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S/148/60/000/007/009/015

A161/A029

Thermoultrasonic Treatment of Chromansil Steel

kc) frequency and different concentration of ultrasound. A swing device (on a drill press frame) was used for fast transfer of specimens screwed to the vibrator from a salt bath (with 890°C) into a saltpeter bath. Test results (Table 1) show that impact resistance increased in all treatment conditions but was not high. The stress amplitude (1-12 kg/mm²) had only negligible effect. Any law of the effect on strength and plasticity was too difficult to reveal because of the high brittleness of the specimens. The microstructure (Figure 2) proved that ultrasound did not materially affect the structure and size of grain and the microhardness of separate phases. High hardness and low impact resistance of specimens (particularly after 430°C isotherms and higher) was caused by martensite (with microhardness of 675-715) that apparently formed from residual austenite during the cooling of the specimens from isotherm temperature down to room temperature. The highest effect on impact resistance was in quenching in saltpeter at 400°C, during which the major austenite quantity was transformed by intensive ultrasound treatment. The fact that the grain size and the specimen hardness were practically the same with and without ultrasound treatment proves that the cause of increased impact resistance is a



Card 2/4

83288

S/148/60/000/007/009/015

A161/A029

Thermoultrasonic Treatment of Chromansil Steel

changed intercrystalline space structure. Ultrasound also did not intensify (within the accuracy limits of the experiment) the austenite transformation in the temperature above the martensite point. To check this, an additional experiment was carried out with austenitic steel (0.31% C; 23.15% Ni; 0.86% Mn; 0.13% Si) with the martensitic point at -80°C . After quenching in water from 900°C the specimens were treated with ultrasound for 30 min in environments with $+10$ and -22°C , but no increase of the ferromagnetic phase quantity was observed. The conclusion is drawn that ultrasound treatment at isothermic quenching produces a definite improvement of mechanical properties. The place of experiments was Leningradskaya Krasnoznamennaya voyenno-vozdushnaya inzhenernaya akademiya im. A.F. Mozhayskogo (Leningrad Red Banner Military Aviation Engineering Academy im. A.F. Mozhayskiy). The author thanks the head of the Department of General Technology Doctor of Technical Sciences, Professor Engineer-Colonel S.S. Stroyev, and laboratory manager Engineer-Major M.I. Makarov for their assistance in the organization of experiments. There are 2 figures, 2 tables and 5 Soviet references.

Card 3/4

83288

S/148/60/000/007/009/015
A161/A029

Thermoultrasonic Treatment of Chromansil Steel

ASSOCIATION: Leningradskiy institut aviatsionnogo priborostroyeniya
(Leningrad Institute of Aviation Instruments)

SUBMITTED: July 28, 1959

Card 4/4

20284

S/148/60/000/009/022/025
A161/A030

24.1900

also 1418

AUTHOR: Al'ftan, E.A.

TITLE: Raising the mechanical properties of steel by thermo-ultra-sonic treatment

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, no. 9, 1960, 160-166

TEXT: The purpose of the described investigation was to find out if it is possible to improve the mechanical properties of steel by ultrasound. The experiments were carried out at Leningradskaya voyenno-vozdushnaya inzhnernaya akademiya im. A.F.Mozhayskogo (Leningrad Military Aviation Engineering Academy im. A.F.Mozhayskiy). It is mentioned that it has been stated by K.M.Pogodina-Alekseyeva (Ref.2) that ultrasound raises steel hardness by several E_C units in low tempering; in low tempering of 12XH3A (12KhN3A) steel it slightly increased the impact strength but reduced the hardness. Steel "50" was chosen for experiments. Specimen rods (320x10.5x10.5 mm) with threaded ends were tempered with and without ultrasound in a special

Card 1/14

20284

S/148/60/000/009/022/025

A161/A030

Raising the mechanical properties of steel...

installation (Fig.1). The specimen length was adjusted to obtain resonance oscillations with the oscillator, using data obtained in a preliminary study. The minimum amplitude of ultrasonic stresses was at the bottom end of the specimen, in a distance multiple of half-wave in the specimen, and the maximum in quarter-wave distance from the end. The following formulae were used for calculation

$$\sigma_{\max} = 2\pi \sqrt{E_0 \rho_0} \cdot f \cdot A ;$$

$$\sigma_{\min} = 2\pi \rho_c \cdot c_c \cdot f \cdot A ;$$

$$\lambda = \frac{1}{f} \sqrt{\frac{E_0}{\rho_0}} ,$$

where E_0 - elasticity modulus of specimen material at tempering temperature;
 ρ_0 - density of specimen material; f - ultrasound frequency;

Card 2/14

20284

S/148/60/000/009/022/025

Raising the mechanical properties of steel... A161/A030

A - displacement amplitude; ρ_c - density of salt-peter; c_c - sound velocity in molten salt-peter; λ - length of ultrasound wave in specimen. The amplitude of the oscillator end was measured with a microscope; the amplitude stresses in specimens was between 1.2 and 12 kg/mm² at a different length from the end. Menazhe specimens (Russian transliteration) were prepared from the tempered rods and tested, the results are illustrated in diagrams (Fig.2). As it can be seen, the mechanical properties improved. The slight effect of ultrasound at 200 and 250°C may be due to microcracks limiting the impact strength in martensite; the cracks were not closed by ultrasound. With higher temperature of tempering the effect increased, and the fracture of specimens was more tough and homogeneous despite higher hardness. The grain size in specimens treated with ultrasound and without was nearly the same. The effect of ultrasound on reversible temper brittleness was investigated in 30XГСА (30KhGSA) steel, but the results are not adequate for any conclusions. In general, all ultrasound treated specimens had higher strength and finer grain; the plasticity and hardness remained about unchanged. The effect on hardening was studied on cylindrical specimens with length equal to three diameters, by 22.5 kilocycle sound frequency in an oil bath (spindle oil), with two oscillators connected into one unit, with

Card 3/4

20284

S/148/60/000/009/022/025
A161/A030

Raising the mechanical properties of steel...

40x40 mm emitting ends. The oscillators were tried in three positions:
1) On a side wall in the bath with horizontal ultrasound direction; 2) On the bottom, with ultrasound directed upward, and 3) In 10 cm from the surface, with emission upward. The specimens were quenched from 830°C in the bath near the emitting surface of the oscillator. The results were best with the 3rd position of the oscillators. It was concluded that ultrasound doubtlessly increased the hardening, and the stronger the hardening, the higher was the ultrasound power. The hardening was higher at the side nearer to the oscillator. There are 2 tables, 5 figures, and 2 Soviet-bloc references.

ASSOCIATION: Leningradskiy institut aviatsionnogo priborostroyeniya
(Leningrad Institute of Aviation Instruments)

SUBMITTED: 28 August 1959

Card 4/7f

35039

S/145/60/000/010/012/014

D211/D304

18.12.15

AUTHOR: Al'ftan, E.A. Aspirant

TITLE: Thermal-ultrasonic treatment of beryllium bronzes

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Mashino-
stroyeniye, no. 10, 1960, 151 - 154

TEXT: The dispersion hardening of alloys can be greatly accelerated by the application of ultrasonic vibrations. The author inferred that mechanical properties of beryllium bronze could also be improved by this method. Investigations were carried out on БрБ (BrB) wires of diameters 0.8, 3 and 3.5 mm which were treated at temperatures between 275°C and 325°C during 15 and 30 mins. 0.8 mm wires being placed in a furnace and 3 and 3.5 mm wires in a sodium nitrate bath. 0.8 mm specimens were about 300 mm long; the length of the 3 and 3.5 mm specimens was equal to half wavelength and one wavelength of the vibration. The amplitude of vibrations could not be accurately determined (between 3μ and 10 μ); the frequency was 24 - 26 cycles. The specimens were tested for strength and hardness;

Card 1/2

Thermal-ultrasonic treatment of ...

