

PAPOK, K.K.; ZUSEVA, B.S.

Chemical composition of lacquer deposits, Khim. i tekhn.  
topl. i masel 8 no.9:64-66 3 '63. (MIRA 16:11)

TISHKOVA, V.N.; ISAGULYANTS, V.I.; PAPOK, K.K.; ZUSEVA, B.S.

Synthesizing a new antioxidizing additive to lubricating oils  
for forced working engines. Trudy MINKHIGP no.44:105-109 '63.  
(MIRA 18:5)

ACCESSION NR: AT4008702

S/2982/63/000/044/0105/0109

AUTHOR: Tishkova, V. N.; Isagulyants, V. I.; Papok, K. K.; Zuseva, B. S.

TITLE: Synthesis of a new antioxidative fuel oil additive for engines operating under a loading

SOURCE: Moscow. Institut neftekhimicheskoy i gazovoy promyshlennosti. Trudy\*, no. 44, 1963. Neftekhimiya, pererabotka nefli i gaza, 105-109

TOPIC TAGS: lubricating oil, EP, extreme pressure, extreme pressure lubricant, antioxidant, lube oil additive, detergent additive, phosphorodithioic acid. diester-. calcium salt, dithiophosphoric acid. diester-. calcium salt, AN-22K additive, phosphorodithioic acid. octylphenol diester, octylphenol, SB-3 detergent additive, detergent oil, detergent lubricating oil, lubricating oil detergent

ABSTRACT: The authors synthesized lube oil additive AN-22K, a neutral calcium salt of the dioctylphenyl ester of dithiophosphoric acid, in four stages: 1) alkylation of phenol with diisobutylene in the presence of the cationic reagent KU-2; 2) preparation of octylphenol disulfide by reaction of octylphenol with sulfur monochloride; 3) preparation of the diester of dithiophosphoric acid by reaction of the octylphenol disulfide with phosphorus pentasulfide; 4) neutralization of the acid obtained by calcium hydroxide. The additive is a solid of

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cinnamon coloration, becoming yellow when powdered, and has a mol. weight of 1200. It was tested with lube oil MT-16. It produced the best results when used as a composition additive in a 1:2 mixture with the sulfonate additive SB-3 and exceeded the performance characteristics of the phosphorus-containing additives MN I-IP-22k and vniinp-360. Orig. art. has: 2 tables and 1 illustration.

ASSOCIATION: Institut neftekhimicheskoy i gazovoy promyshlennosti, Moscow  
(Institute for petroleum chemistry and the gas industry)

SUBMITTED: 00

DATE ACQ: 16Jan64

ENCL: 00

SUB CODE: FL

NO REF SOV: .004

OTHER: 001

Card 2/2

145/4-00 ENT(m)/T DJ

ACC NR: AP6005336 SOURCE CODE: UR/0413/66/000/001/0074/0074 41

INVENTOR: Papok, K. K.; Kreyn, S. E.; Vipar, A. B.; Zmeva, B. S.; Gerasimov, G. Ye.  
 Vinner, G. G.; Dobkin, I. Ye.; Afanas'yev, I. D.; Rogachevskaya, T. A.; Somov, V. A.;  
 Botkin, P. P.; Kuliyeu, A. M.; Zeynalova, G. A.

ORG: none

TITLE: Preparation of motor oil. Class 23, No. 177579

SOURCE: Izobreteniya, promyshlennyye obratztsy, tovarnyye znaki, no. 1, 1966, 74

TOPIC TAGS: motor oil, antiwear additive, detergent additive

ABSTRACT: An Author Certificate has been issued for a preparative method for motor oil, involving addition of a detergent and an antiwear additive to the oil base. The method provides for the use of an alkyl-formaldehyde condensation product and of a dialkyl dithiophosphate based on C<sub>12</sub>-C<sub>16</sub> alcohols as the additives. [EO]

SUB CODE: 11/ SUBM DATE: 16Apr64/ ATD PRESS: 4/90

Card 1/1 FW

UDC: 621.892.8

L 45678-66 EWT(m)/T. DJ/WE

ACC NR: AP6023624

SOURCE CODE: UR/0318/65/000/004/0021/0024

AUTHOR: Botkin, P. P.; Vipper, A. B.; Zuseva, B. S.; Krayn, S. E.; Papok, K. K.; Somov, V. A.

ORG: none

52  
B

TITLE: New composition of diesel oil additives

SOURCE: Neftepererabotka i neftekhimiya, no. 4, 1966, 21-24

TOPIC TAGS: diesel oil, antioxidant additive, lubricant additive

ABSTRACT: A composition of additives to motor fuels was developed in order to match imported additives in their effectiveness when taken in similar concentrations. The composition includes the additives BFK (4%) and LANI-317 (0.25%). The BFK additive is the barium salt of the products of condensation of alkylphenol with formaldehyde, and the LANI-317 additive is zinc dialkyldithiophosphate in isopropyl alcohol and C12-C16 alcohols. In wetting and antioxidation properties, the new composition is practically equivalent to foreign additives (those of the Monsanto Co.) designed for oils of the first series of the international classification. The new composition also has advantages over antiwear and wetting agents in the operation of a diesel motor on low-sulfur fuel. The use of the new composition of additives increases the motor potential of fast diesel engines and reduces their oil consumption. Orig. art.

Card 1/2

UDC: 665.4:66.022.3:621.892

ACC NR: AP6023624

has: 3 tables.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 007/ OTH REF: 001

Card 2/2 fv

SZAFER, Wladyslaw; GONDEK, Jozef; ZURZYCKI, J.; OLSZEWSKI, J.; STOCHLIK, Leon;  
KORNAS, Jan; SKIRGIELLO, A.

Reviews. Wiadom botan 8 no.3/4: Suppl: Biul ogrod botan no.3/4:257-266  
'64.



ПАПОК, К.; ЗУСЕВА, Б.

Using the spot method for evaluating the quality of oil.  
Avt. transp. 39 no.1:27-28 Ja '61. (MIRA 14:3)  
(Lubrication and lubricants--testing)

307/81-59-16-58532

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 16, p 414 (USSR)

AUTHORS: Isagulyants, V.I., Tishkova, V.N., Papok, K.K., Zuseva, V.S.

