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AUTHOR:

Astrov, M.

TITLE:

What the cosmonaut saw

PERIODICAL: Znaniye-sila, no. 7, 1961, 8-9

TEXT: The orbit of Gagarin's flight in the "Vostok" spaceship was chosen carefully so that its perigee of 175 km and its apogee of 327 km kept the ship within the "safety zone" 200-300 km above the earth. At a height of 150 km above the earth the ship would have experienced considerable air resistance. Above 300-400 km it would have entered the radiation belts. Collision with oxygen ions, protons and electrons in the belts would have set up X-ray radiation which could penetrate the ship and affect the pilot. The interplanetary ships of the future will be equipped with special protection against such radiation and in any case will pass rapidly through the belts. It was calculated that the danger of collision with, and resultant damage to the ship from meteorites tenths of a millimeter in size was only one chance

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What the cosmonaut saw

in 300 years. The danger of collision with larger particles was considerably less. Gagarin's field of vision of the earth's surface ranged from a circle 3,000 km in diameter at his ship's perigee to 4,000 km at his apogee. The earth appeared surrounded by a bluish halo, darkening gradually through violet into black. The blue halo would be due to the glow of short-wave solar rays (ranging from green to violet) scattered in the atmosphere. As his spaceship passed from the daylight side of the earth to the shadow side Gagarin observed an orange-colored band, merging smoothly through blue and dark violet into almost black tones. This can be explained by the fact that, as the sun neared the horizon in relation to Gagarin, its rays reached him through an increasingly thick layer of the earth's atmosphere. The long-wave light rays such as red, orange and yellow would penetrate this air barrier more easily than the other colors which would tend to be progressively absorbed. There are 2 figures.

Card 2/2

ASTROV, O.V.; LOSEV, A., red.; PEGOVA, S., tekhn.red.

[Determining the efficiency of new equipment in the textile industry]  
Voprosy opredeleniia effektivnosti novoi tekhniki v tekstil'noi  
promyshlennosti. Moskva, M-vo mashinostroeniia "Glavlegmash,"  
1957. 41 p. (MIRA 11:6)  
(Textile machinery)

ZUBCHANINOV, V.V.; ASTROV, O.V.; VOLKOVA, O.D.; KURENKOV, Yu.V.;  
SAMEUROVA, I.V.; SAFRONOVA, L.I.; SIROVEGINA, G.G.;  
RADUSHINSKIY, L.A., kand. tekhn.nauk, retsenzent; TILLES,  
S.A., kand. tekhn. nauk, red.; PETUKHOVA, G.N., red. izd-  
va; DEMKINA, N.F., tekhn. red.

[Economic efficiency of the automation of production proces-  
ses in the textile industry] Ekonomicheskaya effektivnost' av-  
tomatizatsii proizvodstvennykh protsessov tekstil'noi pro-  
myshlennosti. [By] Zubchaninov, V.V., i dr. Moskva, Mashgiz,  
1962. 198 p. (MIRA 15:11)  
(Textile industry---Costs) (Automation)

ASTROV, Oleg Vasil'yevich; YERINA, Vera Mikhailovna; YESIPOV, N.S.,  
otv. red.; KOVAL'CHUK, V.V., red. izd-va; POPOVA, M.G.,  
tekhn. red.

[Principle means and potentials for reducing production costs  
in the light industry enterprises of Kirghizistan] Osnovnye  
puti i rezervy snizhenia sebestoimosti produktsii na pred-  
priatiakh legkoï promyshlennosti Kirgizii. Frunze, Izd-vo  
AN Kirgiz.SSR, 1963. 93 p. (MIRA 16:7)  
(Kirghizistan--Manufactures---Costs)

ASTROV, O.V., starshiy nauchnyy sotrudnik, kand. ekonom. nauk

"Textile industry of the capitalist countries." Tekst. prom.  
23 no.6:85-87 Je '63. (MIRA 16:7)

1. Nauchno-issledovatel'skiy ekonomicheskii institut Gosplana  
SSSR. (Textile industry)

FILINA, G.; ASTROV, V.

The second coordination conference of road specialists of socialist  
countries. Avt.dor. 25 no.5:26-27 My '62. (MIRA 15:6)  
(Road construction)

ASTROV, V.A., inzh.; FILINA, G.P., inzh.

Instruments for measuring the smoothness and slipperiness of pavements. Avt.dok. 23 no.1:19-20 Jn '60.

(MIRA 13:5)

(Pavements) (Measuring instruments)



ASTROV, V.A., inzh.

Effect of the roughness of pavement on its cohesion with tires.  
Avt.dok. 25 no.9:5-8 3 '62. (MIRA 15:9)

1. Gosudarstvennyy vsesoyuznyy dorozhnyy nauchno-issledovatel'skiy  
institut Ministerstva transportnogo stroitel'stva SSSR.  
(Pavements) (Cohesion)

ASTFOV, V.A.

Changes in the adhesive properties of surface treatment under  
operating conditions. Avt. dor. 27 no.9:6-7 S '64.

(MIRA 17:11)

ACC NR: AP7006770

SOURCE CODE: UR/0102/66/000/006/0003/0006

AUTHOR: Astrov, V. V. (Leningrad); Symakov, I. P. (Leningrad); Simakov, I. P. (Leningrad)

ORG: ncne

TITLE: Structural synthesis of combined automatic control systems for nonlinear control objects

SOURCE: Avtomatyka, no. 6, 1966, 3-6

TOPIC TAGS: nonlinear automatic control, nonlinear automatic control system, nuclear engineering, nuclear power plant

ABSTRACT: The control law of combined automatic control systems for nonlinear plants is defined by the differential equation of the controlling device. This equation was constructed with the following considerations: a) The invariance of the controlled coordinate with respect to the controlled disturbance  $\lambda(t)$ ; b) The invariance of the controlled coordinate with respect to the program routine  $\psi(t)$ ; c) Required quality of the transfer process. The proper motion of the system relative to the control error satisfies the obtained differential equation. The synthesis of a control system governing the output of a nuclear power plant is included as a specimen calculation. Orig. art. has: 2 figures, 4 formulas.

SUB CODE: 13,18,12/      SUBM DATE: 08Jul66/      ORIG REF: 003/      OTH REF: 001  
Card 1/1

Astroc, E. T.

Effect of Heat Treatment of Titanium-stabilized 18-8 Steel  
 Upon its Resistance to Intergranular Corrosion. E. T. Astroc and V. N. Biryukova. (In Russian). *Metallurgiya*, 1958, 33, (9), 61-65. [In Russian].

On the basis of results obtained, the optimum heating temperature for quenching titanium-stabilized 0.1% C, 18% Cr, 5% Ni stainless steel containing the lowest permissible percentage of titanium is recommended as being 1000-1050° C. If titanium content of steel is 2-3 times higher than its carbon content, this temperature should be within the range 1050-1100° C, but not above 1150° C.

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ASTAOT, E. I.

Methods of Testing Stainless Steel for Resistance to Inter-  
 crystalline Corrosion K. I. ZIL'BERG (Zemskaya Laboratory,  
 1937, No. 15, VESTNIK) (In Russian); Discrepancies between  
 intercrystalline corrosion test results for stainless steels used  
 in the service behavior of the same steels in corrosive surround-  
 ings are briefly considered, testing methods are critically  
 discussed and experiments described. The experiments were  
 conducted on a series of steels with the following composition ranges:  
 0.11-0.18% C, 0.02-0.03% Mn, 0.27-0.31% Si, 0.02-  
 0.03% P, 0.016-0.016% S, 17.23-18.70% Cr, 0.34-10.34%  
 Ni, 0 or 0.2-0.4% Ti, 0 or 2.2-5.1 Ti/C in pct. Water-  
 quenched plate specimens were held for various times in  
 boiling solutions of copper sulphate in sulphuric acid with and  
 without hydrofluoric acid. The results obtained are tabulated  
 and compared. Recommendations for further research are  
 given. — 3 X.

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~~ASTROV, E. I.~~ ASTROV, Ye. I.

27 18 18

Nickel Economy in Steels. Stal. E. I. Astrov  
 (1957, 1959, 1961). [In Russian]. In this brief note the  
 iron-nickel nitride is shown to have little effect on  
 ferrite formation in type 15Kh18N9Ti stainless steels. Recent  
 views on nickel economy are critically described and difficul-  
 ties of composition control are considered. —S. K.

