ESTEROV, Ya.Kh., inzh.; PUGACHEV, V.I., inzh.

Practices in blasting holes on steep slopes. Transp.stroi. 14 no.12:6-7 D '64. (MIRA 19:1)

ESTERNOVICH, V.O., inzh.

Rubber linings in feeding units used in molding bricks instead of the spraying process. Rats. i izobr. predl. v stroi. no.5:58-59 '58. (MIRA 11:6)

1.Proyektno-konstruktorskoy byuro Nauchno-issledovatel'skogo instituta stroitel'noy keramiki, Moskva, Vekovaya ul., d. No.18/12. (Brickmaking)

AUTHOR: Esterzon, M.A. 121-2-7/20

TITLE: Improvement of the dimensional stability of a cutting tool by the method of elastic compensation (Povysheniye razmernoy stoykosti rezhushvhego instrumenta metodom uprugoy kompensatsii.)

PERIODICAL: "Stanki i Instrument" (Machine Tools and Tools), 1957, No.2, pp. 24 - 28 (U.S.S.R.)

ABSTRACT: In metal cutting, especially turning, the cutting endurance of the tool considerably exceeds its endurance limitation due to the gradual shift in the mean dimension. Although the random scatter also increases as the cutting proceeds, the compensation of the shift of the mean dimensions can considerably increase the practical tool endurance. This compensation can be accomplished on the basis of the number of machined components or the cutting time or by feeding back the result of direct measurement of the component dimension. It can also be carried out by making use of the change in the cutting force which takes place with the blunting of the tool.. Research work carried out by the VNII Tool Research Institute has led to the design of a toolholder based on a new principle of the increase in the total cutting force component situated in the plane of the tool planform. This total component can

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Improvement of the dimensional stability of a cutting tool by the method of elastic compensation. (Cont.) 121-2-7/20

be further resolved into the axial (parallel with the main spindle) and radial components. Of these, the radial force always causes springing back in its own direction but the axial force can be made to advance or withdraw the cutting edge according to the geometry of the elastic deformations of the tool holder. The practical condition which ensures that the compensating tool holder does not increase the scatter between the components, is that the change in the component size under the effect of the radial force component does not exceed twice the change under the axial component. Thus elastic compensation of the systematic error can be accomplished without increasing the scatter, either when the dimensional wear factor is small or when the effect of the wear on the axial force is large. This occurs with a large planform angle of the tool. A variable stiffness tool holder is illustrated. The prismatic tool carrying the cutting tips is supported against the radial and tangential cutting forces by separate pins. These pins butt against tapered stops. The axial force tries to turn the tool about on axis passing through the stops. This causes the tool to press against a
2/3 pusher which deforms a leaf spring, whose stiffness can be

Improvement of the dimensional stability of a cutting tool by the method of elastic compensation. (Cont.) 121-2-7/20

adjusted by screws. Histograms of cutting dimensions resulting from an ordinary tool holder and a compensating tool holder in cutting mild steel are compared at a cutting speed of 60 m/min feed of 0.238 mm/rev. and depth of cut of 2 mm. A dimension skim of a compensating tool holder developed from the experiments reported is given, together with a formula for the initial adjustment of the negative stiffness.

There are 8 figures, including 2 photographs, 5 graphs and 2 Slavic references.

AVAILABLE:
3/3

ESTERZON, M.A., inzhener.

Calculating dimensional stability of cutting tools. Vest. mash. 37 no.7:63-66 Jl '57. (MLRA 10:8)
(Cutting tools)

ESTERZON, M.A.; PETROV, K.P.

Cutting-tool equipment used on the turning section of automatic gear-machining line. Stan.i instr. 30 no.3:7-10 Mr '59. (MIRA 12:3)
(Gear-cutting machines)

TEMCHIN, G.I.[deceased]; YULIKOV, M.I., kand. tekhn. nauk, retsenzent; ESTERZON, M.A., kand. tekhn. nauk, red.; SEMENCHENKO, V.A., red.izd-va; MODEL', B.I., tekhn. red.; DEMKINA, N.F., tekhn. red.

[Multitool adjustments; theory and design] Mnogoinstrumentnye naladki; teoriia i raschet. Izd.2., ispr. Moskva, Mashgiz, 1963. 542 p. (MIRA 16:12)
(Metal cutting)

IVANOV, B.N., kand. tekhn. nauk; ESTERZON, Yu.Ya.

Industrial testing of the device for automatic measurement of sheet length. Avt. i prib. no.4 '64 (MIRA 18:2)

ETIGIN, M.G.; REVENKO, I.F.

Economic work at the Donetsk and the Makeevka metallurgical plants. Metallurg 10 no.12:39-40 D '65.
(MIRA 18:12)

KOLTON, A.Yu., kand. tekhn. nauk; UMIKOV, I.N., inzh., STEINBERG, I.E., kand. tekhn. nauk

Basic principles of the establishment of new nomenclature on large Kaplan and Francis-type hydraulic turbines. [Trudy] LMZ no.10:39-52 '64. (MIRA 18:12)

TADZHIYEV, Kamil Fadzhiyevich; ERINGEN, T.Ye., dots., red.; MANSUROV, Kh.Kh., prof., red.; BATUROVA, L., red.

[Operative and postoperative complications in the treatment of mitral stenosis and their control] Operatsionnye i posleoperatsionnye oslozhneniia pri lechenii mitral'nogo stenoza i bor'ba s nimi. Dushanbe, Irfon, 1965. 249 p. (MIRA 18:11)

ETINGOF, M.I.

Active control of parts having discontinuous surfaces. Izm.tekh. no.10:3-6 O '65. (MIRA 18:12)

SAMSONOV, G.V.; ETINGOV, Ye.D.

Separation of various components of [illegible] by the gel-filtration method through G-25 [illegible] and [illegible] titration. Antibiotiki 10 no.11:1027-1029 N '65. (MIRA 18:10)

1. Leningradskiy khimiko-farmatsevticheskiy [illegible].

LYUBIMOVA, T.F.; KANEVSKIY, B.Z.; ETKIN, V.S.

Study of signal limiting in a regenerative frequency converter. (MIRA 18:10)
Radiotekhnika 20 no.5:70-75 My '65.

1. Deystvitel'nyye chleny Nauchno-tekhnicheskogo obshchestva radiotekhniki i elektrosvyazi imeni Popova.

NEKRASOV, V.I. (Leningrad); POPOV, I.M. (Leningrad); ESTLING, A.A. (Leningrad)

Modeling method used for investigating dynamics of electric trains. Elek. i tepl. tiaga 2 no.9:10-13 S '58. (MIRA 11:10)
(Electric railroads--Dynamics--Trains)

POPOV, I.M.; ESTLING, A.A. (Leningrad)

Investigating the dynamics of electric locomotives at high speeds. Elek.i tepl.tiaga 3 no.10:35-37 O '59. (MIRA 13:2)

(Electric locomotives--Dynamics)

POPOV, I.M., inzh.; CHERKASOV, Ye. B., inzh.; ESTLING, A.A., inzh.

Dynamic testing of models of electric rolling stock. Sbor.LIIZHT no.167:67-77 '59. (MIRA 13:5)
(Electric railroads--Rolling stock)

ESTLING, A.A., inzh.

Selecting the parameters of hydraulic shock absorbers for cars. (MIRA 13:10)
Sbor. LIIZHT no.168:209-220 '60.
(Railroads--Cars--Shock absorbers)

CHELNOKOV, I.I., doktor tekhn.nauk, prof.; ESTLING, A.A., inzh.

Selecting the design diagrams for determining the frequency of the natural vibrations of railroad cars. Sbor.trud.LIIZHT no.183:3-28 '62. (MIRA 16:2)
(Railroads--Cars--Vibration) (Car springs--Testing)

VISHNYAKOV, B.I., inzh.; ESTLING, A.A., inzh.

Methods of testing vibration dampers for passenger cars. Sbor. trud.LIIZHT no.183:69-94 '62. (MIRA 16:2)
(Damping (Mechanics)) (Railroads—Passenger cars—Vibration)

CHELNOKOV, I.I., doktor tekhn. nauk, prof.; VISHNYAKOV, B.I., inzh.; GARBUZOV, V.M., inzh.; ESTLING, A.A., kand. tekhn.nauk; DOLMATOV, A.A., kand. tekhn. nauk, retsenzent; SARANTSEV, Yu.S., inzh., red.; USENKO, L.A., tekhn. red.

