi. 22 no.12:5-7 D '60. (MIRA 13:11)

1. Trest Yuzhstal'konstruktsiya.
(Open-hearth furnaces)



YAVROV, I. V.

CA

21

Graphical method of gaseous chemical calculations. N. V. Iavrov. *Ogneupory* 13, 454-60(1948).—The use of graphical methods in calcg. the compn. of generator gas produced from air-steam mixture and peat or anthracite coal is illustrated. B. Z. Kamich

YAVROV, I. V.

CA

Equilibrium conditions in the Al_2O_3 angle of the ternary system $CaO-Al_2O_3-SiO_2$. N. E. Filonenko and I. V. Yavrov. *Zhur. Prikład. Khim.* 23, 1060-6(1950); *J. Applied Chem. U.S.S.R.* 23, 1105-12(Engl. translation).—Equil. diagrams were constructed of the high-Al_2O_3 sections of the systems $CaO-Al_2O_3$ and $CaO-Al_2O_3-SiO_2$. (1) System $CaO-Al_2O_3$. The 3 stable cryst. phases are corundum, $CaO.6Al_2O_3$, and $CaO.2Al_2O_3$. Corundum crystallizes in the trigonal system and segs. from the melt in the form of isometric crystals which are a combination of the rhombohedron and the basapinacoid. $CaO.6Al_2O_3$ crystallizes in the hexagonal system and segs. from the melt in the form of hexangular plates which are a combination of the basapinacoid with the bipyramid and, less frequently, with the prism. $CaO.2Al_2O_3$ crystallizes apparently in the tetragonal system and segs. from the melt in the form of grains and plates. Hexaaluminate of lime melts incongruently at 1850 ± 10°, decomps. into corundum and a liquid; the mixt. of the compn. $CaO.6Al_2O_3$ melts completely only at 1910°. Decompn. into corundum and liquid takes place in all compns. contg. over 80% SiO_2. $CaO.2Al_2O_3$ melts without decompn. at 1750 ± 10°; between $CaO.2Al_2O_3$ and hexaaluminate of lime there is a eutectic m. 1730 ± 10° and contg. 80.5 ± 1.0% Al_2O_3 and 19.5 ± 1.0% CaO. The quintuple point at which corundum, $CaO.6Al_2O_3$, and anorthite are in equil. with liquid and vapor has the compn. Al_2O_3 41.0 ± 0.5, SiO_2 36.0 ± 0.5, CaO 23.0 ± 0.5%; it m. 1495 ± 5°. (2) System $CaO-Al_2O_3-SiO_2$. The field of corundum borders on the fields of hexaaluminate of lime, anorthite, and mullite. The reaction $CaO.6Al_2O_3$ ⇄ corundum + liquid proceeds at 1500–1850° in compns. situated on the border curve between the fields of corundum and hexaaluminate of lime; the field of the latter borders on the fields of stability of corundum, anorthite, gehlenite, and $CaO.2Al_2O_3$.

B. Z. Kamich

YAVRUMOV, V. A.

PA 46/49T77

USSR/Medicine - Malaria, Diagnosis Mar 49
Medicine - Diagnostics

"Erroneous Diagnoses of Malaria," V. A. Yavrumov, Baku, ½ p

"Sov Med" No 3

Problems discussed in Ye. M. Tareyev's article on subject (see 75T64) are of special interest in southern republics, where malaria is one of the prevalent diseases, and consequently other diseases (pappatachi, brucellosis, etc.) can easily be mistaken for it. Gives concrete examples of such errors in diagnosis.

[redacted]

46/49T77

YAVRUMOV, V. A.

Quantitative aspect of culture of the colony characteristic of the group of enteric bacteria on second fermentative test; preliminary communication. Gig. sanit., Moskva no. 5:52-53 May 1952. (CIML 22:3)

1. Of Kaluga Municipal Epidemiological Station.

YAVRUMOV, V.A.

Observations on the changeability of the fecal B. coli. Gig.i san. no.9:52-53 S '53. (MLRA 6:8)

1. Kaluzhskaya gorodskaya sanitarno-epidemiologicheskaya stantsiya.
(Bacteria)

YAVRUMOV, V.A.

Immunologic reactivity to dysentery in groups of children and its effect of the course of epidemic. Pediatriia no.4:37-40 Jl-Ag '54. (MLRA 7:10)

1. Iz Kaluzhskoy gorodskoy sanitarno-epidemiologicheskoy stantsii.
(DYSENTERY, BACILLARY, in infant and child,
immun. reactivity in child. & its relation to epidem. processes)

YAVRUMOV, V.A.; TESTEROV, M.P.

Paraagglutinating properties of Escherichia coli. Gig. i san. no.7: 48 Jl '54. (MLRA 7:8)

1. Iz Kaluzhskoy gorodskoy sanitarno-epidemiologicheskoy stantsii
(INTESTINES--BACTERIOLOGY)

YAVRUMOV, V.A.; TESTEROV, M.P.