TITLE: Investigation in the Field of the Synthesis of Admixtures to Petroleum Products. Communication I. The Synthesis of Phenolates of Sulfides and Disulfides of Substituted Phenols

PERIODICAL: Tr. Vses. n.-i. in-t po pererabotke nefi i gaza i polucheniyu iskusstv. zhidk. topliva, 1958, Nr 7, pp 378-389

ABSTRACT: With the aim of studying the synthesis of phenolates of sulfides and disulfides of various substituted phenols and the effect of the composition and the structure on their properties as admixtures to lubricants, the authors synthesized and investigated several alkylphenolates containing various quantities of S in the molecule, various alkyl radicals and various metals. It has been found that the solubility of the phenolates depends on the nature of the substituting radical and increases with an increase in the length of the side chain in the aromatic ring. Phenolates with a long chain of C<sub>11</sub> or containing an aralkyl radical do not dissolve

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SOV/81-59-16-58532

Investigation in the Field of the Synthesis of Admixtures to Petroleum Products. Communication I. The Synthesis of Phenolates of Sulfides and Disulfides of Substituted Phenols

in mineral oil. The most efficient admixtures are phenolates of alkali or alkali earth metals. An increase in the amount of S up to 13 - 15% improves the antioxidation properties of the phenolates. The most active admixtures are phenolates containing a tertiary alkyl radical with 8 - 10 carbon atoms. The initial substituted phenolates for the preparation of efficient admixtures should be substituted phenols obtained in the alkylation of phenol by isoolefines, but not by chlorinated paraffin.

S. Rozenfel'd.

Card 2/2

SHEVYAKOV, A.M.; ZUSEVA, N.A.

Use of the infrared spectroscopy method in studying the reaction of silicic acid with heavy metal ions. Zhur. prikl. spekt. 2 no.6:510-514 Je '65. (MIRA 18:7)

ZUSGOV, L.N., and DOLGINOV, S. Sh. (Moscow)

"A Tiny Magnetometer for the Measurement of Very Weak Magnetic Fields,"  
a paper submitted at the International Conference on Physics of Magnetic  
Phenomena, Sverdlovsk, 23-31 May 56.

ZUSGOV, L.N. and DOLGINOV, S.Sh.

"A Tiny Magnetometer for the Measurement of Very Weak Magnetic  
Fields" Moscow

Conference on Physics of Magnetic Phenomena,  
May 1956, Sverdlovsk, USSR

36301

3/197/62/000/005/001/002  
B104/B102

9.2560  
AUTHORS: Vitolin'sh, A., Zush, Ya.

TITLE: An experimental investigation of the quick-operation of a trigger made of diffusion-type transistors

PERIODICAL: Akademiya nauk Latviyskoy SSR. Izvestiya, no. 3(176), 1962, 33 - 38

TEXT: The construction of triggers made of diffusion-type transistors with starting frequencies  $> 10$  Mcps is studied. In analogy to vacuum-tube triggers the band width of such triggers is estimated to  $S/2\pi C = (120 \dots 240) \cdot 10^6$  cps.  $S = \partial I_2 / \partial U_1 |_{U_2 = \text{const}} = (38 \dots 19) \text{ ma/v}$ ,  $C$  is

the sum of shunting capacitances ( $C \approx 25$  pf). The maximum pulse repetition frequency is  $1/2 \tau_r$ ,  $\tau_r$  being the recombination time. The quick operation

of diffusion-type transistors makes quick-acting starting and clamping diodes necessary. The maximum starting frequency of the trigger shown in Fig. 2 is 20 Mcps. The starting-pulse height at the input of the pulse

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An experimental investigation of ...

S/197/62/000/003/001/002  
B104/B102

shaper should be 2.2.v, the pulse height at the trigger output is 2.4 v.  $\bar{\Pi} 402$  (P 402) and  $\bar{\Pi} 403$  (P 403) triodes and diodes with a recombination time of  $3 \cdot 10^{-8}$  sec were used in the circuit. The recombination times of the diodes limit the frequency band. There are 1 table and 3 figures.

ASSOCIATION: Institut fiziki AN Latv. SSSR (Institute of Physics of the AS Latviyskaya SSR)

SUBMITTED: May 30, 1961

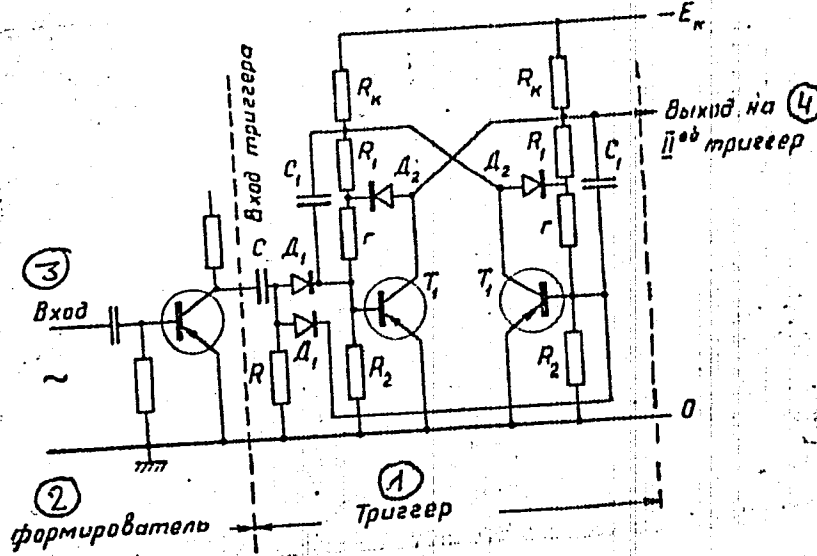
Fig. 2. Trigger with pulse shaper. Legend: (1) trigger; (2) pulse shaper; (3) input; (4) output to second trigger.

Card 2/3



An experimental investigation of ...

Fig. 2



Card 3/3

VITOLIN'SH, A. [Vitolins, A.]; ZUSH, Ya. [Zusa, J.]

Experimental study of the response time of a trigger circuit using drift transistors. Vestis Latv ak no.3:33-38 '62.

1. Institut fiziki AN Latvyskoy SSR.

ZUSHMANOVICH, L.B., insh; TOGUSHOV, I.T., insh.

Diagram of operating conditions of turbines with double  
automatic extraction of steam. Teploenergetika 7 no.2:  
24-30 F '60. (MIRA 13:5)

1. Donetskoye otdeleniye Gosudarstvennogo tresta po organizatsii  
i ratsionalizatsii elektrostantsiy.  
(Steam turbines)

Zusin, S. I.

AID P - 4013

Subject : USSR/Power

Card 1/1 Pub. 26 - 2/31

Authors : Zusin, S. I. and Krigmont, V. D., Engs.