S/145/60/000/010/012/014
D211/D304

corresponding graphs are given. Investigation of microscopic structure of the specimens show that ultrasonic treatment intensifies the precipitation of second phase. It is concluded that the method gives higher plastic properties; hardness and strength being the same as by usual treatment. There are 4 figures and 2 Soviet-bloc references.

ASSOCIATION: Leningradskiy institut aviatsionnogo priborostroyeniya
(Leningrad Institute of Aviation Instruments)

SUBMITTED: August 27, 1959

X

Card 2/2

128100

81906

S/126/60/010/01/011/019

E111/E535

AUTHORS: Mes'kin, V.S. and Al'ftan, E.A.

TITLE: Reasons for Instability of Alloys for Exact Resistances and Ways of Reducing It

PERIODICAL: Fizika metalloy i metallovedeniye, 1960, Vol. 10, No. 1, pp. 90 - 100

TEXT: The authors point out that physico-chemical processes taking place on resistance alloys and leading to changes of resistance with time have not yet been studied. Mes'kin had previously arrived at a working hypothesis that such changes are due to gradual evolution of hydrogen from the alloy. The authors now give some existing evidence on this hypothesis and go on to describe special experiments to test it. For these, manganin (12.42% Mn, 2.52% Ni, 1.10% Co, remainder Cu) was artificially enriched with hydrogen either by blowing the gas into the liquid or by electrolytically introducing it into 0.8-mm dia wire after annealing and etching. For comparison ageing kinetics were studied on the same wire unhydrogenated and on a 0.4-mm workhardened one. Measurements had an accuracy of $\pm 0.002\%$. Fig. 1 shows that the relative change of resistance over about
Card 1/3

81906

S/126/60/010/01/011/019

E111/E335

Reasons for Instability of Alloys for Exact Resistances and Ways
of Reducing It

holding in oil, after etching, subjected to ultrasonic vibrations. The latter operation (conveniently carried out in apparatus shown in Fig. 7) was found to lead to significant improvements in resistance stability (Figs. 8, 9). Further improvement can be obtained by ultrasonic treatment and passage of a high current density through the wire: this treatment should be used in addition to the foregoing especially when high-resistance stability is needed. There are 9 figures and 7 references: 4 Soviet, 2 English and 1 French.

SUBMITTED: October 21, 1959

Card 3/3

4

18.8100 1138 1418 1416
9.2/00

26578
S/129/61/000/008/011/015
E073/E535

AUTHORS: Mes'kin, V.S., Doctor of Technical Sciences
Professor and Al'ftan, E. A., Engineer

TITLE: Some methods of stabilizing alloys for precision resistors

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, 1961, No.8, pp.43-46

TEXT: In an earlier paper (Ref.1: Fizika metallov i metallovedeniye, Vol.10, No.1, 1960) the authors expressed the hypothesis that variation in the resistance with the progress of time is caused by gradual elimination of hydrogen from the alloy. Experimental verification of the hypothesis has shown that, in addition to rejection of hydrogen, the formation of a fine oxide film on the surface and hydrogen redistribution at various temperatures play an important part. Therefore, it is essential to prevent penetration of hydrogen into the alloy during the entire process of manufacture and, primarily, during the process of smelting. In the solid state, pickling should be reduced to a minimum and the hydrogen absorbed during pickling should be

Card 1/5

Some methods of stabilizing ...

26578
S/129/61/000/008/011/015
E073/E535

eliminated by heating the alloy to an elevated temperature in oil which should preferably be stirred at the surface of the metal using ultrasonics. The object of the work described in this paper was to verify experimentally this assumption. Before starting the measurements, manganin wire of 0.8 mm diameter was etched for 30 min in an aqueous solution of 2% H_2SO_4 and 2% $K_2Cr_2O_7$. The anticipated influence of pickling was confirmed by the results, as can be seen from Fig.1, which gives the relative change in the electric resistance, %, as a function of time, hours (curve 1 -unpickled specimens, curve 2 - pickled specimens). To verify the effect of heating in oil with and without ultrasonics, the specimens were soaked in (vacuum) oil at temperatures between 20 and 110°C. The following values of the relative drop in the resistance in % were obtained.

Card 2/5

Some methods of stabilizing ...

26578

S/129/61/000/008/011/015
E073/E535

Heat treatment	0.5 mm annealed wire	0.4 mm unannealed wire
Soaking in oil and holding in air, 11 days	0.040	0.014
Same, plus 1 hour irradiation by ultrasonics	0.134	0.455
Same, plus heating in oil to 110°C for 1 hour	0.089	0.229
Soaking in oil and boiling in water for 6 hours during a period of two days	0.122	0.605
Soaking in oil and boiling in water for 30 hours during a period of two days	0.174	1.085

An experiment was also carried out to verify the increase in the stability resulting from irradiation with ultrasonics in Card 3/5

Some methods of stabilizing ...

26578

S/129/61/000/008/011/015

E073/E535

air. The results of this treatment are shown in Fig.3 (relative change in the electric resistance, %, as a function of time, hours; curve 1 - specimens treated with ultrasonics, curve 2 - reference specimens). Holding of the alloy in oil leads to a removal of the adsorbed hydrogen, facilitates hydrogen diffusion from the alloy and stabilizes the latter. Intensive mixing of the oil at the surface of the metal by means of ultrasonics intensifies the stabilizing effect. Passage of a direct or alternating current will have an additional stabilizing effect on the alloy. There are 6 figures, 1 table and 1 Soviet reference.

Card 4/5

21359

18.7000 4016, 1413, 1555

S/126/61/011/004/006/023
E111/E435

AUTHORS: Mes'kin, V.S. and Al'ftan, E.A.

TITLE: Investigation of the Influence of Ultra-Sonics on
the Results of the Heat Treatment of Alloys

PERIODICAL: Fizika metallov i metallovedeniye, 1961, Vol.11, No.4,
pp.533-544

TEXT: Ultra-sonic vibrations can affect transformations in alloys directly (e.g. Ref.5) or by improving heat-transfer rates to liquids and hence cooling rates in quenching (Ref.1 to 4). E.A.Al'ftan (Ref.13) is among those who have reported that dispersion hardening processes in heat resisting steels is affected. He has also shown (Ref.23) that ultra-sonic vibrations accelerate processes primarily at lattice imperfections and improvements in strength and plasticity characteristics can therefore be expected from such vibrations during heat treatment. In the present work this has been studied for isothermal hardening, low-, medium- and high-temperature annealing after hardening to martensite, dispersion hardening of beryllium bronze and the sulphocyaniding of steel. The apparatus (Fig.1) consisted of a

Card 1/5

X

21359

Investigation of the Influence ...

