SHAPIRO, I.S., inzh.

Oxygen cutting of metals without simultaneous heating. Svar. proizv. no.10:34-36 O '60. (MIRA 13:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut avtogennoy obrabotki metallov.

(Gas welding and cutting)

SHAPIRO, I.S., inzh.; RYZHIK, Z.M., red.; FOMICHEV, A.G., red. izd-va; BOL'SHAKOV, V.A., tekhn. red.

[Arc-air machining and cutting of metals with alternating current] Vozdushno-dugovaia strozhka i rezka metallov peremennym tokom. Leningrad, 1962. 13 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Svarka i rezka metallov, no.1) (MIRA 15:5)
(Electric metal cutting)

ASINOVSKAYA, Gnesya Abramovna; ZELIKOVSKAYA, Nataliya Mikhaylovna; KOROVIN, Andrey Ivanovich; KRAVETSKIY, G.A.; NEMKOVSKIY, I.A.; OFITSEROV, D.M.; TESMENITSKIY, D.I.; FISHKIS, M.M.; SHAPIRO, I.S.; GLIZMANENKO, D.L., kand. tekhn. nauk, red.; KLIMOVICH, Yu.G., red.; DORODNOVA, L.A., tekhn. red.

[Flame metalworking processes]Gazoplamennaia obrabotka metallov. [By] G.A.Asinovskaia i dr. Moskva, Proftekhizdat, 1962. 556 p. (MIRA 16:3)
(Gas welding and cutting) (Flame hardening) (Metal spraying)

SHAPIRO, I.S., inzh.; SEREDKIN, L.N.

Surface air-arc cutting with alternating current. Svar. proizv. no.2:23-25 F '62. (MIRA 15:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut avtogennoy obrabotki metallov.
(Electric metal cutting)

S/193/62/000/004/007/008
A004/A101

AUTHOR: Shapiro, I. S.

TITLE: 93P-4-61 (EZR-4-61) high-power electrode holder for shielded arc welding

PERIODICAL: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 4, 1962, 27

TEXT: In 1961 the Vsesoyuznyy nauchno-issledovatel'skiy institut avtogennoy obrabotki metallov (All-Union Scientific Research Institute of Autogenous Metal Working) has developed the EZR-4-6 electrode holder intended for the shielded arc welding of metals up to 10 - 12 mm thick by non-consumable electrodes. With this electrode holder it is possible to weld aluminum, copper and their alloys and even various stainless steel grades. The following technical data are given: Maximum welding current power - 500-550 amp; tungsten electrode diameter - 4-6 mm; diameter of tip outlets - 14, 16, 18 mm; cooling water consumption - 1.5-2.0 l/min; electrode holder overall dimensions (length x width x height) - 325 x 35 x 190 mm; electrode holder weight (without shield) - 700 g. A figure shows the electrode holder design. The interchangeable tips with the shielding gas outlet and all other parts of the electrode holder are

Card 1/2

33P-4-61 (EZR-4-61) high-power electrode ...

insulated from current-carrying parts which makes it possible to weld without short circuits. There is 1 figure.

SHAPIRO, I.S., inzh.; SEREDKIN, L.N., tekhn.; ZANINA, N.K., inzh.; SHAROVA, N.I., inzh.

Electrodes for the air-arc cutting of metals. Svar. proizv. no.8:20-22 Ag '62. (MIRA 15:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut avtogennoy obrabotki metallov (for Shapiro, Seredkin). 2. Filial Vsesoyuznogo nauchno-issledovatel'skogo instituta elektromekhaniki (for Zanina, Sharova).
(Electric metal cutting) (Electrodes)

VASIL'YEV, K.V., kand.tekhn.nauk; SHAPIRO, I.S., inzh.

Regularities of the air-arc cutting process. Trudy VNIIAvtogen no.8:101-122 '62. (MIRA 15:6)
(Electric metal cutting)

S/788/62/000/008/003/003

AUTHOR: Shapiro, I.S., Engineer.

TITLE: Gas-shielded electric welding of copper by a fusible electrode.

SOURCE: Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut avtogennoy obrabotki metallov. Trudy. no.8. 1962. Gazoflyusovaya naplavka i svarka, kislorodnaya rezka, metallizatsiya. pp. 178-180.

C TEXT: Arc welding under a shielding gaseous atmosphere with W electrodes is currently applied to copper 3-4 mm thick, but the use of W electrodes impracticable with thicknesses greater than 10-12 mm. The use of a fusible electrode under a shielding atmosphere appears promising. Tests were performed with the welding of M-1 copper 12 mm thick in an Ar, He, and N atmosphere by means of a fusible electrode. A reverse-polarity d.c. arc was employed in ordinary equipment, except that the copper conduits were replaced by brass conduits and the tips were made of stainless steel to avoid accidental welding of molten-metal particles onto them. Welding wire made of the SiMn bronze Бр-К-Мц-3-1 (Br-K-Mts-3-1) (All-Union Standard ГОСТ //GOST// 293-54) 1.5-mm dia was used. The Si and Mn help to avoid porosity in the fused-on metal, which appears when welding wire made of M-1 copper is used. Welding in an Ar atmosphere was performed with I= 380 a, W_{adv}= 9.4 m/min, Q_{Ar}= 800 ℓ/hr. Photographs of welds ar shown. Spraying is minimal under Ar. The bending strength of the

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Pf-4 JD/HM

ACCESSION NR: AR5004777 S/0137/64/000/010/E025/E025

SOURCE: Ref. zh. Metallurgiya, Abs. 10E152

29
26
B

AUTHOR: Shapiro, I. S.

TITLE: Gas electric cutting of metals

CITED SOURCE: Sb. Materialy 3-y Sibirsk. nauchno-tekhn. konferentsii po svarke, naplavke i gazoplamen. obrabotke met., 1962. Krasnoyarsk, 1963, 142-153

TOPIC TAGS: metal cutting, gas cutting, arc cutting, air cutting, cutting equipment, machining equipment/ cutter RVD-4-62, cutter RDM-1-60, cutter SGU1-58

TRANSLATION: Air arc cutting with direct current can be used only for working carbon and alloy steels. Air arc cutting with alternating current can be used effectively for surface working of cast iron and for shearing off cast molded edges with a thickness up to 14-16 mm. About 60-50% of the cost of the process is due to the rapidly consumed carbon electrodes. The shortcoming of the carbon

Card 1/2

L 32240-65

ACCESSION NR: AR5004777 3

electrodes used up to the present is the high rate of erosion wear in the cutting process. Special new slow consuming electrodes for air arc cutting have been developed by the VNIIAvtogen together with its NII electrochemical branch. The VNIIAvtogen has completed the development of a new universal cutter, type RVD-4-62, for air arc cutting. For manual cutting of aluminum with a penetrating arc, a gas arc cutter, type RDM-1-60, is used with the corresponding auxilliary equipment. For mechanized cutting of shapes out of nonferrous metals and stainless steels, the universal gas cutting machine type SGU1-58 can be used. V. Fomenko.

SUB CODE: MM ENCL: 00

Card 2/2

S/135/63/000/002/009/015
A006/A101

AUTHORS: Shapiro, I. S., Antokhina, R. I., Nikolayev, I. V., Engineers

TITLE: Underwater gas arc cutting of metals

PERIODICAL: Svarochnoye proizvodstvo, no. 2, 1963, 27 - 28

TEXT: Special tests have been carried out at VNIIAVTOGEN in 1961, to study the possibility of using gas arc cutting for underwater metal cutting. The УДР -2М (UDR-2M) cutting device was used in a 140-liter water container. The auxiliary arc was excited, after immersing the cutter into the water, or in the air. The second method proved more satisfactory, since the service life of insulation bushings was increased. Visual observations showed that the burning of the arc was sufficiently stable. However, the cutting ability of the arc was less efficient in water than in air. The velocity of the process was reduced by 40 - 50% when cutting up to 30 mm steels in water. The effect of the gas upon the cut surface was studied with several gases and mixtures. The cutting speed was 57 mm/min for argon; 295 for argon with hydrogen; 255 for argon with nitrogen; 275 for nitrogen and 255 mm/min for nitrogen with hydrogen. Although highest cutting efficiency is obtained with an argon-hydrogen mixture, the qual-

Card 1/2

Underwater gas arc cutting of metals

S/135/63/000/002/009/015
A006/A101

ity of cut surfaces is best when using the nitrogen-hydrogen mixture. The gas-arc cutting method is more economical than the existing conventional methods. Further research should be directed to the development of special underwater cutting equipment. There are 5 figures and 1 table.

ASSOCIATION: VNIIAVTOGEN

Card 2/2

ASINOVSKAYA, G.A., inzh., SHAPIRO, I.S., kand.tekhn.nauk

Gas-arc welding of M3 copper with a thickness of up to 3 mm.
Svar. proizv. no.[illegible] S '63. (MIRA 16:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut avtogennoy obrabotki metallov.

SHAPIRO, I.S., kand.tekhn.nauk

Standardizing cutters for the air-arc cutting of metals. Svar. proizv. no.9:42-44 S '63. (MIRA 16:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut avtogennoy obrabotki metallov.

VASIL'YEV, K.V., kand. tekhn. nauk; SHAPIRO, I.S., inzh.

Principles of the mechanization of air-arc cutting. Trudy VNIIAvtogen no.9:65-72 '63. (MIRA 16:12)

SHAPIRO, I.S., inzh.

Possibility of the oxygen cutting of metals without a gas-flame preheating. Trudy VNIIAvtogen no.9:73-84 '63. (MIRA 16:12)

SHAPIRO, I.S., kand. tekhn. nauk

Investigating the conditions and characteristics of flameless oxygen cutting. Trudy VNIIAvtogen no.10:27-39 '64. (MIRA 17:10)

SHAMOV, [illegible], kand. tekhn. nauk, SERGEYKIN, [illegible].N.

Aircraft metal cutting on an alternating current. Trudy VNIIAviagen no.[illegible] '64. (MIRA 17:10)

[illegible] kand. tekhn. nauk

ways of increasing the efficiency of the air-arc cutting process. Trudy VNIIAvtogen no.11:82-94 '64.

Investigating the carburization of the metal surface in air-arc cutting. Ibid.:95-109 (MIRA 18:3)

ACC NR: AP6030620 (N) SOURCE CODE: UR/0193/66/000/007/0003/0005

AUTHOR: Shapiro, I. S. (Candidate of technical sciences); Beyder, B. D.; Persits, L. M.