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*Astrov, E.I.*

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ZAVODSKAYA LABORATORIYA  
(Works Laboratory)

Vol. 22, No. 5, 1955

ASTROV, E. I.

*D.*

Methods for the Comparative Estimation of the Quantity of Ferrite Phase in Cast and Rolled Stainless Steel. The views of N. I. Ipatov (Zavodskaya Laboratoriya, vol. 21, 1955) are critically considered and data on the effects of thermal and mechanical treatment on the ferrite phase content of stainless steel in the cast or rolled states.

*LFH*

*1. Beskhrushnyy metallogicheskiy zavod.  
(Zavodskaya) Steel, Stainless*

Astrov, E I

Corrosion stability of (tinless) steel 1X BNOT, R L  
 1957, Pt. 1, 30-1. — to investigate variati n of corrosion  
 resistance of an austenitic-ferritic stainless steel (Cr 17.8-  
 18.7, Ni 9.0-11.0; Ti 0.51-0.65, C 0.12-0.14, Mn 0.54-  
 0.70, S 0.006-0.02%), specimens were prepared from outer  
 and inner zones of ingots from different heats. Specimens  
 from the same ingot contained 2-8 times more ferrite in the  
 inner part than in the outer zone. The specimens covered  
 a range of 2-45% ferrite before annealing, and 0.5-21%  
 after annealing at 1100° and water quench. In the CuSO<sub>4</sub>  
 test after sensitization, ferrite content was not a factor in  
 susceptibility to intergranular attack; rather, the Ti:C  
 ratio was important. In boiling 65% HNO<sub>3</sub>, in boiling 10%  
 H<sub>2</sub>SO<sub>4</sub>, and in 3.6% HCl, corrosion rates increased with in-  
 crease in ferrite content; but by a factor of 2 at most, within  
 the limits of the investigated compps. In oxidation at  
 700°, ferrite content increased the oxidation rate slightly,  
 but minor variations in chem. compp. from heat to heat were  
 much more influential. Andrei Dravniaks

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SOV/137-58-9-18668

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 73 (USSR)

AUTHORS: Astrov, Ye. I., Chichkanov, A.I., Kalmykov, Yu.D.

TITLE: Manufacture of Laminated Steel for Industrial Cutting Blades  
(Proizvodstvo dvukhsloynoy stali dlya promyshlennykh nozhey)

PERIODICAL: V sb.: Staleplavil'n. proiz-vo. Moscow, Metallurgizdat,  
1958, pp 225-235

ABSTRACT: Hitherto, laminated steel for the manufacture of industrial cutting blades was made at the Gor'kiy Metallurgical Plant by pile-up welding of Nr-10 steel billets with alloy steel inserts. A new process has been developed consisting of pouring mild steel around a plate of alloy steel mounted in a mold by means of special fastenings. In order for the layers to weld well, the surface of the plate must be clean; toward this end it is covered with a carbonaceous lacquer. The quality of the welding of the layers also depends upon the conditions obtaining during the pouring of the liquid metal around the plate and, in particular, upon the speed with which the mold is filled. As [C] and the degree of alloying of the steel rises, its weldability diminishes. When VI and 6 KhS plates have molten metal poured around

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SOV/137-58-9-18668

Manufacture of Laminated Steel for Industrial Cutting Blades

them, no cracks are observed. However, as the result of the high temperature of heating and the subsequent slow cooling in the body of the ingot, the grains become larger; localization of carbides along grain boundaries is also observed in V1 steel. It is established that the degree of dissolution of carbides and the liquidation of the carbide pattern is determined by the conditions of rolling, cooling, and heat treatment of the strip. When the actual temperature at the end of rolling is 1000 to 1030°C, the most effective method of combatting carbide pattern is to heat knife blanks to 910-930°, hold them at that temperature for 1 hour and then cool in water to 600-650°. The knives are then subjected to standard heat treatment. If the steel used for the cutting portion of the knife is low in [C] (to 0.75-0.85%) the difficulties encountered in the elimination of carbide pattern disappear. Knives of laminated steel made by pouring molten metal around a plate have shown high qualities in actual use.

L.K.

- 1. Steel--Processing
- 2. Laminates--Application
- 3. Cutting tools
- Production
- 4. Welding--Applications

Card 2/2

*157 new/2*  
AUTHOR: Astrov, Ye.I., Candidate of Technical Sciences.

130-1-11/17

TITLE: Possibilities of Over-charging Electric-arc Steel-melting Furnaces (O vozmozhnostyakh peregruzki staleplavil'nykh elektrodugovykh pechey)

PERIODICAL: Metallurg, 1958, No.1, pp. 21-22 (USSR).

ABSTRACT: Pointing out that it is easier to increase the productivity of small, out-of-date electric-arc furnaces by increasing the charge weight than by replacement of transformers, the author goes on to discuss the extent of overcharging possible. He concludes that the optimal extent must be found empirically for each case. He cites data from the Gor'kovskiy Metallurgical Works to show that a great increase in productivity, coupled with a decrease in power consumption can be obtained (table, p.22). The overcharging of the two 7.5-ton furnaces (2 500-KVA transformers for each) installed in 1935 had been raised to 60% by 1950. The tabulated data show further improvements obtained in the years to 1955, and data for 1956 show that the furnaces were working with charge weights of 14.3-14.5 tons, the average duration of a complete heat for the first half-year being reduced to 5 hours 36 min. through the use of oxygen: the transformer overloading during melting never exceeded 10-15%. He lists the measures taken to achieve these results, including: increase in furnace-shell diameter,

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130-1-11/17

Possibilities of Over-charging Electric-arc Steel-melting Furnaces

installation of electrical-machine regulators for electrical factors, adoption of basket instead of hand charging, modification of melting methods, improvements in refractories and ancillary equipment, use of gaseous oxygen when melting stainless steel. There is 1 table.

ASSOCIATION: Gor'kiy Metallurgical Works (Gor'kovskiy metallurgicheskiy zavod)

AVAILABLE: Library of Congress

Card 2/2

*ASTROV, Ye. I.*

IVANOV, A.G.; KRUCHININA, Ye. V.; FONKIN, F.F.; CHURILIN, A.A.; TRUSOVA,  
L.P.; ASTROV, Ye. I.; BIRYUKOVA, V.N.

Increasing the performance and operational indices of *UAWs*. Der.  
prom. 7 no. 5:8-12 My '58. (MIRA 11:7)

(Saws)

SOV/129-58-9-8/16

AUTHOR: Astrov, Ye. I., Candidate of Technical Science

TITLE: Influence of the Regimes of Heat Treatment on the Anisotropy of the Properties of Tool Steel Sheet (Vliyaniye rezhimov termicheskoy obrabotki na anizotropiyu svoystv listovoy instrumental'noy stali)

PERIODICAL: Metallovedeniye i Obrabotka Metallov, 1958, No 9, pp 35-38 + 1 plate (USSR)

ABSTRACT: Investigations by G. I. Aksenov (Ref 3) of the anisotropy of low carbon steel has shown that it can be completely eliminated by normalisation or by annealing. From this point of view the author considered it of interest to study the influence of heat treatment regimes on the anisotropy of the properties of tool steel sheet. In the experiments cold rolled strip and sheet from the steels U8GA and 85KhF were used, the compositions and the hardness values of which are entered in Table 1; the strip and sheet from the steel 85KhF were in the annealed state; the strip and sheet of the steel U8GA were of a hardness corresponding to that of the work hardened metal. The anisotropy was determined by bending of the specimens according to the specification

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SOV/129-52-9-8/16

Influence of the Regimes of Heat Treatment on the Anisotropy of the Properties of Tool Steel Sheet