S/126/61/011/004/006/023
E111/E435

generator of 800 W output at 10 to 100 kc/s (1), a selenium rectifier (2), autotransformer (3), condenser bank (4), choke (5), magnetostriction vibrator for 25 to 26 kc/s (6), water-cooling pipes (7), control rheostat (8), furnace (9), nitrate bath (10), thermocouple (11), galvanometer (12). The test steel specimen (13) was screwed (if made of bronze it was attached with a special holder) into the vibrator and a control specimen (14) was also placed in the bath. The amplitude of vibration was determined from the length of lines produced in the field of view of a microscope by silver particles on the specimen and the vibrator surfaces. The steel specimens were mostly square or round in cross-section, the beryllium bronze (2.05% Be) was a straight wire 3 or 3.5 mm diameter. The maximum and minimum variable stresses were calculated: the stress rose to about 10 to 12 kg/mm² for steel and to 4.5 for bronze specimens. Fig.2a shows the amplitude of alternating stress (kg/mm²) plotted against distance in mm from the bottom end of steel specimens of the various types, and where mechanical test-pieces were cut out from the specimens. For studying isothermal hardening type II and

Card 2/5

Investigation of the Influence ...

21359
S/126/61/011/004/006/023
E111/E435

IV specimens of 35XPCA (35KhGSA) and type IV of 40XHNMA (40KhNMA) steels were used, normalized from 890 ± 10 and $860 \pm 10^\circ\text{C}$, respectively. Specimens were preheated and then transferred to the nitrate bath and subjected to vibration for 10 or 20 minutes at $400 - 470^\circ\text{C}$ and $345 - 385^\circ\text{C}$ (35KhGSA and 40KhNMA respectively) and air cooled. Vibration was stopped when the specimen had cooled to $100 - 200^\circ\text{C}$. The control specimens were subjected to the same treatments but without vibration. With 35KhGSA steel, no significant change in structure or grain size was produced by the vibration treatment but toughness increased somewhat. Specimens treated at 470°C contained not over 1% austenite, those treated at 400°C contained 10 to 15%. With 40KhNMA steel vibration treatment had a negligible effect on plasticity and hardness but increased strength and gave a more dispersed microstructure; indirect indications are that toughness would not fall through the treatment. For investigating low- and medium-temperature tempering, type III specimens of CV.50 (St.50) steel were used, normalized from $880 \pm 10^\circ\text{C}$ and oil quenched at the same temperature. Tempering was effected at $200 - 450^\circ\text{C}$ ($\pm 5^\circ\text{C}$); ultra-sonic vibration had no effect at the lower temperature but at Card 3/5

21359

S/126/61/011/004/006/023

E111/E435

Investigation of the Influence

higher temperatures it increased hardness and, slightly, toughness. For high-temperature tempering, type III specimens of 30KhGSA steel were normalized and then oil quenched from 890°C, tempered at 600°C and subjected to ultra-sonic treatment for 1 to 6 hours at 500°C. Although the treatment increased toughness, the type of fracture was generally slate-like and no final conclusion on reversible temper brittleness was therefore possible. Ultra-sonic vibrations produced in oil were found to increase the hardenability of St.50 steel and the authors recommend the adoption of this method of hardening in industry. Tempering beryllium bronze at 275 and 325°C with vibration after water quenching from 770°C gave a higher plasticity than without vibration. CT.20 (St.20) steel was sulphocyanided in a bath of 75% potassium ferrocyanide, 12% anhydrous hyposulphite and 13% caustic soda at 570 ± 20°C for 30 to 120 min; the best effects were obtained where the vibrations intensified stirring rather than producing maximum vibration stresses in the specimens, and this should be utilized in practical applications. Finally, the authors found that the martensite point of an austenitic steel (0.31% C, 0.13 Si, 0.86 Mn, 23.15 Ni) was not significantly

Card 4/5

21359

Investigation of the Influence

S/126/61/011/004/006/023

E111/E435

affected by ultra-sonic treatment at +10 to -22°C. after water quenching from 900°C. The authors' general conclusion is that the practical application of ultra-sonic treatment should be restricted to specially important parts where even a small improvement in properties is advantageous. There are 5 figures, 5 tables and 23 references: 9 Soviet and 14 non-Soviet.

ASSOCIATION: Leningradskiy institut aviatsionnogo priborostroyeniya
(Leningrad Institute of Aviation Instrument
Construction)

SUBMITTED: July 4, 1960 (initially)
October 20, 1960 (after revision)

Card 5/5

AL'FTAN, E.A. (Leningrad); TYUTYUNOV, I.A., doktor geol.-mineral. nauk;
SHUMSKIY, P.A., doktor geograf.nauk

Luminescence of ice. Priroda 50 no. 3:105-106 Mr '61.

(MIRA 14:2)

1. Institut merzloqvedeniya AN SSSR, Moskva.
(Ice) (Luminescence)

ACC NR: AP6035730

(A)

SOURCE CODE: UR/0413/66/000/019/0094/0094

INVENTOR: Al'ftan, E. A.; Deyanova, S. V.; Firsov, A. M.; Miklashevskiy, S. A.;
Afonina, L. G.; Mednikov, M. M.

ORG: none

TITLE: Thermocouple. Class 42, No. 186733

SOURCE: Izobreteniya, promyshlennyye obraztsey, tovarnyye znaki, no. 19, 1966, 94

TOPIC TAGS: thermocouple, microthermocouple, *temperature instrument*

ABSTRACT: This Author Certificate introduces a thermocouple (see Fig. 1) containing a wire surrounded by a metal layer, which is isolated from the wire by an insulating layer, so the metal layer contacts the wire only at the tip. To attain

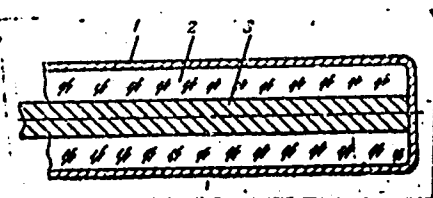


Fig. 1. Longitudinal section through thermocouple

1 - Metal layer; 2 - glass insulation; 3 - micro-wire.

15

Card 1/2

UDC: 536.532-181.4002.4

ACC NR: AP6035730

microminiaturization of the thermocouple, the outer metal layer is deposited in the shape of a cylinder on the glass-insulated microwire. Orig. art. has: 1 figure.

SUB CODE: 13, 14/ SUBM DATE: 28Jun65/ ATD PRESS: 5106

Card 2/2

ALFUTOV, N. A.

USSR .

1609. Alfutov, N. A., Calculation of single-ply corrugated boxes (in Russian) by Ritz's method (in Russian), *Inzhener. Sbornik, Akad. Nauk SSSR* 15, 181-186, 1953.

The case of axial load on the cylinder has been solved in a paper by Feodorov. Present paper considers a half wave under internal pressure. The strain energy integral contains functions ϑ and u , being the angular rotation of an element and the radial displacement, respectively. Analogy with a beam of small curvature has been worked out, ϑ and u having been found from minimum energy conditions, and the curves of deflection and moment plotted. Maximum equivalent stress and its location have been determined.

P. Bielkowiec, USA

ALFUTOV, N. A.

USSR/Physics - Shells

FD-1662

Card 1/1 Pub. 85-14/16

Author : Alfutov, N. A. (Moscow)

Title : A case of moment precritical state of a cylindrical shell

Periodical : Prikl. mat. i mekh., Vol. 19, 249-250, Mar-Apr 1955

Abstract : In calculations for the stability the precritical form of equilibrium of shells is considered often to be momentless. In engineering practice, however, one encounters shells also with moment precritical symmetric state of equilibrium, e.g. shells rolled from blanks of different curvature. For these shells it is of interest to evaluate the influence of the initial moment state upon the magnitude of the critical load. The author solves this problem by the energy method. In order not to obscure the significance of the solution by computations, he determines first the critical load for a ring, and later introduces suitable changes into the formula for the critical pressure of the cylindrical shell. Two references: V. V. Novozhilov, Osnovy nelineynoy teorii uprugost (Principles of the nonlinear theory of elasticity), State Technical Press, 1948; N. A. Alfutov, "Calculation of shells for stability by the energy method." Inzhenernyy stornik, Vol. 22, 1955.