Title : ~~Improving anthracite culm combustion.~~

Periodical : Elek. sta., 11, 4-7, N 1955

Abstract : The authors report on the remodeling of a double-drum boiler unit at one of the southern power plants. The work performed on the boiler is explained in great detail. A two-stage combustion system was installed. Seven diagrams.

Institution : None

Submitted : No date

ZUSIN, R. Ya.; KONCHAKOVA, M. I.; FOMINA, I. G.

Clinical anatomical characteristics of [brain] stem insults.  
Nauch. trudy Inst. nevr. AMN SSSR no.1:161-177 '60.  
(MIRA 15:7)

1. Institut nevrologii AMN SSSR.

(CEREBROVASCULAR DISEASE)

ZUSIN, S. I., inzhener; KRIGMONT, V. D., inzhener

Better combustion of anthracite culm. Elek. sta. 26 no. 11:4-7 N<sup>o</sup> 55.  
(Combustion) (Boilers) (MIRA 9:1)

ZUSIN, S.I.

ZUSIN, S.I., inzhener.

System of feeding boiler units. Elek.sta.28 no.7:82-83 J1 '57.  
(MLRA 10:9)

(Boilers)

ZUSIN, S.I., inzhener.

Redesigning the combustion chamber to burn pulverized anthracite  
culm. Elek.sta. 28 no.9:83-85 S '57. (MIRA 10:11)  
(Furnaces)



*[Faint, illegible text, possibly a stamp or header]*

ZUSIN, S.I.

SOV-91-58-9-4/29

AUTHOR: Zusin, S.I. and Parfenov, Ye.N.; Engineers

TITLE: Measures for Economizing on Firing Mazut (Meropriyatiya po ekonomii rastopchnogo mazuta)

PERIODICAL: Energetik. 1958, Nr 9, pp 10-12 (USSR)

ABSTRACT: To ensure the proper supply of air to the firing chamber, necessary for the economical burning of mazut during the firing of a boiler, the draft fan may be switched on. Regulations, however, forbid this before the temperature of the exhaust gases has reached 120°C, for fear of causing gas-corrosion at the cold end of the air-heater. A study of old air-heaters, removed after 25 years service, revealed no trace of gas corrosion. The author concludes that for firing a boiler which has been on reserve for less than 24 hours, the fan may be switched on at the beginning of the process with resultant saving in mazut. Where a boiler is being repeatedly shut off on reserve, rapid cooling takes place through natural draft. To prevent this, a swinging valve can be installed in the inlet of the flue-gas pump, automatically cutting off any natural draft. When firing from cold, after a long stoppage for general maintenance or major re-

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Measures for Economizing on Firing Mazut

SOV-91-58-9-4/29

pairs, a metal cone may be fitted into the nozzle of the burner to assist firing, instead of using an oil flare. The cone is heated by the burner flame and causes immediate reignition if the burner flame is extinguished due to pulsations in the mazut supply (Figure 5). An even better stabilizing device is shown in Figure 4 and consists of a perforated metal cap designed to fit over the end of the burner nozzle. There are 4 diagrams.

1. Boilers--Operation
2. Fuels--Economic aspects

Card 2/2

ZUSIN, S.I., inzhener; KRIGMOFT, V.D., inzhener; SIDOROV, P.A., inzhener.

Arrangement for grinding anthracite culm. Elek. sta. 27 no.4:14-18  
Ap '56. (MLRA 9:8)

(Crushing machinery) (Coal, Pulverized)

ZUSIN, S.I., inshener; KRIGMONT, V.D., inshener.

Practical system of slag removal. Energetik 2 no.11:1-4 N '54.  
(Furnaces) (MLRA 8:1)

ZUSIN, S.I.

Subject : USSR/Electricity AID P - 1148  
Card 1/1 Pub. 29 - 1/31  
Authors : Zusin, S. I., Eng. and Krigmont, V. D., Eng.  
Title : Efficient method of elimination of slag  
Periodical : Energetik, 11, 1-4, N 1954  
Abstract : The authors describe the method of removing slag from  
furnaces in a molten or half-molten state. The ash is  
quenched and broken up by water jets and carried away  
by sluicing, which is done continuously. Five photo-  
graphs and drawings.  
Institution : None  
Submitted : No date

SOV/90-58-10-1/25

**AUTHOR:** Zusin, S.I. (Engineer)

**TITLE:** The heat lost by mechanical under-combustion in relation to boiler operating conditions (Izmeneniye poteri tepla a mekhanicheskim nedozhogom v zavisimosti ot rezhima raboty kotloagregata )

**PERIODICAL:** Teploenergetika, 1958, No.10, pp. 17-18 (USSR)

**ABSTRACT:** The relationship between the heat loss due to mechanical under-combustion and the length of time of operation of the boiler was investigated together with other operating conditions on boilers of 150 tons/hour burning pulverised anthracite. The boiler and fuel are briefly described. When the boilers are in good condition and operating normally the loss due to mechanical under-combustion is 3 - 4%; this value is attained 50 - 200 hours after lighting the boiler. Immediately after lighting the boiler the loss is 6 - 20%; it decreases gradually as the set heats up and as slag is deposited in the furnace chamber. Graphs of the relationship between the heat loss due to mechanical under-combustion and the length of time that the boiler has been in operation are given in Fig.1. The loss, highest immediately after a major overhaul (Curve.1.), is somewhat less after current maintenance (Curve.2.), and is still less after shut-down for reserve for 6 hours (Curve.3.). For a large part of the year the boilers under consideration operate at peak load, but the irregularity of the loading is increasing year by year. A short

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The heat lost by mechanical under-combustion in relation to boiler operating conditions. SOV/06-58-10-4/25

shut-down in reserve increases the loss from 3 - 6%, and recovery is not complete until the boiler has operated for 50 hours. Data were collected relating to boilers that had been lit-up more than 500 times. Study of the data shows that when the time of operation of the boiler is less than the time required to attain a minimum loss value, there is a straight-line relationship between the heat loss due to mechanical under-combustion and the number of times that the boiler has been lit. The corresponding graphs are given in Fig.2. The data given in the article should be useful in determining the best way of operating a number of boilers serving peak loads. There are 2 figures.

ASSOCIATION: Donbassenergo

Card 2/2



ZUSIN, S.I., insh.

