SOV/81-59-13-48027

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 13, p 529 (USSR)

AUTHORS: Vinitskiy, L.Ye., Litovchenko, M.P.

TITLE: The Thermal Regeneration of Natural Rubber in the Presence of Activators

PERIODICAL: Tr. Vseros. n.-i. khim. in-ta prom-sti mestn. podchineniya, 1958, Nr 6, pp 45 - 52

ABSTRACT: The effect of accelerators of the class of thiazoles (I) and of the plastication activator trichlorothiophenol (II) on the thermal regeneration of the vulcanizates of natural rubber has been studied. The thermal regeneration is activated by I and II and is accompanied by an increase in the quantity of bound S and the solubility. The optimum content of I and II is 1.5 - 2 weight parts per 100 weight parts of rubber.

V. Glagolev

Card 1/1

S/081/62/000/007/031/033
B168/B101

AUTHORS: Vinnitskiy, L. Ye., Litovchenko, M. P., Palekhova, S. G.

TITLE: Heterogeneity of rubber during the plasticizing process

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 7, 1962, 65[illegible], abstract 7P317 (Tr. Vseros. n.-i. khim. in-ta prom-sti mestn. podchineniya, no. 8, 1959, 63-71)

TEXT: The heterogeneity of natural rubber and synthetic rubber (CKMC-30 (SKMS-30), CKBM (SKBM), polyisobutylene) during the plasticizing process was studied. The heterogeneity of natural rubber with regard to plasticity, softness and recovery decreases with rolling. When Captax, Altax, diphenylguanidine and Renacit are introduced the inhomogeneity of the masticated rubber increases. The presence of plasticizers which combine well with rubber (pine tar, spindle oil, petroleum asphalt) helps to reduce the heterogeneity of the masticated rubber. The variation in heterogeneity of SKMS-30 during rolling and heat plasticizing is similar to that of natural rubber. [Abstracter's note: Complete translation.]

Card 1/1

41368

15.8220

S/081/62/000/018/055/059
B168/B186

AUTHORS: Palekhova, S. G., Litovchenko, M. P., Vinitskiy, L. Ye.

TITLE: Activated thermal plastification of natural rubber

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 18, 1962, 559, abstract 18P484 (Tr. Vseros. n.-i. khim. in-ta prom-sti mestn. pod-chineniya, no. 8, 1959, 72 - 84)

TEXT: 300 g natural rubber in the form of strips measuring 12-15•5•2.5-4 mm were rolled for 2 min laboratory rolls, and additives intensifying thermal plastification were introduced during this process. Thermal plastification were introduced during this process. Thermal plastification was carried out in cabinets heated electrically to 120-160°C. The plasticized rubber, after being left to stand for 3-4 hrs, was homogenized for 2 min and after 2 hrs its plasticity, softness and recovery were determined according to ГОСТ 415-53 (GOST 415-53). The rate of thermal plastification increases rapidly when Captax, Altax, diphenylguanidine, Renacit, dinitrophenylhydrazine or benzoyl peroxide is added to the natural rubber. When 3 parts by weight of mazut, petroleum asphalt, Rubras, spindle oil or pine tar is

Card 1/2

S/081/62/000/018/065/059
B168/B186

Activated thermal plastification ...

added the plasticity of the natural rubber increases with the temperature and thermal plastification time, whilst the rate of thermal plastification increases to only a negligible extent. The mechanical properties, their variation when the material is heated and their resistance to thermal aging in the case of vulcanized rubbers based on thermally plasticized rubbers are similar to the properties or ordinary vulcanized natural rubbers. [Abstracter's note: Complete translation.]

Card 2/2

LITOVCHENKO, N. G.

USSR/Human and Animal Physiology - Metabolism. T

Abs Jour : Ref Zhur Biol., No 3, 1959, 12423

Author : Litovchenko, N.G.

Inst : Chernovitsk University

Title : Influence of Sodium and Chlorine Insufficiency on Intensity of Tissue Respiration

Orig Pub : Nauchn. yezhegodnik. Chernovitsk. un-t, 1956 (1957), 1, No 2, 24-27

Abstract : Deprivation of Na and Cl for 3 months in rats led to a depression in tissue respiration in comparison with a control group of animals which received full-value rations; in the liver (in mm^3 of O_2 in one hour) from 258.4 to 94.12, in muscles from 58.3 to 17.44, and in the kidneys from 219.2 to 93.5.

Card 1/1

LITOVCHENKO, N. G. Cand Biol Sci -- (diss) "~~The~~ Effect of ~~the~~ Insufficiency ~~of~~ and increased Doses of Sodium and Chlorine ~~and of the Increase in These Doses~~ on the Biosynthesis of Nicotinic Acid in ~~the~~ Animal Organisms." Chernovtsy, 1957. 19 pp 20 cm. (Min of Higher Education USSR, Chernovtsy State Univ), 100 copies (K., 26-57,106)

LEUTSKIY, K.M. [Leuts'kyi, K.M.], LITOVCHENKO, N.G. [Lytovchenko, N.H.]

Effect of the deficiency and excessive amounts of sodium and chlorine in food rations on vitro synthesis of nicotinic acid from L-tryptophane by the liver [with summary in English]. Ukr.biokhim.zhur. 30 no.4: 487-493 '58 (MIRA 11:9)

1. Kafedra biokhimii Chernievts'kogo derzhavnogo universiteta.
(SODIUM--PHYSIOLOGICAL EFFECT)
(CHLORINE--PHYSIOLOGICAL EFFECT)
(NICOTINIC ACID)

LITOVCHENKO, N.G. [Lytovchenko, N.H.]

Work of the Chernovtsy section of the Ukrainian Biochemical Society. Ukr.biokhim.zhur. 32 no.3:484-485 '60. (MIRA 13:6)

1. Sekretar' Chernovetskogo otdeleniya Ukrainskogo biokhimicheskogo obshchestva.
(CHERNOVTSY--BIOCHEMISTRY--RESEARCH)

LITOVCHENKO, N.I., [illegible]; VASIL'KOVSKIY, V.S., [illegible]; IVANOV, V.I., [illegible]; VASIL'KOVSKIY, V.S., [illegible]; VIKTOROV, G.V., [illegible]

Using the method of powder metallurgy in producing soft magnetic materials. Mashinostroenie no.4:68-69 Jl-Ag '61. (MIRA 14:8)

L 37128-65 EWT(d)/EWP(e)/EWT(m)/EWA(d)/EWP(v)/EWP(t)/EWP(k)/EWP(h)/EWP(·)/EWP(b)/
ACCESSION NR: AP5018760 EWP(1) Pf-4 JD UR/0304/64/000/004/0068/0069

AUTHOR: Litoxhenko, N. F. (Engineer); Dobrovol'skiy, G. G. (Engineer); Ogarov, V.I. (Engineer); Vas'kovskiy, V. S. (Engineer); Viktorov, G. V. (Engineer)

TITLE: Production of magnetically soft materials using powder metallurgy

SOURCE: Mashinostroyeniye, no. 4, 1964, 68-69

TOPIC TAGS: powder metallurgy, mechanical engineering

ABSTRACT: At the "Elektroizmeritel'" plant in Zhitomir, which makes electrical measuring instruments of type Ts-57, the magnetic circuits employed are made of Armco steel. In the manufacture of "ring" parts from this steel, 80% of the material is wasted in the form of shavings, and the process is labor consuming.

Experimental investigations were made by the Technical Planning and Design Institute of the Kiev Sovnarkhoz in cooperation with the Brovary Powder Metallurgy Plant with the aim of adopting a powder metallurgy process for the production of "ring" parts.

Card 1/2

L 5/128-65
ACCESSION NR: AP5018760

0

The powder material used, pressing, sintering, and post-pressing operations are described. Dimensions of the parts are given, and their various physical and magnetic properties are listed. Advantages of the powder method over the ordinary process amount to an annual saving of 9,300 rubles.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MM, IE

NR REF SOV: 000 OTHER: 000 JPRS

Card 2/2

S/185/62/007/002/006/016
D299/D302

24.7700 (1043, 1055, 1137)

AUTHORS: Hlynchuk, K.D., Lytovchenko, N.M., and Miselyuk, O.H.

TITLE: Study of carrier recombination in germanium doped with impurities. III. Germanium doped with Ag and Au

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 7, no. 2, 1962, 152 - 164

TEXT: The temperature- and concentration dependences of the minority-carrier lifetime τ in n- and p-type germanium doped with Ag and Au, are investigated. This study is a continuation of two earlier investigations on the recombination properties of germanium doped with Ga, Sb, Fe, Co and Ni. The experimental procedure was described by the authors in earlier works. The lifetime τ was measured by three different methods: By the photoelectric method, by the stationary values of the photoconductivity, and by the photomagnetic e.m.f. The results of the measurements of the temperature and concentration dependences of τ are shown in figures. A comparison of the experimental results with the theory of recombination at multi-

Card 1/3

S/185/62/007/002/006/016
D299/D302

Study of carrier recombination ...

charge centers, shows that in p-type specimens the carrier recombination takes place through neutral- and single-charge Ag- and Au atoms, whereas in n-type specimens -- through two-charge atoms. In addition, the capture cross-section was determined of electrons by neutral and single-charge atoms, and of holes -- by two charge Ag- and Au atoms. The injection of Fe, Co, Ni, Ag and Au impurities in germanium, leads to the formation of a system of deep acceptor levels, related to the various charged states of its atoms. However, only some of these levels play a predominant role in the recombination of carriers. In n-type germanium, the recombination takes place through the same charged states of atoms of Fe, Co, Ni, Ag and Au impurities; therefore the temperature- and concentration dependence of τ in such a material has similar shape for all these impurities. In p-type germanium however, the recombination takes place through different charged states of Fe and Co atoms on the one hand, and Ni, Ag and Au atoms -- on the other. This has the result that the temperature and concentration dependence of τ in such a material differs sharply in both these groups of impurities. The impurity Fe, Co, Ni, Ag and Au atoms in n-type germanium are recombination cen-

Card 2/3

LITOVCHENKO, N. M.

37185
S/185/62/007/004/009/018
D407/D301

24.7700
9.4177

AUTHORS: Hlynchuk, K. D., Lytovchenko, N. M., and Miselyuk, O. H.