OST 1688, by means of the magnetic method, by means of an Erichsen instrument and also by tensile strength and impact strength tests. The bending test specimens 10 x 100 mm were cut in the direction of rolling, transverse to the direction of rolling and an angle of 45° to these directions. The bending was effected around a component of 6 mm dia. As the degree of anisotropy the ratio of the number of berds to failure of the longitudinal specimens to that of the transverse specimens was chosen. The magnetic anisotropy was determined on disc-shaped specimens of 30 mm dia. on an instrument described by G. I. Aksenov (Ref 3) using a method based on measuring the normal magnetisation component. As the degree of anisotropy the largest deviations in the instrument readings were considered during rotation of the specimen inside a magnetic field by 360°. The changes in the anisotropy of the metal in the original state, after annealing and after normalisation are entered in Table 2, the changes in the magnetic anisotropy after heat treatment are entered in

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SOV/129-58-9-8/16

Influence of the Regimes of Heat Treatment on the Anisotropy of the Properties of Tool Steel Sheet

Table 3. The magnetic anisotropy of the sheet steel U8GA after various heat treatments is graphed in Fig.1. The following conclusions are arrived at:

1. As a result of annealing at a temperature exceeding the critical temperature or normalisation, the anisotropy of tool steel sheet caused by its fibrous structure decreases to about a third and the crystallographic anisotropy decreases to about half but is not completely eliminated.
2. After ordinary hardening in oil and tempering and also after stepwise and isothermal hardening, the average magnitude of anisotropy is practically the same as in annealed or normalised steel. In the case of hardening in oil and tempering, the anisotropy is somewhat more pronounced in specimens tempered for a higher hardness.

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3. The investigated metal is characterised by a considerable non-uniformity of the anisotropy in the original state as well as after various regimes of heat treatment. Heat treatment may bring about a decrease



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Influence of the Regimes of Heat Treatment on the Anisotropy of the Properties of Tool Steel Sheet

in the anisotropy of individual specimens, however, it may not produce any change at all or it may even bring about an increase in the anisotropy.

4. The anisotropy non-uniformity depends on the quantity and distribution of the non-metallic inclusions. The more orientated inclusions the steel contains, the higher is the degree of anisotropy. Therefore, for obtaining an isotropic material it is necessary to use pure metal.

There are 1 figure, 3 tables and 5 references, all of which are Soviet.

ASSOCIATION: Gor'kovskiy metallurgicheskiy zavod  
(Gorkiy Metallurgical Plant)

1. Tool steel--Heat treatment
2. Tool steel--Properties
3. Tool steel--Crystal structure
4. Tool steel--Structural analysis
5. Tool steel--Test results

Card 4/4

ASTROV, Ye.I., dots., kand.tekhn.nauk; TIKHONOV, N.N., inzh.

Deformability of rimmed steel with varying macrostructure. Izv.  
vys.ucheb.zav.; chern.met. no.10:97-104 O '58 (MIRA 11:12)

1. Gor'kovskiy politekhnicheskij institut i Gor'kovskiy metallurgi-  
cheskiy zavod.  
(Deformations (Mechanics)) (Steel--Metallography)

32-24-6-34/44

AUTHORS: Astrov, Ye. I., Chichkanov, A. I.

TITLE: A Method for the Investigation of the Weldability of Metals in Common Plastic Deformation (Metod issledovaniya svaryemosti metallov pri sovместnom plasticheskom deformirovani)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 6, pp. 768 - 770 (USSR)

ABSTRACT: The methods used at present are inaccurate and incomplete as no reproducible measuring values can be obtained. This is explained by the different shape and dimensions of the dies used in the examination as well as by the nature of impression. The weldability of the layers of bimetal obtained according to different methods can be determined by the method of I. A. Nensyezdnikov (Ref 2), but a larger amount of samples is required. A simple method of investigating the weldability of multilayer metals by rolling bimetallic wedges is proposed. The preparation of the wedges is explained by diagrams, and data are given with respect to some steel samples heated in a Mars furnace at various temperatures,

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32-24-6-34/44

A Method for the Investigation of the Weldability of Metals in Common Plastic Deformation

which were then investigated. Results show that there exists a function between weldability, temperature and the extent of deformation; more detailed data on the various steel samples investigated are mentioned. The data obtained testify to the many years of experience gathered by the Gor'kiy Metal Works which produce two-layer steel for industrial knives as well as other multilayer materials. By employing the method described it is now easier than before to determine the optimum conditions for heating and rolling by just rolling the bimetallic wedge-shaped samples at laboratory conditions. There are 3 figures and 4 references, 4 of which are Soviet.

ASSOCIATION: Gor'kovskiy metallurgicheskiy zavod  
(Gor'kiy Metallurgical Works)

1. Metals--Welding
2. Metals--Test methods
3. Metals--Deformation
4. Metals--Test results

Card 2/2

APAYEV, B.A., kand.fiz.-matem.nauk, red.; ASTROV, Ye.I., kand.tekhn.  
nauk, red.; KNYAZEV, V.V., red.; BRULIKOVSKAYA, R.G.,  
tekhn.red.

[Metallography and the heat treatment of metals; collection of  
articles] Metallovedenie i termicheskaya obrabotka; sbornik  
statei. Gor'kii, Gor'kovskoe knizhnoe izd-vo, 1959. 184 p.  
(MIRA 13:2)

1. Gor'kovskiy issledovatel'skiy fiziko-tekhnicheskii institut  
(for Apayev). 2. Gor'kovskiy metallurgicheskii zavod (for  
Astrov).

(Metallography) (Metals--Heat treatment)

S/137/61/000/010/035/055  
A006/A101

AUTHORS: Astrov, Ye.I., Gazez'yan, L.N., Ayzikovich, Ya.Z.

TITLE: Multilayer combinations of heat-resistant steels and alloys

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 10, 1961, 15, abstract  
101113 (V sb. "Metallovedeniye i term. obrabotka", Gcr'kiy, 1959,  
47 - 58)

TEXT: The authors studied the properties of strip and sheet multilayer steels, produced from 3 or 7 layers of stainless and heat-resistant steels of the following grades: X17H2 (Kh17N2), 1 X18H9T (1Kh18N9T), X23H18 (Kh23N18), EI437B (EI437B) and Cr.10 (St.10) steel in various combinations. The sheets of multilayer steels were 1.0 - 1.5 mm thick. It was established that  $\sigma_w$  of multilayer steels was much higher than  $\sigma_w$  of homogeneous metals. Grade ГМЗ -300 (OMZ-300) multilayer steel consisting of 2 layers of Kh23N18 steel with an intermediate EI437B steel layer shows high mechanical properties during brief and long lasting tests at 20, 800 and 900°C. After quenching from 1,200°C

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Multilayer combinations ...

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A006/A101

in air (without aging) multilayer GMZ-300 steel has  $\sigma_{100}^{800}$  8 kg/mm<sup>2</sup>,  $\sigma_{100}^{900}$   
2.6 kg/mm<sup>2</sup> at 9 and 19% respectively. Multilayer steels shows also increased  
heat resistance. There are 16 references. ✓

T. Fedorova

[Abstracter's note: Complete translation]

Card 2/2





18(7)

AUTHORS:

SOV/32-25-4-60/71

Astrov, Ye. I., Head of the Central Laboratory of the Plant  
Mentioned Below, Biryukova, V. N., Head of the Metallographic  
Laboratory of the Same Plant

TITLE:

On GOST for Methods of Determining the Grain Size in Steel  
(O GOSTe na metody opredeleniya velichiny zerna v stali)

PERIODICAL:

Zavodskaya Laboratoriya, 1959, Vol 25, Nr 4, pp 501-502 (USSR)

ABSTRACT:

According to GOST 5639-51 the size of austenite and actual steel grains is determined by the cementation and oxidation methods, and both methods are considered to be equally effective. Practice shows, however, that in some cases the two methods may yield completely different sizes of cementation grain. This fact was, in the case under review, studied on steel samples of the grade 20KhNM, and it was found that the grain obtained by the cementation method (Fig a) was considerably larger than that obtained by the oxidation method (Fig b). Since this difference cannot always be observed it is assumed that grains of equal size are obtained only in the case of steels which exhibit only a slight tendency for the austenite grain to grow when the steel is heated to temperatures above the critical interval. For this reason it is

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On GOST for Methods of Determining the Grain Size in Steel SOV/32-25-4-60/71

recommended to lengthen the oxidation time from 3 to 6-8 hours to make sure that the results obtained by both methods are identical. In the GOST the number of sample surfaces to be studied is not given, a matter which should be decided. Final rules governing the determination of the grain sizes of hypereutectoid and ledeburite steels will also be required, as well as standardization of the heating temperature for steels suitable for constructions, which according to Geller (Ref 3) ought to be 800-810° for hypereutectoid steels U10, U13, P and V, 820-830° for steels Kh05, ShKh6, and KhV5, 850-860° for steels Kh, Kh09, 9Kh, 85KhF, and KhG. Moreover, it would be necessary to include in the GOST standards a series of other steel types. There are 2 figures and 3 Soviet references.