ORG: None

TITLE: Development of the technological process of plasma-arc cutting

SOURCE: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 7, 1966, 3-5

TOPIC TAGS: plasma cutting, plasma arc, manual plasma cutting, metal cutting

ABSTRACT: The authors describe new plasma-arc cutting equipment developed in 1965-66 to eliminate the disadvantages of fast tip burnout, relatively wide cutting path, the difficulty of producing high-quality edges in cutting thin pieces and low productivity in working with heavy pieces. These new units, the OPR-4 and OPR-5, may be used for cutting aluminum alloys, stainless steel, copper and copper-based alloys. Each of these installations includes a power supply, control unit and torch. Automated cutting is controlled from a special panel while knobs on the cutter are used for control in manual cutting. Each installation includes a PPR-3 semi-automatic unit for controlling torch feed from 80 to 3500 mm/min. Tables are given showing cutting conditions for aluminum and stainless steel. High-quality edges and high productivity in cutting thick metal are achieved by using gas mixtures with a high concentration of hydrogen. The optimum hydrogen concentration should increase with the thickness of the metal to be cut. Introduction of this type of equipment should give a yearly savings of about 10,000 rubles. Orig. art. has: 3 tables.

SUB CODE: 13/ SUBM DATE/ None

Card 1/1 UDC; 621.791.947.55

L 07344-67 EWT(d)/EWT(m)/EWP(t)/ETI/EWP(k)/EWP(v)/EWP(h)/EWP(l)/EWA(h)/EWP(l) ACC(e)
ACC NR: AP6012154 FDN/DJ SOURCE CODE: UR/0413/66/000/007/0072/0072

AUTHORS: Telyushkin, P. N.; Shapiro, I. S.; Farshatov, M. N.; Makarov, A. I.; Doletskiy, V. A.

54
52
B

ORG: none

TITLE: Equipment for turning and testing internal combustion engines. Class 42, No. 180387 [announced by Yaroslavl State Motor Plant (Yaroslavskiy gosudarstvennyy motornyy zavod)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 7, 1966, 72

TOPIC TAGS: internal combustion engine, engine test facility, nondestructive test, engine test stand

ABSTRACT: This Author Certificate presents an equipment for turning and testing internal combustion engines. The equipment consists of a transporting assembly surrounded by stands carrying electric motors, and of accompanying devices for establishing and moving the tested engines onto the stands. These devices are provided with equipment for conveying water and fuel and for removing waste gases. To reduce the metal used, to mechanize and to automate the machinery and to improve the working conditions, the transporting assembly is made in the form of a closed horizontal conveyor and of a closed rail track on which the wheels of the carrying

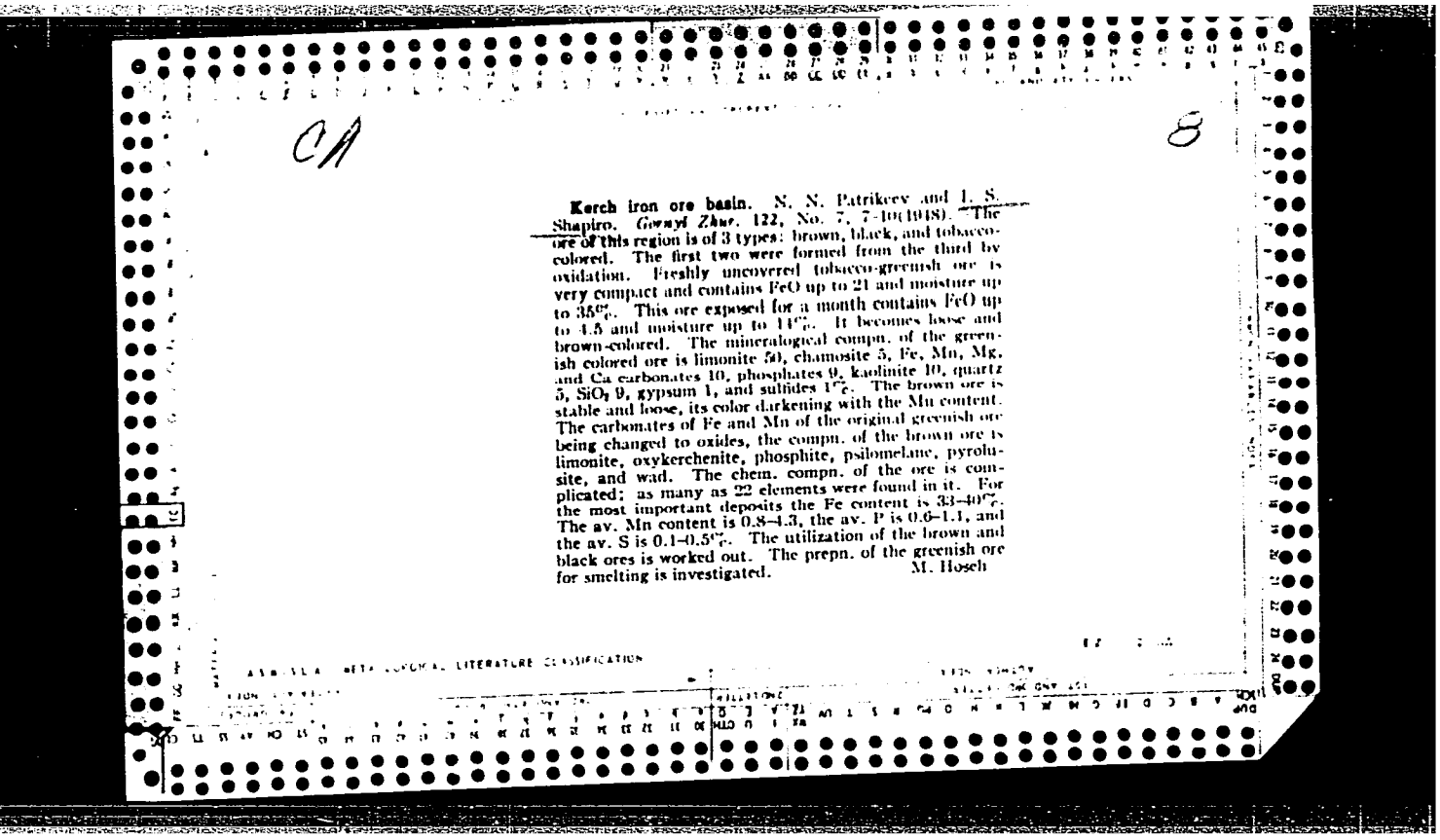
Card 1/2 UDC: 620.1.05:621.43

devices travel. For moving the carrying devices onto a stand and for returning it along the conveyor for a distance equal to the distance separating the stands, each stand is provided with a spherical support. It is along these spherical supports that the carrying device passes from the conveyor onto the stand with the help of a screw transmission. The nut of this screw is placed on a slide block carrying a clevice yoke entering the corresponding opening in the carrying device. To connect the shaft of the tested engine with the movable electric engine, a pair of elastic pronged semiclutches are utilized. These are placed on the end of the floating shaft and on the flywheel of the tested engine. To attach automatically the oil feed pipe to the tested engine, the pipe is provided with a pneumatic device. The latter consists of movable pipe levers, a pneumatic power cylinder motivating these levers, and of a vertical pipe. This device connects the gear box of the engine to the oil feed pressure pipe and to the vertical pipe. The upper overflow opening of this pipe lies at the same level as the oil necessary in the gear box of the engine.

SUB CODE: 13/ SUBM DATE: 04May64

SHAPIRO, I.S.; RISKIN, I.V.; GUREVICH, Ya.M.

[Technology of mineral pigments] Tekhnologiia mineral'nykh pigmentov. Pod red. IA.M.Gurevich. Leningrad, Red.khim.lit-ry, 1939. 271 p.
(MLRA 7:2)
(Pigments)



CA 8

Kerch iron ore basin. S. S. Patrikeev and I. S. Shapiro. *Gornyi Zhur.* 122, No. 7, 7-10(1918). The ore of this region is of 3 types: brown, black, and tobacco-colored. The first two were formed from the third by oxidation. Freshly uncovered tobacco-greenish ore is very compact and contains FeO up to 21 and moisture up to 35%. This ore exposed for a month contains FeO up to 4.5 and moisture up to 14%. It becomes loose and brown-colored. The mineralogical compn. of the greenish colored ore is limonite 50, chamosite 5, Fe, Mn, Mg, and Ca carbonates 10, phosphates 9, kaolinite 10, quartz 5, SiO_2 9, gypsum 1, and sulfides 1%. The brown ore is stable and loose, its color darkening with the Mn content. The carbonates of Fe and Mn of the original greenish ore being changed to oxides, the compn. of the brown ore is limonite, oxykerchenite, phosphite, psilomelane, pyrolusite, and wad. The chem. compn. of the ore is complicated; as many as 22 elements were found in it. For the most important deposits the Fe content is 33–40%. The av. Mn content is 0.8–4.3, the av. P is 0.6–1.1, and the av. S is 0.1–0.5%. The utilization of the brown and black ores is worked out. The prepn. of the greenish ore for smelting is investigated.

M. Hosch

SHAPIRO, I.S., TERPIGOREV, A.M., akademik, redaktor; SOKOLOV, G.A., professor, redaktor; DERKACH, V.G., doktor tekhnicheskikh nauk, redaktor; DOLITSKAYA, S.S., redaktor izdatel'stva; MOSKOVICHEVA, N.I., tekhnicheskiy redaktor

[Iron ores; a bibliography] Zheleznye rudy; bibliograficheskii spravochnik. Moskva, 1957. 767 p. (MLRA 10:9)

1. Akademiya nauk SSSR. Institut nauchnoy i tekhnicheskoy informatsii (Bibliography--Iron ores)

SHAPIRO, Izrail' Solomonovich

[Iron ore resources of the U.S.S.R. and prospects for their development] Zheleznorudnaia baza SSSR i perspektivy ee razvitiia. Moskva, Znanie, 1958. 38 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Seriia 3, No.33) (MIRA 12:11)

(Iron ores)

Shapiro, Israil'Solomonovich

Zheleznyye rudy; bibliograficheskiy spravochnik. Moskva, Izd-Vo. Akademiya Nauk SSSR, 1957.
767 P. 27 cm. (Zhelezorudnyye Mestorozhdeniya SSSR)
On leaf preceding title page: Akademiya Nauk SSSR. Institut Nauchnoy I Tekhnicheskoy Informatsii. Institut Metallurgii. Mezhduvedomstvennaya Postoyannaya Komissiya po Zhelzu.