[Vibration dampers for railroad cars] Gasiteli kolebanii vagonov. [By] I.I.Chelnokov i dr. Moskva, Transzheldorizdat, 1963. 175 p. (MIRA 16:5)
(Railroads--Cars--Vibration) (Damping (Mechanics))

CHELNOKOV, I.I., dr. tekhn. nauk, prof.; ESTLING, A.A., kand. tekhn. nauk

Selecting the necessary number of vibration dampers and their distribution on the truck of passenger cars. Sbor. trud. LIIZHT no.215:3-19 '64. (MIRA 17:12)

BRAILOVSKIY, A.Ye., kand. tekhn. nauk, dotsent; ESTLING, A.A., kand. tekhn. nauk

Determining the parameters of vibration dampers for cars by nomograms. Sbor. trud. LIIZHT no.215:87-98 '64. (MIRA 17:12)

MAKOVICKY, E.; namestnik poverenika zdravotnictva; ESTOK, S. poverenictvo zdravotnictva.

Considerations on the development of public health in Slovakia in the Czechoslovakian People's Democracy. Cesk. zdravot. 5 no.12: 672-682 Dec 57.
(PUBLIC HEALTH,
in Czech. (Cz))

RUSNAK, M.; ESTOK, S.

The development of child care in Slovakia during the past 10 years. Cesk. pediat. 20 no.6:453-461 Ja'65.

1. Oddelenie starostlivosti o zenu a dieta Poverenictva SNR pre zdravotnictvo a Slovensky ustav zdravotnickej statistiky, Bratislava.

L 42980-65 EWT(m)/EWG(m)/EWP(t)/EWP(b) IJP(c) RWH/JD/RM
ACCESSION NR: AP5009427 S/0289/64/000/003/0085/0090

AUTHOR: Chernyak, A.S.; Esmont, Ye. M

TITLE: Adsorption of germanium from weakly alkaline solutions

SOURCE: AN SSSR. Sibirskoye otdeleniye. Izvestiya. Seriaya khimicheskikh nauk, no. 3, 1964, 85-90

TOPIC TAGS: germanium adsorption, germanium refining, anion exchange resin

ABSTRACT: The article reports the results of laboratory and large-scale investigations into the recovery of germanium by anion-exchangers from waters containing 100 to 800 mg/m^3, and presents data on the control of the adsorption process by means of the radioisotope Ge^{71}. The weakly basic anion exchangers EDE-10p and AN-2f were used in the recovery, both static and dynamic conditions being studied. In the latter case, most complete recovery was achieved at a flow rate of water of 1 to 2 $ml/min/cm^2$ through the exchanger. Desorption was performed under dynamic conditions with sulfuric acid and sodium hydroxide solutions; the latter gave better results. The recovery of germanium was 70.4%, but this relatively low yield was due to the low concentration of germanium in the water. A reduction of NaOH concentration in the eluate to 5% will

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L 42980-65
ACCESSION NR: AP5009427

eliminate a partial destruction of the anion exchanger by the alkali. Orig. art. has: 4 figures, 3 tables and 1 flow-chart.

ASSOCIATION: IRGIREDMET, Irkutsk

SUBMITTED: 25May63 ENCL: 00 SUB CODE: IC

NO REF SOV: 002 OTHER: 000

Card 2/2

ESTREICHER, Karol

Eugeniusz Brzozicki an art collector and connoisseur. Pol. neurochir. psychiat. tol. 15 no.4:543-550 [illegible].

1. Z Muzeum UJ w Krakowie (Dyrektor: prof. dr. K. Estreicher).

[redacted]

[redacted], A. [redacted].

[redacted]. Opyt provedeniya rannego okota karakul'skikh ovets v sovkhozakh Astrakhanskoy oblasti. Karakulevodstvo i zverovodstvo, 1949, No. 5, s. 15-21

SO: Knizhnaya Letopis', Vol. 7, 1959

[redacted]

ESTRIN, B.M.; [redacted], F.I.

Bright annealing of wire in continuous shaft furnaces. Metalloved. i term. obr. met. no.4:40-42 Ap '64. (MIRA 17:6)

1. Tsentroenergometallurgprom, zavod im. Lepse.

ESTRIN, B.M.

GOL'SHTEYN, M.I.; ESTRIN, B.M.; IVANCHENKO, N.P.; AYZENBERG, S.A.

A compound method for the prevention of influenza and of acute catarrhs of the upper respiratory tract in metal workers at the G.I.Petrovskii Plant. Vop.virus. 1 no.2:10-13 Mr-Ap '56. (MLRA 10:1)

1. Kafedra epidemiologii Dnepropetrovskogo meditsinskogo instituta Dnepropetrovskaya gorodskaya sanitarno-epidemiologicheskaya i mediko-sanitarnaya chast' zavoda imeni G.I.Petrovskogo, Dnepropetrovsk.
(INFLUENZA, prevention and control,
in indust. (Rus))
(COMMON COLD, prevention and control,
in indust. (Rus))

SOV/133-59-9-30/31

AUTHORS: Estrin, B.M. and Bertol'man, Ye.N., engineers

TITLE: Preparation and Utilization of Protective Atmosphere from Technical Nitrogen

PERIODICAL: Stal', 1959, Nr 9, pp 854-861 (USSR)

ABSTRACT: A description of the plant producing protective atmosphere for muffle furnaces, laboratory work on catalytic decomposition of ammonia and purification of nitrogen from oxygen are given. The atmosphere is produced from technical nitrogen containing about 3% of oxygen (from the oxygen plant) and ammonia. The diagram of the plant - Fig 1. Liquid ammonia is filtered, evaporated and passed into dissociation reactor (Fig 4), mixed with nitrogen and passed into a reactor for catalytic removal of oxygen, then cooled for the removal of moisture (2 stage cooling). Final drying is done by passing through a column of alumogel (which is regenerated by blowing hot air). In laboratory experiments (apparatus - Fig 2) a suitable catalyst was developed (TsEChM-1). The comparison of the activity of the catalyst with that of Rashig iron rings is shown in

Card 1/3

Preparation and Utilization of Protective Atmosphere from Technical Nitrogen

Fig 3. The catalyst is made up of two layers - the first layer contains for each 100 cm^3 of the carrier, 7.5 g of Ni and 4.0 g of MgO and the second layer, 3.0 g of Fe, 4.5 g of Ni and 4.0 g of MgO. At present the retort for the dissociation of ammonia is being redesigned according to the scheme shown in Fig 5. As a catalyst for the removal of oxygen, copper-nickel catalyst on α-alumina beads TsEChM-2 at 350°C was found to be most suitable. Catalytically active components (copper and nickel) as well as the promoter (Al_2O_3) are introduced in the form of nitrates (for each 100 g of the carrier 3g of Ni, 4.5 g of Cu and 1.5 g of Al_2O_3). The design of the oxygen purification reactor is shown in Fig 9. Typical compositions of the protective atmosphere during annealing of strip from steel U10A and alloy steel Kh05 are shown in Fig 10 and 11 respectively. There are 11 figures and 4 references, 3 of which

SOV/133-59-9-30/31

Preparation and Utilization of Protective Atmosphere from Technical Nitrogen

Soviet and 1 English.

ASSOCIATIONS: Tsentroenergochermet and Leningradskiy staleprokatnyy zavod (Leningrad Steel Rolling Works)

Card 3/3

GORGIYEV, T.B.; KRASNOVA, V.G.; YARTSEVA, I.M.; KHODOS, A.D.; ESTRIN, B.M.; RUKAVITSA, T.Z.; KAPLINA, A.N.

Characteristics of the postepidemic period of influenza A2. Zhur. mikrobiol. epid. i immun. 31 no. 10:65-71 O '60. (MIRA 13:12)

1. Iz Dnepropetrovskogo instituta epidemiologii, mikrobiologii i gigiyeny imeni Gamalei i Dnepropetrovskoy gorodskoy sanitarno-epidemiologicheskoy stantsii.
(INFLUENZA)

ESTRIN, B.M.

New equipment for the preparation of protective atmospheres from ammonia. Stal' 22 no.6:573-576 Je '62. (MIRA 16:7)

1. TSentroenergochermet.
(Protective atmospheres)

ESTRIN, Boris Moiseyevich; LANOVSKAYA, M.R., red.izd-va; KARASEV, A.I., tekhn. red.