ASSOCIATION: Gorkovskiy metallurgicheskiy zavod (Gorkiy Metallurgical Plant)

Card 2/2

ASTROV, Ye. I., kand.tekhn.nauk

Microstructure and strength of weld joints in pressure  
welding of multilayer steels. Svar. proizvod. no.2:21-24  
F '60. (MIRA 13:6)

1. Gor'kovskiy metallurgicheskiy zavod.  
(Steel--Welding) (Metal cladding)

S/137/63/000/003/001/016  
A006/A101

AUTHORS:

Astrov, Ye. I., Likandrov, A. M., Galyan, V. S.

TITLE:

Developing optimum techniques of melting and teeming heat resistant  
X 23H18 (ЭИ 417) (Kh23N18) (EI417) steel

PERIODICAL:

Referativnyy zhurnal, Metallurgiya, no. 3, 1963, 47, abstract 3V324  
(In collection: "Novoye v tekhnol. metallurg. proizvodva", Gor'kiy,  
1960, 23 - 30)

TEXT:

Information is given on results of developing optimum techniques in  
melting and teeming Kh23N18 steel at the Gor'kiy Metallurgical Plant. A number  
of 30 experimental heats were produced. Best results were obtained with heats  
with slag processing by a reducing mixture of Si-Ca, 75% Fe-Si and Al with ad-  
dition of Fe-Ti to the metal prior to teeming in a quantity as high as 10 kg/ton  
of steel. Heats produced by this variant yielded a higher amount of high-  
quality product.

[Abstracter's note: Complete translation]

D. Kashayeva

Card 1/1

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33517  
S/123/62/000/002/012/012  
A004/A101

AUTHORS: Astrov, Ye. I., Doroshev, Yu. F.

TITLE: Producing bimetallic strip by the continuous casting method

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 2, 1962, 25, abstract  
20149 ("Tr. Proyechn. tekhnol. i n.-i. in-ta. Gor'kovsk. sovnarkhoz",  
1960, no. 2 (4), 76-80)

TEXT: The authors describe an assembly (see Fig.) for producing bimetallic strip. The metals are poured simultaneously. The primer consists of two parts which are rigidly joined. The metals are fused in the process of interaction of the solid and the liquid metal. A stable fusion is obtained by an adequate selection of the temperature pouring rate and cooling conditions of the metals being cast. In this way it is possible to obtain multi-layer strips. The casting process can be automated. There are 4 figures and 3 referenous.

L. Yanovskaya

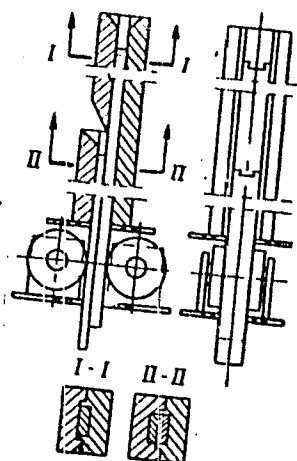
[Abstracter's note: Complete translation]

Card 1/2

Producing bimetallic strip ...

33547  
S/123/62/000/002/012/012  
A004/A101

Fig.:



Card 2/2

S/137/61/000/011/082/123  
A060/A101

AUTHOR: Astrov, Ye.I.

TITLE: On the seizing of metals under joint plastic deformation

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 11, 1961, 50, abstract 11Zh299 ("Tr. Proyechn. tekhnol. i n.-i. in-ta. Gor'kovsk. sovnarkhoz", 1960, No2(4), 81-91)

TEXT: The main drawbacks of the existing theoretical concepts relating to the phenomenon of seizing in like and unlike metals, which lies at the basis of the process of solid welding of metals at low and high temperatures, is their incompatibility and the impossibility of establishing an interrelation between the seizing tendency and the physico-chemical characteristics of the metal. An attempt is made to describe the mechanism of solid welding processes from the viewpoint of the dislocation theory. The suggested mechanism of the seizing phenomenon and also the experimental data on cold welding of some metals made it possible to match satisfactorily in the first approximation the seizing

Card 1/2

On the seizing of metals.....

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A060/A101

tendency of the metals with their physico-chemical characteristics. It is pointed out that the metal seizing is determined by indices of plasticity and resistance to deformation, i.e., technological deformability which may be determined beforehand by various methods. In that case it is necessary to take measures required to eliminate oxide films and other impurities from the contact surfaces. There are 15 references.

L. Gordiyenko ✓

[Abstracter's note: Complete translation]

Card 2/2



S/123/62/000/009/017/017  
A052/A101

AUTHORS: Astrov, Ye. I., Doroshev, Yu. P.

TITLE: New methods of bimetal production

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 9, 1962, 24, abstract  
9G162 ("Tr. Proyechn. tekhnol. i n.-i. in-ta. Gor'kcvsk. sovnarkhoz",  
no. 3(5), 1960, 44-47)

TEXT: The methods of bimetal production by means of continuous teening developed by the authors are reported. A scheme of the installation for producing clad hollow ingots and tubes is presented. It consists of two water-cooled cylindrical crystallizers of different diameters coupled in the height. An internal hollow tapered water-cooled rod of conical shape is inserted into the upper crystallizer to produce the internal layer of the tube blank; below there is a cylindrical primer stepped along the height, the upper end of which contacts the internal rod and the walls of the upper crystallizer, and the diameter of the lower step corresponds to the cross-section of the lower crystallizer. Molten metals are poured simultaneously into the upper and lower crystallizer respectively. After a while the primer is set in an uniform downward

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New methods of bimetal production

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A052/A101

motion, by means of a pulling device, at a certain speed depending on the nature of the metals, their heating temperature and the dimensions of the hollow ingot or tube, clad ingots produced by the described methods can be rolled into tubes and section iron. The process can be mechanized and automated. There are 4 figures.

L. Yanovskaya

[Abstracter's note: Complete translation]

Card 2/2

18.7260

S/135/60/000/008/001/010  
A006/A002

AUTHOR: Astrov, Ye.I., Candidate of Technical Sciences

TITLE: The Strength of Weld Joints in Carbon and Alloy Steels Subjected to Joint Hot Rolling

PERIODICAL: Svarochnoye proizvodstvo, 1960, No. 8, pp. 4-6

TEXT: Weldability of dissimilar steel grades in the production of bimetal, plated and multi-layer metals, manufactured by rolling laminated fagots and ingots, was as yet not sufficiently studied. In this connection investigations were made into the strength of weld joints between low-carbon 2k<sub>n</sub> (2kp) and St.10 grade steel, and those steels which are most frequently used in heterogeneous systems, depending on the heating temperature and the degree of reduction. The following steel grades were tested: 2k<sub>n</sub> (2kp) and St.10 (St.10) steels joined with the following steel grades: "45", "У8" (U8), "У12" (U12), "85Х" (85Khf), "X15" (ShKh15), "Г1" (V1), "6Х" (6Khs), "9Х" (9Khs), "9Х5" (9Kh5VF), "9" (R9), "X18" (R18), "X12" (Kh12F), "X13" (1Kh13), "2X13" (2Kh13), "X17-2" (Kh17N2), "X18H9T" (1Kh18H9T) and "X23/18" (Kh23N18). The experiments were carried out under laboratory conditions. Wedge-shaped bimetal blanks were heated in an electric

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S/135/EO/000/008/001/010  
A006/A002