Dependence of the amount of heat loss caused by mechanical  
underburning on operating conditions of the boiler unit [with summary  
in English]. Teploenergetika 5 no.10:17-18 0 '58. (MIRA 11:10)

1. Donbassenergo.  
(Boilers) (Combustion)

ZUSIN, S.I., inzh.; PARFENOV, Ye.N., inzh.

Measures for saving fuel oil. Energetik 6 no.9:10-12 8 '58.

(MIRA 11:11)

(Protroleum as fuel)

DOBROTINA, Z.A., kand.tekhn.nauk; ZUSIN, V.Ya., inzh.

Shielded electric cutting of thin 1Kh18N9T steel. Svar.proizv. no.11:13-15  
N '64. (MIRA 18:1)

1. Zhdanovskiy metallurgicheskiy institut.

BAGRYANSKIY, K.V.; ZUSIN, V.Ya.; GRIGOR'YEV, Ya.Ya.; MIKHAYLOV, I.B.

Deposition of a steel layer on grey cast iron. Avtom. svar.  
18 no.5:25-28 My '65. (MIRA 18:6)

1. Zhdanovskiy metallurgicheskiy institut.

ZUSIN, V.Ya., inzh.; BYKHOVSKIY, D.G., kand. tekhn. nauk, rukovoditel' raboty; DOBROTINA, Z.A., kand. tekhn. nauk, rukovoditel' raboty

Nomograph for determining the optimal speed of gas electric metal cutting. Svar. proizvod. 12:33-34 D '63. (MIRA 18:9)

1. Zhdanovskiy metallurgicheskiy institut (for Zusin, Dobrotina).
2. Vsesoyuznyy nauchno-issledovatel'skiy institut elektrosvarochnogo oborudovaniya (for Bykhovskiy).



ANDROVA, T.A.; SAVYATEYEV, A., redaktor; ZUSINA, A., redaktor; SPIRIDONOV, N.,  
tekhnicheskii redaktor.

[Kuibyshev Province; economic geographical sketch] Kuibyshevskaya oblast';  
ekonom-geograficheskii ocherk. [Kuibyshev] Kuibyshevskoe knizhnoe izd-vo,  
1953. 183 p. (MIRA 8:1)  
(Kuibyshev Province--Economic geography)

ZADONSKIY, N.; ZUSINA, A., redaktor; SAVVATEYEV, A., redaktor; VYSHKOVSKIY, D.  
tekhnicheskij redaktor

[Electric welder Boris Chepurnoi; a sketch] Elektrovarshchik Boris  
Chepurnoi; ocherk. [Kuibyshev] Kuibyshevskoe obl. gos. izd-vo, 1952.  
14 p.  
(Electric welding)  
(MIRA 9:8)



SAVVATYEV, A.; ZUSINA, A., redaktor; MAKAROV, S., tekhnicheskiy redaktor

[Mikhail Volchkov; a sketch] Mikhail Volchkov; ocherk. [Kyubyshev,  
Kuibyshevskoe obl. gos. izd-vo, 1952 30 p. (MIRA 9:8)  
(Volchkov, Mikhail Iakovlevich)

YEFLEYEV, A.P.; ZUSINA, A.I., redaktor; SPIRIDONOV, N.F., tekhnicheskiy redaktor; SHCHERBAKOV, A.I., tekhnicheskiy redaktor

[Experience in applied science instruction in the schools] I opyta politekhnicheskogo obucheniya v shkole. [Kuibyshev] Kuibyshevskoe kn-vo, 1954. 113 p.  
(MLRA 9:10)

1. Kuibyshevskaya oblast'. Institut usovershenstvovaniya uchiteley (Science--Study and teaching)

KOVALEV, Lev Romanovich; ZUSINA, A.I., redaktor; SHOHREAKOV, A.I.,  
tekhnicheskii redaktor

[The assault on the Volga] Shturm Volgi. [Kuibyshev] Kuibyshevskoe  
kn-vo, 1956. 31 p. (MLRA 9:9)  
(Volga River--Hydroelectric power stations)

ZUSKA, Jan, dr.

The first instar larvae of the genus *Trixa* Meigen, and remarks on the systematics and nomenclature of this genus (Diptera, Larvaevoridae). Cas entom 59 no.1:80-86 '62

1. Regional Museum, Cheb. Author's address: Oblastni museum, Namesti Ceskoslovenske armady, Cheb.

ZUSKA, K.

The value of apnea as an activating method in electroencephalography.  
Cesk. neurol. 26 no.1:18-20 Ja '63.

1. Neurologické oddelenie OUNZ v Martine, prednosta MUDr. L. Bevilacqua.  
(APNEA) (ELECTROENCEPHALOGRAPHY)

ZUSKA, K.

A contribution to the lumbo-sciatic syndrome diagnosis. Bratisl.  
lek. listy 45 no.6:380-382 31 Mr '65.

1. Neurologické oddelenie, bvodního ustavu národního zdravi v  
Martine (Veduci: MUDr. L. Bevilacqua).

ACC NR: AP6006742

SOURCE CODE: 02/0002/65/000/001/0299/0301

AUTHOR: Zuska, K.

ORG: Neurology Department, OUNZ, Martin (Neurologické oddelenie OUNZ)

TITLE: Thrombophlebitis of the sinus cavernosus

SOURCE: Ceskoslovenska neurologie, no. 4, 1964, 299-301

TOPIC TAGS: circulatory system disease, blood

ABSTRACT: A case is described where thrombophlebitis of the cavernous sinus extending into the jugular veins caused in its severe course metastatic dissemination. It is shown that even such an apparently hopeless case can be saved by comprehensive treatment and a full recovery achieved with the patient becoming again fully active and capable of working. [JPRS]

SUB CODE: 06 / SUBM DATE: 21Oct64 / ORIG REF: 001 / OTH REF: 012

Card 1/1

STAHULJAK, D.; ZUSKIN, E.

Lead poisoning — a public health problem. *Lijecn. vjesn.* 85  
no.2:187-190 '63.

(LEAD POISONING) (PUBLIC HEALTH)

S



JAKAC, D.; ZUSKIN, Eugeniya

Occupational dermatoses in petroleum refining. Arh. hig. rada  
15 no.1:15-25 '64.

1. Medicinski fakultet Pijeka i Skola narodnog zdravlja
- A. Stampar, Medicinski fakultet Sveucilista u Zagrebu.

YUGOSLAVIA

Dr Dunja STAINULJAK and Dr Eugenija ZUSKIN [Affiliation not given]

"Lead Intoxication - A Problem of Public Health."