Institution : --

Submitted : November 21, 1954

ALFUTOV, N.A. (Moskva)

Shell stability calculations using the potential energy method.
Inzh.sbor. 22:120-132 '55. (MLRA 9:5)
(Elastic plates and shells)

ALFUTOV, N. A.

Alfutoy, N. A. -- "The Stability of Cylindrical and Conic Reinforced Membranes Loaded with External Pressure." Moscow Higher Technical School. Min Higher Education USSR. Moscow Order of Lenin and Order of Labor Red Banner Higher Technical School imeni Bauman. Moscow, 1956. (Dissertation for The Degree of Candidate in Technical Science)

So: Knizhnaya Letopis', No 12, 1956

ALFUTOV, N. A.

"Stability of Cylindrical Shells Reinforced by a Transverse Supporting Assembly and Loaded With Uniform External Pressure," by N. A. Alfutov, Moscow, Inzhenernyy Sbornik, Vol 23, 1956, pp 36-46, submitted for publication 21 Nov 54

The author reviews some of the difficulties and shortcomings of the usual methods used in determining the rigidity of reinforced shells. He presents an approximate method of analyzing shells with any number of reinforcements of diverse rigidity.

The article presents six examples of rigidity problems solved by this method.

Sum 1239

p. 4 ALFUTOV, N.A.

24(0); 25(2)

PHASE II BOOK EXPLOITATION

SOV/2037

Moscow. Vyssheye tekhnicheskoye uchilishche imeni N.E. Bauman

Raschety na prochnost' v mashinostroyeni; [sbornik] Design for Strength in Mechanical Engineering; Collection of Articles) Moscow, Mashgiz, 1958. 244 p. (Series: Its: [Trudy] 89) 3,300 copies printed.

Ed.: G.A. Nikolayev, Doctor of Technical Sciences, Professor, Honored Worker in Science and Technology; Ed. of Publishing House: N.P. Chernysheva; Tech. Ed.: B.I. Model'; Managing Ed. for Literature on Heavy Machine Building (Mashgiz): S.Ya. Golovin, Engineer.

PURPOSE: This collection of articles is intended for engineering staffs in the machine-building industry and may be useful to scientific workers and senior students of mechanical engineering vtuzes.

Card 1/8

Design for Strength in Mechanical (Cont.)

SOV/2037

COVERAGE: The articles cover the graphoanalytical method of designing circular symmetrically loaded reinforced plates, methods of designing rotating heated disks for transverse bending, and calculation of preloaded belleville springs. Also discussed are differential equations for deformation of rubber-cord shells of rotation, the theory of flexure of rubber-cord hose, and stability problems of elastic cylindrical shells. Results of experimental investigations of strength and ductility of constructional steels and other materials are presented. Several articles are devoted to problems of vibrations in machinery. There are 78 references; 71 Soviet, 4 German, 2 English, and 1 French.

TABLE OF CONTENTS:

Foreword

3

Sergey Dmitriyevich Ponomarev (on his 50th birthday)

7

Ponomarev, S.D., Doctor of Technical Sciences, Professor.
Graphoanalytical Method for Designing Circular Symmetrically
Loaded Ring-ribbed Plates

12

Card 2/8

Design for Strength in Mechanical (Cont.)

SOV/2037

The method of design discussed is claimed to be less time consuming and simpler than the existing analytical methods. It allows for easier evaluation of the stiffening effect of shape and location of the ring rib.

Malinin, N.N., Doctor of Technical Sciences, Docent. Radial and Transverse Bending of Disks

43

The author gives an approximate method for determining stress relieving coefficients in transverse bending (symmetrical to the axis) of a rotating, nonuniformly heated disk of variable thickness. "Radial bending" means the effect of radial forces, (e.g., centrifugal) analogous to the effect of axial tension forces acting on laterally loaded beams. This method allows for quick evaluation of the stress relieving effect due to rotation of the disk while taking into account changes in the elastic properties of the material due to temperature.

Card 3/8

Design for Strength in Mechanical (Cont.)

SOV/2037

Sokolov, S.V., Candidate of Technical Sciences. Design of
Preloaded Belleville Springs and Experimental Investigations
of Springs

63

A method of designing plastically preloaded belleville springs
is presented. Change of the disk and residual stresses
equalizing nominal stresses in operation are discussed.
(This fact causes an increase of carrying capacity of the
springs). The theory was experimentally checked.

Alfutoy, N.A., Candidate of Technical Sciences; V.F. Sokolov,
Engineer. Determining the Lower Critical Pressure for an Elastic
Cylindrical Shell and Behavior of the Shell Following Buckling

95

Solution of the problem is claimed to be new and simple.
Examples of design are presented. A comparison is made with
results obtained by methods of other authors.

Lapin, A.A., Candidate of Technical Sciences, Docent. Investi-
gation of Flexure of Rubber-cord Cylindrical Shells

111

This article presents results of work done in 1950 with
V.L. Biderman at the Nauchno-issledovatel'skiy institut
shinnoy promyshlennosti (Scientific Research Institute
for the Tire Industry). The possible forms of elastic

Card 4/8

Design for Strength in Mechanical (Cont.)

SOV/2037

equilibrium of a rubber-cord flexible hose under internal pressure are analyzed.

Biderman, V.L., Candidate of Technical Sciences. Differential Equations for Deformation of Rubber-cord Shells of Rotation. The article investigates general cases of deformation in rubber hoses, tires, shock absorbers, etc., subjected to internal pressure. A method is presented for analyzing a cylindrical longitudinally fastened shell under arbitrary periodic loading.

119

Sapozhkov, N.M., Engineer. Investigation of Optimum Dimensional Proportions in T and I Sections

The author finds conditions for most rational configuration of T, I, and I cross sections for castings or weldments designed for bending.

147

Card 5/8

Design for Strength in Mechanical (Cont.)

SOV/2037

Likharev, K.K., Candidate of Technical Sciences, Docent.
Comparison of Characteristics of Materials Under Uniaxial
Tension and Compression

168

The article is based on experimental data obtained at the Department of "Strength of Materials" at MVTU (Moscow Higher Technical School imeni N.Ye. Bauman). The author points out the necessity of establishing a method for complete testing of materials in tension and compression in order to correct some not too well-founded views on the characteristics of materials. Many stress-strain diagrams and tables showing the mechanical properties of several materials are included.

Konyushko, Z.M., Candidate of Technical Sciences, Docent.
Construction of Stress-Strain Diagrams for Shear of Brittle
Materials Based on Results of Tension and Compression Tests

197

A method is described for obtaining stress-strain diagrams for shear from stress-strain diagrams for tension and compression of materials with different characteristics in tension and compression. Results of experiments are compared with theoretical conclusions.

Card 6/8

Design for Strength in Mechanical (Cont..)