The Strength of Weld Joints in Carbon and Alloy Steels Subjected to Joint Hot Rolling

muffle furnace for 30 min to 900, 1,000, 1,100, 1,200 and 1,250°C. The blanks were rolled to 3-6 mm strips in one pass on a stand with two 230 mm rollers. Notched specimens cut from the rolled strips were subjected to shearing tests. The data obtained were used to plot dependence diagrams of the strength of welds versus the heating temperature and the magnitude of reduction. The diagrams show that the required strength of weld joints of 30-40 kg/mm<sup>2</sup>, may be obtained at corresponding heating temperatures and reduction magnitudes. A higher temperature and a greater reduction reduce the difference in the strength of welds of different steel grades which disappears practically in steels of related chemical composition. In all steels the strength of welds increases at 1,100-1,250°C with a higher degree of reduction. The strength of welds is also affected by the chemical composition of the steels. It is reduced by a higher carbon content. In welding St.2kp + 45 and St.2kp + U12 steels the maximum strength is obtained at 1,200-1,250°C and at a reduction of 50-55%. The negative effect of carbon appears in the different degree of reduction required for each of these steels. A noticeable decrease in the strength of welds at low rates of reduction was observed in joints of St.2kp steel with 6KhS and 9KhS steels, attaining for 9KhS steel only

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AC06/A002

The Strength of Weld Joints in Carbon and Alloy Steels Subjected to Joint Hot Rolling

15 kg/mm<sup>2</sup> at 1,200-1,250°C and 25% reduction. Welding at 900-1,100°C was only possible at a 30-35% reduction. A higher degree of alloying of the steels (9Kh5VF) reduced sharply their suitability to welding with low carbon steel, particularly at a low heating temperature and low degree of reduction. Still less satisfactory results were obtained with high-speed and high-alloy instrument steels (R9, R18, Kh12F). From the group of stainless and heat resistant steels, Kh17N2 and Kh23N18 steels were found most unsuitable for welding. The effect of the diffusional characteristics of the steels investigated was determined by experiments based on a method described previously by Kuchinskiy, Pines, Geguzin, and others. The results are shown in a set of photographs and are in agreement with observations made with R18 and Kh23N18 steel. It is pointed out that in joint hot rolling of steels the development of physical and chemical processes in the contact zone is affected by the thickness and properties of oxide films. The experiments proved moreover that the strength of welds produced, depended not only on the method of preparing the surface to be welded but also on the time between the completed assembly of the specimens and the beginning of heating and rolling. On account of this, the strength of weld joints may vary between

Card 3/4

S/O: 026/012/030/036  
R020/012

AUTHOR: Astrov, Ye. I., Head

TITLE: At the Tsentral'naya laboratoriya (Central Laboratory) of the Gor'kovskiy metallurgicheskiy zavod (Gor'kiy Metallurgical Plant)

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 12, pp. 1432-1434

TEXT: Following the historical resolution of the XXI Party Congress and the July Plenary Meeting of the CC CPSU, the collective of the plant mentioned in the title is successfully carrying out the State Plan in all technical and economic factors, and, already for more than two years, has been holding the Challenge Banner of the Council of Ministers of the RSFSR and the VTsSPS (All-Union Central Council of Labor Unions). The workers of the Central Laboratory, in collaboration with two plants of the Gor'kovskiy ekonomicheskii rayon (Gor'kiy Economic Rayon), and a Leningradskiy nauchno-issledovatel'skiy institut (Leningrad Scientific Research Institute) have been carrying out a comprehensive research work in the field of determining the optimum casting technique, smelting technique, and  
Card 1/3

At the Tsentral'naya laboratoriya (Central Labora- S/032/60/026/012/030/036  
tory) of the Gor'kovskiy metallurgicheskiy zavod B020/B056  
(Gor'kiy Metallurgical Plant)

hot mechanical treatment of the refractory steel X 23H 18 (Kh23N18). In collaboration with the proyektno-tekhnicheskiy institut (Planning Technological Institute) of the Gor'kovskiy sovnarkhoz (Gor'kiy sovnarkhoz), a device for the vacuum treatment of metal in a coquille with a capacity of about 4 tons was constructed in the plant. Within the framework of the work for the saving of iron and nonferrous metals, the casting of alloyed steels (stainless and heat-resistant) steels with partial replacement of nickel metals by nickel oxide, of manganese metals by silicomanganese, of low carbon ferrochromium by silicochromium, the deoxidation of steel by ferromanganese was investigated. Together with the Gor'kovskiy avtomobil'nyy zavod (Gor'kiy Automobile Factory) work for replacing cemented alloy steel 20 XHM (20KhHM) for automobile drives by non-alloyed carbon steel with reduced hardenability was carried out. Further, the technology of the production of clad and composite steels, the weldability of carbon and alloy steels with simultaneous hot-rolling, new methods of producing bimetals by continuous casting of the metal components, the production of new kinds of steel for knives and saws, the development of an improved method of the heat treatment of broad steel bands in electric hardening devices,

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At the Tsentral'naya laboratoriya (Central Laboratory) of the Gor'kovskiy metallurgicheskoy zavod (Gor'kiy Metallurgical Plant)

S/026/012/030/036  
B020, 10076

the development and industrial realization of the isothermal hardening of knives and saws, the replacement of lead in the hardening- and tempering baths by salt etc is discussed. Finally, the training of the technical personnel and the deficiencies in the laboratory mentioned are discussed. Mention is made of the TsNIICHM (Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii (Central Scientific Research Institute of Ferrous Metallurgy)) and the TsNIIMOD (Tsentral'nyy nauchno-issledovatel'skiy institut mekhanicheskoy obrabotki drevesiny (Central Scientific Research Institute of the Mechanical Treatment of Wood)).

ASSOCIATION: Tsentral'naya laboratoriya Gor'kovskogo metallurgicheskogo zavoda (Central Laboratory of the Gor'kiy Metallurgical Plant)

Card 3/3



S/137/62/000/010/020/028  
A052/A101

AUTHORS: Abramov, V. V., Astrov, Ye. I., Tikhonov, N. N.

TITLE: Hardening stresses in multilayer steels

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 10, 1952, 130, abstract  
101891 ("Tr. Gor'kovsk. politekh. in-ta", v. 17, no. 3, 1961,  
24 - 31)

TEXT: The conditions and causes of crack formation at the water and oil hardening of multilayer steels were investigated. The investigation was carried out on 3-layer and 5-layer steel, 10 mm thick, produced by a hot rolling of pucks made up of St10 and 45 steel plates with a different arrangement of layers. It has been found that samples of a 3-layer steel with an inside layer of St45, half as thick as the whole sample, crack across the inside layer when water-hardened. As the thickness of the inside layer increases to 0.7 or decreases to 0.3 of the total thickness, the tendency to the crack formation diminishes sharply, and at the thickness of the inside layer of  $> 0.8$  or  $< 0.2$  of the total thickness no cracks are observed. In 3-layer samples with an outside layer of St10 cracks do

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Hardening stresses in multilayer steels

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A052/A101

not form, independent of the layer arrangement and the hardening medium. In 5-layer samples with an outside and central layer of St45 cracks across the central layer appear only in the case when the thickness of the central layer is 3 - 4 times that of the outside layers. An analysis of the residual stress distribution has shown that, independently of the layer arrangement, tensile stresses are induced in St10 and compressive stresses in St45. At an equal number and arrangement of layers the water hardening contributes more to the crack formation than the oil hardening. This is explained by the difference of mechanical properties of layers. Curves of the temperature and stress distribution at the hardening of multilayer samples are presented.

M. Shapiro

[Abstracter's note: Complete translation]

Card 2/2

MADYANOV, A.M., kand. tekhn. nauk, dots.; TIKHONOV, G.F., kand. tekhn. nauk, dots., otv. red.; ZAALISHVILI, Sh.D., doktor khim. nauk, prof., retsenzent; ASTROV, Ye.I., kand. tekhn. nauk, dots., retsenzent; KOZYULINA, R.M., red.

[Principles of the theory of metallurgical processes; manual for students of the department of metallurgy]  
Osnovy teorii metallurgicheskikh protsessov; uchebnoe posobie dlia studentov metallurgicheskogo fakul'teta. Gor'kii. Pt.2. 1962. 112 p. (MIRA 17:3)

1. Gorkyi. Politekhnichestkiy institut. Kafedra liteynogo proizvodstva.

ASTROV, YE. I.  
USSR

Ye. I. ASTROV (fnu), Central Research Institute of Iron and Steel [possibly the Central Scientific Research Institute of Ferrous Metallurgy] [Possibly Ye. I. ASTROV who was Head, Central Laboratory - Metallographic Laboratory, Gorkiy Metallurgical Plant, in 1960) - "Continuous casting - present and future prospects"

MIKHALEVICH, Georgiy, ECE Steel and Engineering Section - "Standard and modern steelmaking." Based mainly on information developed for the ECE study, "Comparison of steel-making processes," which will be distributed at the opening meeting.

