

S/133/60/000/004/002/010
A054/A026

AUTHORS: Oyks, G.N., Professor; Matevosyan, P.P., Engineer; Sokolov, G.A., Engineer; Ansheles, I.I., Docent; Danilin, V.I., Engineer; Koncnov, B.Z., Engineer

TITLE: New Process for Melting^d Ball-Bearing Steel¹⁸

PERIODICAL: Stal', 1960, No. 4, pp. 308 - 313

TEXT: The melting of the metal in vacuum furnaces in order to ensure an adequate degree of degasification and deoxidation is not suitable for mass production, because the capacity of these furnaces is small, the equipment complicated and expensive. It was considered more effective to melt the metal in a conventional furnace and apply vacuum treatment subsequently in the ladle. However, this method did not yield satisfactory results and tests were carried out to incorporate the vacuum treatment in the technology of steel production. In the tests a unit was employed as that used in electro-steel foundries including the two PBH-60 (RVN-60) type plate-rotor type pumps connected in series with a capacity of 60 - 48 m³/min, at a vacuum of 70 - 90% and a maximum vacuum of 15 mm Hg. In the range of residual pres-

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tures of 5 - 10 mm the pump capacity was 25 - 40 m³/min. In order to raise the output of the pump system, steam jet ejectors were mounted at the outlet, producing a vacuum of 350 - 400 mm Hg. During the tests the vacuum treatment in the ladle was carried out: a) partly in accordance with the conventional technology, and b) partly according to a modified process. In the conventional melting process vacuum treatment in the ladle had only little effect on deoxidation and in order to obtain a satisfactory deoxidation of the metal it was necessary that the oxygen contained in the metal before the vacuum treatment be present in the form of a solution or in the structure of inclusions easily reduceable. This, however, was only possible, if effective deoxidizing agents, such as silicon and aluminum (Ref. 6) were absent from the solution. Therefore the reduction was carried out without ferro-silicon and aluminum which were only added to the ladle in the final stage of the vacuum treatment, mainly for the purpose of alloying. According to the new technology the ball-bearing steel was melted in a 12-ton basic arc furnace with at least 1.05% C in the metal when fusing. The bath temperature was maintained at 1,580 - 1,620°C before skimming off the oxidizing slag, i.e., somewhat higher than the usual temperature allowing sufficient reserve for the subsequent vacuum treatment. After removing the slag fer-

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ro-chrome was added in a quantity corresponding to the type of steel, with a slag mixture containing lime, fluorite, some chippings of fireclay and dinas, amounting to 3% of the weight of the metal (a little less than the amount thus far used). Then 25 kg forge-coke was added and the furnace was hermetically closed for 20 - 25 min. Evidently at a higher temperature of reduction a thoroughly oxidized slag could be obtained also without the addition of ferrosilicon. As in the new technology one of the most important purposes of the reduction was the desulfurization of the bath, the duration was determined by the initial sulfur content of the metal and the rate of desulfurization which could be somewhat lower than in the conventional process, where slag was additionally deoxidized by ferrosilicon. The analysis showed that for identical amounts of sulfur the rate of desulfurization was even higher in the new process due to the higher temperature during reduction. The ladle was put in the vacuum chamber when the sulfur content of the metal was about 0.15 - 0.18%. The vacuum treatment of the steel containing in the solution only carbon, chrome and manganese was accompanied by violent boiling, indicating the intensity of the deoxidation under the influence of the carbon absorbed. After 5 - 6 min the boiling intensity decreased, and, while vacuum was maintained, 75%-ferrosilicon (in an amount

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corresponding to the average silicon content of the steel produced) and aluminum (160 g/t) were added. Then the metal was boiled for a second time for 1.5 - 2 min. The complete vacuum treatment took only 8 - 10 min. The oxidizing agents added into the ladle were assimilated to a higher degree in the new than in the conventional process (ferrosilicon to 90% as compared to 65% and aluminum to 56% instead of 30.4%). The non-metallic contaminations were analysed quantitatively according to ГОСТ 801-47 (GOST 801-47) and the globular inclusions according to the scale of TsNIIPP. The chemical and metallographical tests on non-metallic inclusions also proved the greater purity of the steel. The new method is economical: melting was shortened, reduction took 20 min less, the consumption of deoxidizing agents and the quantity of waste products decreased. The saving was 15 roubles per ton. There are 4 figures, 3 tables and 7 Soviet references.

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BARDIN, I.P., akad. [deceased]; KULIKOV, I.S.; ZUDIN, V.M.; TSYLEV, L.M.;
SOKOLOV, G.A.; GALATONOV, A.L.; BABARYKIN, N.N.; GUL'TYAY, I.I.

Making low-sulfur cast iron at the Magnitogorsk Combine. Stal' 20
no. 10:865-869 0 '60. (MIRA 13:9)
(Magnitogorsk--Blast furnaces) (Cast iron--Metallurgy)

SOKOLOV, G.A.

32598

S/137/61/000/011/028/123
A060/A101

18 32 00

AUTHORS:

Oyks, G.N., Danilin, V.I., Ansheles, I.I., Sokolov, G.A., Kononov, B.Z.

TITLE:

Production of ball-bearing steel with the use of ladle-vacuuming of the unreduced metal

PERIODICAL:

Referativnyy zhurnal. Metallurgiya, no. 11, 1961, 59, abstract 11V346 (V sb. "Novoye v teorii i praktike proiz.-va martenovk.stali", Moscow, Metallurgizdat, 1961, 335-342, Discuss. 428 - 439)

TEXT:

According to the new technique the smelting of ball-bearing steel in basic furnaces is carried out with complete oxidation and resmelting. The oxidation period is carried out forcedly with the use of ore. The vat temperature before the elimination of the oxidizing slag is 1,590-1,620°C. After drawing off the oxidizing slag and correcting the metal with respect to its C content, Cr and Mn content, one adds in a single dose a slag mixture (3% of the weight of the metal) consisting of lime, spar, chamotte and Dinas block. Then a portion of ground coke is put on top of the slag, the furnace is hermetically closed and soaking proceeds for 20-25 min. After attaining an S content of 0.015-0.008% the smelt is

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CIA-RDP86-00513R001652010009-7"

[Abstracter]

Complete translation]

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S/137/61/000/008/009/037
A060/A101

AUTHORS: Danilin, V. I., Ansheles, I. I., Sokolov, G. A., Kononov, B. Z.

TITLE: New technique for producing ball-bearing steel under vacuum

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 8, 1961, 35, abstract 8V219
(V sb. "Fiz.-khim. osnovy proiz-va stali". Moscow, Metallurgizdat, 1961, 466-473)

TEXT: The authors describe the results of an investigation of the quality of ball-bearing steel smelted by a new technique involving the use of vacuum at the plant "Krasnyy Oktyabr'". The new technique provides for the reduction of the metal in a Fe-Mn furnace, and that of the slag - by ground coke. The metal is subjected to vacuum treatment in the ladle at an end pressure of 4 - 8 mm of mercury for a period of 8 - 10 min. About two minutes before the end of the vacuum treatment one introduces 3.6 kg/ton of 75% Fe-Si and 0.16 kg/ton of Al, and thereupon the metal is poured in air. The technique described ensures a maximum utilization of the reducing properties of C and a high degree of assimilation of Si (90%) and Al (56%). The shift to the new technique has led to a

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lowering of non-metallic impurities in the finished steel, and also to a reduction in the duration of the reduction process and reduction in the expenditure of deoxidizing agents.

V. Shumskiy



[Abstracter's note: Complete translation]

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A161/A133

AUTHORS: Oyks, G. N., Sokolov, G. A.

TITLE: The possibility of producing ingots with weldable shrinkage cavities

PERIODICAL: Izvestiya vysshikh ushebnykh zavedeniy. Chernaya metallurgiya, no. 3, 1961, 37 - 39

TEXT: A method is suggested for the vacuum treating of steel in intermediate ladle and ingot molds, with deoxidation and alloying in this vacuum. The new technology requires a special pouring arrangement shown in a drawing. The ingot mold has a precision-machined annular protrusion on the top portion. Ring pipes with inlets and outlets for water are cast into the ingot mold wall and serve for chilling the top of the ingot. The intermediate ladle having a slightly larger volume than the ingot to be produced is installed on the mold protrusion on a rubber seal. The intermediate ladle is lined, heat-installed and has a stopper. It is closed with a rubber sealed lid. The bottom and lid of the intermediate ladle are screened for radiation protection. The lid bears a funnel, a mechanism for lowering and lifting the stopper, a hopper for "lunkerite" or heating mixes, and a hopper for ferroalloys and alloy additives. The additives are

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The possibility of producing ingots with weldable

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supplied by a feed screw driven from outside. The lids of both hoppers are vacuum-tight. A sight hole is provided, and a TV camera may be used on the ladle. The intermediate ladle is heated to 900°C, and the arrangement connected to vacuum pumps, and evacuated to a residual pressure of 1-2 mm Hg. The inlet for metal in the funnel is closed with a thin piece of steel or aluminum sheet and sealed. Steel is poured from the furnace in the semi-killed state, with a low addition of ferromanganese (or chromium), with slight excess of carbon (0.02 - 0.03%) over the mean required by the specification, and with 50 - 60°C overheat in comparison with the usual pouring temperature. The short time needed to melt the closing metal plate in the funnel is sufficient for the formation of a liquid metal plug, and the metal flows into the evacuated space in the intermediate ladle where it is rapidly degassed and deoxidized by the dissolved carbon. Crushed alloy additives are added to the metal jet by the feed screw after the intermediate ladle is filled to 3/4. Burning of the alloy additives and ferroalloys and the formation of non-metallic inclusions will be insignificant. After the intermediate ladle is filled, lungerite or another heating mixture from the hopper is spilled on the top, then the stopper is lifted, and metal flows through the outlet and a short guide pipe into the ingot mold where the residual air pressure is also low. Secondary degassing takes place in the ingot mold, with possible interruption of the jet and