SOV/2037

- Blinnik, S.I., Candidate of Technical Sciences, Docent.
Calculation of Free Vibrations in a Four-column Press 210
A method for determining the fundamental natural frequency of a four-column press, allowing for elasticity of the foundation, is discussed. The formulas derived can also be used for cases of very rigid foundations by putting the coefficient of soil compressibility equal to zero.
- Kolesnikov, K.S., Candidate of Technical Sciences, Docent.
Deflections of Beams in the Case of Vibration of Their Supports 226
A method is presented for determining the deflection of variable cross-section beams subjected to forced vibrations arising from the periodic motion of supports.
- Svetlitskiy, V.A., Engineer. Determination of Basic Premises for Forced Motion 234
The paper presents a method for checking whether the forced motion analyzed is in accordance with the initial assumptions used for the theoretical solution. The possibility of

Card 7/8

Design for Strength in Mechanical (Cont.)

SOV/2037

deviation of existing conditions from initial assumptions
is discussed.

AVAILABLE: Library of Congress

GO/jmr
8-25-59

Card 8/8

ALFUTOV, N. A.

A method for approximate design of elastic rectangular plates.
Nauch.dokl.vys.shkoly; mash. i prib. no.1:73-77 '59.

(MIRA 12:8)

1. Stat'ya predstavlena Moskovskim vysshim tekhnicheskim
uchilishchem im. Baumana.

(Elastic plates and shells)

AIJUTOV, N.A. (Moskva)

Determining the upper critical pressure for a bracket-type cylindrical shell with a reinforced edge. Izv. AN SSSR. Mekh. no.5:115-118 S-O '65.
(MIRA 18:10)

ALFUTOV, N.A., kand.tekhn.nauk

Effect of boundary conditions on the value of upper
critical pressure of a cylindrical shell. Rasch.na prochn.
no.11:349-363 '65.

(MIRA 19:1)

L 37737-66 EWT(d)/EWT(m)/EWP(w)/EWP(v)/EWP(k) IJP(c) WW/EM

ACC NR: AT6015983

(N)

SOURCE CODE: UR/25/2/65/000/011/0349/0363

AUTHOR: Alfutov, N. A. (Candidate of technical sciences)

ORG: none

43
B+1

TITLE: Effect of boundary conditions on the magnitude of the upper critical pressure on a cylindrical shell 28

SOURCE: Rascheti na prochnost'. Teoreticheskiye i eksperimental'nyye issledovaniya prochnosti mashinostroitel'nykh konstruksiy. Sbornik statey, no. 11, 1965, 349-363

TOPIC TAGS: cylindric shell, shell theory, stability criterion, pressure distribution

ABSTRACT: An investigation is made to determine the degree to which boundary conditions relative to the tangential displacement components u , v can influence the magnitude of the critical pressure on a cylindrical shell. Vlasov's semi-zero-moment technique is used under the three assumptions: 1) the axial and torsional moments are zero; 2) the torsional elongation and the shear angles are zero, or

$$\epsilon_y = \frac{\partial v}{\partial y} - \frac{w}{R} = 0; \quad \gamma = \frac{\partial v}{\partial x} + \frac{\partial u}{\partial y} = 0;$$

3) the Poisson coefficient is zero. This leads to the governing equation

$$\frac{Eh}{R} \frac{\partial^4 w}{\partial x^4} + \frac{D}{R^3} \left(\frac{\partial^4 w}{\partial y^4} + 2 \frac{\partial^2 w}{\partial x^2 \partial y^2} + \frac{\partial^4 w}{\partial x^4} \right) + p \left(\frac{\partial^2 w}{\partial x^2} + \frac{\partial^2 w}{\partial y^2} \right) = 0$$

Card 1/2

L 37737-66

ACC NR: AT6015983

which has the solution

$$w = w_0 X \sin n\theta$$

Substituting the latter into the former leads to the equations

$$\frac{d^4 X}{ds^4} - \lambda^4 X = 0$$

$$\lambda^4 = -\frac{pR}{Eh} n^4 (n^2 - 1) - D \frac{n^4 (n^2 - 1)^3}{EhR^3}$$

The expression for the critical pressure yields

$$P_{sp} = \lambda_1^4 \frac{Eh}{R} \cdot \frac{1}{n^4 (n^2 - 1)} + (n^2 - 1) \frac{D}{R^3}$$

Several special cases are considered corresponding to allowed or non-allowed axial and/or circular displacements at the two ends of the shell. The critical pressure is determined and evaluated in each case. Finally, several cases are considered for determining the stability of the shell with fixed elastic boundaries relative to an axial displacement. For the case where one edge only is fixed with the other free,

$$P_{sp} = \frac{3}{2} \cdot \frac{c}{n^4 (n^2 - 1)} \cdot \frac{R^3}{p} + (n^2 - 1) \frac{D}{R^3} \left[1 + \frac{6(1-\mu)}{n^2} \cdot \frac{R^3}{p} \right]$$

Orig. art. has: 26 equations and 4 figures.

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 012/ OTH REF: 002

Card 2/2 vmb

ALFUTOVA, L. A. Cand Med Sci -- "X-ray data on the heart of adolescent school ^{children}." ~~KL~~
Sverdlovsk, 1960 (Sverdlovsk State Med Inst). (KL, 1-61, 206)

-359-

ALFUTOVA, Ye.P.; BUGROVA, L.N.

Colorimetric determination of changes in the color of dried
cabbage and carrots. Kons. i ov. prom. 13 no.6:38-40 Je '58.
(MIRA 11:5)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut konservnoy i
ovoshchesushil'noy promyshlennosti.
(Vegetables, Dried) (Color measurement)

GENIN, S.A., kand.tekhn.nauk; ALFUTOVA, Ye.P., starshiy nauchnyy sotrudnik;
BUGROVA, L.N., mladshiy nauchnyy sotrudnik; MATVEYEV, B.D., kand.
tekhn.nauk; MOROZENSKIY, L.M., starshiy nauchnyy sotrudnik

Technological treatment of potatoes and root crops by the steam-
heating method. Trudy VNIKOP no.9:3-25 '59. (MIRA 14:1)
(Vegetables—Drying)

S/035/59/000/003/024/039
A001/A001

Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1959, No. 3,
p. 64, # 2078

AUTHOR: Alfven, H.

TITLE: The ¹²Origin of the Solar System

PERIODICAL: V sb.: Vopr. kosmologii, Vol. 6, Moscow, AN SSSR, 1958, pp. 78-97
(English summary)

TEXT: This is a brief review of the author's works dealing with the
theory of the solar system origin, a theory in which an important role of
electromagnetic forces is taken into consideration.

Author's summary

Translator's note: This is the full translation of the original Russian
abstract. ✓

Card 1/1

S/035/61/000/012/012/043
A001/A101

AUTHOR: Alfven, H. (Al'ven, Kh.)