RUDKOV, A. K., Chief Engineer, Steel Plant imeni F. E. Dzerzhinskiy - "Sintering practice on a large-scale"

VOSKOBOYNIKOV, V. G., Central Research Institute of Iron and Steel [possibly the Central Scientific Research Institute of Ferrous Metallurgy] - "Developments at the blast furnace - top pressure, sinter practice, hydro-carbon injection, oxygen"

Report to be presented at the Inter-regional Symposium on Iron and Steel in Developing Countries, United Nations Economic and Social Council (ECE/CEC), Prague Czechoslovakia, 11-16 Mar 1963.

ABRAMOV, V.V., doktor tekhn.nauk; ASTROV, Ye.I., kand.tekhn.nauk;  
TIKHONOV, N.N., inzh.; RESHININ, V.Ya., inzh.; LUPANOVA, O.K.,  
kand.tekhn.nauk

Rated method of constructing diagrams for the tension of  
bimetals. Trudy GPI 19 no. 1:23-32 '63. (MIRA 17:7)

L 26123-65 EWT(m)/EPA(s)-2/EPP(c)/EWP(v)/EIP(n)-2/EWP(t)/T/EWP(j)/EPR/EWP(b)

Pc-L/Pr-h/Ps-h/Pt-10/Pu-i IJP(c) JD/WJ/JW/JG/RH

ACCESSION NR: AR5000595 S/0137/64/000/008/1047/1047

SOURCE: Ref. zh. Metallurgiya. Sv. t., Abs. 81301

76  
59  
B

AUTHOR: Astrov, Ye. I.

TITLE: Certain cohesion theory problems during interaction of solid metals with melts and during simultaneous plastic flow of the metals

CITED SOURCE: Tr. Proyekt., tekhnol., i n.-i. in-ta. Volgo-Vyatsk. sovnaresh, vyp. 3(15), 1963, 68-79

TOPIC TAGS: melting, plastic flow, metal, cohesion, intermetallic compound, boundary layer, solid metal

TRANSLATION: Regularities in the formation of intermetallic compounds at layer separation boundaries as a function of initial concentrations (activities) of the components of the melt and its temperature have been established on the basis of a thermodynamic analysis of the interaction reactions of solid metals with binary metallic melts. Analyses were made of solid magnesium plus liquid bismuth and tin, solid copper plus liquid zinc and aluminum, and

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solid copper plus liquid zinc and tin. The method is based on selection and calculation of optimum concentrations of the elements introduced into the metallic melt to slow down formation of intermetallic compounds between the solid metals and the melts. A dislocation hypothesis has been proposed for cohesion of the metals, according to which this process consists in the formation of true contact accompanied by plastic flow of the metal. Approximate quantitative evaluations of the specific pressure required for cohesion of the metals, made by solving contact problems for the case of maximum relative approach of the surfaces being joined, give satisfactory agreement with experimental data. 14 literature titles.  
V. Terent'yev

SUB CODE: MM

ENCL: 00

Card 2/2

AKIMENKO, A.D.; ASTROV, Ye.I.; SKVORTSOV, A.A.; POLUSHKIN, N.A.; KLIPOV, A.D.

Effect of the intensity of secondary cooling on the quality of continuous casting. Stal' 24 no.12:1088-1089 D '64.

(MIRA 18:2)

1. Gor'kovskiy politekhnicheskij institut im. Zhdanova,  
TSentral'nyy nauchno-issledovatel'skiy institut chernoy  
metallurgii imeni I.P. i Gor'kovskiy metallurgicheskij zavod.



ASTROV, Yevgeniy Ivanovich; VLADIMIROV, Yu.V., red.

[Clad multilayer metals] Flakirovannye mnogosloinnye  
metally. Moskva, Metallurgiya, 1965. 239 p.  
(MIRA 18;9)

L 26390-56 EWP(k)/EWT(m)/EWA(d)/EWP(e)/EWP(t) IJP(c) JD/WB

ACC NR: AMSJ22846 Monograph

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25  
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Astrov, Yevgeniy Ivanovich

Clad<sup>b</sup> multilayer metals (Plakirovannyye mnogosloynnye metally) Moscow, Izd-vo "metallurgiya," 1965. 239 p. illus., biblio. Errata slip inserted. 2665 copies printed.

TOPIC TAGS: cladding multilayer metal, multilayer carbon steel, multilayer alloyed steel, multilayer alloyed steel, multilayer steel, doublelayer metal, steel cladding

PURPOSE AND COVERAGE: The book is intended for engineering personnel of plants and scientific research institutes dealing with the development of cladding processes and production and the utilization of multilayer metallic materials. The book presents information on the production technology, properties, and use of clad multilayer metals. The problems of metal adhesion, metal interaction with the melt and the behavior of both the metal and the melt during simultaneous deformation are discussed. The basic technological parameters of the production of multilayer steels and rare metals are presented.

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SUB CODE: 11/ SUBM DATE: 10May65/ ORIG REF: 165/ OTH REF: 022

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DRUSHCHITS, V.V., dots.; ASTROVA, G.A.; MERKLIN, R.L.; SHIMANSKIY, V.N.;  
ORLOV, Yu.A., akademik, otv. red.; KOPLYAREVSKAYA, P.S., red.;  
YERMAKOV, M.S., tekhn. red.

[Paleontology of invertebrates] Paleontologia bespozvonochnykh.  
Moskva, Izd-vo Mosk.univ., 1962. 467 p. (MIRA 15:7)  
(Invertebrates, Fossil)

ASTROVA, G. G.

Geological excursions, a guide for high-school teachers. Moskva, Gos. uchebno-pedagog. izd-vo, 1949. 84 p.

IU

ASTROVA, G. G.

Experience in teaching geology in the eighth grade of the secondary school according to the new program. Trudy MOIP.Otd.geol. 1, 1951.

SO: MLRA. June 1952.

ASTROVA, G. G.

First discoveries in Siberia of the Lower Silurian Trepostomata. Trudy MOIP.Otd.geol.,  
1, 1951.

SO: MLRA. June 1952.

ASTROVA, G.G.

Upper Silurian Bryozoa of Moldavia, Geol.sbor.[Lvov] no.1:198-  
215 '54. (MIRA 10:1)

1. Gosudarstvennyy pedagogicheskiy institut imeni V.I. Lenina.  
(Moldavia--Palyzoa, Fossil)



ASTROVA, G.G.

ASTROVA, G.G.

Bryozoan generic complexes in Silurian deposits of the Soviet Union. *Biul.MOIP. Otd.geol.* 30 no.3:57-73 My-Je'55.  
(Polyzoa, Fossil) (MIRA 8:10)

9 072 153 G. G.  
IVANOVA, Ye. A.; SOSHKINA, Ye. D.; ASTROVA, G. G.; IVANOVA, V. A.

Ecology and stratigraphic significance of the Ordovician and  
Gotlandian fauna in the lower course of the Stony Tunguska  
River. Trudy Paleont. inst. no. 56:93-196 '55. (MIRA 8:12)  
(Stony Tunguska River--Paleontology)

ASTROVA, G.G.; MOROZOVA, I.P.

On the taxonomy of Bryozoa of the order- } Cryptostomata. Dokl. AN  
SSSR 110 no.4:661-664 O '56. (MIRA 10:1)

1. Paleontologicheskii institut Akademii nauk SSSR. Predstavleno aka-  
demikom V.A. Obruchevym. [deceased].  
(Polyson, Fossil)

ASTROVA, Galina Grigor'yevna; SARYCHEVA, T.G., doktor biol.nauk, prof.,  
otv.red.; MOROZOVA, A.P., red.izd-va; ASTAF'YEVA, A.A.,  
tekhn.red.