TITLE: Measuring the rate of carrier recombination in germanium by modulation of impurity photoconductivity

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 7, no. 4, 1962, 387-394

TEXT: A method is described for measuring the lifetime τ of majority carriers in germanium. It is shown that this method can be used for determining, at various temperatures, the capture cross-sections of majority carriers by the levels of the many-charge Au and Ni impurities in Ge. The method is based on the stationary-photoconductivity method (described by the authors in an earlier work). First, a theoretical energy-band model is proposed. Formulas are derived which relate the change in

Card 1/4

Measuring the rate of...

resistance, the recombination characteristics of the impurity centers, and the lifetime τ. Further, the experimental procedure and measuring apparatus are described. The light source (with wavelength λ = 2 to 10 μ) was an absolutely black body. By appropriate choice of the filters, it was possible to single out the wavelengths, for which the absorption coefficient of light by the Au and Ni impurities varied little. Thereupon, the total number $\mathfrak{N}$ of non-equilibrium carrier was determined, created each second by the light. The specimen under investigation was placed in a cryostat with a germanium window. The change in specimen resistance, on illumination, was determined by measuring its voltage δU. The lifetime was determined by the working formula

$$\tau = \frac{\delta U}{U} \cdot \frac{(R_H + r)^2}{R_H r} \cdot \frac{p_0}{k\mathfrak{N}_0} \cdot \frac{lb}{l'b'}, \qquad (12)$$

Card 2/4

the lifetime τ had much larger values than expected. This may be due to the fact that the authors neglected additional photoconductivity related to light absorption by other S-centers. There are 4 figures, 1 table and 20 references: 11 Soviet-bloc and 9 non-Soviet-bloc (including 2 translations). The 4 most recent references to the English-language publications read as follows: L. Johnson, H. Levinstein, Phys. Rev., 117, 1191, 1960; T. Vogl, J. Hansen, M. Garbuny, J. Opt. Soc., 51, 70, 1961; L. Neuringer, W. Bernard, Phys. Rev. Letters, 6, 455, 1961; F. Klaasen, F. Blok, H. Booy, Physica, 27, 48, 1961.

ASSOCIATION: Instytut napivprovidnykiv AN URSR (Institute of Semi-conductors of the AS UkrRSR), Kyyiv

SUBMITTED: October 31, 1961

Card 4/4

S/181/63/005/003/035/046
B102/B180

AUTHORS: Glinchuk, K. D., Litovchenko, N. M., and Miselyuk, Ye. G.

TITLE: Trapping and adhesion of electrons on positive tellurium ions in germanium

PERIODICAL: Fizika tverdogo tela, v. 5, no. 3, 1963, 942-944

TEXT: Te has two donor levels in Ge, 0.11 and 0.3 ev below the bottom of the c-band. Electron trapping and adhesion was investigated for Te^{0}, Te^{+}, and Te^{++} impurities in n- and p-type germanium by measuring both the attenuation and the stationary intrinsic photoconductivity. The hole trapping cross section, S_h^+, was calculated and for both carrier types, τ, the lifetimes in the free state, were determined as a function of temperature. The S_h^+ estimate yields $3 \cdot 10^{-19} cm^2$ at $130^{\circ}K$; this is only weakly dependent on temperature in the range $90-130^{\circ}K$. There are 2 figures.

Card 1/3

Trapping and adhesion of electrons on ... S/181/63/005/003/035/046
B102/B180

ASSOCIATION: Institut poluprovodnikov AN USSR, Kiyev (Institute of Semiconductors AS UkrSSR, Kiyev)

SUBMITTED: October 19, 1962

Fig. 1. Model for the Te atom in Ge; $S_\ominus \equiv S_e$, $S_\oplus \equiv S_h$; E_F-Fermi level.

Fig. 2. $\tau(1/T)$ for p-type (1) and n-type (2) Ge with Te impurities; Small diagram: The same for Ge with acceptor ions.

Card 2/3

Trapping and adhesion of electrons on...

Fig. 1

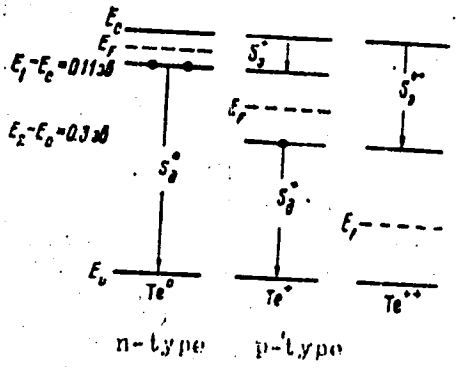
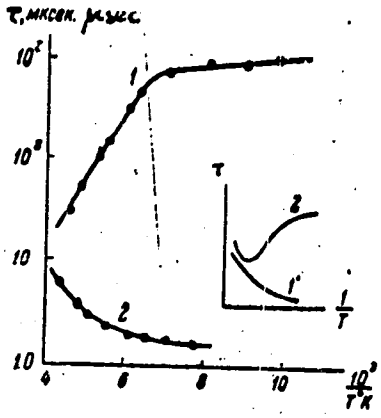


Fig. 2



Card 3/3

L 15551-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD

ACCESSION NR: AP3003892 S/0181/63/005/007/1933/1935

AUTHOR: Glinchuk, K. D.; Denisova, A. D.; Litovchenko, N. M. 57 56

TITLE: Recombination of current carriers at zinc atoms in p-type silicon 27

SOURCE: Fizika tverdogo tela, v. 5, no. 7, 1963, 1933-1935

TOPIC TAGS: recombination, current carrier, Zn, Si, p-type, electron, hole, capture cross section, acceptor level, atom, lifetime, specific resistance, excess conductivity, zinc, silicon

ABSTRACT: The authors have determined the capture cross section of electrons by neutral atoms to be 10^{-15} cm^2 and of holes by singly negatively charged atoms to be 10^{-13} cm^2. This cross section is practically independent of temperature within the range 80-200K. It is noted that neutral and singly negatively charged atoms of zinc, because of the relative large values of capture cross section for both electrons and holes, can not bring about strong capture and trapping of electrons in p-type silicon, leading to the appearance of long-lived components in the relaxation of excess conductivity. Such atoms are effective recombination

Card 1/2

L 15551-63

ACCESSION NR: AP3003892

centers, the injection of which permits a considerable decrease in lifetime of current carriers. Orig. art. has: 1 figure.

ASSOCIATION: Institut poluprovodnikov AN UkrSSR, Kiev (Institute of Semiconductors Academy of Sciences, Ukrainian SSR)

SUBMITTED: 21Jan63 DATE ACQ: 15Aug63 ENCL: 00

SUB CODE: PH NO REF SOV: 011 OTHER: 003

Card 2/2

GLINCHUK, K.D.; LITOVCHENKO, N.M.

Current carrier recombination on zinc atoms in n-type silicon.
Fiz. tver. tela 5 no.10:3003-3005 O '63. (MIRA 16:11)

1. Institut poluprovodnikov AN UkrSSR, Kiyev.

GLINCHUK, K.D.; LITOVCHENKO, N.M.

Capture of current carriers in thermally treated silicon. Fiz. tver. tela 5 no.11:3150-3155 N '63. (MIRA 16:12)

1. Institut poluprovodnikov AN UkrSSR, Kiyev.

ACCESSION NR: AP3000236 S/0185/63/008/005/0575/0582

AUTHOR: Gly*nchuk, K. D. (Glinchuk, K. D.); Ly*tovchenko, N. M. (Litovchenko, N. M.)

TITLE: Investigation of recombination of current carriers in germanium with impurities of some elements. IV. Germanium with Te impurity

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 8, no. 5, 1963, 575-582

TOPIC TAGS: recombination of charge carriers, Ge semiconductors, Te impurity, negative temperature

ABSTRACT: The recombination, capture, and attachment of charge carriers in n- and p-type Ge doped with Te at various temperatures have been investigated. It was determined that the cross section S sub p for hole-capture by positively charged Te atoms is of the order of 3 x 10 sup -19 cm sup 2 at 130K and depends but little on temperature in the range from 90 to 120K. A similar weak temperature dependence at low temperatures and approximately the