TITLE: Spectrum of momenta of cosmic rays

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 12, 1961, 39, abstract 12A328 ("Tr. Mezhdunar. konferentsii po kosmich. lucham, 1959, v. 3", Moscow, AN SSSR, 1960, 196 - 199)

TEXT: The author investigates acceleration of charged particles moving in a variable magnetic field H . It is shown that intensification of the field leads to acceleration of particles ($r_{\perp}^2/H_{\perp} = \text{const}$, $p_{\parallel} = \text{const}$); however, when scattering magnetic non-homogeneities are present, a reversal of the field to its initial magnitude will not be accompanied by deceleration of particles down to energies corresponding to initial state. Some increment of particle energy will be the final result of one cycle. For a steady state, if the rate of energy variation does not depend on particle energy, spectrum of $\sim p^{-\gamma}$ type is obtained, where $\gamma = 1$. To obtain a higher value of γ , agreeing with experimental data, it is supposed that spectrum varies in space. An analysis of this hypothesis shows that preliminarily accelerated particles are injected in space near the

Card 1/2

Spectrum of momenta of cosmic rays

S/035/61/000/012/012/043
A001/A101

stars where they may subsequently be accelerated by a variable magnetic field. Particles of relatively low energies are closed in regions near to active stars, whereas particles of high energies are distributed over a very extended region. Taking into account the absorption of accelerated particles leads to Fermi spectrum.

L. Dorman

[Abstracter's note: Complete translation]

Card 2/2

ALGASOV, V.S., gornyy insh.; LYCHKO, I.G., gornyy insh.

Hidden potentialities to serve the seven-year plan. Ugol'
Ukr. 3 no.10:7-10 O '59. (MIRA 13:2)

1. Trest Voroshilovugol'.
(Donets Basin--Coal mines and mining)

DROGAL', Grigoriy Grigor'yevich; ALGASOV, Vladimir Stepanovich;
LYCHKO, Ivan Grigor'yevich; KITAYEKIY, Ye.V., otv. red.;
MESHCHANKINA, I.S., tekhn. red.

[Rapid crosscutting] Opyt skorostnogo provedeniia gor-
nykh vyrabotok. Moskva, 1962. 27 p. (MIRA 16:8)

1. Tsentral'nyy Institut tekhnicheskoy informatsii ugol'noy
promyshlennosti.

(Coal mines and mining)

ALGAZIN, I., inzh.

Chamber mining system with scraper conveying. Sov.shakht.
10 no.6:6-7 Je '61. (MIRA 14:9)

1. Proyechnaya gruppa shakhty No.5 tresta Kiselevskugol'.
(Kuznetsk Basin--Coal mines and mining)
(Conveying machinery)

ALGAZIN, I.

Profit instead of subsidy. Sov. shakht. 11 no.9:15-16 S
'62. (MIRA 15:9)

1. Nachal'nik tekhnicheskogo otdela shakhty No.5 tresta
Kiselevskugol'.
(Kuznetsk Basin--Coal mines and mining)

ALGAZINA, S.A.

In the collegium of the Ministry of Public Health of the R.S.F.S.R.
Zdrav. Ros. Feder. 5 no, 9:37-38 S '61. (MIRA 14:9)
(KURGAN PROVINCE—MEDICAL PERSONNEL)

ACC NR: AM6015328

Monograph

UR/

Ivanov, Aleksandr Matveyevich; Martinets, Dmitriy Vasil'yevich; Marten'yanov, Vladimir Ivanovich; Algazinov, Konstantin Yakovlevich

Use of plastic materials in structures and parts of buildings (Primeneniye plastmass v stroitel'nykh konstruktsiyakh i chastyakh zdaniy) [Moscow, Izd-vo "Vysshaya shkola", 1965] 290 p. illus., biblio 10,000 copies printed.

TOPIC TAGS: civil engineering, plastic material, plastic structure, plastic material creep, plastic material property, polymer, plastic structural element

PURPOSE AND COVERAGE: This textbook is intended for senior students specializing in civil engineering and especially in the utilization of plastics as structural material. The book gives general information on plastic materials, their physical and mechanical properties, and on the use of these materials in structures and parts of buildings. Problems of engineering structures made of plastic are discussed with consideration given to plastic-material creep. Results of investigations made by various scientific institutes on the utilization of plastics in civil engineering are summarized. The authors express their thanks to staff members of the Moscow Civil Engineering Institute, to the head of the Gorky Civil Engineering Institute and to professor V. Y. Lennov for their valuable comments and assistance.

TABLE OF CONTENTS [abridged]:

Card 1/2

ACC NR: AM6015328

Foreword -- 5

- Ch. I. General information on plastics (A. M. Ivanov) -- 9
- Ch. II. Creep in plastics (A. M. Ivanov) -- 30
- Ch. III. Principal provisions for calculation of carrying structures made of plastics (A. M. Ivanov) -- 60
- Ch. IV. Structural plastics (A. M. Ivanov) -- 81
- Ch. V. Thermoplastic polymers and fillers (A. M. Ivanov) -- 127
- Ch. VI. Joining elements of plastic structures (A. M. Ivanov) -- 150
- Ch. VII. Partitioning structures (D. V. Martinetz) -- 171
- Ch. VIII. Supporting structures (D. V. Martinetz) -- 209
- Ch. IX. Pneumatic building structures (K. Ya. Algazinov) -- 257

References -- 287

SUB CODE: 13, 11/ SUBM DATE: 04Sep65/ ORIG REF: 026/

Cord 2/2

IVANOV, Aleksandr Matveyevich; MARTINEN, Dmitry Vasil'yevich;
MARTMYANOV, Vladimir Ivanovich; ALGAZINOV, Konstantin
Yakovlevich; LENNOV, V.G., prof., rektor, rensent;
KOLODYAZHNAYA, Zh.A., rei.

[Use of plastics in structural elements and parts of build-
ings] Primenenie plastmass v stroitel'nykh konstruktsiyakh
i chastiakh zdaniy. Moskva, Vysshaya shkola, 1965. 290 p.
(MIRA 18:12)

1. Gor'kovskiy inzhenerno-stroitel'nyy institut (for Lennov).

VESPREMEANU, E.; ELIZEI, ~~E~~rig; ALGEORGE, A.

A method for stabilizing sodic PAS solutions administered in intravenous perfusions. Rumanian M Rev. no.3:27-30 J1-S '60.

1. This work was carried out in the Institute of Phthisiology and in the "Filaret" Hospital.

(PARA-AMINOSALICYLIC ACID therapy)

ANASTASATU, C.; KAUFMAN, S.; ALGEORGE, G.; VUSHPENCIANU, V.; Cioroianu, T.;
OPARI, A.; STOICA, V.

Ethionamide ascorbate -- a new solution for intravenous infusions
in the treatment of tuberculosis. Gruzlica 32 no.8:663-664 Ag '64.

1. Z. Instytutu Medycyny i Farmacji Kliniki Fizjologicznej, Buka-
reszt -- Rumunia.

ALCAZAR, C., dr.; IANUSCU, M. dr.; STOIEN, Maria, biologie; IUSAC, Gh.,
chimiclar.

Research on the seroreaction of kardia agglutination with phosphatide antigen for the evaluation of the progressive character of tuberculous lesions. (preliminary notes). *Acta biologia (Bucur.)* 9 no.4:321-330 '64

1. Lucrare efectuata in Institutul de fiziologie, Bucuresti.

NICULESCU, St.; AIGORGE, G.; NEGULESCU, V.; ARHINI, M.

A histopathologic study of experimental tuberculous primary infection
of the male genitalia. Rumanian M. Rev. 1 no.4:33-39 Oct-Dec 57.

(TUBERCULOSIS, MALE GENITAL, Exper.
histopathol. in rabbits)

NASTA, M.; NEGULESCU VI.; ALGEORGE, G.; ARHIRI, M.

Treatment of experimental tuberculosis in guinea pigs with varying doses of isoniazid. Bul. stiint., sect. med. 9 no.1:105-111 1957.

(TUBERCULOSIS, experimental

eff. of various doses of isoniazid in ther. & prev.)