Zagreb, Liječnicki Vjesnik, Vol 85, No 2, 1963; pp 187-190.

Abstract: While industrial saturnism is not found at all in Yugoslavia at present, lead intoxication continues to be frequent due to lead glaze used on domestically made earthenware pots; 11 cases were recorded in Zagreb in the last 3 months (Nov 62-Jan 63). Review of literature from 1616 through 1963: 29 references including 8 Yugoslav, 1 Soviet; rest Western languages.

1/1

ZUS'KOV, A.D.

School notebooks on economic geography. Geog. v shkole 20 no. 3:50-52  
My-Je '57. (MIRA 10:6)

1. Likhovichskaya shkola Brestskoy oblasti.  
(Geography, Economic--Study and teaching)

ZUS'KOV, D.S.

Formation of the economic relations of the Cherepovets metallurgical  
center. Vop. geog. no. 57:215-225 '62. (MIRA 15:10)

(Cherepovets--Steel industry)

CHILIKIN, M.G., prof., red.; ZUSMAN, kand. tekhn nauk, red.; YEZHKOV, V.V.,  
red.; LARIONOV, G.Ye., tekhn. red.

[Machine tool electric equipment, Pt.1. Electric machines and apparatus  
for machine tools] Elektrooborudovanie metalloreshushchikh stankov.  
Moskva, Gos. energ. izd-vo. Pt.1. Elektricheskie mashiny i apparaty  
dlya metalloreshushchikh stankov. 1958. 87 p. (MIRA 11:7)  
(Machine tools)

ZUSMAN, A.D.; SHABASHOV, S.P., kand. tekhn.nauk, recenzent;  
BASKAKOV, G.V., kand. tekhn. nauk, red.; SMIRNOV, G.V.,  
tekhn. red.

[Machining holes on drilling machines] Obrabotka otverstii  
na sverlil'nykh stankakh. Moskva, Mashgiz, 1963. 129 p.  
(MIRA 17:3)

ZUSMAN, A.D., inzhener.

Attachments for pneumatic gripping of cutters. Mashinostroitel'  
no.11:44 N '57. (MIRA 10:10)  
(Milling machines--Attachments)

ZUSMAN, A. S., inzh.

Technological level of underground lighting equipment for coal mines. Svetotekhnika 6 no.11:13-18 N '60. (MIRA 13:11)

1. Vsesoyuznyy svetotekhnicheskiy institut.  
(Coal mines and mining--Lighting)



ZAONEGIN, D.A., inzh.; ZUSMAN, A.S.

New explosion-proof 15 W fluorescent lamp. Ugol' 34 no.9:24-26  
S '59. (MIRA 12:12)

1. Zavod "Elektrosvet" im. P.N. Yablochkova.  
(Mine lighting) (Fluorescent lamps)

ZUSMAN, A.S.

ZUSMAN, A.S., inzhener; ROZENTAL', E.S., inzhener.

New products for electric installations, Vest.elektroprom.28  
no.7:77-78 J1 '57. (MLBA 10:9)

1. Zavod "Elektrosvet."  
(Electric apparatus and appliances)

ZUSMAN, A. S., and Sal'Tsevich, L. A.

"Electric Lighting Equipment for Buildings Liable to Explosions"

report presented at the All-Union Scientific and Technical Conference on the Electrical Equipment in Buildings and Outside Installations Liable to Explosions, 14-19 April 1958, Stalino  
(Energet. Byulleten', 1958, No. 7, pp 29-33)

AUTHORS: Zusman, A.S. (Engineer) and Rozental, E.S. (Engineer).  
TITLE: New electrical fittings. (Novye elektroustanovochnye izdeliya). 110-7-27/30

PERIODICAL: "Vestnik Elektropromyshlennosti" (Journal of the Electrical Industry), Vol.28, No.7, 1957, pp.77-78 (USSR).

ABSTRACT: The Elektrosvet works has developed a series of new electrical fittings. These are made of new materials such as steatite, amino-plastics, and etched or nickel-plated brass. The article describes a number of fittings such as switch-sockets, push-button switches, plug-sockets with cover, a delay switch that leaves staircase lights on for a limited time, connecting boxes, lampholders with chain-operated switches, lighting fittings for refrigerators and others.

There are 8 figures.

ASSOCIATION: Elektrosvet works. (Zavod "Elektrosvet").

AVAILABLE:

Card 1/1

ZUSMAN, B. G.

Candidate for Technical Sciences

On: Electronic Equipment; ENIMS Institute; Gor'kiy Machine Tool Plant

Soviet Source: P: Stauk: 1 Instrument No. 8 (Machine Tools and Cutting tools) Aug '47

Abstracted in USAF "Treasure Island", on file in Library of Congress, Air Information Division, Report No. 28219

ZUSMAN, G.

"A Theory of Positrons; #II," Zhur. Eksper. i Teoret. Fiz., 11, No. 6, 1941.  
Mbr., Physics Inst., Leningrad Order Lenin State Univ., Im. Budnov, -1941-.

ZUSMAN, G. Ye., inzh.

Manufacturing the elements of large-panel houses. Mekh.stroi 18  
no.4:9-12 Ap '61. (MIRA 14:6)

1. Ochakovskiy zavod zhelezobetonnykh izdeliy No. 12.  
(Precast concrete)

SLAVIN, David Osipovich [deceased], Prinimeli uchastiye: SLAVIN, L.D.,  
inzh.; ZUSMAN, I.G., inzh., red.; TATURA, G.L., tekhn.red.

[Technology of metals and other materials] Tekhnologiya metallov  
i drugikh materialov. Moskva, Gos.uchebno-pedagog.izd-vo M-va  
prosv.RSFSR, 1960. 414 p. (MIRA 13:10)  
(Metallurgy) (Metalwork) (Nonmetallic materials)



TSYNKOV, Valeriy Mendelevich; ZUS'MAN, Il'ya Iosifovich; ZIBKOVA,  
M.S., red.

[Safety manual on the tensioning of reinforcement] Tekh-  
nika bezopasnosti pri natiashenii armatury. Moskva,  
Transport, 1964. 30 p. (MIRA 17:5)

ZUSMAN, I.N.

Amino acid composition of the protein membrane of *Testudo graeca*  
eggs. Dokl. AN SSSR 160 no.1:232-235 Ja '65. (MIRA 18:2)

1. Institut morfologii zhivotnykh im. A.N. Severtsova AN SSSR.  
Submitted June 15, 1964.

ZUSMAN, I.N.