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splash on the mold walls that cannot spoil the ingot surface for no oxide films can form on the metal. The vacuum is maintained in the ingot mold up to the formation of a solid top. Then the vacuum is removed, and crystallization continued. The shrinkage cavity will be free from oxide films and it must weld up in subsequent hot rolling or forging. The metal economy will be very considerable, particularly in the production of 40 -150 ton ingots for forging from which up to 40% has usually to be cut off with shrinkage cavities. Inert gas may be used instead of a vacuum in the intermediate ladle and the ingot mold, but the final inert gas pressure must slightly exceed that of the atmospheric air. The suggested method eliminates the necessity of using large and expensive vacuum chambers for vacuum treatment. The Author's Certificate claim for it had been filed on November 27, 1956, under no. 560989/22. There is 1 figure. (Essentially full translation).

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: September 1, 1960

Card 3/3

RUDNEVA, A.V.; ZHILO, N.L.; GUL'TYAY, I.I.; SOKOLOV, G.A.

Viscosity and the mineralogical composition of slags of the
system $K_2O - CaO - Al_2O_3 - SiO_2$ with additions of MnO .
Trudy Inst. met. no.8:11-29 '61. (MIRA 14:10)
(Slag--Analysis)
(Phase rule and equilibrium)
(Viscosimetry)

SOKOLOV, G.A.; GUL'TYAY, I.I.; MALYSHEVA, T.Ya.

Viscosity, mineral composition and effect of magnesia on the
viscosity of final blast furnace slags at the Magnitogorsk
Metallurgical Combine. Trudy Inst.met. no.10:71-82 '62.

(MIRA 15:8)

(Magnitogorsk--Slag--Analysis) (Viscosimetry)

RUDNEVA, A.V.; MALYSHEVA, T.Ya.; SOKOLOV, G.A.; GUL'TYAY, I.I.;
Prinimali uchastiye: GALATONOV, A.L.; GAMAYUROV, A.I.;
BABARYKIN, N.N.; KOSTIN, I.M.

Changes in the material composition of industrial sinter along
the cake height. Stal' 22 no.1:5-9 Ja '62. (MIRA 14:12)

1. Institut metallurgii imeni A.A. Baykova (for Rudneva,
Malysheva, Sokolov, Gul'tyay). 2. Magnitogorskiy metallurgicheskiy
kombinat (for Galatonov, Gamayurov, Babarykin, Kostin).
(Sintering)

SOKOLOV, G. A.

PHASE I BOOK EXPLOITATION

SOV/6329

Oyks, Grigoriy Naumovich, Paruir Apetnekovich Matevosyan, Il'ya
Kasifovich Ansheles, Vladimir Ivanovich Danilin, Gennadiy
Anisimovich Sokolov, Ivan Aleksandrovich Baranov, and Viktor
Mikhaylovich Selivanov.

Novaya tekhnologiya vyplavki sharikopodshipnikovoy stali (New Tech-
nology of Melting Ball-Bearing Steel). Moskva, Metallurgizdat,
1962. 124 p. Errata slip inserted. 2250 copies printed.

Ed. of Publishing House: V. I. Ptitsyna; Tech. Ed.: P. G. Islent'yeva.

PURPOSE: This book is intended for metallurgical engineers of steel-
melting shops and central plant laboratories. It may also be
useful to students at tekhnikums and metallurgical schools of
institutions of higher learning.

COVERAGE: The book reviews the new technology of making ball-bearing
steel which was introduced at the "Krasnyy Oktyabr'" Metallurgical
Plant in Volgograd. Vacuum degassing of metal is discussed as

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New Technology (Cont.)

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an intermediate technological stage of the melting process. A brief outline of the conventional method of melting ball-bearing steel is presented, along with advantages offered by the new technology, which ensures an improved steel quality. Designs of vacuum-units of the Plant are described. The book also reviews experiments in making silicon-free ball-bearing steel by double vacuum degassing. The quality of steel produced for several years by the new melting technology is discussed in detail. No personalities are mentioned. There are 61 references: 56 Soviet, 3 German, and 2 English.

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Ch. I. Brief Review of Existing Methods of Melting Ball-Bearing Steel	7
Requirements for ball-bearing steel	7
Basic principles of the classical technology of melting ball-bearing steel	10

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SOKOLOV, G.A., doktor geol.-miner. nauk, otv. red.; KRAVCHENKO, G.G.,
red.izd-va; GUSEVA, A., tekhn. red.

[Physicochemical problems in the formation of rocks and ores]
Fiziko-khimicheskie problemy formirovaniia gornyykh porod i rud.
Moskva, Izd-vo Akad. nauk SSSR. Vol.2. 1963. 2 p.

1. Akademiya nauk SSSR. Institut geologii rudnykh mestorozhdeniy,
petrografii, mineralogii i geokhimii. (MIRA 16:5)
(Petrology)

CHUL'YAY, I.I. (Moskva); SOKOLOV, G.A. (Moskva)

Boundary of the spontaneous slaking of slag in the system
CaO - MgO - Al₂O₃ - SiO₂. Izv. AN SSSR. Otd. tekhn. nauk. Met. 1
gor. delo no.4:65-69 JI-Ag '63.
(MIRA 16:10)

KASHKAU, Mir-Ali; SOKOLOV, G.A., red.

[Petrology and metallogeny of Dashkesan and other iron-ore deposits in Azerbaijan] Petrologiya i metallogeniya Dashkesana i drugikh zhelezorudnykh mestorozhdenij Azerbaidzhana. Moskva, Nedra, 1965. 887 p. (MIRA 38:11)

1. SOKOLOV, G.
2. USSR (600)
4. Afforestation
7. Green rings. Vokrug sveta no. 11, 1952.

9. Monthly List of Russian Accessions, Library of Congress, May 1953, Uncl.

СОКОЛОВ, Г.А.

Forests and Forestry--Crimea

Forest orchards of Tavrida. Priroda 41, no. 6, 1952.

SEPTEMBER 1952

9. Monthly List of Russian Accessions, Library of Congress, _____~~1953~~, Unclassified.

SOKOLOV, G. A.

Reclamation of Land - Kazakhstan

Vegetate the sandy waste of Kazakhstan.
Priroda 41, No. 7, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 1952. UNCLASSIFIED.

SOKOLOV, G.

In the cedars and pines. Vokrug sveta no.1:44-47 Ja '54.
(MLRA 7:1)
(Coniferae)

SOKOLOV, G.

Crimean mountain ash [Sorbus]. Vokrug sveta no.2:13 Mr '54.
(MIRA 7:2)

(Crimea--Ash (Tree) (Ash (Tree)--Crimea)

SOKOLOV, G.

www.cia.gov

Sequoia in Crimea. Vokrug sveta no.5:23 My '54. (MLRA 7:6)
(Crimea--Sequoia) (Sequoia--Crimea)

174
70.4
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Losa-Sady; Putevyye Ocherki. ForestGardens. Moskva, Geografiz, 1955.
174 p. Illus.

Bibliographical Footnotes.

SOKOLOV, G.

Aquatic gardens. Vokrug sveta no.6:22-23 Je '55. (MIRA 8:9)
(Volga River)

SOKOLOV, German Abramovich; OLINSKIY, M., redaktor; FISENKO, A.,
tekhnicheskiiy redaktor

[Islands of birds] Na ptichikh ostrovakh. Simferopol', Krymizdat,
1956. 133 p. (MLRA 10:2)
(Birds)

SOKOLOV, G.

Land in bloom. Sov.mor. 16 no.18:12 S. '56. (MIRA 10:1)
(Krasnodar Territory--Agriculture)

KOSTYAKOV, A.N. [deceased], red.; LIPATOV, K.G., red.; SOKOLOV, G.A., red.;
ORLOVA, V.P., red.; ZUBRILINA, Z.P., tekhn. red.

[Improvement and agricultural use of bottom lands] Melioratsia i
sel'skokhoziaistvennoe ispol'zovanie poimennykh zemel'. Pod red.
A.N. Kostyakova i K.G. Lipatova. Moskva, Gos. izd-vo sel'khoz.
lit-ry, 1957. 163 p. (MIRA 11:10)

1. Vsesoiuznaya Akademiya sel'skokhozyaystvennykh nauk imeni V.I.
Lenina. Sektsiya gidrotekhniki i melioratsii.
(Alluvial lands)

SOKOLOV, Gernan.

The great walnut road. IUn.nat. no.10:4-6 O '57. (MLRA 10:9)
(Nut trees) (Roadside improvement)

SOKOLOV, G.