[Preparation and use of controlled atmospheres] Proizvodstvo i primenenie kontroliruemykh atmosfer. Moskva, Metallurgizdat, 1963. 342 p. (MIRA 16:4)
(Protective atmospheres)

ESTRIN, B.M.; SOKOLINSKIY, F.D.

Purification of technical gases having a high oxygen content. (MIRA 16:12)
Khim. prom. no.8:588-591 Ag '63.

ESTRIN, B.M.; PETRUK, A.P.; PEKER, Ya.A.

Starting, adjusting, and studying the operation of a protective gas station. Stal' 24 no.5:472-475 My '64. (MIRA 17:12)

1. TSentroenergometallurgprom i Novolipetskiy metallurgicheskiy zavod.

[redacted]

[redacted]

[redacted]

[redacted]

KANTOR, P.B.; ESTRIN, B.S.

A water thermostat with automatic temperature control. Izm.tekh. no.5:50-52 S-O '55. (MLRA 9:1)
(Thermostat)

ESTRIN, B.S.

24(0); 5(4); 6(2) PHASE I BOOK EXPLOITATION SOV/2215

Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii imeni D.I. Mendeleyeva

Referaty nauchno-issledovatel'skikh rabot; sbornik No. 2 (Scientific Research Abstracts; Collection of Articles, Nr 2) Moscow, Standartgiz, 1958. 139 p. 1,000 copies printed.

Additional Sponsoring Agency: USSR. Komitet standartov, mer i izmeritel'nykh priborov.

Ed.: S. V. Reshetina; Tech. Ed.: M. A. Kondrat'yeva.

PURPOSE: These reports are intended for scientists, researchers, and engineers engaged in developing standards, measures, and gages for the various industries.

COVERAGE: The volume contains 128 reports on standards of measurement and control. The reports were prepared by scientists of institutes of the Komitet standartov, mer i izmeritel'nykh priborov pri Sovete Ministrov SSSR (Commission on Standards, Measures, and Measuring Instruments under the USSR Council of Ministers). The participating institutes are: VNIIM - Vsesoyuznyy nauchno-issledovatel'skiy metrologii imeni D.I. Mendeleyeva (All-Union Scientific Research Institute of Metrology imeni D.I. Mendeleyev) in Leningrad; Sverdlovsk branch of this institute; VNIIK - Vsesoyuznyy nauchno-issledovatel'skiy institut Komiteta standartov, mer i izmeritel'nykh priborov (All-Union Scientific Research Institute of the Commission on Standards, Measures, and Measuring Instruments), created from MGIMIP - Moskovskiy gosudarstvennyy institut mer i izmeritel'nykh priborov (Moscow State Institute of Measures and Measuring Instruments) October 1, 1955; VNIIFTRI - Vsesoyuznyy nauchno-issledovatel'skiy institut fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy (All-Union Scientific Research Institute of Physicotechnical and Radio-engineering Measurements) in Moscow; KhGIMIP - Khar'kovskiy gosudarstvennyy institut mer i izmeritel'nykh priborov (Khar'kov State Institute of Measures and Measuring Instruments); and NGIMIP - Novosibirskiy gosudarstvennyy institut mer i izmeritel'nykh priborov (Novosibirsk State Institute of Measures and Measuring Instruments). No personalities are mentioned. There are no references.

Kandyba, V.V., V.Ye. Finkel'shteyn, A.T. Shekirda, and I.A. Rumyantsev (KhGIMIP). Measuring the Free Combustion Temperature of Basic Industrial Fuels 86

Levin, G.M., A.K. Semenova, and V.I. Vol'mir (Sverdlovsk Branch of VNIIM). Studying Characteristic Curves of Thermal Inertia in Thermal Sensing Devices 87

Gomel'skiy, K.Z. (Sverdlovsk Branch of VNIIM). Determining Thermal Capacity of Solids at High Temperatures 87

Levin, G.M., and E.M. Malkova (Sverdlovsk Branch of VNIIM). Studying Methods for Determining Thermal Characteristics of Materials on the Basis of the Theory of Regular Thermal Conditions 89

Iosel'son, G.L., and B.S. Estrin (KhGIMIP). Developing and Creating an Automatic Thermostat for Checking Standard Thermometers With Values of Division 0.1°C or Less 90

Card 18/27

Measuring the Temperatures in the 300-500°C Range

and n the number of degrees from 1 - 10, remains linear in the given range with an error of 10^{-4}°C. In the diagram (Fig 1) R1 and R2 are the constant bridge arms and R_t is the arm of the measuring bridge (the platinum thermometer of resistance). The variable bridge arm is composed of coupled resistance coils R_3 and R_4 forming a decade of "ten degrees", and of resistance coil R_5 forming the decade of "single degrees". The values of R_3, R_4, and R_5 resistances are so chosen that the R_3 and R_4 values remain constant in each "ten degree" decade and the variation of the R_5 resistance, which by-passes the R_3 resistance, corresponds to the variation of resistance of the thermometer when the temperature increases from k to k + 10°C. The diagram of the bridge for measuring temperature in the group 1 - 10°C is shown in Fig 2. If the movable contact of R_5 resistance is in the position n ($0 < n < 10$) the element of the diagram with R_3 and R_5 resistances forming a triangle with R_3, and R_n and $R_5 - R_n$ sides, can

Measuring the Temperatures in the 300 - 500°C Range

be transformed into a star with the R_a, R_b and R_c rays, where

$$R_a = \frac{R_n (R_5 - R_n)}{R_5 + R_3} \qquad R_b = \frac{(R_5 - R_n) R_3}{R_5 + R_3} \qquad R_c = \frac{R_n R_3}{R_5 + R_3}$$

The values of R_4 and R_3 resistance for all temperatures in a multiple of 10 in the 300 - 500°C range can be obtained from the formula derived from the above formulae; the R_5 value is accepted at 30 ohms. There are 2 diagrams and 3 Soviet references.

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ESTRIN, E. I.