Rate of the occurrence of morphological and functional maturity of the digestive organs in the embryogenesis of terrestrial tortoises (Testudinidae). Dokl. AN SSSR 163 no.1:266-268 J1 '65. (MIRA 18:7)

1. Institut morfologii zhivotnykh im. A.N.Severtsova AN SSSR. Submitted January 20, 1965.

ZUSMAN, I.N.

Time of the formation of a communication between the trachea  
and pharynx during embryogeny in reptiles and birds. Dokl.  
AN SSSR 157 no.5:1261-1263 Ag '64. (MIRA 17:9)

1. Institut morfologii zhivotnykh im. A.N. Severtsova AN SSSR.  
Predstavleno akademikom A.N. Bakulevym.

RAGOZINA, M.N.; ZUSMAN, I.N.

Ecological and functional significance of the protein membrane  
of the egg in the embryogenesis of *Testudo graeca*. Izv. AN  
SSSR. Ser. biol. no.6:898-908 N-D 165. (MIRA 18:11)

1. Institut morfologii zhivotnykh im. A.N. Severtzova AN SSSR.

ZUSMAN, I.V.

Manufacture of standard size tablets of refined sugar with  
chipping machines. Sakh. prom. 36 no.7:49-50 JI '62.  
(MIRA 17:1)

1. Shepetovskiy sakharный kombinat.

Z. Usman, L.

137-1957-12-22866

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 12, p 7 (USSR)

AUTHOR: Zusman, L.

TITLE: Possibilities for Saving Raw Materials and Supplies in Ferrous Metallurgy (Rezervy ekonomii syr'ya i materialov v chernoy metallurgii)

PERIODICAL: Plan. kh-vo, 1957. Nr 5, pp 70-76

ABSTRACT: One of the irrevocable losses in the metallurgical industry is the waste of Fe contained in the escaping blast-furnace dust, in the slags of electric and blast-furnace production, in the waste of Fe ore during the concentration process, in the scrap intermixed with debris, in iron scale, in hearth cinder, and in the flue gases of the steel-making industry. The recovery of Fe at Soviet metallurgical plants increased by 4.4 percent in 1955 over that of 1951. This improvement was achieved through the increased recovery of Fe in every branch of metallurgical production. It is essential that maximum Fe losses permissible in the concentration process be determined from careful estimates. It is also necessary to improve the quality and the proportion of the agglomerate in the charge, to reduce the spoilage and scrap in the blast furnace shops

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137-1957-12-22866

Economy Reserves of Material and Raw. (cont.)

to 4-6 kg, and to improve blast furnace production in the course of the next few years to an average utilization level of 0.950-0.960, instead of 0.923, of the Fe contained in the raw material. The open-hearth shops should increase their annual output by 1.0-1.5 percent on the average, i. e., they should raise the utilization of Fe to 92.5 - 93 percent. A reduction or complete elimination of shrinkage cavities in cast steel should be achieved either by raising the temperature of the sinkhead of the ingot or by means of electric heating. The improvement of the purification process of the blast-furnace gases and the maximum reclamation of scrap is essential, as well as the solution of the problem of utilizing the primary open-hearth slags, the scaling, and the hearth cinder.

A. Sh.

1. Metallurgy-USSR
2. Materials-Control
3. Production-Control

Card 2/2



ZUSMAN, L.

Dneprosteel-factory. Moskva, Gos. nauchno-tekhn. izd-vo, 1931. 66 p.  
Nashi giganty

ZUSMAN, L

ZUSMAN, L. and A. LEVIN. ...Dnepro-Stal'. S predisl. i pod red. S.V. Prapora.  
Moskva, Gos. nauchn.-tekhn. izdvo, 1931. 66 p. (Nashi gigant/r.)  
NN

SO: LC, Soviet Geography, Part I, 1951, Uncl.

ZUSMAN, L.

ZUSMAN, L. Dniprostal'. Z peredmovoju ta za red. S.V. Prapora. "Kharkiv,  
Hospodarstvo Ukraini", 1932. 59 p.

NN

DLC: Unclass.

SO: LC, Soviet Geography, Part I, 1951 Uncl.

ZUSMAN, L.L.

Resources of scrap metal for founding. Lit. proizv. no.10:1-3  
O '60. (MIRA 13:10)

(Foundries--Equipment and supplies)  
(Scrap metals)

ZUSMAN, L.L., kand.ekon.nauk

Life of metals. Stal' 20 no.8:758-762 Ag '60.  
(MIRA 13:7)

(Mechanical wear)

0.0000

77618  
SOV/133-60-2-18/25

AUTHOR: Zusman, L. L. (Candidate of Economic Sciences), and Brodov, A. A. (Engineer)

TITLE: Economy and Organization of Production. Iron Balance in National Economy

PERIODICAL: Stal', 1960, Nr 2, pp 160-164 (USSR)

ABSTRACT: The balance of iron in the national economy is indicated by the growth of the national metal reserve related to iron supplied from natural resources, metal scrap, and by total iron waste at different stages of production and in the functions of metal fund during the period reviewed. In 1956, the balance of iron in the national economy was based on the balance of iron in such phases of industry as: agglomerate, blast furnace, open-hearth furnace, Bessemer converter, electromelting, rolling, pipe rolling, steel melting, foundry, hardware, electroferroalloys, metalworking, and construction. It was also based on the statistical data of both the national metal fund and

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Economy and Organization of Production. Iron 77618  
Balance in National Economy SOV/133-60-2-18/25

the foreign trade in ferrous metals and metal products. In 1956, the amount of iron ore mined and other rudimentary raw materials produced contained 45,600,000 tons of iron ore including 40,900,000 tons that were processed. In the same year, all stages of production and development of ferrous metals salvaged 27,800,000 tons of reusable metal scrap containing 24,600,000 tons of iron. In the field of foreign trade, 4,700,000 tons of iron ore, together with 4,000,000 tons of iron content in cast iron, rolled iron, and other metal products, were exported; in the same period, 2,100,000 tons of iron content in cast iron, rolled iron, and other metal products were imported. Therefore, in 1956, iron export exceeded iron import by 6,600,000 tons. The investigation of the iron balance in ferrous metallurgy was performed by A. A. Tsvetayev, and the balance of scrap with the participation of M. P. Lapitskaya and N. F. Sklokin. There are 8 tables; and 6 Soviet references.

ASSOCIATION: Central Scientific Research Institute of Ferrous Metallurgy (TsNIICHM)  
Card 2/2

BRODOV, A.A.; ZUSMAN, L.L.