(ISONIAZID, effects

on exper. tuberc., dos., in ther. & prev.)

ROMANIA / Pharmacology and Toxicology. Anti-Tuberculosis Agents. V-10

Abs Jour : Ref Zhur - Biol., No 16, 1958, No 75939

Author : Algeorge, G.; Arhiri, M.

Inst : Not given

Title : Resistance of Tuberculosis Bacteria to Chemotherapeutic
Drugs.

Orig Pub : Viata med., 1957, 4, No. 7, 12-23

Abstract : No abstract given.

Card 1/1

NASTA, M.; ALGEORGE, G.; ARHIRI, M.; NEGULESCU, V.

Experimental basis for the chemioprophylaxis of tuberculosis. Rev.
sci. med. 5 no.1/2:79-82 '60.

1. Membre de l'Academie de la R.P.R.(for Nasta)

(TUBERCULOSIS prev & control)

NASTA, M.; ARHIRI, M.; ALGEORGE, G.

Resistance to tuberculous superinfection in guinea pigs recovered from generalized tuberculosis or following a protracted course under the effect of chemotherapy. Rev. sci. med. 5 no.3/4:211-214 '60.

1. Membre de l'academie de la R.P.R. (for Nasta).
(TUBERCULOSIS experimental)

NASTA, M.; ALGEORGE, G.; ARHIRI, M.

The prevention of drug prophylaxis of superinfections in experimental tuberculosis. Rumanian med. rev. no.2:60-62 '62.
(ISONIAZID) (INFECTION)

NASTA, M.; ARHIRI, M.; ALGEORGE, G.

BCG vaccine therapy associated with INH chemotherapy in experimental tuberculosis. Rev. sci. med. 7 no.1/2:79-81 '62.

1. Membre de L'academie de la R.P.R. (for Nasta).
(BCG VACCINATION) (ISONICOTINIC ACID)

NASTA, M.; ALGEORGE, G.; ARHIRI, M.

Preventive action of drug prophylaxis in virulent superinfection
appearing during isoniazid treatment. Rev. sci. med. 7 no.3/4:
173-176 '62.

1. Membre de L'academie de la R.P.R. (for Nasta).
(TUBERCULOSIS IMMUNITY) (ISONIAZID)

NASTA, M.; ALGEORGE, G.; ARHIRI, M.

Experimental data concerning the development of antituberculous immunity under the action of tuberculostatics. Arch. roum. path. exp. microbiol. 23 no.3:603-608 S'63

1. Travail de l'Institut de Phthisiologie, Bucarest.

ALEXANDRU, G.; PACHESCU, N.; STOLAR, Maria; PISTEA, G.

Investigation on the haemagglutination sensitization with
phosphatide antigen for identifying the evolutive character
of tuberculosis lesion. Preliminary note. Rumanian med. rev.
19 no.1:44-52 Ap-Je'65.

TETU, I.; DIMITRIU, A.V.; ALGEORGE, S.; CIOBA, M.; UINRESCU, St.

Post-caustic esophagitis. Rumanian M. Rev. 3 no.1:66-68 Jan-Mar 59.

(BURNS,
caustic esophageal stenosis)
(ESOPHAGUS, stenosis
caustic)
(CAUSTICS, inj. eff.
esophageal stenosis)

ALGERT, Dusan

Performance of the plan in the light of stochastic processes.
Pod org 17 no.10:457-460 O '63.

1. Jihomoravske pivovary, Brno.

ALGERT, Dusan

Contribution to the study of the effect of weather on lemon-
ade consumption. Kvasny prum 9 no. 6: 151-154, Je '63.

1. Jihomoravske pivovary, n.p., Brno, zavod Starobrnno.

GEL'MAN, Boris Mikhaylovich; KRAYEVSKAYA, Ye.K.; MOSKVIN, M.V.; ALISANOV,
B.I.; AL'GIN, B.P.; VODOLAZHCENKO, Yu.T.; LHVITANUS, A.D.;
SHKOL'NIKOV, A.B., ed.; BALLOD, A.I., tekhn.red.

[Wheeled diesel tractors] Dizel'nye kolesnye traktory. Moskva,
Gos.izd-vo sel'khoz.lit-ry, 1959. 423 p. (MIRA 13:2)
(Tractors)

AL'GIN, B.P., inzh., red.; STUPIN, A.K., red.izd.-va; UVAROVA, A.F.,
tekh.n.red.

[Catalog of spare parts for the MTZ-2, MTZ-5, MTZ-5K, MTZ-5L,
MTZ-7M, and MTZ-7L "Belarus" tractors] Katalog zapasnykh
chastei traktora "Belarus" modelei MTZ-2, MTZ-5, MTZ-5K,
MTZ-5M, MTZ-5L, MTZ-7M i MTZ-7L. Moskva, Gos.nauchno-tekh.
izd-vo mashinostroit.lit-ry, 1960. 575 p. (MIRA 13:7)

1. Minskiy traktorny zavod. 2. Otdel Glavnogo konstruktora
Minskogo traktornogo zavoda (for Al'gin).

(Tractors--Apparatus and supplies)

AL'GIN, B.P., inzh., red.; ARTYUKHIN, V.A., red. izd-va; UVAROVA,
A.F., tekhn. red.

[Catalog of spare parts for MTZ-5MS, MTZ-5LS, MTZ-7MS and
MTZ-7LS "Belarus" tractors] Katalog zapasnykh chastei traktora
"Belarus" modelei MTZ-5MS, MTZ-5LS MTZ-7MS i MTZ-7LS. Moskva,
Mashgiz, 1962. 334 p. (MIRA 15:7)

1. Minskiy traktorny zavod.
(Tractors--Catalogs)

AL'GIN, N.S.

Methodology for the evaluation of blood circulation in the vessels of the lower extremities in obliterating diseases and indications for reconstructive surgery. Vest. khir. 94 no.2:47-51 F '65. (MIRA 18:5)

1. Iz khirurgicheskoy kliniki (rukovoditel' - prof. N.S. Yepifanov, filiala Leningradskogo instituta perelivaniya krovi v gorode Kirove (dir. - kand. med. nauk N.V. Shestakov).

Al'gin, V.B.

137-58-3-5452

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 137 (USSR)

AUTHORS: Valyayev, G.S., Al'gin, V.B.

TITLE: Local Ventilation Suction Draws off Gases Created During Welding (Mestnyy ventilyatsionnyy otsos gazov vo vremya svarki izdeliy v konduktorakh)

PERIODICAL: Vest. tekhn. inform. Tsentr. byuro tekhn. inform. trakt. i s.-kh. mashinostr., 1957, Nr 6, pp 51-52

ABSTRACT: The ventilation design section of the "Rostsel'mash" plant in conjunction with the design staff of the VNIITM have designed a special welding stand (WS), which, utilizing a hollow shaft, removes gases by suction from the vicinity of a welding operation. The hollow shaft is connected with the upper end of an air duct through a joint linkage (permitting 360° of movement for the conductor). The lower end of the air duct connects telescopically, through a stuffing box, to an air duct leading to a fan (F). Gases liberated during welding operations are drawn off regardless of the position of the WS. One model TsP-7 Nr 8 F with a capacity of 14,000 m³/hr can simultaneously serve two WS's. The F is driven by a model A72/4 motor with a

Card 1/2

137-58-3-5452

Local Ventilation Suction Draws off (Cont.)

usable power rating of 28 kw at 1250 r.p.m. This ventilation system was installed to operate in conjunction with six WS's employed in the welding of thresher frames of RSM-8 combines and resulted in more sanitary working conditions for the welders and other workers in the vicinity.