The walnut road. IUn.nat. no.11:8-9 N '57.
(Roadside improvement) (Walnuts)

(MIRA 10:10)

SOKOLOV, German

The great walnut road. IUn.nat.no.12:10-12 D '57. (MIRA 10:12)
(Nut trees) (Roadside improvement)

COUNTRY: USSR
JOURN. OF APPL. BIOL. SCI.
APPL. JOURN.: Zap. Khark-Biologiya, No.1, 1959, No. 1452
AUTHOR INST.: Sokolov, G.A.
TITLE: In the Bakhchisarayskye Forests.
ORIG. PUB.: Len. Kh-vo, 1947, No.12, 62-65
ABSTRACT: Ruinous consequences of disorderly tree felling that brought about derangement of the Bakhchisarayskye forests of historic importance, are noted. The experience is described of successful afforestation of mountain slopes denuded of forests with Crimean pine and ordinary pine, a work begun long before the Great Fatherland war. The most successful cultivations are described. The significance of reconstruction of natural fruit plantings is emphasized and the method described.
L.V. Nesmelov
CARD: 1/1

SOKOLOV, G.

Raise what you've planted; the Green Patrol's game. IUn. nat.
no.12:30-31 D '59 (MIRA 13:3)
(Tree planting)

SOKOLOV, German; MARGOLIN, Ya.Э., red.; KONOVALYUK, I.K., mladshiy
red.; KOSHZEVA, S.M., tekhn.red.

[Hailers of the sun] Vstrechaiushchie solntse. Moskva, Gos.
izd-vo geogr.lit-ry, 1960. 165 p. (MIRA 13:11)
(Birds)

SMIRNOV, V.I., akademik, red.; YERMAKOV, N.P., red.; DOLGOV, Yu.A.,
red.; SOKOLOV, G.A., red.; KHITAROV, N.I., red.

[Mineralogical thermometry and barometry] Mineralogicheskaiia
termometriia i barometriia. Moskva, Nauka, 1965. 327 p.
(MIRA 18:5)

1. Akademiya nauk SSSR. Nauchnyy Sovet po rudoobrazovaniyu.

SOKOLOV, G.A.; ZUYEV, I.M.; LOBANOV, V.V.; ZUBAREV, A.G.; KLIMASHIN, P.S.

Treatment of converter and open-hearth steel with electric furnace
slag. Stal' 24 no.7:612 J1 '64. (MIRA 18:1)

1. Moskovskiy institut stali i splavov i Novolipetskiy metallur-
gicheskiy zavod.

SOKOLOV, G. D.

817. Argillites—new raw materials for the building-materials industry.—A. C. LEPER and G. D. SOKOLOV (*Glass & Ceramics*, Moscow, 10, No. 10, 21, 1953). Experiments were carried out on argillites to see whether after artificial treatment they would have the same properties as ordinary clays. All the samples examined and the mixes made from them were suitable for moulding. Bricks were made from argillites by normal methods. It was established that the drying-time for argillite bricks in a chamber-dryer can be reduced to 26 hr. because argillites are naturally dehydrated material; it should also be possible to accelerate the firing of bricks made from argillites. Bricks made from argillites with the addition of 30% sand and fired in a 22-chamber ring kiln at $< 850^{\circ}$ C. had a crushing-strength of up to 3,500 lb/sq.in. A new heat-insulating material—from argillite—was produced. Argillites can also be used as raw materials for the manufacture of pipes, engineering-bricks and facing-tiles. Their chemical and mineralogical composition varies. Investigations have shown that argillites are suitable raw material for the manufacture of silicate cement because of their high plasticity and the absence of sand and gravel. (4 figs.)

FEFER, A.S.; SOKOLOV, G.D.; KLEYMENOVA, K.F., vedushchiy redaktor;
POLOSINA, A.S., tekhnicheskiiy redaktor.

[Argillite as a new type of raw material for the building
materials industry] Argillity - novoe syr'ie dlia proizvodstva
stroitel'nykh materialov. Moskva, Gos. nauchno-tekhn. izd-vo
neftiano i gorno-toplivnoi lit-ry, 1954. 69 p. (MLRA 8:1)
(Building materials industry) (Clay)

SOKOLOV, G.D., inzh.; RYABIKOV, B.N., red.; ZAYNULLIN, I.Kh., tekhn.
red.

[Industrialization of the construction of oil field installations; practice of the Tatar Economic Council] Industrializatsiia stroitel'stva neftepromyslovykh ob'ektov; iz opyta Tatarskogo sovnarkhoza. Kazan', TSentr. biuro tekhn. informatsii, 1960. 37 p. (MIRA 15:3)
(Tatar A.S.S.R. -- ~~Oil fields -- Buildings and structures~~)

SOKOLOV, Georgiy Davydovich, inzh.; RETYUTIN, Pimen Andrianovich; VOVCHENKO,
~~Nikolay~~ Lavrent'yevich; ISAYEVA, V.V., vedushchiy red.; VORONOVA, V.V.,
tekhn. red.

[Setting up oil fields; from the practice of Tatar oil workers] Obu-
stroistvo neftiannykh promyslov; iz opyta neftianikov Tatarii. Mo-
skva, Gos. nauchno-tekhn. izd-vo nef. i gorno-toplivnoi lit-ry,
1961. 128 p. (MIRA 14:9)

(Tatar A.S.S.R.—Oil fields—Production methods)

SOKOLOV, G.D.

Lowering specific capital investments in oil production. Neft.
khoz. 39 no.3:7-11 Mr '61. (MIRA 16:7)

(Tatar A.S.S.R.--Oil fields--Production methods)

SCKOLOV, Georgiy Davydovich

[Organization of construction of oil fields] Organiza-
tsiia stroitel'stva neftiannykh promyslov. Moskva, Nedra,
1965. 191 p. (MIRA 18:10)

POLYACHENKO, A.V., kand.tekhn.nauk; SOKOLOV, G.F., inzh.

Reconditioning tractor parts by built-up welding with a
weaving arc. Svar. proizv. no.10:34-36 0 '61. (MIRA 14:9)

1. Gosudarstvennyy soyuznyy nauchno-issledovatel'skiy tekhnologicheskiiy institut.

(Tractors--Maintenance and repair)

(Electric welding)

S/135/61/000/012/002/008
A006/A101

AUTHORS: Sokolov, G. F., Engineer, Polyachenko, A. V., Candidate of Technical Sciences

TITLE: Peculiarities of vibration-arc building-up process with a strip electrode

PERIODICAL: Svarochnoye proizvodstvo, no. 12, 1961, 8-11

TEXT: A method was developed at GOSNITI for vibration-arc building-up of metal with a strip electrode. Peculiarities of the process were studied, in particular, the nature of arc burning, and electrode fusion, metal transfer from the electrode to the part. To reveal the nature of arc displacement over the strip electrode, experiments were made by building-up 90 mm diameter "45" grade steel cylindrical specimens, rotating at 100 rpm. The process was recorded by high-speed filming with a CKC-1M (SKS-1M) camera and oscillographed with a MIO -2 (MPO-2) apparatus. It was found that due to the non-uniform surface of the part and the electrode, their contact takes place only on separate protruding sections. During the electrode motion away from the part pulse discharge of the arc arises as a rule, where the electrode-part contact was last disturbed. Fusion of the

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Peculiarities of vibration-arc ...

strip over its whole width proceeds by several pulses. A 10 x 0.4 mm wide strip fuses during 3 - 4 pulse discharges when building-up high-speed rotated parts, and in 2 pulses under conventional conditions. At 20 x 0.2 mm strip width, fusion is reached during 5 - 6 consecutive pulses on high-speed rotated parts and during 2 - 3 pulses under conventional conditions. Frequently fusion takes place through two pulse arcs, arising in the center of the strip and moving towards its edges. The direction of the arc motion is apparently determined by the magnitude of the electrode gap over the strip width, and the degree of its ionization. The investigation of peculiarities in the vibration-arc building-up process made it possible to explain and eliminate difficulties arising during its practical assimilation, including unstable ignition of pulse arc discharges during the supply of cooling liquid from the side of electrode feed; losses of electrode material due to splashing; sticking of molten metal on the electrode tip and the nozzle; non-symmetrical section of the built-up bead, and formation of undercuts. Presently vibration-arc building-up is performed with a 0.2 - 1.0 mm thick and up to 20 mm wide strip. The new method raises wear resistance and hardness of the built-up layer and the efficiency of the process. It improves

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Feculiarities of vibration-arc ...

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also fusion of the built-up and the base metal. The method can be employed for the repair of machine parts of 56 - 62 HCR hardness. There are 7 figures.

ASSOCIATION: GOSNITI

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Card 3/3

POLYACHENKO, A.V.; ZLOTIN, Yu.A.; SOKOLOV, G.F.

Use of a VAGG-15/600 germanium rectifier as current feed source
for built-up welding operations. Avtom. svar. 15 no.3:79-83
Mr '62. (MIRA 15:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mekhanizatsii
sel'skogo khozyaystva.
(Electric welding)

SOKOLOV, G. G. and KOBLENIS, I. L.

Modern Soviet Techniques for Transmitting Stationary Images by Radio and Wire
(Sovremennaya otechestvennaya tekhnika peredachi nepodvizhnikh izobrazheniy po radio i
provodam) Izd-vo Pravda, 24 pp, 1950

All-Union Society for the Dissemination of Political and Scientific Knowledge

Book W-22517, 29 Apr 52

SOKOLOV, Gennadiy Grigor'yevich, aspirant

Measurement of the error of the servo systems of copying machine tools.
Izv. vys. ucheb. zav.; elektromekh. 8 no.5:543-549 '65. (MIRA 18:7)

1. Kafedra avtomatizatsii proizvodstvennykh protsessov Rostovskogo-na-Donu instituta sel'skokhozyaystvennogo mashinostroyeniya.