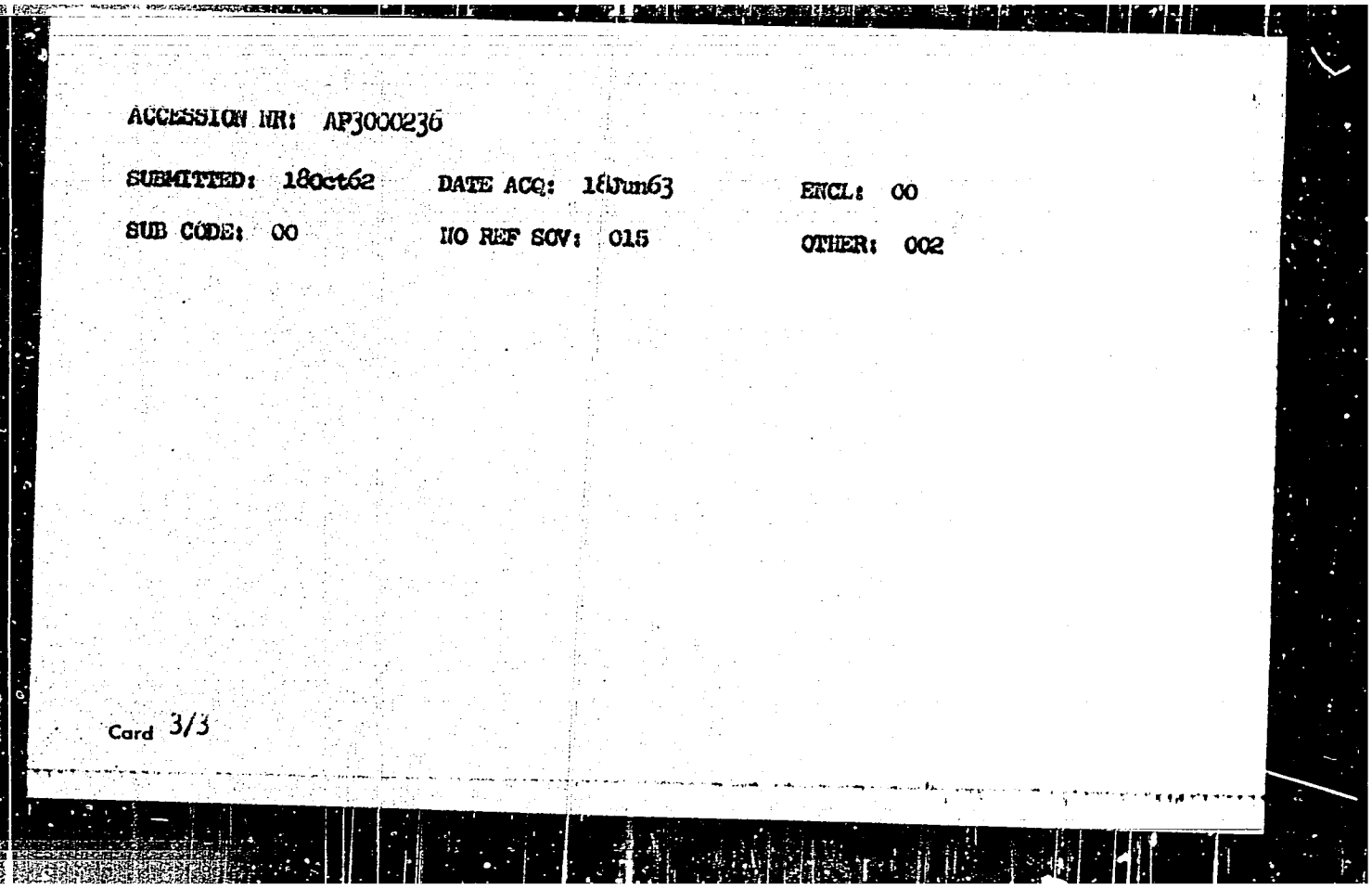
Card 1/3

ACCESSION NR: AP3000236

same small values for S sub p were observed during recombination of electrons on negatively charged atoms of multicharge acceptor impurities. On the basis of these data it was concluded that the recombination mechanisms of holes and electrons on repulsive centers are identical. The difference in cross sections S sub n and S sub p may lead to a state in which the filling of the levels E sub 1 and E sub 2(1 - f sub 1) with holes will surpass the filling of the levels of valence zone (1 - f sub v) with holes, i. e., will result in negative temperature. "The authors express their thanks to Academician of the AN URSR V. E. Lashkar'ov for his profitable discussions, to director of the laboratory O. G. Miselyuk for his valuable advice, and to Senior Engineer V. M. Vasylev'skiy for the direction of a series of structural investigations of samples of germanium with Te impurities." Orig. art. has: 3 figures and 4 formulas.

ASSOCIATION: Instytut napivprovidnykiv AN URSR, Kiev (Institute of Semiconductors AN URSR)

Card 2/3



ACCESSION NR: AP3000236

SUBMITTED: 18Oct62 DATE ACQ: 16Jun63 ENCL: 00

SUB CODE: 00 NO REF SOV: 015 OTHER: 002

Card 3/3

I 17127-65 EEC(b)-2/EWT(1)/EWT(m)/EWP(b)/T/EWP(t) IJP(c) JW/JD
ACCESSION NR: AP5000673 S/0181/64/006/012/3701/3702

AUTHOR: Grinchuk, K. D.; Litovchenko, N. M.

TITLE: Activation of impurity centers in silicon

SOURCE: Fizika tverdogo tela, v. 6, no. 12, 1964, 3701-3702

TOPIC TAGS: impurity center, impurity activation, impurity deactivation

ABSTRACT: The dependence of the concentration of equilibrium electrons n_0 and holes p_0 on impurity centers has been investigated in silicon specimens containing Au, Zn, Pt, S, and Fe impurity atoms. The initial specimens were those whose conductivity was determined by means of easily ionized donors N_g or acceptors N_a. When the impurities were introduced by means of diffusion at 1250C with concentrations of $N \sim 10^{16}-10^{17}$ cm$^{-3} > N_a$ or N_g, they were activated. Thermal treatment of specimens at 300C deactivated the impurities. Subsequent heating of specimens with deactivated impurities at 1250C reactivated the impurity centers. The activation of impurities due to heating at high temperatures is a consequence of the fact that the solubility of impurities in semiconductors depends strongly on temperature. The

Card 1/2

L 17127-65
ACCESSION NR: AP5000673

transition of impurities from the active state to the passive state (deactivation) takes place at a temperature of 800C and is associated with the diffusion of impurity atoms to the centers of coagulation, while the transition of impurities from the passive state to the active state takes place at 1250C and is associated with the diffusion of impurity atoms to silicon lattice points or interstitials where they appear as electrically active acceptors or donors. The distances between coagulation centers and the magnitude of the diffusion coefficient of the impurity atoms determine the time of activation (or deactivation) of impurities. Activation of impurities should be observed in all semiconductors in which the solubility of fast-diffusing impurities depends strongly on temperature. Orig. art. has: 2 figures.

ASSOCIATION: none

SUBMITTED: 24Jun64 ENCL: 00 SUB CODE: SS

NO REF SOV: 002 OTHER: 006 ATD PRESS: 3150

Card 2/2

GLINCHUK, K.D. [Hlynchuk, K.D.]; LITOVCHENKO, N.M. [Lytovchenko, N.M.]

Nature of trapping centers in thermally treated silicon.
Ukr. Fiz. zhur. 9 no.2:229-230 F'64 (MIRA 17:7)

1. Institut poluprovodnikov AN UkrSSR, Kiyev.

L 22547-65 EWT(m)/EWP(j) RM

ACCESSION NR: AP4043099 S/0185/64/009/007/0805/0807

AUTHORS: Glyenchuk, K. D. (Glinchuk, K.D.); Denysova, A. D. (Denisova, A. D.); Lytovchenko, N. M. (Litovchenko, N. M.)

TITLE: The nature of centers of trapping and capture of current carriers in thermally treated silicon. II.

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 9, no. 7, 1964, 805-807

TOPIC TAGS: trapping center, capture center, current carrier trapping center, current carrier capture center, silicon, iron additive, copper additive, nickel additive, zinc additive, palladium additive, energy state, silicon structural defect, annealing

ABSTRACT: The trapping of current carriers in silicon alloyed with admixtures of Fe, Cu, Ni, Zn or Pd atoms, which in certain charge stages tend to form complexes with themselves or with oxygen, was studied by comparing the energy state of centers produced by them, and the change in their concentration upon aging, with analgous values for control samples. The presence of the additives (Cu, Fe) caused an increase in the concentration of the electron and hole trapping centers; the concentration, the change in concentration

Card 1/2

L 22547-65

ACCESSION NR: AP4043099

with time, and the energy state of the capture centers approximated the concentrations and the energy state in the control thermally treated silicon. It was concluded that complexes of the admixed atoms, as well as structural defects, can be trapping and capture centers for current carriers in n- and p-type silicon. Annealing does not necessarily deactivate the complexes-- some of them, especially the complexes with oxygen, are stable at high temperatures. Orig. art. has: 3 figures

ASSOCIATION: Instytut napivprovidnykiv AN URSR, Kiev (Institute of Semiconductors, AN URSR)

SUBMITTED: 20Mar64 ENCL: 00

SUB CODE: SS, EE NR REF SOV: 003 OTHER: 003

Card 2/2

L 11127-66 EWT(1)/EWT(m)/EWP(b)/EWP(t) LJP(c) AT/JD
ACC NR: AP6000882 SOURCE CODE: UR/0181/65/007/012/3669/3670

AUTHORS: Glinchuk, K. D.; Denisova, A. D.; Litovchenko, N. M. 58

ORG: Institute of Semiconductors, AN UkrSSR, Kiev (Institut poluprovodnikov AN UkrSSR) B

TITLE: Photoconductivity of silicon doped with deep impurities 21,44,55

SOURCE: Fizika tverdogo tela, v. 7, no. 12, 1965, 3669-3670 27

TOPIC TAGS: silicon, photoconductivity, impurity level, temperature dependence, semiconductor carrier, light excitation

ABSTRACT: The investigation was stimulated by recent results of I. A. Kurova and N. N. Ormont (FTT v. 6, 3708, 1964), who showed that the photoconductivity spectra of gold-doped germanium vary with the temperature as a result of changes in the charge exchange of the impurities upon illumination. The authors report that they observed in silicon doped with gold and zinc (which produce deep levels) a temperature variation of the photoconductivity spectrum under conditions when no appreciable charge exchange of the impurities took

Card 1/2

2

L 11127-66
ACC NR: AP6000882

place. The measurements were made with partially compensated samples with high resistivity that increased exponentially with decreasing temperature. The photocurrent was found to be constant at low temperatures and to grow considerably at high temperatures. The shape of the spectral curves also was strongly temperature dependent. The results are attributed to the effect produced by the depth of the levels produced by the impurities and by the thermal excitation of the carriers from these levels. This produces effectively additional centers whose optical ionization contributes greatly to the photoconductivity at low temperatures. The authors also report that they observed in nSi + Zn extinction of photoconductivity, which is connected, as in germanium, with transitions to and from the deep levels. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 05Jul65/ ORIG REF: 003/ OTH REF: 001

Card 2/2

L 38090-65 EWT(m)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD

ACCESSION NR: AP5005912 S/0185/65/010/002/0172/0177

AUTHOR: Hlynchuk, K. D. (Glinchuk, K. D.); Lytovchenko, N. M. (Litovchenko, N.M.)