V.P.

Card 2/2

AL'GREN, V.M.

FUKS, I.M.; SAGITOVA, R.G.; ~~AL'GREN, V.M.~~

Effectiveness of vaccination against diphtheria. Zhur.mikrobiol.
epid. i immun. no.9:24-25 S '55. (MLRA 8:11)

1. Iz Ufinskogo instituta vaktsin i syvorotok imeni Mechnikova
(dir. U.S. Yenikayeva, nauchnyy rukovoditel'--prof. N.I.Mel'nikov)
(DIPHTHERIA, prevention and control,
vacc., results)
(VACCINES AND VACCINATION,
diphtheria, results)

ALGUDZHAN, A. A.

Defended his Doctors dissertation in the Chemistry Faculty of Moscow State University on 27 October 1952.

Dissertation: "The Study of Matallics: Palladium, Cobalt, and Nickel on Aluminum Oxide -- As Catalysts of Hydrogenation,"

SO: Vestnik Moskovskogo Universiteta, Seriya Fiziko-Matematicheskikh i Yestestvennykh Nauk, No. 1, Moscow, Feb 1953, pp 151-157: transl. in W-29782, 12 April 54, For off. use only.

ALGYAYNE GYORGY, Izabella, dr.

Fungus diseases of the nails and fingersucking. Gyermekgyógyászat 12
no.10:316-319 0 '61.

1. Közlemény a Budapesti Orvostudományi Egyetem Szájsebészeti Klinikájáról
(Igazgató: Balogh Károly dr. egyetemi tanár)

(FINGERSUCKING) (MYCOSES in inf & child)
(NAILS dis)

ABUZEYD, M.A.; ALI, F.M.; ANTUF'YEV, Yu.P.; BARANIK, A.T.; NUER, T.M.;
SOROKIN, P.V.

Studying the reaction $Al^{27}(p, \alpha)Mg^{24}$ in the proton energy range
1 - 2.5 Mev. Izv. AN SSSR. Ser. fiz. 28 no.1:46-50 Ja '64.
(MIRA 17:1)

1. Yegipetskaya atomnaya komissiya, Kair, Ob'yedinennaya Arabskaya
Respublika.

ALIAGA, Serafen[Aliaga, Serafin]

A great victory of the Italian working class. Vsem. prof.
dvizh. no.5:15 My '63. (MIRA 16:6)

(Italy.—Iron and steel workers)

ALIAN, Akhmed; RABOTNOVA, I.L.

Continuous submerged culture of *Acetobacter aceti* in a synthetic medium. *Mikrobiologiya* 33 no.4:705-712 J1-Ag '64.

(MIRA 18:3)

1. Biologo-pochvennyy fakul'tet Moskovskogo gosudarstvennogo universiteta imeni Lomonosova.

ALIAN, Akhmed; RABOTNOVA, I.L.; NIKOLAYEV, P.I.; IVANOV, V.A.

Submerged cultivation of acetic acid bacteria under different
aeration conditions. Mikrobiologiya 32 no.4:703-710 J1-Ag '63.
(MIRA 17:6)

1. Biologo-pochvennyy fakul'tet Moskovskogo gosudarstvennogo
universiteta imeni M.V. Lomonosova.

ALIAN, Akhmed

Submerged cultivation of *Acetobacter aceti* on a synthetic medium. Mikrobiologiya 32 no.5-869-874, S.-O'63 (MIRA 17:2)

1. Biologo-pochvannyi fakul'tet Moskovskogo gosudarstvennogo universiteta im. M.V.Lomonosova.

ALLAN, Akhmed

Influence of temperature on the activity of acetobacter aceti in
submerged cultures. Mikrobiologiya 32 no.6:1073-1077 N-D '63
(MIRA 18:1)

1. Biologo-pochvennyy fakul'tet Moskovskogo gosudarstvennogo
universiteta imeni M.V. Lomonosova.

ALIAN, Z.

ALIAN, Z.; MUZIK, F.

Aromatic diene compounds. XV. Double bond fixation in aromatic compounds. n. 252
(Collection of Czechoslovak Chemical Communication. Praha. Vol. 19, no. 5, Oct. 1974)
CO: Monthly List of European Accession (EAL), 1974, Vol. 4, No. 6,
June 1974, Ucl.

ALIBABA, A.P.

Complex treatment of an acute angina catarrhalis with sodium salicylate with urotropin and autohemotherapy. Vest. otorinolar., Moskva 14 no. 3:93-94 May-June 1952. (GML 22:4)

1. Candidate Medical Sciences. 2. Of the Ukrainian Scientific-Research Institute for Diseases of the Ear, Throat, and Nose, Khar'kov.

ALIASBERG, I.I.; TERYAYEVA, I.M.

Development of television video tapes. Trudy VNAIZ no.9:146-156
'61. (MIRA 15:9)

(Video tape recorders and recording)

L 51381-65 EWT(m)/EWP(t)/EWP(b) IJP(c) JD		UR/0236/65/000/007/0104/0104	
ACCESSION NR: AP5010922			
AUTHOR: Takezhanov, S. T.; Kulev, A. S.; Aibayev, B. M.			
TITLE: Method of extracting thallium from sulfate solutions. Class 40, No. 169794			
SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 7, 1965, 104			
TOPIC TAGS: thallium, thallium extraction			
ABSTRACT: This Author Certificate introduces a method of extracting thallium from sulfate solutions. To increase the thallium yield and to simplify the production process, an extractant synthesized from isooctyl alcohol and metallic iodine is used.		[AZ]	
ASSOCIATION: none			
SUBMITTED: 16Mar63		ENCL: 00	
NO REF SOV: 000		SUB CODE: MM	
		OTHER: 000	
		ATD PRESS: 4006	
Card 1/1			

ALIBAYEV, S. R.

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S/081/61/000/018/006/027
B104/B101

AUTHORS: Amirkhanov, Kh. I., Kerimov, A. M., Alibekov, B. G.

TITLE: Thermo-physical properties of a substance at critical temperature. Heat capacity C_v in the critical range

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 18, 1961, 43, abstract 18B297 (Sb. "Kritich. yavleniya i flyuktuatsii v rastvorakh". M., AN SSSR, 1960, 5-13)

TEXT: The heat capacity C_v of carbonic acid and n-heptane was investigated as a function of temperature and volume in the critical range. In contrast to the sudden jumps of $\sim C_v$ during crossing the boundary curve far from the critical point, the jump of C_v near the critical point has a certain temperature interval which reaches its maximum value at the critical isochore. At the temperature of transition of the system from a two-phase into a single-phase region, boundary curves of different isochores in T-V coordinates are plotted. Outside the critical range these curves

Card 1/2

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coincide with boundary curves constructed from p-V-T data. The curves $C_v = \text{const}$ are plotted in the supercritical range. They show maxima on the critical isochore. The data obtained allow to characterize peculiarities of the behavior of a substance near the critical point.
[Abstracter's note: Complete translation.]

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Card 2/2

AMIRKHANOV, Kh.I.; KERIMOV, A.M.; ALINEKOV, B.G.

Direct measurements of the heat capacity of n-heptane and
carbon dioxide. Prikl. ul'traakust. k issl. veshch. no.13:
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