SGKOLOV, Genardiy Grigor'iyevich, applicant

Analysis of the performance of the copying device in the servo drive system of the 6441-B copying milling machine. Izv. vys. uchab. zav.: elektromekh. 8 no. 9: 1040-1048 '66.

(MIRA 18:10)

1. Kafedra avtomatizatsii proizvodstvennykh protsessov Rostovskogo-na-Donu instituta sel'skokhozyaystvennogo mashinostroyeniya.

SOKOLOV, G.I., inzh.

New ER-7A rotor excavator. Stroi.truboprov. 6 no.7:29-30 J1
'61. (MIRA 14:8)

(Excavating machinery)

SOKOLOV, G.I.

Once again about the reliability and durability of rotary
trench excavators. Stroi. truboprov. 8 no.11:30-32*63

(MIRA 17:7)

1. Spetsial'noye konstruktorskoye byuro "Gazstroy Mashina".

ACCESSION NR: AP4044295
AUTHOR: Sokolov, G. I.; Antokhin, G. O.; Orlov, I. Ye.; Serebryakov,
G. P.; Baranov, N. V.; Solov'yeva, G. S.

S/0286/64/000/013/0028/0028

TITLE: Turbine cooler. Class 17, No. 163637

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 13, 1964, 28

TOPIC TAGS: turbine cooler, aircraft technology, air conditioner,
lubrication, oil tank, ventilation

ABSTRACT: An Author Certificate has been issued for a turbine cooler
to be used in aircraft (see Fig. 1 of the Enclosure). The turbine
and fan are linked together by a shaft mounted on ball bearings. Lu-
bricant is supplied to the ball bearings by means of oil-immersed
wicks. To ensure dependable performance of the ball bearings in var-
ious flight positions, the front walls of the oil tank are provided
with conic ring deflectors. Orig. art. has: 1 figure.

ASSOCIATION: Organizatsiya goskomiteta po aviatsionnoy tekhnike SSSR (State
Committee on Aviation Technology, SSSR)

Card 1/3

ACCESSION NR: AP4044295

SUBMITTED: 12Apr63

SUB CODE: AC, PR

ATD PRESS: 3093

NO REF SOV: 000

ENCL: 01

OTHER: 000

Card 2/3

ACCESSION NR: AP4044295

ENCLOSURE: 01

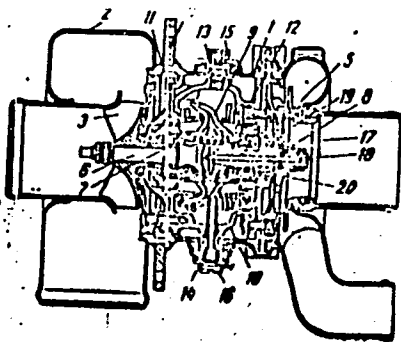


Fig. 1. Turbine cooler

- 1 - Frame of turbine cooler;
- 2 - housing; 3 - fan; 4 - flange;
- 5 - turbine; 6 - shaft; 7, 8 - ball bearings; 9 - wicks; 10 - oil tank;
- 11, 12 - conic deflectors; 13, 14 - sleeves; 15, 16 - plugs; 17 - outlet; 18, 19, 20 - channels.

Card 3/3

38268-65 EWG(r)/EWT(1)/EWG(m)/T-2 Pz-6
ACCESSION NR: AP5007513

S/0286/65/000/004/0121/0121

AUTHORS: Sokolov, G. I.; Frenk, M. Ts.; Ilupina, N. A.; Adler, M. V.; Lovchev, S. V.; Lopavok, V. S.

TITLE: Turborefrigerator for cabin air conditioning systems in large passenger aircraft. Class 62, No. 153845 23 B

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 4, 1965, 121

TOPIC TAGS: passenger aircraft, air conditioning equipment

ABSTRACT: This Author Certificate presents a turborefrigerator, consisting of a turbine and compressor, for cabin air conditioning systems in large passenger aircraft. To insure forced circulated lubrication of the shaft bearings, the oil feed system is provided with an oil turbopump mounted in the end of the air-cooled oil tank which is located below the turborefrigerator. The turbopump, rotated by compressed air withdrawn from the inlet nozzle of the turborefrigerator, is provided with throttles controlling the oil flow. The pump is connected by tubes with the oil feed channels to the bearings and the annular cooling chambers of the bearings.

ASSOCIATION: none
Card 1/2

L 38268-65

ACCESSION NR: AP5007513

SUBMITTED: 28Jun62

ENGL: 00

SUB CODE: AC, PH ^D

REF SOV: 000

OTHER: 000

Card 2/2 *po*

L 62686-65

ACCESSION NR: AP5019111

UR/0286/65/000/012/0139/0140

AUTHORS: ⁴⁴Al'shits, M. Z.; ⁴⁴Sokolov, G. I.

TITLE: The working unit of a continuous excavator. Class 84, No. 172243

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 12, 1965, 139-140

TOPIC TAGS: ⁴⁴earth handling equipment, ditching, excavating machine

ABSTRACT: This Author Certificate presents a continuous excavator consisting of scoops with teeth distributed in a checkerboard staggered pattern (see Fig. 1 on the Enclosure). To fill the scoops uniformly and to diminish the dynamic loads, the teeth on each scoop of the working unit are placed asymmetrically in respect to the longitudinal axis of the scoop. Orig. art. has: 1 diagram.

ASSOCIATION: Spetsial'noye konstruktorskoye byuro "Gazstroy Mashina" (Special Construction Bureau "Gazstroy Mashina")

SUBMITTED: 11May64

ENCL: 01

⁴⁴SUB CODE: IE

NO REF SOV: 000

OTHER: 000

Card 1/2

L 62686-65

ACCESSION NR: AP5019111

ENCLOSURE: 01

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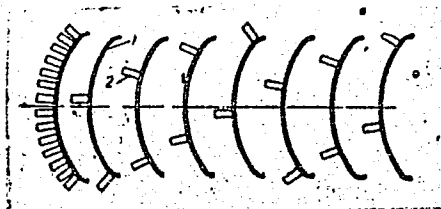


Fig. 1. 1- scoop; 2- checkerboard-staggered teeth

dm
Card 2/2

L 65055-65 EWT(1)/EWP(f)/ENG(m)/T-2/ETC(m) WW

ACCESSION NR: AP5021991

UR/0286/65/000/014/0067/0067
621.524/525 629.13.01/06

AUTHOR: Sokolov, G. I.; Adler, M. V.; Borisovets, E. M.; Churikov, Ye. P. ³¹_B

TITLE: Turbofan for the cooling system of airtight cockpits and compartments in aircraft. Class 27, No. 172952 ¹⁰

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 14, 1965, 67

TOPIC TAGS: aircraft cockpit cooling, cooling system turbofan, radial turbine

ABSTRACT: An Author Certificate has been issued for a turbofan for the air-cooling system of an air-tight cockpit or compartments of an aircraft. The unit consists of a casing, radial turbines, and a fan, cantilevered on a shaft which is mounted on ball bearings. For improved cooling and to provide operation under increased temperature conditions, the space in the unit between the casings of the fan and the ball bearings is divided by a cylindrical cup into two concentric cavities interconnected at one end. At one end of one of the cavities there are holes which lead to the fan inlet; the other cavity connects to the fan outlet (see Fig. 1 of Enclosure). Orig. art. has: 1 figure. [LB]

ASSOCIATION: Organizatsiya ministerstva po aviatsionnoy tekhnike SSSR (Organization of the Ministry on Aviation technology, SSSR) ^{1/3}

L 65055-65

ACCESSION NR: AP5021991

SUBMITTED: 22Aug64

ENCL: 01

SUB CODE: AC

NO REF SOV: 000

OTHER: 000

ATD PRESS: 4084

Card 2/3

L 65055-65

ACCESSION NR: AP5021991

ENCLOSURE: 01

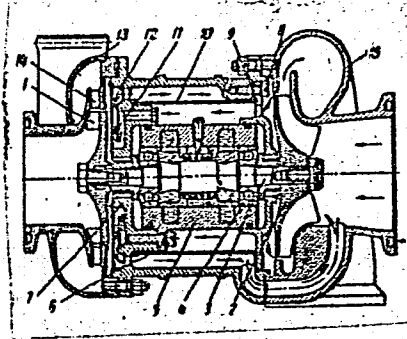


Fig. 1. Turbofan

- 1 - Turbine; 2 - fan; 3, 4 - shaft with ball bearings;
- 5, 6 - casing with attachment bolts; 7 - turbofan casing;
- 8, 9 - diaphragm with attachment screws; 10 - cup;
- 11 - deflector; 12 - screen; 13 - turbine distribution ring;
- 14 - nozzle vane; 15 - fan distributing ring.

MLR
Card 3/3

I. 04268-67 EWT(e)/T DJ

ACC NR: AP6013310

(A)

SOURCE CODE: UR/0413/66/000/008/0120/0120

AUTHORS: Fedoseyev, N. M.; Sokolov, G. I.; Magin, A. K.; Orlov, I. Ye.; Blokhin, Yu. I.; Morozov, G. V.; Solov'yeva, M. L.; Serpukhov, D. V.