SHAPIRO, ...

3(5) PHASE I BOOK EXPLOITATION SOV/2172

Akademiya nauk SSSR. Mezhduvedomstvennaya postoyannaya komissiya po zhelezu

Zhelezorudnyye mestorozhdeniya Altaye-Sayanskoy gornoy oblasti, tom. 1, kniga. 1: Geologiya (Iron Ore Deposits of the Altay-Sayan Mountain Region, Vol 1, Book 1: Geology) Moscow, 1958. 330 p. (Series: Zhelezorudnyye mestorozhdeniya SSSR) Errata slip inserted. 2,500 copies printed.

Additional Sponsoring Agencies: Akademiya nauk SSSR. Sibirskoye otdeleniye, USSR. Gosudarstvennaya planovaya komissiya. Glavnoye upravleniye nauchno-issledovatel'skikh i proyektnykh organizatsiy, Institut Giproruda, USSR. Ministerstvo geologii i okhrany nedr, USSR. Zapadno-Sibirskoye geologicheskoye upravleniye, USSR. Krasnoyarskoye geologicheskoye upravleniye, Sibirskiy geofizicheskiy trest, Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut.

Eds. of the vol.: P. Ye. Sledzyuk, and G.A. Sokolov; Resp. Ed. of Series: I.P. Bardin, Academician; Scientific Eds.: I.P. Bardin, Academician, T.F. Gorbachev, A.L. Dodin, N.A. Yerofeyev, A.S. Kalugin, N.N. Nekrasov, G.L. Pospelov, M.L. Skobnikov, P. Ye. Sledzyuk, S.S. Smirnov-Verin (Deceased) G.A. Sokolov, S.G. Strumilin, Academician, V.B. Khlebnikov, N.A. Chinakal, and I.S. Shapiro; Ed. of Publishing House: I.G. Kudasheva; Tech. Ed.: I.F. Kuz'min.

PURPOSE: This book is intended for structural, exploration and mining geologists, for geophysicists and mineralogists, and industrial planners.

COVERAGE: This work purports to be the first attempt to review and summarize all the material that has been published on the iron-ore deposits of the Altay-Sayanskaya oblast' during the last 20 years. This area, the work reports is fast becoming one of the most important iron-ore bases in the Soviet Union. The book discusses the economic aspects of the geography and geology of the individual deposits, presents a qualitative and quantitative (as of January 1, 1957) analysis of ore reserves, and evaluates the prospects and possibilities of further development of the Altay-Saynnskaya iron-ore base. The genetic characteristics of iron-ore mineralization of the area are described. Extensive information on the geology of individual deposits, complexes, and regions is provided, and a general genetic description of ore mineralization in the Altay Sayanskaya region is given. There is a historical account of the exploration and development of the region, and of the development of concepts on the genesis of mineralization in the area. The following scientists participated in the preparation and writing of this volume: G.L. Pospelov, S.S. Lapin, N.Kh. Belous. V.M. Klyarovskiy, O.G. Kine, and V.A. Vakhrushev of the West Siberian Branch of the AN SSSR, I.S. Shapiro of the Permanent Interdepartmental Committee on Iron, A.S. Kalugin, A.S. Mukhin, N.A. Garnets, Yu. A. Speyt, M.I. Solivestrova, V.G. Rutkevich, G.P. Bykov, N.I. Nikonov, and K.G. Sakovich of the West Siberian Geological Administration V.I. Medvedkov, A.S. Aladyshkin and F. Ya. Pan of the Krasnoyarsk Geological Administration, M.G. Rusanov, E.A. Yazbutis, Yu. V. Rozhdestvenskiy, G. Ye. Savitskiy, and A.D. Prodanchuk of the West Siberian Geological Survey Chermetrazvedka Trust, P.A. Lysenko, T.I. Lebedev, T.Ya. Kamenskaya, A.I. Maslennikov and R. Pipar of the Siberian Geophysical Trust, A.L. Dodin of the VSEGEI, A.S. Mitropol'skiy of the Mining Expedition, V.A. Lukin of the Mining Administration of the Kuznetsk Metallurgical Combine, S.S. Zimin of the Tomsk Polytechnic Institute, I.V. Derbikov of the Sibneftegeofizika Trust, and V.G. Korel' of the Siberian Metallurgical Institute. There are 103 diagrams including insert maps and 10 tables. There are 271 references, all Soviet.

Card 3/9

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BARDIN, I.P., akademik, otv.red.; STRUMILIN, S.G., akademik, red.; SHEVYAKOV, L.D., akademik, red.; SHCHERBAKOV, D.I., akademik, red.; ANTIPOV, M.I., red.; BELYANCHIKOV, K.P., red.; BRODSKIY, V.B., red.; YEROFEYEV, B.N., red.; LIBERMAN, A.Ya., red.; MELESHKIN, S.M., red.; ORLOV, I.V., red.; SMIRNOV-VERIN, S.S., red.; RIKMAN, V.V., red.; SAMARIN, A.M., red.; SLEDZYUK, P.Ye., red.; SKOBNIKOV, M.L., red.; SOKOLOV, G.A., red.; FREY, V.I., red.; KHLEBNIKOV, V.B., red.; SHAPIRO, I.S., red.; SHIRYAYEV, P.A., red.; KUDASHEV, A.I., red.izd-va; KUZ'MIN, I.F., tekhn.red.

[Magnetite ores of the Kustanay Province and their exploitation] Magnetitovye rudy Kustanaiskoi oblasti i puti ikh ispol'zovaniia. Otvetstvennyi red. I.P. Bardin. Moskva, Izd-vo Akad. nauk SSSR, 1958. 489 p. (Zhelezorudnye mestorozhdeniia SSSR). (MIRA 12:2)

1. Russia (1923- U.S.S.R.) Ministerstvo geologii i okhrany nedr.
(Kustanay Province--Magnetite)

AUTHOR: Shapiro, I.S. 127-58-7-4/20

TITLE: The Iron Ore Base of the Ferrous Metallurgy of Western Siberia (Zhelezorudnaya baza chërnoy metallurgii Zapadnoy Sibiri)

PERIODICAL: Gornyy zhurnal, 1958, Nr 7, pp 18-22 (USSR)

ABSTRACT: The Kuznetskiy metallurgicheskiy kombinat (Kuznetsk Metallurgical Combine) and the Zapadno-Sibirskiy zavod zheleznoy rudoy (West-Siberian Iron Ore Plant) are at present supplied with iron ore from the Altay-Sayan (Gornaya Shorya) region. Exploited deposits have a reserve of 45.8 million tons, other deposits prepared for exploitation possess a reserve estimated at 241.4 million tons. At present the operating mines produce 10,950,000 tons yearly. When all projected mines are in operation, the total output will be 34,950,000 tons a year. The construction of new concentration plants is being considered. The inconvenience of the new deposits is their inaccessible location, and the needs of the combine will not be entirely filled for the first 7 years. This shortage must be covered by ore from the Angara-Pitsk and Angara Ilim regions. Their exploitation is complicated by the lack of adequate means of transportation. Large capital investments for railroad building will slightly increase the cost of the cast iron.

Card 1/2

127-58-7-4/20

The Iron Ore Base of the Ferrous Metallurgy of Western Siberia

There are 7 tables and 2 Soviet references.

ASSOCIATION: Mezhduvedomstvennaya postoyannaya komissiya po zhelezu (The Interdepartmental Permanent Iron Commission)

Card 2/2 1. Industry-USSR 2. Iron ore-Production

AUTHOR: Shapiro, I. S. SOV/130-58-9-1/23

TITLE: The Main Iron-ore Deposits of the USSR (Glavneyshiye zhelezorudnyye mestorozhdeniya SSSR)

PERIODICAL: Metallurg, 1958, Nr 9, pp 1-3 (USSR)

ABSTRACT: The author tabulates the absolute and relative quantities of iron ores making up the total of 35, 313.4 million tons of reserves in the USSR. He notes that only about 15% do not require beneficiation (55.57% Fe) and that about 1/3 are difficult to beneficiate and goes on to describe the main deposits. In the Northwest are the Olenegorskoye and Yeno-Kovdorskoye, which are the bases for the Cherepovetskiy zavod (Cherepovets Works). The Olenegorskoye one give a 58-61% Fe concentrate. In the centre are the rich ores of the Kursk magnetic anomaly, but those at Belgorod are not easy to mine. The author states that in the centre, although mines are being built, only the Tul'skoye and Lipetskoye deposits are being worked on a full scale, the work on the magnetic-anomaly deposits being confined to an experimental iron-quartzites mine. In the south, the main deposits are in the Krivorozhskiy and Kerchenskiy basins. In the former, the importance of the iron quartzites (33-39% Fe) is increasing. The Kerchenskiye ores give high-

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phosphorus pig iron which leads to valuable phosphate slag production. In the North Caucasian and Trans-Caucasian regions, the main deposit is the Dashkesanskoye (30% Fe), a smaller one being the Malkinskoye. The Ural deposits, providing about 40% of the total ore production, are divided into the following districts: Ivdel'skiy, Bogoslovskiy, Tagilo-Kushvinskiy, Kachkanarskiy, (68% of total Ural deposits), Alapayevskiy, Bakal'skiy, Zigazino-Komarovskiy, Magnitogorskiy and Orsk-Khalilovskiy (containing chromium, nickel and cobalt). The Kazakhstan deposits account for over 20% of the total reserves, about 83% being in the Kustanay district: here, the Sokolovsko-Sarbayskiy Combine, rated at 15 million tons of raw ore a year, is being built, (first production in September, 1957); the Ayatskoye and Lisakovskoye deposits are larger. In Karagandinskaya oblast are the Atasuyskaya, Karsakpayskaya and Ken'-Tyube-Togayskaya groups of deposits. In the Western Siberia (265 million tons) by far the greatest are those in the Gorno-Shorskiy district (40-42% Fe, high sulphur, zinc). Large sedimentary deposits were discovered in Tomskaya oblast in 1955-1957. In the region of Krasnoyarskiy Kray and the Tuvinskaya autonomous oblast are the

Khakasskiy and Angaro-Pitskiy regions, which form part of the ore-base of the Kuznetskiy metallurgicheskiy kombinat (Kuznetsk Metallurgical Kombinat). The reserves in Eastern Siberia amount at present to 1,300 million tons, 50% being in the Angaro-Ilimskiy region, its main deposits being the Korshunovskoye and Rudnogorskoye. The Far East contains the Kimkanskoye (190 million tons, 35% Fe, 0.2% P) and Garinskoye (160 million tons, 46.9% Fe). There is 1 table.