[Silurian polyzoans of central and western Tuva]. Siluriiskie  
mshanki tsentral'noi i zapadnoi Tuvy. Moskva, Izd-vo Akad.  
nauk SSSR, 1959. 71 p. (Akademiia nauk SSSR. Paleontologicheskii  
institut. Trudy, vol.79). (MIRA 12:12)  
(Tuva Autonomous Province--Polyzoa, Fossil)

ASTROVA, G.G.

Genetic relationships and systematic position of certain polyzoan  
group of the order Trepostomata. Paleont. zhur. no.1:15-24 '59.  
(MIRA 13:1)

1. Paleontologicheskii institut Akademii nauk SSSR.  
(Polyzoa, Fossil)

ASTROVA, G.G.; ZHURAVLEVA, F.A.

Finds of polyzoans and nautiloids in the Ordovician and silurian  
of Podolia. Paleont.zhur. no.4:154-156 '59.

(MIRA 13:6)

(Podolia--Cephalopoda, Fossil)

(Podolia--Polyzoa, Fossil)

ASTROVA, G.G.

Notes on M.K.Elias and G.E.Condra's work "Fenestella from the Permian of West Texas." Paleont. zhur. no.3:141-146 '60.

(MIRA 13:10)

1. Paleontologicheskii institut Akademii nauk SSSR.

(Texas-->Polyzoi, Fossil)

(Elias, M.K.) (Condra, G.E.)

ASTROVA, G.G.

Stratigraphy of polyzoans in the Ordovician and Silurian of the  
U.S.S.R. and their correlation with North-American equivalents.  
Biol.MOIF.Otd.geol. 35 no.2:159-162 Mr-Ap '60. (MIRA 14:4)  
(Polyzoa, Fossil)



ASTROVA, G.G.

Age of Silurian sediments in Podolia. *Biul.MOIP.Otd.geol.* 37  
no.2:124-135 Apr '62. (MIRA 15:7)  
(Podolia--Paleontology, Stratigraphic)

ASTROVA, Galina Grigor'yevna; SHISHOVA, Nina Aleksandrovna;  
SARYCHEVA, T.G., otv. red.; MOROZOVA, I.P., red.izd-va;  
ZUDINA, V.I., tekhn. red.

[Directions for collecting and studying fossil Polyzoa]  
Nastavlenie po sboru i izucheniiu iskopaemykh mshanok. Mo-  
skva, Izd-vo AN SSSR, 1963. (Nastavlenie po sboru i izuche-  
niiu iskopaemykh organicheskikh ostatkov, no.7)

(MIRA 16:7)

(Polyzoa, Fossil.)

ASTROVA, G.G.; SARYCHEVA, T.G., *otv.red.*

[Polyzoa in the Borshechov and Chortkov horizons of Podolia.]  
Mshanki borshchovskogo i chortkovskogo gorizontov Podolii,  
Moskva, Izd-vo "Nauka," 1964. 51 p. illus. (Akademiia nauk SSSR.  
Paleontologicheskii institut. Trudy, no. 98) (MIRA 17:6)

ASTROVA, G.G.

A new order of Paleozoic polyzoans. Paleont. zhur. no.2:22-31  
'64. (MIRA 17:7)

1. Paleontologicheskii institut AN SSSR.

Алиева Галина Георгиевна; [unclear]  
A.P., red;

[Morpholog. **history** the development, and the system of Ordovician and Silurian Polysca.] *Morfologii, istoria razvitiia i sistema ordovizskikh i silurizskikh polysk.* Moskva, Moskva, 1965. 49 p. (Akademiia nauk S.S.S.R. Paleontologicheskii institut. Trudy, no.10) (USSR 13:5)

ASTOVA, S.S.

Marina Ivanovna Shul'ga-Nesterenko (1891-1964). Paleont. zhur.  
no. 2: 157-158 1965. (MIRA 18:6)

ASTROVA, Nina Vladimirovna; BELYAYEVA, Galina Fodorovna, kand. tekhn. nauk; DJUGACH, Lev Samoylovich, prof.; KRUTIKOVA, Mariya Sergeevna; OSHANINA, Aleksandra Ivanovna; TIMOSHENKO, N.N., kand. tekhn. nauk, red., CHRSKIS, Z.B., red.; PLAKSHE, L.Yu., tekhn. red.

[French-Russian metallurgical dictionary]Frantsuzsko-russkii metallurgicheskii slovar'. [By] N.V.Astrova i dr. Pod red. G.F.Beliaevoi i N.N.Timoshenko. Moskva, Glav. red. inostr. nauchno-tekhn. slovari Fizmatg:za, 1962. 433 p. (MIRA 15:10)  
(French language--Dictionaries--Russian)  
(Metallurgy--Dictionaries)

ASTROVA, T.I., inzh.; DMITRIYEV, S.A., kand.tekhn.nauk; MULIN, N.M.,  
kand.tekhn.nauk

Anchoring ribbed reinforcing bars in ordinary and prestressed  
concrete. Trudy NIIZHB no.23:74-126 '61. (MIRA 14:12)  
(Reinforced concrete)



ASTROVA, T.I.; OVCHINNIKOVA, I.G., inzh.

Determining the rigidity of the fastening of metal parts to  
reinforced concrete beds of machine tools. Vest.mashinostr.

42 no.6:26-28 Je '62.

(MIRA 15:6)

(Machine tools)

ASTROVA, T.I., inzh.

Anchoring ribbed reinforcing rods in medium- and high-strength  
concrete. Trudy NII ZHB no.26:178-203 '62. (MIRA 15:7)  
(Concrete reinforcement)

NESHUMOV, B.V., kand.iskusstvoved.nauk; KOSHELEV, A.Ye., arkhitektor;  
~~ASTROVA, T.Ye., arkhitektor;~~ SHIKHEYEV, V.N., arkhitektor;  
VOSHCHANOVA, G.K., arkhitektor; GORBUNOVA, V.A., arkhitektor;  
KOVAL'KOV, V.G., arkhitektor; MARKHEYEV, Yu.S., arkhitektor;  
YAVOROVSKAYA, M.E., arkhitektor; OGRYZKO, P.V., arkhitektor;  
TIKHONOVA, N.V., arkhitektor; MANANNIKOVA, L.V., arkhitektor;  
GRADOV, G.A., red.; PAVLENKO, M.V., red.

[Furniture and equipment for public buildings; catalog based on materials from the Exhibition of Furniture and Equipment for Public Buildings, 1959-1960] Mebel' i oborudovanie dlia obshchestvennykh zdani; katalog sostavlenn po materialam vystavki mebeli i oborudovaniia dlia obshchestvennykh zdani, 1959-1960 gg. Moskva, Gos.izd-vo lit-ry po stroit., arkhitekt. i stroit.materialam, 1960. 186 plates. (MIRA 14:2)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut obshchestvennykh zdaniy i sooruzheniy. 2. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR (for Gradov). (Furniture--Catalogs) (Public buildings--Equipment and supplies)

(A) L 10993-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l)  
ACC NR: AP5028529 SOURCE CODE: UR/0286/65/000/020/0124/0124

INVENTOR: Smirnov, V. D.; Ushakov, V. N.; Spivak, M. A.; Gokhbaum, F. A.; Braylovskiy, M. I.; Astrova, T. I.

ORG: none

TITLE: Hydraulic cylinder for a high-capacity press. Class 58, No. 175823 [announced by Experimental Construction bureau of the central scientific research institute of building construction (Eksperimental'no-konstruktorskoye byuro tsentral'nogo nauchno-issledovatel'skogo instituta stroitel'nykh konstruktov)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 20, 1965, 124

TOPIC TAGS: press, hydraulic press, high capacity press, press cylinder, cylinder design

ABSTRACT: This Author Certificate introduces a hydraulic cylinder for a high-capacity press. The cylinder (see Fig. 1) consists of inner metal shell 1, encased in a reinforced-concrete housing. Expansion joint 2 separates top 3 and bottom 4 of the housing to reduce the internal stresses. Orig. art. has: 1 figure. [DV]

L 10993-66

ACC NR: AP5028529

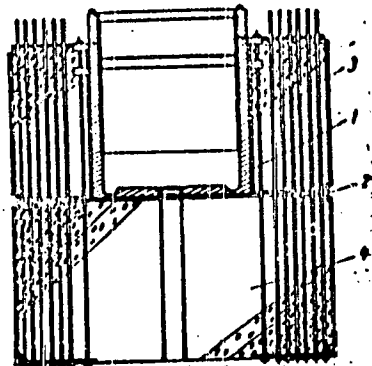


Fig. 1. Hydraulic cylinder

1 — metal shell; 2 — expansion joint;  
3 — top of the housing; 4 — bottom of the  
housing.