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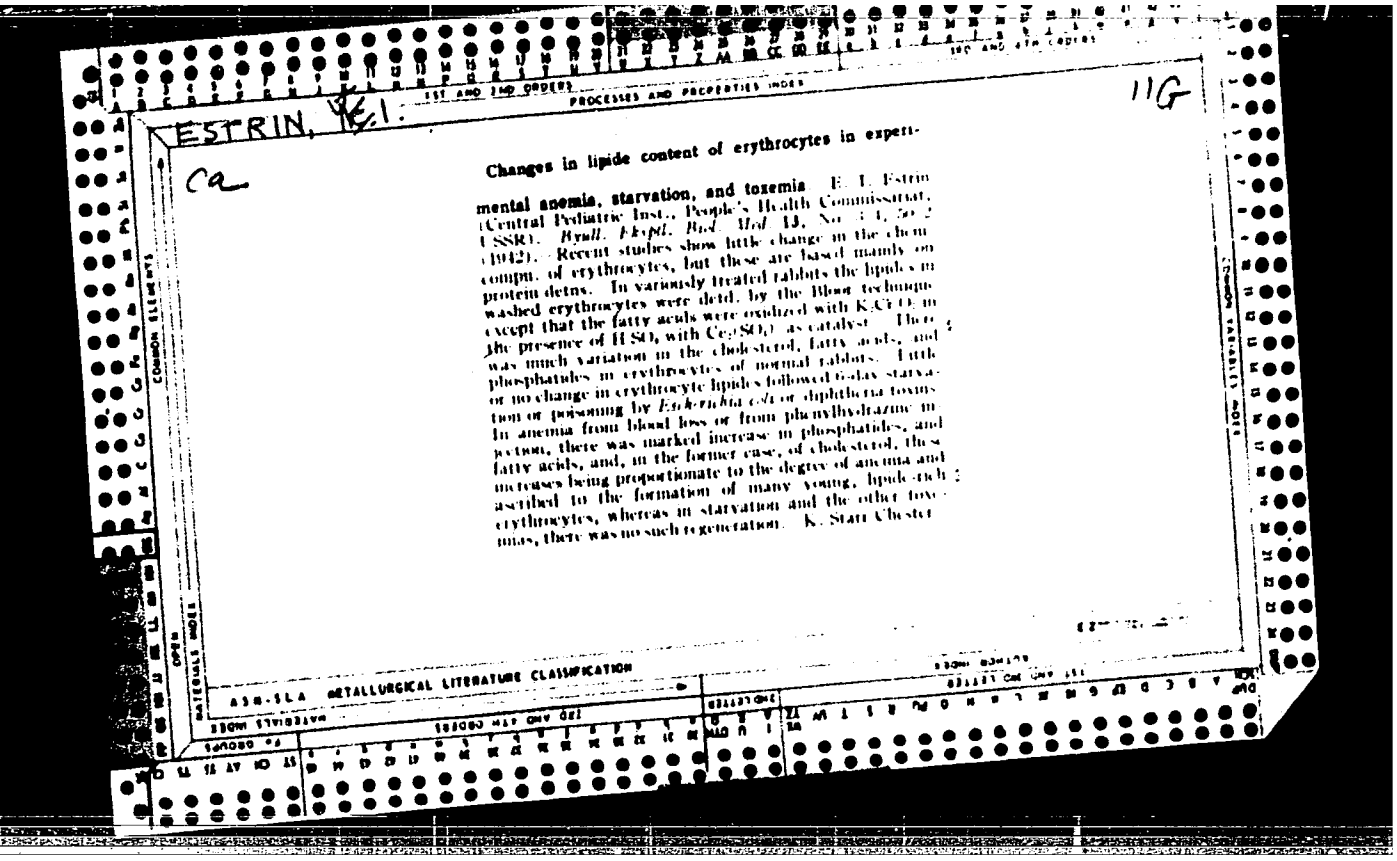
The change of the fine structure of austenite and of the kinetics of martensite transformation under the influence of plastic deformation. O. P. Maksimova, A. I. Nikonorova, and E. I. Estrin. *Problemy Metalloved. i Fiz. Metal. Sbornik* No. 4, 165-79(1955); *Referat. Zhur., Met.* 1956, No. 6725.—The Fe alloy contg. 22.4% Ni and 3.4% Mn, martensite point, −30°, was deformed in a hydraulic press at room temp. The change in the fine structure of austenite on plastic deformation and during subsequent heating was studied by the broadening of line 311 in the roentgenogram. Austenite stability was measured by a magnetic method. Plastic deformation sharply increases the stability of austenite. Deformations of 10–12%, which do not induce the formation of crystals of martensite during pressing, practically completely prevented the transformation of austenite on subsequent cooling. This increase of austenite stability is accompanied by a change of its fine structure. The return to the initial stability of austenite on heating starts at a much higher temp.; the greater the deformation the higher the temp. The ability of austenite to undergo transformation to martensite on cooling is directly related to its fine structure.

Alexis N. Pestoff



ESTRIN, M.I.

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Ca

Changes in lipide content of erythrocytes in experimental anemia, starvation, and toxemia. E. I. Estrin (Central Pediatric Inst., People's Health Commissariat, USSR). *Byull. Eksptl. Biol. Med.* 13, No. 1, 50-2 (1942). Recent studies show little change in the chem. compn. of erythrocytes, but these are based mainly on protein detns. In variously treated rabbits the lipids in washed erythrocytes were detd. by the Bloor technique except that the fatty acids were oxidized with $K_2Cr_2O_7$ in the presence of H_2SO_4 with $Ce_2(SO_4)_3$ as catalyst. There was much variation in the cholesterol, fatty acids, and phosphatides in erythrocytes of normal rabbits. Little or no change in erythrocyte lipids followed 6-day starvation or poisoning by *Escherichia coli* or diphtheria toxins. In anemia from blood loss or from phenylhydrazine injection, there was marked increase in phosphatides, and fatty acids, and, in the former case, of cholesterol, these increases being proportionate to the degree of anemia and ascribed to the formation of many young, lipide-rich erythrocytes, whereas in starvation and the other toxemias, there was no such regeneration. K. Starr Chester

CA ESTRIN, E. I.

Determination of kidney filtration by means of thiosulfate and the maximum reabsorption of glucose in the tubules. G. F. Blagman, E. I. Estrin, E. B. Dvorkina, and O. Ya. Mints (1st Therapeut. Clin., Moscow). *Klin. Med.* (U.S.S.R.) 29, No. 5, 59-67(1951).—Intravenous injection of 10% $Na_2S_2O_3$ in $NaHCO_3$ soln. with subsequent analysis of blood and urine at prescribed intervals can be used as a satisfactory method for estn. of kidney filtration action. The detn. can be combined with estn. of glucose reabsorption by maintaining a rather high blood sugar (about 200 mg. %). In healthy subjects the coeff. of clearance of thiosulfate is 127 cc./min. (av.) and max. glucose reabsorption 313 mg./min. Introduction of even heavy doses of steroid preps. does not cause a regular alteration in the above coeffs. G. M. Kosolapoff

ESTRIN, E.I.

FRADKINA, V.Ye. (Moscow); ESTRIN, E.I. (Moscow).

Protein content of blood in gastric and duodenal ulcers. Klin.med. 31 no.10: 50-55 O '53. (MLRA 6:11)

1. Iz 1-y terapevticheskoy kafedry (direktor - deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR professor M.S.Vovsi) TSentral'nogo instituta usovershenstvovaniya vrachey.
(Ulcers) (Blood)

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AUTHORS: Maksimova, O.P., Seredenko, S.Ya. and Estrin, E.I. (Moscow)

TITLE: The Additional Stabilization Effect in Annealing Internally Work-hardened Austenite

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1960, Nr 3, pp 57 - 65 (USSR)

ABSTRACT: Indications have been obtained by O.P. Maksimova et al (Ref 7) that annealing at temperatures near and somewhat below the reverse α and γ transformation should produce substantial changes in the state and stability of internally work-hardened austenite. The present work is devoted to this problem. Three type N23GZ alloys of the Fe-Ni-Mn system, A, B and C, were used containing respectively 0.06, 0.03, 0.06% C, 23.4, 22.9 and 23.7% Ni, 3.30, 3.06 and 2.82% Mn. Phase work-hardening was produced by forward and reverse transformation of a definite percentage ("degree of phase work-hardening") of the austenite, effected by controlled cooling and warming. The overall martensite transformation effect is plotted against this degree in Figure 1 for alloys B (Curve 1) and C. Figure 2 shows for alloy A the overall effect as a

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E111/E352

The Additional Stabilization Effect in Annealing Internally Work-hardened Austenite

function of annealing temperature for 0, 30 and 65% degrees of phase work-hardening. Martensite transformation curves are given for alloy B for various annealing temperatures in Figure 3, while Figures 4 and 5 show the change in work-hardened austenite stability in relation to annealing temperature respectively for alloy B at 400 - 575 °C and alloy C at room temperature - 800 °C. Curves illustrating the change in stability with respect to duration (hours) of annealing at various temperatures are given in Figure 6 for alloys B and C (left- and righthand graphs, respectively). To elucidate the nature of changes in the crystal structure of internally work-hardened austenite during annealing, the authors studied alloy C in detail. Its hardness, electrical resistance, temperature-dependence of internal friction and fine structure of the internally work-hardened austenite annealed under various conditions were investigated. The resistance and internal-friction results are to be reported

The Additional Stabilization Effect in Annealing Internally Work-hardened Austenite

shortly. The hardness remains constant while the temperature rises to 500 - 550 °C and beyond that begins to fall, reaching the value for austenite which has not been work-hardened (Figure 7). The results of X-ray interference study of alloy C are given in Table 2. The results of the present work confirm the complexity of stability changes of internally work-hardened austenite during gradually increasing annealing. The state produced immediately after the completion of reverse martensite transition does not, contrary to previous ideas, correspond to the highest austenite stability; annealing under definite conditions can increase it further. At least two elementary processes with opposite effect on stability occur during the annealing; they give the observed de-stabilisation and stabilisation. The additional stabilisation at 400 - 550 °C is attributed to polygonisation processes occurring in austenite disturbed by phase work-hardening. From the present and previous (Ref 8) work it appears that four pronounced stages exist in the

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S/180/60/000/03/010/030
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The Additional Stabilization Effect in Annealing Internally Work-hardened Austenite

γ-phase stability change during annealing of previously phase work-hardened austenite in type N23GZ alloys: two at temperatures below the recrystallisation temperature. the third near this temperature and the fourth extending from it to 1 150 - 1 200 °C. The authors recommend research to find whether the relations apply to other types of alloy as well as their more detailed study.
There are 7 figures, 2 tables and 10 Soviet references.