1. Iron ores--USSR 2. Iron ores--Abundance

SOV/127-58-12-23/26

AUTHOR: Shapiro, I.S., Candidate of Economic Sciences

TITLE: A Conference on the Development of the Productive Capacity of East Siberia (Konferentsiya po razvitiyu proizvoditel'nykh sil Vostochnoy Sibiri)

PERIODICAL: Gornyy zhurnal, 1958, Nr 12, pp 65 - 66 (USSR)

ABSTRACT: This conference was convened in Irkutsk on August 11 - 26 1958, by the AS of the USSR, the Gosplans of the USSR and RSFSR, the party and Soviet organizations. Regional conferences on the same subject took place in several towns of East Siberia from 11 to 15 August. Almost 80% of the total coal reserves, about 50% of timber reserves and 50% of the potential hydroenergetic resources are concentrated in East Siberia, as well as over 36% of nickel, 31% of gold, 56% of tin and 98% of the diamond reserves. The reserves of iron ores of the Altay-Sayan mountain region, of Angara-Pit and Angara-Ilim basins, of the Chita oblast and of the Yakutian ASSR are estimated at 10,000,000,000 tons. A new coal basin was discovered in the south of the Yakutian ASSR, with hundreds of billions of tons of coal, of this total about 40,000,000.000 tons are of high quality coking coal. The reserves of the Kansko-Achinskiy basin in the Irkutsk oblast

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A Conference on the Development of the Productive Capacity of East Siberia

are estimated at 1,200,000,000,000 tons. One of the most important problems debated at the conference was the establishment of the third, and later - of the fourth metallurgical region in Siberia. A unified power system will be created in East Siberia. Powerful thermal electric power plants will be built in East Siberia. First of all the Nazarovskaya Thermal Electric Power Plant will be built for the Angara-Ilim industrial region, then the Itatskaya Irsha-Borodinskaya, Azeyskaya, and Bogotol thermal electric plants will be built. Various metallurgic plants will be built later. To improve the transportation conditions in East Seberia, 4 to 5,000 km of railways will be built during the next 10 - 15 years. The development of the productive capacity of East Siberia will necessitate huge capital investments. The building industry must also be developed during the next few years. Cement plants will be built in the Irkutsk, the Chita oblasts and near Yakutsk. A total of 7,000 persons took part in the conference.

SHAPIRO, Izrail' Solomonovich; BARDIN, I.P., akademik, red.; OSALA, P.A., red.; SHIRYAYEV, P.A., red.; PONOMAREVA, A.A., tekhn.red.

[Kazakhstan is a new supply center of ferrous metallurgy] Kazakhstan - novaia baza chernoi metallurgii. Moskva, Gosplanizdat, 1959. 68 p. (MIRA 13:2)

(Kazakhstan--Iron mines and mining)
(Kazakhstan--Coal mines and mining)

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[Iron ore deposits of the U.S.S.R.] Zhelezorudnye mestorozhdeniia SSSR. Otv.red.I.P.Bardin. Moskva. Vol.1. [Iron ore deposits of the Altai-Sayan mountainous region] Zhelezorudnye mestorozhdeniia Altae-Saianskoi gornoi oblasti. Book 2. [Description of the deposits] Opisanie mestorozhdenii. 1959. 601 p. (MIRA 13:3)

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(Altai Mountains--Iron ores)
(Sayan Mountains--Iron ores)

SHAPIRO, Izrail' Solomonovich; YANSHIN, A.L., akademik, nauchnyy red.; AGOSHKOV, M.I., nauchnyy red.; PLAKSIN, I.N., nauchnyy red.; BARDIN, I.P., akademik, otv.red.; DOLITSKAYA, S.S., red.; SMIRNOV, Z.K., tekhn.red.

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(Bibliography--Iron ores)

3(8) SOV/31-59-2-1/17

AUTHOR: Shapiro, I.S.

TITLE: Kazakhstan - The Largest Iron Ore and Fuel Base for the Ferrous Metallurgy in the USSR (Kazakhstan - krupneyshaya zhelezorudnaya i toplivnaya baza chërnoy metallurgii SSSR)

PERIODICAL: Vestnik Akademii Nauk Kazakhskoy SSR, 1959, Nr 2, pp 3 - 14 (USSR)

ABSTRACT: This article surveys the iron ore and coal deposits of Kazakhstan in connection with the further development of ferrous metallurgy. The author discusses geological conditions, possibilities and methods of ore extraction, and the economic factors involved. He comes to the conclusion that ore mining in Kazakhstan together with the further development of coking coal mining in the Karaganda Basin and in the Kuzbass will permit a considerable increase in pig iron production on an economically acceptable basis within the next 15 - 20 years. The iron ore and coal

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reserves of Kazakhstan amount to 14 billion tons (a fifth of total Soviet reserves) and 140 billion tons respectively. To these figures, 80 million tons of manganese ore and iron manganese ore have to be added. Moreover, the republic has numerous deposits of fireproof clay, fluxing limestones, dolomites and quartzites. The development of industries to extract, process and utilize these reserves is still in the initial stage. At present the Sokolovsko-Sarbayskiy gornoobogatitel'nyy kombinat (Sokolovsko-Sarbayskiy Concentration Combine), the Karagandinskiy metallurgicheskiy zavod (Karaganda Metallurgical Plant) and the Atasuyskiy rudnik (Atasu Mine) are under construction. In order to organize large scale ore extraction, the republic has been divided into a number of ore districts. These are the districts of Kustanay, Atasu, Karsakpay, Karkaralinsk (Ken'-Tyube-Togayskiy),

m-34

Kazakhstan - The Largest Iron Ore and Fuel Base for the Ferrous Metallurgy in the USSR

Atansor and Aral. Eighty-five percent of the utilizable reserves of iron ore are concentrated in the Kustanay District. Here iron ore is represented by two basic types: magnetites and limonites. The largest magnetite reserves have been ascertained in the Sokolovskoye, Sarbayskoye, Kacharskoye and Kurzhunkul'skoye deposits. The average iron ore content varies from 45 to 50%. Geologically the Sokolovskoy deposit is divided into a southern and a northern zone. The southern zone has ore with a low sulphur content. The northern zone is composed of thin, isolated bodies of ore with a higher sulphur content. Therefore, ore extraction in this section is mainly carried out by underground mining. The Sokolovskiy mine is basically completed, and yielded, in fact, the first million of tons of ore in 1958. The total yield extracted by opencast mining will amount to 5 million tons per year. The useful life of these opencast mines has been estimated

at 33 years. The yield of the underground mine will be 3.5 million tons per year. Its useful life will be about 25 years. The average iron content in this section varies from 42 to 75 percent. The Sarbayskoye deposit (magnetites associated with skarns etc) is composed of three layers located respectively in the east, south-east and west. Opencast mining will give a yield of 10 million tons per year, which later on will increase to 15 million tons. The mine will be put into operation in 1960. The magnetite ores of these deposits are easily concentrated. A combined system of dry and wet concentration has been elaborated. Dry concentration gives a concentrate yield equal to 27.2%, with an iron content of 58.2%; wet concentration of the product resulting from the above-mentioned process yields a concentrate equal to 59%, with an iron content up to 62%. General iron extraction is 85.3%. The Kacharskoye magnetite deposit is di-

vided into two independent layers, one in the north (90% of the ore) and one in the south (10%). A common opencast mining system will be established for both sections with production estimated at 15 million tons. The comparatively poor ore will yield two million tons of concentrate. The useful life of the mine has been established at 65 years. The yield is intended for the Chelyabinsk and Magnitogorsk metallurgical plants. The Kurzhunkul'skoye deposits are of minor importance. Underground mining will produce 1.5 million tons of ore per year. The Kustanay District is also rich in oolitic limonite ore. The main deposits are the Ayatskoye, Lisakovskoye and Kirovskoye layers. The reserves are estimated at about 13.5 billion tons, about half of which can be utilized. The Ayatskoye and Lisakovskoye ore has nearly the same quality as that in Lorraine in Western Europe. The ore of the Atasu District has a high sulphur con-

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tent (about 0.6%). The phosphorus content does not exceed 0.1%. The utilizable reserves amount to about 350 million tons. The ore of this district will be supplied to the Karaganda Metallurgical Plant. In Central Kazakhstan the Atansor deposits, which are being prospected at present, look very promising. They are composed of an eastern and a central section. In the south-east part of the central section a manganese-cobalt ore layer has been discovered. The prospected reserves are estimated at 100 million tons; those still to be prospected are estimated at 500 million tons of magnetite ore with an average content of 47% Fe. Until 1965 ore extraction will be done essentially on the Sokolovskoye, Sarbayskoye and Atasu deposits. Ore extraction from the Kacharskoye and Lisakovskoye deposits will be in the initial stage by that time. Low extraction costs (see tables 5-7) in connection with cheap Karaganda and Kuznetsk coal

Kazakhstan - The Largest Iron Ore and Fuel Base for the Ferrous Metallurgy in the USSR

will permit economic pig iron production. 85% of the Kazakh coal reserves, 53.6 billion tons of which have been so far prospected, are concentrated in the Pavlodar (34%), Karaganda (24%) and Kustanay (27%) oblasts. The basic and only reserves of coking coal are concentrated in the Karaganda Basin. Karaganda coking coal is the basis of the metallurgical plants of Magnitogorsk (40% of the coke charge), Karaganda (50%), Pavlodar (50%), Kustanay (50%) and of the plant OKHLIK (60%). On the basis of Karaganda coking coal it is possible to produce annually 25 million tons of pig iron over 15 years.

SHAPIRO, I.S., starshiy nauchnyy sotrudnik, kand.ekon.nauk

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(Continued on next card)

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(Ore dressing)

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SHAPIRO, I.S.