SUB CODE: 13/ SUBM DATE: 27May64/ ATD PRESS: 4170

60  
Cord 2/2

ASTROVA, Ye.A.

C-reactive protein in tuberculous children. Probl. tub. 42  
no.1:49-51 '64. (MIRA 17:8)

1. Kafedra tuberkuleza detskogo vozrasta 'zav. V.M. Frolova)  
Leningradskogo pediatricheskogo meditsinskogo instituta.

L 40822-56 EWT(d)

ACC NR: AP6019190

(A)

SOURCE CODE: UR/0122/66/000/002/0035/0039

AUTHOR: Astrova, T. I. (Candidate of technical sciences); Ovchinnikova, I. G. (Engineer)

ORG: None

39  
B

TITLE: Foundation bolts<sup>1</sup> made from concrete-reinforcing rod

SOURCE: Vestnik mashinostroyeniya, no. 2, 1966, 35-39

TOPIC TAGS: mechanical fastener, concrete, fatigue strength, stress analysis, parameter, *HANDTOOL, STRUCTURAL HARDWARE*

ABSTRACT: The authors propose the use of concrete-reinforcing rod for foundation bolt manufacture. This would reduce production time and save metal. Anchors at the end of the bolt are not necessary since they are retained in concrete by their very shape. Parameters of the bolt are determined. The results of experiments to determine depth of bolt setting, stress during slippage, rod diameter, rod shape, strength of concrete and other factors are discussed. Formulas are given for determining the binding parameter and maximum tangential stresses during slippage. The results show that foundation bolts made from concrete-reinforcing rod are easier to produce and have improved holding power. Formulas are given for determining the strength and rigidity of these bolts when fastened in concrete. A graph is given for determining bolt setting depth when the diameter of the bolt is 16 mm or more. Orig. art. has: 6 figures, 2 tables, 12 formulas.

SUB CODE: 13/ SUBM DATE: none/ ORIG REF: 005/ OTH REF: 000

Cord 1/1 *MLP*

USSR/Medicine - Cyclonal Anesthesia      Jun 48  
Medicine - Surgery

"The Problem of Narcosis Induced by Cyclonal (Nylpal)," Yu. V. Astrozhnikov, Gen Surg Clinic, Khabenevsk State Inst, 4 pp

"Vest Khirurgii" Vol LXVIII, No 6

Cyclonal, a barbiturate acid derivative, has little toxicity and influence on blood pressure and respiration, with a pulse count of 10 - 12 per min. A 10% aqueous solution does not produce as long a narcosis as ether, and is accompanied by tremors. A 5% solution in 5% glucose gives good results.

57/49154

USSR/Medicine - Cyclonal Anesthesia      Jun 48  
(Contd)

It must be used with caution on weak patients, and not at all in cases of liver trouble.

ASTROZHNIKOV, YU. V.

57/49154



ASTROZHNIKOV, M.V.

Role of therapeutic sleep in surgery of peptic ulcer. Klin.med.  
Moskva 29 no.3:41-43 Mar 51. (CINL 20:7)

1. First Municipal Hospital, Bel'tsy.

ASTROZHNIKOV, Yu.V.

Therapeutic sleep in prevention of postoperative pulmonary complications.  
Vest. khir. 71 no.2:16-18 1951. (CINL 20:8)

1. Of Bel'tsy First Municipal Hospital (Acting Head Physician--M.N. Buznik; Head of Surgical Division--Yu.V. Astroshnikov).

ASTROZHNIKOV, Yu. V.

Treatment of postoperative pneumonias with vago-sympathetic  
novocain block associated with therapeutic sleep. Klin. med.,  
Moskva 30 no.4:77-79 Apr. 1952, (CIME 22:2)

1. Of First Bel'tsy Municipal Hospital.

14

ASTROZHNIKOV, Yu. V.

Medicinal-preventive inhibition as a method of control of postoperative pains and sleep disorders. Vest. khir. Grekova, Leningr. 72 no.1:11-14 Jan-Feb 1952.  
(CML 22:1)

1. Of First Bel'tsy Municipal Hospital (Head Physician -- Koyfman; Head of Surgical Department -- Yu. V. Astrozhnikov).

ASTROZIMENOV, Yu. V.

"Therapeutic-Protective Inhibition in Pre- and Postoperative Periods. (Researchings of Academician I. P. Pavlov on the Protective-Therapeutic Role of Inhibition in the Surgical Clinic.)" Cand Med Sci, First Bel'tsy Okrug Hospital, Bel'tsy, 1953. (RZhBiol, No 1, Sep 54)

SO: Sun 432, 29 Mar 55

ASTROZENIKOV, Yu.V.

Surgery of encephalocystocele in a 13-day-old infant. Vop.  
neirokhir. 18 no.4:58-59 JI-Ag '54. (MLRA 7:10)

1. Iz khirurgicheskogo otdeleniya 1-y Bel'tskoy gorodskoy  
bol'nitsy.

(ENCEPHALOCELE, in infant and child,  
\*encephalocystocele, surg.)

ASTROZHNIKOV, Yu.V.

Case of Ascaris-induced anastomotic obstruction following gastric resection. Sov.med. 18 no.6:34 Je '54. (MLRA 7:6)

1. Iz khirurgicheskogo otdeleniya (zav. Yu. V. Astrozhnikov) pervoy Bel'tskoy gorodskoy bol'nitsy Moldavskoy SSR (glavnyy vrach L.Ya. Marmor)

(PEPTIC ULCER, surgery,

\*gastrectomy, postop. obstruct. of anastomosis in ascariasis)

(INTESTINAL OBSTRUCTION, etiology and pathogenesis,

\*ascariasis, obstruct. of anastomosis after gastrectomy)

(ASCARIASIS, complications,

\*obstruct. of anastomosis after gastrectomy)

ASTROZHNIKOV, Yu.V.

Multiple perforation of peptic ulcer following gastric resection.  
Vest.khir., 74 no.2:62-63 Mr '54. (MLRA 7:4)

1. Iz Bel'tskoy okruzhnoy bol'nitsy (glavnyy vrach - L.Ya.Marmor).  
(Peptic ulcer) (Stomach--Surgery)



ASTROZHNIKOV, Yu.V.

Echinococcal cyst in the retromammary region. Khirurgiia, no.11:  
79-80 N '55. (MLBA 9:6)

1. Iz 1-y gorodskoy bol'nitsy g. Bel'tsy, Moldavskaya SSSR.  
(MAMMARY GLANDS--HYDATIDS)

ASTROZHNIKOV, Yu. V., kandidat meditsinskikh nauk, Bel'tsy MSSR, ul. Lenin-  
gradskaya, 150.

Ollier's disease. Vest.khir. 75 no.5:109-112 Je '55.(MLRA 8:10)

1. Iz 1-y gorodskoy bol'nitsy g. Bel'tsy MSSR  
(DYSCHONDROPLASIA)

ASTROZHNIKOV, Yu. V.

Treatment of fresh craniocerebral trauma. Vop. neirokhir. 20 2:  
51-53 Mr-Apr '56. (MLBA 9:7)

1. Iz 1-y gorodskoy bol'nitsy g. Bel'tsy MSSR  
(BRAIN, wounds and inj.  
ther.)  
(WOUNDS AND INJURIES  
brain, ther.)

ASTROZHNIKOV, Yu.V., kand.med.nauk

Intestinal pneumatosis. Klin.med. 34 no.8:79-81 Ag. '56.  
(MIRA 12:8)

1. Iz 1-y bol'nitsy g. Bel'tsy (glavnyy vrach L. Ya.Marmor,  
zaveduiushchiy khirurgicheskim otdelenyem Yu.V. Astrozhnikov).  
(INTESTINES, dis.  
pneumatosis cystoides)