SUBMITTED: July 30, 1959

Card 4/4

69695

S/126/60/009/03/018/033
E111/E452

18.7500

AUTHORS: Maksimova, O.P. and Estrin, E.I.

TITLE: The Autocatalytic Effect in the Martensite Transformation

PERIODICAL: Fizika metallov i metallovedeniye, 1960, Vol 9, Nr 3, pp 426-436 (USSR)

ABSTRACT: The authors survey some literature on effects involved in the martensite transformation (Ref 1 to 11), excluding distortions taking place in the lattice of newly formed martensite alpha phase. The object of the present investigation was the examination of the role of elastic deformations arising in the austenite crystal lattice during the martensitic transformation; these could have a definite autocatalytic influence on the further development of the process from its earliest stages. They supplement the considerable experimental evidence on type N23GZ alloys supporting this possibility (Ref 12,13, 14,17; Fig 1,2,3,4 respectively), with their own previously obtained results for several iron-nickel-manganese alloys obtained when investigating the influence of preliminary plastic deformation and other factors on the kinetics of the martensite transformation. Fig 5 shows

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The Autocatalytic Effect in the Martensite Transformation

This phenomenon, so far incompletely explained, is a relaxation effect (Ref 7,8) involving both elimination of activating faults and formation of inhibiting faults. The authors attribute the autocatalytic effect to the special features of the process giving rise to elastic deformation of the austenite crystal lattice near the martensite crystals formed. These elastic distortions are due to the cooperative mechanism of the transformation and the close association of atomic movements; the relatively high yield-point strength of austenite at low temperatures corresponding to martensite transformation; the small extent of relaxation processes at relatively low temperatures. A contributing factor can be the volume change in phase transition due to different directional growth rates of the martensite crystal. In conclusion, the authors maintain that the cooling effect is a more direct characteristic of austenite stability than is the overall cooling + heating; the strictest characteristics are the temperature of the start of isothermal transformation and its initial speed. There

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The Autocatalytic Effect in the Martensite Transformation

are 6 figures and 18 references, 15 of which are Soviet and 3 English.

ASSOCIATION: Institut metallovedeniya i fiziki metallov TsNIIChM (Institute of Metallurgy and Physics of Metals TsNIIChM)

SUBMITTED: November 9, 1959

Card 4/4

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00041222(

81400

S/020/60/132/06/21/068
B014/B007

18.7500

AUTHORS: Maksimova, O. P., Estrin, E. I.

TITLE: The Effect of the Phase Hardening of Austenite 18

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 6, pp. 1303 - 1306

TEXT: The authors describe investigations they carried out of the influence exerted by phase hardening on the kinetics of martensite transformation. The results were obtained by means of thermomagnetic, X-ray, and metallographic studies. Phase hardening was carried out by sharp quenching to various temperatures followed by heating, so that the transformation $\alpha \longrightarrow \gamma$ was secured. It turned out that direct and inverse martensite transformation cause stabilization of austenite. The influence exerted by phase hardening upon the transformation in the case of continuous cooling manifested itself in temperature rise at the beginning of transformation. The influence exerted by the transformations $\gamma \longrightarrow \alpha \longrightarrow \gamma$ on isothermal martensite transformation manifested itself in an increase of the martensite point. The metallographic studies disclosed

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the formation of a structural disturbance. Moreover, it was found that phase hardening changes the stability of various austenite zones, and that the martensite crystals formed in the cooling of austenite are considerably smaller than those formed in the cooling of annealed austenite. The diagrams of Fig. 2 graphically show the structural changes, and details of such changes are discussed. Diagram B in Fig. 2 shows the broadening of the line (311) of austenite, and diagram V shows the microhardness. The complex interrelations show that the annealing process takes place not only within a range of temperature in which quick recrystallization occurs, but also at considerably lower temperatures. Finally, the results obtained by investigations of the annealing process of strain-hardened austenite are given. It was found that during annealing in the temperature range of from 450 to 550°C the stabilization process is increased. A broadening of the X-ray interference lines is observed already at 350°C. Thus, it may be said that the change in the crystal structure of austenite in direct and inverse martensite transformation leads not only to a stabilization of austenite, but is also the cause of the changes occurring as a result of subsequent annealing, as is shown by the increasing stability of austenite against martensite transformation. There

[redacted]

The Effect of the Phase Hardening of Austenite

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are 3 figures and 10 Soviet references.

ASSOCIATION: Institut metallovedeniya i fiziki metallov Tsentral'nogo nauchno-issledovatel'skogo instituta chernoy metallurgii (Institute of Metallography and Metal Physics of the Central Scientific Research Institute of Ferrous Metallurgy)

PRESENTED: March 7, 1960, by G. V. Kurdyumov, Academician

SUBMITTED: March 2, 1960

Card 3/3

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18 7500 2308 ~~1~~

S/020/60/134/004/019/023
B004/B064

AUTHORS: Maksimova, O. P., Soboleva, N. P., Estrin, E. I.

TITLE: The Autocatalytic Character of the Martensite Transformation

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 134, No. 4, pp. 871-874

TEXT: In the introduction, the authors give a survey of publications on martensite transformation (Refs. 1-24). They investigated the autocatalytic effect of this process by analyzing the experimental material so far available and by new experiments. On the basis of data found in the course of the last ten years for martensite transformation in strong cooling and subsequent heating, the ratio between the heating effect M_{heat} and the effect M_{cool} of the previous cooling was determined for Fe-Ni-Mn and Fe-Cr-Ni alloys (Fig. 1). The alloys H24Г3 (N24G3) with 0.065% C, 23.7% Ni, 2.82% Mn and H23Г4 (N23G4) with 0.05% C, 23.0% Ni, 4.00% Mn are mentioned. The curves obtained show a distinct maximum near the ordinate (M_{heat}/M_{cool}). Therefore, the martensite crystals formed already

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at low temperature exerted a strong stimulating effect on the subsequent transformation. With a given M_{cool}, M_{heat} is a constant for each alloy that does not depend on the preliminary treatment. Experimentally, the course of isothermal transformation was investigated in an Fe-Ni-Mn alloy at -90°C as a function of the martensite (M_{-196°) formed at -196°C (Figs. 2,3). Also in this case the autocatalytic character of transformation was confirmed. The rate of transformation increases rapidly up to M_{-196° = 5%; a lesser increase was observed at M_{-196° = 10%. Furthermore, isothermal transformation was investigated under conditions under which the transformation rate is low. As may be seen from Fig. 4, the transformation rate undergoes an acceleration that even after three hours has not yet reached its maximum. There are 4 figures and 24 references: 14 Soviet, 5 US, 1 British, 1 Chinese, 1 French, and 1 Japanese.

ASSOCIATION: Institut metallovedeniya i fiziki metallov Tsentral'nogo nauchno-issledovatel'skogo instituta chernoy metallurgii im. I. P. Bardina (Institute of Metal Studies and Physics of Metals of the Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin)

S/126/61/011/002/012/025
E193/E483

18 1500

AUTHORS: Estrin, E.I., Zuyeva, O.M., Maksimova, O.P. and Piguzov, Yu.V.