TITLE: Deactivation and activation of impurities in silicon

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 10, no. 2, 1965, 172-177

TOPIC TAGS: silicon, doping, impurity solubility, impurity activation, impurity deactivation

ABSTRACT: The article deals with the influence of annealing at 600--1200C on the electrical behavior of Au, Zn, Pt, S, and Fe impurity atoms in silicon. The impurities whose concentration was N ≈ 10^{16}--10^{17} cm^{-3} were introduced by diffusion at 1200--1250C into single crystals of n-type and p-type silicon. The results show that annealing at 800C transfers the impurities from the active state ... ted in an earlier paper by one of the authors (Glinchuk et al. ... lection of Articles ... passive state ... impurities become deactivated. Heating at 1200C of samples containing the impurities in the passive state activates the impurities. The observed behavior ... impurities can be attributed to the dependence of the solubility of the impurities

Card 1/2

in the semiconductor on the temperature. The presence of such a dependence causes the impurities in the semiconductor to be in a metastable state at a temperature different from the temperature at which the impurities were introduced,

coagulation centers and with the diffusion of the excess impurity

from the coagulation centers to the sites and the interstices of the lattice,

and graduate student

University and S. I. Khomenko of the Kiev Mechanical Technical School for help in preparing the samples and in the measurements." Orig. art. has: 4 figures and 4 formulas.

ASSOCIATION: Instytut napivprovidnykiv AN URSR, Kiev
(Institute of Semiconductors, AN UkrSSR)

SUBMITTED: 13Jun64 ENCL: 00 SUB CODE: SS

Card 2/3

L 25446-66 EWA(h)/EWT(l)/EWT(m)/T/EWP(t) IJP(c) AT/JD
ACC NR: AP6009699 SOURCE CODE: UR/0181/66/008/003/0969/0971

AUTHORS: Glinchuk, K. D.; Litovchenko, N. M.; Novikova, V. A.

ORG: Institute of Semiconductors, AN UkrSSR, Kiev (Institut poluprovodnikov AN UkrSSR)

TITLE: Carrier capture in plastically deformed silicon

SOURCE: Fizika tverdogo tela, v. 8, no. 3, 1966, 969-971

TOPIC TAGS: silicon, plastic deformation, carrier density, carrier lifetime, electron capture, photoconductivity, crystal dislocation phenomenon

ABSTRACT: The authors measured the effects of plastic deformation of n- and p-silicon at 850 -- 950C and found that it caused practically no change in the density of the equilibrium carriers. The lifetimes of the electrons and of the holes were determined by measuring the the stationary intrinsic photoconductivity and the photomagnetic emf. A comparison of data for the plastically deformed and control samples shows that deformation produces in both p- and n-silicon capture

Card 1/2

L 25446-66
ACC NR: AP6009699

centers with strongly differing cross sections for the capture of electrons and holes, so that the photoconductivity lifetime in the deformed samples is different from that in the undeformed samples, and the bipolarity of the photoconductivity is thus violated. At T ≤ 300K the deformed silicon exhibits long-time components of photoconductivity relaxation. If it is assumed that the observed changes in the lifetime for photoconductivity are connected with capture of the carriers by the negatively charged dislocations, then the increase in the lifetime of the photoconductivity with decreasing temperature in n silicon is connected with a decrease in the probability of overcoming the repulsion barrier by the electron. It is shown that the assumption that the change in the lifetime is connected with carriers by negatively charged dislocations contradicts the experimental data, and it is concluded that deformation produces also positively charged defects, either pointlike or extended, which cause the violation of the bipolarity of the photoconductivity in p-type silicon. It is indicated that similar results were observed in germanium. Orig. art. has: 1 figure.

SUB CODE: 20/ SUBM DATE: 04Oct65/ ORIG REF: 003/ OTH REF: 003

Card 2/2

L 06447-67 EWT(l)/EWT(m)/EWP(t)/ETI IJP(c) JD/AT

ACC NR: AP6026726 SOURCE CODE: UR/0181/66/008/008/2510/2511

43
B

AUTHOR: Glinchuk, K. D.; Litovchenko, N. M.

ORG: Institute of Semiconductors, AN UkrSSR, Kiev (Institut poluprovodnikov, AN UkrSSR)

TITLE: Quenching of photoconductivity in silicon

SOURCE: Fizika tverdogo tela, v. 8, no. 8, 1966, 2510-2511

TOPIC TAGS: photoconductivity, zinc, silicon property

ABSTRACT: Quenching of photoconductivity (decrease in intrinsic photoconductivity due to irradiation with extrinsic light) was observed in silicon. The experiments were conducted at 90°K on samples containing zinc atoms. Stationary illumination of silicon with intrinsic light causes the appearance of photoconductivity (background current). Turning on of a constant extrinsic illumination decreases the background current, i. e., quenches the intrinsic photoconductivity. If the sample is illuminated with modulated intrinsic light, turning on of constant extrinsic illumination decreases the amplitude of the pulse, leaving its shape practically unaffected. If the extrinsic light is modulated against a background of stationary intrinsic illumination, turning on of this light leads to a slow decrease of the background current; after the pulse of extrinsic light is turned on, the photocurrent slowly rises to the value of the background current. A model of this quenching, related to the multiply charged zinc atoms, is presented. The quenching kinetics are determined by the concentration

Card 1/2

L 06247-67

ACC NR: AP6026726

and rate of formation of fast recombination centers. Orig. art. has: 1 figure.

SUB CODE: 20/ SUBM DATE: 11Mar66/ ORIG REF: 001/ OTH REF: 002

Card 2/2 pla

ACC NR: AP7003611 SOURCE CODE: UR/0185/66/011/012/1324/1331

AUTHOR: Hlynchuk, K. D.—Glinchuk, K. D.; Denysova, A. D.--Denisova, A. D.; Lytovchenko, N. M.—Litovchenko, N. M.

ORG: Institute of Semiconductors, AN URSR, Kiev (Instytut napivprovidnykiv AN URSR)

TITLE: Photoconductivity of silicon doped with Au and Zn

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 11, no. 12, 1966, 1324-1331.

TOPIC TAGS: photoconductivity, photoconductor, silicon

ABSTRACT: The intrinsic and impurity photoconductivity of p- and n-type silicon doped with Av and Zn was investigated in the 90—300°K temperature range. The impurities were introduced by the diffusion method at 1200°C; impurity concentration was in the 10^{16}--10^{17} range. The photoconductivity spectrum at low temperatures (T - 90°K) depended on the introduced impurities, but at high temperatures (300°K), thermal centers formed during high-temperature annealing determine photoconductivity. In compensated n-Si + Zn, quenching of intrinsic photoconductivity was observed. This quenching is connected with exchange of the Zn atom charge under light action. Orig. art. has: 3 figures and 1 formula. [JP]

SUB CODE: 20/ SUBM DATE: 28Feb66/ ORIG REF: ~~005~~ 004/ OTH REF: ~~005~~ 006

Card 1/1 UDC: none

FREYDLIN, G.N.; LITOVCHENKO, N.N.

Imparting water repellent properties to polyvinyl alcohol with beta-naphthalenesulfonic acid. Khim.volok. no.2:15-18 '63. (MIRA 16:5)

1. Lisichanskiy filial Gosudarstvennogo nauchno-issledovatel'skogo i proyektnogo instituta azotnoy promyshlennosti i produktov organicheskogo sinteza.

(Vinyl alcohol polymers)
(Naphthalenesulfonic acid)

L 17480-63 EWP(j)/EWT(m)/BDS ASD Pc-4 RM

ACCESSION NR: AP3004760 S/0183/63/000/004/0024/0026

AUTHORS: Freydlin, G. N.; Litovchenko, N. N.; Ochovskaya, G. D. 62

TITLE: Chemical processes occuring in waterproofing with polyvinyl alcohol of Beta-naphthalene sulfonic acid

SOURCE: Khimicheskiye volokna, no. 4, 1963, 24-26

TOPIC TAGS: polyvinyl alcohol, naphthalene, sulfonic acid, waterproofing

ABSTRACT: Authors investigated the mechanism of the waterproofing method worked out by Freydlin and Litovchenko (Khim. volokna, no. 2, 1963, 15). It was established that the waterproofing is effected by the formation of B-naphthalene sulfonic acid esters of polyvinyl alcohol (PVA). Chemical and X-ray studies indicated that the given method does not cause discernible changes in the crystallinety of the polyvinyl alcohol. "In conclusion we express thanks to V. A. Naumov and V. A. Kachanov (Lisichanskiy filial GIAP) for help and participation in carrying out X-ray analysis and radiometric measurements". Orig. art. has: 1 equation, 1 table and 1 figure.

ASSN: LISICHANSK BRANCH, STATE DESIGN AND PLANNING SCI. RES. INST. FOR THE NITROGEN INDUSTRY.

Card 1/2

LITOVCHENKO, N. V. (Veterinary Doctor of Veterinary Hospital, Bazaliya Settlement, Khmel'nitsa Oblast', Ukranian SSR). (Abstracted by MOSKOV, A. I.)

"Immunity and treatment of herpes tonsurans".....
Veterinariya, vol. 39, no. 3, March 1962 pp. 32

LITOVCHENKO, Nikita Vasil'yevich; BAKHTINOV, Boris Petrovich; POLUKHIN, P.I., redaktor; VALOV, N.A., redaktor; ATTOPOVICH, M.K., tekhnicheskiy redaktor