ORG: none

TITLE: A device for lubricating bearing junctions. Class 47, No. 180924

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 8, 1966, 120

TOPIC TAGS: lubricating oil, lubrication, lubrication technique, ANTI-FRICTION

BEARING
ABSTRACT: This Author Certificate presents a device for lubricating bearing junctions. The device contains an oil bath and a wick holder with a wick feeding the oil to a shaft held in the bearings (see Fig. 1). To prevent singeing the wick and dropping its remnants into the bearings, a separating contact element is placed between the shaft and the wick. This element is made of antifrictional heat-resistant material and contains axial capillary ducts. Grooves running on the surface of the contact element at an angle to the shaft axis are connected to the ducts and touch the shaft.

45
B

Card 1/2

UDC: 62-725.7

ACC NR: AP6035839 (A,N) SOURCE CODE: UR/0413/66/000/020/0044/G044

INVENTOR: Baranov, N. V.; Gorbachev, L. M.; Orlov, I. Ye.; Sokolov, G. I.; Solov'yeva, G. S.

ORG: None

TITLE: A turborefrigerator. Class 17, No. 187050

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 20, 1966, 44

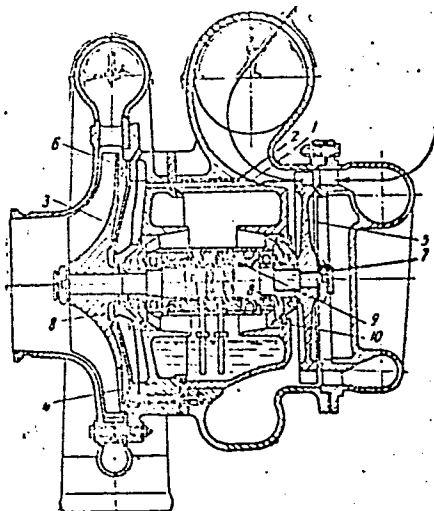
TOPIC TAGS: refrigeration equipment, turbine, ventilation fan

ABSTRACT: This Author's Certificate introduces a turborefrigerator for pressurized cabins and instrument sections of aircraft. The installation contains a housing, turbine and blower all mounted on a shaft set in air-cooled ball bearings. The unit is designed for improved cooling and reduced weight. Longitudinal cooled air supply channels are made in the housing at the level of the turbine blade base. These channels communicate with the cavity between the screen and the cover. The shaft bearings are mounted on the ends of a thin walled housing with reinforced flanges which have sloping holes for coolant circulation.

Card 1/2

UDC: 621.565.94 629.13.01/06

ACC NR: AP6035839



1—housing; 2—channels; 3—screen; 4—cover; 5—turbine; 6—blower; 7—shaft; 8—ball bearings; 9—tube with reinforced flanges; 10—holes

SUB CODE: 01, 13, 10 SUBM DATE: 21 Nov 64

Card 2/2

ACC NR: AP6035941

SOURCE CODE: UR/0413/66/000/020/0199/0199

INVENTOR: Adler, M. V.; Gorbachev, L. M.; Lapavok, V. S.; Lovchev, S. V.; Sokolov, G. I.; Frenk, M. Ts.; Churikov, Ye. P.

ORG: none

TITLE: Ventilating unit for aircraft. Class 62, No. 187540

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 20, 1966, 199

TOPIC TAGS: aircraft cabin environment, aircraft cabin equipment, centrifugal blower, air conditioning equipment

ABSTRACT: An Author Certificate has been issued for a ventilating unit for aircraft which contains a fan with a drive. To assure the unit's efficient operation in ground-based and airborne applications, the fan is mounted on a separate shaft and is operated by an electric drive through an axial over-riding clutch; a centrifugal clutch is used for operation on turbine drive. [WA-98]

SUB CODE: 01, 13/ SUBM DATE: 10Feb64

Card 1/1

UDC: 629.13.01/06

L 24224-55 EWT(1)/EWT(m)/EPF(c)/EPR/T Pr-4/Ps-4 JD/LBF/DJ

ACCESSION NR: AP5002463

S/0286/64/000/024/0059/0059

AUTHORS: Sokolov, G. I.; Fedoseyev, N. M.; Magin, A. K.; Atras, A. A.; Orlov, I. Ye.; Baranov, N. V. B

TITLE: Ball bearing assembly. Class 47, No. 167094

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1964, 59

TOPIC TAIS: bearing, bearing assembly, ball bearing 17 ✓

ABSTRACT: This Author Certificate introduces a ball bearing assembly (for example, for turbocoolers, turbomachinery, etc.) containing two radially supported ball bearings spring-loaded in opposite directions, and carrying separating bushings between them (see Fig. 1 on the Enclosure). To increase the assembly stiffness and assembly life and to simplify mounting, the separating bushings are made in one piece with the outer races of the bearings, while the centers of the radii of the groove profiles of both rings of each bearing are located on a conical surface inclined about 36° to the vertical surface. Orig. art. has: 1 figure.

ASSOCIATION: Organizatsiya gosudarstvennogo komiteta po aviatsionnoy tekhnike SSSR (Enterprise of the State Committee on Aviation Technology of the SSSR)

Card 1/3

L 24224-65

ACCESSION NR: AP5002463

SUBMITTED: 22Oct62

ENCL: 01

SUB CODE: PR, AC

NO REF SOV: 000

OTHER: 000

Card 2/3

L 24224-65

ACCESSION NR: AP5002163

ENCLOSURE: 01

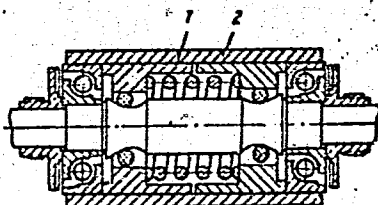


Fig. 1. 1- separating bushings; 2- collar.

Card 3/3

SOKOLOV, G.I., inzh.

Rotory trench excavator. Stroi. i dor. mash. 9 no.4:8-10 Ap '64.
(MIPA 18:1)

KLEYNER, G.I., SOKOLOV, G.I.

Production of diethylaminoethyl ester salts of phenoxymethylpenicillin.
Antibiotiki, 3 no.3:113-114 My-Je '58 (MIRA 11:7)

1. Rizhskiy gosudarstvennyy zavod meditsinskikh preparatov.
(PENICILLIN, rel cpds.
phenoxymethylpenicillin diethylaminoethyl ester salts,
prep. of (Rus))

SOKOLOV, G.I., inzh.; FEDOTOVSKIY, M.F., inzh.

Erecting reinforced concrete supports with rigid cross pieces.
Transp. stroi. 8 no.10:30 0 '58. (MIRA 11:11)
(Electric lines--Poles) (Precast concrete construction)

SOKOLOV, G.I., inzh.; SEMENOV, M.I., inzh.

Practices in setting trolley poles with cranes from the field.
Transp.stroi. ll no.3:15-16 Mr '61. (MIRA 14:3)
(Electric lines—Poles)

MIKHEYEV, N.I.; KAZANSKIY, A.A.; SOKOLOV, G.I.

Automatic-intake device with Laval's nozzle for centrifugal pumps.
Mash. i neft. obor. no.7:8-10 '63. (MIRA 17:1)

87716

S/019/60/000/013/119/200/XX
A152/A027

9,3277

AUTHCRS: Isserlin, G.S. Kats. D.V., and Sokolov, G.I.

TITLE: A Frequency Divider

PERIODICAL: Byulleten' izobreteniy, 1960, Nr. 13, pp. 25-26

TEXT: Class 21a¹, 36. Nr. 129671 (622299/26 of Mar 19, 1959). This is a pulse-selection frequency divider that has a delay line in its feed back circuit. To increase its operational stability, the novel divider is provided with a relaxation oscillator (e.g. a blocking oscillator) connected-in between the coincidence stage and the delay line. ✓

Card 1/1

SOKOLOV, G.I.

SOV/19-58-6-582/685

AUTHORS: Mikheyev, N.I., Kazanskiy, A.A., Kovalev, A.S.,
Sokolov, G.I., and Sugrobov, I.I.

TITLE: A Self-Suction Device for Centrifugal Pumps
(Samovsasyvayushcheye ustroystvo k tsentrobezhnym nasosam)

PERIODICAL: Byulleten' izobreteniy, 1958, Nr 6, p 128 (USSR)

ABSTRACT: Class 59b, 5₁₁. Nr 113635 (568652 of 13 March 1957). Submitted to the Committee for Inventions and Discoveries at the Ministers Council of USSR. A self-suction device for centrifugal pumps for non-corrosive low-viscosity liquids which makes use of rarification in the suction collector of internal combustion engines; increasing the degree of self-suction by means of a superexpanding supersonic nozzle mounted in the suction collector.

Card 1/1

SOKOLOV, Georgiy Ivanovich; KUTSKO, Ye.A., nauchn. red.; RUSAKOVA,
L.Ya., ved. red.; DEN'YANENKO, V.I., tekhn. red.

[Arrangement, operation, and repair of the equipment in
electrically driven gas compressor stations] Ustroistvo,
ekspluatatsiia i remont oborudovaniia elektroprivodnoi ga-
zokompressornoi stantsii. Leningrad, Gostoptekhizdat,
1963. 150 p. (MIRA 17:1)

(Gas, Natural--Pipelines)

(Compressors--Electric driving)

ACCESSION NR: AP4019201

S/0056/64/046/002/0415/0430

AUTHORS: Balandin, M. P.; Ivanov, O. I.; Moiseyenko, V. A.; Sokolov, G. L.