TITLE: On the Problem of Internal Friction Effects Associated With the Direct and Reverse Martensitic Transformation

PERIODICAL: Fizika metallov i metallovedeniye, 1961, Vol.11, No.2, pp.252-260

TEXT: The object of the present investigation was to study the phenomena of "phase work-hardening", i.e. the structural changes brought about in the γ-phase of the 73.5 Fe-23.7 Ni-2.8 Mn alloy during the martensitic transformation. To this end, the variation of the kinetics of the martensitic transformation during cooling was studied as well as the character of the temperature dependence of internal friction of specimens subjected to one of the following heat treatments: (1) γ→α transformation, carried out to various degrees of completion (2) γ→α→γ transformation carried out to attain various degrees of stability of austenite; (3) γ→α→γ transformation, followed by annealing under conditions

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S/126/61/011/002/012/025
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On the Problem of Internal ...

ensuring the maximum supplementary stabilization of the γ-phase (1 h at 525°C). The kinetics of the martensitic transformation were studied by the magnetostriction measurements, the torsional vibration method having been used to determine the temperature dependence of internal friction. In both cases, wire specimens (0.7 mm in diameter) preliminarily vacuum annealed at 1100°C were used, extra precautions having been taken to avoid any plastic deformation of the specimens during handling. Specimens, containing various proportions (11, 24, 28 and 48%) of martensite, were prepared by rapid quenching in liquid nitrogen, followed by heating to room temperature at various heating rates. The α→γ transformation was carried out by immersing the specimens for 10 sec in a salt bath at 540°C and water quenching. The results of the study of the kinetics of the γ→α transformation in wire specimens confirmed the results obtained earlier on standard specimens (Ref. 2 and 4): with increasing degree of "phase work-hardening" the stability of austenite increased after both γ→α and γ→α→γ transformation. The stability of martensite was further increased by annealing at 525°C. The

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On the Problem of Internal ...

results of the study of the temperature dependence of internal friction can be summarized as follows: (i) no anomalies were observed on the internal friction curves for the fully annealed specimens; (ii) curves for specimens that had undergone partial $\gamma \rightarrow \alpha$ transformation had the following specific features: a peak (A) at 170°C, the magnitude of which increased with increasing proportion of martensite in the specimens, a peak (B) at 290°C, a ledge (C) at 580°C, a ledge (D) at 730°C, a sharp peak (E) at 810°C; (iii) after the $\gamma \rightarrow \alpha \rightarrow \gamma$ transformation, the specific features (A) and (C) disappeared completely and the ledge (D) almost completely, peak (B) becoming more pronounced and shifted to a lower temperature (approx 250°C); (iv) after a supplementary annealing, the height of peak (B) decreased.
Since the specific features (A), (D) and (E) have no direct bearing on the problem under investigation, peaks (B) and (C) are discussed in detail. It is shown that the internal friction peak at 250°C is associated with the re-orientation of pairs of carbon atoms which takes place as a result of stresses set up in the alloy, it being postulated that the relaxation processes leading to the appearance of peak (B) cannot take place in the absence of

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On the Problem of Internal ...

lattice distortions. Regarding the peak (C), the fact that it was observed only in specimens containing martensite and that it occurred in the temperature range of the reverse martensitic transformation indicated that this peak is due to the increase in the internal friction, caused by the $\alpha \rightarrow \gamma$ transformation. K.M.Rozin, B.N.Finkel'shteyn, T.Ke and Ch.Tszen are mentioned for their contributions in this field. There are 4 figures, 1 table and 20 references: 13 Soviet and 7 non-Soviet.

ASSOCIATION: Institut metallovedeniya i fiziki metallov TsNIIChM (Institute of Science of Metals and Physics of Metals, TsNIIChM)

SUBMITTED: March 12, 1960

Card 4/4

24.2200 (1137,1144,1147)
18 7500

30045
S/032/61/027/011/016/016
B104/B138

AUTHOR: Estrin, E. I.

TITLE: Device for studying the kinetics of phase transformations in metals

PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 11, 1961, 1423 - 1425

TEXT: The instrument described here is a non-equilibrium a-c bridge which measures the amount of the ferromagnetic phase in a specimen. The instrument consists of an a-d measuring bridge and a thermostat which permits the determination of the changes of the magnetic properties of specimens at low temperatures. Fig. 1 shows a diagram of the measuring bridge. Fig. 3 shows a diagram of the entire device. The isopentane, with which the Dewar vessel (1) is filled, is cooled by means of liquid nitrogen flowing through the cooling spirals 2). The amount of martensite in the specimen is determined by the change in inductance L_x in the measuring bridge. As is shown by the calibration curve the indication of the instrument up to 35% martensite is almost proportional to the amount of martensite. There are 4 figures.

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30045
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B104/B138

Device for studying the...

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii im. I. P. Bardina (Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin)

Fig. 1. Diagram of the a-c measuring bridge. Legend: (1)ЭПП-09(EPP-09) measuring bridge; (2) 28ИМ(28IM) measuring amplifier (3) М82(M82) millivoltmeter; (4) ЗГ-12М(ZG-12M) a-c generator.
Fig. 3. Diagram of the device. Legend: (1) Dewar vessel; (2) cooling coil, (3) Dewar vessel (nitrogen), (4) Dewar vessel (5) valve (6)ЭПВ-01 (EPV-01) potentiometer; (7) heater; (8) thermocouple (9) copper shielding (10) mixer; (11) thermocouple (12) millivoltmeter. A) liquid nitrogen; B) measuring bridge

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S/020/62/142/002/016/029
B104/B138

AUTHORS: Maksimova, O. P., and Estrin, E. I.

TITLE: Variation in the kinetics of martensite transformation under the influence of previously formed martensite

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 142, no. 2, 1962, 330-333

TEXT: The influence of an existing partial martensitic structure on the rate of martensite transformation was studied on four different Н23Г4 (N23G4) alloys (Table 1). In specimens cooled down to -196°C a specified amount of martensite was produced by isothermal transformation at this temperature. The specimens were then quickly transfered to a tank, and a special device was used to record the martensite development at the tank temperature. The martensite point T_M of the four alloys after annealing is between -70 and -90°C, and after partial martensitic transformation at -196°C, it (T'_M) lies between +15 and +55°C. The initial rate of isothermal transformation grows with transformation temperature (Fig. 1), and the range increases (more than 100°). A very sharp increase in T_M occurs if

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only 1% martensite formed at -196°C is present. Further increase of up to 10% in pre-formed martensite causes only slight further increases in T_M. It is known that martensitic transformations can be produced above T_M by plastic deformations. A point M_d exists above which deformation ceases to cause this transformation. M_d is a little below T'_M. Comparison of M_d and T'_M leads to the conclusion that distortions of the austenite lattice caused by the martensite transformation (i.e. due to internal effects) reduce the amount of energy of elastic distortions dissipated in the nucleation of the new phase to a greater extent than do the defects due to plastic deformations (i.e. external effects). G. A. Levin participated in the experimental work. There are 1 figure, 5 tables, and 8 references: 5 Soviet and 3 non-Soviet. The three references to English-language publications read as follows: L. Kaufman, M. Cohen, J. Metals, 8, no. 10 (II), 1393 (1956); A. W. McReynolds, J. Appl. Phys., 20, no. 10, 896 (1949); J. B. Hess, C. S. Barret, Trans. AIMME, 194, 645 (1952).

Card 2/4

Variation in the kinetics ...

ASSOCIATION: Institut metallovedeniya i fiziki metallov Tsentral'nogo nauchno-issledovatel'skogo instituta chernoy metallurgii im. I. P. Bardina (Institute of Metallography and Physics of Metals of the Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin)

PRESENTED: August 4, 1961, by G. V. Kurdyumov, Academician

SUBMITTED: August 4, 1961

Table 1. Composition of alloys.

Fig. 1. Initial rate of martensitic transformation, and isothermal martensitic transformation with 4.3% previous partial transformation as functions of temperature.
Legend: (a) rate of transformation in 1°/min (b) quantity of isothermal martensitic (1) after annealing (2) after partial transformation at -196°C (3) maximum rate of transformation after annealing.

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ESTRIN, E.I.

Nature of certain peculiarities of martensite transformations. Fiz.met.i metalloved. 15 no.4:638-640 Ap '63. (MIRA 16:6)

1. Institut metallovedeniya i fiziki metallov TSentral'nogo nauchno-issledovatel'skogo instituta chernoy metallurgii.
(Phase rule and equilibrium)

ESTRIN, E.I.

Effect of martensite already formed on the kinetics of further martensitic transformation. Dokl.AN SSSR 148 no.4:818-820 F '63. (MIRA 16:4)

1. Institut metallovedeniya i fiziki metallov TSentral'nogo nauchno-issledovatel'skogo instituta chernoy metallurgii im. I.P.Bardina.

(Martensite) (Metallurgy)

ESTRIN, E.I.

Certain regularities of martensite transformation. Probl. metalloved. i fiz. met. no.8:187-204 '64. (MIRA 18:7)

L 4185-66 EWP(e)/EWT(m)/EWA(d)/T/EWP(t)/EWP(z)/EWP(b)/EWA(c) MJW/JD/JW

ACCESSION NR: AP5016534 UR/0126/65/019/006/0929/0932
539.292; 548.53

56
51
B

AUTHOR: Estrin, E. I.