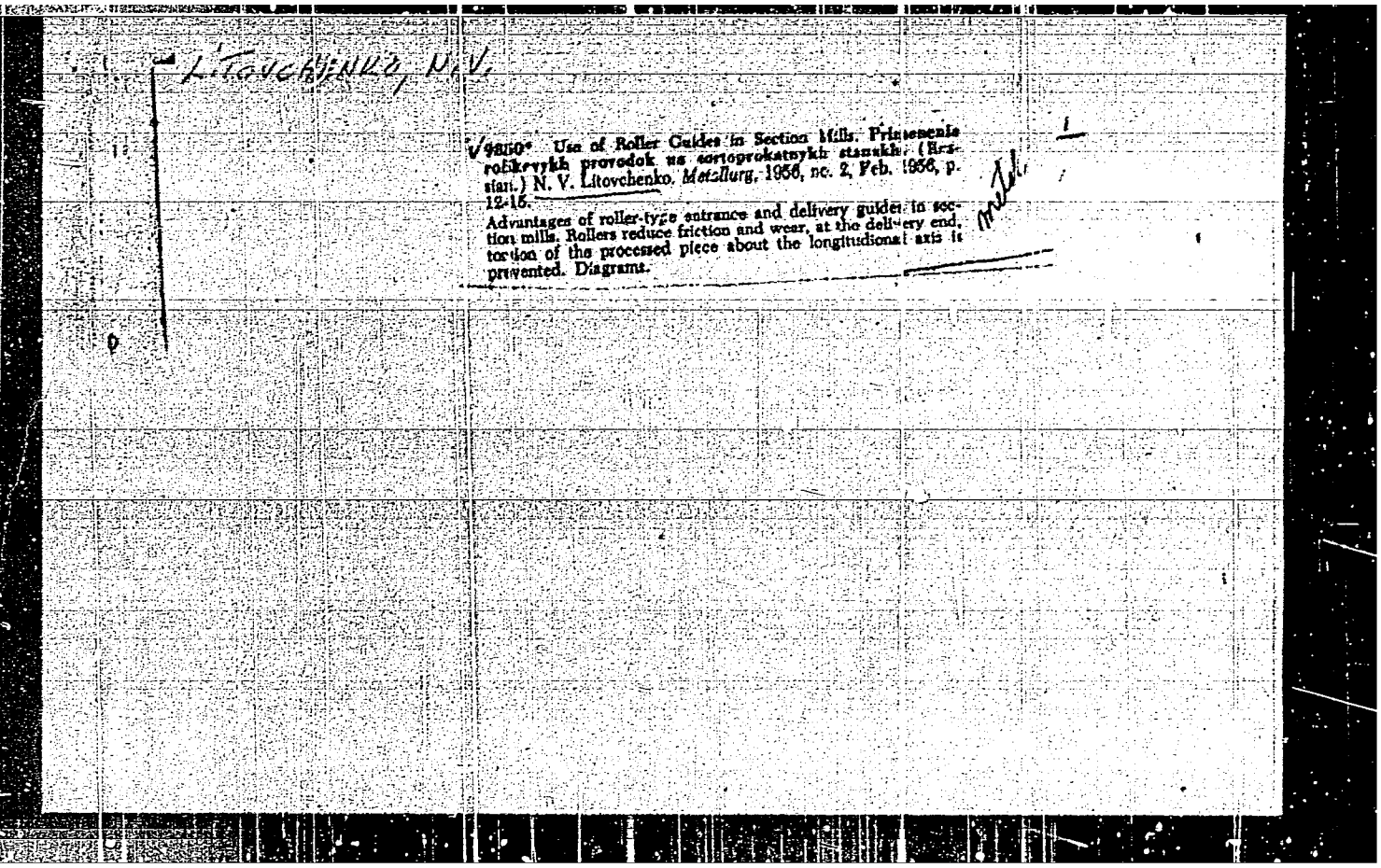
[Rolling recurrent steel sections for fittings] Prokatka periodicheskikh profilei armaturnoi stali. Moskva, Gos.nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1955. 46 p.
(Rolling (Metalwork)) (MLRA 9:3)

LITOVCHENKO, Nikita Vasil'yevich; SLAVKIN, V.S., redaktor; VALOV, N.A., redaktor; SHPAK, Ye.G., tekhnicheskiy redaktor.

[Hot rolling of thick and medium sheets] Goriachaia prokatka tolstykh i srednikh listov. Moskva, Gos.nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1955. 170 p. (MLRA 9:1)
(Rolling (Metalwork))

LITOVCHENKO, Nikita Vasil'yevich; NOSAL', V.V., redaktor; GOLYATKINA, A.G., redaktor izdatel'stva; BERLOV, A.P., tekhnicheskiy redaktor

[Intensive cogging in blooming mills] Primenenie vysokikh obzhatii na blumingakh. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1956. 67 p. (MLRA 9:10)
(Rolling mills)



LITOVCHENKO, N. V.

V-9850* Use of Roller Guides in Section Mills. Primenenie rolikovykh provodok na sortoprokatnykh stanakh. (Russian.) N. V. Litovchenko. *Metallurg*, 1956, no. 2, Feb. 1956, p. 12-15.

Advantages of roller-type entrance and delivery guides in section mills. Rollers reduce friction and wear, at the delivery end, torsion of the processed piece about the longitudional axis is prevented. Diagrams.

LITOVCHENKO, N.V., inzhener-kalibrovshchik.

Rolls for corrugated reinforcement rolling. Metallurg no.5: 17-19 My '56. (MLRA 9:9)

1.Magnitogorskiy metallurgicheskiy kombinat.
(Rolls (Iron mills))

SOV/137-58-9-18965

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 116 (USSR)

AUTHOR: Litovchenko, N.V.

TITLE: Extreme Drafts in the Rolling Mills of the Magnitogorsk Metallurgical Kombinat (Primeneniye predel'nykh obzhatiy na prokatnykh stanakh MMK)

PERIODICAL: Tr. Nauchno-tekhn. o-va chernoy metallurgii. Ukr. resp. pravl., 1957, Vol 2, pp 92-104

ABSTRACT: A discussion is presented of trends in increasing the output of blooming, billet, and merchant mills, and the desirability of using extreme drafts on these mills. An increase in rate of output was attained at the Magnitogorsk Metallurgical Kombinat blooming mill by the employment of elevated speeds and the greatest possible drafts. However, the use of extreme drafts and forced feed is undesirable, as this requires special mechanisms which crowd the working area on both sides of the mill. In order for extreme drafts to be practical on continuous billet mills, detailed theoretical and experimental investigations of the control of a continuous mill, with allowance for forward slip and lag under conditions of forced feed of strip, are

Card 1/2

Extreme Drafts in the Rolling Mills of the Magnitogorsk (cont.)

required. The use of drafts higher than "maximum" with forced feed may be justified only if the billet mill is a bottleneck in the array of rolling mills and if such drafts will provide a considerable rise in rate of output. Moderate drafts that will assure reliable bite and a stable process procedure should be used in merchant mills.

S.G.

1. Rolling mills--Performance 2. Rolling mills--Control systems

Card 2/2

137-58-4-7038

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 105 (USSR)

AUTHORS: Litovchenko, N. V., Diomidov, B. B.

TITLE: A New Edging Fixture for Continuous Rolling Mills (Novaya kantuyushchaya armatura dlya stanov nepreryvnoy prokatki)

PERIODICAL: Sb. tr. Mosk. vech. metallurg. in-t, 1957, Nr 2, pp 102-115

ABSTRACT: To assure a high-quality surface for the finished rolled metal, which to a considerable degree depends upon the entering and delivering guides (EDG), it is necessary to employ rolling EDG. This also makes for a high rate of output by the mills. Rolling EDG are quite applicable for use in continuous billet and multiple mills. Inasmuch as the effect of the EDG on the quality of the product is greatly increased as its profile diminishes, the roughing and intermediate groups of stands of continuous wire and merchant mills should be equipped with rolling manipulators as a matter of course. Specific recommendations on the installation of rolling turning guides on multiple, continuous-billet, and other mills are presented.

V. D.

Card 1/1 1. Rolling mills--Device--Applications

Litovchenko, N. V.

137-1958-3-5028

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 82 (USSR)

AUTHORS: Zlatoustovskiy, D. M., Litovchenko, N. V., Ivantsov, G. I.

TITLE: Improving the Durability of the Rolls in the Finishing Stands of a Rod-rolling Mill (Povysheniye stoykosti valkov otdelochnykh kletey provolochnogo stana)

PERIODICAL: Sb. nauchn. tr. Magnitogorskiy gornometallurg. in-t, 1957, Nr 11, pp 296-312

ABSTRACT: The employment of rotating calibrating rollers increases the durability of reduction rollers in a finishing stand; this in turn reduces the amount of passes from one caliber (C) to another and increases the productivity of the mill even further. The calibrating rollers center the ellipse along a vertical sense, while the reduction in the C's of the rollers corrects the cross-sectional symmetry of the ellipse with respect to its major axes and improves its durability during deformation in the finishing C. The employment of calibrating rollers reduces the amount of sources responsible for surface flaws of the rolled rod stock.

B. Ye.

Card 1/1

25(1) PHASE I BOOK EXPLOITATION SOV/1269

Litovchenko, Nikita Vasil'yevich and Diomidov, Boris Borisovich

Povysheniye proizvoditel'nosti prokatnykh stanov (Increasing the Productivity of Rolling Mills) Mosoow, Metallurgizdat, 1958. 178 p. 5,000 copies printed.

Ed.: Manakin, N.V.; Ed. of Publishing House: Golyatkina, A.G.; Tech. Ed.: Bekker, O.G.

PURPOSE: This book is intended for engineers and technicians and also may be useful to students of metallurgical and mechanical engineering at secondary and higher institutions of specialized education.

COVERAGE: The book gives an account of experience gained in the operation of rolling mills at metallurgical establishments where in recent years considerable modernization has been carried out and a number of improvements have been made in the specialization and organization of work operations performed on the rolling equipment. No personalities are mentioned. There are 9 Soviet references.

Card 1/4

Increasing the Productivity of Rolling Mills SOV/1269

Card 2/4

Increasing the Productivity of Rolling Mills SOV/1269

GO/ksv
3-20-59

Card 4/4

SOV/137-58-11-22412D

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 11, p 82 (USSR)

AUTHOR: Litovchenko, N. V.

TITLE: An Investigation of the Process of Rolling Deformed Concrete-reinforcement Bars (Issledovaniye protsessa prokatki periodicheskikh profiley armaturnoy stali)

PERIODICAL: Author's dissertation for the degree of Candidate of Technical Sciences, presented to the Mosk. in-t stali (Moscow Steel Institute), Moscow, 1958

ABSTRACT: An examination is made of questions having to do with the purpose, origins, and development of reinforcing-bar steel shapes (RS). An analysis is presented of high-speed conditions in the process of rolling reinforcement shapes, and data illustrating the major practical significance of I. M. Pavlov's theory of "rigid ends" are presented. Proceeding from the limiting conditions of contact, the author defines the ratio between the diameter, d, of the RS being rolled and the rolling diameter of the rolls: $D:d/D \leq (0.94-0.1)$. A study of flowsheets for rolling deformed RS bars at plants here and abroad serves as the basis for recommendation of the most rational groovings.