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Metallurg 7 no.8:9-10 Ag '62.

1. Institut gornogo dela.
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SHAPIRO, I. S.

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L 13043-66 EWT(m)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c) MJW/

ACC NR: AP5018698 JD/HM SOURCE CODE: UR/0125/65/000/007/0029/0031

AUTHOR: Shapiro, I. S. (Engineer; Moscow); Beyder, B. D. (Engineer; Moscow)

ORG: none

TITLE: Highly productive plasma arc methods for cutting stainless steels

SOURCE: Avtomaticheskaya svarka, no. 7, 1965, 29-31

TOPIC TAGS: plasma arc, slag, stainless steel, metal cutting

ABSTRACT: Slag formation on cut edges and its relationship to the removal of metal from the cut is investigated. Three cutting techniques are identified according to the size of the metal particle forming on the edge in the cutting process. These techniques yield large, very fine, and mixed (large and very fine) slag particles. The optimal cutting technique requires a voltage of 93-100v and a mixture of hydrogen and nitrogen gases (75% N_2 and 25% H_2). The advantages of the technique are higher cutting speed, lower expenditure of electricity and worked metal and a very fine, easily removed slag particle on the edge of the cut. Kh18N9T stainless steel, 12-18 mm thick, was used in the

UDC: 621.791.94 : 669.140

Card 1/2

L 13043-66

ACC NR: AP5018698

tests. Data on the three cutting techniques are shown in the table. Orig. art. has: 4 figures, 2 tables.

Steel thickness (mm)	Nozzle diameter (mm)	Current (amps)	N_2 (liters/hr)	Voltage	Average size of slag particles (in mm)	Cutting speed (mm/min)	Particle size produced by cutting technique
12	4.5	370	1230	56	4.1	320	Large
12	7.1	350	1900	45	4.1	315	
18	5.0	430	1250	63	4.1	180	
12	4.0	410	3500	68	1.3	320	Large and very fine
12	4.0	430	4500	75	0.8	320	
12	4.0	410	6500	85	0.3	750	Very fine
12	4.0	400	8700	85	0.2	820	

SUB CODE: 13,11/ SUBM DATE: 17Aug64/ ORIG REF: 000/ OTH REF: 000

Card 2/2

L 9443-66 EWT(m)/EWP(k)/EWP(z)/EWA(c)/T/EWP(b)/EWA(d)/EWP(v)/EWP(t)
ACC NR: AP5026290 MJW/JD/HM SOURCE CODE: UR/0125/65/000/010/0035/0037

AUTHOR: Shapiro, I. S. (Candidate of technical sciences); Beyder, B. D. (Engineer; Moscow); Vladimirov, V. B. (Engineer; Moscow); Mazo, D. M. (Engineer; Moscow); Samokhin, O. G. (Technician; Moscow)

ORG: VNII avtogenmash

TITLE: Effect of gas-shielded arc cutting on the properties of Kh18N10T steel

SOURCE: Avtomaticheskaya svarka, no. 10, 1965, 35-37

TOPIC TAGS: steel, stainless steel, austenitic steel, chromium containing steel, nickel containing steel, steel cutting, shielded arc cutting, plasma cutting/Kh18N10T steel

ABSTRACT: Hot-rolled Kh18N10T stainless steel plates [0.11% C, 17.6% Cr, 10.7% Ni, 0.75% Ti] were cut by a gas-shielded electric arc in order to investigate the effect of cutting conditions on the structure, corrosion, and weldability. The gas-electric cutting was done under mild conditions (current I = 330—360 amp, arc voltage U_a = 44 v, cutting speed V_c = 270 mm/min, nitrogen consumption Q_{N_2} = 1600 l/hr, cut width d_c = 6 mm) and under severe conditions (I = 400 amp, U_a = 85 v, V_c = 100 mm/min Q_{N_2} = 5000 l/hr, Q_{H_2} = 1600 l/hr, d_c = 4 mm). Regardless of the regime of cutting, the surface of the cut had a thin Fe_3O_4 film which, under optimum cutting conditions, was about 0.6 μm thick. Changes in the structure of the metal cut under mild and

Card 1/2 UDC: 621.791.947:669.140

ACC NR: AP5026290

severe conditions extended to a depth of 1.5 and 0.2 mm, respectively. The conditions of cutting had little effect on the rate of general corrosion of the as-cut surface, which was only slightly higher than the rate of 1.5 $g/m^2 \cdot hr$ for mechanically cut specimens. After a sensitizing heat treatment, the rate of general corrosion of mechanically cut specimens increased by 2—6 times, and that of the arc-cut specimens, by 8—10 times. The corrosion rate of the surface of the cut prior to sensitizing was 2—3 times higher, and after sensitizing, 10—13 times higher than that of the base metal. This increase, however, is not dangerous since it does not extend beyond a small fusion zone. Hence, gas-shielded arc cutting of Kh18N10T steel should be done preferably under severe conditions, which ensure a narrow fusion zone. No cut specimens, regardless of the method and conditions of cutting, exhibited intergranular corrosion. Sound welds were obtained by submerged-arc welding of cut specimens without additional preparation, and no difference was observed in the structure of the metal of the weld and heat-affected zone in specimens cut by different methods. Orig. art. has: 4 figures and 1 table. [MS]

SUB CODE: 13/ SUBM DATE: 20Jul64/ ATD PRESS: 4155

jw

Card 2/2

SONGINA, O.A.; SAVITSKIY, Ye.M.; KLUBNICHKIN, K.F.; SHAPIRO, I.S.

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(Ultramarine)

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(One of two cards)

SHAPIRO, I. S.

The book gives problems on theoretical mechanics, resistance of materials, statics of constructions and machine parts and corresponds to the programs of courses confirmed for construction. The problems are explained and solutions are given.

SO: 38300

Second
(One of two cards)

SHAPIRO, I.S., inzhener; POZDNYAKOV, B.N.; NAUMOVA, M.M.

Ways to increase the straightness of sliver. Tekst.prom.16 no.3: 38-40 Mr '56. (Carding) (MLRA 9:6)

[illegible], . . . [illegible].

Cotton machinery

Utilizing the PT-160 machine. Tekst. prom., 12, No. 6, 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952, UNCLASSIFIED

SHAPIRO, I.V.inzh.

Choice of the contour of large steam turbines. Teploenergetika 8 no.5:86 My '61. (MIRA 14:8)
(Steam turbines)

SHAPIRO, I.V., inzh.

What blocks should be used in the development of our power engineering economy? Teploenergetika 10 no.11:86-88 N '63. (MIRA 17:1)

[illegible] w[illegible].

[illegible]erican power [illegible] 100 Mw. rating for the Beaverwood power plant. Prog[illegible]nstrumente 12 no.4:46-47 Ap '65.
(MIRA 18:6)

SHAPIRO, I.V., inzh.

Development of single-shaft turbogenerator units. Teploenergetika 12 no.3:90-92 Mr '65. (MIRA 18:6)

SHAPIRO, I. YA.

AID P - 2466

Subject : USSR/Medicine

Card 1/1 Pub. 37 - 13/18

Author : Shapiro, I. Ya., Dotsent

Title : Evaluation of the natural light in the new houses of the members of collective farms in the Western Provinces of the Ukraine

Periodical : Gig. i san., 6, 54-55, Je 1955

Abstract : Describes the inspection of the insulation of dwellings in West Ukrainian collective farms and the satisfactory results of these observations. Recommends the cooperation of construction engineers with sanitary inspectors.

Institution: Chair of Municipal Hygiene, L'vov Medical Institute

Submitted : March 7, 1955

SHAPIRO, I.Ya., dotsent (L'vov, ul. Vorovskogo, d.16, kv.7)

From the history of cooperative work of Russian and Polish scientists in the field of surgery in the 19th century.
Vest. khir. 89 no.10:114-120 O '62.
(MIRA 17:10)

1. Iz kafedry organizatsii zdravookhraneniya i istorii meditsiny (zav. - dotsent S.Z. Tkachenko) L'vovskogo meditsinskogo instituta.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001548320009-9"

SHAPIRO, I.Ya., dotsent

From the history of friendly cooperation of Russian and Polish scientists in the field of medicine. Sov.med. 20 no.7:78-84 Jl '56. (MLRA 9:10)

1. Iz kafedry organizatsii zdravookhraneniya i istorii meditsiny L'vovskogo meditsinskogo instituta.

(HISTORY, MEDICAL
in Russia, cooperation of Russian & Polish scientists)

SHAPIRO, I.Ya.; KOTLYAROV, Yu.L., redaktor izdatel'stva; MALYAVKO', A.V., tekhredaktor.

[History of medical education in the western provinces of the Ukraine and in Bukovina] Iz istorii meditsinskogo obrazovaniia v zapadnykh oblastiakh Ukrainy i na Bukovine. [L'vov] Izd-vo L'vovskogo univ., 1957. 60 p. (MIRA 10:10)
(Ukraine--Medical colleges) (Bukovina--Medical colleges)

SHAPIRO, I.Ya., dotsent (L'vov)

From the history of higher medical education in Western Ukraine.
Vrach.delo no.2:211-213 F '57. (MLRA 10:6)
(UKRAINE--MEDICAL COLLEGES--HISTORY)

BURIKHIN, T.N., dotsent; SHAPIRO, I.Ya., dotsent

Medical service for miners in the Lvov-Volyn Basin. Vrach. delo no.3:291-293 Mr '57 (MLRA 10:5)

1. Kafedra organizatsii zdravookhraneniya (zav.-dots. S.Z. Tkachenko) L'vovskogo meditsinskogo instituta.
(LVOV-VOLYN' BASIN--MINERS--DISEASES AND HYGIENE)

SHAPIRO, I.Ya., dots.

Development of public health in western regions of the Ukraine, Bukovina and Transcarpathia. Vrach.delo no.11:1215-1216 N '57. (MIRA 11:2)

1. Kafedra organizatsii zdravookhraneniya i istorii meditsiny (zav. - dots. S.Z.Tkachenko) L'vovskogo meditsinskogo institute.
(UKRAINE--PUBLIC HEALTH)
(BUKOVINA--PUBLIC HEALTH)
(TRANSCARPATHIA--PUBLIC HEALTH)

TKACHENKO, S.Z.,dotsent; BURIKHIN, T.N.,dotsent; SHAPIRO, I.Ya.,dotsent

Public health development in Lvov during the years of Soviet government; on the 700th anniversary of Lvov. Sov. zdrav. 16 no.2:72-76 F '57 (MLRA 10:4)

1. Iz kafedry organizatsii zdravookhraneniya i istorii meditsiny (zav.-dotsent S.Z. Tkachenko) L'vovskogo meditsinskogo instituta.
(PUBLIC HEALTH
in Poland)

SHAPIRO, I.Ya., dots.; STANEVA, V.I.