Detection of "masked" dysentery bacteria strains in healthy people. Zhur. mikrobiol. epid. i immun. no.10:99 O '54.
(MLRA 8:1)

1. Iz Kaluzhskoy gorodskoy sanitarno-epidemiologicheskoy stantsii
(SHIGELLA PARADYSENTARIAE)
(SHIGELLA SONNEI)

YAVRUMOV, V.A.

Subject : USSR/Medicine AID P - 2174

Card 1/1 Pub. 37 - 16/22

Author : Yavrumov, V. A.

Title : Apropos of the article by L. I. Shustova and S. L. Petrovich "Unification of the Calculations of Intestinal Bacilli in Sanitary and Bacteriological Analysis of Food Stuffs."

Periodical : Gig. i san., 4, 53, Ap 1955

Abstract : The author considers the above problem raised in an article of this journal, 1954, no. 5, to be very opportune. He suggests that the Scientific Research Sanitary Institute im. Erisman should work out a unified method of food-stuff analysis and the Ministry of Health a guide of collected All-Union State Standards (GOST).

Institution : Laboratory of the Medical and Epidemiological Station, Kaluga

Submitted : D 22, 1955

YAVRUMOV, V.A.

Epidemiologic characteristics of diphtheria in Kaluga. Zhur. mikrobiol. epid. i immun. 27 no.4:69-72 Ap '56. (MLRA 9:7)

1. Iz Kaluzhskoy gorodskoy sanitarno-epidemiologicheskoy stantsii.
(DIPHTHERIA, epidemiol.
in Kaluga, Russia)

YAVRUMOV, V.A.

Effective method for the bacterilogical diagnosis of dysentery in mass surveys. Zhur.mikrobiol.epid. i immun. 28 no.1:24-26 Ja '57.
(MLRA 10:3)

1. Iz Kaluzhskoy gorodskoy sanitarno-epidemiologicheskoy stantsii.
(DYSENTERY, BACILLARY, diagnosis,
serol., mass surveys (Rus))

YAVRUMOV, V.A.; ALEKSANDROVA, N.M.

Possible errors in testing water for Coli titer by membrane filters.
Gig. i san. 23 no.1:80-81 Ja '58. (MIRA 11:2)

1. Iz Kaluzhskoy gorodskoy sanitarno-epidemiologicheskoy stantsii
(WATER SUPPLY, microbiol.
E.coli determ., errors in filter method)
(ESCHERICHIA COLI, determ.
in water supply, errors in vilter method)

YAVRUMOV, V.A.; KIRYUSHINA, L.A.

Epidemiological significance of rivers contaminated with dysentery microbes. Gig. i san. 23 no.12:57-58 D '58. (MIRA 12:1)

1. Iz Kaluzhskoy gorodskoy sanitarno-epidemiologicheskoy stantsii.
(WATER POLLUTION
river pollution by shigella dysenteriae, epidemiol. significance (Rus))
(SHIGELLA DYSENTERIAE
river pollution, epidemiol. significance (Rus))

YAVRUMOV, V.A.

Some epidemiological features of epidemic hepatitis as compared with dysentery; author's abstract. Zhur.mikrobiol. epid. i immun. 29 no.7:135-136 J1'58 (MIRA 11:8)
(HEPATITIS, INFECTIOUS)
(DYSENTERY)

YAVRUMOV, V.A.

Bacteriological characteristics of dysentery cultures isolated in Kaluga in 1957. Lab.delo 5 no.6:40 N-D '59. (MIRA 13:3)
(KALUGA--DYSENTERY--BACTERIOLOGY)

YAVRUMOV, V.A.; KORNEYEVA, L.A.

Clinical and epidemiological characteristics of poliomyelitis in Kaluga Province. Sov. med. 24 no.6:108-110 Je '60. (MIRA 13:9)

1. Iz Kaluzhskoy oblastnoy sanitarno-epidemiologicheskoy stantsii.
(KALUGA PROVINCE—POLIOMYELITIS)

YAVRUMOV, V.A.

Some epidemiological peculiarities of children's infections in Kaluga Province. Report No.2: Seasonal character of measles and whooping cough. Zhur. mikrobiol. epid. i immun. 31 no.2:97-98 D '60. (MIRA 14:6)

(KALUGA PROVINCE—MEASLES) (WHOOPING COUGH)

YAVRUMOV, V. Ya.

Some epidemiological characteristics of children's infections in Kaluga Province. Report No.3: Disease incidence according to age. Zhur. mikrobiol. epid. i immun. 32 no.7:65-66 Je '61. (MIRA 15:5)
(KALUGA PROVINCE--CHILDREN--DISEASES)

YAVRUMOV, V.A.; TESTEREV, M.P.; LEMTYUZHNIKOVA, M.M.

Dustiness and bacterial pollution of the atmospheric air of Kaluga. Gig.i san. 26 no.12:86 D '61. (MIRA 15:9)

1. Iz Kaluzhskoy oblastnoy sanitarno-epidemiologicheskoy stantsii.
(KALUGA--AIR--POLLUTION)