Card 1/2

An Investigation of the Process of Rolling Deformed Concrete-reinforcement Bars

Specifically, the following is recommended for the three final passes: A nearly oval strip with rounded corners or a square, a flat oval, and the finishing pass. The results of investigations of the speed conditions of this process (by the core method), the deformation of the Me (by the incomplete-rolling method), the flow of Me in the deformation zone, the nature of the wear on the finishing pass, and the results of determination of the minimum length of the leading and trailing "rigid ends" of the finished section, etc., are presented. The distribution of sizes among various mills in accordance with the d/D ratio and recommendations for optimum flowsheets are given.

ASSOCIATION: Mosk. in-t stali (Moscow Steel Institute), Moscow

V. D.

AUTHOR: Litovchenko, N.V., Engineer-calibrator SOV/130-58-9-10/23

TITLE: Loop-formers in Continuous Mills (Petleobrazovateli na nepreryvnykh stanakh)

PERIODICAL: Metallurg, 1958, Nr 9, pp 22 - 23 (USSR)

ABSTRACT: The author considers that for the best results, continuous rolling mills should be worked with small loops between two stands or groups of stands. At the Magnitogorsk Metallurgical Kombinat, simple and reliable loop-formers of an original design have been installed after the tenth stand on the 250 continuous wire mill (Figure 2) and after the sixth stand on the 250 light section mill. The loop is formed into a special pit by two angles attached by hinges to a water-cooling tube (Figure 3): under the weight of the work, the angles swing open and the loop forms in the pit. The entry end of the angles is made into a funnel and the same can be done at the exit end. There are 3 figures.

ASSOCIATION: Magnitorgorskiy metallurgicheskiy kombinat (Magnitogorsk Metallurgical Kombinat)

Card 1/1 1. Rolling mills--Operation 2. Rolling mills--Equipment

SOV/130-58-7-15/35

AUTHORS: Davydov, A.A. and Litovchenko, N.V.

TITLE: Improvement of a Wire Mill (Usovershenstvovaniye provolochnogo stana)

PERIODICAL: Metallurg, 1958, Nr 7, pp 30 - 31 (USSR).

ABSTRACT: The authors recall the early history of the foreign-built 250 continuous wire mill at the Magnitogorsk Metallurgical Combine and mention some design faults revealed and corrected and give an account of the present operation of this mill. It produces mainly 6.5-, 7- and 8-mm diameter wire rod, from 58x58x9300 mm billets which are heated to 1 200 °C. The author describes the present roll pass design, compares the present with early operating indices and gives the rolling speed as 26.3 m/sec (compared with the rated maximal value of 21.5). He outlines some of the equipment changes which have followed and mentions some automation which has been introduced. The author names the following as having played or being about to play important parts in the development and operation of the mill: K.I. Burtsev (now of the Chelyabinsk economic council), Engineer A.A. Petrov, A.L. Pinegin, B.I. Burylev, P.R. Petrov, N.N. Toknyanin, I.G. Zybenskiy, M.S. Rayevnin, P.V. Aksenov, S.Ya. Nizhnik, N.N. Gur'yanov,

Card 1/2

Improvement of a Wire Mill SOV/130-58-7-15/35

I.G. Yurin, A.S. Kalinich, V.Nikitin, M. Mochil'skiy, I.Ye. Govgalenko, G.I. Chesnokov, I.N. Sabel'nikov, I.S. Martynov, N.T. Gomozov, A.M. Derevyankin, M.N. Farion, Ye.S. Rajevnina, V.N. Mel'nikova, Z.Ya. Kostenko, M.P.Shtodina, G.Popova, M.P. **Astapova and Ye. T. Meshchukova.**
There is 1 figure.

ASSOCIATION: Magnitogorskiy metallurgicheskiy kombinat (Magnitogorsk Metallurgical Combine)

Card 2/2 1. Rolling mills--Operation 2. Wire--Manufacture

PAVLOV, I.M.; LITOVCHENKO, N.V.

Investigating the process of rolling reinforcement bar helical rib sections. Trudy Inst. met. no.7:115-137 '60. (MIRA 14:3)
(Rolling(Metalwork))
(Reinforcing bars)

SHTERNOV, M.M.; LITOVCHENKO, N.V.

Fuller grooves on a strip rolling mill. Metallurg 6 no.2:25 F '61. (MIRA 14:1)

1. Magnitogorodskiy metallurgicheskiy kombinat i gorno-metallurgicheskiy institut.

(Rolling mills)

LITOVCHENKO, N.V.

Possible reductions in ribbed grooves. Metallurg 6 no.5:24-25 My '61. (MIRA 14:5)

1. Magnitogorskiy gorno-metallurgicheskiy institut.
(Rolling (Metalwork))

S/130/61/000/010/004/004
A006/A101

AUTHORS: Litovchenko, N. V., Plotnikov, P. I.

TITLE: Production of plate steel

PERIODICAL: Metallurg, no. 10, 1961, 38-39

TEXT: In spring 1961 interdepartmental courses were held on the study and generalization of advanced experiences made with plate rolling mills. The courses were organized by the GNTK RSFSR, the Chelyabinsk sovnarkhoz and the Chelyabinsk regional administration of NTO ChM. Among the 35 attendants of the courses there were leading workers, engineers and technicians from the Magnitogorsk, Kuznetsk, Nizhne-Tagil', Orsk-Khalilovo Combines, the Cherepovets, Ashinsk, Stalingrad, Vyksa, Kulebak, Chusovo, "Amurstal" Plants, the Leningrad Plant imeni Kirov, and other metallurgical and machinebuilding plants. The courses were also attended by workers from the Magnitogorsk Institute of Mining and Metallurgy, the Siberian Metallurgical Institute, TsNIIChM and designing organizations. During the courses it was stated that presently plates 4 mm thick and more are being rolled on 17 mills of the RSFSR. These mills have been operating for 20 years, only two of them are modern. On many mills manipulation is carried out manually,

Card 1/2

S/130/61/000/010/004/004
A006/A101

Production of plate steel

requiring 5 - 6 rolling mill workers per shift, as e.g. on mill 285C at the Ashinsk plant; mill 2530 of the Kulebak plant; mill 2750-2200 of the Taganrog plant; mill 2250 of the Kirov and 2100 of the Vyksa plant. On all the mills, with the exception of mill 2800 of the Cherepovets Metallurgical Plant, mill 2350 of MMK and mill 1150 of KMK, plates are rolled out of 0.5 - 7 ton ingots. The information includes technical details of machines and processes at various plants and contains a number of recommendations pertaining to the design of new mills with continuous furnaces, materials for rolls and bearings, and attachments to be used for rolling equipment.

ASSOCIATIONS: Magnitogorskiy gornometallurgicheskiy institut (Magnitogorsk Meta_ zical Institute); Magnitogorskiy metallurgicheskiy kombinat (Magnitogorsk Metallurgical Combine)

Card 2/2

PAVLOV, I.M.; LITOVCENKO, N.V. [Litovchenko, N.V.]

Rolling process for the periodic profiles of armture steel. Analele metalurgie 16 no.1:64-87 Ja-Mr '62.

LITOVCHENKO, N. V.

(40)

PHASE I BOOK EXPLOITATION SOV/6044

Rokotyan, Ye. S., Doctor of Technical Sciences, Ed.

Prokatnoye proizvodstvo; spravochnik (Rolling Industry; Handbook) v. 2. Moscow, Metallurgizdat, 1962. 685 p. 8500 copies printed.

Authors: P. A. Aleksandrov, Doctor of Technical Sciences; V. I. Bayrakov, V. P. Anisiforov, Candidate of Technical Sciences; M. V. Barbarich, Candidate of Technical Sciences; B. P. Bakhtinov, Candidate of Technical Sciences [deceased]; B. A. Bryukhanenko, Candidate of Economic Sciences; M. V. Vasil'chikov, Candidate of Technical Sciences; A. I. Vitkin, Doctor of Technical Sciences; S. P. Granovskiy, Candidate of Technical Sciences; P. I. Grudev, Candidate of Technical Sciences; I. V. Gunin, Engineer; M. Ya. Dzugutov, Candidate of Technical Sciences; V. G. Drozd, Candidate of Technical Sciences; N. F. Yermolayev, Engineer; G. M. Katsnel'son, Candidate of Technical Sciences; M. V. Kovynev, Engineer; M. Ye. Kugayenko, Engineer; N. V. Litovchenko, Candidate of Technical Sciences; Yu. M. Matveyev, Candidate of Technical

Card 1/14

(40)

Rolling Industry; Handbook SOV/6044

Sciences; V. I. Meleshko, Candidate of Technical Sciences; N. V. Mekhov, Engineer; A. K. Ninburg, Candidate of Technical Sciences; V. D. Nosov, Engineer; B. I. Panchenko, Engineer; O. A. Plyatskovskiy, Candidate of Technical Sciences; I. S. Pobedin, Candidate of Technical Sciences; I. A. Priymak, Professor, Doctor of Technical Sciences [deceased]; A. A. Protasov, Engineer; M. M. Saf'yan, Candidate of Technical Sciences; N. M. Fedosov, Professor; S. N. Filipov, Engineer [deceased]; I. N. Filippov, Candidate of Technical Sciences; I. A. Fomichev, Doctor of Technical Sciences; M. Yu. Shifrin, Candidate of Technical Sciences; E. R. Shor, Candidate of Technical Sciences; M. M. Shternov, Candidate of Technical Sciences; M. V. Shuralev, Engineer; I. A. Yukhvets, Candidate of Technical Sciences; Eds. of Publishing House: V. M. Gorobinchenko, R. M. Golubchik, and V. A. Rymov; Tech. Ed.: L. V. Dobuzhinskaya.

PURPOSE: This handbook is intended for engineering personnel of metallurgical and machine-building plants, scientific research

Card 2/14

(40)

SOV/6044

Rolling Industry; Handbook

institutes, and planning and design organizations. It may also be used by students at schools of higher education.

COVERAGE: Volume 2 of the handbook reviews problems connected with the preparation of metal for rolling, the quality and quality control of rolled products, and designs of roll passes in merchant mills. The following topics are discussed: processes of manufacturing semifinished and finished rolled products (the rolling of blooms, billets, shapes, beams, rails, strips, wire, plates, sheets, and the drawing of steel wire), hot-dipped tin plates, lacquered plates, floor plates, tubes made by different methods, and special types of rolled products. Problems of the organization of rolling operations are reviewed, and types of rolled products manufactured in the USSR are shown. No personalities are mentioned. There are no references.