TITLE: Investigation of the absorption of 40--70 MeV charged pions in carbon nuclei with the aid of a propane bubble chamber

SOURCE: Zhurnal eksper. i teor. fiz., v. 46, no. 2, 1964, 415-430

TOPIC TAGS: pion, charged pion, charged pion absorption, absorption cross section, charge exchange cross section, pion absorption in carbon, prong number distribution, proton energy distribution, prong angular distribution, secondary particle angular distribution, angular distribution anisotropy

ABSTRACT: The absorption of π^+ mesons of equal energy by carbon nuclei at 40--70 MeV was investigated with a 30 cm propane bubble chamber, with an aim at obtaining more data on the two stages of the

Card

1/5

ACCESSION NR: AP4019201

pion absorption process (pion energy transfer to internal primary nucleons and emission of final particles). Data were obtained on the total cross section for π^+ absorption and charge exchange in carbons (98_{-10}^{+17} and 99_{-19}^{+24} mb for π^+ and π^- , respectively), the distribution of pion absorption vs. number of prongs (average $2.22_{-0.11}^{+0.13}$ and $0.94_{-0.13}^{+0.14}$ prongs for π^+ and π^- mesons), distribution of mean proton energy vs. the number of prongs, and angular distribution of the prongs. The results show that the angular distribution of the charged particles emitted by the carbon nuclei is isotropic for negative pions but not for positive ones. It is concluded that in most cases the pion energy is transferred during the first absorption stage to a neutron-proton primary pair with probability 0.65 ± 0.10 . Causes of differences in the behavior of positive and negative pions are discussed. "In conclusion the authors thank B. M. Pontecorvo for continuous interest and valuable suggestions; M. G. Meshcheryakov,

Card.

2/5

ACCESSION NR: AP4019201

S. S. Gershteyn, and V. G. Solov'yev for discussions; Yu. D. Prokoshkin for extracting the pion beams; Ye. P. Zhidkov and A. F. Luk'yantsev for assistance with electronic computer data reduction; V. L. Trifonov and A. I. Sharov for assistance with the experiments; Ye. A. Eurov for processing the photographs; and the group directed by I. A. Pankov and K. A. Baycher for constructing the bubble chamber." Orig. art. has: 9 figures, 15 formulas, and 3 tables.

ASSOCIATION: Ob"yedinenny*y institut yaderny*kh issledovaniy
(Joint Institute of Nuclear Research)

SUBMITTED: 09May63

DATE ACQ: 27Mar64

ENCL: 02

SUB CODE: PH

NO REF SOV: 005

OTHER: 020

Card. 3/5

ALEKSEYEV, Aleksey Mikhaylovich; SOKOLOV, German Mikhaylovich; FRID, Ye.G., nauchnyy red.; FOMICHEV, A.G., red.; KONTOROVICH, A.I., tekhn.red.

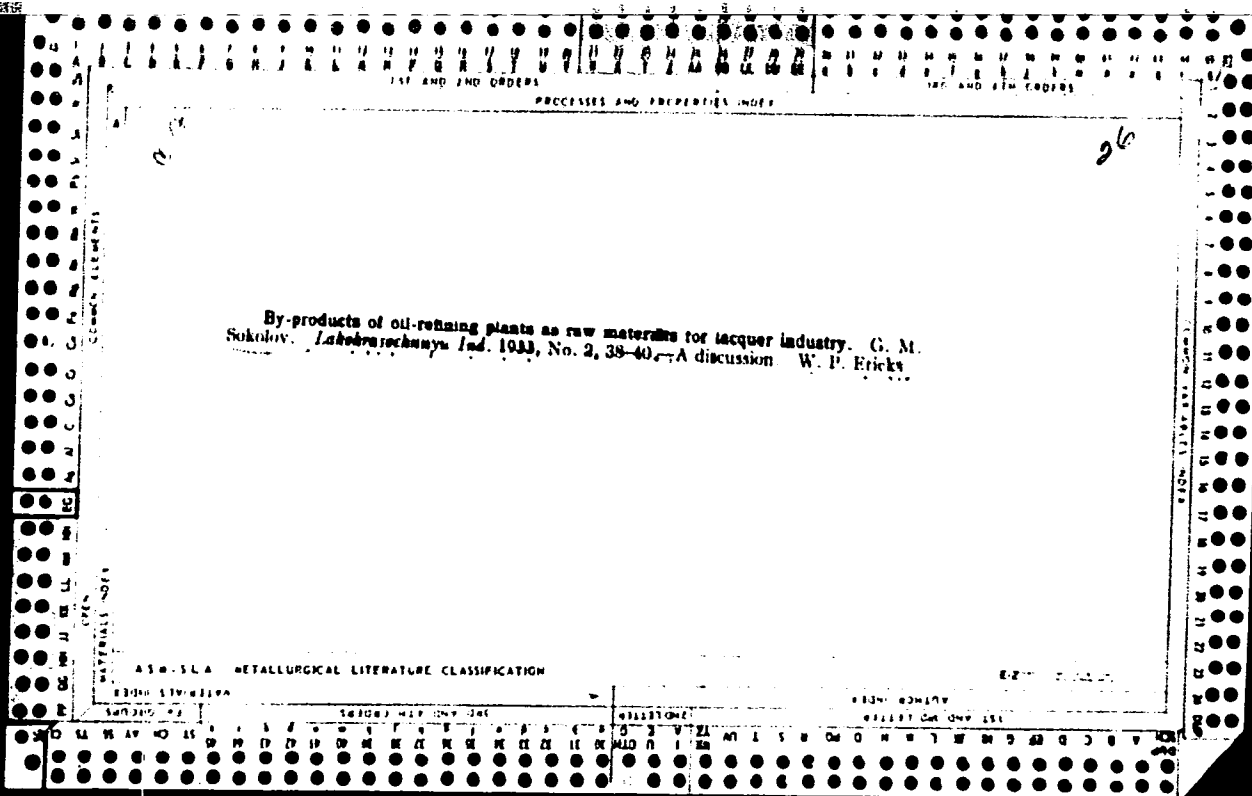
[Transportation equipment of shipyards] Transportnoe oborudovanie verfei. Leningrad, Gos.soiuznoe izd-vo sudostroit. promyshl., 1960. 179 p. (MIRA 14:4)
(Shipyards--Equipment and supplies)
(Conveying machinery)

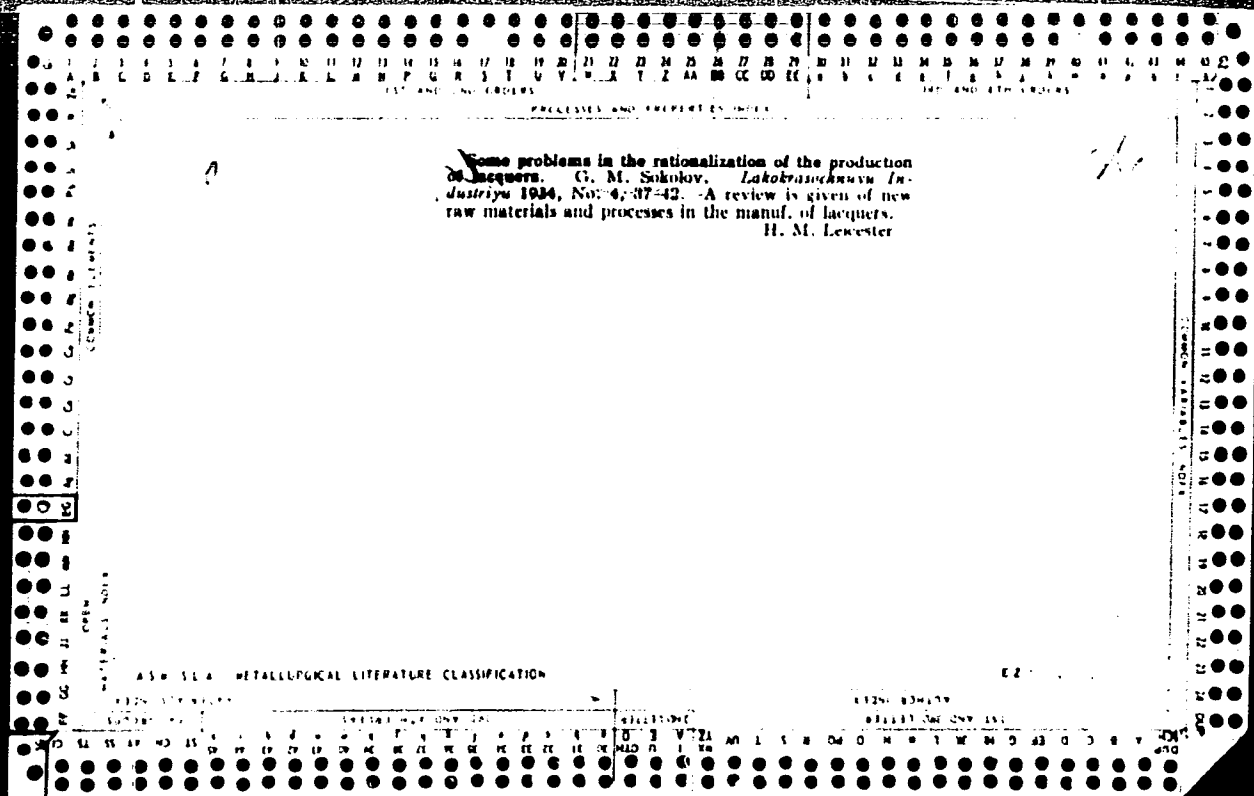
SOKOLOV, G.M.