TITLE: Effect of a magnetic field on the martensite transformation

SOURCE: Fizika metallov i metallovedeniye, v. 19, no. 6, 1965, 929-932

TOPIC TAGS: martensitic transformation, pulsed magnetic field, constant magnetic field, nickel steel, manganese steel

ABSTRACT: The effect of a magnetic field of 18.6 kOe (produced in an ordinary electromagnet) on the martensite transformation in 50N19 nickel steel, in which this transformation has a pronounced "athermic" character, was investigated dilatometrically. No changes were found in the overall picture of the transformation when the field was applied; the influence of the field is manifested in a displacement of the martensite point and of the entire martensite curve toward a temperature about 6°C higher. The effect of the same magnetic field on the martensite transformation in an Fe-Ni-Mn alloy of type N2ZGZ was also studied. In this case also the effects of the magnetic field can be explained in terms of the thermody-

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L 4185-66

ACCESSION NR: AP5016534

namics of the transformation. The results lead the author to an examination of the uses of magnetic fields in controlling phase transitions in steels; the applications of pulsed and constant fields are outlined. Orig. art. has: 4 figures.

ASSOCIATION: TsNIIChYeRMYeT im. I. P. Bardina

SUBMITTED: 07Dec64 ENCL: 00 SUB CODE: MM

NO REF SOV: 005 OTHER: 000

Magnetic material

Card 2/2

L 32960-66 EWT(m) ... IJP(c) JD
ACC NR: AP6019772 SOURCE CODE: UR/0370/66/000/003/0150/0155

AUTHOR: Estrin, E. I. (Moscow)

ORG: none

33
B

TITLE: Kinetics of the isomorphous transformation in iron-rhodium alloys

SOURCE: AN SSSR. Izvestiya. Metally, no. 3, 1966, 150-155

TOPIC TAGS: phase transition, iron alloy, rhodium alloy, martensitic transformation

ABSTRACT: One of the typical first-order metamagnetic transformations, the low-temperature isomorphous transformation in the ordered alloy Fe-Rh, was investigated kinetically in an effort to clarify the general relationships governing the so-called cooperative transformations. The study was made on three Fe-Rh alloys containing 46, 50, and 56 at.% Rh, and some of the experiments were carried out on an Fe-Rh alloy of equiatomic composition. All the specimens were first vacuum-annealed at 1150°C for 3 hr, then furnace-cooled. The metamagnetic transformation studied was found to have the same basic characteristics as the martensitic transformations: it is rapid, does not supercool (is athermic in character), does not develop under isothermal conditions in the presence of the original phase, extends over a certain temperature range, and occurs in the forward and reverse direction with the thermal hysteresis. It is therefore assumed that the characteristics of the transformation

 UDC: 669.15'235

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ACC NR: AP6019772 O

which were established in the Fe-Rh alloys apply generally to solid state transformations (cooperative transformations) at low temperatures. Possible causes of these characteristics of cooperative transformations are discussed. Orig. art. has: 5 figures.

SUB CODE: 11/ SUBM DATE: 04Dec64/ ORIG REF: 009/ OTH REF: 008

Card 2/2 HS

ACC NR: AP7005764 SOURCE CODE: UR/0126/67/023/001/0182/0183

AUTHOR: Korneyev, G. N.; Estrin, E. I.

ORG: Institute of Metal Physics (Institut metallofiziki); TsNIIChERMET im. I. P. Bardin

TITLE: Effect of hot plastic deformation on the kinetics of isothermal transformation of austenite

SOURCE: Fizika metallov i metallovedeniye, v. 23, no. 1, 1967, 182-183

TOPIC TAGS: metal deformation, austenite transformation, phase composition, pearlite / / 4IKhN55 steel, Kh8N2 alloy

ABSTRACT: The absence of nonmartensitic products of austenite transformation in the final structure of steel is a prerequisite for an effective thermomechanical treatment (TMT), including high-temperature thermomechanical treatment (HTTMT). In this connection, the effect of plastic deformation of austenite on the kinetics of austenite transformation in the pearlitic and bainitic regions is highly important to practical TMT and HTTMT. In view of the scarcity and contradictory nature of the available literature on this question, the authors investigated the effect of hot plastic deformation of austenite on the kinetics of pearlitic transform-

Card 1/2 UDC: 669.15:539.37

ACC NR: AP7005764

ation in 4x4x45 mm specimens of 41KhN5S steel (0.41% C, 1.15% Si, 0.55% Mn, 1.62% Cr, 5.02% Ni, 0.002% S and 0.004% P) and Kh8N2 alloy (8.5% Cr, 2.5% Ni) austenized at 900°C for 5 min and deformed 25-27%(in height) by single-pass rolling at 900°C in a laboratory rolling mill, after which they were immediately inserted in the microfurnace of the measuring device, and subjected to isothermal heating at 450-670°C. Findings: hot plastic deformation of the γ-phase leads to a marked acceleration of both pearlitic transformation in the steel and polymorphic $\gamma \rightarrow \alpha$ transformation in the alloy. The incubation period and transformation time markedly shrink following the deformation, while the temperature range of the transformation expands. This may in principle be associated both with the acceleration of the diffusion of alloy elements and carbon and with the acceleration of the period of lattice rearrangement. The latter factor plays a decisive role as demonstrated by the discovery of acceleration of polymorphic transformation in the alloy. These findings indicate that during practical employment of HTTMT an allowance must be made for the possible decrease in stability of austenite following hot plastic deformation. Orig. art. has: 3 figures.

SUB CODE: 13, 20, 11/ SUBM DATE: 31Mar66/ ORIG REF: 004

Card 2/2

LIPKOVICH, Z.; ESTRIN, G.; MIROSHNICHENKO, D.; TRUBITSYN, N.; STRELKOV, I., master; LARIONTSEV, A.; ROMANOVICH, K.

Experience of innovators and efficiency promoters. Stroitel' 8 no.10:25-26 O '62. (MIRA 15:11)

1. Predsedatel' komiteta professional'nogo soyuza rabochikh stroitel'stva i promyshlennosti stroitel'nykh materialov stroitel'nogo uchastka No.108 tresta Mosstroy No.18 (for Lipkovich).
(Building—Technological innovations)

ESTRIN, G.B. (Voronezh)

Technic in setting backward dislocations of the elbow. Ortop., travm. i protez. 17 no.1:39-40 Ja-F '56. (MLRA 9:12)

(DISLOCATIONS
elbow, setting technic)
(ELBOW, dislocation
setting technic)

ESTRIN, G.B.

Significance of Manassein's journal "Vrach" (1880-1901) in the development of surgery in Russia; its 75th anniversary. Vest.khir. 77 no.3:128-132 Mr '56. (MLRA 9:7)

1. Iz lazareta voyskovoi chasti 23435 (nach. - G.V.Estrin).
(PERIODICALS, hist.
"Vrach" in Russia)

MILASHKIN, A.G., kand.med.nauk; ESTRIN, G.B.

Fifthe scientific session of the Research Institute for Experimental Surgical Apparatus and Instruments. Vest.khir. 89 no.9: 147-149 S '62. (MIRA 15:12)
(SURGICAL INSTRUMENTS AND APPARATUS—CONGRESSES)

ESTRIN, I.M. (Kiyev, 71, ul. Konstantinovskaya, d.33/8, kv. 6) ; MEL'NIK, A.N.

Carcinosarcoma of the breast. Nov. khir. arkh. 5:115-117 S-O '58.
(MIRA 12:1)

1. Kafedra patologicheskoy anatomii (zav. - zasl. deyatel' nauki prof. M. K. Dal') Kiyevskogo instituta usovershenstvovaniya vrachey.
(BREAST--CANCER)

ESTRIN, I.M., kand.med.nauk (Kiyev)

Problem of mycosis of the thyroid gland. Probl. endok. i gorm 4 no.4:111-113 Jl-Ag '58 (MIRA 11:10)

1. Iz kafedry patologicheskoy anatomii (zav. - zaslushennyy deyatel' nauki prof. M.K. Dal') Kiyevskogo instituta usovershenstvovaniya vrachey.

(THYROID GLAND, dis.
fungus dis. (Rus))
(FUNGUS DISEASES,
thyroid gland (Rus))

ESTRIN, I.M., kand.med.nauk; MAKUKHA, A.L.