TABLE OF CONTENTS: [Abridged]:

Card 3/14

LITOVCHENKO, N.V.

Operation of small-shape continuous rolling mills. Metallurg 7 no.9:28-31 S '62. (MIRA 15:9)

1. Magnitogorskiy gornometallurgicheskiy institut.
(Rolling mills)

LITOVCHENKO, N.V.; VITIYEVSKIY, M.A.

Optimum diameter of wire rod for rod mills. Metallurg 7 no.10:34-35 O '62. (MIRA 15:9)

1. Magnitogorskiy gornometallurgicheskiy institut i Magnitogorskiy metallurgicheskiy kombinat.
(Wire drawing)

PROTASOV, Anatoliy Aleksandrovich; SHCHIRIN, V.N., retsenzent; LITOVCHENKO, N.V., retsenzent; GOLUBCHIK, R.M., red.; DOBUZHINSKAYA, L.V., tekhn. red.

[Grooving of iron mill rolls; problems and exercises] Kalibrovka prokatnykh valkov; zadachi i uprzzhneniia. Moskva, Metallurgizdat, 1963. 329 p. (16:1)
(Rolls (Iron mills))

LITOVCHENKO, Nikita Vasil'yevich; DIOMIDOV, Boris Borisovich; KURDYUMOVA, Valentina Aleksandrovna; VLADIMIROV, Yu.V., red.izd-va; GOROBINCHENKO, V.M., red.izd-va; MIKHAYLOVA, V.V., tekhn. red.

[Shape mill roll grooving] Kalibrovka valkov sortovykh stanov. Moskva, Metallurgizdat, 1963. 638 p. (MIRA 16:5)
(Rolls (Iron mills))

LITOVCHENKO, N.V.

Operation of continuous rod rolling mills in Russian plants. Metallurg 8 no.4:36-38 Ap '63. (MIRA 16:3)
(Rolling mills)

BOYARSHINOV, M.I.; LITOVCHENKO, N.V.; KURDYUMOVA, V.A.

Grooving the new semicontinuous wire rod mill intended for the rolling of copper rod. TSvet. met. 36 no.9:70-75 S '63. (MIRA 16:10)

KURDYUMOVA, V.A., kand.tekhn.nauk, dotsent; LITOVCHENKO, N.V., kand.tekhn. nauk, dotsent; DIOMIDOV, B.B., kand.tekhn.nauk, dotsent

Review of a book by S.V.Makaev, I.IA. Vinokurov, B.V.Merekin, G.D.Feigin, N.P.Skriabin, N.K.Riabokon', "Production of lightweight shapes." Stal' 23 no.9:829-830 S '63. (MIRA 16:10)

1. Magnitogorskiy gorno-metallurgicheskiy institut i Moskovskiy vecherniy metallurgicheskiy institut.

LITOVCHENKO, Nikita Vasil'yevich; ANTONOV, Sergey Pavlovich; BOYARSHINOV, Mikhail Ivanovich; PLOTNIKOV, Petr Ivanovich;

[Production of steel plate] Proizvodstvo tolstolistovoi stali. Moskva, Metallurgiia, 1964. 306 p. (MIRA 17:12)

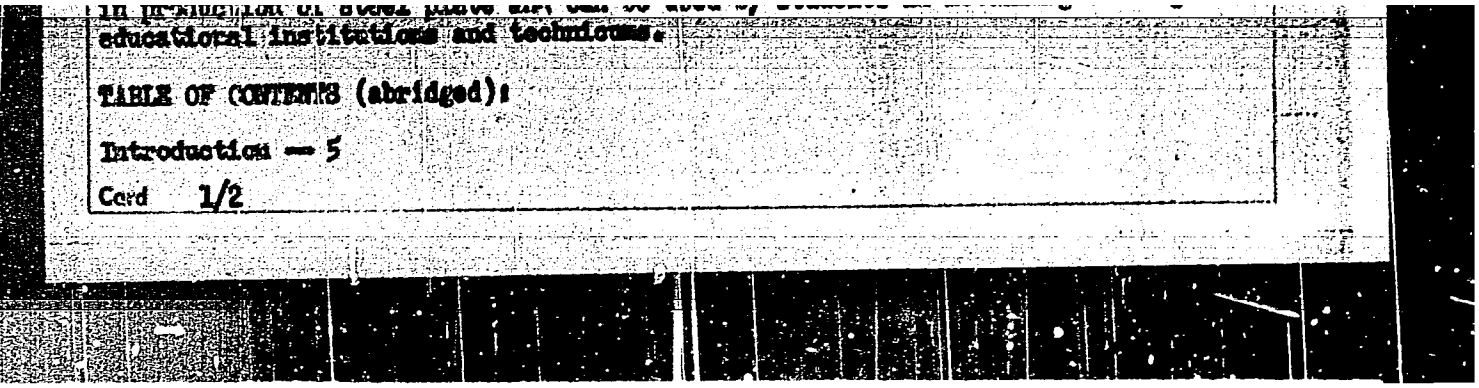
ACCESSION NR: AP5005251 BOOK EXPLOITATION S/

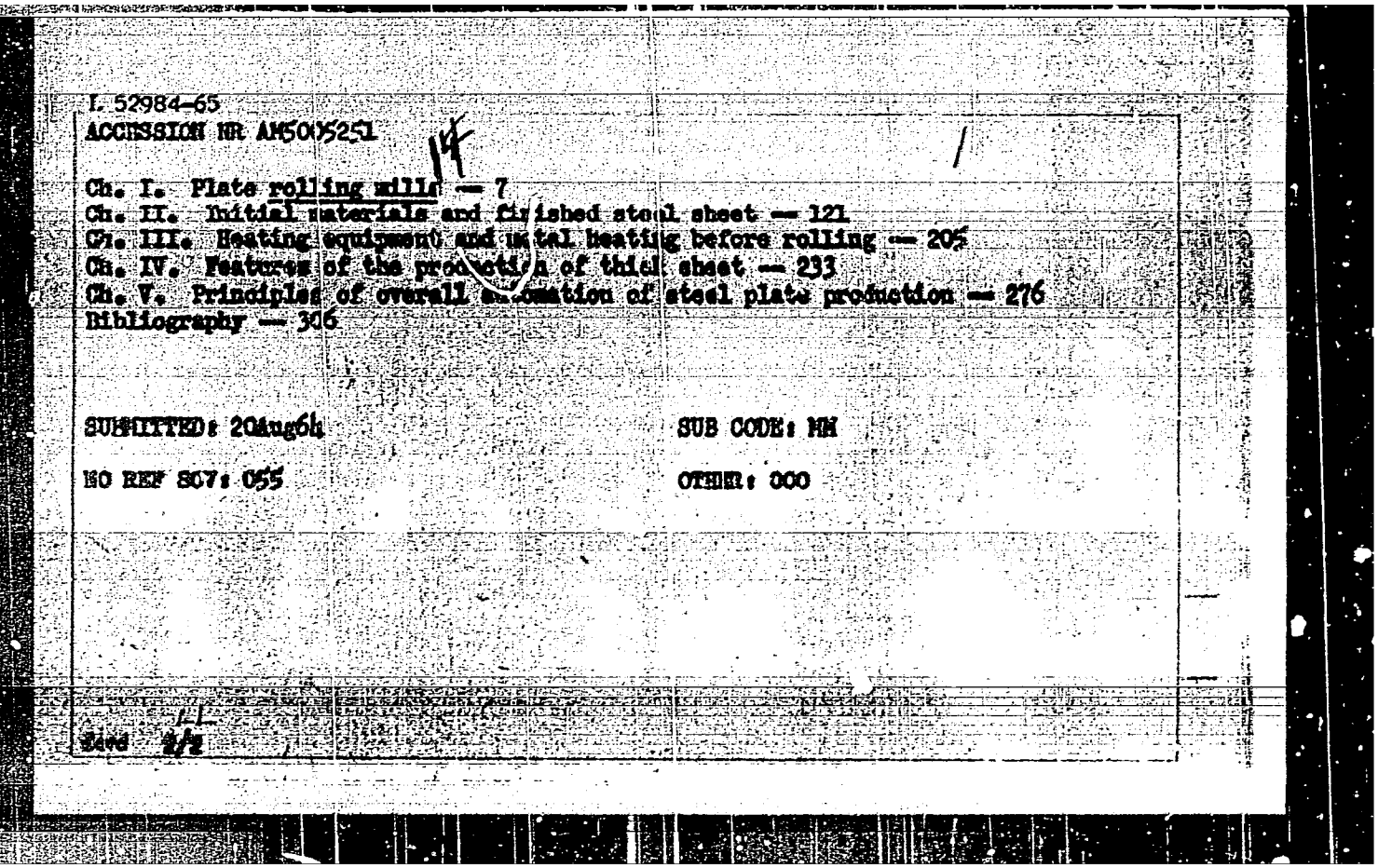
Litovchenko, Nikita Vasil'yevich; Antonov, Sergey Pavlovich; Boyarshinov, Mikhail Ivanovich; Plotnikov, Petr Ivanovich

Steel plate production (Proizvodstvo tolstolistovoy stali), Moscow, Izd-vo "Metallurgiya", 1964, 306 p. illus., biblio. Errata slip inserted. 2,150 copies printed.

TOPIC TAGS: rolling mill, sheet metal, automation, steel

PURPOSE AND COVERAGE: The book describes experience in the rolling of steel plate in Soviet metallurgical plants and shows the prospects for the development of plate rolling mills. It considers in detail the heat of ingots and slabs,





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ACCESSION NR AM5015251

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NO REF SOV: 055 OTHER: 000

Card 2/2

TRISHINSKIY, Igor' Stefanovich; KLEPANDA, Vladimir Viktorovich; LITOVCHENKO, Nikitia Vasil'yevich

[Adjustment of continuous rolling mills] Nastroika nepreryvnykh prokatnykh stanov. Moskva, Izd-vo "Metallurgiia," 1964. 366 p. (MIRA 17:8)

LITOVCHENKO, N.V.; DIOMIDOV, B.B.; ZHADAN, V.T.