Balance of manganese in the U.S.S.R. Stal' 25 no.2:168-  
172 F '65. (MIRA 18:3)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy  
metallurgii imeni I.P. Bardina.



ZUSMAN, L.L., kand.ekonom.nauk

Preservation of ferrous metals. Sbor.trud,Otd. tekhn.-ekon.  
issl. TSNIICM no. 1:79-86 '6). (MIRA 17:6)

ZUSMAN, Lev Lazarevich

~~PROBLEMA OBOROTNOGO METALLA~~  
[Problem of secondary metal] Problema oborotnogo metalla.  
Moskva, Metallurgiiia, 1964. 320 p. (MIRA 17:11)

ZUSMAN, L.L., kand. ekon. nauk.

Correlation between iron and steel production. Stal' 18 no.4:358-363  
Ap '58. (MIRA 11:5)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metal-  
lurgii (Blast furnaces) (Open-hearth furnaces)

ZUSMAN, L.L., kand.ekon.nauk; BRODOV, A.A., inzh.

Iron balance in the national economy. Stal' 20 no.2:160-164  
F '60. (MIRA 13:5)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy  
metallurgii.

(Iron)

133-58-4-29/40

AUTHOR: Zusman, L. I., Candidate of Economical Science

TITLE: On the Problem of the Ratio Between the Production of Iron and Steel (K voprosu o sootnoshenii mezhdu vyplavkoy chuguna i stali)

PERIODICAL: Stal', 1958, Nr 4, pp 358-363 (USSR)

ABSTRACT: The relationship between the volumes of production of pig iron and steel is discussed. It is concluded that in 1965 the production of steel will be either by 38 or 36% higher than the production of pig iron depending on the total output of steel which may be either 80 or 90 mil. tons respectively. In the ratio of the production of pig iron and steel the U.S.S.R. is on the same level as capitalistic Europe as a whole but lags behind Great Britain and the U.S.A. There is one table.

ASSOCIATION: TsNIChM

1. Steel industry--USSR 2. Iron industry--USSR

Card 1/1

ZUSMAN, L.L.

133-7-21/28

AUTHOR: Zusman, L.L. Candidate of Economic Sciences.

TITLE: Economy of Raw Materials in the Iron and Steel Industry  
(Ekonomiya syr'ya i chernoy metallurgii)

PERIODICAL: Stal', 1957, No.7, pp. 644 - 650 (USSR)

ABSTRACT: On the basis of data obtained from iron balances prepared by enterprises of the Ministry of Iron and Steel for 1939, 51, and 55 on sintering, blast furnace, steel-making and rolling outputs as well as on reports on the operation of beneficiation plants, the progress in the degree of utilisation of iron in the industry is discussed. The following data are collected in the form of tables: Table 1 - the composition of materials used in 1955 in the iron and steel industry; Table 2 - iron balance for 1955 according to the Ministry of the Iron and Steel Industry; Table 3 - the distribution of iron according to the individual branches of the industry; Table 4 - dynamics of the distribution of iron in the iron and steel industry in a single production cycle; Table 5 - dynamics of the utilisation of iron in the individual production cycles (without taking into consideration the use of by-products); Table 6 - mean coefficients of consumption of metal, kg/ton for rolling products; Table 7 - dynamics of the distribution of iron in the Card1/2 iron and steel industry in repeated production cycles; Table 8 -

133-7-21/28

Economy of Raw Materials in the Iron and Steel Industry.  
the content of iron in waste products per ton of finished steel  
in 1956 in kg.  
There are 8 tables.

ASSOCIATION: TsNIICHM

AVAILABLE: Library of Congress.

Card 2/2

ZUSMAN, L.L.; BRODOV, A.A.

New prices for ferrous metal scrap and discards. Stal' 24  
no.10:935-940 0 '64. (MIRA 17:12)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy  
metallurgii imeni I.P. Bardina.



ZUSMAN, Lev Lazarevich

[Turnover of metal in the national economy of the U.S.S.R.]  
Krugoborot metalla v narodnom khoziaistve SSSR. Moskva,  
Metallurgizdat, 1962. 319 p. (MIRA 15:10)  
(Metal trade)

ZUSMAN, L.L., kandidat ekonomicheskikh nauk.

~~\_\_\_\_\_~~  
Economic advantages in the production of lightweight rolled sections.  
Stal' 16 no.12:1099-1103 D '56. (MLRA 10:9)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.  
(Rolling (Metalwork)) (Steel, Structural)

ZUSMAN, L. I. kandidat ekonomicheskikh nauk.

Economy of raw materials in the iron industry. Stal' 17 no.7:644-650  
Jl '57. (MLRA 10:8)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.  
(Iron industry) (Waste products)

ZUSMAN, Lev Lazarevich; GORELIK, I.O., red.; BRUSHTEYN, A.I., red.izd-va;  
ISLENT'YEVA, P.G., tekhn.red.

[Economizing ferrous metals] Ekonomia chernykh metallov. Moskva,  
Gosnauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii,  
1958. 255 p. (MIRA 12:3)

(Iron)

(Steel)

AUTHOR: ZUSMAN, L.L., SKLOKIN, N.F. PA - 2422  
TITLE: Iron Balance in Blast Furnace Production. (Balans zheleza v  
domennom proizvodstve, Russian)  
PERIODICAL: Stal', 1957, Vol 17, Nr 3, pp 264-267 (U.S.S.R.)  
Received: 5 / 1957 Reviewed: 6 / 1957  
ABSTRACT: The costs of crude iron ore amount to 25-30% of production costs of pig iron. The iron content in the iron ore which is used in the furnace varies from 35 - 56%. Also the metal additions in which the iron content amounts to from 50% (welding slags) to 75-90% (chips, pig iron scraps) play a certain part. Also by open hearth slag (12-15%), and manganese ore (about 3%), some iron is added to the burden. It is useful to refer the consumption of all kinds of raw material and material to one ton of pig iron and to calculate it in relation to the iron contained in the latter. The relation of the average content of iron per ton of usable pig iron to the total content of iron in the raw material used for the production can be taken as a basis for the determination of the level of iron consumption. The investigations demonstrate that the influence of the blast furnace production on the composition of metal has increased. This shows an important positive trend in the development of blast furnace production in the USSR. In 1955 also 1.462.000 t steel chips were used in the production of cast iron and open hearth pig iron apart from pig iron scraps and pig iron chips. It would be better to use these for steel production.