Some results of goiter control in Lvov Province. Vrach.delo supplement '57:50 (MIRA 11:3)

1. Kafedra organizatsii zdravookhraneniya i istorii meditsiny (zav.-dots. S.Z.Tkachenko) L'vovskogo meditsinskogo instituta i L'vovskiy oblastnoy protivozobnyy dispanser.
(LVOV PROVINCE--GOITER)

SHAPIRO, I.Ya., dotsent (L'vov)

Method for conducting seminars on medical history. Sov.zdrav. 18 no.10:43-48 '59. (MIRA 13:2)

1. Iz kafedry organizatsii zdravookhraneniya i istorii meditsiny L'vovskogo meditsinskogo instituta.
(HISTORY OF MEDICINE educ.)

SHAPIOR, I.Ya., dotsent (L'vov)

History of relations of Russian and Polish scientists in the field of therapy in the 19th century. Klin.med. 37 no.10:138-142 O '59. (MIRA 13:2)

1. Iz kafedry organizatsii zdravookhraneniya i istorii meditsiny L'vovskogo meditsinskogo instituta.
(HISTORY OF MEDICINE)
(INTERNATIONAL COOPERATION)

SHAPIRO, I.Ya., dotsent

Conference on the history of medicine held at Lvov. Sov.zdrav. 19 no.5:88-89 '60. (MIRA 13:9)

(MEDICINE--CONGRESSES)

Sb[illegible], I.Ya. (Livov, ul. Vorovskogo, 16)

From the history of collaboration in the work of 19th century Russian and Polish scientists in the field of morphology. Arkh. anat., gist. i embr. 42 no.4:98-102 Ap '62. (MIRA 15:6)

1. Kafedra organizatsii zdravookhraneniya i istorii meditsiny Livovskogo gosudarstvennogo meditsinskogo instituta.

(MORPHOLOGY)
(POLAND--MORPHOLOGY)

SHAPIRO, I.Ya, dotsent (L'vov)

Results and perspectives of the activity of the Lvov Scientific Historicomedical Society. Sov. zdrav. 22 no.7:95-96 '63
(MIRA 16:12)

ZALOGIN, Nikolay Savel'yevich; OSTROVSKIY, G.G., retsenzent; SHAPIRO, I.Ya., red.; NOVIK, A.M., red.izd-va; SAMOKHVALOV, Ya.A., inzh., red.izd-va; STARODUB, T.A., tekhn. red.; MATUSEVICH, S.M., tekhn.red.

[Mathematical problems for competitive examinations] Konkursnye zadachi po matematike. Kiev, Gostekhizdat, USSR, 1964. 615 p. (MIRA 17:3)

AUTHORS: Voronkin, I.V., Krikunov, A.Ye., Fatovskiy, V.P., Shapiro, I.Ye. SOV/ 119-58-7-3/10

TITLE: Automatic Devices in the Food Industry (Avtomaty v pishchevoy promyshlennosti)

PERIODICAL: Priborostroyeniya, 1958, Nr 7, pp. 9-15 (USSR)

APSTRACT: In milk production, in the sausage-, sugar-, canned food-, and beer industry etc. automatization is being introduced in an ever-increasing degree. In the USSR more than 70 different kinds of food are available in form of parcels containing a certain accurately weighed portion of the food concerned. Special mention must be made of a conveyer band for packing food in tin cans which was developed and introduced between 1950 and 1952. The band consists of 16 machines, it is operated by only 8 persons, and it produces 300 cans per minute.
Nevertheless, the machinebuilding industry is still faced with the task of solving the problem of manufacturing cans by the drawing and punching methods.
Special attention must further be paid to the manufacture of cans the body of which is made of cardboard, while the bottom and lid

Card 1/3

are of metal. By means of this type of cans it is possible to save much expense, and it is essential that new automatic machines be developed for the manufacture of such receptacles.

Automatic weighing- and packing machines may be classified in two groups:

a) Automatic machines that produce the receptacle, weigh-in the portion of food, and then close the can.
b) Automatic machines that only do the weighing-in and close the packages.

The first group includes the automatic machine AP2B (weighing-in and packing of cocoa powder - 60 packets per minute), and the second includes the automatic machine APA (for semolina, cane sugar, etc. - 60 packets of 0.5 or 1 kg per minute).

The automatic machine APB produces large parcels (150 per minute).

Another type of automatic machine is the packing machine EKF which wraps up candy in parchment. The efficiency of such machines can be increased only if the packing material is of first-class quality.

Card 2/3

Among the packing machines which work with thermoplastic material the automatic machine AUT must be mentioned, which is used

Automatic Devices in the Food Industry SOV/ 119-58-7-3/10

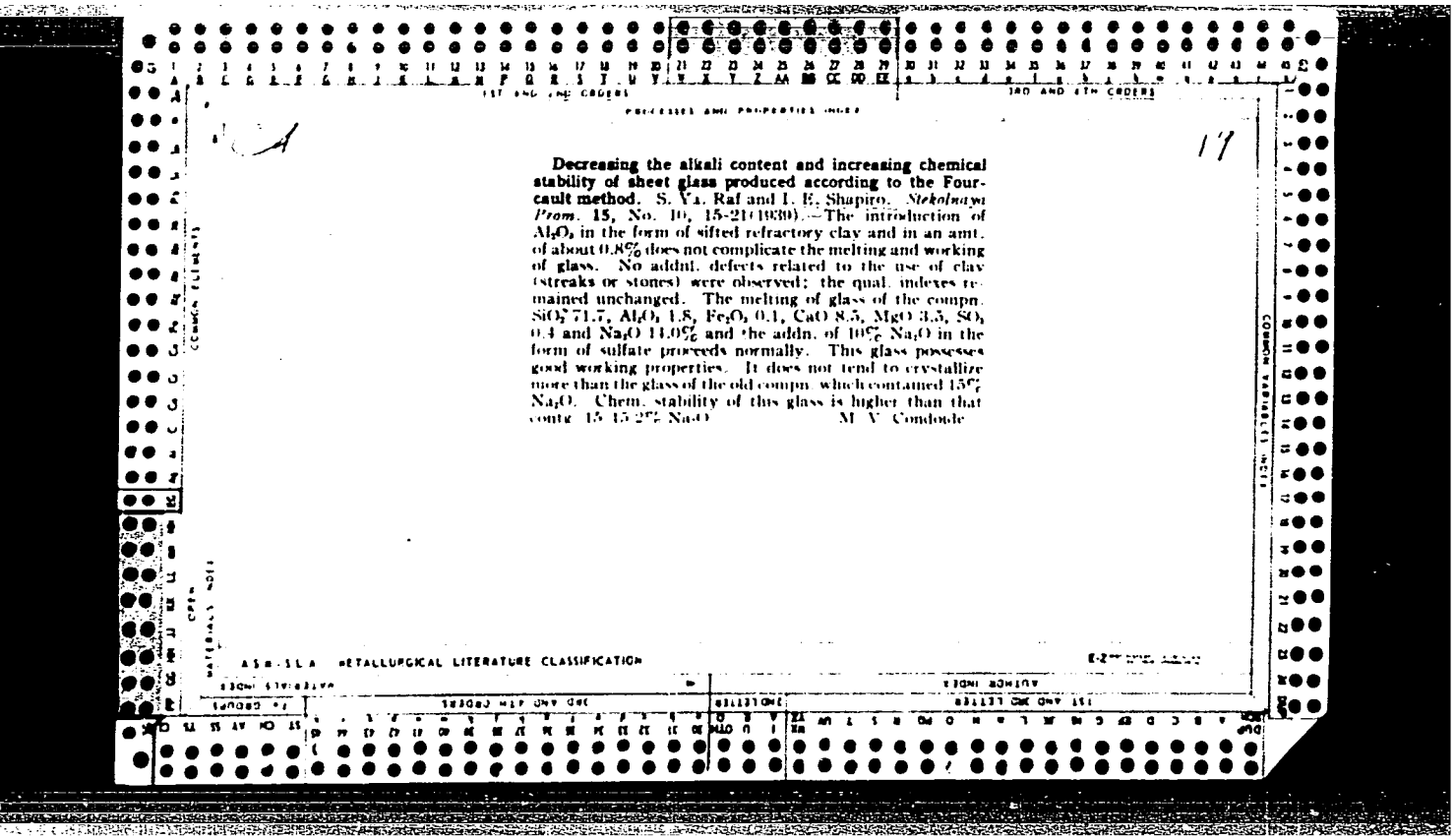
for packing material in form of pills.
The machine AKM wraps up material in cellophane packets of 220 x 120 x 50 mm.
The machine VZA automatically weighs and packs yeast in packages of 100 g each.
The machine OZA packs melted cheese in packets of 30, 65 and 100 gr each. There are 10 figures.

1. Industry--USSR 2. Machines--Development 3. Foods--Preservation
4. Containers--Development

Card 3/3

ARISTOV, D.V.; ZISKINDER, V.Kh.; SHAPIRO, I.Ye.; TARAKHOVSKAYA, N.K., red.; LYSENKO, G.A., tekhn.red.