Vertical milling head for horizontal milling machines.

Mashinostroenie no.5:30-31 S-0 '63.

(MIRA 16:12)





26

The use of various colophony preparations and other resins in "volatile" resin varnishes. V. V. Shebrouski and G. M. Sokolov. *Zh. Lakobrasochnyye Ind.* 1935, No. 3, 10-20; *Chem. Zentr.* 1936, I, 2449. Expts. are reported on the prepn. of resins by HNO₃ treatment of colophony (I), coumarone resin, linseed oil, acidol and varnishes from residues of bivinyl manuf. Resins prepd. from colophony with dil. HNO₃ are not sticky; the films show poor adhesive properties. Adhesive qualities can be obtained by adding to the treated I and the product from residues from bivinyl production, iditol or shellac (60%), nitrocellulose (10%), ethylcellulose (20%), or 10% beeswax and 50% Glyptal resin. M. G. Moore

ASIA SLA METALLOGICAL LITERATURE CLASSIFICATION

PROPERTIES AND PROPERTIES

26

The influence of various oils and alcohols on the properties of alkyd lacquers V. A. Zhelezovskii and G. M. Sokolov. *Dok. Chem. Ind. U.S.S.R.* 2, 542 (1960); *Chem. Zentr.* 1937, 1, 4870; cf. *C. A.* 30, 4029; 31, 177; 5475. - Investigations of the influence of various oils, which might be considered as substitutes for linseed oil in alkyd lacquers, resulted in the following conclusions. Alkyd lacquers prep'd. with rapeseed oil and tallow trim oil showed poorer drying properties at 100° than those prep'd. with pecan oil, linseed oil or soybean oil. The latter dry normally under the same conditions. Up to 25% of the alkyd lacquers prep'd. with rapeseed oil or tallow trim oil can be added to those prep'd. with linseed oil without impairing drying at 100°. The drying properties of the film increase with increasing degree of polymerization of the alkyds. Increasing the heating temp. to 275° increases the drying properties and makes it possible to obtain alkyds with low acid nos. in a short time. The drying properties increase with increase in mol. wt. of the alks. M. G. Moore

ASB 51A METALLURGICAL LITERATURE CLASSIFICATION

1134 83417
91111 06 097 151

M O N A P Q R S T U V W X Y Z

26

PROCESSES AND PROPERTIES

The use of castor oil in oil lacquers and enamels. V. V. Zhebrovskii and G. M. Sokolov. *Org. Chem. Ind.* (U. S. S. R.) 3, 704 7(1957). A detailed procedure is given for the polymerization of castor oil in the presence of sol. catalysts. The catalysts were prepd. by treating I in an Al pot at 280 90° with CoO, litharge, minium, pyrolusite, and Zn and Al acetates in quantities sufficient to effect a nearly complete sapon., and continuing the heating to the completion of the reaction (0.5-1.5 hrs.). I was polymerized on treating 1000 g. with 25-50 g. catalyst at 280 90° for 7 hrs. A drying oil with a low acid value can be obtained by polymerization in C₆H₆ atm. or by esterification of the polymerized oil with glycerol. The polymerized I shows greater drying power and gives films of greater hardness than polymerized linseed oil. It can be used with good results in prepng. typical oil lacquers and enamels. C. B.

METALLURGICAL LITERATURE CLASSIFICATION

4137-204177

381111 G66 Q44 151

26
 Mes of mixtures of castor oil with other oils for oil
 enamels. V. V. Zhebrovskii and G. M. Sokolov. *Org.*
Chem. Ind. (U. S. S. R.) 4, 563-5(1937); *cl. C. A.* 31,
 7674. —1:1 Mixts. of castor oil with a no. of semidrying

oils yield, when polymerized in presence of Co catalyst,
 oils drying within 24 hrs. to yield films harder than linseed-
 oil films. Hardness decreases in the order: castor oil,
 Japanese sardine oil, cottonseed oil, rye oil, corn oil.

B. C. P. A

ASAC LITERATURE CLASSIFICATION

EZ 1 1

4311410NC

4311410NC

4311410NC

400
 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z AA AB AC AD AE AF AG AH AI AJ AK AL AM AN AO AP AQ AR AS AT AU AV AW AX AY AZ BA BB BC BD BE BF BG BH BI BJ BK BL BM BN BO BP BQ BR BS BT BU BV BW BX BY BZ CA CB CC CD CE CF CG CH CI CJ CK CL CM CN CO CP CQ CR CS CT CU CV CW CX CY CZ DA DB DC DD DE DF DG DH DI DJ DK DL DM DN DO DP DQ DR DS DT DU DV DW DX DY DZ EA EB EC ED EE EF EG EH EI EJ EK EL EM EN EO EP EQ ER ES ET EU EV EW EX EY EZ FA FB FC FD FE FF FG FH FI FJ FK FL FM FN FO FP FQ FR FS FT FU FV FW FX FY FZ GA GB GC GD GE GF GG GH GI GJ GK GL GM GN GO GP GQ GR GS GT GU GV GW GX GY GZ HA HB HC HD HE HF HG HH HI HJ HK HL HM HN HO HP HQ HR HS HT HU HV HW HX HY HZ IA IB IC ID IE IF IG IH II IJ IK IL IM IN IO IP IQ IR IS IT IU IV IW IX IY IZ JA JB JC JD JE JF JG JH JI JJ JK JL JM JN JO JP JQ JR JS JT JU JV JW JX JY JZ KA KB KC KD KE KF KG KH KI KJ KL KM KN KO KP KQ KR KS KT KU KV KW KX KY KZ LA LB LC LD LE LF LG LH LI LJ LK LM LN LO LP LQ LR LS LT LU LV LW LX LY LZ MA MB MC MD ME MF MG MH MI MJ MK ML MN MO MP MQ MR MS MT MU MV MW MX MY MZ NA NB NC ND NE NF NG NH NI NJ NK NL NM NO NP NQ NR NS NT NU NV NW NX NY NZ OA OB OC OD OE OF OG OH OI OJ OK OL OM ON OO OP OQ OR OS OT OU OV OW OX OY OZ PA PB PC PD PE PF PG PH PI PJ PK PL PM PN PO PP PQ PR PS PT PU PV PW PX PY PZ QA QB QC QD QE QF QG QH QI QJ QK QL QM QN QO QQ QR QS QT QU QV QW QX QY QZ RA RB RC RD RE RF RG RH RI RJ RK RL RM RN RO RP RQ RR RS RT RU RV RW RX RY RZ SA SB SC SD SE SF SG SH SI SJ SK SL SM SN SO SP SQ SR SS ST SU SV SW SX SY SZ TA TB TC TD TE TF TG TH TI TJ TK TL TM TN TO TP TQ TR TS TT TU TV TW TX TY TZ UA UB UC UD UE UF UG UH UI UJ UK UL UM UN UO UP UQ UR US UT UY UZ VA VB VC VD VE VF VG VH VI VJ VK VL VM VN VO VP VQ VR VS VT VY VZ WA WB WC WD WE WF WG WH WI WJ WK WL WM WN WO WP WQ WR WS WT WY WZ XA XB XC XD XE XF XG XH XI XJ XK XL XM XN XO XP XQ XR XS XT XU XV XW XX XY XZ YA YB YC YD YE YF YG YH YI YJ YK YL YM YN YO YP YQ YR YS YT YU YV YW YX YZ ZA ZB ZC ZD ZE ZF ZG ZH ZI ZJ ZK ZL ZM ZN ZO ZP ZQ ZR ZS ZT ZU ZV ZW ZX ZY ZZ

PROPERTIES AND PREPARATION OF TITANIUM WASTE PRODUCTS AS PIGMENTS. G. M. Sokolov and S. I. Lisovskii. *Obmen Opyt. Lakokras. Prom.* (U. S. S. R.) 1938, No. 1, 36-9; *Khim. Rezerat. Zhur.* 1, No. 11-12, 111 (1938).—The investigation of the Ti waste products showed their unsuitability as pigments (without a preliminary treatment) due to the coarse grains of the SiO₂, which are contained in them. This coarse component causes an uneven covering of the surface. After sedimentation and a prolonged settling of SiO₂ (for about 30 min.) from the water suspension, satisfactory pigments are obtained (from the point of view of surface layers for enamel) after they are ground and mixed with lacquers. W. R. Henn