Card 1/2

Iron Balance in Blast Furnace Production.

PA - 2422

The sintering of the crushed iron ore is of decisive importance for the saving of pig iron ore. The increase of gas pressure at the furnace top is an important factor for the increase of the production as it reduces the losses due to dust by 20-50% and at the end of 1955 it resulted in the production with increased gas pressure of more than 70% of the total pig iron output. Compared with the losses in flue dust those caused by waste form only a minor part, but according to their value they form 1/3 of the total losses. (3 Tables).

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

Card 2/2

37-14  
S/133/62/000/005/008/008  
A054/A121

18.0000  
AUTHOR:

Zusman, L.L., Candidate of Technical Sciences

TITLE:

The metal stock of the USSR  
Stal', no. 5, 1962, 461 - 466

PERIODICAL:

TEXT: An analysis covering the Soviet national economy supplies shows that the percentage of ferrous metals (cast and rolled products as well as tubes) amounted to 14 - 15%, whereas machinery, implements, means of transportation, apparatus and instruments made entirely of ferrous metals represented 25.5% of the total value of the national economy (1st of January 1960 figures). If construction and transmission equipment were included in this group, then the percentage of ferrous metal increased to 52.4%. Besides, the available geological metal reserves and metal scrap is also an important source of supply. The scrap metal consumption rate is steadily rising as the result of a general increase in metal stocks and the shorter service life of machinery caused by rapid technical progress. At present about 15% of the ferrous metal products are made of obsolete scrap metal. For 1965 this percentage is expected to increase to 20% and in 20

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S/133/62/000/005/008/008  
A054/A127

The metal stock....

years' time to 30%. This, of course, will have a considerable effect on the entire structure of ferrous metallurgy and related industries. According to Giprostal' and TsNIIChM the development of the Soviet metal stock is characterized by the following data, (numerator: million tons, denominator: %):

	1928	1932	1937	1941	1951	1955	1959	1960	1961
	31.8	46.7	79.1	120.0	188.0	323.0	348.0	375.0	404.0
	100.0	147.0	208.1	377.3	591.0	800.0	1095.0	1180.0	1270.0

The per capita metal stock was 212 kg in 1928, 700 kg in 1940, 988 kg in 1950 and 1870 kg in 1960. In 1928 the Soviet stocks of metal were lower than those of the USA by a factor of 16 - 17, by 1940 the arrears had dropped by a factor of 7, in 1950 by a factor of 5 and in 1960 by a factor of 2.7. Owing to the rapid advance in industry and agriculture, the structure of the Soviet metal stock also underwent great changes. Industrial expansion rose from 23% (1.1.1929) to 43.7% (1.1.1960), the stocks involved in railway traffic decreased from 54% (1.1.1929) to 20% (1.1.1960); the stocks involved in sea, river, road transport and communication equipment from 34% (1.1.1939) to 28.1% (1.1.1960). The per capita rate of metal consumption in agriculture (machinery and equipment) rose from 35 kg before collectivization to 300 kg (beginning of 1960). The percentage of agricultural machinery of the national metal stock was 15% in 1929, 7.5% in 1939 and increased



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A054/A127

The metal stock....

to 10.3% at the beginning of 1960. Consumer commodities made of metal increased from 17 kg per capita (1.1.1938) to 60-70 kg (1.1.1960). The structure according to the function of products shows two remarkable changes: the percentage of domestic commodities increased from 3.0% (1.1.1939) to 3.7% (1.1.1960) and that of unfinished metal in stock, under transportation, etc. increased from 2.4% (1.1.1960), i.e. 6.0%, if excluding the metal constructions and machinery on building sites and in unfinished buildings. The rise in these latter figures is partly explained by the increased rate of metal consumption in general and partly by delays in the building industry. Due to the rapid development of the Soviet industry, the age of the metal stock is fairly young: 2/5 of this quantity is not older than 5 years. A remarkable shift took place in the geographical distribution of metal sources. According to the 1939 figures, about 42% of the metal supplies was deposited in the central and north-western areas of the SU, about 20% in the Donets Basin, Caucasus and adjacent regions, about 11% in the Dnepr area, about 10% in the Ural, 17% in Siberia, the Far-East and Central Asia. At present 20 - 25% of the metal stock is concentrated in the eastern areas of the Soviet Union, (Ural excluded), whereas those of the central and north-western areas dropped to 30 - 35% (1960). Up to this year the metal supplies of the

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S/133/62/000/005/008/008  
A054/A127

The metal stock.....

Ural increased by a factor of 4 as compared with the 1939 figure, while the general rate of increase in stocks was 3 for this period. The development of the USA and the USSR metal stock can be compared by the following data: (in million tons annual increase)

Years	1950	1954	1955	1956	1957	1958	1959	1960
USSR	11.3	20.0	22.0	23.4	23.0	25.0	27.0	29.0
USA	22.0	29.0	21.0	18.0	19.0	9.0	15.0	16.0

The data on the metal consumption of both countries are given in a table. It shows that the absolute values of cast iron production are higher in the USA, whereas the irretrievable metal losses are considerably lower in the USSR (24.8% for 1960 as compared to 41.0%, 1957 and 54.2% 1958 of the total cast iron production). This means that the USA has to use a greater part of its metal stock to make up for these losses and that the increase in Soviet metal supplies is greater than in that of the USA: in the USSR from every million tons of cast iron 544,000 tons contribute to the increase of metal supplies, whereas in the USA only 260,000 tons out of 1 million tons of cast iron (in 1957). It is estimated that the USSR metal stock will amount to 600,000,000 tons in 1965, to 720,000,000 - 780,000,000 tons in 1967-1968, i.e. to 60-65% of the USA-stocks estimated for this period. It is the aim to raise the annual Soviet metal production to 250,000,000 tons

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The metal stock.....

S/133/62/000/005/008/008  
A054/A127

steel in 20 years' time, which will increase the metal stocks of this country to 1,800,000,000 tons. There are 3 tables. The English-language reference reads as follows: A survey and analysis of the supply and availability of obsolete iron and steel scrap for business and defence; Service Administration Department of Commerce, 15 January 1957, Battelle Memorial Institute, New York, 1957).

ASSOCIATION: TsNIICHM

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Card 5/5

ZUSMAN, L.L., kand. ekonom. nauk

Preservation of ferrous metals. Stal' 23 no.4:365-369 Ap '63.  
(MIRA 16:4)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.  
(Iron) (Steel)