Xanthomatous tumor of the accessory nasal sinuses. Zhur. ush., nos. i gorl. bol. 20 no.6:77-79 N-D '60. (MIRA 15:2)

1. Iz kafedry patologicheskoy anatomii (zav. - zasluzhennyy deyatel' nauki prof. M.K.Dal') i otorinolaringologicheskoy kafedry (zav. - zasluzhennyy deyatel' nauki prof. A.I.Kolomiychenko) Kiyevskogo instituta usovershenstvovaniya vrachey.
(NOSE, ACCESSORY SINUSES OF--TUMORS)

YESTRIN, I.M. [Estrin, I.M.]; SHAL'MAN, R.D.

Congenital cyst of the lungs. Ped., akush. i gin. 22 no.5:31 '60. (MIRA 15:6)

1. Kafedra patologicheskoy anatomii (zaveduyushchiy - zasluzhennyy deyatel' nauki prof. M.K. Dal') Kiyevskogo instituta usovershenstvovaniya vrachey (direktor - dotsent V.D. Bratus').
(CYSTS)
(LUNGS--TUMORS)

ESTRIN, I. M.

Primary cancer of the pleura. Vrach. delo no.6:18-23 Je '62. (MIRA 15:7)

1. Kafedra patologicheskoy anatomii (zav. - zasluzhennyy deyatel' nauki prof. M. K. Dal') Kiyevskogo instituta usovershenstvovaniya vrachey.

(PLEURA—CANCER)

ESTRIN, I. M.; BURKOVSKAYA, A. P.

Primary malignant tumors of the pericardium. Grud. khir. 4 no.3: 89-91 My-Je '62. (MIRA 15:7)

1. Iz kafedry patologicheskoy anatomii (zav. - prof. M. K. Dal') Kiyevskogo instituta usovershenstvovaniya vrachey.

(PERICARDIUM—CANCER)

MOREYNIS, Yu.A.; ESTRIN, I.M.

Some data on the toxicity of sevin. Vrach.delo no.1:100-104 Ja '63. (MIRA 16:2)

1. Kafedra gigiyeny (zav. - dotsent N.A. Baran) i kafedra patologicheskoy anatomii (zav. - zasluzhennyy deyatel' nauki, prof. M.K. Dal') Kiyevskogo instituta usovershenstvovaniye vrachey.
(SEVIN—TOXICOLOGY)

SUDENKO, V.M.; ESTRIN, I.M.

Rupture of the pulmonary artery. Vrach. delo no.12:119-121 D '63. (MIRA 17:2)

1. Kafedra patologicheskoy anatomii (zaveduyushchiy - zasluzhennyy deyatel' nauki, prof. M.K. Dal') Kiyevskogo instituta usovershenstvovaniya vrachey i patologoanatomicheskoye otdeleniye Cherkasskoy oblastnoy bol'nitsy.

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ACCESSION NR: AT5014960 UR/0000/65/000/000/0059/0061

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B+1

AUTHOR: Sivachenko, T. P.; Estrin, I. M.

TITLE: Morphological changes in some organs of white rats due to neutron irradiation

SOURCE: AN UkrSSR. Institut fiziologii. Biologicheskoye deystviye neytronnogo izlucheniya (Biological effect of neutron radiation). Kiev, Naukova dumka, 1965, 59-61

TOPIC TAGS: neutron irradiation, biological effect, fast neutron, radiation injury, RBE, rat

ABSTRACT: Morphological changes in selected organs of white rats were studied after various doses of neutron irradiation. Thirty-two male white rats, weighing 110—140 g, were irradiated with fast neutrons in a specially equipped nuclear reactor (lethal dose- 300 rad; sublethal doses- 175 and 200 rad). Symptoms of radiation sickness in rats subjected to a sublethal radiation dose (200 rad) included noticeable sluggishness, diarrhea, and in half the animals, rhinitis, conjunctivitis, and loss of weight. Adynamia, loss of appetite, and then diarrhea and weight loss preceded the death (on the 9th day) of animals exposed to a lethal radiation dose. Macroscopic examination showed irregular blood supply in internal organs and some focal hemorrhages in subcutaneous tissue and the lungs. Miscroscopic examination revealed

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changes in brain tissue (edema, hemorrhages of small blood vessels, vacuolation of ganglionic cells, and cirrhosis). Three days after irradiation, reticular cells and megakaryocytes appeared in the bone marrow, and there was a decrease in the differentiation of red and white cells. By the tenth day, pathological changes included severe destruction of the bone marrow, focal hemorrhages, and small focal accumulations of plasma. Disintegration of lymphocytes occurred in the lymph nodes and the spleen. Plethora, recent hemorrhages, and focal proliferation of cells in interveolar septa were observed in the lungs. In the gastrointestinal tract, edema of the submucosa occurred with subsequent enrichment of the mucous membrane with plasma. Irregular blood supply, dystrophy, and then focal proliferation of Kupffer cells were noted in the liver. Hyperemia, swelling or shrinkage of some chromophil cells, and turbidity of their protoplasm were observed in the hypophysis of the pituitary gland. Hyperemia, vacuolation of the epithelium, and a decrease in the follicular dimensions were among the changes observed in the thyroid gland. In the adrenal glands, hemorrhages and disintegration of nuclei in cells of the reticular zone were noted. Plethora and focal dystrophic changes were observed in the testes. Experimental data indicate that, in general, changes in several organs of rats subjected to neutron irradiation correspond to changes during other types of irradiation. Unusual changes with neutron irradiation are proliferation of cells in the interalveolar septa of the lungs and proliferation of Kupffer cells in the liver. In both cases metabolic disturbances may be responsible for the changes. [JS]

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ACCESSION NR: AT5014960

ASSOCIATION: Kiyevskiy institut usovershenstvovaniya vrachey (Kiev Institute for Advanced Training of Physicians); Institut fiziologii im. A. A. Bogomol'tsa AN UkrSSR (Institute of Physiology, AN UkrSSR)

SUBMITTED: 22Feb65 ENCL: 00 SUB CODE: LS

NO REF SOV: 006 OTHER: 000 ATD PRESS: 4026

Card 3/3

ESTRIN, K.M.

Solving problems in geometry with application of trigonometry in the 8th grade. Uch.zap.Ped.inst.Gerts. 218:279-299 '61.
(MIRA 14:10)

(Geometry--Study and teaching)

14(=) SOV/66-59-4-14/28

AUTHOR: Estrin, L., Engineer

TITLE: Repairing of an Ammonia Two-Stage Vertical Compressor

PERIODICAL: Kholodil'naya tekhnika, 1959, Nr 4, pp 52-55 (USSR)

ABSTRACT: The article describes a grinding and honing machine which is used for repairing ammonia two-stage vertical compressors of the type PBSD-4-18 at the Kaluga Cold Storage Plant. The machine consists of an 1.7 kw electric motor, which by means of a pulley drive and a worm reducer (1:10) actuates a spindle, at the end of which the honing head is mounted, the moving parts of the machine are balanced by counterweight. There are two sizes of honing heads, one having a diameter of 230 mm and the other of 178 mm; the former has a cutting speed of 72 m/min and the latter of 56 m/min at a revolving speed of the spindle of 100 rpm. Liquid kerosene, with or without an addition of 10-20% machine oil, is used as a coolant. In the process of honing the liquid flows into the crank case, from which it is pumped back into the cylinder. The machine is guaranteed for accurate honing up to 0.03 - 0.05 mm of conicity or

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ovalness, which is permissible. An increase of the diameter of the cylinder after its honing amounts to 0.1 - 0.2 mm only. The repair work with this machine is cheaper than with any other machine or method. There are: 2 tables, 2 diagrams and 1 photo.

Doc Med Sci

ESTRIN, L. M.

Dissertation: "Thermal Burns and their Treatment."
14/2/50

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ESTRIN, M., kandidat tekhnicheskikh nauk, laureat Stalinskoy premii;
MISHKEVICH, G.

Excavator with a soil slinger. Znan.sila 35 no.7:24-25
Jl '60. (MIRA 13:7)
(Excavating machinery)

MESTECHKIN, Yu.; ESTRIN, M., inzh.; AGEYEV, Yu., inzh.

Plastics used in the machinery of grain-processing enterprises. Muk.-elev. prom. 26 no. 11:20-22 N '60.
(MIRA 13:11)

1. Starshiy inzhener Glavsnaba Gosudarstvennogo komiteta Soveta Ministrov SSSR po khlebosnabzheniyu (for Mestechkin).
2. Spetselevatormel'stroy (for Estrin, Ageyev).
(Grain--Handling machinery) (Plastics)
(Grain--Milling machinery)