MATERIALS INDEX
 450-554 METALLURGICAL LITERATURE CLASSIFICATION
 18001 137-82100

PROCESSES AND PROPERTIES INDEX

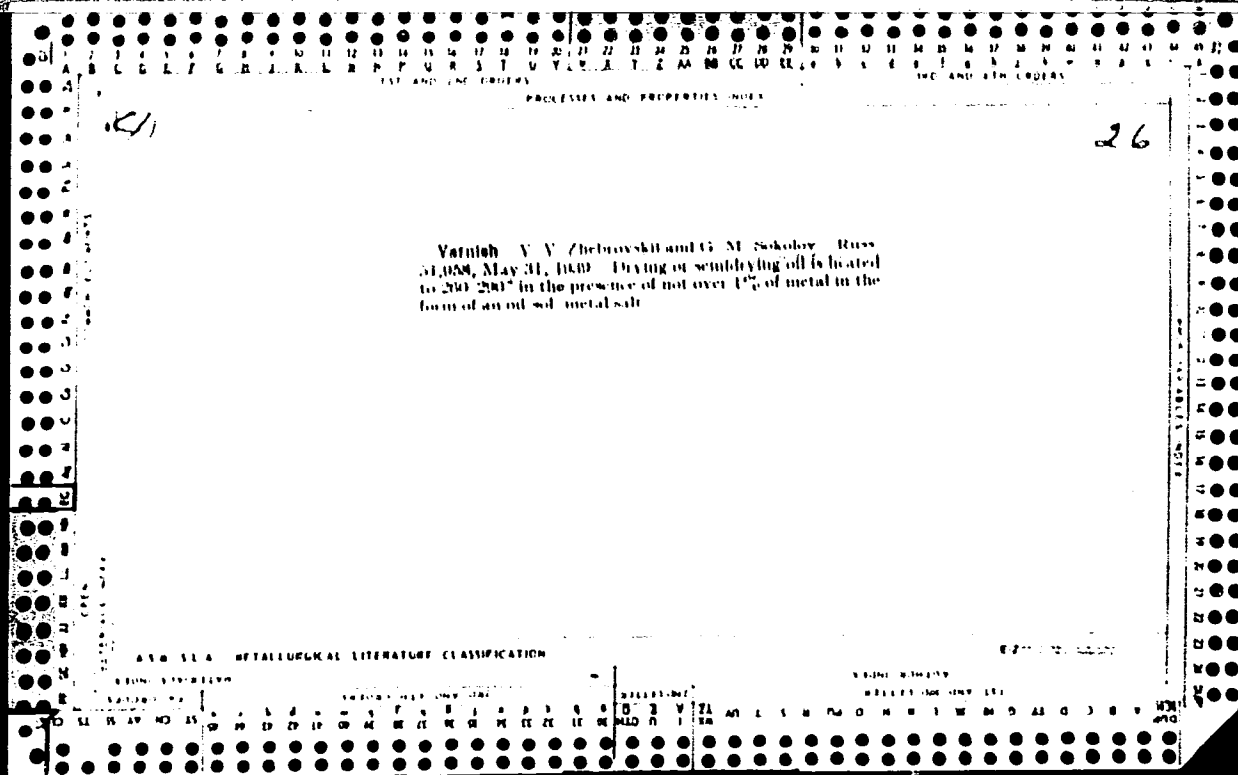
White zinc paste (as pigment). G. M. Sokolov and S. I. Lisovski. Obmen Opyt. Lakokras. Prom. (U.S.S.R.) 1938, No. 2-3, 55-7; Khim. Referat. Zhur. 1, No. 11-12, 110-11 (1938). - The white Zn paste which is obtained as a by-product in lithopone plants was investigated in burned and unburned forms in order to det. its suitability as a white pigment. The unburned white Zn paste possesses lower covering properties than does lithopone. For covering properties which comply with the requirements of OST it is necessary to add ZnO (15-60 parts/100 parts of the dry Zn paste.) The burning under hermetically sealed conditions at 750° for 2 hrs, increases considerably the covering properties of the pigment (unslacked) which approaches that of lithopone. The slackening of the pigment in water lowers considerably its covering properties.

W. R. Henn

AS & SLA METALLURGICAL LITERATURE CLASSIFICATION

SOKOLOV, G. M.

Preparation of oil and alkyd lacquers with the condensation product of p-tert-butylphenol and formaldehyde, A. Ya. Drinberg, V. V. Zhebrovskii and G. M. Sokolov, Org. Chem. Ind. (U. S. S. R.). 5, 533-6(1938.-- In the preliminary communication a no. of expts. in prepg. and testing of alkyd and alkyd-butylphenol-CH₂O resins and their solns. in oil are described. The best results are reported when 5 g. of butylphenol-CH₂O resin, m. 85°, 5 g. C₆H₄(CO)₂O, 20 g. linseed-oil fatty acids and 5 g. of 85% glycerol is heated at 20 mm. pressure and 240° for 2 hrs. and 20 g. of the reaction product is polymerized with 10 g. of raw linseed oil at 280° and reduced pressure for 2 hrs. The product dissolved in oil or turpentine gives durable and quick-drying lacquers. Chas. Blanc



SOKOLOV, G. M.

Alcohol-soluble Glyptal resins. N. Ya. Davydov, P. B. Brichman and G. M. Sokolov. Chem. Abstr. Int. Ed. 3, 8, 2, 17, 21 (1970), pt. 1, 177. A discussion, with graphs and tables, of experimental data on the prepolymerization of glycerol with alcohol-alkylated resins by condensation of glycerol with phthalic anhydride, phthalic acid and PhOH-CH₂O resins. The solubility of Glyptal in various solvents by condensation at temps. below 100° and in excess of glycerol in the mixt. The resulting films have considerable tackiness. The addition of 8-15-19.2% castor oil increases the resistance of films to water. Highly satisfactory resin can be obtained by condensation of 0.7% Glyptal and 33% PhOH-CH₂O resin at 150-200°. Class. Blue

Sokolov, G. M.

Matlo

↓ Marine paint. E. V. Iskra, M. G. Voronkov, and G. M. Sokolov. U.S.S.R. 104,820, Feb. 25, 1957. Before painting, 5-15% Acetan, which is a mixt. of the monomer or dimer and trimers of methyltriacetoxysilane, is added to the drying oil, varnish, or oil paint, to reduce the water-swelling and increase the mech. strength of paint films.

M. Hosh

L 38594-66 EWT(m)/EWP(j)/EWP(t)/ETI IJP(c) JD/WB/RM

ACC NR: AP6016745 (N) SOURCE CODE: UR/0229/65/000/012/0065/0069

AUTHOR: Iskra, Ye. V.; Sokolov, G. M.

ORG: None

TITLE: A primer for protecting bare metal from corrosion 4

46
B

SOURCE: Sudostroyeniye, no. 12, 1965, 65-69

TOPIC TAGS: corrosion, corrosion protection, corrosion resistance, rust preventative, paint, welding

ABSTRACT: Data are given from tests of the possibility for using tannin in aqueous solutions and in latex for passivating bare metal surfaces. The results show that an iron tannate film is formed when a bare steel surface is treated in tannate solution. This tannate film has good passivating properties. The iron tannate film is not very resistant to water and fails quickly under the effect of atmospheric precipitation. The low resistance to water and atmospheric precipitation disqualify it as a means for passivating metal and metal structures. The passivating compound KRT-1 based on latex and tannin compounds is capable of protecting metal from corrosion for a period of 12 to 14 months. Films of this new compound have been studied and the techniques for its use are recommended for shipbuilding. Tests show that a film of the compound KRT-1 on the surface of a metal does not have any detrimental effect on painting or welding operations. Orig. art. has: 9 tables.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 002

Card 1/1 vmb

UDC: 629.12.657

L 65135-65 EWT(m)/EPF(c)/EWP(i)/EWP(b)/EWP(t) IJP(c) JD/WB

ACCESSION NR: AP5021619

UR/0286/65/000/013/0098/0098

AUTHORS: Iskra, Ye. V.; Sokolov, G. M.

TITLE: A method for passivating purified steel, Class 48, No. 172587

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 13, 1965, 98

TOPIC TAGS: steel, passivator additive, titanium compound/ SKS 65 GP(i) latex, aubiral, mazhef salt

ABSTRACT: This Author Certificate presents a method for passivating purified steel by introducing aqueous solutions of titanium onto the surface to be passivated. To improve the protective quality of the films, SKS-65 GP(i) latex, or a solution of polyvinyl aubiral, or aqueous solution of an Mn, Fe, and P preparation (mazhef salt) is added to the passivating titanium solutions.

ASSOCIATION: Organizatsiya gosudarstvennogo komiteta po sudostroyeniyu SSSR (Organization of the State Committee on Ship Building, SSSR)

SUBMITTED: 08May63

ENCL: 00

SUB CODE: MM, IE

NO REF SOV: 000

OTHER: 000

Card 1/1

L 05076-67

ACC NR: AP6013318 (N,A)

SOURCE CODE: UR/0413/66/000/008/0136/0137

AUTHORS: Alekseyev, A. M.; Sokolov, G. M.

10
B

ORG: none

TITLE: A rail ship transport carriage. Class 65, No. 180971

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 8, 1966, 136-137

TOPIC TAGS: transportation equipment, hydraulic device

ABSTRACT: This Author Certificate presents a rail ship transport carriage with a securing device. The carriage is equipped with a load platform and a hydraulic drive in the form of a horizontal double action hydraulic jack (see Fig. 1). The device is compact and creates safe conditions for operating the ship transport carriage. The securing device is made in the form of a horizontal frame with vertical hydraulic jacks built into it. Rollers are distributed along the ends of the frame extending above it. These rollers are kinematically connected with the load platform of the carriage which moves along the rollers. Shoe blocks are fastened below the frame. These shoe blocks interact with the heads of the rails

Card 1/2

UDC: 629.128.4