Expansion in H- and channel-beam grooves. Izv. vys. ucheb. zav.; chern. met. 7 no.9:113-117 '64. (MIRA 17:6)

1. Magnitogorskiy gorno-metallurgicheskiy institut i Moskovskiy vechernyy metallurgicheskiy institut.

DIOMIDOV, Boris Borisovich; LITOVCHENKO, Nikita Vasil'yevich; YERMOLAYEV, Vladimir Alekseyevich; ANTONOV, Sergey Pavlovich

[Potentialities in rolling mill operations] Rezervy prokatnogo proizvodstva. Moskva, Metallurgiia, 1965. 95 p. (MIRA 18:9)

YELSHINA, M.O.; ZAYDENBERG, Ye.G.; LITOVCHENKO, O.T.; ZATULOVSK'KIY, B.G.; SHUBS, Z.V.; ZANZDRA, L.I.

Study of the nature of atypical strains recovered from dysentery patients in Kiev. Mikrobiol.zhur. 18 no.1:20-26 '56. (MIRA 9:7)

1. Z Kiivs'kogo naukovo-dostidnogo institutu epidemiologii i mikrobiologii.

(SHIGELLA PARADYSENTERIAE)

LITOVCHENKO, O.T.

YELSHINA, M.O.; ZAYDENBERG, Ye.G.; ZATULOVS'KIY, B.G.; LITOVCHENKO, O.T.; SHUBS, Z.V.

Atypical strains of intestinal microbes isolated from healthy persons. Mikrobiol.zhur. 19 no.2:43-48 '57. (MLRA 10:9)

1. Z laboratorii kishkovikh khvorob Kiivs'kogo institutu epidemiologii ta mikrobiologii
(ESCHERICHIA COLI) (SHIGELLA)

LITOVCHENKO, O.V.

Cytologic examination of the peripheral lymph nodes in cutaneous tuberculosis. Probl. tuberk., Moskva No.5:72 Sept-Oct 1953. (CIML 25:5)

1. Junior Scientific Associate. 2. Of Moscow Scientific-Research Institute of Skin Tuberculosis (Scientific Supervisor -- Prof. N.L. Rosiyanskiy) and the Hematology Laboratory (Scientific-Supervisor -- Prof. N.A. Shmelev), Moscow Oblast Scientific-Research Tuberculosis Institute.

LITOVCHENKO, O. V.

"Clinical Cytological Characteristics of the Peripheral Lymph Glands of Tuberculosis Patients." Cand Med Sci, Second Moscow State Medical Inst imeni I.V. Stalin, Moscow, 1955. (KL, No 17, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16).

LITOVCHENKO, O.V.

Clinical and cytological characteristics of peripheral lymph nodes in cutaneous tuberculosis. Vest.ven. i derm. no.3:8-12 My-Je '56. (MLRA 9:9)

1. Iz Instituta kozhnogo tuberkuleza (dir. - kandidat meditsinskikh nauk I.M.Agapkin, nauchnyy rukovoditel' - dotsent I.I.Yukelis)

(TUBERCULOSIS, CUTANEOUS, pathology, lymph nodes (Rus))
(LYMPH NODES, in various diseases, tuberc., cutaneous (Rus))

LITOVCHENKO, O.V.

Combined use of vitamin D_2 and phthivazid for treating tuberculous lupus. Probl.tub. 34 no.6 supplenet:44-45 N-D '56. (MLRA 10:2)

1. Iz Gosudarstvennogo nauchno-issledovatel'skogo instituta tuberkuleza kozhi (dir. - kandidat meditsinskikh nauk I.N.Agapkin, nauchnyy rukovoditel' - dotsent I.I.Yukelis)
(ISONICOTINIC ACID) (LUPUS) (VITAMINS - D)

LITOVCHENKO, O.V., kand.med.nauk; PERESYPKINA, M.I.

Diagnosis of Boeck's sarcoid. Vest.derm. i ven. 32 no.2:85-86 Mr-Ap '58. (MIRA 11:4)

1. Iz otdeleniya kozhnogo tuberkuleza Gosudarstvennogo nauchno-issledovatel'skogo instituta tuberkuleza Ministerstva zdravookhraneniya RSFSR.
(GRANULOMA BENIGNUM)

LITOVCHENKO, O.V.

PLOTITSYNA, T.G., kand.biol.nauk, LITOVCHENKO, O.V., kand.med.nauk, PERESYPKINA, M.I., nauchnyy sotrudnik.

Status of the nervous sytem in various forms of cutaneous tuberculosis [with summary in French]. Probl.tub. 36 no.3:16-23 '58 (MIRA 11:5)

1. Iz Gosudarstvennogo nauchno-issledovatel'skogo instituta tuberkuleza kozhi(dir. - kandidat med. nauk I.N. Agapkin, nauchnyy rukovoditel' - dotsent I.I.I. Yukelis [deceased]).
(TUBERCULOSIS, CUTANEOUS, manifest.
NS (Rus))
(NERVOUS SYTEM, in various dis.
cutaneous tuberc. (Rus))

AL'TSHULER, N.S.; LITOVCHENKO, O.V.; YUKELIS, I.I.; DUBOVSKOY, P.A.; PLETITSYNA, T.G.; BAGNOVA, M.D.; KOZEL'SKAYA, I.A.

Dynamics of tuberculosis of the skin in children in 1921-1954.
Vest.derm.i ven. 33 no.6:23-29 N-D '59. (MIRA 13:2)
(SKIN--TUBERCULOSIS)

PLOTITSINA, T.G., kand.biolog.nauk; LITOVCHENKO, O.V., kand.med.nauk

Vascular reactions in patients with lupus erythematosus.
Vest.derm. i ven. 34 no.2:22-27 F '60.
(MIRA 13:12)

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta tuberkuleza Ministerstva zdravookhraneniya RSFSR (direktor - kand.med. nauk V.F.Chernyshev, zamestitel' direktora po nauchnoy chasti - prof.D.D.Aseyev).

(LUPUS ERYTHEMATOSUS physiol.)
(VASOMOTOR SYSTEM physiol.)

LITOVCHENKO, O.V., kand.med.nauk; PERESYPKINA, M.I., vrach.

Dynamics of clinical forms of cutaneous tuberculosis in Moscow Province from 1949 to 1959. Vest. derm. i ven. 36 no.10:66-71 0'62 (MIRA 16:11)

1. Iz kozhnogo otdeleniya (zav. I.N.Agapkin) Moskovskogo nauchno-issledovatel'skogo instituta tuberkuleza Ministerstva zdravookhraneniya RSFSR (dir. T.P.Mohcalova) i Moskovskogo oblastnogo protivotuberkuleznogo dispansera (glavnyy vrach V.S. Kokonina).

LITOVCHENKO, O.V., kand. med. nauk; LIFSHITS, F.B., kand. med. nauk

Course of disseminated forms of cutaneous tuberculosis.
Vest. derm. i ven. 38 no.8:29-34 Ag '64. (MIRA 18:8)

1. Kozhnoye otdeleniye (rukovoditel' - kand. med. nauk I.N. Agapkin) i podrostkovoye otdeleniye (rukovoditel' - doktor med. nauk M.D. Rozanova) Moskovskogo nauchno-issledovatel'skogo instituta tuberkuleza (dir. - kand. med. nauk T.P. Mochalova, zamestitel' direktor po nauchnoy chasti - prof. D.D. Aseyev) Ministerstva zdravookhraneniya RSFSR.

ASEYEV, D.D., prof.; PLOTITSYNA, T.G., kand.biol.nauk; VYSOKOVA, T.M., kand.med. nauk; LITOVCHENKO, O.V., kand.med.nauk

Examination of respiratory function, blood circulation and thermoregulation in patients with mild forms of pulmonary tuberculosis. Probl. tub. 42 no.12:14-21 '64. (MIRA 18:8)

1. Moskovskiy nauchno-issledovatel'skiy institut tuberkuleza (direktor - kand.med.nauk T.P.Mochalova, zam. direktora po nauchnoy chasti - prof. D.D.Aseyev) Ministerstva zdravookhraneniya RSFSR, Moskva.

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AUTHORS: Litovchenko, P. G., and Ust'yanov, V. I.

TITLE: Gamma- and photoelectrical properties of cadmium sulfide

PERIODICAL: Fizika tverdogo tela, v. 4, no. 4, 1962, 1050-1052

TEXT: An experimental investigation was made of the gamma-conductivity of CdS crystals and the spectral distribution of their photoconductivity, and it was tried to find a relation between these effects. The CdS crystals investigated were diffusion-doped with gold or indium at 400°C. The spectral distribution of the photoconductivity was determined with an УФ-2 (UM-2) monochromator; it has a peak at the self-absorption edge (λ=518 mμ) and remains unchanged when the crystal is heated to 400°C. If the CdS crystal is gold-doped, a new broad band of photoconductivity arises with the maximum at λ = 660-680 mμ and distinct intrinsic and impurity peaks. The impurity peaks of In-doped CdS depend on the annealing conditions and are between 565 and 595 mμ. The band broadening with temperature of CdS+Au amounts to $5.5 \cdot 10^{-4}$ °K. The dark conductivity

Card 1/2

of non-doped CdS is of the order of 10^{-13}, doping reduces it to $\sim 10^{-11}$-10^{-12} ohm^{-1}. σ_γ of non-doped crystals is $\sim 10^{-11}$, for the Au-doped ones it is $\sim 10^{-10}$, and for the In-doped ones $\sim 10^{-6}$-10^{-7} ohm^{-1}; the γ-irradiation intensity was 3.6 mCu/sec. σ_{phot} of the non-doped crystals is $\sim 10^{-7}$-10^{-8}, for the doped ones it is $\sim 10^{-6}$ ohm^{-1}. For crystals which show a longwave photoconduction peak, σ_{phot} is the greater for this peak, the greater σ_γ is. For CdS+Au no parallelism between σ_γ and σ_{phot} is observed. It is concluded that the presence of impurity centers yielding photoconduction bands is insufficient for the occurrence of high gamma-conductivity. The presence of other shallow centers is necessary. There are 2 figures and 1 table.

ASSOCIATION: Institut fiziki AN USSR Kiyev (Institute of Physics AS UkrSSR, Kiyev)

SUBMITTED: November 13, 1961