[Modern automatic machines for packaging and packing food products] Sovremennye avtomaty dlia rasfasovki i upakovki pishchevykh produktov. Moskva, Vses.in-t nauchnoi i tekhn. informatsii, 1961. 102 p. (MIRA 14:6)
(Packaging machinery) (Food industry--Equipment and supplies)



Decreasing the alkali content and increasing chemical stability of sheet glass produced according to the Fourcault method. S. Ya. Raf and I. E. Shapiro. *Steklo i Farfor*. 15, No. 10, 15-21 (1938).—The introduction of Al_2O_3 in the form of sifted refractory clay and in an amt. of about 0.8% does not complicate the melting and working of glass. No addnl. defects related to the use of clay (streaks or stones) were observed; the qual. indexes remained unchanged. The melting of glass of the compn. SiO_2 71.7, Al_2O_3 1.8, Fe_2O_3 0.1, CaO 8.5, MgO 3.3, SO_3 0.4 and Na_2O 14.0% and the addn. of 10% Na_2O in the form of sulfate proceeds normally. This glass possesses good working properties. It does not tend to crystallize more than the glass of the old compn. which contained 15% Na_2O. Chem. stability of this glass is higher than that contg. 15-15.2% Na_2O. M. V. Condoide

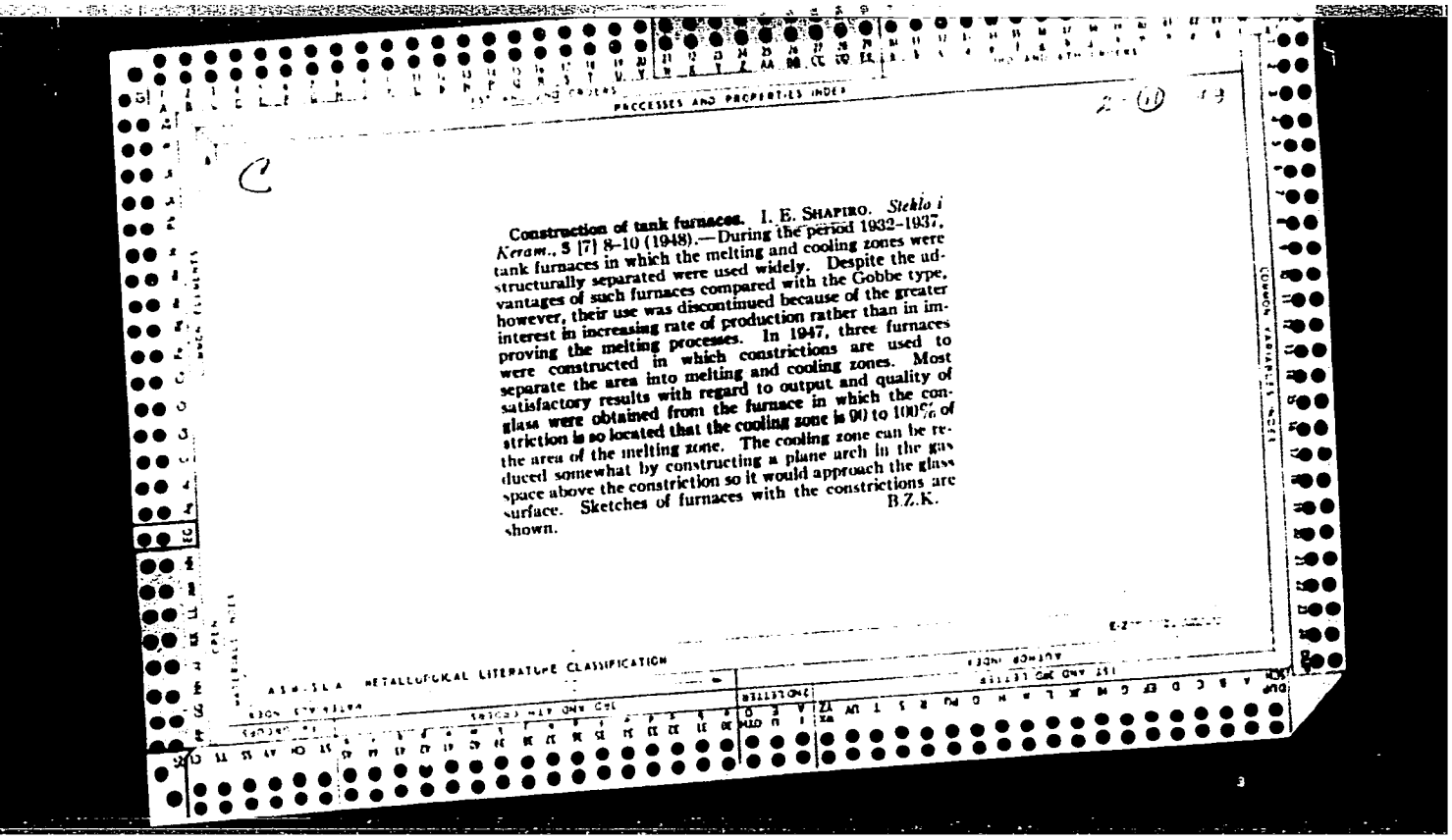
A. C. S.

Improving the light transmission of Fourcault glass. I. R. SHAPIRO AND M. P. ORLOVA. *Steklo'naya i Keram. Prom.*, 1944, No. 1/2, pp. 4–5.—To increase the transparency of glass and to diminish its coloration, it is prerequisite to keep the Fe content in the glass as low as possible and to transform the little that must be included into Fe_2O_3. The latter is favored by (a) maintaining oxidizing conditions during melting, (b) maintaining as low a temperature as possible during melting, and (c) shortening the time during which the melt is exposed to high temperatures. These conditions are readily satisfied when the work is carried out in pot furnaces operating periodically. They are harder to realize in tank furnaces, because of the longer period the mix spends in the furnace and the higher operating temperatures. The continuous operation of the furnace also limits the variety of components that can be used in the batch. The investigation was concerned with selecting a batch composition for a continuous furnace that would yield a glass at least as transparent as that obtained in pot furnaces. It was required to obtain in a Fourcault furnace a transparency of 86% at a sheet thickness of 25 mm. There were two objectives: (1) to obtain a glass with a minimum of Fe oxides, and (2) to create such conditions that the equilibrium $Fe_2O_3 \rightleftarrows 2FeO + 0.5O_2$ within the melting mass would be shifted to the left. To reduce the Fe content, the sand was cleaned on a Wilfley table. This alone reduced the Fe oxide content by 50% or more. Furthermore, the iron drums used for drying the washed sand were replaced by a hot-floor furnace, which eliminated the contact of the sand with iron. The dolomite and limestone used in the batch were carefully graded and, after being ground twice, were passed through a magnetic separator to remove any iron picked up in the grinding. The combined effect of these operations reduced the Fe_2O_3 content in the glass from 0.13 to 0.00%. Several experimental melts were made in pots to establish the most propitious oxidizing conditions. The following agents were used to increase the O pressure within the melt and thus prevent the dissociation of Fe_2O_3: (1) sulfate, (2) sulfate + KNO_3, (3) sulfate + KNO_3 + CaF_2, (4) sulfate + As_2O_5 + KNO_3, (5) sulfate + K_2CO_3, and (6) sulfate + As_2O_5 + K_2CO_3. The experimental mixes show that glasses containing a high percentage of K_2O introduced as KNO_3 clarify slower and therefore must stay longer in the furnace. An addition of KNO_3 in quantities up to 3% and an addition of KNO_3 with 0.25 to 0.5% of As_2O_5 hasten clarification somewhat. Of all the batches tested, the highest light transmission and the lowest coloring were found with the batch containing 3% of K_2O added as KNO_3 and 0.25 to 0.5% of As_2O_5. The new composition of the glass was chosen as SiO_2 71.5, R_2O_3 0.5, CaO 8.0, MgO 3.0, Na_2O 15.5, K_2O 1.5, and As_2O_5 0.25. The glass was made from a batch of sand 200, limestone 16.6, dolomite 40.4, soda 74.5, sulfate 5.77, saltpeter 9.0, and As_2O_5 1.0 kg. The ratio of raw material to cullet was at all times 70:30. Within the furnace, temperatures were maintained as follows: at the first pair of burners 1440° ± 10°, beyond the second pair of burners 1420° ± 10°, and in the cooling zone 1240° ± 10°. The batch fed into the doghouse melted within 30 min. Beyond the second pair of burners the glass was free of bubbles and striae. After 4 days of feeding this batch, the glass pulled from the working end and made into 25-mm. sheets had a transmission of 87% and a very satisfactory weak yellowish color. M.Ho.

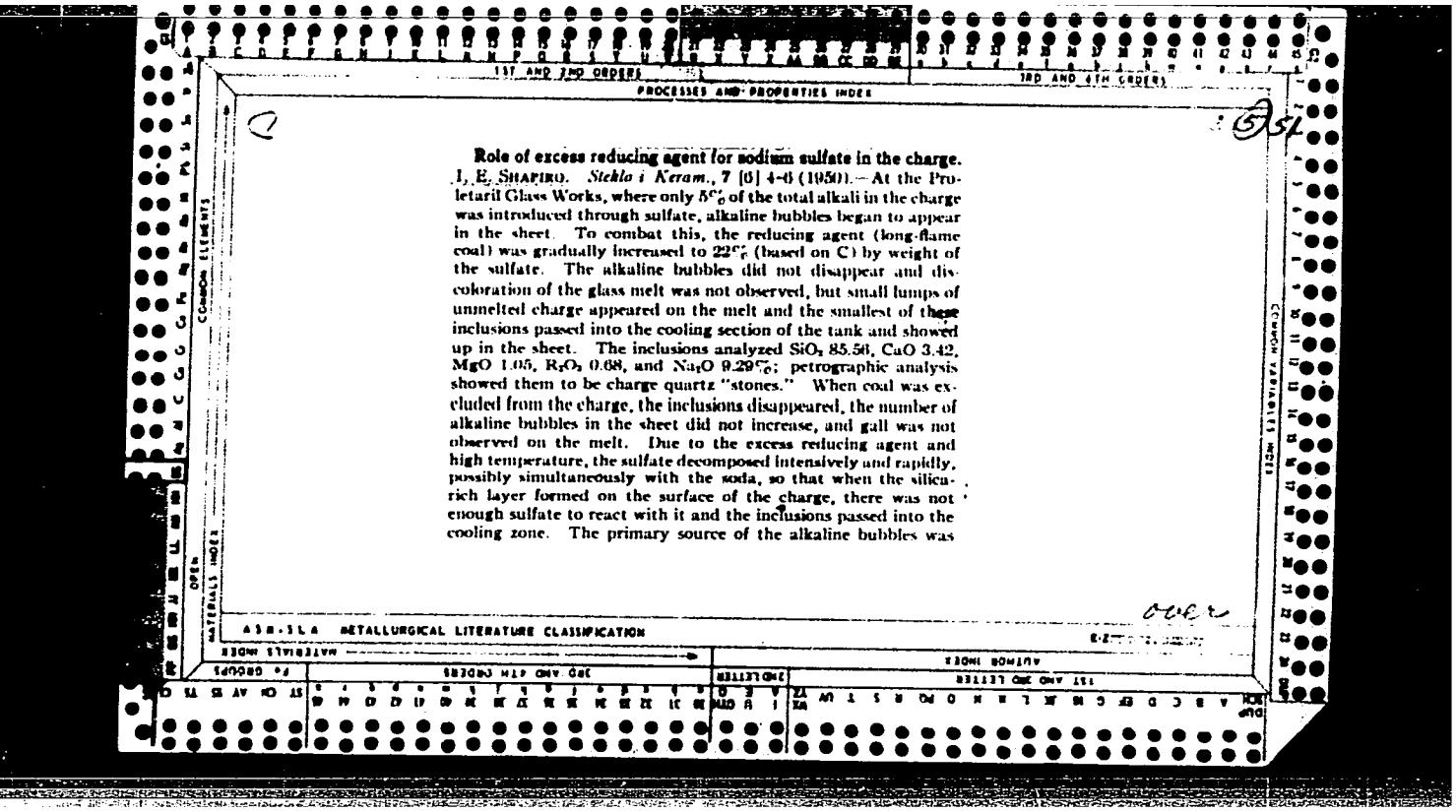
Br Abs

131-4 Glass; Ceramics

Improving the gas flow in glass tanks. I. E. Shapiro (*Stek. Keram. Prom.*, 1947, No. 7, 4; *Brit. Ceram. Abs.*, 1948, 251A).—The system proposed involves addition of an exhauster connected to the flue so that the tank is heated partly by a natural, and partly by an artificial, current. R. B. CLARKE.



Construction of tank furnaces. I. E. SHAPIRO. *Steklo i Keram.*, 5 [7] 8–10 (1948).—During the period 1932–1937, tank furnaces in which the melting and cooling zones were structurally separated were used widely. Despite the advantages of such furnaces compared with the Gobbe type, however, their use was discontinued because of the greater interest in increasing rate of production rather than in improving the melting processes. In 1947, three furnaces were constructed in which constrictions are used to separate the area into melting and cooling zones. Most satisfactory results with regard to output and quality of glass were obtained from the furnace in which the constriction is so located that the cooling zone is 90 to 100% of the area of the melting zone. The cooling zone can be reduced somewhat by constructing a plane arch in the gas space above the constriction so it would approach the glass surface. Sketches of furnaces with the constrictions are shown. B.Z.K.



1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

C

Role of excess reducing agent for sodium sulfate in the charge. I. E. SHAPIRO. *Stekla i Keram.*, 7 [6] 4-6 (1950).—At the Proletarii Glass Works, where only 5% of the total alkali in the charge was introduced through sulfate, alkaline bubbles began to appear in the sheet. To combat this, the reducing agent (long-flame coal) was gradually increased to 22% (based on C) by weight of the sulfate. The alkaline bubbles did not disappear and discoloration of the glass melt was not observed, but small lumps of unmelted charge appeared on the melt and the smallest of these inclusions passed into the cooling section of the tank and showed up in the sheet. The inclusions analyzed SiO_2 85.56, CaO 3.42, MgO 1.05, R_2O_3 0.68, and Na_2O 9.29%; petrographic analysis showed them to be charge quartz "stones." When coal was excluded from the charge, the inclusions disappeared, the number of alkaline bubbles in the sheet did not increase, and gall was not observed on the melt. Due to the excess reducing agent and high temperature, the sulfate decomposed intensively and rapidly, possibly simultaneously with the soda, so that when the silica-rich layer formed on the surface of the charge, there was not enough sulfate to react with it and the inclusions passed into the cooling zone. The primary source of the alkaline bubbles was

over

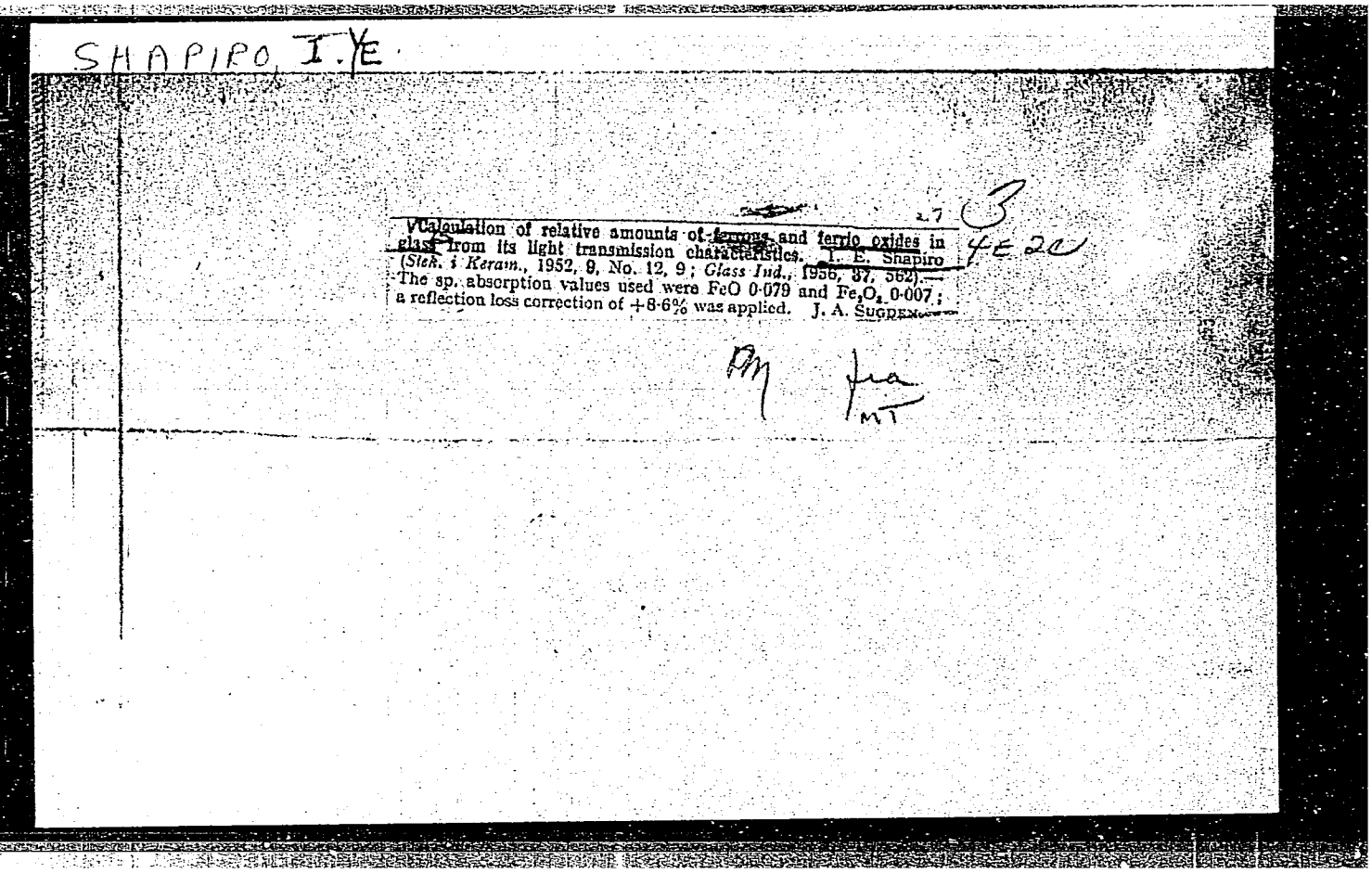
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

SHAPIRO, J. E.

2

Fe_2O_3 and FeO affecting the transmittancy of glass. I. E. Shapiro. *Keram. i Steklo* 9, No. 12, 7–11 1952; *Steklo i Keram.* 9, No. 6(1954).—The medium specific extinction coeff. for Fe_2O_3 in glass of the Na Ca silicate type is 0.007, that for FeO 0.070. Special curves are given for the spectral transmittance of glass samples 25 mm. thick, colored either by 1% FeO, or by 1% Fe_2O_3. In the latter case, there is a max. of transmittance in the yellow-green, i.e. in the range of the max. physiol. sensitivity for visible light. Between the spectral extinction coeffs. ϵ_λ, the total extinction, E_λ, and the transmittancy, ϑ_λ, the relations $E_\lambda = -\log \vartheta_\lambda = \epsilon'_\lambda.c.d$ (with c = the concn.) of the coloring oxides are valid. In a specia' glass is shown, how high the max. tolerable concn. in FeO and Fe_2O_3 is admitted, for a given transmittancy. The calcn. shows how important it is to keep the ratio of Fe_2O_3:FeO as high as possible, e.g. by keeping the O_2 potential in the glass high. Practical expts. in a Russian glass plant entirely confirm the correctness of the calcns.

W. Eitel



SHAPIRO, I.YE.

27 3

Calculation of relative amounts of ferrous and ferric oxides in glass from its light transmission characteristics. I. E. Shapiro (*Stek. i Keram.*, 1952, 9, No. 12, 9; *Glass Ind.*, 1956, 37, 562).—The sp. absorption values used were FeO 0·079 and Fe_2O_3 0·007; a reflection loss correction of +8·6% was applied. J. A. Suggen

4E20

Shapiro, I. E.

3000

Grinding a fine dull surface on glass. I. E. SHAPIRO. *Steklo i Keram.*, 10 [2] 4-7 (1953).—Grinding with ebonite and organic glass gives practically the same dull surface (H_{av} = 0.40-0.42 microns); this compares favorably with 0.77-0.80 for cast iron. Wear resistance of ebonite was twice as high as that of organic glass. B.Z.K.

matte

SHAPIRO

5

(4)

1297. Production of glass of high translucency in continuous glass-tanks.—K. T. BONDAREV, V. A. DUBROVSKII, V. V. POLIYAK, and I. E. SHAPIRO (*Glass & Ceramics*, Moscow, 10, No. 12, 4, 1953). The translucency of glass produced in tanks is stated to be <87·5%; glass made in pots has a translucency up to 90·8%, but the process is considered to be uneconomic. The paper gives theoretical considerations on colouring impurities in glass (which reduce translucency), e.g. oxides of Co, Cr, Mn, V, Fe, etc. and methods of preventing or reducing their action. (5 figs., 2 tables.)